

2012

**STRUCTURAL
CHANGE
FOR EQUALITY**

*An Integrated Approach
to Development*

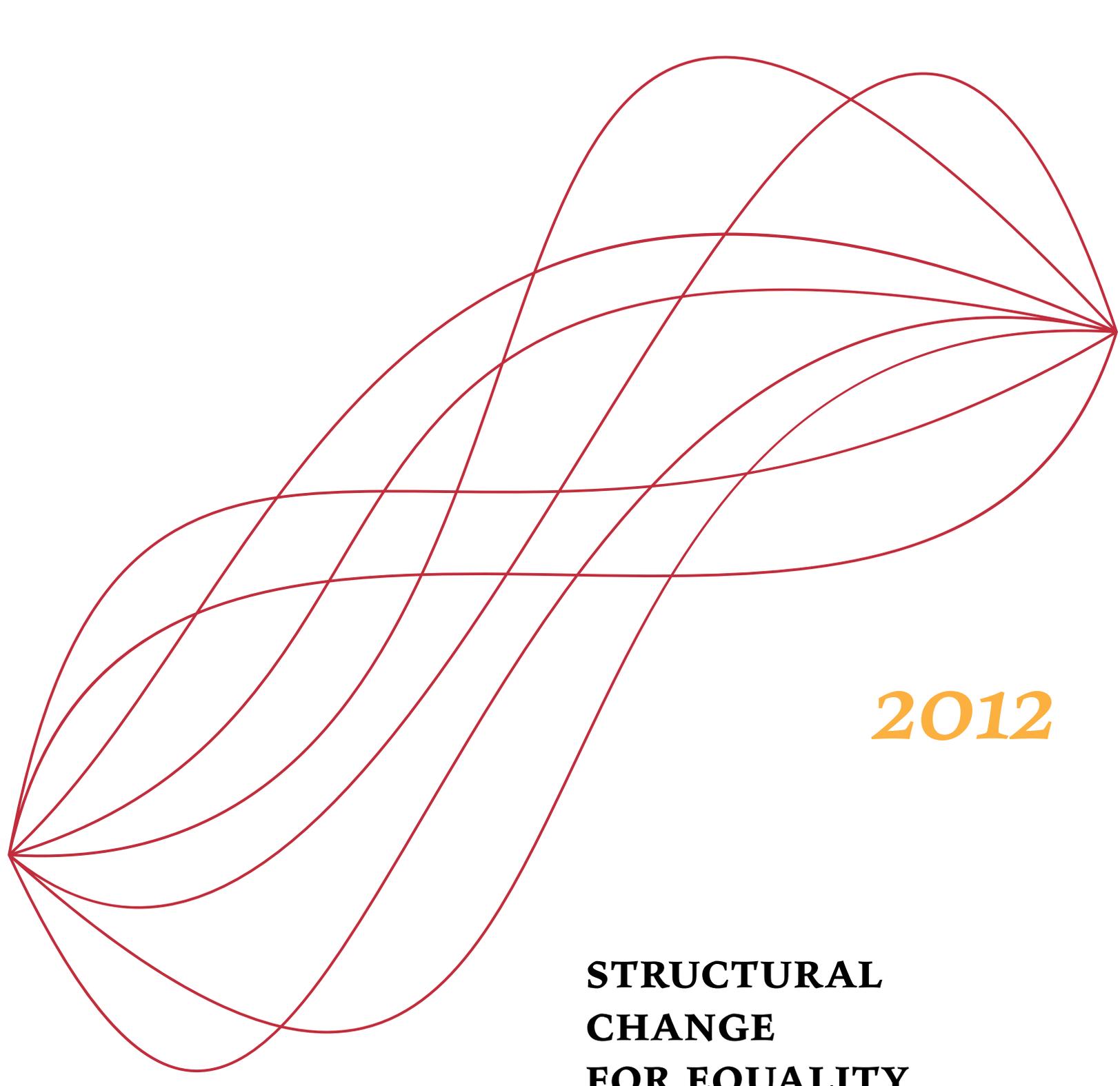


UNITED NATIONS

ECLAC

*Thirty-fourth
session
of ECLAC*

*San Salvador,
27 - 31 August*



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Explanatory notes

The following symbols are used in tables in this publication:

Three dots (...) indicate that data are not available or are not separately reported.

A minus sign (-) indicates a deficit or decrease, unless otherwise indicated.

A full stop (.) is used to indicate decimals.

Use of a hyphen (-) between years (e.g. 2001-2003) indicates reference to the complete period considered, including the beginning and end years.

The term "dollars" refers to United States dollars, unless otherwise specified.

Figures and percentages in tables may not necessarily add up to the corresponding totals due to rounding.

The denomination "Central America" includes the following countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

The annexes are available online at www.eclac.org/pses34/



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Annexes

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Foreword

A. Continuing the vision

This document deepens and broadens the approach set out by the Economic Commission for Latin America and the Caribbean (ECLAC) in *Time for equality: closing gaps, opening trails*,¹ submitted for consideration by the Governments of Latin America and the Caribbean at its thirty-third session in 2010. It was there that the groundwork was laid for a development vision at the threshold of the second decade of the twenty-first century. The vision was one of equality in its broadest sense, both as a guiding principle and as a strategic development horizon, for steering past the challenges of development policy and dynamics towards that horizon.

That vision of equality as a guiding principle and direction means spreading capacity-building, job opportunities and access to social benefits and safety nets throughout the fabric of society. But not just that. Equality is also the bedrock of citizen participation; it is essential for the exercise of civil, political, social and environmental rights. That is why *Time for equality* stressed, on the one hand, the importance of a deliberative democratic order in which all stakeholders participate fully and have a voice and, on the other hand, the importance of the State as a guarantor of those rights through advancement, redistribution, regulation and taxation. The need for social covenants (and, especially, for fiscal covenants) was the natural culmination of the message set out by ECLAC in *Time for equality*. Such covenants combine this broader view of equality with redistribution of the fruits of growth and access to the links of social inclusion in an entitlement-based approach to rights.

Response to the ECLAC proposal was widespread and is still rippling out to this day. It was an especially favourable juncture in history for making equality the focal point of development, especially in Latin America and the Caribbean. In 2010, among other things, (i) the pressure of long-unaddressed citizen demands had rearranged the region's political map during the previous

¹ LC/G.2432(SES.33/3).

decade; (ii) States and governments were more given to making social investments and using redistributive mechanisms, as can be seen in the systematic rise in social spending and in the countercyclical policies implemented, especially after the outbreak of the 2008 global financial crisis in order to cushion its social costs; and (iii) policies grounded in the universality of rights took front and centre in areas such as health, pensions and retirement.

Equality was no longer anathema to the development discourse; during the 2000s it was firmly ushered back into the picture by gender, ethnic and global civil society movements and a vast array of intergovernmental forums and world summits. Unlike the idea of equity, equality involves not only closing opportunity gaps but also a firm commitment by the State to redistribute the fruits of development, to achieve greater balance in the distribution of production factors and how they appropriate productivity gains, to define a normative framework spelling out social rights and calling for fiscal covenants based on the universality of rights and to be more willing to think not only in terms of thresholds but also in terms of ceilings. This latter idea is especially significant in a region like ours, where income and wealth tend to be overconcentrated in the top percentile, both proportionately and in comparison with other regions.

Our starting point at the time was that the deepening of democracy as a collective order and as a shared global imaginary calls for greater equality of opportunities and rights. We argued that social equality and economic growth that transforms the production structure are not incompatible, and that the challenge lies in finding the synergies between them. We underscored that there is no contradiction, but rather convergence: equality for growth and growth for equality.

We therefore see a historical opportunity to rethink development based on the core value of equality while seeking greater environmental sustainability. But this is to be no rhetorical exercise or just empty talk, but rather a thorough examination of how the components of development policy contribute to thriving, more equal societies.

It was driven by this need that ECLAC set out to draft the document it is now submitting for consideration by the Governments of Latin America and the Caribbean. The goal was to provide a more integrated vision of development, with clear guidelines for moving forward on key components of the development dynamic and development policy, along with virtuous circles between faster growth and more equality that are sustainable in the short run as well as over the long haul.

Employment with full rights holds the master key to equality; and that must come with social policies to tackle the risks on the road to structural change. Industrial policy is a long-term venture; along the way, sector adjustment pressures arising from productivity leaps call for social policies to ensure a well-being threshold for those who cannot, in the early stages, attain well-being through quality employment with rights.

The quest for equality is also universal in scope: everyone wants to be productive, achieve a higher standard of living, have access to knowledge and be educated and have a job and rights. That is our goal here at ECLAC: to build an inclusive development model with space for all segments of society to fulfill their potential and their life goals, grounded in structural change that is environmentally sustainable. When we speak of equality we are talking about production policy. We are talking about distribution of ownership and appropriation of public goods. And about productivity gains that are not ill-gotten but real, that is, based on a full understanding of the renewability of natural resources and their use over time with intergenerational equality in mind.

B. Towards an integrated vision of development: Cycle and trend, macroeconomics and production structure

Set out herein is a sweeping vision encompassing the many interdependent relationships that are the building blocks of development: cycle and structure management, macroeconomic and industrial policy, production growth with productivity level convergence (and the resulting spread of quality employment with rights throughout the economically active population) and their impact in terms of equality. These dynamics and interdependencies are examined in the light of an abundant casuistry running through the document, based on historical evidence and recent experience, comparing the countries of Latin America and the Caribbean with each other and comparing the region as a whole with others that have performed better.

We see this effort as a new foundation for building an integrated approach to development, taking advantage of the lessons of the past few decades and of the development paradigms put to the test in the region since the times of industrialization through import substitution. So, as we face forward, towards the future, we look back to draw on the historical outcomes of development in Latin America.

Learning from the past and from current trends and taking an integrated view that combines the macroeconomic dimension with the production dimension entails binding tightly together all of these policy components that have, in recent decades, been matter for an on-and-off and not particularly productive dialogue. To put it another way, macroeconomic policy and production development policy should not follow separate paths but rather combine to build intertemporal synergies between short- and long-term trends. On the macroeconomic side, fiscal, monetary and exchange-rate policies should do more than work to optimize impacts on the length, costs and benefits of cycles as measured by good national indicators. They can at the same time encourage long-term investment, diversification of the production structure and, especially, greater convergence of productivity levels throughout the economy. This gradual convergence in production and employment strengthens the sense of citizen ownership, yields greater willingness to seek consensus for improving well-being and fosters more virtuous links between citizen involvement and the direction of the economy. Conversely, greater production diversification, with high rates of incorporation of technological progress, narrower productivity gaps and greater energy and environmental efficiency, is essential for shielding the economy from the impact of cycle volatility, especially in the face of external constraints exacerbated by that volatility.

So, the potential synergies between macroeconomy and structure, between business cycles and growth trends and between the short term and the long run, pose the challenge of achieving the most virtuous coordination possible of macroeconomic policy and industrial and technology policy. Macroeconomics for development cannot dissociate the cycle and (real and nominal) stability from structural change and faster long-term growth. This dovetailing should take place under an integrated approach where production change is an explicit priority and capacities and social opportunities are levelled up. And, as pointed out earlier, social policy must be part of this process, especially during periods of structural change when production has still not become the universal best path to inclusion with well-being. In a complete change from the development paradigm that prevailed in the 1980s and 1990s, then, the role of the State and a new market/State/society equation are vital.

The link between macroeconomic policy and production investment is, moreover, crucial for reversing the chain of structural linkages that exacerbates social gaps in our countries. The prevailing pattern up to now has been for investment to reinforce the yawning gaps in productivity that feed labour market segmentation in terms of job quality, labour productivity and wage income. This segmentation largely explains the persistently high rates of informal employment in the region and the low percentage of the population covered by social security through work, which spread inequalities and gaps into the sphere of social protection.

By contrast, *positive coordination of cycle management with the converging expansion of the structure leads the economy to develop its potential in such a way that, over the long run, the benefits for society are more egalitarian.* The main mechanism whereby these two components (production development and social equality) converge is, beyond a doubt, the world of work, that is, the engine of social inclusion. It is in the world of work that the fabric of society can be strengthened through enhanced capacity-building for all of its members, more opportunities for the productive remuneration of those capacities and better conditions for harmonizing the interests of all labour stakeholders.

C. The road to structural change

If the goal and the strategic direction is equality, how do we get there? ECLAC holds here that structural change is the path. Its integrated approach is based on this reasoning.

Structural change means putting qualitative changes in the production structure at the centre of the growth dynamic. Doing so these days has its peculiarities, largely shaped by open economies whose patterns of specialization are defined by the quest for global market insertion. Improved global insertion and virtuous growth in domestic productivity and employment call for greater participation by knowledge-intensive sectors in overall production. This fosters the building of capacities, knowledge and learning in coordination with production and investment across the economy and the social fabric. In this scenario, environmental sustainability will be achieved only if there is structural change entailing a profound and inclusive technological transformation.

In the framework of our proposal, we understand that structural change is virtuous when it takes place on two interconnected fronts: enhancing the share of more knowledge-intensive sectors in production and trade, and diversifying towards sectors where domestic and external demand are expanding rapidly, so that demand can be met with domestic supply and imports and exports can grow in a balanced manner without putting unsustainable pressure on the balance of payments.

Structural change is thus associated with two kinds of efficiency that could be classed as dynamic. That is, they involve faster growth paths for productivity, output and employment over time. The first kind is called Schumpeterian efficiency, where sectors with the highest rate of productivity growth and knowledge and capacity expansion towards the economy and society as a whole are leading the innovation process and driving productivity gains, both in their own sector and radiating out to other sectors. The second kind is Keynesian efficiency, which refers to a pattern of specialization in sectors that benefit from higher rates of growth in both domestic and external demand, with positive impacts on output and employment. It is thus crucial for structural change to strengthen dynamic sectors, not only technologically but also vis-à-vis demand, because rising productivity without a parallel increase in demand could

spark underemployment and unemployment. Both kinds of efficiency are usually found together, because the more knowledge-intensive sectors also tend, in the long run, to stronger demand and more international specialization.

Industrial policy is indispensable for promoting virtuous structural change. This obviously involves political will, because the State has a key role to play in advancing policies in this sphere. It is worth remembering that during the past two decades, talking about active industrial policy conducted by the State was a virtual anathema in the development lexicon that prevailed under the Washington Consensus. Talking about equality was, too. Underlying that “veto “ was the assumption that the market, supported by the right signals, would take care of optimizing factor allocation in a way that would in the end lead to productivity leaps. Experience has clearly shown that this is not the case, especially when looking at the poor productivity trends for Latin America and the Caribbean over the past 30 years. But today the need for such policies has been brought up from both sides of this ideological divide. The view taken by this document is that industrial policy aims in two complementary directions: building the capacities and competitiveness of existing sectors with clear potential for specialization and for incorporating technical progress; and diversifying the production structure by creating new, high-productivity sectors that are more sustainable and environmentally efficient. On top of this comes the pressing need to promote greater productivity among micro and small and medium-sized enterprises, especially because of their capacity to create jobs and become hubs of knowledge dissemination and technology appropriation.

There is no virtuous structural change if all that is done is to create more high-tech enclaves or change just the most efficient edge of the production system. Structural change must be synergized in the economy as a whole, with backward and forward linkages, and with support for intermediate-productivity sectors so as to mesh more dynamically with larger companies or sectors with greater productivity leadership. In this pull-from-the-top and push-from-the-bottom process, the structure of employment changes and gradually shifts the working population from low-productivity sectors to new ones that increase the density of the intermediate space. In this process, gaps tend to narrow in an overall shift towards greater productivity. In the long run, the outcome is more diversified distribution that is, however, also less unequal as more of the economically active population moves to medium- and high-productivity sectors. This has a high equality impact thanks to the conveyor belt of employment.

D. The equality horizon

If structural change is the path, greater equality is the reference horizon and industrial policy and macroeconomics are the tools for attaining that goal. By centring growth on the creation of new sectors and the dissemination of technology throughout the system, structural change creates job opportunities in higher-productivity sectors while pushing labour market participation rates up and unemployment and informality rates down. There is no question that all of this has positive impacts in terms of poverty and inequality reduction.

There are two complementary ways to advance towards higher levels of distributive equity, and they combine in different ways. One is the fiscal route, taxing the higher-income sectors and granting benefits to disadvantaged ones. Social policy is often the vehicle for assisting the most disadvantaged and poorest segments via this route. Another path to equality is structural change, progressing towards a production matrix that endogeneously creates jobs and builds capacities

and broadens high-productivity activities. This includes access to technology, knowledge appropriation and distribution of productivity gains among the factors of production.

Where the production structure is very polarized, purely redistributive fiscal and social mechanisms do not solve the problems of inequality and slow growth and are not sustainable over the long run. Earlier than later, policies will have to target the generation of job and training opportunities in the framework of structural change. The adoption of industrial policies that encourage this transformation should be considered, along with social policies, as they are key dimensions of the equality horizon. For example, production linkages are part of structural change; they prevent concentration and disseminate gains throughout society in a more solidary way.

Conversely, social and redistributive policies should accompany industrial policy. For one, they help to improve distribution and reduce vulnerability in the short term, creating an intertemporal linkage that enables structural-change-oriented policies to achieve their redistributive impacts, which are longer-term. Moreover, social policy should protect the most disadvantaged sectors during the disruptive periods of structural change (when sector realignment can involve periods of adjustment with unemployment), as well as from the social impacts of external shocks.

In short, the thread running through this document is that structural change is the path, macroeconomic policy is the toolbox and equality is both the core value and the horizon towards which structural change is moving. When structural change leads to narrower productivity gaps, production structure diversification and aggregate productivity gains, the world of work benefits in terms of equality. This is because wage gaps decrease, the contributory social safety net expands across sectors of society as decent work becomes much more widespread, fiscal capacity improves thanks to more sustained, robust growth (thereby enhancing the redistributive action of the State), and access to services expands thanks to infrastructure improvements. Besides, a more integrated economy centred on a more diversified, specialized production matrix also means a society in which it is politically more viable to reach stakeholder covenants seeking more equal appropriation of the wealth created by productivity leaps. And formalizing employment and making it more productive fosters dialogue among labour-market stakeholders and lays the institutional groundwork for advancing towards full entitlement to social rights.

As explained at the beginning, the proposal set out herein for the Governments of the region returns to and goes deeper into the ideas put forth in *Time for equality: closing gaps, opening trails*. The following pages spell out our best efforts and our best tools for an integrated approach to development. We set course for equality and propose structural change as the route: a long road whose virtuous impacts call for political will and guidance, State policies and active citizens committed to a certain kind of society.

E. A vision for the generations to come

This proposal for structural change comes at a turning point in the history of humankind. The future of the world, threatened by gathering, powerful forces such as climate change and biodiversity loss, hangs in the balance and can only be addressed by modern, highly innovative policies in the technology and social spheres. The times that we face will likely involve the most radical and fast-moving changes in production and consumption patterns in history. Against this backdrop, Latin America and the Caribbean can be a good platform for this transformation.

Structural change for equality is, then, a long-term vision entailing profound transformations. In this vision, the role of policy is to prioritize, guide and build agreement. Turning that vision into concrete actions and steps towards that strategic horizon requires democratic, efficient institutions.

This vision is informed by true concern for the future of coming generations, to ensure fulfilment of their rights and their potential. First of all, those generations have a major role to play in structural change: they will use their enhanced capacities to disseminate technological progress and drive unprecedented advances in patterns of production, organization and communication.

Second, the coming generations are new technology “natives “ and are as such an essential part of the transition to information and knowledge societies. But there is also a strong potential link between the technological revolution and the new ways to reconcile growth with environmental sustainability, as happens with increasing virtualization that saves materials, energy and movement. Technological change can be steered towards making productivity gains compatible with environmental standards. And it is precisely those new generations who are more aware of long-term environmental challenges that know no national borders.

Third, demographic changes mean that our societies will age in the medium term and will thus grow increasingly dependent on the productivity of the working-age generation. The current stage of the demographic dividend, when there are more people of working age in proportion to the numbers of children and older persons, is the right time to invest in the capacities of new generations. Now is the time to seize opportunities and prepare for the risks of a changing age pyramid. Today’s children and young people will tomorrow be the drivers of productivity gains that will sustain social protection systems in keeping with new demographic profiles.

Lastly, political change and the emerging networked society are bringing about new ways to mobilize and organize in order to make demands heard, carve out new spaces for discussion and reenergize the public space with renewed citizen participation. In this shift towards networked mobilization and greater political space, the young people of today exhibit surprising creativity in the use of available spaces and resources as well as a renewed capacity for reflecting on what lies ahead for all humankind. For this reason, these generations are more open to changes in course like those proposed herein, with a focus on greater social equality, new production and growth patterns, more timely access to capacity-building and more conscious defence of environmental sustainability.

Alicia Bárcena
Executive Secretary
Economic Commission for
Latin America and the Caribbean

**Chapter I**

Structural change for development

This chapter introduces the main ideas of the document and analytically integrates three dimensions of the concept of development: structural change, growth to reduce internal (within the country) and external (with respect to the developed world) income and productivity gaps (convergence), and the promotion of equality. These three dimensions interact and evolve together, determining the output, productivity and employment growth paths of the economy over time. A pattern of virtuous growth, compatible with the concept of development, requires sustained increases in productivity and employment that enable the economies that have lagged behind to catch up with those on the global technology frontier and to allocate an increasing share of total employment to quality jobs with rights.

Development is the process by which progress is made on the three fronts of structural change, convergence and equality. The countries of Latin America and the Caribbean have made progress, at different times, on one or another of these fronts, but it has not been enough. Moreover, progress has rarely been made on all three fronts simultaneously. In particular, over the past decade, the region has reduced the income gap with the developed world, but not the technology or productivity gaps. It has improved distribution through the revitalization of the labour market and more vigorous social policies but has not succeeded in creating as many quality jobs as are needed. A good portion of the region's production system continues to be characterized by informality.

Structural change aimed at closing the productivity gap and opening up quality jobs for most of the workforce has been notably absent since the 1980s. This is the challenge that this document seeks to address: to offer a comprehensive analysis of the various dimensions of economic development that will lead directly to policy responses (coordinated and complementary) that act on these fronts.

Another central aspect of the analysis that is proposed is an integrated way of looking at the short and long terms, cyclical fluctuations and the growth trend, all part of the same process. The long term does not lie behind cycles as a separate line around which fleeting shocks occur that are absorbed without a trace. Shocks and policies, macroeconomic and industrial alike, with their

effects on production levels and macro prices (wages, interest rate and exchange rate) leave marks on the structure that affect the growth path in subsequent periods. These lasting marks are related to changes in the level, composition and allocation of investment. A temporary fall in investment or a change in its composition is more than a transitory setback. The very movement of the international technology frontier – which has been accelerating over the past two decades – creates new conditions. So, once the impacts of a shock have been absorbed there is no return to the situation immediately preceding the shock but rather to a situation in which production structures have fallen behind the economies at the leading edge of innovation.

This chapter is organized as follows. Section A describes the characteristics of growth in Latin America and the Caribbean since the 1970s, providing a framework for the discussion that follows. Section B explains how the structuralist approach to development sees the relationship between business cycle and structural change. Section C expands on the structuralist perspective, defining desirable structural change, Keynesian (growth) and Schumpeterian efficiencies of the production structure (dynamic efficiency) and their relationship to employment and equality. Section D explores the challenges of desirable structural change in the context of the current technology revolution and the opposing forces that are emerging from it, as well as the trends towards concentration or deconcentration of production and services in terms of countries, sectors and firms. Section E compares the performance of the countries of Latin America and the Caribbean with that of the Asian countries, discussing their growth patterns based on the productivity and employment dynamic. Special note is made of the absence of a virtuous pattern in the region, i.e. a pattern of simultaneous sustained growth in productivity and employment. This lack of a virtuous pattern is related to weak structural change. Section F discusses the links between the business cycle, external shocks – arising from shifts in capital inflows or terms of trade – and the production structure in the various periods of the region’s economic history over the past 50 years. It also covers the relationship, in each of these periods, between growth and external equilibrium, noting the role of macroeconomic and industrial policies. Last, section G focuses on income distribution and equality, in conjunction with growth, and on the territorial dimension of heterogeneity. It takes another look at the distribution effects of growth in the different periods of the region’s economic trajectory, pointing up the important role that distribution policies have played in recent years and the challenges posed by the coming decades to the advance of equality.

A. Growth in Latin America and the Caribbean

Economic growth in Latin America and the Caribbean between 2003 and 2011 enabled the region to recover from a lacklustre period that began with the debt crisis of the early 1980s. However, these recent growth rates do not match the rates achieved in the 1970s by the region’s countries or the rates currently seen in other developing countries (see table I.1). The difficulty that the region is experiencing in returning to a faster growth path is seen when comparing the evolution of its per capita income with that of the fastest growing economies in South Asia.¹

¹ For example, per capita income in the most successful East Asian economies, such as the Republic of Korea and Taiwan Province of China, which had trailed that of many sub-Saharan African nations in 1950, had already risen above the Latin American and Caribbean average by the 1980s.

Table I.1
ANNUAL GDP GROWTH RATES BY REGION (SIMPLE AVERAGES), 1971-2010
(Percentages)

	1971-1980	1981-1990	1991-2000	2001-2010
Sub-Saharan Africa	3.7	1.9	2.3	5.2
North America	3.3	4.4	3.4	2.1
Latin America and the Caribbean	5.7	1.3	3.2	3.8
East Asia and the Pacific	4.8	4.7	3.1	4.2
South Asia	3.0	5.4	5.2	7.5
Europe and Central Asia	3.2	2.4	1.9	2.0
Middle East and North Africa	8.6	1.8	4.1	4.8
Arab countries	...	1.5	3.9	4.9
World	3.9	3.5	2.9	3.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Improved performance since 1990 (except for the lost half decade) gathered further momentum in 2003, with several countries in the region managing to sustain this level of growth despite the decline in economic activity brought on by the international recession of 2008-2009. The economic growth rates of the past two decades have been more volatile than in other regions of the world, developed and developing alike, a trend that characterizes the region to this day.

Naturally, within this larger whole, there are significant differences at the subregional level. In the two past two decades, two upswings may be distinguished (1991-1997 and 2003-2011), separated by five years of stagnating –and in some cases falling– activity levels (1998-2002). During both growth phases, the region's overall good performance was driven by Central and South America. In the 2003-2011 period in particular, the two subregions achieved the highest growth rates of their recent history and weathered the impacts of the 2008-2009 global recession better than Mexico and the Caribbean.

Table I.2
GDP GROWTH RATES BY SUBREGION, 1971-2010
(Percentages)

	1971-1980	1981-1990	1991-1997	1998-2002	2003-2010
South America	5.6	1.0	4.1	0.3	5.0
Argentina	2.6	-1.0	6.1	-3.1	7.5
Brazil	8.8	1.7	3.0	1.7	4.0
Chile	2.8	3.1	8.2	2.5	4.0
Colombia	5.5	3.4	4.0	0.7	4.4
Central America	4.3	1.0	4.5	3.5	4.3
Mexico	6.6	1.9	2.9	3.2	2.2
The Caribbean	...	1.6	1.9	3.0	2.9
Latin America and the Caribbean	5.9	1.5	3.6	1.3	4.2

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>, 2012.

Note: Calculations based on 2005 constant values. The GDP of the subregions is the sum of the GDPs of the countries of each subregion.

As will be discussed later, the behaviour of the region's economies between 2003 and 2010 can be explained by internal as well as external factors. Within the region, a series of policies were implemented that paved the way for a relatively balanced evolution of the most important macroeconomic variables. And outside the region, there was an improvement in the terms of trade for commodity-exporting countries, an increase in foreign direct investment and fluid access to international financing, as well as foreign income from tourism and migrant worker remittances. This combination —not exempt from contradictions and sudden changes, as evidenced during the 2008-2009 crisis— helped to prevent or alleviate historical tensions on the external front, especially in countries that export natural resources.

The period of stagnation between 1998 and 2002 can essentially be attributed to the South American economies, since Mexico, Central America and the Caribbean grew at average annual rates of over 3%. The poor performance of South America during this period was directly associated with the growth pattern of the second half of the 1990s, when mounting external imbalances gave rise, among other manifestations, to the crises in Brazil (1999) and Argentina (2001). Specific conditions in individual countries notwithstanding, the tendency to combine stabilization programmes built around the exchange rate as the nominal anchor with economic reforms —trade and financial liberalization— led to significant exchange rate appreciation to the detriment of the real economy, especially the tradable sectors.

Between 2003 and 2011, following the five-year period from 1998 to 2002 known as the “lost half-decade”, most of the countries of Latin America and the Caribbean experienced their fastest growth since the 1960s, outpacing the global average and the advanced countries. This led to a significant improvement in the living conditions of the population, as seen in social and labour indicators. Not only was major headway made in reducing unemployment, poverty and indigence, but also for the first time in several decades, a sizeable subset of countries in the region achieved positive results in terms of income distribution (ECLAC, 2010). This was also a period of relative macroeconomic stability, with growth accompanied by single-digit annual inflation on average, despite the spike in international prices for oil, grains and other commodities. The region's countries were able to take advantage of the favourable external environment, pairing economic growth with fiscal surpluses and falling external debt levels.

In the period 2003-2011, as happened in a number of countries in the previous decade, the nominal exchange rate also served as an anchor to contain or reduce inflation. Heavy inflows of primarily short-term capital caused local currencies to appreciate in real terms. This had the effect of concentrating export growth in the natural resources sectors and limited their capacity to pull along the rest of the economy. It also discouraged capital formation in the tradable sectors and drove down output. The drive to specialize in natural resource-intensive products was consistent with the relative price structure induced by the external shock and exacerbated by stabilization policy.

Though fiscal reform continues to be an item of unfinished business in the region —especially in terms of the low tax burden, the regressive effects of taxation and much of fiscal spending, and the share of indirect taxes in total taxes— several key aspects of public finances took a turn for the better in 2003. Evidence of these improvements is seen in, among other indicators, the lower levels of external public debt and fiscal deficits, as a percentage of GDP in both cases, in many of the region's countries. Aside from the factors that in each case made these gains possible, the near-universal reduction in public debt levels as a percentage of GDP and in interest rate spreads on sovereign debt

—a reflection of lower country risk— created more economic policy space to manage the short-term cycle, as seen in the region’s ability to respond to the contraction in external demand that followed the Lehman Brothers crisis in the third quarter of 2008. Unlike in the 1980s and 1990s, the improvement in public finance did not come at the expense of cuts in social spending or infrastructure investment. Indeed, public spending increased significantly and infrastructure investment rose moderately.

There are important differences with respect to growth rate and economic performance between the subregions of Latin America and the Caribbean. These are associated with (i) the varying degrees of global financial integration, which mean different levels of exposure and vulnerability to the liquidity cycles of key countries; (ii) exposure to the real cycle of the advanced economies, particularly the United States (as in the case of Mexico and the countries of Central America and the Caribbean); (iii) the effect of international commodity price movements on the terms of trade; and (iv) the different initial conditions, institutional settings and policy measures in place in each economy. These differences led to various behaviours in terms of investment and exports and their capacity to lift the rest of the economy and thus raise GDP.

Notwithstanding these differences, the performance of the region in general has been satisfactory in recent years. The resilience shown by the countries of Latin America during the economic crisis that hit the industrialized world offers proof of this. However, this positive result must not engender complacency in the region. For example, this period did, after all, hold benefits for many countries in the region in the form of high prices for agricultural and commodity exports, very favourable conditions of access to external financing and a steadily expanding international market, which goes a long way in explaining their strong performance.²

These outcomes have taken place in the framework of a global economy that has undergone profound transformations over the past 10 years. Among the more significant is the emergence of China as a dominant player in global trade and investment. China’s ascendancy confirms the general trend among developing countries in Asia towards larger roles on the global stage. For some countries in the region, the most obvious impact of this new pre-eminence has been the increase in demand for natural resources, especially metals and hydrocarbons, which have noticeably improved their terms of trade. In addition, the incorporation of the Asian labour force has impacted the dynamics of global labour costs, especially inasmuch as they figure increasingly heavily in international markets for manufactured goods. This has real consequences for the countries of Latin America and the Caribbean, more or less favourable depending on their degree of integration in the global marketplace.

For most Central American and Caribbean countries, which are net importers of food and energy, the impact of China’s growing presence and changing terms of trade was negative and exacerbated their external account problems, especially in the countries that have tended to specialize in exporting labour-intensive manufactured goods (in direct competition with Asian production). Thus, instead of benefiting from rising commodity prices and growing Chinese

² The remarkable response and recovery capacity demonstrated by the region during the worst part of the crisis in 2008-2009 occurred in a larger context of sweeping proactive macroeconomic policy measures on a global scale, driven by key countries and China. This relatively coordinated countercyclical fiscal and monetary response included an unprecedented measure to support the functioning of the international monetary system of the past three decades, namely the allocation by the International Monetary Fund (IMF) in the third quarter of 2009 of Special Drawing Rights equivalent to US\$ 250 billion. For more detailed information on the countercyclical policies adopted in the region, see ECLAC (2009).

demand for inputs, they were hurt by increased competition with China and Asia in general for the United States market, their largest foreign market. Although income from tourism and migrant worker remittances partially offset these effects, their extreme dependence on the business cycle of the developed economies, especially the United States, injected substantial volatility into their growth rate and robbed them of momentum.

For net exporters of natural resources, both in South America and the Caribbean, the foreign trade boom has mitigated (but not eliminated) the threat posed by the debt and balance-of-payment crises. This larger trade cushion does not mean that the countries benefiting from it are on a sustainable high-growth path in the long term. The key structural problems that have historically plagued the region persist. There are challenges that must be faced, not only by the economies of the region that have been adversely affected but also by those that have profited from these new trends in the external environment.

The countries that have benefited from the commodities boom are very susceptible to a reversal in the terms of trade trend. But even if these favourable external conditions were to persist, there are reasons to be concerned about the trends in the production structure, particularly with the reprimarization of export specialization.

History indicates that specializing in low value-added assembly work or in commodities is associated with weak gains in productivity, job creation and economic growth in the long term. The short-term benefits of this type of production specialization should be weighed against the long-term cost. This trade-off is crucial when it comes to shaping macroeconomic and industrial policy agendas for structural change. The need for structural change as a cornerstone of development has been and continues to be the key challenge facing the region and will assume even greater importance in coming years.

Understanding this challenge calls for revisiting the contributions of the pioneers in development theory.³ Economic development involves not only high growth rates but also qualitative changes in the production structure and, especially for open economies, in the pattern of specialization and integration in the global markets. These changes should increase the share of knowledge-intensive sectors in total production, which will enhance the skills, knowledge, and learning processes that occur in conjunction with production and investment. Technological know-how, production structure diversification and the potential for economic growth are closely interrelated.

Not all structural change is good for development. Structural change entails transforming the composition of output and international trade, employment and the pattern of specialization. Virtuous structural change is defined by two interrelated aspects. First, it is characterized by an increase in the contribution of knowledge-intensive sectors or activities to output and trade and a denser and more diversified production matrix, with higher productivity growth paths and technology spillovers and externalities that benefit the entire system. Second, desirable structural change should also lead to insertion into high-growth global markets so as to boost aggregate demand, production and job creation, with the ensuing favourable effects on income distribution. Structural change that meets both criteria is indispensable for placing an economy on a long-term high-growth path that is not compromised by disequilibrium on the external front. This type of

³ There are several authors who can rightly be described as classics in the field of economic development, including Rosenstein-Rodan, Gerschenkron, Nurkse, Lewis, Hirschman, Prebisch and Furtado.

change is consistent, in particular, with a rate of export growth that systematically covers the import bill and factor payments (e.g. interest), so the current account balance as a percentage of GDP remains at manageable levels.

The concept of virtuous structural change implies a distribution structure designed to reduce inequality. This does not occur spontaneously but rather requires developing and strengthening economic, social and public institutions so they are able to ensure that the fruits of technical progress are broadly distributed instead of excessively concentrated. In the medium term, desirable structural change should lead to better income distribution and access to production factors. In the transition from a concentrated structure to one with better distribution, structural change should be accompanied by social protection pillars for sectors whose incorporation into production activity requires longer lead times as well as by policies to develop the skills that will enable these sectors to move into quality employment more quickly.

By encouraging the creation of new sectors and the dissemination of technology throughout the entire system, structural change generates job opportunities in high productivity sectors. A virtuous pattern of structural change, at the core of the development process, pairs high productivity and output growth with a drop in open unemployment, informal and subsistence employment, which reduces poverty and inequality in the economy. This last aspect is especially important in Latin America and the Caribbean, a region that stands out internationally for persistently high levels of inequality.

B. Structuralism: Macroeconomics and development

Structural change has always been at the heart of development theory, so it is striking that until recently it had been relegated to the sidelines of the dominant orthodoxy on growth theory. That marginalization has lessened in recent years as growth analysis has assigned an increasingly important role to structural change, as the leading thinkers on development and the ECLAC manifesto of 1949 proposed. Since the 2008 crisis, the idea that structural change and policies to foster it are indispensable for achieving high growth with a better distribution of income has won increasing acceptance, even in circles that tended, at most, to view it as a topic for books on the history of economic thought.

According to the orthodox approach that prevails in some academic circles and among international financial organizations, the long term is conceived as a steady state of growth towards which an economy converges if market mechanisms are allowed to operate. From this perspective, macroeconomic policy should address inflation and short-term fluctuations, while the long term and the growth trend are handled by “God and the engineers,” as Joan Robinson put it. This approach has been increasingly challenged by economists from different schools of thought (Lall, 2000), who are very far from a consensus on the idea that if the central bank concentrates only on inflation, then output will automatically stabilize very near its potential level (the so-called “divine coincidence”).

Meanwhile, according to the structuralist approach, the relationship between the production structure and macroeconomic policy runs in both directions. Macroeconomic policy shapes the production structure, and the production structure in turn determines the space available for macroeconomic policy, as well as its effects on the economy. From this perspective, it is more accurate to speak of cycle and trend as coevolving phenomena than as two separate dimensions of economic growth. This point —that cycle and trend are interrelated— is highlighted in the document and will be taken up again later.

There are three transmission mechanisms between macroeconomic policy and production structure: (i) the effect of policies on the rate of capacity utilization, which in turn influences investment rates (accelerator effect); (ii) the effect of an increase in aggregate demand on the rate of technological progress and productivity growth (Kaldor-Verdoorn effect); and (iii) the effects of policies on macro prices, which influence the expected profit rates in different sectors and thus the direction and composition of investment. The functioning of transmission channels is complex and also includes intermediate effects on income distribution and consumer demand.

These effects connect macroeconomic policy with the productivity and employment paths and are a link between the long and the short term, between trend and cycle. Given its influence on the level and composition of investment, macroeconomic policy shapes future growth. A related factor is the irreversibility of supply: whereas the recessionary phase of a cycle of economic activity can permanently destroy installed capacity (“a firm can be destroyed in a day”), the corresponding expansionary phase, of the same duration, can be insufficient to replace the lost capacity due to various reasons, chief among them being the lead time needed for individual and institutional learning processes (“a firm is not built in a day”).

Managing aggregate demand and its effect on the degree of utilization of production capacity helps to determine the level of investment. A highly restrictive approach to demand management, which results in long periods of underutilization of installed capacity, reduces the investment stimulus and curbs both the expansion and modernization of the stock of capital assets. This compromises the future growth of productivity —and thus output and employment— in a global context characterized by swift technological change. At the same time, the expansion of aggregate demand and output in the short term generates learning-by-doing processes that boost productivity. Productivity tends to rise when production increases owing to increasing returns on economies of scale and the accumulation of experience and learning, which expands the skill base. Accordingly, macroeconomic policy that unnecessarily reduces the rate of growth means that the economy might start the following period with a technological platform that is relatively less developed. Naturally, aggregate demand alone is insufficient to make investment grow at the same rate as demand, so caution is needed when the capacity utilization rate is already high. Supply can respond endogenously to demand within certain limits and periods of time. Aggregate demand management policy should recognize this problem and be properly blended with policies to increase productivity, particularly with industrial policy.

In as much as fiscal, monetary, and exchange rate policies affect relative sector profitability, they will have effects on the allocation of investment (Cimoli and Katz, 2003). When firms make decisions about which sectors to invest in, they are also making decisions about the future configuration of the production structure, and thus the growth path. In recent years, the effect of the real exchange rate on the composition of output between tradable and non-tradable goods and services, and in turn on sectors or branches of economic activity with varying degrees of technological intensity, has been widely noted as an important factor linking macroeconomic policy to growth (ECLAC, 2010, chapter 2; Frenkel and Rapetti, 2011). However, the real exchange rate is not the only possible transmission channel. For example, higher interest rate and more restrictive credit conditions may have an adverse effect above all on small and medium-sized firms and on innovative activities with more uncertain rates of return.

The external sector —more precisely the behaviour of the balance of payments— is key to understanding the coevolution of cyclical fluctuations in production activity (business cycles) and

the long-term expansion trend or path of the economy. Modern history in Latin America and the Caribbean provides numerous experiences that illustrate this relationship. There have been episodes of strong growth driven by abundant foreign currency, the result of substantial improvements in the terms of trade and access to the global financial market (for example, in the period following 2003, with the exception of the worldwide great recession of 2008-2009). There have also been cycles of economic expansion accompanied by persistent current account deterioration and exchange rate appreciation, which subsequently led to severe external sector crises, capital flight, recession and job loss (as occurred in several countries in the region in the 1990s and in most of them in the 1980s).

The relationship between external shocks and macroeconomic policies has key implications for the growth and stability of the region's economies. These implications reflect the central role that the balance of payments has had (and continues to have) in the macroeconomic performance of emerging countries, especially those in the region (Cimoli, 1992; ECLAC, 2007; Ocampo, Rada and Taylor, 2009; Thirlwall, 2011). This predominance is based on the dynamic of four elements:

- (i) net exports (exports minus imports);
- (ii) remittances from migrant workers, earnings on foreign capital and interest payments;
- (iii) effects of the terms of trade; and
- (iv) access to external financing and the volatility of short-term capital flows.

Historically, the first three components dominated the external sector dynamic. Among them, in economies that were less open to international financing than now, net exports clearly exerted the most weight. The trade balance is closely related to the production structure and the pattern of specialization. When financial globalization began to take root in the 1970s, the fourth component became significantly more important and, as a result, the financial components of the balance of payments played a larger role. And the importance of foreign direct investment has increased as well.

Balance-of-payment shocks associated with terms of trade and liquidity shocks (items (iii) and (iv) above) are key to the cyclical dynamic, along with policy responses. These shocks affect not only the short term but also long-term growth inasmuch as they have structural effects via investment, which is to say that shocks modify the structural component that determines long-term growth.

If fluctuations in access to capital markets are significant and sudden (for example, due to a massive influx of short-term capital that leads to exchange rate appreciation and creates stock or real estate market bubbles), it can have deep and lasting effects on gross fixed capital formation and, by extension, on the production structure and the pace of economic and job growth. These destabilizing effects are more potent in a globalized world, particularly in economies that do not have instruments for regulating or managing international capital flows, as is the case with most of the countries of the region.

The relationships between macroeconomics and structure, between business cycle and growth trend and between short and long term call for rethinking the role of macroeconomic policy and addressing it in conjunction with the role of industrial and technology policy (Cimoli, 1992). Macroeconomics for development should look at the business cycle and stability (real and nominal) in the context of structural change and an increase in the pace of long-term growth. As proposed in ECLAC (2010, chapter II, p. 51), there is a need for "an approach that makes

production development an explicit priority and levels up skills and social opportunities.” This is macroeconomics in which the management of aggregate demand in the short term does not lose sight of its long-term effects on the amount and composition of investments and recognizes that structural limits (and, with them, the factors that determine future stability and growth) are redefined throughout the cycle (Cimoli, Porcile and Rovira, 2010). According to this perspective, the macroeconomic authorities should take into account that their decisions shape subsequent cycles and affect access to the labour market and skills development. In short, growth and distribution should be among the key objectives of macroeconomic policy, together with nominal stability. In this process, coordination with structural change policies (such as industrial and technology policies) assumes a central role.

C. Characteristics of structural change

The economic literature has made strides in analysing why some economies are able to follow virtuous growth paths with high rates of output, productivity and employment growth while others fall behind (Reinert, 2000). A review of experiences around the world reveals that there are few cases in which there has been a substantial reduction in the per capita income gap between a developing economy and the advanced economies. However, there are success stories that offer lessons on the factors favouring such a convergence. These lessons can be summarized as follows:

- (i) Economic development requires reallocating resources to sectors or activities that are knowledge-intensive and show higher rates of technological innovation. It is also necessary to diversify to sectors and activities that are experiencing rapid growth in domestic and external demand, so this demand can be met by domestic supply and exports and imports can grow in a balanced way without generating unsustainable pressures on the balance of payments. Thus, development is associated with a production structure having two types of efficiency that can be considered “dynamic” in the sense that they represent faster paths to productivity, output and employment growth over time. The first is referred to as “Schumpeterian efficiency” because there are sectors that are more knowledge-intensive with higher spillovers of capabilities to the economy as a whole. These sectors are innovation leaders, driving productivity gains both in their own sector and in other sectors. The second is “growth efficiency”, also referred to as “Keynesian efficiency”. It is associated with the pattern of domestic and external demand for goods produced in the country in question. If a country does not produce goods for which demand is growing quickly, its businesses will have no incentive to step up investment or output. Dosi, Pavitt and Soete (1990) and Soete (1990) regard Keynesian or growth efficiency as the one that is compatible with trade balance equilibrium.
- (ii) Both efficiencies are dynamic in the sense that they induce higher GDP growth in the medium and long term, in contrast with what is known as “Ricardian efficiency,” which increases GDP a given moment in time due to better allocation of resources based on factor endowments at that moment (Dosi, Pavitt and Soete, 1990). Structural change is precisely about moving away from a static model of efficiency (Ricardian) towards a model with greater dynamic efficiency (Schumpeterian and Keynesian). It is crucial that structural change strengthen dynamic sectors not only in terms of technology but also in terms of demand, since productivity gains that are

unaccompanied by a parallel increase in demand could lead to underemployment or unemployment (Cimoli, 1988). The two types of efficiency generally occur together since the most knowledge-intensive sectors tend to also experience higher demand growth over time.⁴

- (iii) Keynesian (or growth) efficiency should allow a high rate of growth without generating unsustainable disequilibria in the balance of payments, which entails, as mentioned, a pattern of specialization that prevents sharp asymmetries in the rate of expansion of exports and imports of goods and services. Basically, this means that the current account to GDP ratio must be kept from spiraling out of control, holding it on an acceptable path so external agents can continue to finance current account deficits. If the pattern of specialization were such that goods and services imports plus factor payments grew at a much swifter pace than exports, at some point it would be necessary to reduce absorption (and growth) to restore balance to the external accounts. This constraint (the need to hold the current account to GDP ratio at manageable levels) should prevail in the long term. GDP growth must be adjusted to ensure that the ratio does not exceed critical limits.⁵ As mentioned, this means that the rate of growth must be held close to the rate with external equilibrium in the long term (Moreno-Brid and Pérez, 1999; Moreno-Brid, 2003; Barbosa, 2002; Alleyne and Francis, 2008, Cimoli and Porcile, 2011).
- (iv) Keynesian efficiency implicitly assumes that the fiscal and monetary policy will contribute to keep the rate of growth of the economy close to the long run rate of growth with external balance. In no sense is this the “ideal” or desirable rate because it can be slower than the rate needed to reduce inequality and informality. The desirable rate and the equilibrium rate are the same only if industrial and macroeconomic policy work in tandem to build a dynamically efficient production structure. In this context, external equilibrium does not have the meaning of “steady state” that is usually assigned to it in economics. The long-term growth rate is an attractor that can change over time depending on policy focus and structural change.
- (v) The two types of dynamic efficiency are very closely related; generally, the sectors with the fastest growing demand are also the sectors that are the most technologically robust and knowledge-intensive. There are important exceptions, associated with what Díaz-Alejandro (1983) called the “commodity lottery,” in which a country temporarily achieves high growth because it has a resource that is benefiting from an especially favourable phase of the global demand cycle. However, history suggests that developing countries that have succeeded in converging with the more advanced countries have done so through the accumulation of technological capacity, innovation and knowledge, not on the basis of rents from natural resources. Rents can promote

⁴ Demand growth depends not only on products and changes in their income elasticities due to innovation or consumer preferences, but also on the existence of trade barriers or agreements that asymmetrically affect the products and countries participating in global trade. The rules of the World Trade Organization (WTO) have reduced these asymmetries but not completely eliminated them.

⁵ This perspective is consistent with what McCombie and Thirlwall (1999, p. 49) define as the balance-of-payments constraint on growth, which occurs when the performance of net exports and the international financial market's expectations regarding this performance impose on the country a growth ceiling that is lower than what would be possible with full use of the country's factors of production.

long-term development if they are leveraged to change the production structure so as to create new comparative advantages that generate rents on knowledge, are not depleted over time and produce increasing returns (ECLAC, 2007).

- (vi) Desirable structural change is defined and evaluated according to its aggregate effects on the economic system. Structural change is not virtuous if it merely creates more high-technology enclaves or if changes are concentrated in the most efficient parts of the production structure. Virtuous structural change should ensure that technology spillovers and rising demand drive not only a small group of large export firms but also the rest of the economy through forward and backward linkages. As part of this process of structural change, new agents emerge and the workforce increasingly moves away from low productivity sectors to new sectors that populate the space between pioneering activities and subsistence activities. Out of this process comes a more even distribution of medium and high productivity activities, which in turn creates a denser production matrix.
- (vii) Employment dynamics form a central element in any process of virtuous structural change. Developing economies have strong structural heterogeneity, with a significant portion of the workforce engaged in the informal sector or in subsistence activities.⁶ This contingent of workers has very low rates of productivity, to the detriment of income distribution and average income in the economy. With virtuous structural change, new sectors and activities are created that absorb the reserve of workers into more productive, better quality and higher paid jobs. The force that reduces heterogeneity is the diversification associated with structural change.
- (viii) Virtuous structural change requires both macroeconomic policy that is committed to development and stabilization and industrial policies that create the necessary incentives. Transitioning to new sectors and expanding the technology base are not the spontaneous result of a free-market price system. Specialization determined by dynamic comparative advantages and production diversification must first overcome very strong production structure inertia arising from the wealth of experience amassed by firms in developing capacity and to problems with the coordination and financing of investments, among other challenges. An important role of policies is to build institutions that complement market forces and generate the set of relative prices — or as Amsden (1989) states, the set of price “distortions” — that are needed to redefine, through structural change, the path of economic growth (Cimoli and Dosi, 1995; Wade, 1990; Chang, 2003). Building institutions that contribute to the effective implementation of these policies remains an item of unfinished business in the region.

The challenges of structural change become increasingly complex as the technology revolution now under way picks up speed, as discussed below.

D. Technology revolution and structural change

Structural change is driven by process and product innovation based on new technologies and the generation of knowledge. The shifting technology frontier determines which production structures are most efficient and will take the lead in the long run. Countries that are not at the

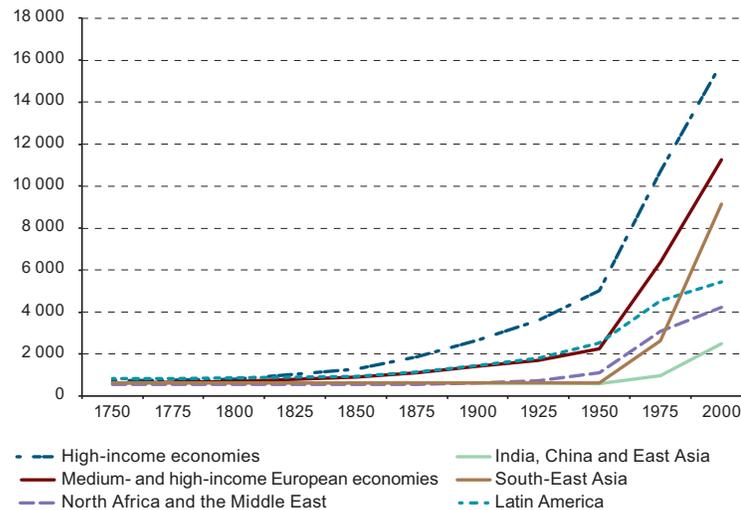
⁶ In the words of Arthur Lewis, they are dual economies with an infinitely elastic labour supply.

forefront of technological change at a given juncture should implement industrial policies that send the economic signals needed to steer investment and jobs towards sectors that will make technology convergence possible.

The dominant technology paradigm is presently undergoing changes of such magnitude that they have been described as a new technology revolution. This is based on the coevolving paths being charted in nanotechnology, biotechnology and information and communications technologies (ICT). Each of these fields is evolving rapidly on a separate path, but what is most important is that they are tending to combine in mutually reinforcing processes. The convergence of these technologies could lead to a new industrial revolution given their potential applications, particularly in terms of the digitalization of production, the generation of new materials, the synthesis of biologically active substances and a less intense environmental burden (van Lieshout and others, 2008).

The confluence of progress in these areas will transform economic, political, institutional and social structures on a global scale and with greater speed than previous industrial revolutions. Those revolutions brought about enormous increases in production capacity, which led, for the first time ever, to sustained increases in per capita income and improvements in quality of life for much of the population of the countries that led the way. However, the scale of dissemination and rate of adoption were not even, and unprecedented levels of social and economic inequality ensued, as illustrated in figure I.1. Circa 1800, the average per capita income (in 1985 dollars) of the richest countries was nearly twice that of the poorest; in 2000 the ratio was six to one, largely due to international asymmetries in the intensity of technological diffusion.

Figure I.1
EVOLUTION OF PER CAPITA INCOME, BY WORLD REGIONS, 1750–2000
(Dollars at constant 1985 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>, and Robert E. Lucas, "The Industrial Revolution: past and future", May 2004.

Innovations in digital technology are converging to transform various aspects of daily life. In production, these advances have transformed the management, marketing and distribution of products, as well as furthered new business models based on the Internet. This radical transformation has now extended to manufacturing, which is benefiting from advances in robotics, the proliferation of virtual communities and the spread of personal fabrication technologies,⁷ which will change not only how but also where products are made, reshaping the structure and dynamics of global production.

The revolution now under way is producing economic and social trends in opposing directions: concentration and deconcentration. On the one hand, it is concentrating production among large companies with a global presence that operate in markets with strong economies of scale, generally in countries that are near the technology frontier and have high innovation capacity.

There are three forces driving concentration: (i) the economies of scale resulting from increasing returns in storage, management and energy with the installation and operation of large data centres;⁸ (ii) the economies of networks, whereby the value of a network increases as more users join it, a phenomenon that is particularly important in social media and networks;⁹ (iii) advances in robotics, which are sharply reducing the wage component of costs and encouraging production to return to the developed countries, which have the technology and capital to make use of robotics.¹⁰

Although this process is well under way in metalworking industries (such as the transport equipment industry and the electronics industry), it is gradually taking root in other areas, such as agriculture, the food industry, the production of labour-intensive consumer goods (such as apparel and footwear) and the production of equipment for renewable energy and energy savings. The effect on employment is not yet clear. Initially, jobs could be lost to the substitution of workers performing codified tasks. In the medium term, as was the case in previous technology revolutions, more jobs would be created in new activities requiring new skills, but the specific nature of these jobs is difficult to predict (IFR, 2011).

On the other hand, there are forces driving market deconcentration. The technologies that enable products and services to be personalized generate niche markets, where economies of scale are less important. This type of dynamics would pave the way for deconcentrating the production of goods and services, creating opportunities for the countries furthest from the technology frontier and for small firms. This will be possible so long as the capacities needed to operate in the new technology paradigm (electricity, data centres, low-cost, high-quality broadband networks and adequately skilled workers) are developed. These capacities are built in systems with mutually reinforcing complementarities (Jordán, Galperin and Peres, 2010).

⁷ Personal fabrication technologies use the same manufacturing methods as industrial technologies but are smaller, less expensive and easier to use. These technologies include, for example, 3D printers, desktop moulding and milling machines, laser cutters and programmable sewing and knitting machines, as well as design and modeling software (Lipson and Kurman, 2010).

⁸ Hamilton (2008) evaluates the cost savings of operating data centres hosting more than 50,000 servers in comparison with small data centres hosting around 1,000 servers. The cost ratios are on the order of one to seven.

⁹ The widespread connection of all kinds of machines and devices (including electronics, home appliances, mechanical devices and even automobiles) to the Internet has given rise to the Internet of things, with corresponding demands in terms of bandwidth and speed. By 2008, the number of objects connected to the Internet had already surpassed the world population. In 2012, the volume of Internet traffic between things equaled the volume of traffic between people. According to Cisco IBSG, by 2020, approximately 50 billion objects will be connected to the Internet, providing an unprecedented array of smart applications and services. See [online] http://www.cisco.com/web/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf.

¹⁰ "A third Industrial Revolution" *The Economist*, 21 April 2012 [online] <http://www.economist.com/node/21552901>.

Two additional technological developments are shaping concentration and deconcentration trends. First, cloud computing is driving deconcentration by allowing computational and storage resources to be shared based on an on-demand, pay-as-you-go model (utility computing),¹¹ which helps small enterprises obtain access to highly efficient software, platforms and hardware. On the other side of the equation, the provision of these services is concentrated among large companies with the financial and operating capacity to install and run large data centres (Harms and Yamartino, 2010; Armbrust and others, 2009).

Second, social networks are generating unprecedented volumes of big data that, when processed using online analytics, become an input for designing production and marketing strategies. Big data make it possible to develop more and better forecasts and fine-tune decisions based on complete real-time information. The range of applications includes everything from product design and pricing to customer care.¹² Firms thus acquire the flexibility to respond to a more changing suite of demands and especially to more personalized preferences. This reduces the costs associated with data collection and management for small firms, but it also has concentrating effects. In practice, it is large companies that use these tools to model patterns of consumer behaviour and preferences based on analyses of the complete universe of observations rather than on statistical samples.

Social networks reposition the individual consumer at the heart of value creation and help organize communities with shared interests. The numbers of collaborative online communities are soaring in various areas, including financing (crowdfunding)¹³ and product manufacturing (crowdsourcing),¹⁴ which is leading to radical changes in business models. In the first case, access to credit is provided by creating financing options for projects that would otherwise go unfunded based on the guidelines and requirements of the conventional credit market; this reduces the obstacles to starting up new businesses. In the second case, production is crowdsourced through communities that offer online product design, fabrication and manufacturing services.¹⁵ Lower production costs reduce the entry barriers associated with the initial investment and allow products to be manufactured anywhere in the world, changing the geography of supply chains (moving them closer to innovation hubs) and the weight assigned to labour costs in decisions about production strategies.

¹¹ Efficient use of cloud computing requires high connection speeds, i.e. operation on ultrafast networks (over 100 Mbps).

¹² For example, the social network Dell Community has become a research and development laboratory for the company, where users comment on products, suggest new ideas and report on product deficiencies; Telefónica I+D uses Twitter to find collaborators and customers; LG promotes its products on Facebook.

¹³ Networks are created of individuals who are interested in raising funds to finance certain activities. The funds can be transferred directly to those who are requesting them, either as a contribution in exchange for some expression of gratitude or recognition or as a monetary investment with some type of financial return expected by the investor. Although these initiatives were first conceived as charitable transactions, they have evolved to become microcredit options for financing start-ups, microenterprises and small businesses (*Technology Review*, 2012 [online] <http://www.technologyreview.com/article/427675/crowdfunding/>).

¹⁴ *The Economist*, "All together now. The advantage of crowdsourcing", 21 April 2012.

¹⁵ This model is made viable by personal fabrication technologies, especially 3D printers. With these printers, a product designed on a computer can be "printed," creating a solid object through the successive layering of material (known as additive manufacturing). The materials used range from plastics to metals and alloys, ceramics, and rubber-like substances. Some machines are able to combine materials, making many different kinds of objects. By combining this technology with biotechnology, living tissues such as skin, muscle and short stretches of blood vessels can be produced. In the future, it may be possible to make organs and other parts of the human body (*The Economist*, "Layer by layer", 21 April 2012 [online] <http://www.economist.com/node/21552903>).

ICT, including bioinformatics, have revolutionized genome and biotechnology sciences.¹⁶ Genomics, which was originally a set of laborious methodologies for mapping and sequencing limited regions of DNA, has not only sequenced the entire genome of model species but has also compared hundreds of these genomes with each other and thousands and millions of sequences of all the species that can be sequenced. Beyond sequencing, there is now an emerging understanding of how genomes are organized, how genes and non-coding regions interact, the identical efficiency in how small and enormous genomes work, and the function and origin of essential DNA strands, RNA and proteins that were hitherto unknown or regarded as irrelevant.

Nanometric-scale research in optical electronics and probes has great potential for medical diagnostics and other nanoelectronics and biomechanical applications. Interactions with molecular and synthetic biology, bioinformatics and ICT are points of convergence and innovation with enormous potential for development over the medium term.

Advances in digital technologies are being combined with innovations in materials. The focus in this area is on improving existing materials and creating new raw materials with a dynamic structure, greater functionality and a smaller environmental impact. In the first case, traditional inputs are being imbued with new functionalities, making them lighter, stronger, more durable and easier to handle and recycle.¹⁷

The most radical change is the development of new materials based on nanotechnology that will have countless uses by virtue of their changing structure. These are smart materials that in response to certain stimuli are able to go from being flexible to rigid and vice versa, as well as expand and contract, change their shape, repair themselves and change color or transparency. This creates opportunities for product design, especially for environmental sustainability.

The new course of development seeks to make use of green technologies, which are the product of a combination of advances in recycling and water and gas treatment; electricity generation from renewable energy sources (wind, solar, hydraulic, kinetic) and hydrogen fuel cells; fuels derived from biotechnology (biodiesel, bioethanol); smart control networks in urban systems (buildings, traffic) and power grids (smart grids); and an increase in the energy efficiency of a great many machines and devices, including automobiles.

These advances, though recent, depend directly on some innovations made under earlier paradigms that did not spread throughout the region and are therefore limiting dissemination and appropriation. A notable case in point is electricity, which is still not available to a significant portion of the population, particularly in the less advanced countries and in rural areas.

¹⁶ This has been possible thanks to a combination of technologies that can generate gigantic amounts of data, computer data processing capacity and the requisite framework of theory for analysing the data in a way that is useful for scientific, medical and agricultural development and for other biotech applications. From the development of a complete genealogical tree showing the links between all living species on Earth, to the discovery of genes with unknown and potentially useful functions, to gene and genome therapy and the synthesis compounds and molecules that are extremely useful for medicines, agriculture, food and manufacturing, genome research today is inconceivable without bioinformatics.

¹⁷ Materials such as hydrogels, bioplastics and bioadditives have been developed as substitutes for plastic. Carbon fibre is replacing steel and aluminum. Properties can be added to metal (metal foam, liquid metal) and to renewable inputs like wood and bamboo to expand their applications, tailoring them to more complex design requirements. Innovations such as conductive textiles are emerging that could revolutionize the electronics and apparel industries.

The present technological revolution is paving the way for stronger growth and new opportunities for leapfrogging. In order to take advantage of these opportunities, technical advances must be adopted and institutional, production and social restructuring must be pursued. In such processes, past trends have a strong bearing on the possibilities for action (path dependence). Technological innovation and dissemination require cumulative knowledge, appropriate infrastructure, skilled workers and an enabling institutional and regulatory context (Dosi, 1988, Cimoli and Dosi, 1995). The ability to make use of these advances depends a good deal on progress achieved under the previous technology paradigm. Nevertheless, the development of countries like the Republic of Korea demonstrates that it is possible to narrow the technology gap by taking a systemic policy approach that encompasses structural change, technology absorption, environmental efficiency and skills development.

The industrial revolution is redrawing the global production map and will surely lead to activities and sectors (including some that are now labour-intensive) moving back to the more advanced countries, with the resulting impact on employment in regions such as Latin America and the Caribbean. Against this backdrop, policies that might have been considered proactive and even cutting-edge just a decade ago are now inadequate to the task of narrowing the technology gap. The challenge of structural change, technology absorption and training for more complex jobs is taking on special importance and urgency.

Given the gaps between the countries of Latin America and the Caribbean and the more developed countries, both in production (investment, productivity and innovation) and in the social sphere (poverty, exclusion and unequal distribution of income), if the region fails to make structural changes in line with this new revolution it will increasingly compromise its potential for convergence. Selecting and targeting sectors and activities to promote, so the region can take part in a swiftly changing world, are at the heart of the industrial policies proposed in chapter VI of this document.

E. Patterns of productivity and employment growth

In a process of virtuous growth, productivity and employment expand at the same time (though not necessarily at the same rate) without exerting unsustainable pressures on the external sector. Whereas in the more successful countries outside the region productivity and employment grow continuously, in Latin America and the Caribbean there are periods when productivity grows slowly or declines. So, there are development models in the region where no country has managed to pair, over the long run, strong job growth (a prerequisite for reducing the domestic income gap) with productivity gains (a prerequisite for reducing the productivity gap in a world experiencing a full-fledged technology revolution). A virtuous growth pattern must be grounded in structural change for dynamic efficiency, as illustrated in table I.3.

Table I.4 shows productivity and employment growth and the output elasticity of employment in Latin America (simple and weighted averages); table I.5 presents the same information for several of the region's economies (Argentina, Brazil, Chile and Mexico) between 1960 and 2010. A comparison is made with the Republic of Korea, which is used as a point of reference because it represents one of the most successful cases of technology convergence and structural change (see, also, chapter II).

Table I.3
DEVELOPMENT PATTERNS

Employment growth		Productivity growth	
		Low	High
		Employment absorption	Virtuous circle
Strong	Macroeconomy	Strong aggregate demand growth	Strong aggregate demand growth
	Technological progress and innovation	Low or no productivity growth	Strong productivity growth
	Type of structural change	Weak structural change	Strong structural change
		Vicious circle	Defensive adjustment
Weak	Macroeconomy	Weak aggregate demand growth	Weak aggregate demand growth
	Technological progress and innovation	Low or no productivity growth	Strong productivity growth
	Type of structural change	No structural change	Structural change limited to enclaves

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of J.A Ocampo, "The quest for dynamic efficiency: structural dynamics and economic growth in developing countries", *Beyond Reforms, Structural Dynamics and Macroeconomic Vulnerability*, Stanford University Press, and R. Astorga, M. Cimoli and G. Porcile, "Technological upgrading and employment: patterns from developing economies", 2012.

Table I.4
LATIN AMERICA: GDP, PRODUCTIVITY AND EMPLOYMENT GROWTH, 1961-2010

		Latin America (simple average)	Latin America (weighted average)
1961-1973	GDP	5.43	6.12
	Employment	3.09	3.26
	Productivity	2.42	2.86
	Employment-output elasticity	0.56	0.52
1974-1981	GDP	4.12	4.81
	Employment	3.44	3.37
	Productivity	0.72	1.46
	Employment-output elasticity	0.91	0.75
1982-1990	GDP	1.63	1.30
	Employment	3.63	3.35
	Productivity	-1.95	-2.01
	Employment-output elasticity	0.70	1.17
1991-1994	GDP	5.22	4.52
	Employment	3.10	3.05
	Productivity	2.08	1.48
	Employment-output elasticity	0.75	0.91
1995-1997	GDP	4.18	3.24
	Employment	2.34	2.03
	Productivity	1.81	1.18
	Employment-output elasticity	0.68	0.75
1998-2002	GDP	1.25	1.01
	Employment	2.11	1.72
	Productivity	-0.84	-0.68
	Employment-output elasticity	0.47	0.32
2003-2010	GDP	4.85	4.35
	Employment	2.88	2.50
	Productivity	1.90	1.79
	Employment-output elasticity	0.60	0.58

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>, University of Groningen 10-Sector Database [online database] <http://www.rug.nl/feb/onderzoek/onderzoekscentra/ggdc/data/10sector>, and the World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>, 2012.

Table I.5
**LATIN AMERICA (SELECTED COUNTRIES) AND REPUBLIC OF KOREA: OUTPUT
 AND LABOUR PRODUCTIVITY GROWTH, 1965-2010**
(Percentages)

Period	GDP	Employment	Productivity
Argentina			
1965-1975	4.20	1.28	2.65
1976-1981	1.52	1.84	-0.29
1982-1990	-0.90	2.34	-3.19
1991-2001	3.86	1.29	2.53
2002-2010	5.56	3.51	1.92
Brazil			
1965-1981	7.22	3.60	3.77
1982-1992	1.99	3.73	-1.68
1993-1998	3.33	1.71	1.60
1999-2010	3.38	1.93	1.45
Chile			
1965-1973	2.96	1.35	1.91
1974-1981	4.03	0.87	3.24
1982-1985	0.25	2.39	-2.07
1986-1998	7.28	3.29	3.88
1999-2010	3.43	1.08	2.33
Mexico			
1965-1981	6.69	4.69	1.83
1982-1994	1.87	3.46	-1.55
1995-2000	3.51	2.72	0.73
2001-2010	1.81	1.18	0.62
Republic of Korea			
1965-1980	8.20	3.64	4.71
1981-1990	8.74	2.84	5.76
1991-2000	6.19	1.61	4.46
2001-2010	4.16	1.35	2.77

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Note: The periods used are specific to each country and were chosen based on the principal shocks and policy changes in each one.

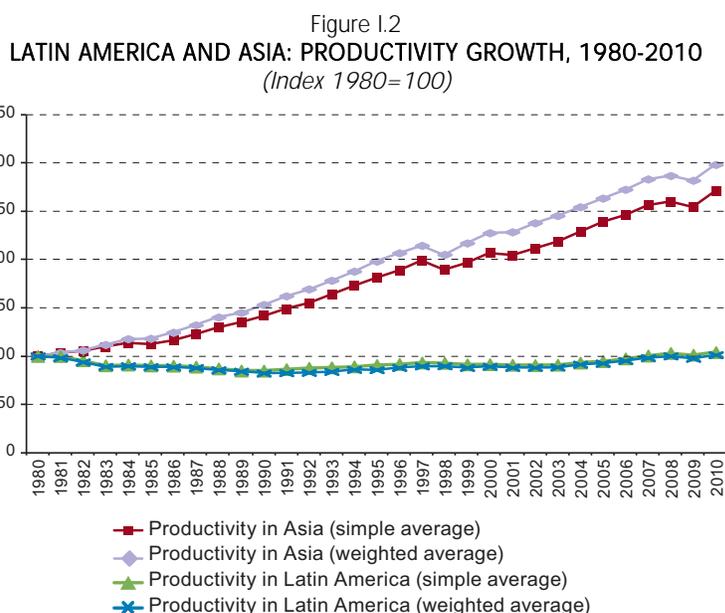
Two important findings emerge from the table. At no time did the Republic of Korea experience a decline in productivity along the lines of the one seen in Latin America during the lost decade of 1981-1990 or in 1998-2002. This decline, in the case of Latin America, was accompanied by job losses in high productivity sectors and a migration of workers to subsistence activities and underemployment (in what is called a vicious circle). This migration tended in turn to bring down the average productivity of the economy. This shift is the other face of regressive structural change. Except for the 1960s, productivity never grew more than 2% (weighted average).¹⁸ By contrast, changes in the pattern of specialization in the Republic of Korea have brought about an expansion in demand and output, creating jobs in high productivity activities for workers previously engaged in lower productivity activities (see table I.4) and improving income distribution (ECLAC, 2007; McMillan and Rodrik, 2011).

Since the 1990s, the Republic of Korea's growth has been propelled more by productivity than by employment, as is to be expected in an economy that has already absorbed most subsistence workers (substantially raising real wages) and that increasingly competes on quality. The same dynamic has not been seen in Latin America, not even during the post-2004 boom.

¹⁸ As figure I.4 shows, during certain periods some countries (Brazil during part of the 1960s and 1990s, Chile during the 1990s) achieved a virtuous circle, but not for very long.

Furthermore, productivity growth rates in Latin America since the mid-1970s have remained far below those observed in the 1960s. The output elasticity of employment shows the other side of this process: it has been stable for nearly four decades in the Republic of Korea, which reflects a clear strategy of structural change and growth, whereas it has fluctuated sharply in Latin America and the Caribbean, even in the most successful economies. The rupture represented by the debt crisis of 1982 and the lost decade that followed weakened the region's capacity for accumulation, growth and incorporation of technological progress over the long term, and it only started to move forward in that regard in the mid-1990s.

Figure I.2 focuses on the years beginning in 1980 when slackening productivity growth in Latin America opened a large gap with East Asia.¹⁹ In 2010, labour productivity in the region was only slightly higher than it had been in 1980, whereas it had nearly tripled for a sample of Asian countries. A similar conclusion is reached when an alternative methodology, growth accounting, is used. The simple average of growth in total factor productivity for 16 of the region's countries between 1981 and 2010 is close to zero (see table I.6). Recent analyses by ECLAC (2012) show that the contribution of total factor productivity to GDP growth is barely 0.9%. This contrasts sharply with the data of Lau and Park (2003), which show that the multifactor contribution in Hong Kong Special Administrative Region of China, the Republic of Korea, Singapore and Taiwan Province of China averaged 3%, 3.3%, 2.7% and 3.3% per year, respectively (Guerrero de Lizardi, 2009). Another aspect of low productivity growth is that the jobs that are created are poorer quality. Often, these jobs provide only tenuous refuge from open unemployment and do nothing to prevent inequality levels from rising.



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

¹⁹ A recent ECLAC study (Fuentes and Sergeant, 2011) further notes that even though total factor productivity grew in all of those countries until the early 1980s, from that point on it fell.

Table I.6
**LATIN AMERICA (SIMPLE AVERAGE OF 16 COUNTRIES): GDP, EMPLOYMENT, CAPITAL
 AND TOTAL FACTOR PRODUCTIVITY GROWTH RATES, 1981-2010**
(Percentages)

Period	GDP	Employment	Capital	Total factor productivity
1981-1989	1.3	1.6	1.2	-1.5
1990-1998	3.9	1.7	1.3	0.9
1999-2002	2.3	1.1	0.9	0.4
2003-2010	4.8	1.8	1.7	1.2
1981-2010	3.0	1.6	1.3	0.0

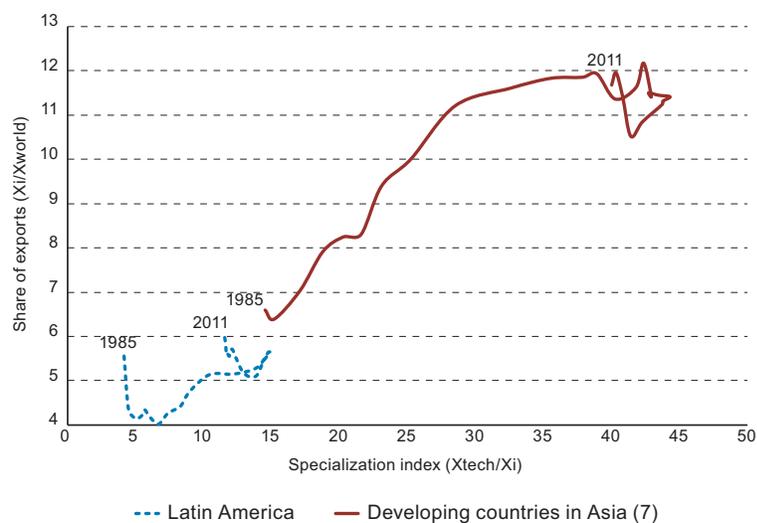
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the LA/KLEMS project.

The divergence between Asia and Latin America and the Caribbean was associated with changes in the pattern of specialization that enabled Asia to benefit from expanding global trade, achieve economies of scale and sustain growth with external equilibrium. The Asian economies, particularly the strongest performers such as the Republic of Korea and Singapore, had macroeconomic policies in place to complement their industrial and technology policies. But both kinds of policy were weak or nonexistent in Latin America and the Caribbean. In Asia, deliberate policies that substantially changed the system of relative prices and incentives in favour of activities capable of driving structural change redefined the patterns of specialization and technology paths.

Some countries of Latin America and the Caribbean adopted policies for structural change, with varying degrees of success, in the 1960s and 1970s only to abandon them (with few exceptions) in the early 1990s as a corollary to the economic reforms implemented following the external debt crisis. Industrial policies were cast aside for a long period of time, with no other policies implemented in their stead. As seen in chapter VI, they only began to be reinstated in the mid-2000s. Meanwhile, in the Republic of Korea, there has been a consistent pattern of continuity with industrial policies, which have been adapted and reformulated based on past experiences and specific technology and global trade framework challenges in each new period. Beyond the forms that industrial policies have taken, there has been a strategic decision to industrialize and compete in the market by producing goods with high technology content and near the knowledge frontier in the target sectors.

The relationship between structural change, specialization patterns and an increasing presence in global markets is illustrated in figure I.3, which compares two groups, one comprising Latin American and Caribbean countries and the other made up of seven developing East Asia countries. Along the horizontal axis, the figure shows an indicator of change in the pattern of specialization (participation of high-tech sectors in the total exports of each group of countries). Along the vertical axis, it shows an indicator of global competitiveness (the group's share of total global exports). The first indicator reflects the rate of technology growth (Schumpeterian efficiency). The second indicator shows the rate of demand growth (Keynesian or growth efficiency).

Figure I.3
**LATIN AMERICA AND DEVELOPING COUNTRIES IN EAST ASIA: PATTERN OF STRUCTURAL CHANGE
 AND SHARE OF EXPORTS, 1985-2011^a**
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Commodity Trade Statistics Database (COMTRADE) [online database] <http://comtrade.un.org/db/default.aspx>.

^a Technology exports are defined according to the classification used by Lall (2000). Latin America includes Central America, South America and Mexico. The developing countries of East Asia are Hong Kong Special Administrative Region of China, Indonesia, Malaysia, the Philippines the Republic of Korea, Singapore and Thailand.

The Asian countries rapidly changed their export profile, moving towards high-tech sectors between 1985 and 2011, while also obtaining a larger share of the global market (reflecting their capacity to boost growth compatible with external equilibrium over the long run). This process did not occur with the same level of intensity in the Latin American countries, which did not match the level of competitiveness achieved by Asia back in 1985 until the mid-2000s (Cimoli, Porcile and Rovira, 2010).

In the Asian countries, the two types of policy (macroeconomic and industrial) generally acted in concert with the objectives of promoting growth and maintaining stability.²⁰ The same level of coherence and coordination is not seen in Latin America, which has been subject to cycles of exchange rate appreciation, debt, fiscal adjustment and recurring balance-of-payment crises in which sudden stops of capital flows and episodes of financial contagion played a role (ECLAC, 1998; Krugman, 1999; Calvo, 1998). The absence or withdrawal of industrial policies was especially damaging in this context of real and nominal instability, and it dampened investment, especially in tradable goods.

To sum up, structural change has been weak in Latin America and the Caribbean, as can be seen in the growth trend and in the evolution of productivity and employment. This long-term trend interacts with short-term cycles. This joint movement of trend and cycle is the subject of the next section.

²⁰ At the same time, the array of macroeconomic policy instruments was significantly more complex than what is accepted today due to the prevailing focus on discipline. Lending guidance policies, revenue policies, regulation of prices of wage goods —to cite a few instruments— were an integral component of the macroeconomic policy toolkit.

F. The coevolution of structure and business cycle

1. Structure and external shocks

The coevolution of the production structure and the business cycle is based on transmission mechanisms that enable these variables to interact and shape each other over time. First is an examination of the structural factors that affect the short-term cycle. Subsequent segments discuss causality in the opposite direction, that is, how the cycle dynamics affects structural change. The analysis is premised on the idea that the balance of payments plays a central role in the macroeconomic dynamic and explores the way in which structural factors related to trade and specialization are associated with shocks that come from the financial markets and the terms of trade.

One condition that the production structure imposes on short-term fluctuations is the economy's capacity to respond to external shocks. The link between the production structure and these fluctuations can be seen most clearly in economies whose export basket consists of a handful of commodities that are subject to highly volatile demand and prices set by the international market. In this case, the cycle of economic activity, and thus employment, is heavily dependent on the ups and downs of just a few markets. This is precisely one of the mechanisms identified in the literature to explain why dependence on natural resources can slow long-term growth: the volatility associated with this dependence compromises investment, and by extension, long-term growth. At the other extreme are economies that concentrate on producing knowledge-intensive goods and services for export; in them there is more division of labour and diversification of skills. This diversity of expertise and skills enables the economy to respond more efficiently and rapidly to a negative shock. Knowledge provides a degree of flexibility and the ability to adapt to changing conditions. A diversified economy is in a position to grow in a more sustained manner over time, with fewer fluctuations in output, employment, wages and trade flows.

Another key variable in analysing the coevolution of cycle and trend is the constraint that a long-term growth rate compatible with external balance imposes on the expansion of public and private spending. As indicated earlier, this long-run rate is determined largely by the production structure and the pattern of specialization. If economic growth outpaces this rate, current account imbalances will require a correction through lower absorption. The correction will take the form of a reduction in autonomous public and private spending, in different proportions depending on the initial conditions and the degree of policy leeway. In the long run, fiscal policy is determined by this rate of growth with external equilibrium. If a structural change raises this rate and all other factors remain constant, it would be possible to increase fiscal spending without generating destabilizing pressures on the current account.

Macroeconomic policy and the business cycle also have effects on the production structure. The transmission mechanisms from policy to structure vary according to the type of business cycle, as discussed below.

2. From import substitution to liquidity cycles

Latin America's production structure has not allowed it to take full advantage of growth in global demand or in its own domestic demand. This has been a long-standing concern at ECLAC. Due to the prevailing pattern of specialization in Latin America, the income elasticity of exports is very low in comparison with the income elasticity of imports, so when growth accelerates in the region —a *sine qua non* condition for absorbing underemployment, reducing heterogeneity and promoting equality— imbalances in net exports of goods and services emerge that slow expansion and have often unleashed balance-of-payments crises. Capital inflows can temporarily finance unbalanced growth, but over the long run a higher rate of growth is sustainable only if the production structure changes.

The structuralist approach links growth to the production structure under the assumption that income elasticities of imports and exports reflect or are determined by the pattern of specialization and the density of the production fabric. These elasticities are a composite expression of the degree of coordination that exists between the evolution of internal and external demand, and the capacity of local production to supply that demand. If there is a dense production structure that is innovative and technologically sophisticated, it is more likely that local production will be able to respond dynamically to expanding domestic and external demand, and specialization will be strengthened by a more diversified export base.

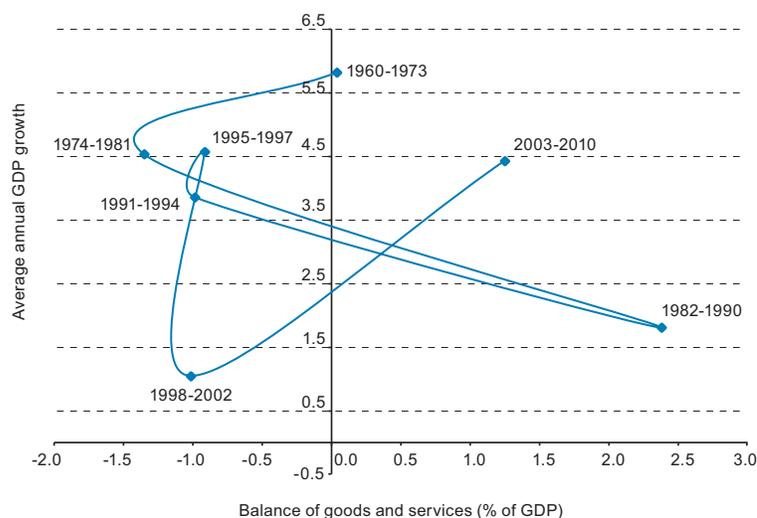
The region's high degree of global financial integration (a process that began in the 1970s and was consolidated in the first half of the 1990s after coming to a standstill in the 1980s with the international debt crisis) translated into greater global capital flows. In the context of financial globalization, trade factors are less important in the short term while the components of the balance-of-payments capital account assume greater importance.

In order to better illustrate this relationship and place it in its historical context, figure I.4 contrasts the evolution of the average economic growth rate of the region (vertical axis) with the goods and services balance as a percentage of GDP (horizontal axis) in Latin America between 1960 and 2010. This figure and table I.7, which divides Latin America into South America and Central America, help discern three patterns in the relationship between these variables (see heading 4 under Section F, which contains a similar exercise, by subregion and period, based on the current account balance).²¹

The first pattern corresponds to the import substitution period, characterized by stop-and-go growth cycles, which ran through the mid-1970s. The second pattern is one of growth that is unsustainable because of the external imbalance. It is seen at two points in time: the second half of the 1970s and in the 1990s. Each period ended in crisis and economic recession: the lost decade of the 1980s (1982-1990) in the first case and the lost half-decade (1998-2002) in the second. The third pattern is the one being experienced today by the largest net exporters of natural resources, especially in South America and in Caribbean countries like Belize, Guyana, Suriname and Trinidad and Tobago. In the third pattern, greater global demand for commodities and improved terms of trade are spurring growth while reducing external vulnerability, although not completely eliminating it, as will be seen.

²¹ The variable presented in figure I.4, which is a country-weighted average, basically reflects what happened with the larger economies, particularly Argentina, Brazil and Mexico, which account for nearly two thirds of the GDP of Latin America. The history that emerges from the aggregate does not apply to all countries in the region. The subregional cases are presented in table I.7.

Figure I.4
LATIN AMERICA: GOODS AND SERVICES TRADE BALANCE DEFICIT AS A PERCENTAGE OF GDP
AND GROWTH RATES, 1960-2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Table I.7
SOUTH AMERICA, CENTRAL AMERICA AND MEXICO: GOODS AND SERVICES BALANCE
AND GDP GROWTH, 1960-2011
(Percentages, averages of each period)

	1960-1969	1970-1979	1980-1989	1990-1999	2000-2005	2006-2011
<i>Trade balance (percentages of GDP)</i>						
South America	1.0	-0.5	1.8	-0.6	3.4	1.8
Argentina	0.2	0.8	2.4	-0.7	8.2	4.2
Brazil	-0.1	-1.9	2.0	-0.2	2.1	0.3
Central America	-2.6	-3.5	-3.8	-6.1	-8.7	-10.6
Mexico	-1.5	-1.9	2.5	-1.5	-1.7	-1.6
<i>Average annual GDP growth (percentages)</i>						
South America	5.5	5.8	2.0	2.7	3.0	4.5
Argentina	4.7	3.0	-0.7	4.1	1.8	7.0
Brazil	6.3	8.0	3.1	1.7	3.0	4.1
Central America	5.7	5.7	1.8	4.7	3.6	4.7
Mexico	7.2	6.5	2.2	3.4	2.7	2.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Growth patterns with import substitution and external funding booms are examined below. The ensuing segment discusses the pattern generated by the commodities boom.

The first pattern is the oldest; it spanned the period from the end of the Second World War to the mid-1970s. In that phase of import substitution industrialization, which arose under very different internal and external conditions, the State played a decisive role in guiding the allocation of resources (Bértola and Ocampo, 2010).

In the 1960s, the region grew at annual rate of over 5% with a small trade balance surplus that turned into a deficit at the beginning of the 1970s (see figure I.4). These were the peak years of import-substituting industrialization in most of the region's economies. The idea was to minimize external imbalances by implementing protectionist measures to reduce the income elasticity of imports. These barriers, together with relative exchange rate appreciation, had a negative effect on exports. To offset that effect, some governments in the region adopted export promotion measures.²² Although a certain degree of export diversification was achieved in some countries, the economy was unable to move away from the stop-and-go cycles in which incentives to boost growth in domestic demand became external deficits and currency devaluation pressures. In very closed economies, devaluation had recessionary effects: wages and domestic demand declined (Krugman and Taylor, 1978) without a sufficiently robust neutralizing response from the export sector.

The second pattern is associated with abundant external funding prompted by improved terms of access to international financial markets. Imbalances accumulate and eventually spark a strong reversal. Examples of this second pattern can be seen at two points in time: in the second half of the 1970s and in the 1990s. As seen in figure I.4, there were externally funded goods and services balance deficits in each period. In most of the region's countries, during the market reform era of the late 1980s and early 1990s, and in the Southern Cone economies (Argentina, Chile and Uruguay) in the second half of the 1970s, greater reliance on foreign capital occurred alongside rapid trade opening, the liberalization of capital flows and deregulation of the domestic financial system. The main characteristics of this growth pattern are described below, with attention drawn to the relationship between the business cycle and the growth trend.

The expansionary phase of the business cycle was in response to easy access to external credit, which drove exchange rate appreciation. Appreciation was boosted by macroeconomic policies that, by making price stability a priority, used the exchange rate as a nominal anchor to reduce inflation expectations.²³

Appreciation, in turn, generated a "wealth" effect that caused a sharp rise in consumption and in some cases led to a mini-cycle of increased investment. Initially, appreciation had a procyclical effect on aggregate demand. At the same time, net exports lost momentum and deficits emerged that found abundant funding in the global market. Gradually, the current account deficit to GDP ratio climbed to dangerous levels, while a climate of greater uncertainty prompted an exit of short-term capital. In response to these risks, governments adopted contractionary economic policies (higher interest rates, lower public spending and exchange rate depreciation) to slow economic expansion and induce a shift in production towards tradable goods and services. The adjustment often came at a high cost in terms of declining economic activity and rising unemployment.

These movements impacted structure. In the boom years, investment was oriented more towards non-tradable sectors or traditional natural resource-intensive tradable sectors that were often less technology-intensive.²⁴ During the adjustment, fixed capital formation was the element

²² The problems of excessive protectionism and limited export incentives were cause for concern at ECLAC in the early 1960s (see Prebisch, 1950).

²³ In the late 1970s Argentina, Chile and Uruguay adopted a system of preannounced devaluations that was intended to bring about a convergence between external and internal inflation.

²⁴ Chapter II returns to the role of the real exchange rate in production diversification.

of aggregate demand that contracted most. This had an adverse effect on the structure of the production apparatus and its global competitiveness in both phases of the cycle by delaying modernization and the application of equipment and machinery to the production process. The consequences of this lag were especially serious against the backdrop of a globalized world with a swiftly advancing technology frontier.

The impacts of external shocks and the policy responses in terms of macro prices — and particularly the real exchange rate— have fueled a long-standing debate in the region that resurfaces with some regularity. Appreciation that is inconsistent with the dynamic of productivity and structural change can gradually become a major source of instability as business competitiveness erodes and deficits in the external sector accumulate. A Brazilian finance minister in the 1970s, Mario Henrique Simonsen, coined a well-known phrase: “inflation cripples, but the exchange rate kills.” Simonsen’s warning referred to the importance of the exchange rate in shaping competitiveness in new goods and thereby determining whether there is access to the economies of scale and the more learning-intensive processes fostered by the global market (ECLAC, 1998; Bresser-Pereira, 2008; Frenkel and Taylor, 2006). Recently, the International Monetary Fund (2011) has addressed problems caused by very strong short-term capital movements, which can depress the exchange rate and distance it from values compatible with external stability.

Action to devalue the exchange rate is often postponed for fear of its inflationary effects (pass-through to prices of tradable goods and services) and adverse wealth impact (on agents holding debt in foreign currency). The high and rising levels of risk and cumulative imbalances mean that any external shock or shock in expectations will reveal that the situation is unsustainable. The result tends to be maxi-devaluation, sharp cuts in public spending and a credit crunch, followed by real wage declines, job losses and business closures. Exchange rate appreciation generates imbalances in the external sector that deepen instability (real and nominal) by making drastic adjustments in the exchange rate and output inevitable, especially when there are sudden stops in capital flows and the supply of external funding. Seemingly achieving nominal stability through exchange rate appreciation creates conditions that lead to greater real instability (which inevitably ends up undermining nominal stability).

Macro prices and instability are not the only factors that compromise investment. Inasmuch as the production structure implies a long-run rate of growth compatible with external equilibrium which is normally below the rate of growth required to fully employ the factors of production, there is a tendency for some underutilization of capacity. This is another factor that discourages investment and creates a drag on production capacity. Thus, the underutilization of installed capacity has a structural component (owing to the pattern of specialization) along with a cyclical component that derives from exchange-rate appreciation and policies that constrain aggregate demand.

The speed and costs of exiting a crisis largely depend on the conditions under which external liabilities are renegotiated, the strength or position of the tradable goods sector and the recovery incentives, as well as the global economy’s capacity to absorb exports from debtor countries. In that regard, the crises that have hit the region’s countries over the past three decades occurred under very different conditions. When the crisis of the 1980s erupted, Latin America was facing a world with deteriorating terms of trade and numerous economies that were seeking to increase their exports at the same time. Given those conditions and the heavy

burden of debt repayment obligations and conditions, the costs of the crisis were enormous, with very negative effects on investment and on the potential for economic expansion in the short term and especially the long term. The 1980s broke Latin America's growth trend, which was weaker after that.

The effects spilled over into the 1990s. As seen in table I.7, South America and Mexico, while running trade deficits as a percentage of GDP that were similar to those of the 1970s, posted much lower growth in the 1990s. Central America, while maintaining a relatively similar growth rate, saw its trade deficit nearly double. In other words, the negative impacts of the relationship between micro- and macroeconomic dynamics in previous decades resulted in a production structure that, in the 1990s, was not capable of sustaining such a high growth rate with the same level of deficit as in years past.

Conditions were quite different at the time of the crises of the 1990s and early 2000s. These began with the Mexican crisis in 1994, continued with the Brazilian crisis in 1999 and culminated with the most dramatic crises, in Argentina and Uruguay in 2002. The Russian crisis of 1998 struck nearly all the economies in the region, albeit with varying levels of intensity. Through different mechanisms, however, they absorbed its effects; exchange rate devaluations contributed to this recovery, at least in some of the region's economies.

In summary, liquidity shocks generated an unsustainable boom, not because full employment was achieved or installed capacity was put to maximum use, but rather as a result of their destabilizing impact on the external sector. Other contributing factors have been exchange rate appreciation (which has played an important role in stabilization programmes) and the uncertainty and volatility that have discouraged investment. The spending multiplier has weakened as demand switches increasingly to imports. The accelerator effect has also deteriorated due to the underutilization of capacity and declining returns on tradable goods, which dampens investment, and by extension, innovation and technological progress. As a result, during the cycle, the production structure undergoes changes that may adversely affect the long-term growth rate compatible with external equilibrium. There are hysteresis effects associated with the relative contraction of investment in the tradable goods sector, the loss of capacities and technology lag, which translate during subsequent periods into a production structure that is less dense and has less capacity to sustain high growth.

3. The 2000s: Commodities boom and external shocks

(a) Subregional responses

The global economy has seen significant changes since 2004. Not only is there fluid access to the capital market, but also the terms of trade have shifted in favour of exporters of natural resources, particularly minerals and hydrocarbons. Although international liquidity levels remain high, the principal shock generated by the cycle of the 2000s was the expansion of global trade in commodities and an improvement in international prices. As illustrated in figure I.4, the region as a whole began to run trade surpluses, with higher growth rates. This new landscape, which is emerging as the Asian countries (especially China) come to account for a greater share of global demand, has very different effects across the region. It benefits most of the South American countries, a few of the Caribbean countries and, to a lesser extent, Mexico, all of which are net exporters of natural resources. But it has a negative effect on Central

America and part of the Caribbean (especially the service-based economies), which are in the opposite situation in this regard.²⁵

The problems and opportunities sparked by this new era of global trade are, accordingly, different in each case. In South America, a path to faster economic growth is opening that is, nonetheless, not without long-term risks due to its effects on the production structure and slackening investment in tradable sectors not tied to natural resources. In the case of Central America and some economies in the Caribbean, new pressures are being generated on the external sector as most of these economies are net importers of energy and food. Furthermore, the increase in global agricultural prices introduces an imported inflation component, affecting food prices and creating adverse distribution effects. The situation also has negative fiscal impacts, since government budgets are under pressure to cover a larger oil bill and grant subsidies to offset the impact on basic food basket prices.

As shown in table I.7, in the South American countries that export minerals, hydrocarbons and natural resource-intensive goods, the trade balance in the period 2006-2011 moved from deficit to surplus, alongside fast economic expansion. Unlike in the 1980s and early 2000s, the shift towards trade surpluses reflects an easing of the balance of payments, not an effort to pay down debt.

Some common trends are observed among net exporters of natural resources. The first is the decline in external debt service payments as a percentage of export earnings.²⁶ Between 2000 and 2008, every country in South America substantially reduced its foreign debt-to-GDP ratio and changed its debt stock profile, holding less short-term debt as a percentage of total debt and borrowing at lower rates. A second aspect has been the sizeable increase in foreign currency reserves, which combined with an improved fiscal position and lower inflation, has facilitated access to international credit at lower interest rates. This is one of the factors underlying the region's unprecedented resilience in coping with the latest global crisis, of 2008 and 2009.

The situation in other subregions is more heterogeneous. Whereas some economies in the Caribbean have high external debt levels (above 60% of GDP in Belize, Granada and Jamaica, and above 40% of GDP in Dominica, Guyana and Saint Vincent and the Grenadines) in others, including the Bahamas, Suriname and Trinidad and Tobago, the levels are below 10% (Alleyne, Hendrickson and Amonde, 2011). Conditions in Central America are also diverse. Whereas external debt climbed between 2002 and 2010 in Costa Rica, El Salvador, Guatemala and Panama, it fell sharply in Honduras and Nicaragua (ECLAC, 2011). It should be noted, further, that in Central America and some Caribbean countries, two important variables are helping to alleviate external vulnerability problems. These are export diversification based on assembly-for-export operations, and foreign currency remittances from emigrants, an increasingly important component in the balance of payments.

²⁵ See an analysis of the impact of the commodities boom on the Caribbean economies and the varying effects based on the participation of each in global trade (services- and goods-based economies) in ECLAC (2002), chapter 11 and ECLAC (2003).

²⁶ For example, in Colombia and Peru, interest payments on debt as a percentage of total return to foreign capital fell from as high as 82.8% and 93.7% in 1999 to 26.3% and 9.3% in 2010, respectively.

These trends on the external front in Latin America and the Caribbean have been accompanied by changes in macroeconomic strategy that to some extent reflect lessons learned from negative experiences with fixed exchange rates in the 1990s. During that decade, as mentioned above, some countries had stabilization programmes that used the exchange rate as a nominal anchor for inflation expectations. There was a general shift away from this type of strategy in the 2000s. Aside from the countries that have adopted the dollar as their currency (Ecuador, El Salvador and Panama) and some of the smaller and more open economies in the region that have maintained their fixed exchange rate parity regimes (for example, Barbados, Belize and the member countries of the Eastern Caribbean Currency Union (ECCU)),²⁷ other economies adopted more flexible exchange rates, such as the inflation targeting regimes instituted in Brazil, Chile, Colombia, Mexico and Peru in the late 1990s and early 2000s. This strategy consists of maintaining a nominal price anchor (determined by the target towards which inflation expectations are meant to converge) but with an exchange rate that can be adjusted to help reduce external imbalances. Under this monetary regime, the main stabilizer is the short-term interest rate, which is used to influence the portfolio decisions of economic agents and the various components of aggregate demand.

(b) Implications for business cycle dynamics

The region has responded to the trade expansion of the first decade of the twenty-first century with strong growth and moderate inflation.²⁸ South America has entered an expansionary cycle with stronger performance in the external sector, but at the same time (especially in Brazil and Colombia) exchange rate appreciation trended steeply upward towards the end of the 2000s, sparking strong import pressure. This appreciation reflects the combined effect of better terms of trade and heavy capital inflows attracted by the higher interest rates in the region, as well as by exchange rate appreciation expectations and higher returns on foreign direct investment (see chapter IV). The recent protectionist measures adopted by Argentina and Brazil to try to stem the tide of imports are an example of the problems that the countries face in attempting to sustain domestic production and pursue diversification in a context of appreciation.²⁹

These problems manifest as a phenomenon referred to in the literature as “Dutch disease,” whereby a boom in exports of natural resources can induce the exchange rate to appreciate to such an extent that other tradable sectors are shut out, leading to a less diversified production structure.

²⁷ In contrast, some of the larger economies in the Caribbean (Guyana, Jamaica and Trinidad and Tobago) have a flexible exchange rate (see Alleyne, Hendrickson and Amonde, 2011, table 2).

²⁸ Although trade balances were favourable in 2011, current account balances have, over the past few years, been sending warning signs about the continuity of the external equilibrium. Most countries moved from twin deficits in the 1990s to twin surpluses in the 2000s, but this panorama has shifted. Some countries are again running twin deficits, especially since 2008. This development, in which exchange rate appreciation is also a factor, suggests that external vulnerabilities are always a latent risk. The repatriation of earnings by foreign companies operating in the region is also playing a growing role in this changing landscape.

²⁹ In small open economies with low levels of financial intermediation, the exchange rate tends to be the main channel by which monetary impulses are transmitted to prices. Precisely because the exchange rate channel is so efficient, the authorities tend to react quickly to an increase in the nominal exchange rate (by raising the reference rate, directly intervening in the currency market or both) in order to prevent its pass-through to prices, but they do not react as strongly to a falling rate. As a result, there is a certain degree of asymmetry in how change is managed in developing countries or countries with low levels of financial intermediation, which tends to spark appreciation (Ffrench-Davis, 2006 and 2008; Ocampo, 2011; Bresser-Pereira and Gala, 2008). In recent years, there has been greater concern on the part of monetary authorities —and government authorities in general— regarding excessive exchange rate appreciation (see chapter IV).

In many of the region's economies, an already high level of concentration in natural resource exports has risen even more as external demand has expanded, fuelling an appreciation trend and higher returns in those sectors. In South America this increase has been described as the "reprimarization" of the export pattern. As previously mentioned, in some of the Central American and Caribbean economies that have not benefited from improving terms of trade, the commodities boom has placed more pressure on the external accounts (see table I.7). Trade deficits have been mounting since the 1960s and climbed sharply in the second half of the 2000s. These external problems were exacerbated by declining remittances from workers abroad during the crisis in the United States, as well as by shrinking tourism revenue, another source of foreign currency for several economies in that subregion.

The balance-of-payments improvement made possible by the commodities bonanza and higher growth rates among the net exporters of these goods created conditions conducive to reducing the weight of public debt after 2003. However, there is still work to be done, primarily in terms of creating more fiscal space, a challenge associated with the low tax burden that characterizes most of the region's economies. This structural funding deficit limits investment in infrastructure, as well as the ability to effectively pursue industrial and technology policies. In fact, public investment is a major component of any industrial policy meant to diversify the economy. A highly restrictive fiscal policy or one that reduces spending in the trough of the cycle compromises the investment capacity of the public sector and the crowding-in effect of private investment. Another key aspect of fiscal policy is its relationship to equality. Through taxes and, especially, public spending, fiscal policy is a crucially important tool for promoting equality. Creating more fiscal space and strengthening the effects of fiscal policy in the low phases of the cycle is essential, not only in the long term (due to the aforementioned effects on investment and structure) but also in the short term, as a way to mitigate the effects of the cycle on inequality.

In summary, the boom in commodities and capital flows to the region did away with balance-of-payments problems in the countries that are net exporters of natural resources, particularly minerals, starting in 2004. This contributed to balanced fiscal budgets and low inflation, though in recent years twin deficits (i.e. a fiscal deficit alongside a current account deficit) have returned in some countries and inflationary pressures are back in others. There does not appear to be a high short-term risk of major exchange rate or payment crises along the lines of those in the past. In South America, the main cause for concern is the trend towards "reprimarization" of the export structure and the diminished weight of tradables (especially non-traditional tradables, which have more knowledge content and greater potential for spreading technological progress) in the production structure, since this can cause the growth trend to falter. Meanwhile, in Central America and the Caribbean, because they are net importers of food and energy, the terms-of-trade shock after 2004 put greater pressure on the balance of payments. This is reflected in weaker investment in this subregion compared with South America. At the same time, that shock exacerbated distribution problems inasmuch as higher food prices hit the poor hard and have not been entirely offset by government-funded social programmes.

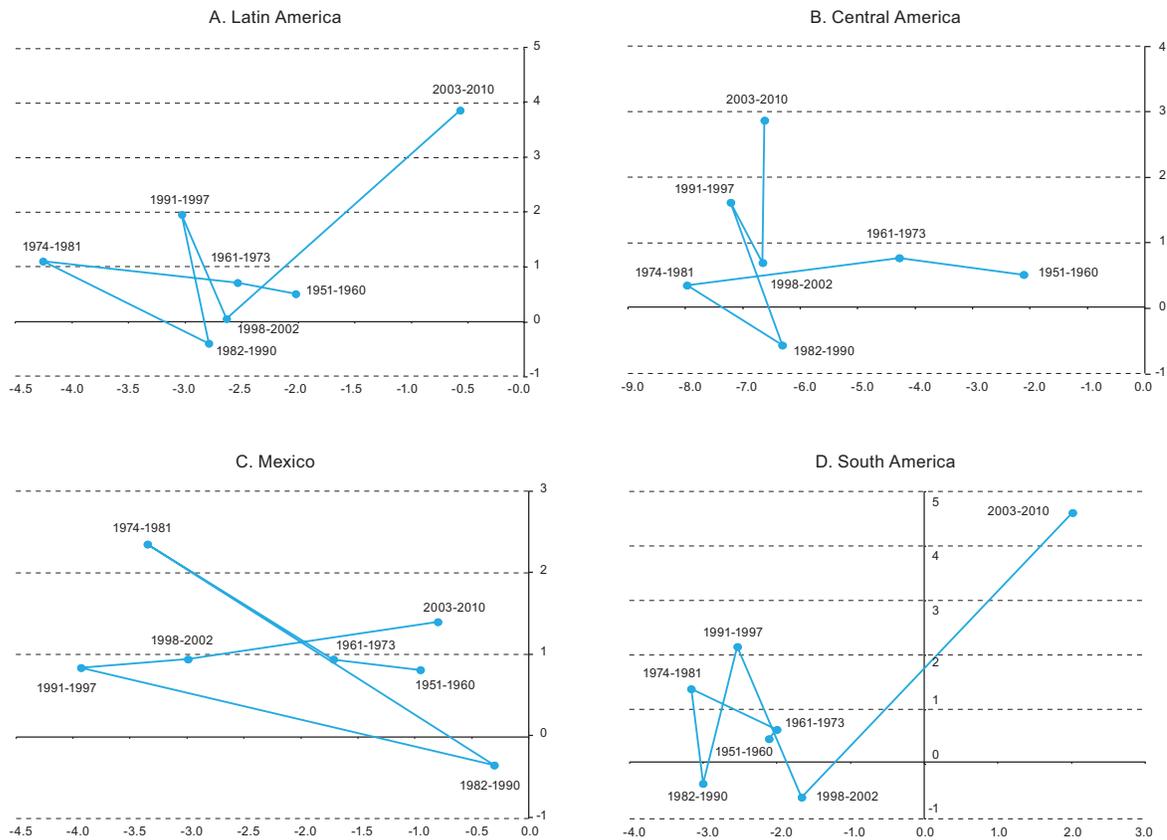
4. Convergence and divergence

A core objective of development is to reduce the per capita income gap with the developed economies. In order to prevent external funding problems, this convergence must be consistent with moderate current account deficits. Figure I.5 illustrates the relationship between the rate of convergence (ratio of the growth rate of the region or subregion to the growth rate of a sample of developed countries), represented on the vertical axis, and the current account balance (as a percentage of GDP), represented on the horizontal axis, for various periods. Values above (below) one on the vertical axis indicate convergence (divergence), with the region growing faster (slower) than the developed countries. Positive (negative) values for the current account balance in the period indicate less (more) vulnerability to external shocks. Negative current account balances mean that growth is not guaranteed. If there is a steady accumulation of external deficits, output may have to be adjusted downward to restore balance to the current account. A current account deficit can be funded with direct foreign investment, migrant remittances, portfolio investment and debt flows. In the examination set out herein, persistent deficits suggest greater vulnerability to changing external conditions.

Four subregions (Latin America, Central America, Mexico and South America) are considered across seven subperiods, in order to isolate different phases of the international and regional context: (i) 1951-1960, a period dominated by dollar scarcity and import substitution in the region; (ii) 1961-1973, a boom period following the collapse of the Bretton Woods system, with a rapid expansion in global trade; (iii) 1974-1981, a period of recession in the industrialized countries and considerable capital liquidity in the global financial system; (iv) 1982-1990, the lost decade for Latin America and the Caribbean owing to the external debt crisis; (v) 1991-1997, a phase that saw the return of foreign capital, the liberalization of trade and finance (reign of the Washington Consensus model) and the new era of borrowing; (vi) 1998-2002, the lost half-decade in the wake of the Asian and Russian crises; and (vii) 2003-2010, with the commodity export boom (temporarily interrupted by the international great recession of 2008-2009).

Several elements stand out upon examination of figure I.5. First, there are no extended periods of sustained convergence, but rather only brief interludes. The periods of convergence that coincide with external vulnerability (the 1970s in Mexico and South America, and the 1990s in all subregions) are followed by periods of adjustment marked by divergence and reductions in current account deficits, though not necessarily moves to surplus. Second, the period 2003-2010 saw the effects of the macroeconomic boom period and rapid recovery from the 2008-2009 crisis. Third, both Central America and Mexico have persistently faced significant pressures on the external front, inasmuch as they have run current account deficits as a percentage of GDP in every period. For the region as a whole, current account deficits continue to be cause for concern. The period 2003-2010 (convergence without external vulnerability) was exceptional for South America and there are signs that problems in the external sector may resurface for some countries. The figure also shows the cycle dynamics: the interaction over time between recurring external imbalances and their impact on growth. Phases of convergence tend to coincide with cycles of fluid access to funding or improvements in the terms of trade. The subsequent macro price dynamic, growing current account imbalances and weak investment (in terms of rate and mix) pave the way for a new phase of divergence.

Figure I.5
LATIN AMERICA AND SUBREGIONS: CONVERGENCE AND CURRENT ACCOUNT BALANCES, 1951-2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Organization for Economic Cooperation and Development (OECD) and International Monetary Fund (IMF).

G. Convergence and equality

There are two complementary mechanisms for moving towards greater distribution equity. Historically, these have been combined in various ways. One mechanism is through the tax system and consists of taxing higher-income sectors and extending benefits to disadvantaged ones. Social policies are often the vehicle for assisting the latter. Another path to equality is what is known as “politics of productivity,” which consists of introducing mechanisms to endogenously create jobs and build capacities through a more diversified production matrix, with a larger number of high productivity activities. This path can eliminate or reduce structural heterogeneity and bring more people into the world of employment with rights.

When the production structure is highly polarized, purely redistributive mechanisms do not solve the problems of inequality and weak growth (Alesina and Rodrik, 1994), are not sustainable in the long run and tend to spark political tensions that threaten the very foundation of a harmonious democratic society (Prebisch, 1981). In particular, if the most profitable sectors obtain their earnings from favourable movements in the terms of trade instead of from gains in productivity, it is highly unlikely that redistribution can continue for long. If the elite earn their

income primarily from rents instead of productivity gains, tensions will rise over who is entitled to those rents. Sooner rather than later, policies must be geared towards creating job opportunities and developing skills against a backdrop of structural change, as mentioned in section A. Consideration should be given to adopting industrial policies to drive this transformation, together with social policies, as a key component of any inclusive development model that has equality among its main objectives.

Policies for structural change are not incompatible with social and redistribution policies. The literature and international historical experience indicate that the two types of policy are complementary. In fact, there are several reasons for pairing them with industrial policy. The first reason is to improve distribution and reduce informality in the short term and allow time for structural change policies to work, since their effects take a longer time to be felt. Second, these policies guarantee minimum income levels for a large contingent of the population, enabling them to step up their participation in the marketplace as consumers. The resulting increase in demand helps to reduce the underutilization of installed capacity, particularly in sectors that produce consumer wage goods. Income distribution thus promotes dynamic efficiency in the economy. Third, social policies should protect the most disadvantaged sectors from the disruptions in the production fabric that are generated by structural change as well as those that stem from external shocks. The emergence of new sectors and the disappearance or retooling of others entail costs for many producers, as well as for workers, and can lead to protectionist responses that impede these processes. Social cohesion must be strengthened in order for society to accept structural change. This means that workers must be given protection and the tools necessary to adapt to and participate in the new sectors, without insulating them from the ups and downs of global competition.

The more efficient that social policies —and industrial policies— are, the more inclined society will be to respond positively to structural change. This is an especially important point for open economies, where firms must be competitive in order to survive. An open economy is more exposed, by definition, to exogenous shocks and movements than a closed economy. Accordingly, social policies should create a safety net that allows economic agents to cope with change and readapt without having to endure long periods of unemployment. This is the strategy that Europe's small open economies have followed (Katzenstein, 1985).³⁰ Greater openness and a focus on dynamic engagement in world trade demand more and better social protection through public policies, as well as a more active role by the State.

In terms of productive heterogeneity, there is much work ahead for the region, given that one of the defining characteristics of its economy are the large gaps in productivity between and within sectors, as well as between firms of varying sizes. Although these gaps are seen in every economy in the world, they are much more pronounced in Latin America and are the sign of sharp asymmetries between segments of firms and workers, combined with a concentration of employment in very low productivity sectors (ECLAC, 2010). Most Latin American and Caribbean societies suffer from deep social inequalities that derive from heavily concentrated ownership and striking production heterogeneity, that is, the coexistence of medium and high labour productivity sectors alongside segments in which labour productivity is very low. Social gaps cannot be explained without an understanding of the inequality that is observed in job quality and

³⁰ This point is also made by Kindleberger (1986): *laissez-faire* and greater trade openness can run in opposing, not convergent, directions.

productivity (between and within the various sectors of economic activity), which tends to manifest in very unequal income between workers and between capital and labour.

As noted in *Time for equality*, structural heterogeneity is largely responsible for the deep social inequality seen in Latin America and the Caribbean, inasmuch as productivity gaps reflect and simultaneously reinforce gaps in skills, incorporation of technological progress, bargaining power, access to social safety nets and upward job mobility options throughout the working lives of individuals. Because it is harder for low productivity sectors to innovate, adopt technology and promote learning, internal heterogeneity exacerbates systemic competitiveness problems (ECLAC, 2010). In short, structural heterogeneity reflects the difficulty that the region's economies have in adopting and disseminating international best practices in technology to sectors and firms; the productivity gaps in these economies translate into large wage gaps and reinforce inequality.

1. Growth and distribution patterns

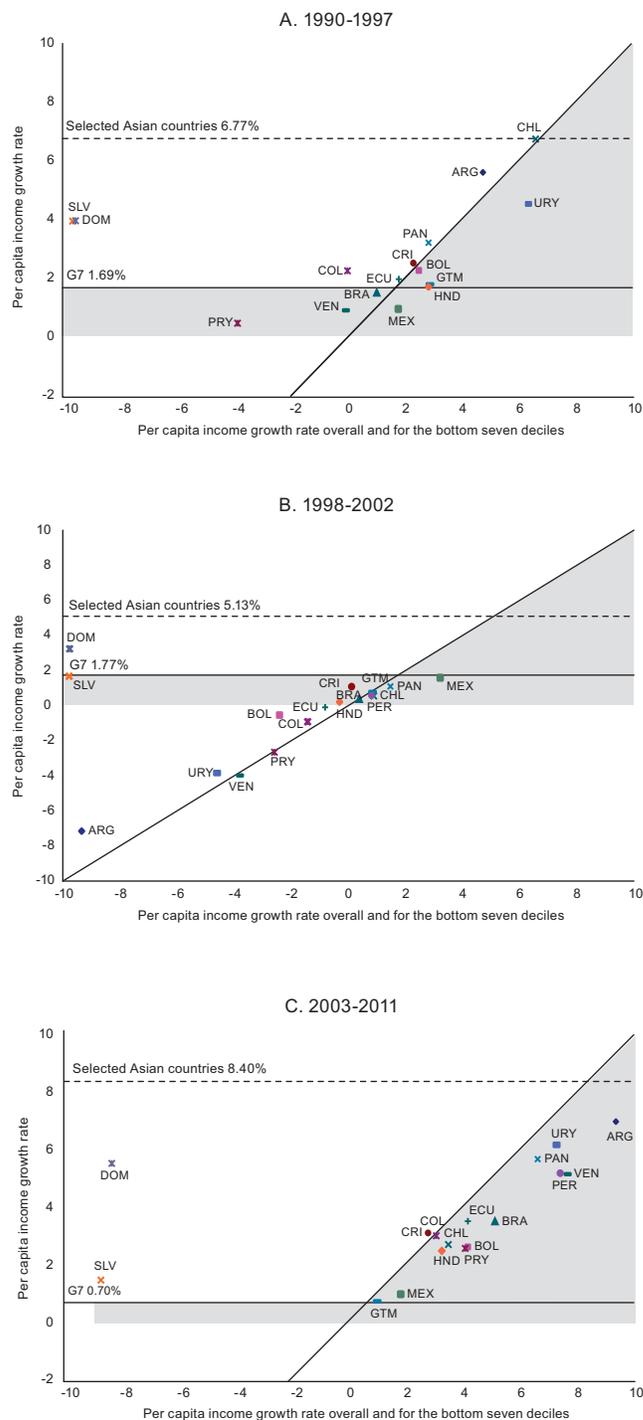
It is extremely difficult to measure internal productivity gaps, an issue that is explored in detail in chapter V of this document. One indicator of production heterogeneity at an intersector level is the rate of change in labour productivity in the nine largest sectors of the economy (see box V.1 in chapter V. For Latin America as a whole, between 1990 and the three-year period 2008-2010, the rate grew by 10.9%. Much of this increase occurred in 1990-1998 (with an increase of 31.3%), when structural reforms were sweeping the region, particularly trade liberalization and investment in the natural resources and commodities sectors. At the same time, the "external gap" (ECLAC, 2010), that is, the productivity gaps with the United States, widened by 12% for Latin America as a whole, despite a significant improvement in the relative position of the mining sector, which saw its gap narrow by 71.4%. In the manufacturing industry, the external gap increased by 40% between 1990 and 2008, which reflected the industry's inability to incorporate the important changes in technology that began taking place on the international frontier in the mid-1990s, particularly information and communications technologies.³¹

These data provide a first glance at the region's characteristic heterogeneity but say nothing about evolution of average income in the most disadvantaged sectors of the population. So as not to lose sight of the role of distribution in economic performance, using the methodology of Shaikh and Ragab (2008), national per capita income (Y_{pc}) and the Gini coefficient (G) can be combined into a single indicator to obtain what is known as the "income of the vast majority." To make this concept work, a variable known as IGM70 is constructed, defined as the average income in the bottom seven personal income distribution deciles. This variable is calculated using the formula $IGM70 \approx (Y_{pc}) \cdot (1-G)$.

When per capita income growth is contrasted with growth in the bottom seven deciles of personal income distribution, inclusive growth processes can be distinguished from exclusive growth. In figure I.6, growth in average per capita income (vertical axis) is compared with growth in per capita income in the bottom seven deciles (horizontal axis) for three periods: 1990-1997 (the reform era); 1998-2002 (the lost half-decade); and 2003-2008 (the bonanza period). The 45-degree line (diagonal) helps to distinguish between inclusive and exclusive processes: observations situated above the line (i.e. average growth outpaces growth for the vast majority) indicate a pattern of exclusive growth; observations below the line (i.e. growth for the vast majority outpaces average growth) point to inclusive growth.

³¹ It is important to look at the case of the manufacturing industry because this sector includes the activities with the greatest potential to generate and disseminate technological progress and structural change.

Figure I.6
 LATIN AMERICA: PER CAPITA INCOME GROWTH OVERALL AND FOR THE BOTTOM SEVEN DECILES
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of M. Abeles, P. Gerstenfeld and D. Vega, "Crecimiento, distribución y desarrollo: Un enfoque integrado", *Project document*, No. 441 (LC/W.441), Santiago, Chile, 2010.

Each of the figures has a horizontal line that indicates the rate of growth in average per capita income in the Group of Seven (G7) countries, in order to set a threshold to differentiate between patterns of convergence and divergence in the average productivity of each economy (approximated using the per capita income growth rate). Observations situated above the line indicate convergence and those below the line point to a pattern of divergence in average productivity between the region's economies and the G7 economies.

In this framework, the cases situated in the upper right triangle could be described as "inclusive convergence" processes, that is, cases in which growth in the bottom seven deciles outpaces average growth (inclusive growth) and in which the economy's average income growth rate outstrips that of the advanced countries (G7). The cases situated in the upper left trapezoid (exclusive growth) could be described as "exclusive convergence" processes; those in the lower right trapezoid (stagnation with redistribution) as "inclusive divergence"; and those in the lower left triangle (stagnation with exclusion) as "exclusive divergence."³²

For comparison purposes, figure I.6 also includes a dotted line indicating the average income growth rate in Asia's developing economies (simple average of China, India, Philippines, Indonesia, Malaysia, Thailand and Viet Nam). The comparison with Asia provides a stricter point of reference but one that is nonetheless relevant considering that this region has made strides towards convergence with the developed world.

An initial observation is that there were two periods of relatively widespread growth (1990-1997 and 2003-2011) and a period of virtual stagnation (1998-2002). In the first and especially in the last period under consideration, per capita income growth in the region's countries tended to outpace that of the G7 countries (convergence), in contrast with the pattern observed in the period 1998-2002. A second general observation is that the first two periods under consideration (1990-1997 and 1998-2002) were marked by exclusive growth, that is, situations in which economic growth occurred alongside deterioration in income distribution.

In the period 1990-1997, there were only four cases of inclusive convergence: the Plurinational State of Bolivia, Guatemala, the Dominican Republic and Uruguay, among which the latter stands out for having per capita income growth of over 3.6% per annum and growth of 5.3% per annum among the bottom seven deciles. At the far opposite end of the spectrum, the Bolivarian Republic of Venezuela and Paraguay had low per capita income growth and virtual stagnation or negative growth (in the case of Paraguay) in income among the bottom seven deciles. In the period 1990-1997, Argentina and Chile were the fastest growing economies, but unlike Uruguay, their growth was exclusive. Honduras and Mexico had an inclusive pattern of growth but at a much slower pace than the advanced countries (divergence or non-convergence). Lastly, Brazil, Colombia, Costa Rica, Ecuador and Panama grew at modest rates against a backdrop of exclusion (especially Colombia).

The period 1998-2002 (the lost half-decade) was the weakest in terms of growth (none of the Latin American countries, except for the Dominican Republic, had per capita income growth rates to match those of the G7 countries, which averaged just 1.5% per annum during the period), and there were even cases of negative growth. Argentina is a case in point, with income in the bottom seven deciles falling by a cumulative annual rate of 8.5%. Other countries that unequivocally lost ground were the Bolivarian Republic of Venezuela, Colombia, Paraguay, Uruguay (whose decline was

³² See Abeles, Gerstenfeld and Vega (2011).

strongly tied to the crisis in Argentina) and the Plurinational State of Bolivia. In all of them, income distribution deteriorated as output shrank, which meant that income among the bottom seven deciles fell much more sharply than the national average, an example of the negative effects on equality of the region's marked cyclical dynamic. In general, growth in most of the countries came to a virtual standstill during the period 1998-2002, both in per capita income and in income among the bottom seven deciles. Only Mexico and Peru performed well, logging improvements in income distribution, albeit against a backdrop of very modest growth. Exclusive divergence was the dominant pattern during this period, with no instances of inclusive convergence (the upper right triangle is empty).

The period 2003-2007 stands in contrast, with higher –and accelerating– growth approaching that of the most vigorous developing countries (in Asia) and largely tied to the global spike in commodities prices, excess liquidity in the international market and easy access to credit for many countries in the region. During this period, inclusive convergence was practically the rule, and some countries performed impressively. Among them were Argentina and the Bolivarian Republic of Venezuela, which saw income growth among the bottom seven deciles soar to over 9% per annum, followed by Uruguay, with 8.5% growth among the bottom seven deciles, Panama (7.6%), Peru (6.4%) and the Plurinational State of Bolivia (6%). In all of these cases, income distribution improved and growth outpaced the G7 average, all factors that allow the period to be characterized as one of inclusive convergence.

Inclusive convergence in the region was largely based on a combination of social policies and rising formal employment and minimum wages in some countries. But this process was limited and did not lead to the internal multiplication of high productivity jobs. Indeed, there was not much forward movement in terms of production diversification during the period. With this in mind, the policy challenge (which will be discussed in chapter VI) is twofold. First, steps must be taken to ensure the continuity of social policies to the extent that they are necessary, a task that could be especially difficult if the effects of the terms of trade improvement were to dissipate or if remittance and tourism flows were to shrink drastically, as happened in 2008 and 2009. Meanwhile, in order to guarantee steady gains in employment and distribution indicators, even in less favourable conditions, the region must apply itself fully to the task of structural change, which has not yet garnered the political support and funding it needs.

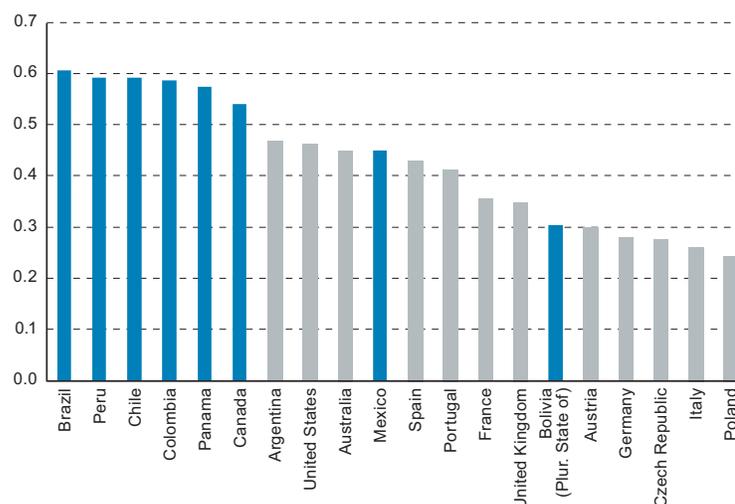
2. Geographical concentration of production and territorial heterogeneity

Among the specific manifestations of heterogeneity in Latin America and the Caribbean are the large gaps in social and economic development between the different regions in each country, with some places having standards of living that are similar to those of developed countries while others lag far behind.

A source of this inequality in the countries of Latin America and the Caribbean are structural rigidities in terms of the geographical concentration of wealth and the dynamic of territorial disparities. Rural and agricultural production patterns, with their attendant effects on dynamic efficiency (Keynesian and Schumpeterian), constitute a particularly important dimension of heterogeneity. A significant percentage of the population resides in rural areas, which continue to see sub-minimum-wage pay with no social protections, larger families, self-employment and income that fluctuates with the harvest seasons and the weather. Also critical are the structural gaps that exist between export-oriented activities, which are investment- and technology-intensive, and small-scale farm operations, which have low levels of productivity but contribute to the region's food supply.

At the country level, Argentina, Chile and Peru have a structure characterized by primacy, in which economic activity is concentrated in a single region. A multipolar structure is seen in Brazil, Colombia, Mexico and the Plurinational State of Bolivia, where economic activity is concentrated in more than one region (ILPES, 2007). Figure I.7 shows the levels of geographical concentration of production for the countries of Latin America and some developed countries. The latter have much lower rates than the former, which indicates a more even spatial distribution of production.

Figure I.7
LATIN AMERICA AND MEMBER COUNTRIES OF THE ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT: GEOGRAPHICAL CONCENTRATION OF GDP, AROUND 2010



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official data from the countries and subnational accounts of the Organization for Economic Cooperation and Development (OECD).

Note: The geographical concentration of GDP index is the sum of the differences between the share of land area and the share of GDP of the leading subnational unit over the total for the country, in absolute values divided by two. The index is zero when all subnational units have the same share of national GDP and total land area and moves closer to one as the differences between the GDP and land area shares of each subnational unit become larger.

High levels of territorial disparity are revealed by the differences between the regions of a country with the highest per capita GDP and the lowest per capita GDP. Whereas in the OECD countries the ratio of the highest to lowest per capita GDP territories generally does not rise above 2, in Latin America the ratio is greater than 2 in every case included in table I.8 and can be as high as 25, as is the case with Ecuador. The highest ratios are seen when the comparison is with agricultural areas that are lagging behind, such as Morona Santiago, Piauí, Formosa and Chiapas (see table I.8).

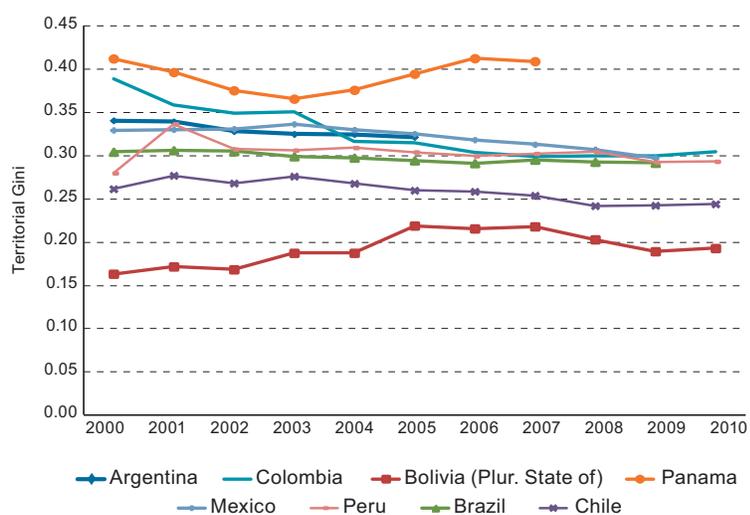
Figure I.8 shows the territorial Gini coefficient for nine countries in Latin America during the period 2000-2010. The countries with values near one have the highest levels of territorial disparity. Argentina, Colombia, Mexico and Panama are the countries that have shown the highest coefficient in recent years. The lowest levels of territorial disparity are seen in Chile and the Plurinational State of Bolivia. In general, trends have been stable, with a slight convergence since 2002 in a number of countries, including Argentina, Chile, Colombia and Mexico, as well as in the Plurinational State of Bolivia in more recent years.

Table I.8
LATIN AMERICA, SPAIN AND PORTUGAL: RATIO BETWEEN THE REGION WITH THE HIGHEST
PER CAPITA GDP AND THE LOWEST PER CAPITA GDP

Country	Reference year	Region with highest per capita GDP	Region with lowest per capita GDP	Ratio of region with highest per capita GDP to region with lowest per capita GDP
Argentina	2005	City of Buenos Aires	Formosa	8.09
Bolivia (Plurinational State of)	2010	Tarija	Chuquisaca	2.69
Brazil	2009	Federal District	Piauí	8.56
Chile	2010	Antofagasta	Araucanía	4.33
Colombia	2010	Casanare	Vaupés	9.22
Ecuador	2007	Francisco de Orellana	Morona Santiago	25.76
Mexico	2009	Campeche	Chiapas	12.37
Panama	2007	Colón	Darién	8.05
Peru	2010	Moquehua	Apurímac	7.45
Spain	2007	Basque Country	Extremadura	1.89
Portugal	2007	Lisbon	Norte	1.74

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official data from the countries and subnational accounts, Organization for Economic Cooperation and Development (OECD).

Figure I.8
LATIN AMERICA: GINI COEFFICIENT OF TERRITORIAL DISPARITY IN PER CAPITA GDP, 2000-2010



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official data from the respective countries.

H. Concluding remarks

The literature on economic development, and on structuralism in particular, has emphasized structural change as a key dimension for overcoming problems related to growth, employment and inequality in the region. Convergence with the developed world and between sectors and units of production within individual countries requires closing the technology gap; this cannot be achieved unless sectors and activities that are more technology-intensive come to account for a larger share of the economy, both in production and in exports. Furthermore, structural change will not occur unless industrial policies are set forth within a macroeconomic framework that enables new sectors to become competitive. This is a challenge that has been successfully met by a number of Asian countries but remains an item of unfinished business (except for certain countries and for limited periods) for Latin America and the Caribbean.

Over the long run, balance-of-payments problems have hobbled economic growth and been a key determinant of the dynamic and duration of cycles of economic activity and financing. These are exacerbated by external shocks that elicit expansionary responses, in combination with macroeconomic policies that often make conditions even more unstable by driving excessive exchange rate appreciation and cuts in public investment. Volatility, macro prices and underutilization of capacity dampen investment and undermine structural change.

Since 2004, a commodity price boom has driven diverging paths within the region. In the countries that are net importers of natural resources, it has placed more pressure on the external sector, tempered by the export diversification process under way since the 1990s (which is discussed in the next chapter) and remittances from workers abroad. Meanwhile, in the countries that export natural resources, it ushered an era of faster growth with a build-up in reserves and macroeconomic stability. The nature and intensity of the problems are different in the two cases, but it is imperative for both groups of countries to make more progress towards virtuous structural change: in Central America, to create more headroom to cope with adverse international price shocks, and in South America, to avoid the risk of Dutch disease. This is not the first time that favourable cycles in the commodities "lottery" are bringing unsustainable prosperity to some countries in the region. Latin America's economic history contains many examples of this type of rapid growth followed by a reversal in course. There is considerable uncertainty surrounding the duration of this boom and how it might be affected by a possible slowdown in Asian growth, especially in the light of slow recovery in the United States and the European crisis. Considering the need to diversify risks, commodities should not be relied upon as the sole vehicle for achieving strong economic growth.

The second consideration emerges not only from the lessons of economic history but also from the various strains of growth theory: convergence has never been achieved without knowledge accumulation and technological progress as the main drivers of growth, especially during a technology revolution like the one now under way. Even if the boom continues for some time, without endogenous technological progress and without capacity-building, the economy can only aspire to what Fernando Fajnzylber coined "showcase modernity," which describes a society in which consumption and import growth is largely built on rents from natural resources but cannot create the production linkages needed to absorb underemployment and informality. In this type of society, politics will become polarized around capturing rents from the export sector and using social policies to distribute them, as opposed to a society in which investment of rents and the quest for productivity reshape the production and employment matrix.

Since the mid-2000s, income distribution indicators have been improving in Latin America. This is related to a stronger labour market and the spread of social policies that have been continued over time, thanks to a new political consensus that has emerged around the need to combat inequality by pairing social policies with industrial policies. This consensus has given rise to proactive policies for everything from higher minimum wages to conditional cash transfer programmes for poor families, which have operated under a favourable population-age pyramid. Social policies should continue to play an important role in efforts to reduce inequality in the short term. In the medium and long term, they should work in tandem with industrial policies to help create quality jobs and advance towards guaranteed universal rights.

In the meantime, it is necessary to advance in the implementation of industrial policies and their articulation with other policies. The need for higher social spending may come up against budgetary obstacles, especially considering the low tax burden and the existence of significant fiscal costs (tax exemptions and evasion), as well as demands originating from other areas, such as infrastructure, education and training and industrial policy, a key vector for long-term growth. Fiscal space may become tighter again if there is a drop in growth rates —and thus in tax revenue— in which case competition for resources would intensify and it would become harder to maintain societal consensus around the need to fight inequality. Lastly, part of the population that is receiving benefits would ideally start to move towards higher quality participation in the labour market. The main objective is to reduce inequality by moving underemployed workers into quality jobs that put them on a path of higher learning and wages. This is impossible without the virtuous coordination of macroeconomic policy, industrial policy, social policy and structural change.



Chapter II

Structure, specialization and growth

A. Introduction

It was argued in chapter I that, in order to attain high rates of growth in the long run, the region must achieve structural change towards sectors which are more knowledge-intensive and enjoy robust demand growth. The reallocation of resources to these sectors will create a production structure with higher levels of Schumpeterian and Keynesian (or growth) efficiency. The former paves the way for more learning, more innovation and greater dissemination of innovations. The latter makes it possible for productivity gains to be matched by upswings in demand in both the domestic and external markets. The combination of these two types of efficiency – which, taken together, define what has been called the “dynamic efficiency” of the production structure – generates a virtuous growth path in which productivity and employment both rise at the same time.¹ When, however, diversification is very weak, growth slows, fewer jobs are created and the few jobs that are created are in lower-productivity sectors. This can cause aggregate productivity to fall, as shown in the vicious-cycle growth path depicted in table I.3 (see chapter I).

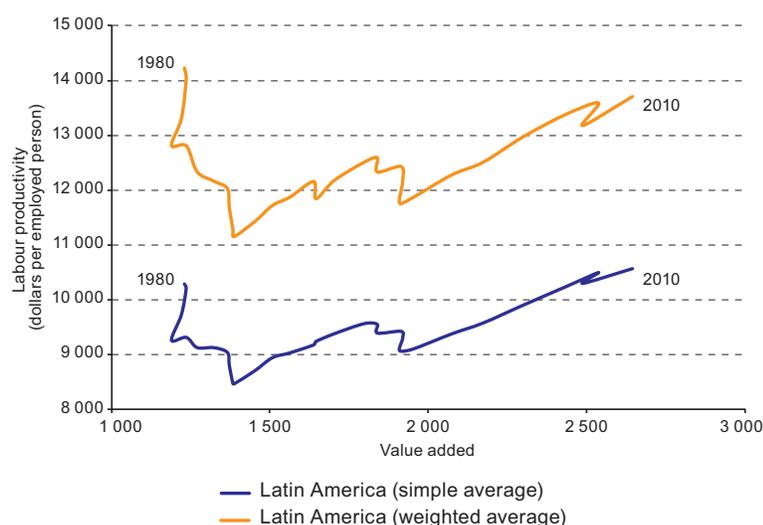
During the last three decades, the growth paths of some countries have enabled them to achieve steady increases in productivity, whereas others have followed erratic growth paths in which crises have curbed productivity, with the result that, when they do start to grow again, they are starting from lower productivity levels than they had before the crisis.

Differing growth paths are shown in summary form for the countries of Latin America in figure II.1 and for selected countries in the region and beyond in figure II.2. In these graphs, labour productivity is plotted on the vertical axis and the economy’s value added is plotted on the horizontal axis. Each point on the curve represents a year covering the period starting in 1980 and

¹ See Astorga, Cimoli and Porcile (2012).

ending in 2010, so that the curve shows the path of productivity and employment over time. Figure II.1 shows the path for Latin America, whereas figure II.2 compares the path of a group of countries within and outside the region. For the purposes of comparison, three European countries whose exports are heavily weighted towards natural-resource-intensive goods (Denmark, Finland and Norway) are included along with the countries of Latin America. The path of the Republic of Korea is also shown because it is one of the most successful cases of catching up and convergence with developed countries in the second half of the twentieth century.²

Figure II.1
LATIN AMERICA (12 COUNTRIES): LABOUR PRODUCTIVITY AND VALUE ADDED, 1980-2010^a
(Dollars and billions of dollars; base year=2000)



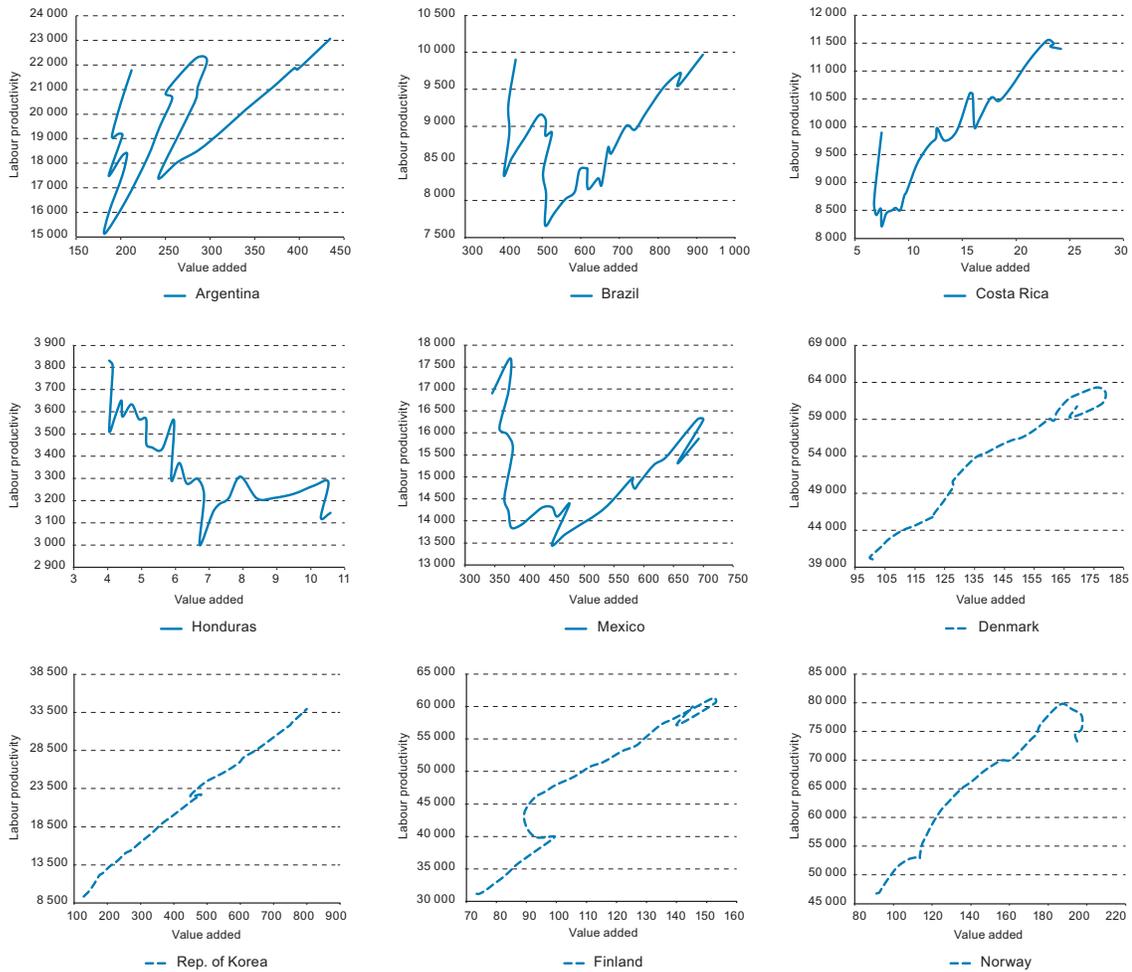
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>; and World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>, 2012.

^a The following countries were selected for inclusion in this figure on the basis of availability of the relevant data: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Panama, Paraguay and Peru. The weighted average is based on GDP.

Virtuous growth paths yield curves with fairly stable positive slopes. Vicious-cycle periods correspond to productivity losses. What the above figures bring out is the fact that the Latin American countries have witnessed steep declines in their productivity during crises or recessions, such as those that occurred in the 1980s and late 1990s, which were not fully offset in the recoveries that followed. For the region as a whole, a comparison of its productivity at the start (1980) and the end (2010) of this period does not show any significant improvement (see figure II.1). In some countries, in fact, a considerable decline has occurred over these years. As will be seen in chapter III, the adverse impact of the 1980s crisis, which can be seen here for all the countries, weakened their long-term growth rate.

² The Caribbean economies are discussed separately in another section of this chapter.

Figure II.2
SELECTED COUNTRIES: COMPARISON OF LABOUR PRODUCTIVITY AND VALUE ADDED, 1980-2010
(Dollars and billions of dollars; base year=2000)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>; World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>, 2012; and Organization for Economic Cooperation and Development (OECD), The Labour Force Survey (MEI) [online database] <http://stats.oecd.org/>, 2012.

Note: The points on the figures correspond to the years covered by the period from 1980 to 2010.

The region's performance marks a stark contrast with the steady upward trend of productivity and GDP in the other countries in the sample. The Republic of Korea and the sample European countries have seen a steady increase in both variables except during the 2008 crisis. There has been no "lost decade" or "lost half decade" (indicative of a vicious cycle) for them, as there have been in Latin America. The best-performing Latin American country in the sample,³ Costa Rica, raised its productivity by 15% between 1980 and 2010 and lost a great deal of ground in the 1980s; the worst-performing country in the sample among the countries outside of the

³ The Latin America sample includes the three largest economies (Argentina, Brazil and Mexico) and two Central American countries (Honduras and Costa Rica). The performance of some countries in the region has been better than that of the sample countries, as indicated in chapter I.

region was Denmark, which boosted its productivity by nearly 70% and did not experience any productivity declines (until 2008, at least).

The economies in this sample that are not in the region have also had to grapple with major shocks but, apart from the deep depression of 2008-2009, those shocks did not drive down their productivity. There have been cases in which GDP has declined, as in Finland when the Soviet Union (a major export market) was disintegrating and in the Republic of Korea during the 1997-1998 Asian crisis. Nonetheless, productivity growth did not falter until the closing years of the period under study, which bespeaks the presence of highly shock-resistant economies that are far less vulnerable to the ups and downs of the world economy.

Employment trends are reflected in the slope of the curve in figures II.1 and II.2: the steeper (flatter) the slope, the less (more) labour absorption there has been. The fact that the slope has always been positive in the European countries and the Republic of Korea indicates that newly created jobs have been in keeping with aggregate productivity gains. In the Latin American countries, on the other hand, productivity losses have been associated with low GDP growth rates and increases in employment, which indicates that the jobs that are being created are in lower-productivity activities and are often of poor quality.

The average rate of unemployment in different periods is shown in table II.1, in order to provide a more detailed picture of the behaviour of the labour market. There is no significant difference between the average unemployment rates for the Latin American and other countries in the sample.⁴ This suggests that the sustained productivity growth in Europe and the Republic of Korea was not associated with higher unemployment. Given the striking differences between the unemployment insurance schemes in Europe and Latin America, the impact of the same unemployment rate in terms of inequality and poverty is very different in the two regions. An additional factor to consider in the comparison is that, in Latin America, unemployment may be hidden in the form of informality or underemployment, which means that the countries of the region have to maintain especially high growth rates in order to curb structural heterogeneity.

Table II.1
SELECTED COUNTRIES: AVERAGE UNEMPLOYMENT, 1980-2010^a
(Percentages)

Period	Argentina	Brazil	Costa Rica	Honduras	Mexico	Denmark	Finland	Republic of Korea	Norway
1980-1985	4.6	6.6	7.8	9.8	4.9	9.2	5.1	4.3	2.6
1986-1990	6.6	3.8	5.6	9.6	3.5	6.8	4.2	2.9	3.5
1991-1995	10.4	5.1	4.9	6.0	3.8	8.8	13.3	2.5	5.5
1996-2000	14.9	6.7	5.9	5.7	4.5	5.7	11.7	4.5	3.8
2001-2005	15.9	10.3	6.6	6.8	4.4	5.0	8.9	3.7	4.2
2006-2010	8.6	8.4	6.2	4.9	5.5	4.9	7.5	3.4	3.1
Average 1980-2010	10.0	6.8	6.2	7.2	4.4	6.8	8.3	3.6	3.7

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a A number of countries in the region changed their methodology for measuring employment during the period under study: Argentina and Brazil did so in 2003, Costa Rica in 2009 and Mexico in 2005 (with a transitional application for 1997-2004).

⁴ There are sizeable differences both between European countries (e.g. between Finland and Norway) and between Latin American ones (e.g. between Argentina and Mexico).

Less closely regulated markets (where short-term contracts are commonly used and the cost of firing or laying people off is low) are not sufficiently responsive in low- or no-growth situations. Microeconomic response capacity in the face of external shocks is not enhanced because firms can easily dismiss staff or can quickly close their doors; rather, it depends on firms' capacity to use their existing assets (including their human capital) in new ways, to produce new products, devise new processes and find new markets. "Freeing up" factors of production does not ensure that they will be used in new activities, especially when learning and tacit knowledge inputs are required that can only be acquired through experience in production and investment.⁵ To enhance the creative side of the Schumpeterian creative destruction process, policy should be aimed at providing greater scope for the achievement of dynamic efficiency rather than simply focusing on reducing the cost of the destruction of lagging capacity and backward sectors.

Heightening the creative dimension of global competition is no easy task, and few countries have succeeded in narrowing the productivity and income gap separating them from the more developed economies. The more successful cases of convergence have been in Asia, where active industrial policies have been coupled with macroeconomic policies designed to boost competitiveness (see chapter I). Cases where convergence has been achieved are not necessarily going to repeat themselves in the same way or at the same pace, but they nonetheless offer important lessons that provide information about the factors that made convergence possible in some cases and not in others. These lessons should be incorporated into the structural change and development policy agenda for the twenty-first century.

Peneder (2002) has noted that the development process necessarily engenders "Schumpeterian trails" of structural change. Countries that have managed to converge with the growth trends of industrialized economies have done so by embarking on intensive learning processes that have ushered in new export and production sectors. The historical evidence provided by these successful experiences points to a process of diversification whereby the resources channelled towards innovation opened up new investment opportunities and led to the creation of new production sectors. Services and industries responded to the new demands of more advanced technology and, as a result, more knowledge-intensive sectors gained a greater share in manufacturing, while more sophisticated goods increased their share of exports. Export sectors became more diversified and gained access to more demanding markets in which product differentiation is crucial for competitiveness. External and domestic demand stimuli generated growth impulses to which the economy was able to respond endogenously, thereby creating higher-productivity jobs. As this process proceeded, two gaps – the external gap between the countries of the region and the international technological frontier, and the internal one, which has left many workers on the sidelines in terms of higher-productivity activities – began to narrow. If a suitable institutional structure for the promotion of structural change and proper industrial policies are not in place, however, then this virtuous-cycle process will be cut short.

This chapter is divided into four sections. This introduction is followed by section B, which offers a comparative analysis of the speed of structural change in different countries and regions that shows how far Latin America has lagged behind in this respect. A wide range of indicators

⁵ Reducing the number of hours worked in economies where there is greater employment protection (as in Europe) can provide much the same degree of labour-market flexibility (which is needed to cope with hard times) as layoffs can (Abraham and Houseman, 1993). Combining flexibility and greater protection is less costly (in both material and psychological terms) for workers and can yield additional benefits, such as the continuity of learning curves (Bértola and Rogerson, 1996).

are used to trace the shift in the production structure that underlies virtuous growth patterns. This section also discusses the microeconomics of the learning process, since it is important to understand what forces and obstacles form the background for the dynamics of innovation, the international diffusion of knowledge and the increasing incorporation of knowledge into production (i.e. which forces drive the attainment of dynamic efficiency). In a world of open economies, firms that lag behind in technological capabilities cannot survive, and firms, as well as economies, whose institutions do not promote learning will suffer. These learning processes are especially important in enhancing the value of natural resources and ensuring the environmental sustainability of growth. These issues will be covered at the end of this section.

Section C deals with the relationship between structural change, growth and specialization. The reason why the discussion in this section will focus on trade and specialization is because of its link to the production structure. Income elasticities of demand for exports and imports, in particular, can be seen as a reflection of the production structure's dynamic efficiency. Sectors having a higher income elasticity of demand (i.e. those that produce the goods for which demand climbs when world income rises) tend, as well, to be more knowledge-intensive. And this is why an analysis of these elasticities provides useful information about the production structure. Another reason for undertaking a close analysis of trade is because the ratio between the income elasticity of demand for exports and the income elasticity of demand for imports is a good indicator of the economy's long-term growth rate. An economy cannot grow at rates that entail a steadily rising deficit on current account as a percentage of GDP (Rodríguez, 1977; Thirlwall, 1979; Moreno-Brid, 2002; Cimoli, 1988; Cimoli, Porcile and Rovira, 2010). This being so, an analysis of the elasticities of trade in goods and services provides a way of linking the production structure with the long-term rate of growth.

Section D brings the chapter to a close with an analysis of the role played by one of the key variables in macroeconomic policy – the real exchange rate – in determining an economy's pattern of specialization. The discussion of the subject in this chapter draws upon the growing body of literature concerning the links existing among the real exchange rate, the production structure and growth. These links develop mainly through the diversification and knowledge-intensity of a country's exports. At the same time, it is clear that the use of the real exchange rate as a development tool can lead to problems in terms of income distribution and trade imbalances in other parts of the world. This is why it is so important to realize that a competitive real exchange rate must go hand in hand with income distribution and industrial policy, on the domestic front, and with the international coordination of policies (including Keynesian policies aimed at boosting global demand). This coordination is necessary to avert the chronic trade surpluses associated with export drives based on a persistently depreciated real exchange rate. This kind of strategy creates imbalances in other parts of the world and cannot be used by all the countries at the same time; to think that this would be possible is to fail to recognize the existence of a fallacy of composition.

B. Structural change and convergence

1. The microeconomics of learning

As was also the case for modern growth theory, understanding why growth rates differ across countries and regions was the starting point for the pioneering work done by ECLAC. In those studies, ECLAC noted that the "slow and irregular" international diffusion of technical progress

brought about very different economic structures in different regions of the world, giving shape to what is characterized as the “centre-periphery” system. Technical progress was initiated at the centre, where innovation and the diffusion of technology went hand in hand with the emergence of new economic sectors and new capabilities. This gave rise to a diversified, increasingly knowledge-intensive production structure in which job creation and productivity gains were spread out fairly evenly throughout the production system. As a result, the structure of the economies at the centre was not only diversified, but also homogeneous (with small productivity gaps between sectors and productive units), since it was capable of absorbing most workers into high-productivity sectors. At the periphery, however, the penetration of technical progress was limited to a few areas of activity, giving rise to an undiversified, heterogeneous production structure (few sectors and large productivity gaps). This structure was unable to offer jobs to a large percentage of workers, who sought refuge in low-productivity activities (such as underemployment and subsistence activities). The main issue, then, from the structuralist perspective, was to speed up the diffusion of technology and formation of new capabilities and capacities.⁶ This would sustain a process of structural change in which the periphery would become increasingly homogeneous and diversified.

The pioneers of development theory formulated many of the ideas that mainstream economic theorists would accept only years later (such as, for example, that the production structure matters and that technological dynamics can generate international and regional divergence). However, when the foundational contributions to development theory were made, their understanding of the dynamics of technical progress was very limited. There was, in particular, no microeconomic theory about the learning process or innovation that could provide an intellectually rigorous basis for development macrodynamics. They were not yet clear about what the barriers to technological diffusion were or about how policy could be used to promote technological convergence. This all changed in the late 1970s when evolutionary theories of technical change were developed (Rosenberg, 1982; Dosi, 1988; Narula, 2004; Cimoli and Dosi, 1995; Katz, 2008; Cimoli, Dosi and Stiglitz, 2009).⁷ Today, a much fuller understanding has been achieved of the determinants of convergence at both the international and regional levels.

The literature on the subject brings out the following points, which are helpful in understanding the obstacles to developing countries’ technological and productive convergence with advanced countries:

- Learning is localized, with firms learning within the context of existing technological capacities and abilities (technological base).
- Learning is, to a great extent, a tacit process and, in many cases, the technology cannot be copied or transferred in codified form (as in manuals or instructions) because actual production experience is of crucial importance.
- Innovation and the diffusion of technology should be viewed as closely linked processes, since diffusion will not occur unless the firms that are imitating new technologies make an effort to improve and adapt them to their production capabilities and the specific

⁶ The term “technology” will be used in this study in a broad sense that encompasses the entire range of knowledge and tools used in the production of goods and services in the various areas of the economy. Heterogeneous and homogeneous structure refers to the extent of the differences in labour productivity between production units and sectors.

⁷ Conventional economics also began to devote more attention during this period to the issues of information asymmetries, coordination and externalities of technical change. For a review of the debate, see Cimoli and Porcile, 2009.

conditions existing in their markets. This holds true not only for major innovations and new paradigms, but also for the diffusion of mature technologies. The success stories of convergence are typified by an ongoing effort to use exogenous technology as a platform for a local learning process rather than as a substitute for it. Consequently, efforts in this direction should not be based on an assumption that there is a radical separation between innovation and diffusion or between incremental adaptations or innovations and imitation (Katz, 1997 and 2008; Cimoli and Katz, 2003).

- Increasing returns to learning are a factor that accounts, on the one hand, for rapid capacity-building and, on the other, for widening lags. Firms that innovate or adopt more sophisticated technology in a given time period are more likely to innovate or adopt new technologies later on, and this may give rise to virtuous (or vicious, in the case of lagging companies) cycles of learning, innovation, diffusion and growth (Arthur, 1994).
- Increasing returns are found not only at the level of firms, but are also apparent industry- or country-wide and are generated by complementarities among production assets, technological assets and institution-building and by the mutual reinforcement of investment, technical progress and growth (Rosenstein-Rodan, 1961; Ros, 2002). This cumulative process had been foreseen in the Kaldor-Verdoorn law, according to which gains in output induce productivity gains. Later studies have shown that it is valid for a wide range of learning processes. These processes have been identified and analysed in the literature and include not only learning-by-doing (the classic mechanism identified by Arrow, 1963) but also learning-by-using, learning-by-interacting, learning-by-exporting and learning-by-observing.⁸

An understanding of the role that increasing returns play in technical progress is an essential element for industrial policy design. If endogenous forces tend to reproduce the predominant production and learning patterns, then it will be very unlikely that the economic system can evade a low-growth trap on its own. Path dependence, lock-in and hysteresis all have a strong influence on the relationship between technical change and specialization. Proactive policies are therefore essential if developing countries are to reshape their incentives and encourage structural change in economies where inertia and the endogenous reproduction of low-growth structures prevail (Cimoli and Rovira, 2008).

Technical progress does not occur evenly across all sectors; instead, some sectors are more innovative and stimulate technological diffusion more than others. There is a clear-cut relationship between aggregate R&D in an economy and the relative size of knowledge-intensive sectors within it. Some of them are producers of innovations, while others acquire and incorporate those innovations (they are supplier-dominated, as suggested by Pavitt, 1984). Although the diffusion and adoption of technology require endogenous technological efforts by the recipient firms, the leadership position is generally occupied by those firms that devise and produce innovations. The capacity to innovate and to realize productivity gains is not distributed evenly across sectors, and the evidence shows that the relevant technological and capacity-building trajectories for a given sector may take shape in other, often far-removed sectors.⁹

⁸ See Arthur (1989 and 1994), Buchanan and Yoon (1994) and León-Ledesma (2002).

⁹ For example, backward or forward production linkages in the mining sector involve capacities in the production of transport equipment, sophisticated mechanical or electrical/electronic machinery and information and communications technologies that local firms do not master.

The validity of the concern evidenced by development theorists about the production structure and about external and internal technological gaps has been corroborated in the recent literature. The pivotal role of increasing returns (and the corollary: the existence of cumulative processes and path dependence) is reflected in most models of international divergence and models of the new economic geography, which are now part of the standard approach to regional economics. The above factors, related to the microeconomics of the learning process, make it possible to look at the supply side from a new, unconventional vantage point. The dominant technological and production patterns are underpinned by endogenous mechanisms that reinforce these patterns. The role of public policy is to build institutions and create new incentives that will facilitate the coordination over the long term of the agents that innovate and support technological diffusion and to help ensure that resources are channelled towards activities that promote learning and its dissemination to less advanced (usually smaller) firms. As discussed in chapter I, these institutions supplement the price system in some cases, while in others they generate the “distortions” required to escape from path dependence (Amsden, 1989; Wade, 1990; and Chang, 2001).

Technical progress stems from an interactive process of trial and error and from information sharing among a large, varied group of agents that in many cases have differing objectives, rules and organizational structures (e.g. public agencies, firms, universities and research centres). In order to fuel technical progress, a formal or informal institutional framework is needed to coordinate the interaction of these agents and induce them to engage in cooperative behaviour that will encourage innovation and its diffusion (Metcalf, 2001). There are externalities that can be capitalized upon, but only if appropriate coordination mechanisms are in place, especially in the transformation to a pattern of sustainable growth (Rodrik, 2008). A central role is played by industrial and macroeconomic policies (see chapter VI), which have a direct influence on aggregate demand, the economy’s nominal and real stability, the solvency of financial institutions (via macroprudential regulation) and even on income distribution, while they also establish incentives and build or reshape institutions. The diversity of policies and institutions —and of ways to achieve dynamic efficiency— lies behind the differing development patterns and economic performances seen in each country and in each time period. Their effects on growth patterns will be explored in the next section, focusing on a set of indicators that measure the intensity of technological learning and structural change, which are the drivers of long run growth.

2. Indicators of structural change

The first step in constructing indicators to gauge the production structure’s level of dynamic efficiency is to identify the variables that reflect that attribute. Several variables can be used as proxies, which capture different aspects of the innovation and learning processes. The second step is to define the level of aggregation to be used in the analysis. Some activities are more dynamic than others (in both the growth-Keynesian and Schumpeterian senses); when working with aggregates, some degree of internal heterogeneity is inevitable.¹⁰ Since it is impossible to construct indicators that are completely free of biases or imperfections, or define a level of aggregation which is perfectly homogeneous, the strategy that has been used to measure dynamic efficiency in this section is to present an array of diverse indicators. If they all point in the same direction, then a reliable measurement of the level of dynamic efficiency of a given country’s production structure can be obtained. When indicators point towards divergent conclusions, an analysis of the

¹⁰ This heterogeneity can skew the indicators, and the risk of this occurring increases as the level of aggregation rises.

weaknesses and strengths of each indicator can help researchers to try to determine which factors account for that divergence. The strong and weak points of each indicator are discussed in annex I.1 The indicators used for assessing the intensity and direction of structural change from a comparative perspective are the following:

- (i) The classic indicators of technological effort and outcomes (investment in R&D and the number of patents per capita, respectively);
- (ii) Relative productivity, defined as the ratio between the levels of labour productivity in a given economy and in an advanced economy used as a point of reference. (The United States is generally used as the benchmark because it is at the leading edge in technology and has strong investment and trade links with Latin America and the Caribbean.);
- (iii) The percentage medium-tech and high-tech exports (X_{HMT}/X), based on Lall's classification, in total manufacturing exports;
- (iv) The ratio between the share of engineering-intensive sectors in total manufacturing value added (S_i) and the share of those same sectors in a benchmark economy (S_R —in this case the United States economy): $EIS = (S_i / S_R)$. It is assumed that, the greater the EIS share, the greater the knowledge-intensity of a given industry;
- (v) The adaptability index (AI) is the ratio between the share of dynamic exports and the share of non-dynamic exports in total exports (i.e. the percentage of the former relative to the percentage of the latter in relation to total exports). Dynamic exports come from sectors in which world demand, measured by the world export value, is growing faster than the average;¹¹
- (vi) The indicator of the level of sophistication of exports (EXPY) developed by Hausmann, Hwant and Rodrik (2007)¹² is based on highly disaggregated trade statistics and is designed to reflect differences in the quality or sophistication of exports. Exports from high-income countries are regarded as being more knowledge-intensive than the exports of low-income countries. The reasoning underlying this distinction is based on the perception that richer economies have greater technological and marketing capabilities that allow them to compete in differentiated products in more demanding markets. The EXPY index is an indicator not only of Schumpeterian efficiency, but also of Keynesian efficiency, in that it is more likely that the income elasticity of the more sophisticated goods and services that are exported by rich economies will be greater than the income elasticity of poor economies' exports.

Indicators (i) through (iv) are indicators of capabilities in a broad sense and primarily capture the level of Schumpeterian efficiency. Indicator (v), on the other hand, is an indicator of

¹¹ Although the most dynamic sectors have generally been the most modern manufacturing industries (those producing mechanical, electrical, electronic and transport equipment and the like), this has not always been the case at the product level, since there are also some quite dynamic agricultural and mining products.

¹² The first step in building this indicator is to construct the PRODY, which is a weighted average of the per capita incomes of countries that export a given product, using the revealed comparative advantage in that product as the weighting factor. Each product is associated with a PRODY. Then the EXPY indicator is calculated for each country using the weighted sum of PRODY values, with weightings being given to each good according to its share of the export basket. A high EXPY value indicates that the country in question mainly exports goods that are also exported by high-income countries.

the dynamism of external demand and captures all dynamic sectors, regardless of their production or technological base, thereby providing information mainly about the level of Keynesian efficiency. Finally, indicator (vi) captures both types of efficiency, since it relates to the ability to produce more sophisticated goods aimed at high-income markets. Two of the six indicators (EIS and X_{HMT}/X) refer to the manufacturing sector, while the other four (relative productivity, R&D plus patents, AI and EXPY) are aggregates that refer to all economic sectors.

As mentioned earlier, these indicators should be used in conjunction with one another in order to obtain an integrated or fuller picture of the capacities present in the production structure, since any one of them, used alone, captures only a portion of those capacities. (The biases associated with each indicator are explored in annex I.1).

3. Analysis by region and by country

In order to compare the dynamic efficiency indicators for the production structure of Latin America with those of other regions, the countries have been classified into different groups. On the one hand, Latin America has been divided into two subregions: South America and Central America. The situation in the Caribbean countries will be looked at separately, since they do not have the same indicators as those used for Latin America. In addition, data for the region's three largest economies (Brazil, Mexico and Argentina) are analysed individually, given the extent of their influence on the regional economy. On the other hand, the emerging economies of Asia are used as a benchmark, since (as noted in chapter I), they are development success stories that have narrowed the per capita income and technology gaps between them and the developed world.

The developed economies have been divided into two groups: mature economies whose total exports include a large share (over 70%) of primary resources and natural-resource-intensive manufactures, and mature economies in which these kinds of exports represent a smaller share of the total (under 70%). The division of the developed economies into these two groups is intended to show that natural resources do not constitute an obstacle or a "curse" in terms of structural change. They can actually serve as a platform for making the move to new sectors and activities that incorporate increasing amounts of knowledge. More specifically, the argument is that the production structures of the economies in the first group are very different from those of the Latin American countries, even though natural resources have a similar weight in their export patterns. This difference in their structures reflects differences in how rents from natural resources were used, in response to industrial policy and the countries' ability to administer macroeconomic prices in such a way as to foster the production of new tradables.

Table II.2 shows that the classic indicators of technological effort and technological outputs (R&D and patents, respectively) yield lower values for Latin America than for other regions, regardless of whether these measurements are made by subregion (South America and Central America) or individually for the region's largest economies (Argentina, Brazil and Mexico). These differences are even greater when the comparison is based on patents than when it is based on expenditure on R&D, which indicates that Asia has been more efficient in patenting the outcome of R&D than Latin America.

Latin America has also lagged behind in terms of relative productivity. A comparison of, for example, South America with the developing economies of Asia shows that the level of productivity in the former is just one eighth of what it is in the reference country (the United States), while in Asia it is one third. The same is true of the indicator for knowledge intensity in manufacturing, since the

relative weight of engineering activity in Latin America is less than one fourth of what it is in the developing Asian economies. The adaptability index, for its part, is not only lower for South America but the trend in this indicator is much less favourable for South America than for Asia. The adaptability index more than quadrupled in Asia between 1985 and 2007, whereas it doubled in South America. Central America has a stronger trend, with its adaptability index rising from 0.2 in 1985 to 1.1 in 2007 thanks to the headway made by export-assembly industries.

Table II.2
SELECTED REGIONS AND COUNTRIES: STRUCTURAL CHANGE AND TECHNOLOGICAL EFFORT INDICATORS

	Relative productivity ^a (percentages)	AI ^b (1985)	AI ^b (2007)	X_HMT/X ^c (percentages)	EXPY ^d	Engineering-sector share (EIS) ^e	Patents ^f (per million inhabitants)	R&D ^g (percentages of GDP)
Argentina	25.7	0.1	0.2	22.0	10.4	0.4	1.0	0.5
Brazil	11.7	0.4	0.9	32.0	11.4	0.7	0.5	1.0
Mexico	19.8	0.3	1.1	60.5	13.2	0.6	0.6	0.4
Developing Asia ^h	33.8	0.5	2.3	64.3	14.6	0.9	17.2	1.3
South America	12.1	0.3	0.6	18.5	9.1	0.2	0.4	0.4
Central America	11.0	0.2	1.1	34.2	11.2	0.2	0.3	0.2
Mature natural-resource-intensive economies ⁱ	71.3	0.5	1.3	32.4	14.1	0.8	55.2	2.0
Mature economies ^j	76.3	0.8	1.5	64.6	15.0	1.1	126.1	2.4

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database]; TradeCAN, 2009 version [online database] <http://comtrade.un.org/db/default.aspx>; World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>; Organization for Economic Cooperation and Development (OECD), The Labour Force Survey (MEI) [online database] <http://stats.oecd.org/>; European Commission, Eurostat [online database] <http://epp.eurostat.ec.europa.eu/>, 2012.

^a Relative productivity: Labour productivity relative to its level in the United States, 2001-2010 average (simple average for aggregates). For this indicator, South America includes Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Ecuador, Paraguay and Peru, while Central America includes Costa Rica, Honduras and Panama.

^b AI: Adaptability index. Ratio of the percentage of total exports accounted for by dynamic sectors to the percentage represented by non-dynamic sectors. Dynamic sectors are defined as those in which world demand for their export products is growing faster than it is for products on average.

^c X_HMT/X: Percentage of total exports consisting of medium- and high-technology manufactures in 2007 based on the classification developed by Lall.

^d EXPY: Indicator of export sophistication, computed as the average PRODY (weighted by export share). This latter indicator is the average (weighted by each country's revealed comparative advantage) per capita income level of the countries that export a given product. The indicator was calculated for 2008.

^e EIS: Index of the relative share of high-technology sectors in total manufacturing output as compared to the level of technological intensity in the United States (2005). For this indicator, South America includes Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Ecuador, Peru, the Plurinational State of Bolivia and Uruguay, while Central America includes Costa Rica and Panama, and the mature economies are France, Italy, Japan, Sweden and the United Kingdom.

^f Patents: Patents issued by the United States Patent and Trademark Office (USPTO) per million inhabitants; 1990-2010 average.

^g R&D: Expenditure on R&D as a percentage of GDP for 1996-2009. The averages are computed on the basis of the available data for each country in each year.

^h Developing Asia^h includes China, Hong Kong SAR, Indonesia, Malaysia, the Philippines, the Republic of Korea, Singapore and Thailand.

ⁱ Mature natural-resource-intensive economiesⁱ denotes a group of countries with high per capita GDP in which exports intensive in natural resources account for over 30% of total exports: Australia, Denmark, Finland, Ireland, New Zealand and Norway.

^j Mature economies^j denotes France, Germany Italy, Japan, Sweden, the United Kingdom and the United States.

The high values for medium- and high-technology exports (X_HMT/X) registered for Mexico and Central America stand out. Mexico's indicator for this variable is higher than those of the mature natural-resource-exporting economies and similar to those of the developing economies of Asia. These results are in keeping with the fact that the AI and EXPY indicators are better for Mexico and Central America than they are for South America. They do, however, appear to run counter to

the results for the other technological capacity and structural change indicators shown in table II.2. This is because the high values for X_HMT/X in Mexico and Central America are heavily influenced by exports from their free trade areas and those sold under special re-export regimes that allow for the temporary importation of inputs for exports; these values are therefore attributable to low labour costs rather than to knowledge intensity. The low values for the other variables (such as patents, relative productivity and EIS) attest to the absence of capacity-building. In short, these indicators, taken as a whole, show that the region's production structure is less efficient in both Keynesian (growth) and Schumpeterian terms than a large sample of other countries.

These findings provide a picture of the general trend of structural change in different regions and in the three largest Latin American economies. In order to look beyond the averages, however, it is important to analyse individual countries (see table II.3). When this is done, it can be seen that the country-level analysis corroborates the findings at the regional level. None of the Latin American countries—not even the most industrialized ones, such as Brazil and Mexico—has an EIS indicator equal to the EIS indicator for the European countries, even though many of the latter, such as Denmark, Finland or Norway, are small economies that export a significant portion of natural-resource-based products. Brazil, which has the most highly developed industrial sector in the region, and whose population and resource endowments have made it one of the biggest economies in the world, has a lower EIS indicator than Australia does. Argentina, which is often compared with Australia, is far behind it in terms of the share of output accounted for by engineering. A small economy that has been extremely successful in bringing about structural change, such as Finland, has an engineering sector that accounts for a similar share of its total output to the engineering sector in the United States. This is also true of the Republic of Korea, which is perhaps the most emblematic case of convergence in the post-war period. The region's low EIS ranking shows up its weakness in terms of dynamic efficiency; in its effort to change its production patterns, Latin America clearly still has a long way to go.

Table II.3
SELECTED COUNTRIES: RELATIVE SHARE OF ENGINEERING ACTIVITIES IN THE AGGREGATE VALUE OF THE MANUFACTURING SECTOR (EIS), RELATIVE PRODUCTIVITY AND EXPY

	Relative share of engineering activities (EIS) ^a	Relative Productivity ^b	EXPY ^c
Argentina	0.40	26	10.4
Brazil	0.64	12	11.2
Chile	0.17	20	8.9
Colombia	0.24	n.a.	9.9
Mexico	0.64	20	12.5
Uruguay	0.18	n.a.	10.4
Australia	0.67	59	12.3
Denmark	0.87	78	14.0
Finland	0.94	73	15.0
Norway	0.76	101	10.8
Republic of Korea	1.07	38	14.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT online database [<http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>] and Competitive Analysis of Nations (TradeCAN) software.

^a EIS: Index of the relative share of high-technology sectors in total manufacturing output as compared to the level of technological intensity in the United States (2005).

^b Relative productivity: Labour productivity relative to its level in the United States, 2001-2010 average.

^c EXPY: Indicator of export sophistication, computed as the average PRODY (weighted by export share). This latter indicator is the average (weighted by each country's revealed comparative advantage) per capita income level of the countries that export a given product. The figures correspond to 2008.

The same is true of relative productivity, which is much lower in Latin America. The poor performance of Brazil in this respect is striking and probably is a reflection of the huge differences between one region and another within that country. Some of the regions in Brazil have undergone very intensive structural changes (the South and Central-South regions) and have seen their production structures become much more diversified and complex, while other regions have lagged far behind. While the problems posed by inequalities and structural change certainly do have an external dimension, they also have a domestic one, and that domestic dimension is the source of the countries' heterogeneity.

The situation in the Caribbean is also very uneven. Four of the largest Caribbean countries (Belize, Guyana, Suriname and Trinidad and Tobago) export natural-resource-based products; the others (including Jamaica) have differing combinations of assembly industries, tourism (especially the Bahamas, Barbados and the countries of the Organization of Eastern Caribbean States (OECS)) and, in some cases, financial services. In the long run, the chief structural change in the subregion has been the shift from agricultural production (e.g. sugar cane and bananas) to these kinds of services. Between 1990 and 2010, the share of total output accounted for by agriculture fell by nearly two percentage points, and this descent was not offset by the small increase in the share of manufacturing production (see table II.4). Instead, the services sector was the greatest driver of GDP growth in the subregion during that period. In addition, the loss of preferential treatment and competitiveness strengthened distribution activities compared with production.

Table II.4
THE CARIBBEAN: TOTAL GDP GROWTH AND GROWTH BY ECONOMIC SECTOR, 1990-2010
(Percentages)

	Agriculture	Industry	Services	Total
	Share of total GDP			
1990-1999	11.4	26.9	61.9	100.0
2000-2010	9.5	27.4	63.2	100.0
	Sectoral growth			
1990-1999	0.8	2.8	3.0	
2000-2010	-0.6	2.7	3.0	
	Contribution to total GDP growth ^a			
1990-1999	0.1	0.8	1.9	2.7
2000-2010	-0.1	0.7	1.9	2.6

Source: World Bank, World Development Indicators [online database], and Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The contribution to GDP growth is calculated as the percentage of GDP multiplied by the corresponding sector's growth.

The Caribbean countries' integration into the international market, as measured by the ratio of exports of goods and services to GDP, climbed from 46% in 1990 to 55% in 2008, with that increase being a direct result of the performance of Trinidad and Tobago. The increased share in GDP of foreign trade was the net result of two quite different trends: while the growth of exports of goods outpaced GDP growth between 1990 and 2008, services exports rose more slowly (ECLAC, 2010b, chapter IV).

The qualitative change in these countries' position in the international market is reflected in the decline in the share of total exports represented by commodities from 42% in 1985 to about

37% in 2000, while the share of fuels and manufactures rose by a corresponding amount. In the latter category, the share of exports accounted for by the more technologically sophisticated products had stood at 6% in 1985, but had fallen to 1.4% by 2000, with no significant changes having been witnessed since then (Alleyne and Lugay, 2011). The export structure has also become much more concentrated: the 20 main products that represented 51% of total exports in the mid-1990s amounted to 70% of the total in the mid-2000s. The share of total exports represented by tropical goods (bananas, rum and sugar) shrank a great deal after the European Union put an end to the non-reciprocal trade preferences which it had been granting to Caribbean countries, along with countries in Africa and the Pacific.

4. Natural resources and dynamic efficiency

As in the case of other debates relating to development theory, the controversy surrounding the role of natural resources has moved from antagonistic positions towards a convergence of views. A brief overview of that debate will be given in the following paragraphs, along with a description of the common ground that has now been reached.

Until the mid-2000s, there were two opposing positions in the debate around natural resources and development. According to one school of thought, natural resources can be seen as a factor of production, just like any other. Countries with a generous endowment of such resources should specialize in them in order to capitalize upon the comparative advantages that they offer. This provides them with the foundation they need in order to position themselves efficiently in the world economy, and there is no reason why they should be afraid to embrace the type of specialization associated with an abundant endowment of any given factor of production, be it natural resources, physical capital or human capital. In contrast, and as mentioned in chapter I, other authors have focused on the negative growth effects of “Dutch disease”: appreciation of the exchange rate, the rising cost of some factors of production (including labour) and the corresponding decline in the profitability of other tradables, whose production then ceases to be viable. The loss of such sectors is coupled with the loss of technological and production capacities that are important for long-term growth. This is all compounded by the corruption that often accompanies the capture and distribution of rents from the exploitation of natural resources. The literature on the “natural-resource curse” illustrates this view quite clearly (Sachs and Warner, 2001; Gylfason, 2004).

Another issue that figures in the debate is the adverse effect on income distribution of a reliance on natural resources. These resources are often owned by a select few, and wealth therefore tends to be more concentrated in a society that is heavily dependent on them. Since growth tends to be curbed by a concentration of wealth (Alesina and Rodrik, 1994; Cimoli and Rovira, 2008), this is yet another means by which natural resources stunt growth.

The effect that a concentration of income and the appreciation of the exchange rate have on consumption patterns has been less thoroughly discussed. The subject of consumption patterns in highly unequal societies and their effects on savings and production patterns was pioneered by Celso Furtado and emphasized by other Latin American authors, including, in particular, Fernando Fajnzylber (1983). These authors note that the more sophisticated consumption patterns developed in the advanced countries arose in conjunction with the development of technological and production capacities. In Latin America and the Caribbean, on the other hand, different consumption patterns have spread much more rapidly than technological and production

capacities have. The imitation of advanced-country consumption patterns by the elite and upper-middle class in Latin America may have adverse impacts on accumulation, either by dampening increases in savings or because those patterns entail a very large component of imports and may therefore put pressure on the balance of payments.¹³ Moreover, as access to consumer credit increases, more and more sectors of the population begin to adopt these consumption patterns. This leads to a contradictory situation in which, on the one hand, consumption patterns tend to converge and, on the other, wide productivity and income gaps between countries and between social groups within each country persist. This gives rise to what Fajnzylber called “showcase modernization”, that is, a superficial type of modernization in which the objects produced by technologically more advanced countries are absorbed but the institutional, technological and learning patterns that made their production possible are not.¹⁴ This happens, for example, when environmentally sustainable consumer goods and practices are simply imported but the endogenous capabilities required to use the associated production technologies are not developed.

The empirical evidence provided in the literature on natural resources in the past few years points to a number of factors that need to be taken into account. The first is that the presence or absence of natural resources does not, in itself, determine whether there will be more or less growth. In the long run, income convergence with developed countries has occurred as production diversifies. The significance of the role played by natural resources in promoting or hindering such diversification should therefore be an important consideration when evaluating their contribution to the development process

The second is that there have been a fairly large number of cases of Dutch disease around the world (Sinnott, Nash and de la Torre, 2010).¹⁵ This occurs when macroeconomic prices (especially the real exchange rate and the unit cost of labour) depress the relative profitability of tradables that are not directly linked to natural resources. To avoid this effect, structural and macroeconomic policies need to be put in place that will shift the relative price structure in favour of these goods. In other words, a boom in natural-resource exports will endogenously generate a relative price structure that will need to be corrected by proactive structural and macroeconomic policies in order to avert Dutch disease. A particularly important consideration to be taken into account when designing such policies is that, in Latin America and the Caribbean, Dutch disease has a financial, as well as commercial, dimension. This financial dimension is what Ros (2012) has dubbed the “Mexican disease”. High levels of liquidity in international financial markets have, at various points in time, played a very important role in fuelling currency appreciation.¹⁶

¹³ Hysteresis effects may ensue from certain types of consumer behaviour: when external credit is widely available, imported goods tend to be substituted for locally produced ones, and subsequent changes in the exchange rate may not be enough to reverse that process. This is especially true in elite groups, which have access to more sophisticated products. However, because of the increasing spread of consumer electronics produced in Asia, this phenomenon is being found in more and more sectors of society. Not a great deal is yet known about how this works and, given its potentially strong impact on the dynamics of productive accumulation, more research is clearly called for.

¹⁴ The relationship among income distribution, consumption patterns and industrialization incentives has already been incorporated into conventional models.

¹⁵ Even outside the context of the development debate, the literature on the determinants of international trade draws a clear distinction between static and dynamic comparative advantages and underscores the need to ensure that the former do not drown out the latter.

¹⁶ Unlike export booms, short-term capital inflows are in some cases associated with an increase in foreign-currency debt or greater exchange-rate volatility, which are more likely to destabilize growth.

The third factor is that natural resource ownership and the generation, appropriation and distribution of the associated rents (i.e. their governance) differ across countries. The problems surrounding natural resources (especially energy and mineral resources) in terms of corruption and rent-seeking are an extremely important political economy issue. Rent-seeking behaviour is not confined to natural resources, of course, and its existence was one of the arguments commonly used against the protection of industry in Latin America in the 1960s and 1970s, since it was felt that protection generated rents and prompted management or owners to be more concerned with capturing those rents than with raising productivity. Rent-seeking is also a major factor behind the huge profits made in financial markets both within the region and elsewhere. The entry of short-term capital flows in pursuit of financial rents has much the same effect as natural resource endowments do in terms of the appreciation of the currency and the resulting negative impact on the production structure.

In the case of mining, hydrocarbons and, often, land, resource ownership is concentrated in very few hands. In many cases, the State owns all or a large share of these natural resources (this is the case of oil in Argentina, the Bolivarian Republic of Venezuela, Brazil, Ecuador and Mexico, the case of natural gas in the Plurinational State of Bolivia and the case of copper in Chile). In other cases, large domestic or foreign corporations own these resources and have to be taxed in order for the State to obtain a portion of the rents. Creating institutions that are capable of capturing these earnings and of contributing to the learning process, diversification and capacity-building is one of the most important policy challenges to be met in order to prevent outbreaks of Dutch disease.¹⁷ These rent appropriation mechanisms can be a very important source of funding for the public policies that will be discussed in chapter VI.

The phrase coined by Nugent and Robinson (2010) —“endowments are not fate” —sums up the preceding discussion and implies that natural resources may be a curse or a blessing, depending on what institutions and policies each country chooses. Both the capture and use of rents and the creation of a relative profit structure that does not hamper the growth of non-resource-based tradables are tasks that need to be approached by means of institution-building and policy design.

The process of structural change requires diversification into other activities not directly based on natural resources. For example, if diversification encompasses engineering firms that are working for the mining sector in a given country, the activity in question will be growing with the help of the mining sector but will require capabilities and knowledge that are not spontaneously generated by that sector. The same is true, for example, if diversification moves towards manufacturing components or machinery used in mining production. In both cases, although a close relationship with the competitive base provided by the corresponding natural resource remains, there is a qualitative leap in terms of the type of production capacity and the physical and human capital involved, as well as in terms of the ensuing technological trajectory. These capabilities and technological paths will be very different from those associated with the initial production base, and they may give rise to other new activities and products that may be even further removed from that base. Moreover, the existence of a certain degree of diversification at the outset may be an important factor in determining the intensity of the upgrading and the

¹⁷ A classic problem in collective action theory is that small, organized groups that have a great deal to win or lose if a given law is passed will be more influential than a large number of persons who will benefit from that same law only marginally.

interaction with natural-resource-based sectors. Initial diversification facilitates interaction. The capacities generated by Petrobras in Brazil, which started out from what was already a diversified industrial platform, is one example.

The technological potential of natural-resource-intensive sectors has changed with the advent of new technological paradigms and especially with the introduction of information and communications technologies (ICTs). ICTs have opened up windows of opportunity for developing countries, given the size of their agricultural and mining industries (Pérez, 2008). But in order to take advantage of these opportunities, developing economies have to build new capacities in areas where their pool of knowledge has generally been quite small. The performance of traditional sectors is increasingly tied to capacity-building in leading-edge sectors.

Access to ICTs, their appropriation and their use are all part of a system in which complementarities play a crucial role. For example, although the widespread introduction of mobile telephony in rural areas of Latin America and the Caribbean is allowing agricultural enterprises in the region to leap-frog stages of technological development, the fact remains that income levels, levels of education and the integration of producers into value chains and networks continue to constrain ICT access. In addition, the spread of “technology packages” in which ICTs are embedded in agricultural machinery and expert services acts as a catalyst for the dissemination of technology in the sector. Be all this as it may, the rate of technology adoption and the successful introduction of new technologies continue to depend on the development of domestic capacity that will enable producers to select, implement and utilize these technologies correctly and to interact with them and learn from them (Rodrigues and Rodríguez, 2012). In order to develop linkages, a sector must make the transition from activities that are primarily users of innovations to ones that produce them and that are therefore capable of redefining the conditions for growth, efficiency and competitiveness.

The findings presented in this section mirror the matrix of development patterns discussed in chapter I, which pointed up the existence of an “empty box” that signals the absence in Latin America of cases in which employment and productivity have risen in tandem over a sustained period of time. Within that matrix, a virtuous-cycle pattern was closely associated with structural change. The indicators show that, in those cases where there has been a virtuous cycle (as in the Republic of Korea and the European natural-resource-intensive mature economies), there has been a very rapid shift in production patterns towards knowledge-intensive activities that have close linkages with the economy as a whole. The outcome has been increasing employment coupled with stable GDP growth and ongoing productivity gains. Figure II.2 and table II.2 together show that a virtuous pattern (employment and productivity) is associated with a production structure that has a high level of dynamic efficiency.

5. Sustainable development and structural change

In Latin America and the Caribbean, new, more environmentally sustainable consumption patterns are taking shape, but they have not been accompanied by corresponding changes in the production structure. These new patterns have arisen, in large measure, as an imitation of the more advanced economies’ responses to the evidence of increasing environmental

constraints.¹⁸ In these countries and, more recently, in others such as Japan and the Republic of Korea, greater environmental awareness has emerged, and concerns with environmental sustainability have been incorporated into new knowledge- and technology-intensive sectors. This opens up an opportunity for the region to meld Keynesian (or growth) with Schumpeterian efficiencies with a view to protecting the environment.

The structural change associated with this greater awareness of the need for environmental sustainability fits in with the development of dynamic comparative advantages based on production activities that are both more knowledge-intensive and less intensive in polluting emissions and materials. There is a debate about the confluence of the new paradigm of technological and structural change with environmental parameters (the “green economy”).¹⁹ The varying interpretations of what this term actually means, along with differences across countries in terms of their ability to implement the required changes, have made it difficult to reach a consensus. In order for a true green economy to function, an accumulation process must be in place capable of shaping a new technological paradigm. Many developed countries have advanced in this direction and accumulated significant technological capabilities which have further widened the gaps between them and the developing countries.

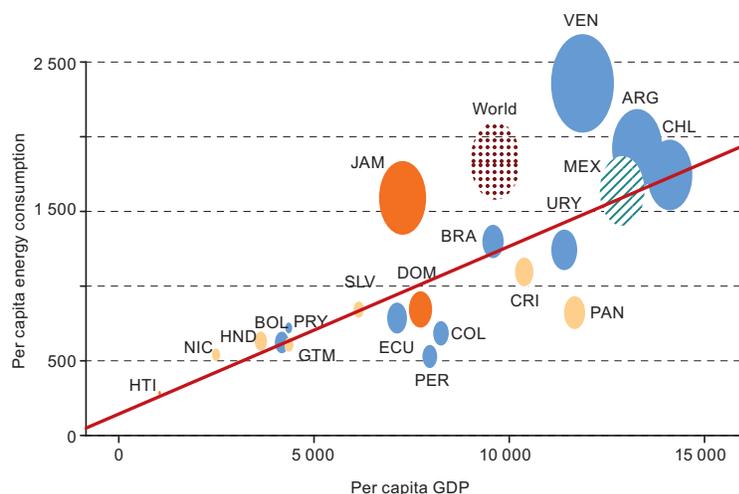
Targeted action has to be taken to find a way of resolving contradictions which cannot be worked out through the endogenous forces of the market process. Although the problem is by no means a new one,²⁰ up to now, environmental sustainability has not been assigned priority in the short term. In Latin America and the Caribbean, the prevailing development style is based on a production structure whose static comparative advantages are founded upon the exploitation of an abundant supply of natural resources, and this channels investment, innovation and technological development in that direction, as well as fostering energy (and especially fossil-fuel) intensity. This is why there is such a strong correlation among GDP growth, energy consumption and emissions of pollutants (see figure II.3). This bias towards the dominant pattern, together with a failure to internalize the costs associated with the deterioration of natural resources and ecosystems, has held back the move towards the types of structural change that would bolster more efficient, more knowledge-intensive and less environmentally harmful activities.

¹⁸ Climate change is the greatest (global) and more irreversible constraint, although there are other more local and regional ones as well. For the purposes of the discussion presented in this study, they will all be referred to as “environmental” constraints.

¹⁹ For example, the Republic of Korea launched a US\$ 38 billion fiscal stimulus package designed to boost the development of 27 technologies closely linked to new green-economy sectors. In the Latin American and Caribbean region, on the other hand, incentives are predominantly targeted at building upon the energy-hungry and emissions-intensive development path. For a detailed analysis of policies aimed at bolstering sustainable development during the recent crisis, see Barbier (2011).

²⁰ Prebisch (1980) observed that: “The exceptional impetus of the last few decades, up to recent times, was the effect not only of impressive technical progress, but also of the irrational exploitation of natural resources, especially energy, which, in turn, markedly influenced the orientation of techniques; [...]. It is only in recent times that technological research has concerned itself at all with the harm inflicted by technique on the environment. Such is the ambivalence of technique: its immense contribution to human welfare by virtue of the continuous increase in productivity, and, at the same time, its serious effects on the biosphere” (Prebisch, 1980).

Figure II.3
LATIN AMERICA: PER CAPITA GDP AND PER CAPITA ENERGY CONSUMPTION, 2008^a
(Kilograms of oil equivalent and 2005 purchasing power parity dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators (WDI) [online database] <http://databank.worldbank.org/>.

^a The size of the circles indicates the level of each country's per capita emissions. The colours correspond to the different subregions: blue: South America; red: Central America; orange: the Caribbean.

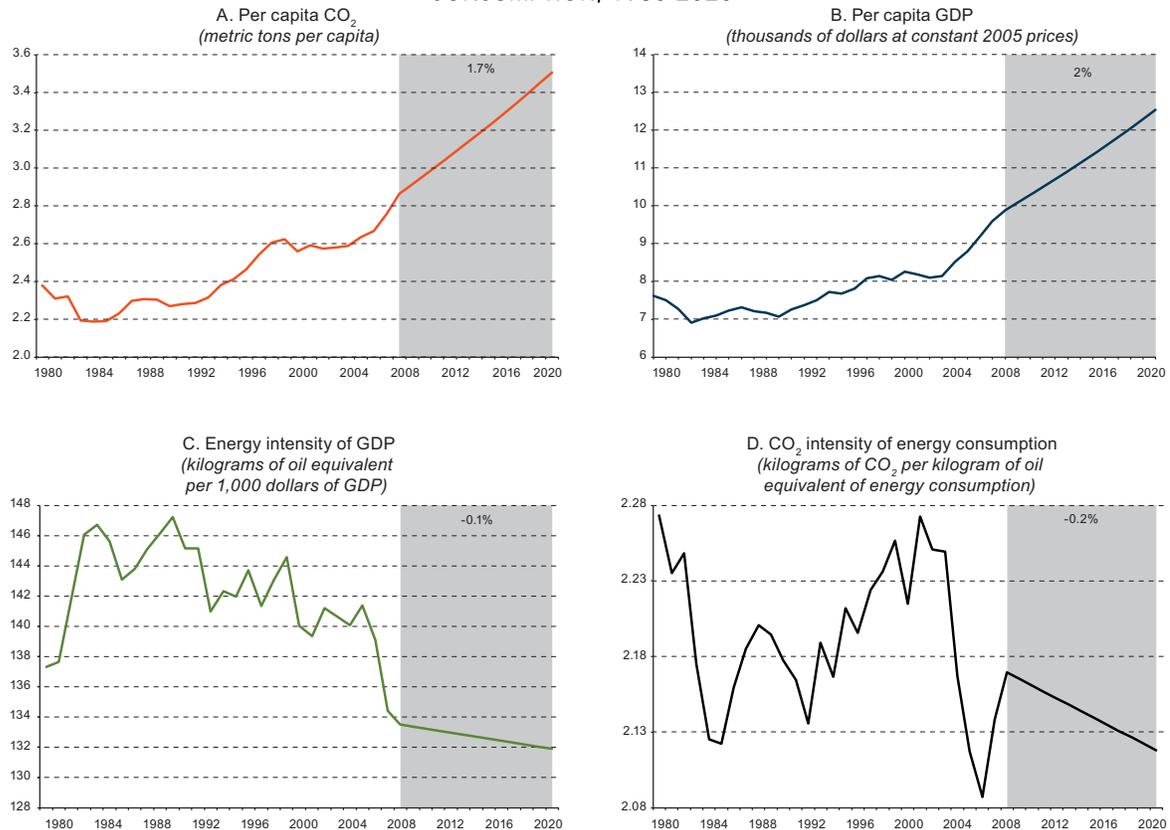
Current production and consumption patterns are unsustainable because they generate huge economic, social and environmental costs which undercut their own medium- and long-term material foundations (Stern, 2007; de Miguel and Sunkel, 2011). Projections to 2020 indicate that, unless the private and public sectors take joint action to bring about a thorough-going technological change, the countries' current growth path will lead them to a situation in which they are faced with ever-greater environmental constraints and will be forced to take more drastic measures (see figure II.4).

The sustainable development challenges faced by the region have become more formidable in recent decades as the evidence of global climate change continues to mount (IPCC, 2007). The aim of sustainable development on a basis of equality is to achieve economic growth through higher productivity growth, while curbing or reversing the destruction of natural assets and of the ecosystems in which they are found. As a result, the virtuous path of growth based on structural change, as proposed in this document, takes into account the negative externalities of production and the intergenerational cost of the deterioration of natural resources and ecosystems. A key strategic direction of industrial policy is to promote structural change that is compatible with environmental sustainability.

Environmental issues are now on the public agenda, thanks more to increasingly strong demands from the public than its inclusion on the economic agenda. The Latin American and Caribbean region is blessed with a very generous endowment of natural capital and biodiversity and has great potential as a provider of environmental services.²¹ It therefore has the natural features that it would need to lay the foundation for structural change that will lead it towards sustainability and innovation, provided that it adopts the appropriate policies (United Nations, 2012).

²¹ Latin America and the Caribbean harbour one third of the world's renewable water resources and 12% of the world's arable land surface, account for one third of the world's bioethanol output, nearly 25% of its production of biofuels and 13% of its petroleum. The region has 65% of the world's reserves of lithium, 49% of its silver, 44% of its copper, 33% of its tin, 32% of its molybdenum, 26% of its bauxite, 23% of its nickel, 22% of its iron and 22% of its zinc; it accounts for 48% of the world's soy output and 21% of the world's natural forests. In addition, it is rich in biodiversity, with 6 of the world's 17 megadiverse countries: Bolivarian Republic of Venezuela, Brazil, Colombia, Ecuador, Mexico and Peru.

Figure II.4
LATIN AMERICA AND THE CARIBBEAN (21 COUNTRIES): BUSINESS-AS-USUAL SCENARIO FOR PER CAPITA CO₂ EMISSIONS, PER CAPITA GDP, ENERGY INTENSITY OF GDP AND CO₂ INTENSITY OF ENERGY CONSUMPTION, 1980-2020^a



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank statistics on greenhouse gas emissions (tons of carbon equivalent), energy consumption, per capita GDP measured by 2005 purchasing power parity dollars, the energy intensity of GDP (kilogram of oil equivalent per 1,000 dollars of GDP) and carbon intensity of energy consumption (kilograms of CO₂ per kilogram oil equivalent of energy consumption).

Note: The shaded parts are projections.

^a Includes Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia, Trinidad and Tobago and Uruguay. For the purposes of the simulation, an annual GDP growth rate of 2% was used, and it was assumed that current energy-to-GDP and emissions-to-energy ratios remain constant.

Many Latin American economies have succeeded in sustaining growth despite the global slowdown, which has opened up opportunities for closing environmentally-related technological gaps. Clearly, the lion's share of expenditure on innovation and development and on patents that will contribute to environmental sustainability (renewable energy sources, electric and hybrid motor vehicles, energy-efficient buildings, water and waste treatment, etc.) is accounted for by Europe, Japan and the United States, but it is nonetheless true that the region has been in the vanguard of some technological innovations that are capitalizing on its natural resources and wealth of ecosystemic resources in ways that have positive social and environmental implications (see box II.1).

Box II.1

TECHNOLOGICAL INNOVATION FOR SUSTAINABLE STRUCTURAL CHANGE IN LATIN AMERICA

One of the most important developments in the global biofuels market is the possibility of producing ethanol from sugar cane. This is a very different type of ethanol from the ethanol that is produced from maize; it is more efficient to manufacture because it requires fewer inputs, is more energy-efficient and does not detract from the country's food security (BNDES/CGEE, 2008).

Brazil is an outstanding example in this respect. Its sugar-cane bioethanol programme is coming up with very promising results, ranging from research into high-yield varieties of sugar cane to the production of motor vehicle engines that can run on any mixture of gasoline and ethanol. The country's efforts in this direction were given a boost by the national PROALCOHOL programme of the 1970s, and this industry now employs some 500,000 people. Brazil has become a technological leader in this respect that others look to as an example and has developed synergies between sugar-cane biotechnology and the automotive industry that feed into supply and distribution infrastructure. Some of these innovations are now being used in other countries of the region as well.

Another example is the National Commission for Knowledge and Use of Biodiversity (CONABIO) in Mexico (Sarukhan and others, 2010), which developed a remote sensing system for the detection of forest fires. In 1998, an extraordinarily hot year worldwide, around 850,000 hectares of forest were lost in that country. In response, in 1999 Mexico launched the Hotspot Remote Sensing Detection Programme. This system receives satellite images eight times each day that are used to detect thermal anomalies, which usually signal forest fires. The report is sent electronically to firefighters in every state in Mexico in under 40 minutes. This system has reduced the damage caused by forest fires by over 30% by making it possible to mount an early response that reduces both the danger to human lives and the damage done. This capacity has been made available to the Central American countries as well, since the CONABIO satellite images include their territories. Outside the region, Germany is using this methodology to detect hotspots in Europe.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Brazilian Development Bank (BNDES)/ Centre for Strategic Management and Studies (CGEE), *Bioetanol de caña de azúcar: Energía para el desarrollo sostenible*, Rio de Janeiro, Economic Commission for Latin America and the Caribbean (ECLAC)/United Nations Food and Agriculture Organization (FAO), 2008; and information provided by the National Commission for Knowledge and Use of Biodiversity (CONABIO) of Mexico.

In the cases discussed in box II.1, as well as in other outstanding examples in the region,²² the State has provided leadership and vision for these efforts. In order to speed and expand the diffusion of sustainable technology, the countries will have to reinstate the central role of public policy based on a system-wide perspective. Price signals will have to be altered in order to permit further structural change and to advance beyond showcase modernization.

The blending of dynamic (Keynesian-growth and Schumpeterian) and environmental efficiencies requires changes to the existing incentive system, so that the region's patterns of specialization in production can be modified, new sectors can be opened up for sustainable development and the region's vulnerability to future environmental constraints can be reduced. These efforts need to be coupled with a consolidation of institutions in order to put in place proactive environmental policies that send out proper price signals and internalize externalities.

From the standpoint of Schumpeterian efficiency, greater opportunities for investing in clean (e.g. low-carbon) technologies can spur long-term economic development. An intensive, fast-paced effort in this direction can generate comparative advantages over the medium and long terms. If this is not done, future demands on the part of developed countries (for example, the reduction of carbon footprints) will nonetheless make these changes necessary, but they will then have to be brought about in a more disadvantageous, costly and reactive manner (Samaniego, 2010). If the global transition to a more environmentally friendly economic system is to work to

²² Examples include biomedical and biotechnological research, the medical uses of copper manufactures, experimentation with new materials, bioplastics, the systematization of knowledge about biodiversity and appellations of origin in international trade.

the region's advantage, the region will have to build its industrial, scientific and technological capabilities and systemic competitiveness (ECLAC, 2008).²³

In the environmental goods and services market, the region is confronted with some constraints both in the development of competitive advantages based on technological advances and innovation and in the achievement of competitive cost levels (even if using mature technologies) in production and service delivery. Even so, a region that is very diverse in natural resources and that can draw upon its indigenous peoples' vast knowledge about the use of biodiversity and ecosystems has a competitive advantage which, if it understands its value and uses it wisely, can allow it to reduce poverty, protect the environment and create cutting-edge, internationally competitive sectors of activity.

The region has an opportunity to close infrastructure gaps by making use of sustainable inputs and products, particularly in the areas of transport, water and sanitation, housing and energy, which will help to improve the living conditions of the poorest sectors of society. While making the transition to sustainable infrastructure is a matter of urgency in many parts of the region, it is even more so in the areas that are most vulnerable to the effects of climate change.²⁴ While many ways of building environmentally sustainable infrastructure are inclusive and beneficial for those involved, the countries must nonetheless deal with a number of institutional shortcomings and obstacles in implementing them.²⁵

Incomplete urbanization processes offer production opportunities that can be merged with advances in environmental protection. The construction of sustainable "smart cities" can also help to engender a better, more efficient and more competitive business environment that is also more flexible in terms of structural change. This type of environment can engender social benefits that will act as incentives for new types of demand.²⁶

In sum, given the need to make the transition to a development model founded on the principle of equality that can permit progress to be made in terms of social development, economic growth and environmental sustainability at one and the same time, the region and the entire world are confronted with an imperative for change. The establishment of a paradigm of sustainable development with equity can go hand in hand with structural change if active policies and effective economic management systems are put in place that reflect the true cost of environmental degradation, biodiversity loss and large carbon footprints that are putting global climate security at risk.

²³ The United Nations Conference on Trade and Development (UNCTAD) has explored the potential of "green growth poles" as focal points for the promotion of energy efficiency, agriculture and renewable energy sources, as well as of low-carbon foreign direct investment (UNCTAD, 2010).

²⁴ The region is highly vulnerable to natural disasters, which will increase in intensity as climate change progresses. The cost of their impacts and of adaptation will be high, and the region would therefore stand to gain from a determined effort to reach a global emissions mitigation agreement that took signatories' differing levels of development into account. If global CO₂ emissions are to be reduced enough to stave off a climate crisis of unknown consequences for human life and the planet's ecosystems, current patterns of production, transport, consumption, energy use, land use and urban planning will have to be changed radically.

²⁵ The authorities frequently adopt piecemeal, short-run solutions rather than opting for more sustainable types of infrastructure as a consequence of institutional failings, the existence of supply networks that have taken shape under the influence of a regulatory framework that does not take externalities into account, high interest and discount rates, the brevity of political cycles and the pressure exerted by a growing population with basic unmet needs.

²⁶ The low-carbon infrastructure of smart cities opens the way for high-quality public transport, housing that incorporates new technologies and new types of materials, efficient water and energy use, efficient waste disposal, and urban planning systems that take areas prone to the impact of natural disasters into account.

C. International specialization and long-term growth

1. Externally balanced growth

In chapter I, it was shown that, in order for growth to be sustainable over the long run, export and import patterns should keep the current account deficit in relation to GDP within manageable levels (Moreno-Brid, 2003; Alleyne and Francis, 2008; Thirlwall, 2011). The line of causation will be traced below.

Limited diffusion of technical progress (at the international level and within developing economies, for the reasons outlined in section B.1) leads to a fairly undiversified production structure in which exports are largely made up of just a few commodities and which does not internalize the more knowledge-intensive activities involved in their production. When evaluated taking a long-term view, the goods in which the region specializes exhibit a low income-elasticity of demand for exports (ε). This long-term trend does not, of course, preclude more favourable short-term situations determined by the commodity lottery.

On the other hand, the generally undiversified nature of the production structure also means that the income elasticity of demand for imports (π) is very high. More specifically, the absence of linkages in its production matrix means that the region is heavily dependent on imports for investment and capital accumulation. This pressure on imports is augmented by highly imitative consumption patterns.

Thus, the most important determinant of elasticities is the way in which the production structure responds to internal and external demand. A high income elasticity of exports (ε) compared with the income elasticity of imports (π) is associated with a production structure that successfully adapts to worldwide and national demand in dynamic goods and services markets or segments. By contrast, where exports are much less income-elastic than imports, the current account deficit will tend to expand relative to GDP during high-growth periods (McCombie and Thirlwall, 1997; Blecker, 2011). Although the deficit can sometimes be supported by foreign capital inflows in the form of foreign direct investment, portfolio investment or debt flows, financing an expanding current account deficit will prove difficult in the long run, especially in a world in which international financial markets are highly volatile. The behaviour of elasticities is therefore an important indicator of an economy's capacity for externally balanced growth; the larger the ratio of elasticities, the higher the rate of balanced growth, all other factors being constant.²⁷

The ratio of the income elasticities of exports and imports (ε/π) is determined by a number of factors, including the domestic and external production structures, demand patterns, technological patterns, the existence or absence of trade barriers, the nature of export financing mechanisms, and the types of tariff and non-tariff protective measures that are in place. The level of the real exchange rate and its volatility can also affect elasticities by influencing the production structure, especially the proportion of tradables produced relative to non-tradables, as will be seen in section D.

The important point here is that there are structural factors which underlie the trends in these elasticities: the response of imports to growth and the ability to keep the balance by achieving an

²⁷ See Rodríguez (1997) and Thirlwall (1979). Thirlwall (2011) has observed that this ratio had already been pointed out, in a statistical context, by Roy Harrod.

equally strong increase in exports (one that is capable of pulling the entire production apparatus along with it on a high-growth path) is a dynamic that is associated with the complexity, diversification and knowledge-intensity of the production matrix. In order to create a production structure with dynamic efficiency, industrial policies need to be put in place with a view to building up endogenous technological capabilities (Cimoli and Porcile, 2011) (see annex I.2).

More knowledge-intensive activities and sectors need to be internalized and the basket of goods and services that the region's economies produce needs to change in order to reduce the technological and productivity asymmetries that exist between the region and the rest of the world. The diversification and upgrading of the production structure open up more opportunities for international specialization in intra-industry trade.²⁸ Conversely, a very marked concentration in the production of a limited number of homogeneous, non-knowledge-intensive products reduces the scope for specialization. A higher level of knowledge-intensity in the production structure does not act as a substitute for trade, but instead opens up a broader range of trade opportunities and enhances the benefits of specialization.

2. Elasticities and the production structure

This section will take a look at how the income elasticities of the exports and imports of the various subregions and economies of the region have changed over time. An analysis of the cases of South America and Central America will be followed by an examination of the three largest Latin American economies – Argentina, Brazil and Mexico – using a different methodology (the multisectoral model of Araujo and Lima (2007) and Gouvea and Lima (2010)) to relate income elasticities of exports and imports to structural change. The multisectoral model has two important advantages: first, it makes it possible to observe the differences in the income elasticities of demand of the different sectors (classified by their degree of knowledge intensity); and, second, it makes it possible to analyse how changes in the export and import structure affects the income elasticity of exports and imports.²⁹

(a) Elasticities by subregion

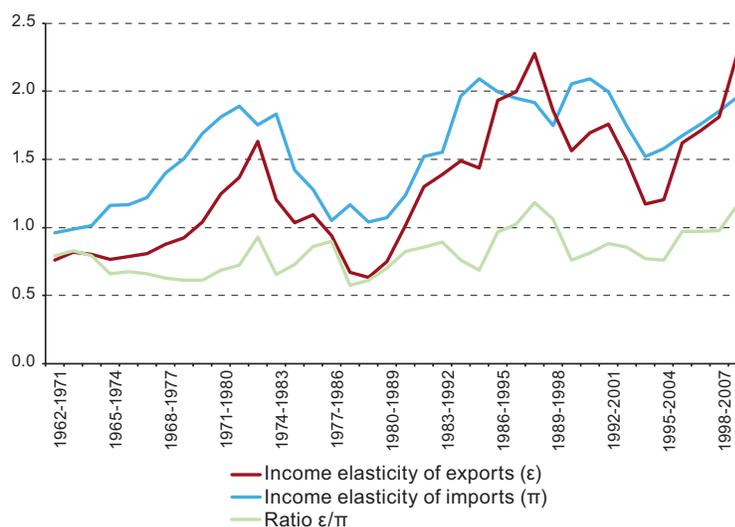
In South America the income elasticity of imports increased significantly at three different points in time (see figure II.5). The first was during the initial cycle of external borrowing, which was associated with the expansion of international liquidity in the second half of the 1970s. The features of this cycle, as well as the effects of capital inflows on the exchange rate and the production structure, have already been discussed in chapter I. As will be seen later on, changes in

²⁸ In the early 1960s, ECLAC was drawing attention to the need to diversify exports, especially of manufactured goods. Prebisch (1986, pp. 212-213) recalled that he first criticized exaggerated forms of protectionism in 1961 in his treatise entitled *Economic Development, Planning and International Cooperation*. That same year, Prebisch noted that all industrialization activity was being directed towards import substitution while opportunities for industrial and new commodity exports were being neglected. He went on to observe that the common regional market and the development of industrial export trade among Latin American countries would lower production costs and open up opportunities for some industries to export to the rest of the world. He concluded by saying that policy incentives and cooperation with the major central economies could leverage this process.

²⁹ The elasticities for South America and Central America were estimated using the recursive regression methodology proposed by Pacheco and Thirlwall (2007) and the statistics for exports and imports of goods and services available in CEPALSTAT. The data used to analyse the sector-by-sector composition of exports and imports as input for the multisectoral model are from the United Nations Commodity Trade Data Base (COMTRADE), which contains statistics on trade in goods, but not trade in services.

the production structure (particularly those that entail the loss of tradables sectors as a result of exchange-rate appreciation and volatility) resulted in a weaker (less integrated) production matrix with higher income elasticities for imports.

Figure II.5
SOUTH AMERICA: INCOME ELASTICITIES OF IMPORTS AND EXPORTS, MOVING AVERAGES, 1962-2007



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>.

Imports plummeted in the 1980s as a result of the debt crisis and the depreciations that occurred in its wake (along with the downturn in investment). In the late 1980s and early 1990s, however, once the region had regained regular access to external credit (with the advent of a new cycle of trade liberalization, exchange-rate appreciation in some countries and a more generous supply of external capital), there was another upswing in the income elasticity of imports which brought it to even higher levels than those seen in the 1970s. Although it is difficult to determine exactly what the main cause of this steep rise was, the production sector's domestic capacity had been hard-hit during the "lost decade" and at this point was unable to respond to economic growth trends as it had done in the past. More specifically, as a consequence of the downturn in investment in the 1980s, domestic supply capacity in the 1990s was weaker, not only in terms of installed capacity, but also in terms of the technology needed to compete in a world where the pace of technical progress had accelerated.

The income elasticity of exports is generally lower than the income elasticity of imports, but, towards the end of this period, it climbed so sharply that the quotient of these elasticities was greater than unity. The lack of any industrial policy in most of the South American countries in the 1990s and subsequent years impeded a further diversification of production and of exports of goods and services.

The decrease in the income elasticity of imports in the 1980s and late 1990s did not stem from the existence of greater domestic linkages or from diversification into more knowledge-intensive sectors but rather from the contraction in investment and consumption sparked by the

countries' need to service their debts. This entailed a cost in terms of the accumulation of physical, human and technological capital that dampened the next growth cycle.

A high income elasticity of imports should be a cause of concern only if it is not counterbalanced by a high income elasticity of exports. What is important is the relationship between the two variables. Thus, a steep increase in imports should be matched by a commensurate rise in exports in order to avert cumulative imbalances. It is particularly important to strike a balance in the ratio of current account deficit to GDP. In order to obtain the potential benefits of international trade in the form of increasing returns, technology and knowledge, the best possible scenario for a country is to sustain strong growth in both imports and exports, in line with long-term external equilibrium.

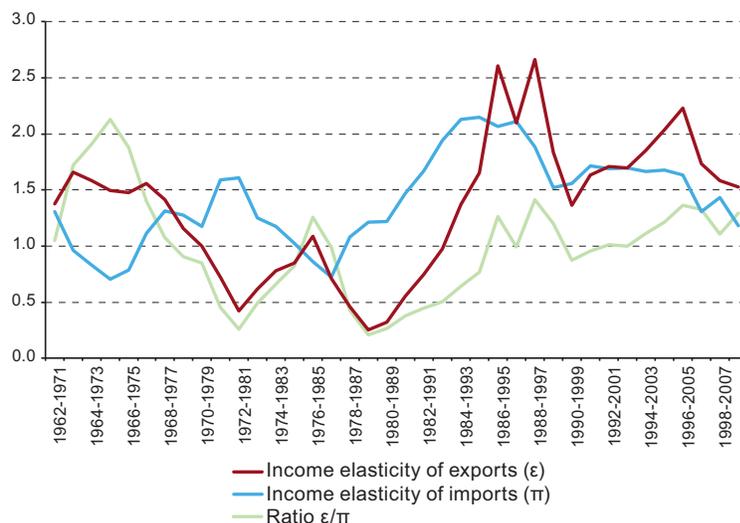
This virtuous-circle pattern of integration into external markets did not occur in South America. With the exception of a brief period in the late 1980s and first half of the 1990s, the income elasticity of exports was lower than the income elasticity of imports. As a result, the ratio of the two was generally less than unity. Towards the end of this period, the new demand patterns that arose from rapidly growing Asia (especially China) began to spur exports of natural resources. The income elasticity of exports rose accordingly, and the ratio of elasticities improved, approaching unity in the late 2000s.

In the case of Central America, a strong improvement in the income elasticity of exports was seen in the 1960s as subregional integration efforts gained ground. Later on, in the 1970s, the ratio of elasticities fell sharply as the pace of growth in the world economy slackened and protectionism increased in the developed world. This was a time when the subregional integration process failed to make further headway and, in some cases, actually lost ground. In the mid-1980s, the income elasticity of imports and, later, of exports began to climb quite steeply. The income elasticity of exports increased more quickly, with the ratio rising to a level greater than unity by the 2000s. The reason for this change lies in the greater diversification of the production structure in Central America with the expansion of free-zone assembly industries, other non-traditional agricultural exports and investment in services such as tourism.³⁰ Meanwhile, however, a negative shock was generated by the deterioration in the terms of trade triggered by higher natural resource prices and competition from Asia in labour-intensive industries.

In sum, the combination of sweeping changes in the global economy and the domestic policies put in place by the countries of the region has caused the income elasticities of exports and imports to change over time. In South America, the income elasticity of exports remained below that of imports until the mid-2000s. In Central America, there has been a greater diversification of exports, and this has had a positive effect on the ratio of elasticities, which has stood above unity since the late 1990s.

³⁰ Although trade statistics do not include remittances from Central Americans working in the United States, these remittances are becoming increasingly significant in reducing vulnerability in the balance of payments.

Figure II.6
CENTRAL AMERICA: INCOME ELASTICITIES OF EXPORTS AND IMPORTS, MOVING AVERAGES, 1962-2007

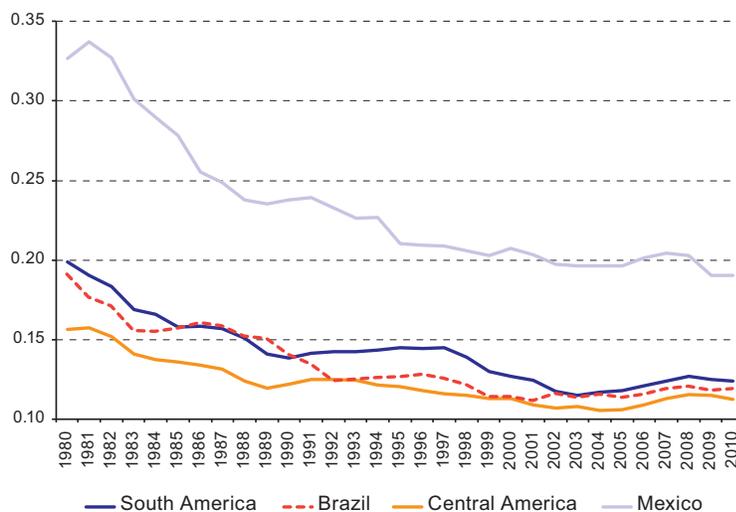


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>.

(b) Parallel changes in the production structure

Changes in income elasticities are closely tied with changes in the production structure. This can be seen by looking at two of the indicators used in the preceding section: relative productivity (using the United States as a benchmark) and the number of patents per million people. Two factors stand out when relative labour productivity in Latin America is compared with that of the United States (see figure II.7).

Figure II.7
LATIN AMERICA: RELATIVE LABOUR PRODUCTIVITY COMPARED WITH THE UNITED STATES, 1980-2010



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT [online database] <http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp/>; World Bank, World Development Indicators [online database] <http://databank.worldbank.org/>; Organization for Economic Cooperation and Development (OECD), The Labour Force Survey (MEI) [online database] <http://stats.oecd.org/>, 2012.

The first is the downward trend in relative labour productivity up to 2004, which widened the gap between the region and the United States. This occurred in both South America and Central America. The upward trend observed since 2004 is encouraging, but still quite tentative. A portion of the economic literature supports the view that, initially, the existence of some technological lag can be good for a country because it opens up opportunities for diffusion and convergence via technological spillovers. The data suggest, however, that not enough of this type of diffusion has occurred in the region to narrow the productivity gap. Increasing returns to technological innovation in advanced countries are actually widening their advantage over less technologically sophisticated countries. As stated earlier, imitation is not a simple or passive process but instead demands a huge investment in the learning process, and this type of effort has not been in evidence in the region, or, at least, not to the extent that would be necessary to reduce the gap.

The second is that the downward trend in relative productivity is not linear. Crisis periods (the 1980s and 1998-2002) trigger decreases from which these economies do not manage to fully recover afterward. In a world where technology is advancing so swiftly, a long, drawn-out crisis is not just a temporary setback, and a country that is lagging behind may not be able to regain the level of productivity that it had before the crisis. Figure II.7 illustrates the fact that post-crisis recoveries have fallen short of pre-crisis productivity levels, thereby generating this downturn in relative productivity. The post-2004 recovery shows positive Kaldor-Verdoorn effects at work, but there is a great deal of ground to be regained.

As for the other indicator, there has been an upward trend in the number of patents per million people since the late 1990s, with this trend being stronger in South America (see figure II.8). This upswing has been far smaller than in other world regions, however, and especially than in Asia. The patents taken out in the Republic of Korea for this period were not included in the figure because they are so much higher than anywhere else. In fact, in the early 1980s, the Republic of Korea had only one third as many patents per million people as Mexico did; in 1990, it had 10 times as many as Mexico did; and by the late 2000s, it had over 350 times as many.³¹

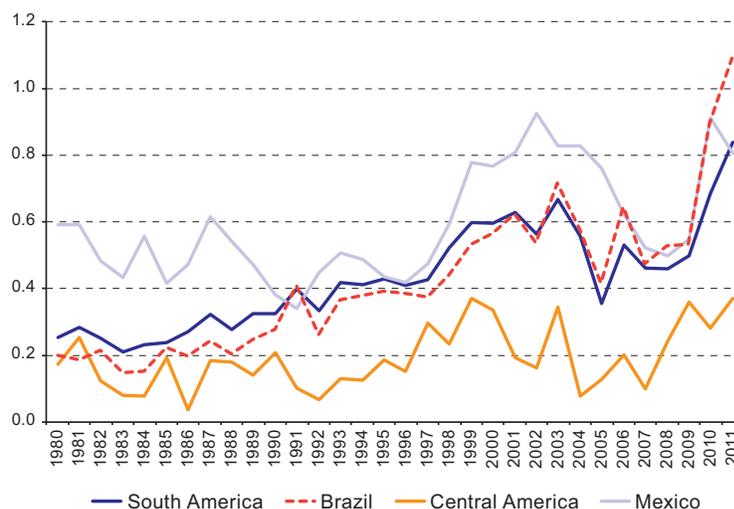
The “Red Queen Paradox” is in full swing: one has to run in order to stay in the same place. Latin America has not run fast enough, and the indicators on structure, productivity and the learning process attest to this.

The downturn in relative productivity in Central America and the low number of patents in that subregion reflect the fact that the upswing in the ratio of the elasticities of exports and imports in Central America is in large part a result of its free-zone exports, which generate few production or technological linkages with the rest of the economy. Thus, while diversification has had a positive effect on exports from Central America, the subregion is still faced with an industrial policy challenge. South America is confronted with a similar challenge, since the improvement in the ratio of its elasticities towards the end of the period under study is not a reflection of endogenous capacity-building either. Instead, this is the outgrowth of new patterns of global demand that have galvanized its traditional export markets. In other words, the higher quotient of elasticities in South America in recent years is a result of endogenous capacity-building and convergence in the Asian—not the Latin American—economies, which have (at least for the time being) redrawn the global trade map in a way that has benefitted the region’s natural-

³¹ Mention has already been made of biases inherent in the use of the number of patents per million inhabitants as an indicator of technological capacity. Be that as it may, the trend in that indicator simply confirms, in a much more striking form, the situation as depicted by trends in relative productivity.

resource exporters. South America has yet to take up the challenge of converting the exogenous growth impulses generated by Asian demand into endogenous changes in its production patterns that will enable it to internalize long-lasting economic development forces.

Figure II.8
LATIN AMERICA: NUMBER OF PATENTS PER MILLION PEOPLE, 1980-2011



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the United States Patents and Trademark Office (USPTO).

(c) Argentina, Brazil and Mexico: a multisectoral model

An analysis of economic aggregates does not provide a clear enough picture of the link between structural change and elasticities. This link can be seen more clearly by its effects on the trade structure. In this subsection, the cases of Argentina, Brazil and Mexico (the region's three largest economies) will be analysed using a multisectoral model in which products are divided (using Lall's classic classification (2002)) into five categories: primary products (or commodities), resource-based manufactures, low-technology manufactures, medium-technology manufactures and high-technology manufactures (Gouvea and Lima, 2010; Jayme, Moreira and da Cunha, 2007). As noted in the literature, this classification suffers from some significant biases and limitations, but its results nonetheless provide useful information that contributes to a better understanding of the structural foundations of external vulnerability. The analysis shows that these three economies share certain features but also diverge from one another in significant ways. Some of their shared characteristics will be examined below.

One of these common elements is that the income elasticities of export demand are higher in medium- and high-technology sectors than they are in other sectors. This fits in with the idea that Keynesian (or growth) and Schumpeterian efficiencies go hand in hand with one another. The lowest elasticities are found in commodity sectors, while the elasticities for resource-intensive manufactures are, on average, very similar to those for low-technology manufactures (see table II.5 and annex I.3). Changes in the income elasticities of exports are associated with increases in medium- and high-technology sectors' shares of total exports. Information on trends in the income elasticities of exports and imports (and their ratio) and in the composition of exports and imports, classified into five product groups, for three countries of the region and two benchmark countries is available in annex I.4.

Table II.5
ARGENTINA, BRAZIL AND MEXICO: INCOME ELASTICITY OF EXPORTS, BY SECTOR, AVERAGE 1962-2008^a

Sector	Commodities	Resource-based manufactures	Low-technology manufactures	Medium-technology manufactures	High-technology manufactures	Other	Mean
Argentina	0.70	1.05	0.95	1.72	1.48	0.90	1.13
Brazil	0.75	1.41	1.26	1.91	2.15	1.54	1.50
Mexico	1.30	1.22	1.54	2.27	2.03	1.31	1.61
Mean	0.92	1.23	1.25	1.97	1.89	1.25	1.41

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Elasticities are estimated on the basis of cointegration regressions.

Another is the sizeable increase in the income elasticities of import demand in the 1990s that occurred for reasons that have already been discussed: the abandonment of earlier policies designed to spur structural change without having introduced a new industrial policy package to take their place, a rapid process of trade liberalization in conjunction with an appreciation of the countries' currencies, and the impact that the downturn in investment had on the production structure during the lost decade of the 1980s.

There are also significant differences among these countries that stem from their implementation of differing industrial and macroeconomic policies during certain periods. The policies adopted by these three countries in the 1970s are one example. Argentina embarked on a first attempt at trade and financial liberalization in 1976-1981 that was cut short by the debt crisis, while Brazil, during the same period, made inroads in import substitution and export promotion.³² The situation in Mexico in the 1970s represents an intermediate case, since Mexico neither pursued the implementation of substitution policies nor adopted a liberalization policy like Argentina's, while the discovery of vast oilfields allowed Mexico to become a major oil exporter in the second half of the 1970s.

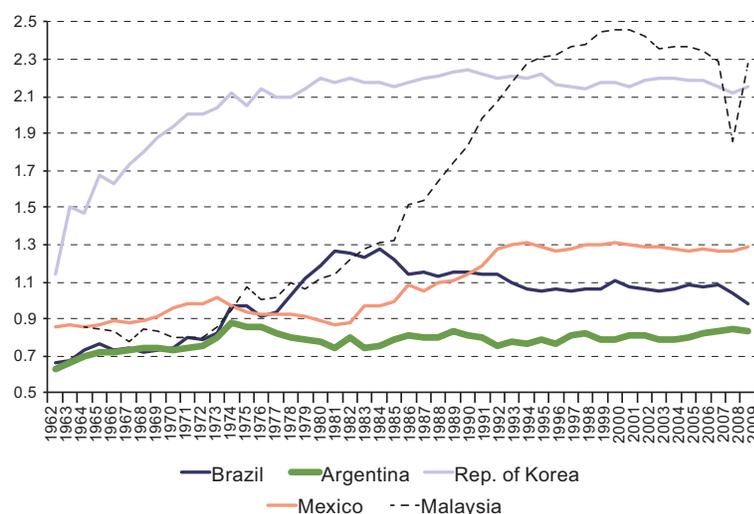
Considerable differences can also be seen in the 1990s. Between 1990 and 2002, Argentina implemented a fixed exchange-rate regime in combination with a trade liberalization policy. The real exchange rate appreciated sharply and the tradables sector had to make a radical adjustment (described in chapter I as a "defensive adjustment"). In Brazil, the exchange rate also appreciated while the Real Plan was in place (1994-1999), but to a lesser extent because Brazil was using a more flexible exchange-rate regime. In addition, even though industrial policy lost ground in Brazil, as in other countries of the region, some policy instruments, such as the financing from the National Bank for Economic and Social Development (BNDES), remained in place. All of these factors helped to avoid as sharp a drop in the ratio of elasticities as was seen in Argentina in the 1990s. In the case of Mexico, the factor that set it upon a different track from the path followed by Argentina and Brazil was its involvement in the North American Free Trade Agreement (NAFTA) starting in 1994. The major adjustment effort that this required, along with the special regimes introduced to spur imports for re-export, boosted the elasticities of both exports and imports. Since the response of imports was less robust, the ratio of elasticities rose during the 1990s.

³² In 1974 (in response to the first oil shock and the ensuing worldwide recession), Brazil adopted a more thorough-going import-substitution policy under its second national development plan. It drew upon the abundant supply of international credit that was available in the second half of the 1970s to invest heavily in the establishment of highly capital- and scale-intensive intermediate and capital goods sectors.

Finally, trends in the income elasticity of exports and imports also diverged in the 2000s. The income elasticity of exports in Argentina trended upward in the latter part of the period under study, while it fell in Brazil. This could be accounted for by the sharper appreciation of Brazil's currency and its effects, from one time period to the next, in terms of the decline in the production of goods that compete with imports. In Mexico, the shift towards free-zone exports was clear to see, together with a considerable increase in the income elasticity of exports. It should not be forgotten, however, that these exports' production linkages with the Mexican economy are rather weak, and they therefore have a less positive impact on growth than they would otherwise have.

A comparison of these results with the figures for two Asian countries —the Republic of Korea and Malaysia— (see annex I.4) points up a number of interesting trends, including a rapid increase in higher-technology exports and the rising ratio between the income elasticities of exports and imports. The ratio of elasticities is over 3.5 in Malaysia and is nearly 4 for the Republic of Korea, whereas this same ratio is less than unity in Argentina and is only slightly greater than unity in Brazil (see figure II.9).

Figure II.9
ARGENTINA, BRAZIL, MALAYSIA, MEXICO AND REPUBLIC OF KOREA: ELASTICITY RATIOS, 1962-2009



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from United Nations Commodity Trade Database (COMTRADE) and World Bank, World Development Indicators.

Note: The elasticity ratio is equal to the income-elasticity of exports divided by the income-elasticity of imports.

In short, the estimate of income elasticities for exports and imports reflects changes in the weight of sectors having differing technological intensities. In addition, structural changes lead to changes in the composition of exports and imports over time that reshape the income elasticities of the economy as a whole (which are a weighted average of the elasticities in the various sectors). These compositional changes are the result of the interaction between external shocks and policies which alter the pattern of specialization. The paths followed by the countries of the region in this respect differ, depending on their industrial policies, macroeconomic policies and institutions. In the long run, an increase in the ratio of elasticities will be associated with an improvement in their economic performance, and a comparison between Asian countries and the region's three largest economies confirms this. Meanwhile, caution should be used in interpreting the results. A growth

rate that is in keeping with long-term external equilibrium entails variables that are not strictly related to trade, and the existence of free-zone exports can lead to an inaccurate assessment of the technological capacities associated with a given production structure.

D. Real exchange rate and patterns of specialization

Balance-of-payments shocks affect macroeconomic performance and growth through a number of channels. These include exchange-rate appreciation during capital inflow and commodity booms and sharp depreciation and overshooting in times of crisis, both of which drive up the volatility of the exchange rate and relative rates of return. Other channels are procyclical lending and interest rate behaviour and the impacts of microeconomic adjustments on learning trajectories, on the installed capacity utilization rate and on employment.

These factors will be discussed in greater depth in later chapters. This section looks at one in particular, the real exchange rate (RER),³³ which has played a key role in defining specialization patterns and the direction of structural change (Cimoli, 1992). This role has been discussed in recent literature on growth and structural change (McMillan and Rodrik, 2011; López and Cruz, 2000; Frenkel and Taylor, 2006; Frenkel and Ros, 2006; Bresser-Pereira and Gala, 2008; Frenkel and Rapetti, 2011). The impacts of RER level and stability are not neutral from one sector to another: a higher RER can favour goods-producing sectors with higher knowledge content for two reasons. First, because it favours tradable goods and services, many of which have higher technology content than the non-tradable goods and services most commonly found in developing economies, where commerce and unskilled personal services account for a significant share of the economy. The second reason has to do with the drivers of the competitiveness of different types of goods. Natural-resource-intensive goods continue to be exported even at very low exchange rates, because their competitiveness depends chiefly on resource endowment. Conversely, RER is crucial in sectors whose competitiveness relies on technological capacities, and in which productivity gaps work to the detriment of the region's firms. A competitive, stable RER allows new entries into activities where technological asymmetries exist (as long as they are not too large).³⁴ Lastly, the literature suggests that exchange-rate stability has a substantial impact on growth (Schnabl, 2007).³⁵ Volatility worsens uncertainty and depresses investment, especially in tradables. A highly volatile exchange rate represents a barrier to the large investments needed to enter into business in foreign markets.

The outcomes of two econometric exercises are described below (see details in annex I.5). The first exercise consists of three dynamic panel regressions performed for 111 countries for the period 1965-2005, using export concentration as the dependent variable (measured in three different ways, using the Gini, Theil and Herfindahl indexes: GI, TI and HI, respectively). In the

³³ In this section, the real exchange rate is defined as $RER = P^*e/P$, where P^* is the level of international prices, e is the nominal exchange rate (dollars per unit of local currency) and P is the level of prices in the relevant economy. There are different ways of defining the real exchange rate, and these will be discussed and used in chapter IV. This section uses the bilateral real exchange rate against the dollar, as in the Penn World Tables published by the University of Pennsylvania.

³⁴ Empirical evidence tends to confirm that RER plays a role in the diversification and technology content of exports. For example, Freund and Pierola (2008) emphasize the role of the exchange rate in the emergence of new export products, which is in turn associated with rapid growth periods. Eichengreen (2008) concludes that a competitive RER boosts growth by providing an incentive to shift resources into manufacturing, which immediately raises productivity. Similar findings are reported by Sekkat and Varoudakis (2000); Berg and Miao (2010); and Rodrik (2008).

³⁵ See also Eichengreen and Leblang (2003).

second exercise, the dependent variable was the weight of medium- and high-technology sectors in total exports (according to Lall's classification) for 110 countries over the same period. The explanatory variable was the level of RER and control variables included stocks of physical and human capital and the influence of natural resource endowment captured through indicators of agricultural, energy and mining stocks. Accordingly, the role of RER is discussed alongside the impacts of factor endowment, as traditionally proposed by international trade theory. Including a proxy for natural resources also allows us to assess whether the "curse" effect of natural resources exists from the point of view of diversification.

The control variables also included the economy's per capita GDP, as a proxy for efficiency, and its degree of economic openness ($(X+M)/GDP$) to control for the effect of protectionist policies or other barriers to trade that might affect the composition of trade flows. The proxy for trade openness also helps to isolate the effect of country size, since larger countries tend to have a lower ratio for $(X+M)/GDP$. The main conclusions of the exercises were as follows.

- Export diversification responded positively to RER. In all the model specifications and for all the diversification indicators used (Gini, Theil and Herfindahl indexes), RER was positively and significantly associated with export diversification (lower Gini, Theil and Herfindahl values). The results are therefore very robust.³⁶
- The technology intensity of exports (reflected in the weight of medium- and high-technology sectors in total exports) was also positively associated with RER. This result, too, was found to be robust for different model specifications.
- Human and physical capital promote export diversification and a higher proportion of technology-intensive exports. This has to do with greater supply capabilities, the prevalence of technology and the scales of the production process across a broad spectrum of manufactures. The effects of the control variables representing accumulable factors of production were not robust for all specifications, however.
- The regressions showed that the inertial component, or path-dependence, was an important factor in diversification. The more concentrated exports were at the starting point, the greater the tendency for them to remain so in the following period; the larger the proportion of medium- and high-technology sectors at the starting point, the larger it will be in the following period. The weight of the inertial component confirms the persistence of the pattern of specialization over time and is consistent with the idea that short-term shocks have long-term effects. There is a very strong thesis of rigidity in capacities, specialization patterns and structural change in the evolutionist strand of technical progress theory. The evidence found supports that perception and sends a clear signal in terms of policies, since it confirms their role in correcting limited diversification. Policies are necessary to counteract the endogenous forces that tend to reproduce existing patterns.
- Natural-resource endowments —arable land and energy and mineral resources per capita— tend to reduce diversification and the weight of the medium- and high-technology sectors in total exports. But this effect disappears —in the case of minerals and agriculture, but not for energy resources— when human capital is used as a control variable.

³⁶ These results coincide with ECLAC (2007), although that study used different indicators.

How may we interpret the ambiguous impacts of natural resources on export diversification and knowledge-intensity? They may be read in the light of the discussion in the previous section, which argues that natural resources are not per se either a curse or a blessing. They have a negative effect only when they reduce an economy's human capital endowment, i.e. when their rents are not channelled towards education and training. Conversely, when the effect of the human capital endowment is controlled by including it among the explanatory variables, the negative influence of arable land on diversification and knowledge content of exports turns positive. Likewise, the negative effect of mineral resources on export diversification and knowledge-intensity ceases to be significant when the effects of human capital endowment are filtered out. In other words, the "curse" effect of natural resources exists only where they have a negative impact on capacity accumulation, especially on human capital.

Using RER as a policy instrument can cause problems on other fronts and a rise in the RER is not always conducive to growth. A first point to consider is that the real exchange rate cannot depreciate in all countries simultaneously. RER is a useful instrument for developing economies during a certain period and within certain limits, but it imposes costs on the rest of the world, with the risks —visible today— of exchange-rate wars, especially when large economies resort to competitive devaluation. A win-win situation for all countries would require globally coordinated growth policies. Unless expansion is coordinated and the costs of adjustment are distributed proportionally among countries with trade surpluses and deficits, the resulting trade tensions may prompt countries to defend their trade interests through protectionist measures (Cimoli, Dosi and Stiglitz, 2009).

A second point to consider is that a higher RER is often associated with falling real wages. Exchange-rate depreciation boosts competitiveness by reducing the unit cost of labour, thereby lowering real wages at given productivity levels. At least in the short run, therefore, a policy aimed at keeping RER competitive can compromise the equity objectives of economic policies. In the medium term other effects emerge: (i) export expansion may generate processes of leaning, investment and economies of scale that raise competitiveness, and raise real wages over time; (ii) formal employment levels may rise significantly, increasing the share of workers in national income by lifting them out of the informal and subsistence sectors. In this regard, it bears mentioning that the positive effects of rising formal employment on productivity and real wages over the medium and long terms would be felt earlier if education and investment were bolstered through industrial policies. Accordingly, industrial policies for structural change are needed to relieve the dependence of output and employment growth trajectories on RER. This issue is discussed in detail in chapter VI.

In other words, without a competitive RER, industrial policies cannot conquer external markets or appropriate their benefits in terms of scale and productivity; but policies basing competitiveness only on RER lead to long periods of spurious competitiveness and persistently high inequality. This brings us back to a point mentioned in chapter I: the importance of macroeconomic policies and industrial change policies acting together to sustain a virtuous growth pattern.

A third and final factor to consider in the management of RER is the possibility of inflationary effects. Economies with a higher RER tend to grow more, but also experience higher inflation (Frenkel, 2008). This not only has distributive implications, but also offers cause for concern in economies with a high-inflation history, like many in the region.

Even with these caveats, a competitive RER remains a variable for policy strategy. At the least, the international experience and the literature clearly suggest that economies should avoid exchange-rate appreciation associated with short-term capital inflows and international liquidity cycles, which have underlain several of the worst crises in the region since the mid-1970s. Lastly, RER volatility has a negative impact on growth, as discussed in the international literature (for example, see Eichengreen (2008) and Bello, Heresi and Pineda (2010)).

Summing up, a higher RER is associated with a more diversified export structure and a larger proportion of medium- and high-technology sectors (a proxy, albeit an imperfect one, for knowledge-intensive goods) in total exports. Natural-resource endowment promotes the concentration of exports in fewer commodities, but this effect disappears (except in the case of energy resources) when human capital is filtered out. Diversification and change in export composition require production and technological capacities to be built up over time and gaps with the technology frontier to be narrowed. RER is no sure guarantee of this outcome, and can generate other tensions in the global economic system, as well as unwanted distributive effects. Exchange-rate policy should therefore be closely associated with industrial policy to stimulate progress towards authentic competitiveness.

**Chapter III**

Business cycle and investment

The previous chapter discussed the determinants of long-term growth, highlighting the importance of structural change as a key vector of increases in productivity, aggregate demand and employment—the variables defining a virtuous pattern of growth. The forces that govern the long-run behaviour of the economy rearrange the patterns of international positioning and technology and productivity gaps, both external (in relation to developed countries) and domestic (within each of the Latin American economies, where a large proportion of jobs are still being created in very low-productivity activities). The previous chapter also stressed the need for economic diversification to absorb large contingents of workers in activities with increasing productivity, and thereby reduce inequality through the convergence of labour capacities and income.

Nonetheless, this long-term process is not immune from short-term shocks and fluctuations, particularly in a world where volatility has tended to increase. Short-term cycles overlay and interact with structural change. As analysed in chapter I, these fluctuations are partly caused by external shocks that affect the production matrix. This, in turn, determines the long-term equilibrium growth rate.

Positive external shocks can temporarily speed up economic growth. Where balance-of-payments dynamics are predominant, the challenge for macroeconomic and structural change policies is to absorb external shocks in a way that ensures that the exogenous and temporary abundance of resources is turned into a process of endogenous capacity-building and structural change. The building of authentic competitiveness would make it possible to increase and diversify exports and finance the imports needed for rapid growth. At the same time, aggregate-demand management policies may prevent external shocks from generating cumulative imbalances that result in serious crises, such as those experienced by many of the region's economies in the 1980s, the late 1990s and early 2000s. Managing the effect of shocks on macro prices (interest rate, exchange rate, wage rate) and on demand and investment, taking account of

their effects not only on short-term growth and employment but also on the production structure, is a key concern of a development-oriented macroeconomics.

This chapter is organized as follows. Section A discusses the characteristics of the business cycle in the region, identifying the cycles and their duration and amplitude and comparing them with those prevailing in other regions of the world. It shows that the Latin American and Caribbean region tends to have truncated expansion phases and that they tend to be shorter than in other regions. Short expansion cycles reflect the inability of the production structure to transform the momentum of demand growth into sustained endogenous economic growth (through linkages, spillover effects and virtuous circles). As discussed in chapters I and II, the region's production structure does not allow a virtuous internal dynamic to unfold between productivity increases and rising employment. This section also analyses the change in the growth trend in the 1980s, highlighting the adverse long-run effects of the investment crunch during the external debt crisis in a world where technology capacities are constantly changing.

Section B shows how external shocks have contributed to alleviating or intensifying balance of payment pressures and how they have triggered fluctuations and changed the growth trend in the region. The section also analyses capital movements and underlines the importance of the institutional changes that have occurred, both in the international economy since the end of the Bretton Woods regime and fixed-exchange-rate system in 1973 and in the region's economies following the reforms and trade and financial opening of the 1980s and 1990s.

Section C describes the trade and terms-of-trade dynamics that have influenced the region's production structure, strengthening a trend towards export reprimarization in natural resource exporting economies. It also highlights the growing impact of Chinese economic growth on agricultural and mineral commodity prices and on the composition of exports.

Section D discusses investment trends as a key variable linking the short with the long run. Investment forges the production and technology linkages that foster growth. The fact that investment responds weakly to expansions but contracts sharply in recessions explains why structural change is so slow and the spillover effects on the rest of the economy so weak. The section also highlights the low rates of investment that have generally predominated since the crisis of the 1980s, despite a recovery in recent years. The fact that public investment has been severely hampered by adjustment measures poses a major coordination problem for the economic system, since it is a key variable for attracting private investment and overcoming growth constraints —particularly in infrastructure sectors.

Section E looks at the features and dynamics of foreign direct investment (FDI) flows to the region, showing that in addition to providing a source of savings, FDI is taking on an increasingly important role in activities that involve natural resources and the tapping of domestic markets and export platforms. The section draws attention to the region's low profile as a destination for investment that seeks skilled and qualified resources to undertake advanced research, development and innovation.

Section F examines the dynamics and structure of savings, distinguishing between domestic and external, and private and public sources. Last, section G turns to microeconomic analysis, with a review of the profitability of the region's largest companies. It shows how business profitability reinforces the prevailing specialization pattern, which ultimately perpetuates the problems of poor job creation and income distribution, with their consequences for equality.

A. The business cycle in the region

The pattern of economic growth in the region's countries between 1990 and 2010 displays a significant cyclical component determined by external shocks (particularly in relation to access to international liquidity and terms-of-trade fluctuations) and procyclical policies. GDP tended to track terms-of-trade variations more closely in 1970-1979 and 2003-2007; shocks related to financial flows were more common in the late 1960s and in 1980-1990 and 1991-2002. The two phenomena acted in harness in 2008-2010 (ECLAC, 2010b).

Vulnerability to shocks has been accentuated by the liberalization of capital flows and a weak macroeconomic institutional framework that has failed to develop mechanisms to cushion them. Furthermore, with the exception of the 2008-2009 recession, the region has traditionally responded to external shocks with procyclical policies, which are studied in greater detail in chapter IV.

Based on the examination of the dynamics of the different phases of the cycle in 1990-2010, table III.1 shows that the average duration of recession phases in Latin America and the Caribbean, both region-wide and subregionally, is similar to those of the other countries in the sample (roughly four quarters) (see Pérez-Caldentey and Pineda, 2010 and Titelman, Pineda and Pérez-Caldentey, 2008).¹ In South America, the average recession lasts 5.6 quarters, whereas in Central America and the Dominican Republic, recessions tend to be shorter (3.0 quarters).

Table III.1
DURATION AND AMPLITUDE OF REAL GDP EXPANSIONS AND CONTRACTIONS, BY LEVELS,
SELECTED REGIONS AND COUNTRIES, 1990-2010

	Expansion		Contraction	
	Duration (quarters)	Amplitude of the upswing (percentage of GDP)	Duration (quarters)	Amplitude of the downswing (percentage of GDP)
South America	19.9	27.5	5.6	-8.0
Central America and Dominican Republic	20.5	26.3	3.0	-3.3
Mexico	23.0	25.6	4.3	-8.0
Brazil	14.3	15.6	2.8	-3.0
Latin America and the Caribbean	19.7	25.3	3.8	-6.2
East Asia and the Pacific	31.5	42.4	3.6	-9.4
Eastern Europe and Central Asia	29.1	52.3	4.0	-12.2
OECD member countries	34.0	29.8	4.3	-5.1

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

¹ A standard method described in the literature on business cycles was used to identify cycle turning points (maxima and minima) in real GDP series expressed in levels, using quarterly data from a sample of 59 countries for 1990-2010. The turning points made it possible to identify GDP expansion and contraction phases. Subsequently, the duration and amplitude of economic activity expansions and contractions were estimated for countries, regions and subregions. Duration refers to the length of a contraction between turning points and of the expansion phase. Amplitude refers to the change in economic activity between turning points. Appendix II.1 lists the regions and countries studied and provides details on the methodology.

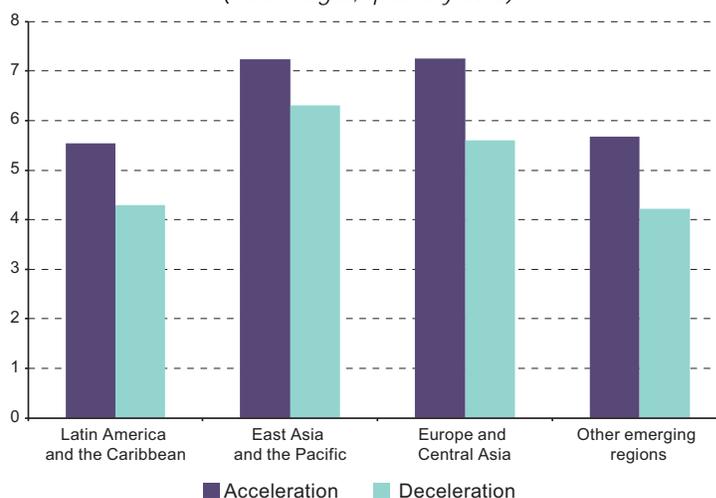
Expansion phases, on the other hand, tend to be shorter in Latin America and the Caribbean than in the other regions in the sample. The difference is particularly significant (12 quarters or more) compared with countries in East Asia and the Pacific and with Organization for Economic Cooperation and Development (OECD) countries. The difficulty faced by the region's economies in sustaining expansions has impaired their ability to reverse the effects of recessions on the production structure, which helps explain the low average growth rate over the past 20 years.

As shown in other analyses reported in the literature on business cycles (Male, 2011; Harding and Pagan, 2005), contractions tend to be sharper in developing countries than in developed ones. The average fall in the recession phase of the cycle in South America and Mexico is 8.0 %, whereas Central America and the Dominican Republic the drop is much less pronounced. This difference is explained by the fact that the strongest and most intense crises in the period under study —the Mexican crisis (1994-1995), the Asian crisis (1997-1998), the Russian crisis (1998) and the Argentine crisis (2001-2002)— had their epicentre in Mexico or South America. Contractions in East Asian and Pacific countries are similar in amplitude to those of South American countries (Titelman, Pineda and Pérez Caldentey, 2008).

The amplitude of expansions also varies sharply between regions. In East Asia and the Pacific, GDP has grown by 42.4% on average during expansions, which last almost 32 quarters (eight years). In contrast, in Latin America and the Caribbean average GDP growth in expansions is just 25.3%, with upswings lasting less than 20 quarters.

Overall, expansions in Latin America and the Caribbean tend to be shorter-lived and weaker than in other regions of the world. The contrast is particularly marked in comparison with East Asia and the Pacific, where expansions are steadier and longer. These findings are confirmed when the expansion is broken down into an acceleration phase (in which GDP grows at increasing rates) and a deceleration phase (GDP growing at declining rates) (see figure III.1). Latin America and the Caribbean is the region with the weakest average growth —5% in the acceleration phase compared with 7% for East Asia and Pacific and 6% for other emerging countries.

Figure III.1
DEVELOPING REGIONS: ANNUAL AVERAGE GDP GROWTH RATE IN THE ACCELERATION AND DECELERATION PHASES OF CYCLE EXPANSIONS, 1990-2010
(Percentages, quarterly data)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries

The pattern varies across subregions (see table III.2). South America, followed by Central America and the Dominican Republic, shows greater capacity to leverage the acceleration phase. At the other extreme are Mexico and Brazil, with limited capacities to speed up growth in that phase.

Table III.2
ANNUAL AVERAGE GDP GROWTH RATE IN CYCLE EXPANSIONS, 1990-2010
(Percentages)

Subregion or country	Acceleration	Deceleration
South America	5.8	4.5
Central America and Dominican Republic	5.6	4.1
Mexico	4.3	3.6
Brazil	4.4	3.5

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

An analysis of fluctuations in the demand components of GDP shows that investment falls more sharply than other components in the downswing (see table III.3). Its behaviour is also clearly asymmetric, with drops during recessions being much sharper than increases during upswings. This is particularly the case with public investment in infrastructure, which contracts 12 times more sharply than GDP overall. As shown below, this category of investment ultimately serves as an adjustment variable during contractions. Government consumption is also highly procyclical, which is typical of the behaviour of fiscal variables generally until 2007.

Table III.3
LATIN AMERICA: DURATION AND AMPLITUDE OF THE VARIATION IN COMPONENTS OF AGGREGATE DEMAND IN RELATION TO GDP IN EXPANSIONS AND CONTRACTIONS, 1990-2007^{a,b,c}
(Quarterly data)

Components of aggregate demand	Expansion		Contraction	
	Duration (duration of expansion equal to 1)	Amplitude of upswing (change in GDP equal to 1)	Duration (duration of contraction equal to 1)	Amplitude of downswing (change in GDP equal to 1)
Private consumption	1.0	1.3	0.9	1.3
Government consumption	0.6	1.3	1.1	4.2
Investment	0.7	2.5	1.2	5.3
Public investment in infrastructure	-	1.9	-	13.5
Exports	0.9	1.9	1.1	2.9
Imports	0.6	2.1	1.1	4.2

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

^a The calculations include 11 Latin American countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Paraguay and Peru (see annex II.1).

^b The figures in the "Duration" columns represent the quotient between the number of quarters of expansion or contraction of each component of demand and the number of quarters of GDP expansion.

^c The figures in the "Amplitude" columns represent the quotient between the percentage change in each component of demand and the percentage change in GDP.

While a lower rate of investment has short-term effects on aggregate demand and employment, it also affects the long-term path of the economy since it means less growth in the capital stock, thereby undermining the economy's capacity to create and sustain jobs. It also has an adverse effect on productivity by postponing the adoption of more capital- and technology-intensive production methods.²

In five of the region's countries (Argentina, Brazil, Chile, Colombia and Mexico) the fall in manufacturing industry labour productivity in relation to GDP, in the downswings between 1970 and 2008, was both sharper and longer-lasting than the recovery in the subsequent upswings. In contractions, productivity declined on average by three times more than GDP; in the following expansion it increased by about half of GDP growth (see table III.4). This can be seen as an asymmetry in the working of the Kaldor-Verdoorn law because the positive impacts of learning during upswings are weaker than the capacity losses during recessions.

Table III.4
LATIN AMERICA (SELECTED COUNTRIES): DURATION AND AMPLITUDE OF MANUFACTURING SECTOR
LABOUR PRODUCTIVITY CYCLE EXPANSIONS AND CONTRACTIONS IN RELATION TO GDP, 1970-2008

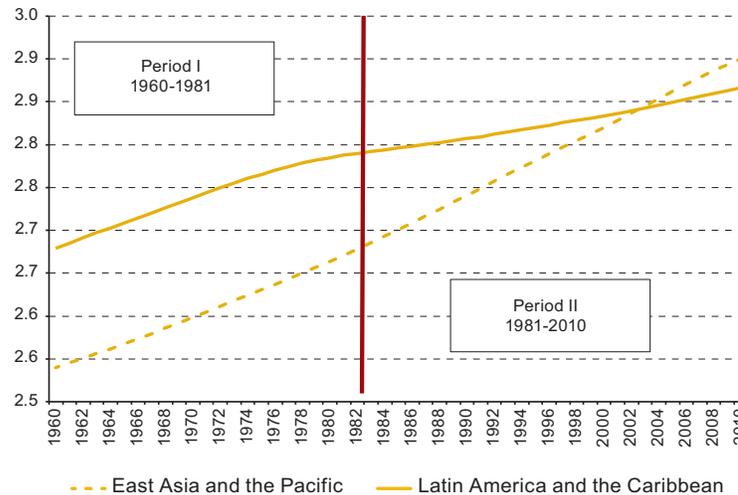
	Expansion		Contraction	
	Duration	Amplitude	Duration	Amplitude
Argentina	0.5	0.7	1.0	3.0
Brazil	0.4	0.4	1.3	5.9
Chile	0.3	0.4	1.0	2.1
Colombia	0.4	0.2	1.5	2.0
Mexico	0.6	0.6	0.8	2.4
Average	0.4	0.5	1.1	3.1

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Industrial Performance Analysis Programme (PADI), 2011.

Both investment and the production structure have been seriously affected during crisis periods in Latin America and the Caribbean, and this has undermined the region's growth capacity. Not only does the fall in trend GDP reflect shorter expansions —it also reflects the adverse effects of the business cycle dynamic on the production structure. Figure III.2 shows trend GDP for Latin America and the Caribbean and for the East Asian and Pacific subregion for 1960-2010. Whereas the countries of East Asia and the Pacific have been able to sustain a rising GDP growth path throughout the period, there is a structural break in Latin America and the Caribbean in the 1980s. The GDP trend between 1960 and the early 1980s (period I) is similar to that in East Asia and the Pacific. Then, starting with the lost decade of the 1980s, it tends to decline and does not recover in the 1990s or the first decade of the 2000s, meaning that growth rates are lower than before the debt crisis (period II). The basic difference is between a virtuous model (such as that of East Asia, where there was positive structural change) and the Latin American and Caribbean model with its pattern defined by its static comparative advantages. Apart from the duration of business cycle phases, the measures taken in each case to improve the pattern of specialization and the production structure are also important. The region's cyclical behaviour and its impact on the growth path pose policy design challenges that will be discussed in chapter VI.

² See OECD (2009) for an analysis of the potential long-term effects of a fall in investment.

Figure III.2
TREND GDP FOR LATIN AMERICA AND THE CARIBBEAN AND EAST ASIA AND THE PACIFIC, 1960-2010^a
(Annual logarithmic data)^b



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, "World Development Indicators" and "Global Finance" [online] <http://www.gfmag.com/>.

^a The East Asia and Pacific region consists of 22 nations, including China, Japan, the Republic of Korea and Singapore.

^b Hodrick-Prescott method.

The persistent effects of the debt crisis are seen in the structural break in the region's GDP trend and in the fact that the economic policies implemented in the two decades after the crisis did not reverse those effects. Even in the period of fastest growth witnessed by Latin America and the Caribbean over the past 30 years (2003-2008), the countries of the region, with few exceptions, did not succeed in reversing the structural break or improving the trend. This is unlike what happened in Asia: the 1997 crisis, one of the severest to hit the countries of East Asia, did not change the path of trend GDP.

To summarize, the region's cycle dynamic is characterized, first, by unsustainable expansions that translate into shorter periods of economic growth. Second, investment rates drop sharply in recessions but do not rebound as strongly in expansions. And the more marked contractions in investment rates have effects that persist in the long term, as shown by the trend break in the 1980s.

B. External financial shocks

Financial globalization and greater access to international financing have made external financial shocks a more important factor in short-term cycle dynamics (Moreno-Brid, 1998 and 2002; Barbosa-Filho, 2002). Although the evolution of import elasticity is a reflection of the structural determinants of the long-term growth rate, this does not mean that there are unbreachable limits in the short term (McCombie and Thirlwall, 1999). The long-term growth rate can be surpassed in the short or medium term if the economy has fluid access to external financing or the terms of trade improve.

This section discusses the increased importance of international financial flows for the business cycle and volatility in the region, as well as the changing role of the different forms of capital inflows through time. Subsection 1 shows that starting with the economic reforms that began in the mid-1980s (some of which had already been attempted in the late 1970s in South America and brought increasing degrees of trade and financial liberalization), capital movements strongly influence the region's GDP. Subsection 2 discusses changes in the composition of those flows, such as the relative decline in foreign borrowing in the first decade of the twenty-first century, the increasing importance of FDI and portfolio investment and the key role of emigrant remittances in some countries, particularly in Central American countries.

1. Financial opening

The end of the Bretton Woods exchange-rate regime and the major transformations that the world economy underwent in the second half of the 1970s (as private international banks recycled “petrodollars” and eurodollars and transferred them to developing countries) redefined the region's mode of external insertion by allowing access to private sources of funding and reducing dependency on multilateral sources.³ These changes in the external environment were matched by changes in the region's institutional framework. It was in the mid-1970s that economies that were closed to capital flows, such as those of South America, made the first attempts at financial liberalization. But their impact was reversed by the 1980s debt crisis. External borrowing generated growing imbalances that made the desired integration unsustainable, as indicated in the title of the classic article by Diaz-Alejandro (1985): “Good-bye financial repression, hello financial crash”.

In the 1990s, the trend towards financial openness gained renewed impetus, as shown by the Chinn-Ito index in figure III.3.⁴ After falling during the debt-crisis years, the index in Latin America and the Caribbean began to rise in the 1990s. By the mid-1990s it had surpassed the levels seen in the 1970s (Stiglitz and others, 2006).⁵ This trend is widespread and seen in all subregions, although it is less intense in the Caribbean, where financial openness did not return to 1970s levels until the 2000s. As a result, by the late 2000s the economies of Latin America and the Caribbean had achieved the highest degree of financial-account openness of all developing economies (see table III.5). In Central America and the Dominican Republic the indices were close to those of developed economies. Growing financial openness was accompanied by an increase in foreign-currency assets in the region, which grew to represent 18%, 15% and 17% of GDP in South America, Central America and Mexico, and the Caribbean, respectively.

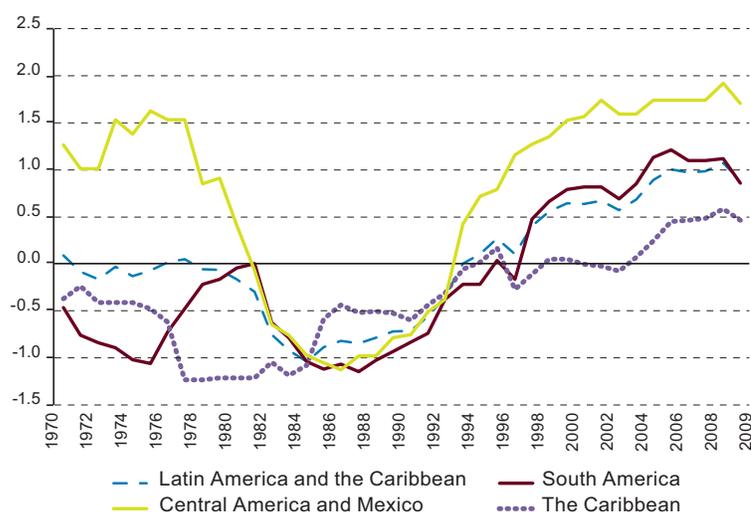
Increasing financial liberalization has led to closer synchronization between the liquidity cycles of some central economies —basically the United States and European countries— and the economic fluctuations of the countries of Latin America and the Caribbean (Rigobon, 2002). Figure III.4 shows that boom-bust cycles in foreign capital inflows are positively related (albeit with a lag) with their counterparts in economic activity.

³ For the purposes hereof, financial openness entails deregulation and the removal of barriers to capital movements, while financial integration refers to how this openness is reflected in terms of flows.

⁴ The Chinn-Ito index (KAOPEN), developed by Chinn and Ito (2006), measures a country's degree of financial account openness. The index is based on the dummy variables that codify the constraints on cross-border financial transactions reported in the International Monetary Fund *Annual Report on Exchange Arrangements and Exchange Restrictions*.

⁵ In South America both the financial liberalization of the 1970s and the subsequent slippage in the 1980s occurred somewhat later than in the other subregions.

Figure III.3
LATIN AMERICA AND THE CARIBBEAN: CHINN-ITO INDEX OF FINANCIAL OPENNESS, 1970-2009



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of "The Chinn-Ito Index" [online] http://web.pdx.edu/~ito/Chinn-Ito_website.htm.

Table III.5
STANDARDIZED INDEX OF FINANCIAL OPENNESS, BY REGION, 2006-2009^a

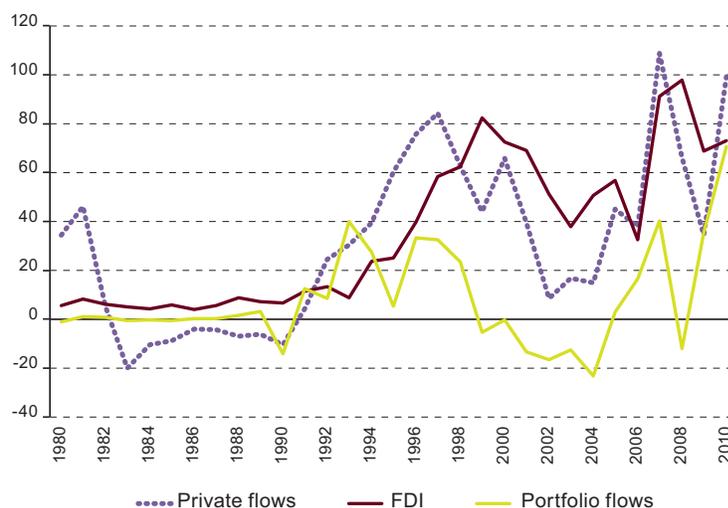
	2006	2007	2008	2009
East Asia and the Pacific	0.20	0.21	0.38	0.32
Eastern Europe and Central Asia	0.15	0.15	0.29	0.20
Latin America	0.55	0.56	0.60	0.50
Central America and Dominican Republic	0.72	0.73	0.82	0.73
Middle East and North Africa	0.16	0.16	0.17	0.16
South Asia	0.03	0.03	0.14	0.10
Developed countries	0.82	0.84	0.82	0.82

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of "The Chinn-Ito Index" [online] http://web.pdx.edu/~ito/Chinn-Ito_website.htm.

^a The Chinn-Ito index is standardized from 0 to 1, with higher values indicating greater financial openness. The Caribbean is not included because the data are not compatible.

Financial openness brought greater volatility: identifying and quantifying financial shocks show that their frequency and magnitude increased following the period of trade and financial opening in the 1990s (Titelman, Pineda and Pérez Caldentey, 2008). The greater volatility seen in the second half of the 1990s and second half of the 2000s is not only found in financial flows —it impacts the behaviour of FDI as well.

Figure III.4
LATIN AMERICA AND THE CARIBBEAN: PRIVATE FINANCIAL FLOWS, 1980-2010
(Billions of dollars)



Source: International Monetary Fund (IMF), *World Economic Outlook*, 2011.

The period between the mid-1980s and the Asian crisis (1997-1998) saw a trend increase in private financial flows led by FDI (with the privatization of large public enterprises in the 1990s being a key factor in several countries). This expansion represented Latin America's return to international capital markets following the debt crisis, facilitated both by internal reform and stability and by external debt renegotiation. The Brady plan afforded relief in terms of external commitments, in clear contrast to the extremely disadvantageous terms that had prevailed in the 1980s.⁶ There were also major capital inflows during the 2004-2008 expansion, when Latin America and the Caribbean posted the strongest growth in three decades. In those years, the balance of capital movements went from US\$ 8.7 billion to US\$ 72.3 billion and climbed to US\$ 112.5 billion in 2007 (ECLAC, 2011b).

2. Domestic impact of external financial volatility

The deepening of financial globalization during the past few decades has been a decisive factor in the boom-bust cycles experienced by the region. The process has increased the influence of international financial markets on local markets and accentuated the effect of fluctuations stemming from changes in the world financial environment. Apart from the potential contribution of this process to the financing of investment, several countries have suffered increasingly volatile access to external financial resources. Volatility was often fuelled by unsustainable episodes of euphoria, followed by periods of panic and herd behaviour on the part of external agents. This has been facilitated by insufficient market regulation and supervision, both in developed countries and worldwide. Sometimes these fluctuations have been triggered by uncertainty about the payment capacity of the region's countries and, more recently, those of the euro zone.

⁶ The Brady Plan was a strategy implemented in the late 1980s for developing countries to restructure external debt and debt service with commercial banks.

Changes in the external financial scenario have unfolded in different ways depending on the extent of exposure to the more volatile financial flows, which has also not been uniform across the region. The domestic economic consequences have varied as well, depending on internal mechanisms that propagate shocks; one of the key factors is financial market depth.

A country's exposure to external financial fluctuations can be estimated directly from figures on its net foreign asset and liability positions, but these are not usually available. Instead, ECLAC (2011b) uses indicators of the region's sources of external financing, which correspond to flows and thus translate into changes in the net position in certain financial instruments. Noteworthy among them are net portfolio investment flows and other investment liabilities (including commercial credit and loans between central banks) held by non-residents, which are the most volatile. Table III.6 ranks the region's countries by degree of financial depth (which influences the propagation of external flows in an economy) and degree of exposure to external financial fluctuations in 2007-2009.

Table III.6
LATIN AMERICA AND THE CARIBBEAN: COUNTRY RANKING BY LEVEL OF EXPOSURE
TO THE MOST VARIABLE COMPONENTS OF EXTERNAL FINANCING
AND DEGREE OF FINANCIAL DEEPENING, 2007-2009

	Countries with less exposure	Countries with greater exposure
Less financial system deepening	Guyana Grenada Suriname Trinidad and Tobago Bolivia (Plurinational State of) Paraguay Ecuador Guatemala Honduras Venezuela (Bolivarian Republic of) Argentina Dominican Republic and Haiti	Antigua and Barbuda Dominica Belize Jamaica Saint Kitts and Nevis Saint Vincent and the Grenadines Saint Lucia Uruguay Peru
Greater financial system deepening	Mexico	Barbados Brazil Chile Colombia Panama Bahamas

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.

Moving from the upper left quadrant to the lower right (from less capital-flow exposure and low financial deepening towards higher levels of both variables), the sources of external shocks change substantially. In the first group of countries, with less financial deepening and less exposure, external shocks stem mainly from external demand (changes in quantum and prices of goods and services) rather than from financial markets. As the domestic financial system deepens and external financial integration increases, the volatility of external goods and services markets is

compounded by financial-market volatility. Although fiscal and exchange-rate policies are decisive for the vast majority of countries, those with greater financial deepening will be able to implement monetary and financial policies, including macro-prudential regulation, that will give them more scope for action in the face of external shocks.

3. Composition of external financial flows

Private capital flows (technically referred to as unofficial capital flows) have become the region's most important source of external financing. Currently they account for over 80% of private financial flows received by emerging countries and over 90% of the total in the case of Latin America and the Caribbean. FDI is the main component of capital flows, on average representing about 42% of total flows in developing countries and 52% of the total in the region over the last decade (see table III.7). Portfolio investment flows have also grown over the last two decades, to account for 7% of total capital flows into the region. After Asia and the Pacific, Latin America and the Caribbean is the region most dependent on funding from these short-term flows. Income from external debt dropped sharply (from 30.1% to 5.6%) in Latin America between the start of the 1990s and 2010, while income from emigrant remittances has increased significantly.⁷ Along with FDI, remittances have become an important component of external financial resources and now represent 31.2% of total financial flows, exceeding 10% of GDP in some Central American and Caribbean economies.

The share of FDI has tended to grow over the past two decades, while that of external borrowing has shrunk, as shown by changes in the ratio between debt and debt plus FDI stock. The ratio has fallen in the past decade in Latin America and Caribbean, both for the region as a whole and in each of its subregions.

Figure III.5 shows, for the region as a whole, the long-term decline in interest payments on external debt plus repatriation of profits. This trend holds for all of the subregions except the Caribbean. Interest payments on external debt trended down in the 2000s while repatriation of profits and dividends from transnational enterprises to their parent companies increased from 5% of the value of exports to 17%. Within the general trend, Argentina, the Bolivarian Republic of Venezuela, Nicaragua and Panama are the countries where the interest-to-export ratio has fallen most. In contrast, countries in which the proportion of profit and dividend remittances has increased most are Colombia, Chile, Peru, Uruguay and a number of Caribbean economies.

In short, despite a growing supply of external resources, the net resource transfer has been negative —outflows have exceeded inflows— except in Central America (see table III.8). For South America, this reflects positive trade balance patterns and rising commodity prices. The combination of access to international capital, improving terms of trade and greater fiscal discipline enabled South America to deepen its financial openness in the 2000s under a different rationale from that prevailing in the 1990s. Access to international financial markets has become less segmented, and the subregion has reduced its risk levels (Damill and Frenkel, 2011). The situation is different in Central American and Caribbean countries, however. High levels of foreign indebtedness compounded by deteriorating terms of trade have aggravated external fragility in recent years and forced some countries to turn to the International Monetary Fund, as happened during international crisis of 2008-2009.

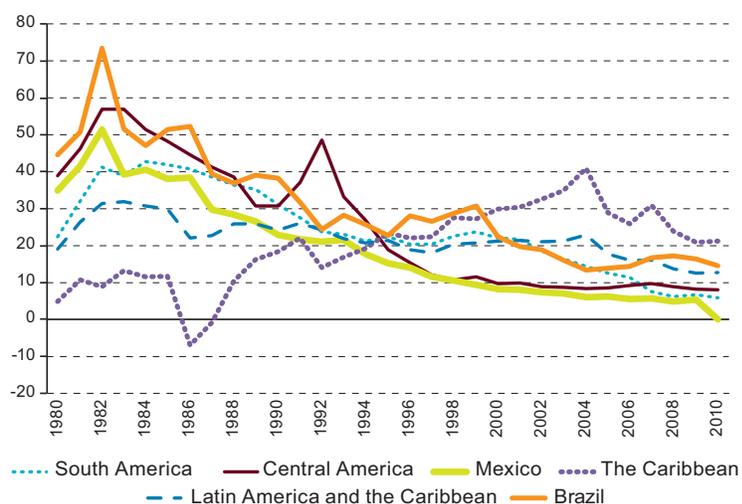
⁷ Table III.7 includes emigrant workers' remittances in financial income, owing to their growing importance as a source of external funding for many countries in the region.

Table III.7
COMPOSITION OF EXTERNAL FINANCIAL FLOWS AND REMITTANCES, 1970-2010
(Percentages of total)

	1970-1980	1981-1990	1991-2000	2001-2010
Foreign direct investment	7.3	13.6	28.5	42.2
East Asia and the Pacific	8.0	18.0	57.9	53.5
Europe and Central Asia	0.8	9.5	17.3	40.9
Latin America and the Caribbean	9.3	29.2	41.2	52.1
Middle East and North Africa	6.2	5.1	10.3	32.8
Sub-Saharan Africa	12.3	6.2	15.6	31.9
External debt	58.0	32.6	18.8	10.8
East Asia and the Pacific	54.3	50.6	15.1	10.3
Europe and Central Asia	72.4	9.7	34.8	33.7
Latin America and the Caribbean	80.3	35.6	30.1	5.6
Middle East and North Africa	38.0	30.7	5.1	-0.1
Sub-Saharan Africa	45.2	36.1	8.7	4.7
Official development assistance	26.7	26.1	25.2	15.2
East Asia and the Pacific	35.3	20.2	11.9	4.0
Europe and Central Asia	9.3	12.9	24.8	6.9
Latin America and the Caribbean	8.8	18.0	6.2	4.4
Middle East and North Africa	40.9	27.7	27.7	20.7
Sub-Saharan Africa	39.0	51.5	55.3	40.1
Portfolio investment	0.0	0.4	5.0	4.8
East Asia and the Pacific	0.0	1.1	2.3	8.3
Europe and Central Asia	0.0	0.2	2.4	2.4
Latin America and the Caribbean	0.0	1.0	9.5	6.7
Middle East and North Africa	0.0	0.2	1.2	0.5
Sub-Saharan Africa	0.1	-0.5	9.7	6.2
Worker remittances	8.0	27.4	22.5	26.9
East Asia and the Pacific	2.4	10.0	12.7	23.8
Europe and Central Asia	17.5	67.6	20.6	16.0
Latin America and the Caribbean	1.6	16.2	13.0	31.2
Middle East and North Africa	14.9	36.3	55.7	46.1
Sub-Saharan Africa	3.4	6.7	10.7	17.2

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Figure III.5
EXTERNAL DEBT INTEREST PAYMENTS AND PROFIT AND DIVIDEND REMITTANCES, 1980-2010
(Percentage of exports)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Table III.8
LATIN AMERICA AND THE CARIBBEAN: NET RESOURCE TRANSFER, ANNUAL AVERAGE, 1982-2010
(Millions of dollars)

Region	1982-1990	1991-1996	1997-2002	2003-2007	2008-2010
Latin America and the Caribbean	-24 706	19 158	4 427	-52 772	-13 737
Latin America	-24 307	19 731	3 401	-51 312	-12 349
The Caribbean	-400	-573	1 026	-1 460	-1 388
Central America	-871	936	1 186	246	1 462
South America	-1 762	1 201	-612	-5 289	-2 470

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

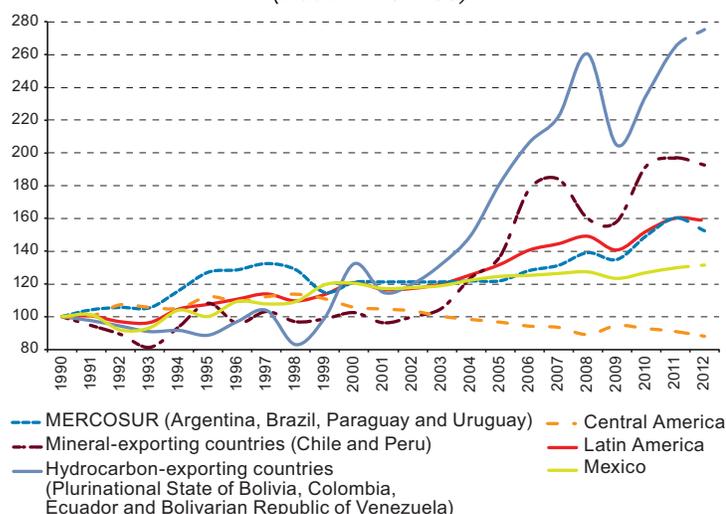
After periods of external constraints, the region has built up unprecedented international reserves, with stocks growing from just over 3% of GDP in 1990 to more than 14% in 2011. The Plurinational State of Bolivia and Trinidad and Tobago had the highest figures at the end of the period, at 52.4% and 43.8%, respectively.

Such a large accumulation of reserves, in conjunction with external deleveraging, suggests that external vulnerability problems have eased, at least for some economies in the region, despite more volatile terms of trade. Meanwhile, there is no guarantee that the demand for commodities will continue to expand. The current demand momentum should thus be seized as an opportunity to build a production base that will improve the region's resistance to terms-of-trade fluctuations and to the volatility of external capital flows. This issue is taken up again in chapter VI, underlining the need to keep the favourable outcomes of the past 10 years from triggering complacency.

C. The trade dynamic and terms of trade

Increased financial volatility was linked to and reinforced by terms-of-trade volatility, particularly since the mid-2000s (see figure III.6). This was due to widely fluctuating commodity prices, which have traditionally figured heavily in the international trade structure of the countries of the region—even more so over the past decade.

Figure III.6
LATIN AMERICA AND THE CARIBBEAN: TERMS OF TRADE, 1990-2011
(Index: 1990=100)

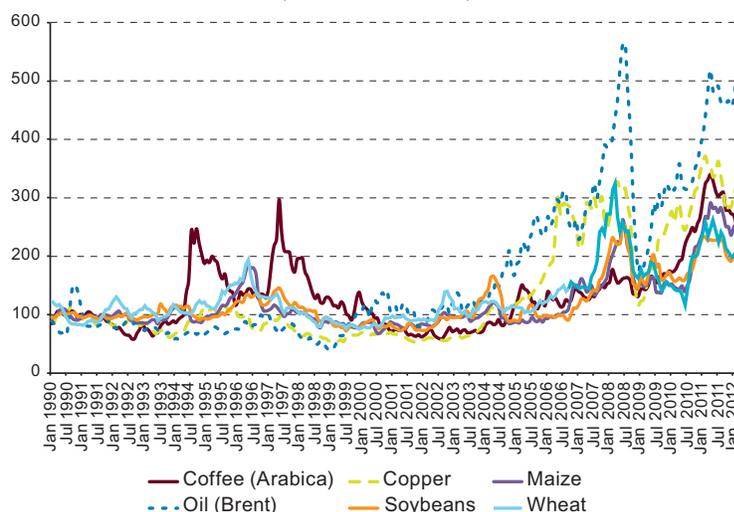


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

The behaviour of commodity prices shown in figure III.7 is partly explained by burgeoning demand fuelled by stronger economic growth in emerging countries, interacting with short-term supply rigidities and thus raising production costs. On the one hand, high and sustained growth rates in China and India, as well as in other emerging and developing economies, has boosted demand for raw materials and energy, putting upward pressure on their prices. On the supply side, low levels of investment in agriculture resulted in slow growth of agricultural productivity and a weaker increase in output, reducing stocks and making supply more inelastic. The rise in oil prices drove fertilizer and transport costs up, which fed through into higher production costs.

Commodity price patterns have also been affected by financial factors, such as fluctuating exchange and interest rates, particularly since the crisis that broke out in 2008. The depreciation of the United States dollar devalued assets denominated in that currency and encouraged portfolio recomposition in favour of commodity derivatives, which came to play a role as a “store of value”, feeding price rises caused by financial variables. Dollar depreciation also impacted profitability and production costs measured in dollars, so producers with market power in some cases tended to reduce supply and raise prices to compensate for declining profits. In addition, consumer (importing) countries whose currencies appreciated against the dollar saw their external purchasing power increase, which enabled them to sustain commodity demand and thus put upward pressure on their prices.

Figure III.7
 WORLD COMMODITY PRICES, ANNUAL AVERAGE, 1990-2011
 (Index: 1990=100)



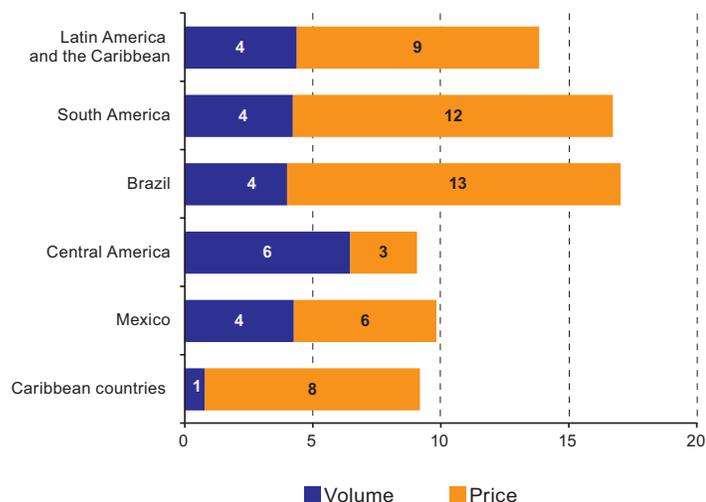
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Interest rate cuts in the United States and other advanced economies also acted in the same direction, driving capital flows towards emerging countries. The interest rate cuts also affected yields on assets such as bonds, making other, commodity-linked, assets more attractive and pushing their prices up. Low interest rates reduced the opportunity cost of holding commodity inventories and further fuelled demand for them. Over the past 10 years, trading in commodity-based assets has risen disproportionately in comparison with the historical levels associated with commercial risk hedging (Basu and Gavin, 2011). The fact that futures markets are dominated by speculators rather than commercial investors seems to have driven commodity prices to irrationally high levels that do not reflect real supply and demand trends (De Schutter, 2010; Masters and White, 2008). Investors of this type are attracted to commodity derivative markets by the fact that price fluctuations for such products are usually decoupled from stock and bond market fluctuations. They generally operate with composite indices involving various commodities and allocate their funds independently of the economic fundamentals (supply and demand) underlying a specific physical market (UNCTAD, 2008, 2009 and 2011).

This price dynamic explains much (69%) of the region's export growth, which expanded at the rate of 13% per year between 2003 and 2011. Price rises far outpaced the growth of export volume, particularly in relative terms in the countries of South America that export hydrocarbons and minerals (see figure III.8).

Against this background, the region's exports to its three largest extraregional markets (Asia and the Pacific, the United States and the European Union) were concentrated in raw materials and natural resource-based manufactures. This reflects a trend towards reprimarization, driven by the high natural resource prices prevailing throughout most of the period (see figure III.9).

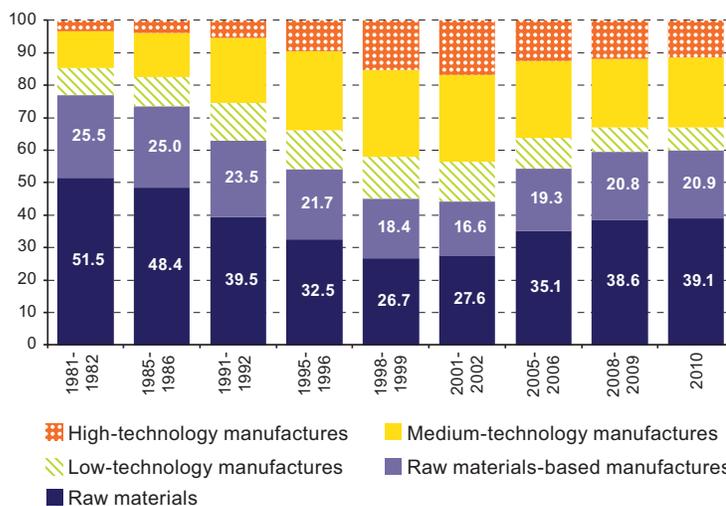
Figure III.8
LATIN AMERICA AND THE CARIBBEAN: ANNUAL RATE OF INCREASE OF THE VOLUME
AND PRICE OF GOODS EXPORTS, 2003-2011^a
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

^a The figures for the Caribbean include data for Barbados, the Dominican Republic, Haiti, Jamaica, Suriname, and Trinidad and Tobago.

Figure III.9
LATIN AMERICA AND THE CARIBBEAN: EXPORT STRUCTURE BY TECHNOLOGY INTENSITY, 1981-2010^a
(Percentages of the total)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Commodity Trade Database (COMTRADE).

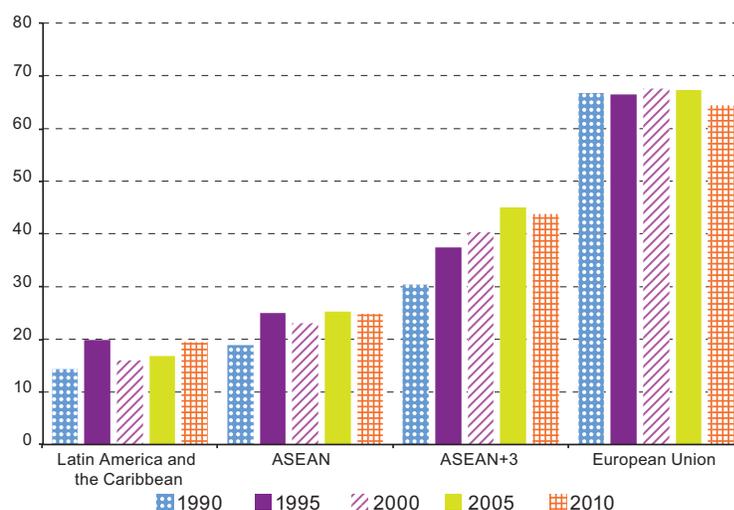
^a Cuba and Haiti not included. Data for Antigua and Barbuda refer only to 2007, and data for the Bolivarian Republic of Venezuela only to 2008; data for Honduras do not include 2008; data for Belize, Dominican Republic, Saint Kitts and Nevis, Saint Lucia, Suriname and Grenada (exports only) do not include 2009.

The region's share of exports to the United States shrank from 58% in 2000 to 40% in 2010; its share of imports from the United States dropped from 49% to 32% in the same period. The European Union, the region's second largest trading partner, saw its share in the region's exports rise slightly in the past decade (from 12% to 13%) while its share of imports from the countries of the region remained constant at 14%. In contrast, China absorbed 8% of the region's exports in 2010 compared with 1% in 2000, while also growing its share of the region's imports from 2% to 14% over the same period.

The region's exports to Asia are more concentrated than to its other markets. Commodities and natural resource-based manufactures (mainly processed minerals) dominate the region's exports to China, India, Japan and the Republic of Korea. Owing mainly to rising demand from China, raw materials are once again playing a leading role in the region's export structure, contributing to the reprimarization of the region's export sector in recent years (see ECLAC, 2009, 2010b and 2011c).

Latin America's intraregional trade has higher technology content than its extraregional trade. This is particularly important considering that trade within Latin America in 2010 accounted for just 19.5% of the total. In the European Union the corresponding figure is 64.4%, and in a group comprising the ASEAN member States plus China, Japan and the Republic of Korea, the figure is 43.8% (see figure III.10). Within the region, the Central American Common Market has the highest proportion of intraregional trade (26.7%), followed by the Caribbean Community (CARICOM) and MERCOSUR, where the share is around 16%.

Figure III.10
LATIN AMERICA: SHARE OF INTRAREGIONAL EXPORTS IN TOTAL EXPORTS, BY GROUPS OF COUNTRIES
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Note: ASEAN+3 includes the ASEAN member States plus China, Japan and the Republic of Korea.

Although the geographical export orientation of each subregion of Latin America and the Caribbean differs significantly, they share the problems of insufficient value added and low knowledge and technology content of their exports. The South American countries specialize in

exporting primary and processed products; this has been reinforced by strong demand from Asia, particularly China. The Central American countries and Mexico, in contrast, have shifted their export focus towards garments and a number of electronic and electrical products (plus the automotive industry in the case of Mexico). A large proportion of those exports are based on maquila assembly operations, often undertaken in free zones. And the Caribbean countries have intensified their export focus on services, particularly those relating to tourism and financial services, together with back-office and call-centre services.

The common denominator among these three patterns is specialization based on static comparative advantages, such as abundant unskilled labour and natural resources, with little value-added or knowledge content in the production process or in the final products. Irrespective of the group, the region's exportable products have been concentrated in commodities that are sensitive to economic trends in developed countries, with unstable prices. Moreover, some of those products are highly intensive in imported components (particularly those that are processed in maquila operations), which adversely affects the trade balance and produces few linkages with the rest of the production system.

The weak link between the international integration process and an economy's production structure means that increasing trade flows are reflected more intensely in expanding imports than in rising exports of goods and services. In fact, the region has been unable to significantly increase its share in world exports of goods over the past three decades. That share rose only marginally, from 5.1% to 5.7%, between 1980 and 2010. Despite the high prices of several of the commodities exported by the region between 2003 and 2008, its share of world goods exports at the end of the past decade was virtually identical to its share at the start, revealing very little growth in terms of export volume.⁸

D. Investment patterns and composition

1. General trends

Latin America's investment rate has historically been lower than that of other emerging regions, particularly the countries in developing Asia, where it rose from 27.8% of GDP in 1980 to nearly 35% of GDP in the mid-1990s and to more than 40% today. In contrast, in 2008, when the region posted its highest investment rate since 1980, it was just 23.6% of GDP measured in current dollars (Jiménez and Manuelito, 2011).

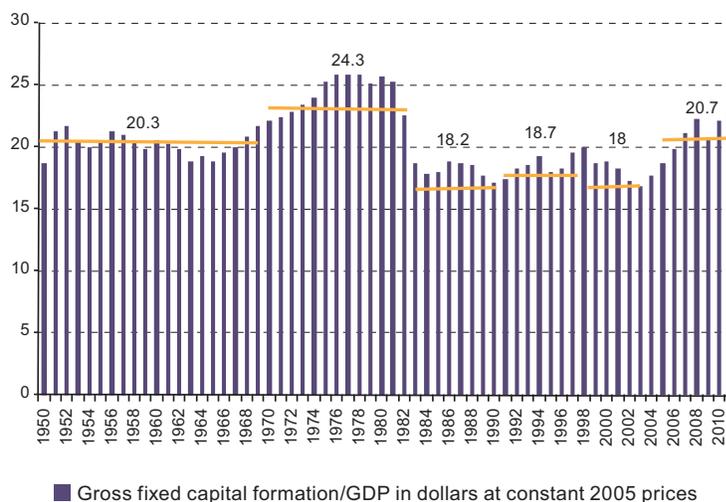
Figure III.11 illustrates the historical trend of gross fixed capital formation in Latin America between 1950 and 2010, measured as a percentage of GDP.⁹ The region attained its highest investment levels during the period between the early 1970s and 1982, when the annual average was 24.3% of GDP and sometimes even topped 25% of GDP. This period was preceded by two decades in which annual average investment rates were around 20%.

⁸ Also in the past three decades, the region's share in global service exports slipped from 4.5% in 1980 to 3.4% in 2010. Of even greater concern is the region's small share in "Other business services", the fastest-growing export category worldwide during the past decade. This category includes the most technology- and knowledge-intensive activities, such as engineering, architecture, design, information technology, and legal and accounting services.

⁹ Regional average measured in dollars at constant 2005 prices. Calculated as an average weighted by the relative share of each Latin American country in the region's total gross fixed capital formation.

Between 1982 and 2003, several factors combined to keep regional investment at very low levels: the debt crisis of the 1980s; the hyperinflation episodes recorded in several countries between the late 1980s and early 1990s; the financial crises of Mexico and Argentina in 1995; the consequences of the Asian crisis in 1997; and contagion from the financial crises of Brazil and the Russian Federation (1988), Turkey (2000) and Argentina (2001). It was not until 2004-2011, in a context of highly favourable external prices for its exports, that Latin America was able to regain the investment levels recorded in the 1950s and 1960s, but without matching historical peaks. As a result, in 2011, gross fixed capital formation amounted to 22.9% of GDP, roughly the same as in the second half of the 1970s.

Figure III.11
LATIN AMERICA: GROSS FIXED CAPITAL FORMATION, 1950-2010
(Percentages of GDP, in dollars at constant 2005 prices)

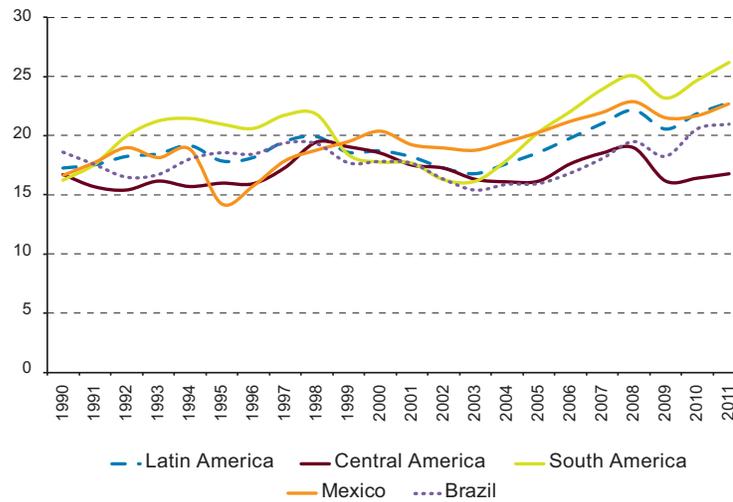


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Investment patterns have varied across the subregions (see figure III.12). Unlike in 2004-2008, when investment rates climbed overall, in 2010-2011 the recovery was mainly confined to South American countries and Mexico. In Central America, investment rates fell off sharply in 2009 and have since remained at levels similar to those of the first half of the 1990s and well below the highs of 1998. In Mexico, although investment recovered after falling in 2009 the rate remains below 2008 levels. In both cases, sluggish investment is partly attributable to the impact of the global financial crisis on the main export market for these countries (the United States) and hence on prospects for growth. Domestic variables have also had an influence, such as unconsolidated fiscal positions which made it difficult to adopt countercyclical measures based on increasing public investment.

The available data show that in 1990-2011 gross fixed capital formation grew most strongly in the machinery and equipment components (see figure III.13). In 1990-2003 (the years leading up to the commodity export price boom), gross fixed capital formation grew by an average of 2.7% per year. Investment in construction grew at an annual average of 1.9%, and investment in machinery and equipment did so at 3.7%. These rates rose considerably in 2004-2011, as gross fixed capital formation expanded at an average annual rate of 8.5%, with investment in construction and in machinery and equipment climbing by 5.3% and 11.4%, respectively.

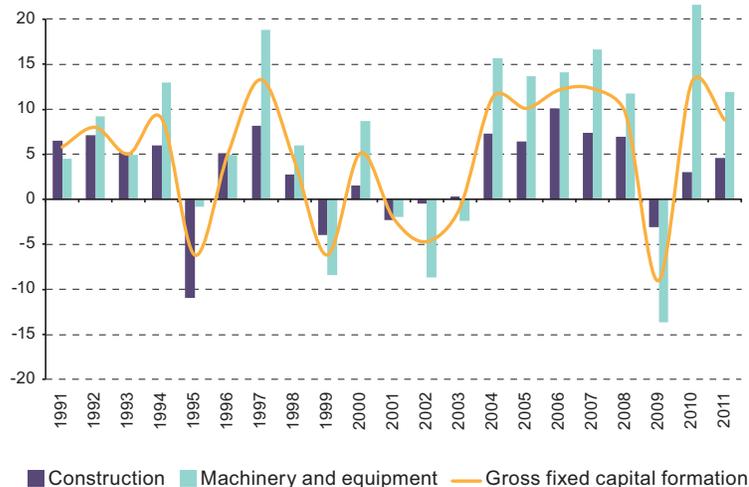
Figure III.12
LATIN AMERICA: GROSS FIXED CAPITAL FORMATION, BY SUBREGION^a
(Percentages of GDP, in dollars at constant 2005 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Preliminary Overview of the Economies of Latin America and the Caribbean 2011* (LC/G.2512-P), Santiago, Chile, December 2011. United Nations publication, Sales No. E.12.II.G.2.

^a Components of gross fixed capital formation: construction and machinery and equipment.

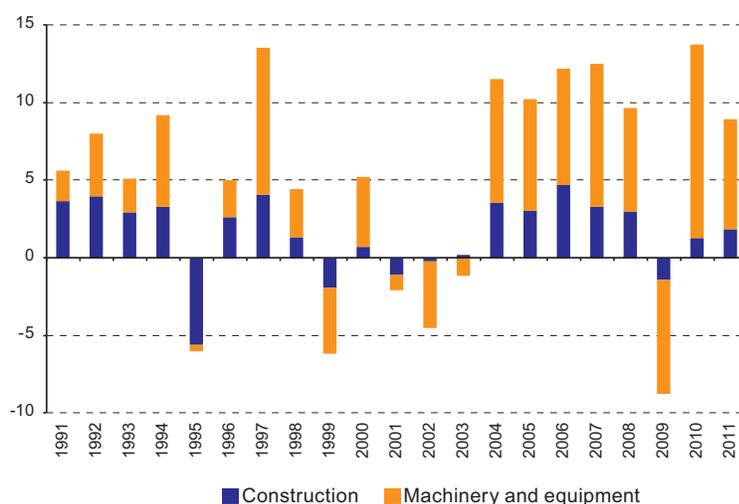
Figure III.13
LATIN AMERICA: GROSS FIXED CAPITAL FORMATION, YEAR-ON-YEAR RATES OF VARIATION, 1991-2011
(Percentages, in dollars at constant 2005 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

As a result, the contribution made by investment in machinery and equipment to gross fixed capital formation growth increased considerably as from the late 1990s. In the early 1990s, construction represented about 55% of total gross fixed capital formation, while investment in machinery and equipment accounted for around 45%. By the end of the first decade of the new century, these proportions had reversed.

Figure III.14
LATIN AMERICA: CONTRIBUTION TO THE GROWTH OF GROSS FIXED CAPITAL FORMATION, 1991-2011
(Percentages, in dollars at constant 2005 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Investment patterns in the region have been heavily influenced by domestic and external crises. And sluggish investment is linked to the way governments have reacted to the crises, particularly in terms of public investment decisions. Tables III.9 and III.10 show public and private investment as a percentage of GDP for the countries of Latin America and the Caribbean during 1980-2010, divided into subperiods according to the years in which the countries were faced with turmoil that changed their GDP growth paths.

The composition of gross fixed capital formation by institutional sector in Latin America changed between 1980 and 2010. In the case of public investment, both regionally and as a percentage of GDP, the highest level was recorded in the years 1980-1981 (6.7%), after which rates declined gradually until 1999-2003 (3.9%) (see table III.9). In 2004-2010, there was a widespread recovery (4.8%) although the intensity varied across countries. In this period, average public investment in the region rose to its highest level since 1990. Nonetheless, in some countries (the Dominican Republic, El Salvador and Guatemala), the level of public investment remained persistently low throughout 1980-2010.

Aside from the recent improvement, the historically procyclical behaviour of public investment and its long-term downtrend are worrying because of their effect on growth. Martner, González and Espada (2012) note that for a sample of 18 Latin American and Caribbean countries between 1991 and 2010, a set of variables was positively related to per capita GDP growth. They are the rate of public investment, the rate of private investment, spending on education and the real exchange rate. In contrast, inflation and public debt were negatively related. The public investment elasticity of growth is high and significant (7%), underscoring the importance of this variable.

Table III.9
LATIN AMERICA AND THE CARIBBEAN: ANNUAL AVERAGE PUBLIC INVESTMENT BY PERIOD^a
(Percentages of GDP at constant prices in the local currency of each country)

	1980-1981	1982-1990	1991-1994	1995-1998	1999-2003	2004-2010
Argentina	2.2	1.5	1.6	1.5	1.2	2.5
Bolivia (Plurinational State of)	6.9	8.2	8.4	6.4	5.2	7.7
Brazil	2.2	2.2	3.2	2.2	1.7	1.8
Chile	1.9	2.4	2.0	2.5	2.4	2.4
Colombia	7.1	7.5	4.7	4.4	3.2	3.7
Costa Rica	8.0	5.5	4.8	4.2	2.6	2.0
Cuba	--	--	--	7.1	6.8	9.4
Dominican Republic	4.4	4.2	2.9	3.2	2.1	1.5
Ecuador	8.9	5.0	4.5	3.8	5.2	7.6
El Salvador	2.0	2.1	3.5	3.5	3.0	2.1
Guatemala	5.6	3.0	2.8	3.2	3.4	2.6
Honduras	8.3	7.4	9.1	6.8	4.9	3.9
Mexico	11.3	5.8	4.2	3.1	3.4	4.9
Nicaragua	10.5	10.5	7.7	6.6	5.7	3.9
Panama	8.9	4.4	3.4	4.6	5.0	5.9
Paraguay	5.0	5.1	3.7	3.9	2.7	3.1
Peru	6.3	5.0	4.3	4.5	3.5	4.1
Uruguay	5.3	4.3	4.1	3.3	3.1	4.3
Venezuela (Bolivarian Republic of)	16.0	10.0	10.0	9.5	8.8	16.8
Latin America ^b	6.7	5.2	4.7	4.4	3.9	4.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Statistical Yearbook for Latin America and the Caribbean*, various years; and "América Latina y el Caribe: Series históricas de estadísticas económicas 1950-2008", *Cuadernos estadísticos series*, No. 37 (LC/G.2415-P), Santiago, Chile, August 2009. United Nations publication, Sales No. S.09.II.G.72.

^a Public investment refers to general government gross fixed capital formation as a percentage of GDP.

^b Simple average of the countries in the sample.

The relative shares of public and private investment vary across the region. As a percentage of GDP region-wide, private investment fell from an annual average of 14.3% in 1980-1981 to an annual average of 11.1% in 1982-1990 (coinciding with the debt crisis) and then rose in 1991-1994 (14.1%) and 1995-1998 (15.6%). Between 1999 and 2003, private investment fell from prior-period levels (14.7%) owing to external fluctuations during the period that impacted growth expectations. Some examples are the dot-com crisis in the United States and domestic crisis such as the one that hit Argentina in 2000 (see table III.10). During 2004-2010, when the region's export commodity prices soared and growth prospects improved, the pace of private investment picked up substantially and brought the regional average up to 15.9%.

Private investment patterns vary from one country to another. In some cases, during 2004-2010 it remained below the levels posted in 1980-1981 (Argentina, Brazil and Paraguay). In others, the annual average for 2004-2010 is significantly higher than in 1980 and 1981 (Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico and Nicaragua). The Bolivarian Republic of Venezuela, the Plurinational State of Bolivia and Uruguay have the lowest levels of private investment. In Panama and Peru, the level of private investment in 2004-2010 was similar to the level recorded in 1980-1981 despite considerable volatility throughout the period. Except for the Bolivarian Republic of Venezuela, Ecuador and the Plurinational State of Bolivia, the increase in gross fixed capital formation as a percentage of GDP in 2004-2010 was primarily due to rising private investment. But it was not enough to fully offset the contraction of public investment.

Table III.10
LATIN AMERICA AND THE CARIBBEAN: ANNUAL AVERAGE PRIVATE INVESTMENT BY PERIOD
(Percentages of GDP at constant prices in the local currency of each country)

	1980-1981	1982-1990	1991-1994	1995-1998	1999-2003	2004-2010
Argentina	22.9	15.8	16.8	18.2	14.5	18.6
Bolivia (Plurinational State of)	7.1	3.5	6.3	11.8	10.8	7.2
Brazil	20.3	15.1	15.8	15.7	14.1	15.7
Chile	16.6	15.7	23.4	25.3	20.0	23.0
Colombia	10.0	9.0	15.1	16.4	10.9	18.6
Costa Rica	14.2	14.1	15.3	16.7	18.5	19.8
Cuba	...	...	...	4.7	4.5	2.4
Dominican Republic	16.8	14.3	13.4	17.8	20.0	17.8
Ecuador	13.5	13.1	21.2	20.8	18.2	19.6
El Salvador	10.6	10.5	14.0	15.7	16.3	15.8
Guatemala	6.8	6.0	7.1	8.1	12.8	14.6
Honduras	12.2	8.5	12.8	16.2	19.4	21.3
Mexico	14.3	11.4	14.7	14.0	16.4	16.5
Nicaragua	7.8	7.5	8.4	15.5	18.8	17.8
Panama	15.5	11.4	18.8	18.1	13.1	15.5
Paraguay	23.0	15.5	19.9	18.6	13.7	13.1
Peru	19.2	14.1	13.9	19.2	15.1	19.2
Uruguay	12.2	7.1	10.1	12.4	9.1	13.7
Venezuela (Bolivarian Republic of)	13.3	8.1	6.7	10.6	13.9	12.7
Latin America ^a	14.3	11.1	14.1	15.6	14.7	15.9

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Statistical Yearbook for Latin America and the Caribbean*, various years; and "América Latina y el Caribe: Series históricas de estadísticas económicas 1950-2008", *Cuadernos estadísticos series*, No. 37 (LC/G.2415-P), Santiago, Chile, August 2009. United Nations publication, Sales No. S.09.II.G.72.

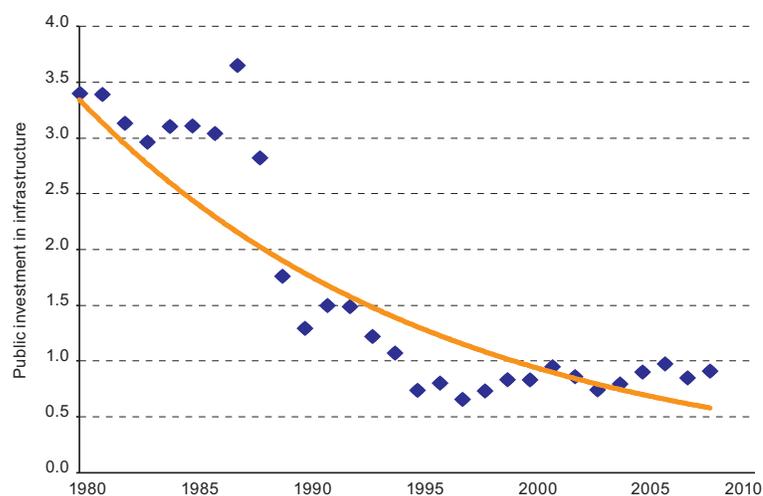
^a Simple average of the countries in the sample. (-) Figure not available.

2. Investment in infrastructure

Infrastructure is the main component of public investment. Figure III.15 shows the declining trend of this component, which was particularly pronounced during the lost decade of the 1980s and in the 1990s. The retreat of public investment largely reflects the shrinking footprint of government in the economy in most of the countries of the region, particularly owing to privatizations that mostly took place in the 1990s and the role of private actors in supplying goods and services that were previously provided by public agencies.

This downtrend continued throughout 2000-2004, with infrastructure investment amounting to just 0.8% of GDP. There was a slight reversal between 2005 and 2008, when it rose to 0.9% of GDP. Explanations for this increase include the restructuring of public accounts that, together with smaller debt, an improved debt profile and a build-up of international reserves, gave several of the region's countries additional space to implement public policies (ECLAC, 2010a).

Figure III.15
LATIN AMERICA AND THE CARIBBEAN: PUBLIC INVESTMENT IN INFRASTRUCTURE, 1980-2010
(Percentages of GDP)



Source: Georgina Cipoletta Tomassian and Ricardo Sánchez, *UNASUR: Infrastructure for regional integration* (LC/L.3408), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 2011.

Public expenditure on infrastructure has been procyclical, except in the 2008-2009 crisis, which indicates that it has been used as an adjustment variable. As shown in table III.11 with data for six countries in the region, public investment fell by an average of 36% in the downswing of the business cycle.¹⁰ Drops in public infrastructure investment tend to be sharper than any increase during the recovery phase. In the sectors considered, the contraction is on average 40% greater than the subsequent expansion. In the power and telecommunications sectors, the difference between the decline in investment during a contraction and the increase during the expansion is even greater: 48% and 200%, respectively. Such a pattern has negative impacts on capital accumulation over time.

Table III.11
LATIN AMERICA (6 COUNTRIES): DURATION AND AMPLITUDE OF EXPANSIONS AND CONTRACTIONS
OF THE CYCLE OF PUBLIC INVESTMENT IN INFRASTRUCTURE, 1980-2010

	Expansion		Contraction	
	Duration	Amplitude	Duration	Amplitude
Total	2.7	25.6	2.2	-35.6
Power sector	1.9	34.7	2.0	-51.5
Roads and railways	2.1	32.3	1.7	-33.1
Telecommunications	1.8	28.1	1.9	-58.0
Water and sanitation	1.6	24.2	1.7	-23.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

¹⁰ Argentina, Brazil, Chile, Colombia, Mexico and Peru, which account for 85.5% of the region's GDP between them.

Public investment has a positive effect on medium- and long-term growth paths, so the countries should shield it from the ups and downs of economic activity. This means that public investment policies should be guided by their effects on the production structure rather than by the need for temporary adjustments to short-term fluctuations in aggregate demand (see chapter VI). This would make it possible to sustain the transformation of the production structure of the economies so as to permanently raise growth rates in line with the development needs of the countries of the region.

In the ongoing technology revolution, investment in broadband infrastructure is particularly important because it provides a platform for supplying a wide range of services that cut across sectors and directly impact economic growth and social inclusion. These include education (distance services and access to information, development of new teaching-learning models); health (remote diagnostic services); governance (greater transparency, citizen participation, access to government information); and environmental protection (Jordán, Galperin and Peres, 2010).

Despite the progress made in the last few years in some countries in the region, broadband remains expensive, both in absolute terms and in relation to per capita income. Its quality (measured by connection speed and latency) is poor. This has opened a considerable gap in terms of access and use compared with the more advanced countries. According to the International Telecommunications Union (ITU), in 2010 average fixed broadband access penetration was 7% in Latin America compared with 26% in OECD countries. For mobile access the figures were 8% and 57%, respectively.

As for the cost of access, in Latin America the average price for speeds of 1 megabit per second (Mbps) is US\$ 25; extreme cases can top US\$ 100. In Europe, for example in Spain, Italy and France, the average rate for access at the same speed is about US\$ 5. In the Republic of Korea it is less than US\$ 1. In Latin America, connection speed (a key factor in quality) is 3.1 Mbps for downloads and 1.3 Mbps for uploads, compared with 12.1 Mbps download speeds and 3.1 Mbps upload speeds in OECD countries.

The region lags significantly in terms of broadband infrastructure development, as shown by widening access, accessibility and quality gaps. Overcoming this problem requires stepping up both public and private investment to expand infrastructure, particularly international connections and the development of Internet exchange points (IXPs) within countries and between groups of countries.¹¹

In short, investment serves as a crucial bridge between the present and future, linking cycle and trend. This section showed the strong impact of crises on investment, which has still not regained 1970s levels despite a significant upturn in recent years. Public investment has not been forceful enough to have significant crowding-in effects, particularly in areas such as infrastructure where there are substantial shortcomings.¹² The fact that during crises it is easier to cut back public expenditure on investment than it is to make cuts in other areas has impaired the effectiveness of

¹¹ In the field of international connections and the development of Internet exchange points, ECLAC, with technical and financial support from the European Union, serves as technical secretariat of the Regional Broadband Dialogue, consisting of 10 mostly South American countries, and it has implemented the Regional Broadband Observatory (ORBA).

¹² The annual infrastructure investment needed to meet expected demand in the region is estimated on the order of 5% of regional GDP for 15 years (Perrotti and Sánchez, 2011).

this variable as a catalyst for private investment. And the abundant external funding available during certain periods only partially filled the void left by public investment. The key variable in investment decisions is not the availability of savings but the expected returns. Macro prices and scant public investment in times of volatility and uncertainty have hindered a private investment response in keeping with development needs, with the resulting effects on growth, productivity and employment.

E. Foreign direct investment

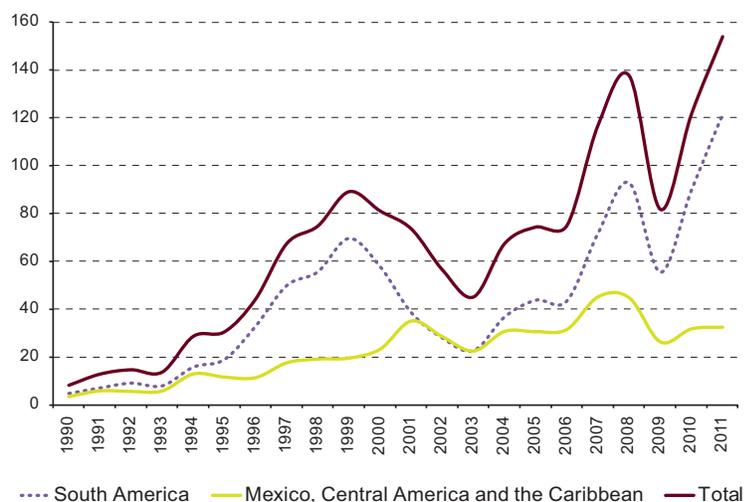
Foreign direct investment (FDI) flows to Latin America and the Caribbean have grown considerably in recent decades, and transnational enterprises have consolidated their position as a cornerstone of the production structure in the region's economies.¹³ After the market reforms era, FDI came to be seen as an engine of growth that automatically generated positive effects on the receiving economies. This view stressed the role of FDI as a complement to domestic savings and a source of new capital contributions, technology transfers and productivity spillovers. Amount was regarded as more important than quality, which led countries to seek to maximize FDI from transnational enterprises, the main actors. In fact, transnational operations generate value added equivalent to roughly 25% of world GDP, through their operations in countries of origin and in host countries. The foreign operations of subsidiaries of transnational enterprises account for over 10% of global GDP and a third of worldwide exports, making them increasingly important in global value chains (UNCTAD, 2011, p.24). Moreover, transnational enterprises are the main agents in research and development, accounting for about 50% of total research and development expenditure and over two thirds of private expenditure on research and development worldwide (UNCTAD, 2005, p.119). Against this backdrop, firms from emerging countries are increasingly involved. In Latin America and the Caribbean, the "trans-Latins" have been particularly dynamic in sectors such as telecommunications, cement, iron and steel, petrochemicals, airlines, banks, power generation, meat production and department stores (ECLAC, 2012).

FDI and transnational enterprises play a key role in the production structure of Latin America and the Caribbean, for various reasons. First, they are present in virtually all of the countries and all production and service activities. Many of them are industry leaders occupying oligopolistic positions in their respective markets. Second, FDI is conducted through two mechanisms: mergers and acquisitions, and greenfield investments (a component of gross fixed capital formation). Third, the positioning of transnationals is essential for understanding the international integration patterns pursued by the countries of the region, especially for their exports. Fourth, transnational enterprises are particularly important in the more modern sectors and in activities with greater technology content being carried out in the region. Fifth, transnationals figure heavily in research and development and in industry innovation in the region's largest economies, such as Argentina, Brazil and Mexico.

¹³ Foreign direct investment figures are for foreign direct investment inflows, less disinvestments (repatriation of capital) by foreign investors. The foreign direct investment figures do not include flows received by the main Caribbean financial centres. The data differ from those published in the 2011 editions of *Economic Survey of Latin America and the Caribbean* and *Preliminary Overview of the Economies of Latin America and the Caribbean*, which show the net balance of foreign investment, in other words direct investment in the reporting economy minus outward foreign direct investment.

Over the past few years, the region has enhanced its attractiveness as a destination for transnational enterprises. Between 2007 and 2011, FDI inflows to Latin America and the Caribbean averaged more than US\$ 120 billion per year (see figure III.16). Record inflows to the region in 2010 and 2011 amounted to roughly 10% of the world total.

Figure III.16
LATIN AMERICA AND THE CARIBBEAN: FOREIGN DIRECT INVESTMENT INFLOWS,
TOTAL AND BY SUBREGION, 1990-2011
(Billions of dollars)

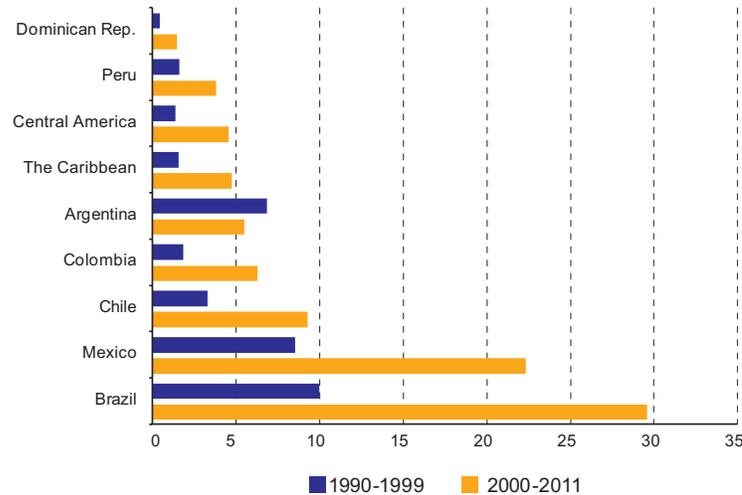


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as of 16 April 2012.

Transnational firms have benefited from the region's buoyant economy, where they find attractive markets with strong growth potential. For all of the countries and subregions shown in figure III.17 FDI inflows rose sharply during the 2000s compared with the preceding decade, even counting the sweeping privatizations of State enterprises during the 1990s (in which transnationals were involved). The leading FDI recipients have been the region's two largest economies (Brazil and Mexico), followed by Argentina, Chile and Colombia. Nonetheless, Chile and the small Caribbean economies have received the largest amounts of FDI in relation to GDP (ECLAC, 2012).

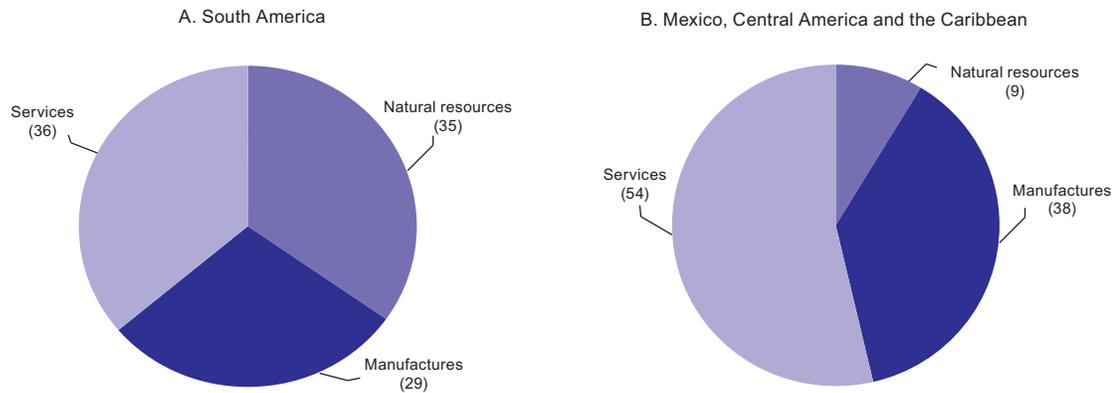
The services sector (including telecommunications, energy and retail trade) has received the largest share of FDI. Two patterns can be identified in the participation of FDI in goods production. In South America, it has been concentrated in the natural-resource sectors and, to a lesser extent, in manufacturing —mainly in Brazil, where major investments have been made in the automobile industry. In Mexico, Central America and the Caribbean, however, FDI flows to goods production sectors are more closely linked to export manufacturing and are heavily concentrated in the automotive sector (Mexico) and free zone maquila operations. The manufacture of products based on natural resources accounts for a small share (see figure III.18).

Figure III.17
LATIN AMERICA AND THE CARIBBEAN: MAIN FOREIGN DIRECT INVESTMENT RECIPIENT COUNTRIES, 1990-2011
(Billions of dollars, annual averages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as of 16 April 2012.

Figure III.18
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF FOREIGN DIRECT INVESTMENT FLOWS BY SECTORS, 2005-2011
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures and estimates as of 16 April 2012.

Transnational firms tend to pursue strategies seeking raw materials, domestic markets, export platform efficiency, strategic technology assets and highly skilled human capital (Dunning, 2002). This frame of reference helps to understand the international insertion of the region's countries, which is heavily influenced by the presence of transnationals (see table III.12). Those pursuing a natural-resource seeking strategy have targeted the Southern Cone countries and have enjoyed a boom lasting several years, driven by the high price of raw materials. The main benefits of transnational firms operations are export growth, job creation in non-urban areas and increased tax revenue.

Table III.12
LATIN AMERICA AND THE CARIBBEAN: TRANSNATIONAL COMPANY OPERATIONS

Strategy	Natural resource seeking	Market seeking	Export platform efficiency seeking
Production of goods (by sector)	Oil and gas: Argentina, Andean Community Mining: Chile, Argentina, Andean Community	Automobiles: Brazil and Argentina Chemicals: Brazil Food and beverages: Argentina, Brazil and Mexico	Automobiles: Mexico Electronics: Mexico, Central America and the Caribbean Garments: Central America and Mexico
Services	Tourism: Mexico, Central America and the Caribbean	Financial services: Mexico, Chile, Argentina, Bolivarian Republic of Venezuela, Colombia, Peru, Brazil Telecommunications: Brazil, Argentina, Chile, Peru, Bolivarian Republic of Venezuela Commerce: Mexico, Brazil and Argentina Energy: Colombia, Brazil, Chile, Argentina, Central America Gas: Argentina, Chile, Colombia, Plurinational State of Bolivia	Business services: Mexico, Central America and the Caribbean

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

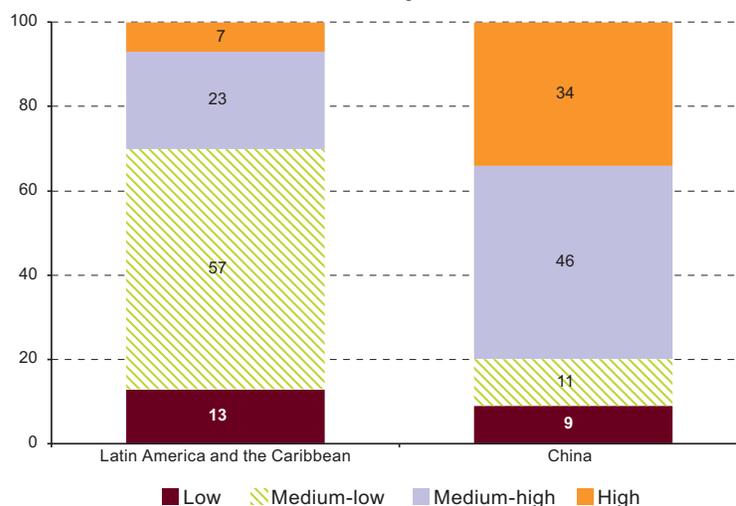
The main problems arising from FDI-financed activities have to do with the fact that they often operate in enclaves. Moreover, there is little processing of natural resources, as well as negative effects on environmental sustainability that have sparked major conflicts with local communities, and heavy dependency on raw materials price cycles. Moreover, because of the high degree of ownership concentration and the enclave rationale, productivity gains are concentrated in just a few firms, with little diffusion to other sectors of the economy.

Transnationals seeking local or regional markets have pursued this strategy mainly in larger economies of the region (Argentina, Brazil and Mexico), where FDI is concentrated in service sectors and the production of goods such as automobiles, chemicals and food and beverages. Over the past few years, transnationals have increased their investments under this strategy, taking advantage of the region's strong economic performance and a growing middle class with greater purchasing power (Franco, Hopenhayn and León, 2010). Their operations have created production linkages and helped develop the local business fabric in some sectors, such as food and beverages, and some play a key role in the dissemination of technology. In Brazil, transnationals account for some 50% of private sector spending on industrial research and development, especially in the automotive and electronics sectors. Brazil has consolidated its position as a destination for research and development investment by transnational firms, to the point that some subsidiaries have become important players in their parent companies' global innovation strategy.

The dominant strategy in Mexico, Central America and Caribbean has been to seek export platform efficiency (product assembly operations for export mainly to the United States). These activities have increased exports but have not done well in terms of technology transfer, human resource training, creating and deepening production linkages with local firms or, in a broader sense, changing export platforms into manufacturing hubs. The main disadvantages of this type of FDI are a focus on the production of low value-added goods and scant creation of production clusters.

It is useful to look at investment in greenfield manufacturing facilities (the key mechanism for increasing production capacity) by breaking down the target sectors on the basis of technology content. As shown in figure III.19, 70% of the FDI going to the manufacturing sector in Latin America and the Caribbean between 2003 and 2011 went to low- or medium-low technology content sectors (food and beverages, textiles, footwear, paper, mining and metals, among others). By contrast, in China, 80% is channelled to medium-high or high-technology sectors (automotive, pharmaceuticals, machinery, medical instruments and chemicals, among others).

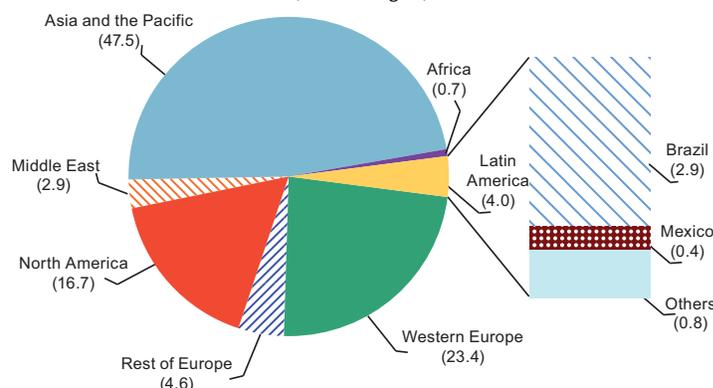
Figure III.19
LATIN AMERICA AND THE CARIBBEAN: DISTRIBUTION OF FOREIGN DIRECT INVESTMENT PROJECT AMOUNTS BY TECHNOLOGY INTENSITY, 2003-2011
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

The region is a marginal player in terms of FDI associated with research and development, accounting for just 4% of such operations worldwide (see figure III.20). The countries of developing Asia receive about 50% of such investments. In Latin America and the Caribbean, they are concentrated in Brazil, the only country that has achieved significant participation in the internationalization of research and development operations by transnational firms. The major difference between the FDI received in the region and that targeting the more dynamic developing countries raises doubts as to the contribution of FDI in terms of capacity-building and technology spillovers.

Figure III.20
DISTRIBUTION OF CROSS-BORDER RESEARCH AND DEVELOPMENT PROJECT AMOUNTS, 2008-2011
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

The move towards the service markets has taken in virtually the entire region, with firms taking advantage of the wide-ranging privatization processes of the 1990s to gain leading (in many cases oligopolistic) positions. Trends in the telecommunications, energy, banking, commerce and other sectors are now being set by major transnationals. Their operations have helped boost the systemic competitiveness of the host economies. The main difficulties are associated with regulatory issues and the lack of incentives to promote greater competition and thus pass on more benefits in terms of access and cost to broad segments of the population.

Available evidence shows that the impacts of transnational operations in the region have been very mixed. But it is clear that many of the impacts have to do, on the one hand, with each country's production, technology and human capital capacities and, on the other hand, with sector regulatory frameworks, particularly in the service sector.¹⁴ As a whole, these factors form a system that can either promote or restrict the benefits of FDI in the receiving countries. Thus, a set of policies that combines attracting FDI with efforts to promote structural change would not only draw higher-quality transnationals into sectors with greater spillover and capacity-building potential but would also facilitate their integration into local economies and enhance the various dimensions of development (ECLAC, 2012).

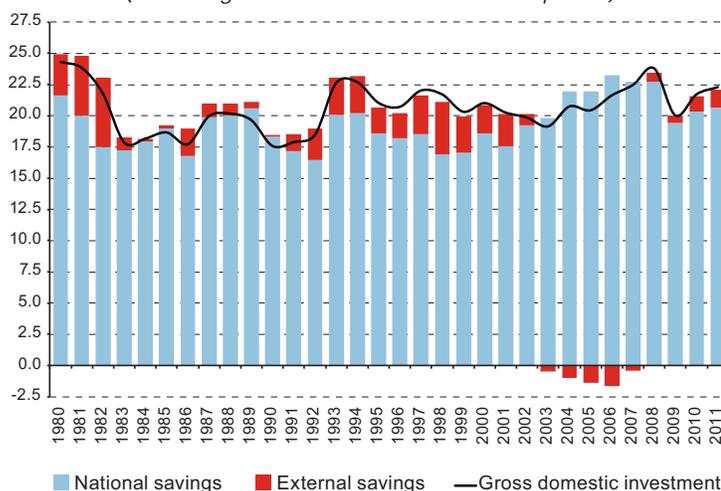
F. Financing investment

1. Sources of funding: national savings and external savings

In the long run, external funding, mediated by access to international capital markets, has contributed to the expansion of investment in the region. Periods when this type of funding was restricted as a result of changes in the global financial environment or domestic crises that exacerbated country risk have resulted in lower investment rates, at least between the start of the external debt crisis (in 1982) and 2003 (see figure III.21).

¹⁴ In general terms, criticisms of foreign direct investment in the region cite factors such as the crowding-out of domestic investment, loss of sovereignty, over-exploitation of non-renewable resources, greater external vulnerability, greater focus on non-competitive industries, degradation of the environment or failure to observe labour standards.

Figure III.21
LATIN AMERICA: FINANCING INVESTMENT, 1980-2011
(Percentages of GDP in dollars at current prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official data from the countries.

Several economies saw a significant change in this scenario in 2003-2008, when investment rates rose steadily and national savings surged, thanks mainly to a sharp rise in income.

There are differences between the countries of Latin America and the Caribbean. Tables III.13, III.14 and III.15 show total, national and external savings in national currency as percentages of GDP. Both region-wide and in most of the countries, total savings increased in 2004-2010 compared with earlier periods. Nonetheless, in many countries the average annual savings rates in that period were similar to or below those recorded in 1980-1981.

An analysis of the savings structure shows that national savings has increased gradually while the share of external savings has declined. The years 2004-2010 saw the highest levels of national savings during 1980-2010, although rates vary widely between countries. Mexico and the countries of South America, except for Brazil, Ecuador, Paraguay, the Plurinational State of Bolivia and Uruguay, have national savings rates above 20%. National savings rates in the Central American countries, except Honduras, are between 10% and 17%.¹⁵

External savings has trended in the opposite direction over the past few years (2004-2010), posting its lowest levels in reflection of stronger external accounts in most of the region's countries. Nonetheless, here too the figures are very heterogeneous. Several South American countries have negative external savings rates equal to 2.5% of GDP or even lower rates. The drop in external savings reflects stronger external accounts owing to soaring metal and hydrocarbon prices that fuelled a substantial rise in exports of goods and a marked increase in national income. The Bolivarian Republic of Venezuela and the Plurinational State of Bolivia are in this group.

The overall picture in the countries of Central America tends to be different, with external savings remaining high and positive. In conjunction with low levels of national savings, this illustrates these countries' dependency on external savings to sustain their investment levels.¹⁶

¹⁵ As table III.14 shows, the Bolivarian Republic of Venezuela has the highest national savings rate in the region (35%), well above that of the other countries. If Venezuela were excluded from the calculation, the regional average national savings rate would be 19.1%.

¹⁶ Appendix II.2 provides details of the dynamic of public and private savings.

Table III.13
LATIN AMERICA: TOTAL SAVINGS, SIMPLE AVERAGES, 1980-2010
(Percentages of GDP in dollars at current prices)

	1980-1981	1982-1990	1991-1994	1995-1998	1999-2003	2004-2010
Argentina	24.5	18.4	17.7	20.0	15.2	22.5
Bolivia (Plurinational State of)	15.8	13.5	15.8	18.7	16.1	15.1
Brazil	24.1	21.5	20.4	17.4	17.2	18.1
Chile	21.5	19.0	24.2	26.9	21.5	21.3
Colombia	19.8	19.9	22.5	22.2	16.2	22.1
Costa Rica	27.8	25.4	19.8	18.2	19.5	23.2
Cuba	...	25.4	8.0	12.8	10.7	11.0
Dominican Republic	23.7	21.0	18.2	17.0	21.4	17.8
Ecuador	12.8	17.1	14.1	13.8	13.8	16.9
El Salvador	...	13.9	18.1	17.0	16.7	15.3
Guatemala	16.5	12.6	16.4	14.7	19.1	18.6
Honduras	22.9	17.5	30.5	31.4	27.7	28.3
Mexico	27.3	21.2	22.3	23.3	22.3	25.0
Nicaragua	20.2	21.6	20.4	27.5	29.9	29.6
Panama	28.2	15.7	23.6	27.5	20.5	22.8
Paraguay	28.8	23.7	23.8	25.2	19.4	18.3
Peru	29.4	23.5	19.0	23.8	19.4	22.1
Uruguay	16.4	13.1	15.5	15.4	13.4	18.1
Venezuela (Bolivarian Republic of)	23.8	18.9	18.8	23.3	22.9	25.2
Latin America	22.6	19.1	19.4	20.8	19.1	20.6

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Table III.14
LATIN AMERICA: NATIONAL SAVINGS, SIMPLE AVERAGES, 1980-2010
(Percentages of GDP in dollars at current prices)

	1980-1981	1982-1990	1991-1994	1995-1998	1999-2003	2004-2010
Argentina	22.0	16.5	15.4	16.6	16.2	24.8
Bolivia (Plurinational State of)	15.5	14.8	7.9	11.8	10.8	23.3
Brazil	19.3	20.2	19.9	14.1	14.3	17.7
Chile	10.8	13.3	21.5	22.9	20.6	23.3
Colombia	18.2	19.1	22.4	18.2	16.1	20.1
Costa Rica	12.8	17.1	14.1	13.8	13.8	16.9
Cuba	...	...	...	...	...	10.9
Dominican Republic	13.7	16.6	14.8	16.1	20.2	13.7
Ecuador	10.8	(0.2)	15.9	18.0	21.7	22.3
El Salvador	...	...	15.7	15.4	13.9	11.5
Guatemala	12.1	9.0	12.3	10.7	13.5	14.5
Honduras	5.1	5.4	15.9	21.7	16.7	20.8
Mexico	21.8	21.6	16.3	21.5	19.9	24.3
Nicaragua	(1.8)	5.7	(7.7)	6.8	10.2	13.6
Panama	25.7	24.4	25.6	24.1	18.3	22.6
Paraguay	23.4	18.8	21.3	22.3	19.5	18.6
Peru	24.2	20.5	13.1	16.9	17.2	22.2
Uruguay	10.8	11.8	14.5	14.1	11.5	16.0
Venezuela (Bolivarian Republic of)	30.8	21.3	18.3	27.2	30.5	35.0
Latin America	16.2	15.0	15.4	17.3	16.9	19.6

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

Table III.15
LATIN AMERICA: EXTERNAL SAVINGS, SIMPLE AVERAGES, 1980-2010
(Percentages of GDP in dollars at current prices)

	1980-1981	1982-1990	1991-1994	1995-1998	1999-2003	2004-2010
Argentina	2.5	1.9	2.7	3.4	(1.0)	(2.3)
Bolivia (Plurinational State of)	0.3	(1.3)	7.9	6.9	5.3	(8.5)
Brazil	5.0	1.3	0.5	3.3	2.8	0.3
Chile	10.7	5.7	2.8	4.0	0.9	(2.0)
Colombia	1.6	0.8	(0.8)	4.0	0.1	1.9
Costa Rica	15.0	8.3	5.6	4.3	5.7	6.3
Cuba	...	...	...	...	...	1.0
Dominican Republic	10.0	4.4	1.6	1.3	1.1	4.1
Ecuador	4.4	6.5	5.2	4.0	(0.3)	2.1
El Salvador	...	4.3	2.3	1.6	2.8	3.7
Guatemala	4.4	3.6	2.0	3.9	5.7	4.1
Honduras	11.5	5.2	8.2	3.8	5.8	6.7
Mexico	5.5	(0.3)	6.1	1.7	2.4	0.7
Nicaragua	22.0	15.0	28.3	20.7	19.7	16.0
Panama	2.5	(8.7)	(2.0)	3.4	2.2	0.2
Paraguay	5.4	4.8	2.5	2.8	0.1	(0.3)
Peru	5.3	3.0	5.9	6.9	2.1	(0.0)
Uruguay	5.5	1.3	1.0	1.3	1.9	2.5
Venezuela (Bolivarian Republic of)	(7.0)	(2.4)	0.5	(4.0)	(7.5)	(9.2)
Latin America	5.1	1.9	5.0	4.4	2.8	1.5

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries.

2. The financial system and funding the production sector

(a) The financial system

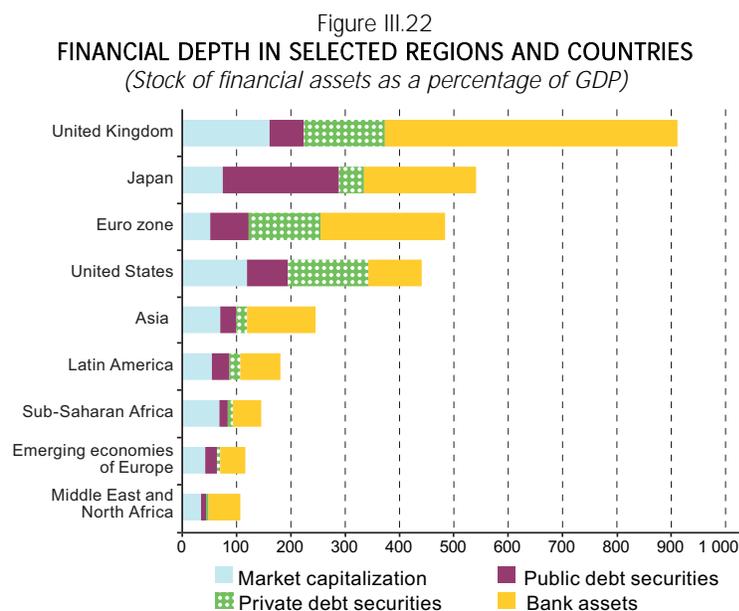
Financial-system development —specifically, the capacity of financial institutions to channel savings into the financing of production activities— is still unfinished business in Latin America and the Caribbean.

A more developed financial system would need to take account of the region's structural heterogeneity and be able to provide instruments and services that respond to the diverse production framework and the need to strengthen its linkages. The region's financial markets are segmented, and it is hard for most companies (especially microenterprises and small businesses) to access credit; this is a drag on job creation. Asymmetries in access to financing reinforce pre-existing inequalities in terms of capacities and participation in external markets, and they generate a vicious circle that increases the vulnerability of the smaller firms and makes it hard for them to expand (ECLAC, *Time for equality*). These asymmetries cramp innovation itself as well as the adoption of physical-capital-intensive and more skilled-labour-intensive innovations.

The banking system, which is the main component of the financial structure of the countries of the region, tends to offer short-term loans that are not always suited to the financing needs of investment projects. Bank credit markets are segmented, and it is the larger firms that find it easier to access credit. Most microenterprises and small businesses are not seen as creditworthy because they are unable to provide sufficient guarantees and are too small. Although financing through

external bank loans has expanded in recent years, it also tends to target the larger firms. Apart from the banking system, there are other sources of funding for the production sector, but these also are restrictive and access is segmented.

The stock of financial assets (including bank assets, market capitalization and the stock of public and private debt securities), which is the main indicator of the depth of the region's financial system, amounted to about US\$ 8.4 billion in 2010, equivalent to 180% of the region's GDP. This is much lower than the stock of financial assets in the United States (more than US\$ 64 billion, or 442% of GDP) and the euro zone (nearly US\$ 59 billion, equivalent to 484% of GDP) and even well below levels in Asia (see figure III.22).



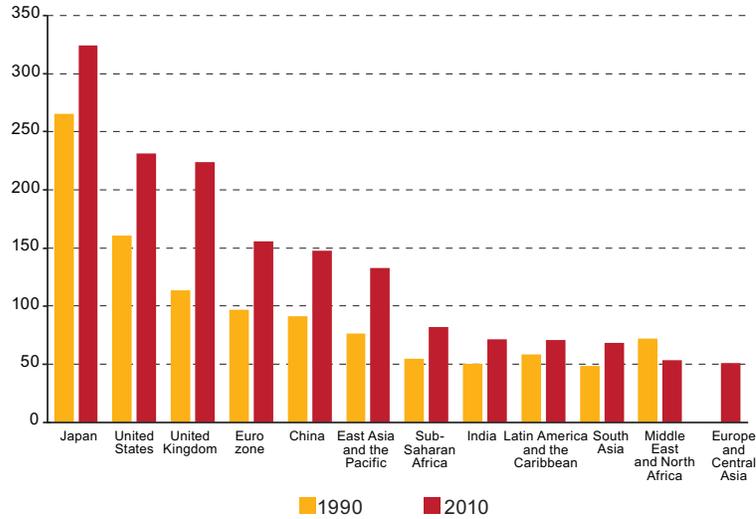
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from International Monetary Fund (IMF), *Global Financial Stability Report*, various issues.

The banking component of the region's financial system is less deep than in a number of developed countries and in other developing regions (see figure III.23). In 2010, domestic lending by the banking sector averaged 71% of GDP, about 62 percentage points below East Asian and Pacific countries. In addition, the loan-to-deposit ratio is low, reflecting the banks' preference for holding part of their assets in the form of government bonds, which limits the amount they can lend to private enterprises.

Private banks in general have behaved procyclically (which restricts credit expansion at times of reduced economic activity). Public banks, by contrast, have tended to play a countercyclical role, as in 2008-2009 in the wake of the global financial crisis (see figure III.24).

The bank business loan portfolio is made up mostly of short-term loans and working capital loans. The shift towards consumer credit over this past decade has tended to further accentuate the short-term bias of the bank portfolio. Longer-term mortgage loans have developed little, except in Chile where this type of financing grew from 19.4% of the total in 2000 to 25.5% in 2009 (Jiménez and Manuelito, 2011).

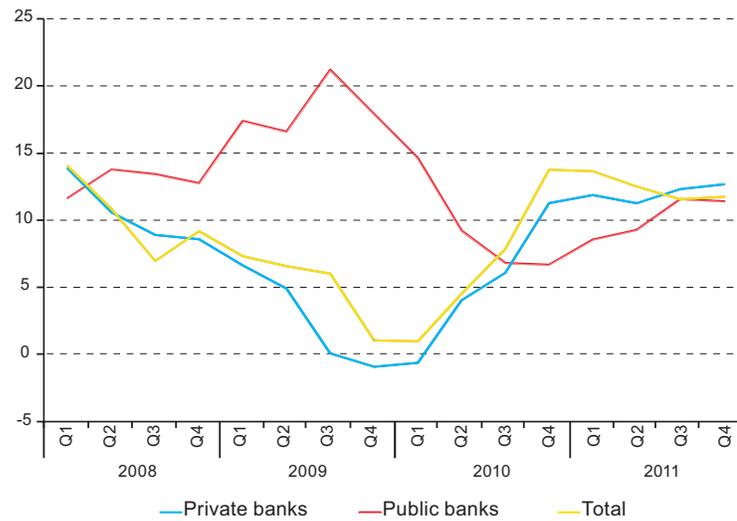
Figure III.23
**LATIN AMERICA AND THE CARIBBEAN AND OTHER SELECTED REGIONS:
 DOMESTIC LENDING BY THE BANKING SYSTEM, 1990 AND 2010^a**
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators.

^a With the exception of the euro zone, only countries classified as developing countries are included in each region.

Figure III.24
LATIN AMERICA: AVERAGE RATE OF REAL VARIATION IN CREDIT^a

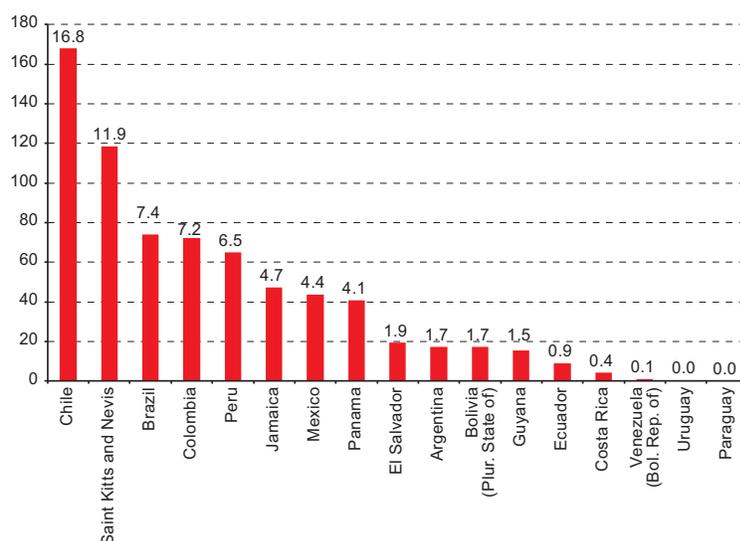


Source: Economic Commission for Latin American and Caribbean (ECLAC), on the basis of official figures from the countries.

^a Countries included in the calculation: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Paraguay, Peru and Uruguay.

Equity markets, which offer long-term capital that is better suited to investment projects, are also little developed in most countries of the region. The depth of the equity market (market capitalization as a percentage of GDP) has increased in the last few decades, but it remains shallow compared to those of developed countries as well as other developing regions.¹⁷ Chile has the region's highest market capitalization rate, at almost 170% of GDP in 2010 (see figure III.25). The weakness of equity markets as a mechanism for financing investment is also shown in the small value of new share issues as a proportion of gross capital formation.

Figure III.25
MARKET CAPITALIZATION IN LATIN AMERICA AND THE CARIBBEAN, 2010
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators.

The region's equity markets are also less liquid than those of developed countries and other developing regions. Measured by the turnover ratio (total volume traded in a given period as a percentage of average market capitalization), Brazil has the most liquid market, followed by Mexico.

A sector breakdown of market capitalization for the countries of the region shows that the leading sectors are banking, finance and insurance, along with manufacturing (see table III.16).¹⁸ There are sharp differences between countries; in Panama and El Salvador, for instance, the financial sector accounts for the largest share. In others, such as Colombia and Peru, mining firms are ranked first.

¹⁷ In 2010 market capitalization was less than 60% of GDP, in contrast, for example, to 117% in the United States, 93% in India and over 80% in China. The region's market capitalization ratio is also low compared with developing regions with lower per capita income levels than Latin America and the Caribbean. In South Asia and East Asia and the Pacific the capitalization ratios top 80%, and per capita GDP is 70% and 40% less than that of Latin America and the Caribbean, respectively. The euro zone has lower levels than the region, since the ratio fell by almost 50 percentage points (from 85% to 38%) following the crisis that broke out in 2007.

¹⁸ The information refers only to local firms quoted on the respective stock exchanges.

Table III.16
MARKET CAPITALIZATION STRUCTURE OF LOCAL COMPANIES BY ECONOMIC SECTOR, 2010^a
(Percentages)

	Manufacturing	Mining	Banking, finance and insurance	Agriculture	Retail sales	Communications and technology	Utilities	Others	Total
Argentina	54.6	...	20.7	...	...	...	13.7	11.0	100
Bolivia (Plurinational State of)	20.0	...	15.0	...	...	...	3.0	62.0	100
Brazil	21.4	11.3	26.5	0.1	2.4	5.4	8.4	24.5	100
Chile	6.1	...	12.2	...	16.8	2.2	...	62.7	100
Colombia	11.5	42.0	30.0	0.1	1.9	...	13.2	1.4	100
Costa Rica	66.0	...	28.0	...	...	4.0	...	2.0	100
Ecuador	44.2	...	28.2	0.4	24.2	...	...	2.9	100
El Salvador	...	...	82.0	...	...	18.0	...	...	100
Mexico	9.9	...	8.9	...	...	31.3	...	49.9	100
Panama	...	0.0	75.0	1.0	4.3	...	...	19.6	100
Peru	11.0	46.1	21.0	1.3	0.6	3.8	5.8	10.3	100
Uruguay	73.0	...	...	...	...	...	27.0	...	100
Average	31.8	24.9	31.6	0.6	8.4	10.8	11.8	24.6	100.0

Source: Ibero-American Federation of Exchanges (FIAP), *2011 annual report*.

^a The category "Others" includes the following sectors in each country: in the Plurinational State of Bolivia, oil companies; in Brazil, oil, gas and biofuels (17.87%) and others (6.58%); in Chile, commodities (15.54%), construction and real estate (1.15%), consumption (2.92%), utilities (14.25%) and others (28.79%); in Mexico, materials (15.90%), services and consumer goods (32.94%) and health services (1.05%).

The fact that equity markets operate in harness with banking systems (Beck and Levine, 2004) is important for firms with insufficient collateral to obtain bank financing, or those that gain access to bank financing but need to increase their capital to avoid excessive leveraging (Morales, 2009). In any event, a comparison with the situation in developed countries and in other developing nations, such as India and China, makes it clear that in Latin America access to equity markets remains concentrated in a few major companies. The number of listed firms has actually been decreasing in several countries.

The equity market has not played a key role in financing investment in most of the region's countries. In some cases, it has been virtually non-existent (Costa Rica, El Salvador, the Plurinational State of Bolivia, Uruguay) or very small (the Bolivarian Republic of Venezuela, Ecuador). Share issuance does play a role in Brazil, Colombia, Chile, Mexico and Peru, although the percentage is always lower than the investments financed by issuing shares in Spain and Portugal in 2007 prior to the onset of the crisis.

Another way firms can obtain capital financing is by being listed on foreign stock exchanges, such as those of London, New York (NYSE and NASDAQ) and Tokyo, either through American Depositary Receipts (ADRs) or through direct listing on those markets. Countries in all emerging regions have increased share issues on international markets, with Brazil the most active country in Latin America and the Caribbean. The fact that major companies in some Latin American countries increasingly issue shares on foreign stock markets could partly explain the slow rate of development of local equity markets in the countries of the region.

Bond markets in Latin America and the Caribbean are also shallow compared with other countries and regions. The average stock of bonds amounted to 33% of GDP in seven of the region's countries in 2000-2009, versus more than 100% of GDP in the G7 countries, 64% in other developed economies and 56% in Asian countries.¹⁹ Moreover, the region's markets are dominated by public-sector sovereign bond issues, with private firms accounting for a very small volume of issues. Public-sector bonds are considered necessary for the development of debt markets and thus for improving access to them by private firms. This is because they constitute a safe or a risk-free asset that acts as a benchmark for the cost of funds; they can also be used as collateral in financial operations, which helps to expand the scope of the market and allow new segments to develop (Jiménez and Manuelito, 2011). Nonetheless, when the yield on public securities is very high, banks have an incentive to channel their resources in that direction instead of lending for production investment. Nonetheless, the region's firms still tap the bond market very little as a source of funding. As is the case in the equity market, bond market liquidity is also very low by international standards.

(b) Other markets and key players

With few exceptions, derivatives markets are little developed in most countries of the region. These markets are effective for hedging risks but cannot be tapped directly to finance investment, although they can promote investment indirectly. The development of the derivatives market in emerging economies is positively related to trade, financial activity and, ultimately, per capita income (Mihaljek and Packer, 2010).

Brazil has the most developed derivatives market in Latin America, with daily turnover of about US\$ 184 billion in 2010, corresponding to 9% of GDP.²⁰ This stands in contrast to some US\$ 13.8 billion (36% of their GDP) in the advanced economies, while for emerging markets as a whole turnover was US\$ 1.2 billion, equivalent to around 6% of GDP (Mihaljek and Packer, 2010).²¹ Derivatives markets also have some importance in Mexico, with daily turnover equivalent to 1% of GDP.

The importance of these markets in Latin American countries in the future could affect the development of other financial markets, such as bond and equity markets. Once again, as in the case of complementarity between the banking system and the equity market, the parallel development of the different financial markets and subsystems could spark a feedback process that would improve the channelling of savings into long-term financing.

The region's financial systems have become more complex in recent decades as new players have appeared. In many countries, institutional investors such as pension funds, mutual funds and insurance companies are becoming more important (World Bank, 2011). Such investors need long-term assets and, therefore, could contribute to the development of equity markets and medium- and long-term corporate debt markets. Nonetheless, in several countries the financing of capital formation by these agents has been limited by their preference for investing in bank deposits and public securities—owing either to regulatory provisions or to the high interest rates that they offer.

¹⁹ The Asian countries considered are Indonesia, Malaysia, Philippines, the Republic of Korea and Thailand; "other advanced economies" include Australia, Finland, Israel, New Zealand, Norway, Spain and Sweden; Latin America (seven countries) includes Argentina, Brazil, Chile, Colombia, Mexico, Peru and Uruguay.

²⁰ Daily turnover is the total value of transactions per day, expressed as a daily average in dollars.

²¹ Daily turnover data is for April 2010. Daily turnover increased, on average, fourfold over the past decade.

Pension funds are the outcome of pension system reforms that replaced or combined the old pay-as-you-go systems with individually funded schemes. By 2010, these funds had grown to US\$ 456 billion, equivalent to 30% of the GDP of the countries included in table III.17. Chile was the first country in the region to implement this type of reform in the early 1980s; the countries where pension funds are largest are Chile (68.7% of GDP) and Panama (319.7%).²²

Table III.17
LATIN AMERICA: ASSETS MANAGED BY PENSION FUNDS
(Percentages of GDP)

Country	June 2004	June 2005	June 2006	June 2007	June 2008	June 2009	June 2010
Argentina	11.3	12.3	12.3	13.2	11.8	...	...
Bolivia (Plurinational State of)	19.5	20.1	21.0	22.0	25.2	22.6	28.9
Chile	62.6	63.9	63.2	68.5	65.1	59.9	68.7
Colombia	9.7	11.7	12.9	13.4	15.0	14.1	16.7
Costa Rica	2.1	3.0	3.9	4.9	5.0	5.9	6.8
Dominican Republic	0.4	1.7	1.7	2.2	2.9	3.7	4.7
El Salvador	12.7	16.4	19.5	19.6	22.8	25.5	24.1
Mexico	5.8	6.3	7.1	8.4	7.1	8.5	10.3
Panama	...	...	...	...	...	...	319.7
Peru	11.2	12.3	14.2	20.5	17.5	15.3	17.7
Uruguay	14.4	14.8	13.1	14.5	14.2	12.0	14.3
Total	11.4	12.5	13.7	15.9	14.0	15.6	30.1

Source: International Association of Pension Funds' Supervisory Organisations, *Boletín estadístico AIOS*, No. 23, June 2010.

As for other institutional investors, mutual fund assets account for 10% of GDP in seven Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, Peru and Uruguay), whereas insurance company assets represent 6% of GDP. The countries of the region have made more strides in developing pension funds than in developing the other kinds of institutional investor.²³

Institutional investors in the region have traditionally placed a large proportion of their portfolios in fixed-income securities or assets (public debt securities or bank deposits), which reduces the funds available for investments in corporate debt instruments and equity. For example, on average in 2005 pension funds held over half of their portfolio invested in government debt, and just 10.7% in shares. Although by 2010 the proportion of the portfolio invested in public securities had dropped to 26%, it was still high compared with levels in developed countries. In the Group of Seven, for example, pension funds held on average just 16% of their portfolios invested in government securities (World Bank, 2011). The corporate equity share grew only modestly in the region, from 10.7% in 2005 to 13.5% in 2010. Similar patterns prevail in the case of mutual funds, which invest a large proportion of their portfolios in

²² In comparison, in the Group of Seven countries assets managed by pension funds are equivalent to just 34% of GDP on average.

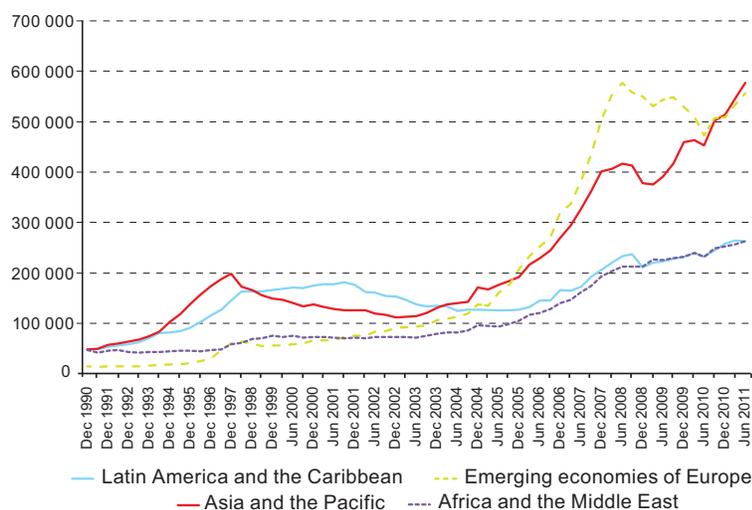
²³ There are differences between the countries of the region in this regard. In Brazil, for example, mutual funds are very significant, with total assets under management equivalent of 42% of GDP (World Bank, 2011).

government bonds and money-market instruments, although they, too, are also cutting down their public-debt holdings.²⁴

Two other types of institutional investors operate in the region: (i) private equity funds generally invest long-term in the shares of firms that are not quoted on stock markets and so are highly illiquid; (ii) venture capital funds take equity stakes in firms in dynamic sectors of the economy, from which they expect high returns in the short run. Both types of fund could be important sources of financing for smaller firms but, although their presence in the region has increased in the past decade, they are not yet very developed (World Bank, 2011).

Firms in Latin American and the Caribbean are increasingly turning to foreign bank loans as a source of funding, but growth of this form of financing is small compared with the percentage of GDP it accounts for in other developing regions. Foreign bank loans to firms in the region went from 4% of GDP in 1990 to 5% of GDP in 2011. Whereas in 1990 levels of foreign bank lending to the non-financial private sector were comparable to, or even higher than, those of other developing regions, by 2011 they were much lower (see figure III.26). In general, the economic agents that obtain such loans are larger companies while small and medium-sized enterprises find it hard to access external markets. Their growth potential is therefore limited by the shortcomings of local financial systems.

Figure III.26
FOREIGN BANK LOANS TO THE NON-FINANCIAL PRIVATE SECTOR
(Millions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the Bank for International Settlements (BIS).

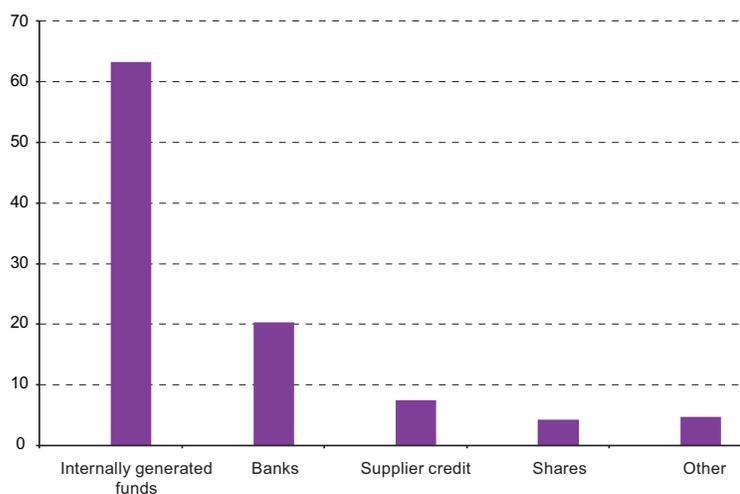
²⁴ For example, in Brazil, the share of government bonds in mutual-fund portfolios decreased from 73% in 2003-2004 to 48% in 2005-2009 (World Bank, 2011). In Chile, the share dropped from 14% to 6%; bank deposits continue to be the main component of the portfolio, with 63%, while local shares account for just 9% of the total portfolio.

(c) Financing for businesses

Financing needs in the production sector vary according to the stage of business development, ranging from seed capital and funding for start-ups to funding for working capital and investments and funding for capital increases for growth and expansion.

Given the scant development of the different components of the financial system in Latin America, funding for the production sector to cover those needs is generally in short supply. That is why the region's companies tend to finance investments themselves rather than turning to the financial markets (see figure III.27). The second most common method of financing business investments is bank loans; the third is supplier credit. Share issues account for a relatively small proportion.

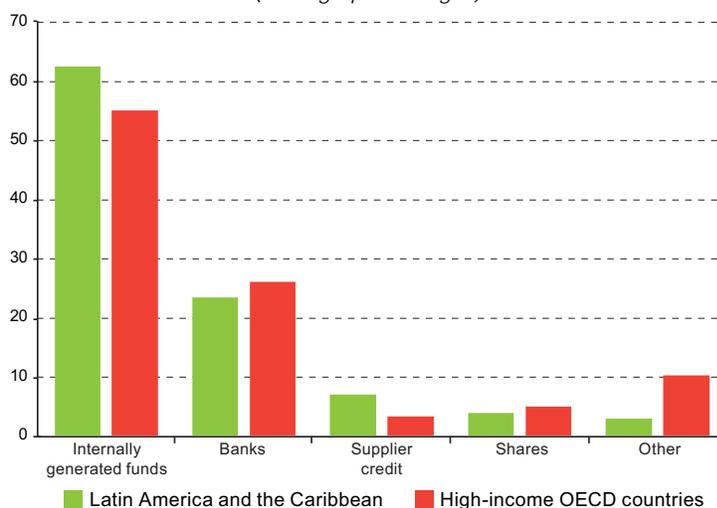
Figure III.27
LATIN AMERICA AND THE CARIBBEAN (31 COUNTRIES): BUSINESS INVESTMENT FUNDING, 2010
(Average percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of business surveys conducted by the World Bank for 2010, except for Brazil, where the survey is for 2009.

The figure shows how heavily banks figure in the financial structure, as well as the weak development of equity and corporate bond markets. The tendency to self-finance is general, regardless of company size. Even large firms (with 100 or more employees) tend to finance a larger proportion of their investments with internal funds than their counterparts in high-income OECD countries (see figure III.28). Although the lower development level of the region's financial systems affects the financing available for all types of firm, in practice it harms smaller firms and start-ups particularly and thereby reinforces existing inequalities in production capacities and insertion in external markets. Moreover, in cases where small firms do obtain bank financing the cost is significantly higher than for larger firms.

Figure III.28
**LATIN AMERICA AND THE CARIBBEAN AND HIGH-INCOME OECD COUNTRIES:
 INVESTMENT BY MAJOR COMPANIES, BY SOURCE OF FUNDING, 2010^a**
(Average percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of business surveys conducted by the World Bank for 2010, except for Brazil, where the survey is for 2009.

^a Data for Latin American and the Caribbean is for 31 countries in the region.

(d) Development banks

The region's financial systems are not very deep, and their degree of development is not conducive to structural change because they offer a very limited range of long-term instruments for funding investment. Development banks (whose evolution is tracked below) are in a position to play this role.

The region's development finance institutions are predominantly publicly-owned (70% of the total in December 2009). They have played a major role in providing medium- and long-term funding, thus supporting production investment and financial development in the countries by creating instruments and markets in segments where the private sector has shown little or no interest (ALIDE, 2010).

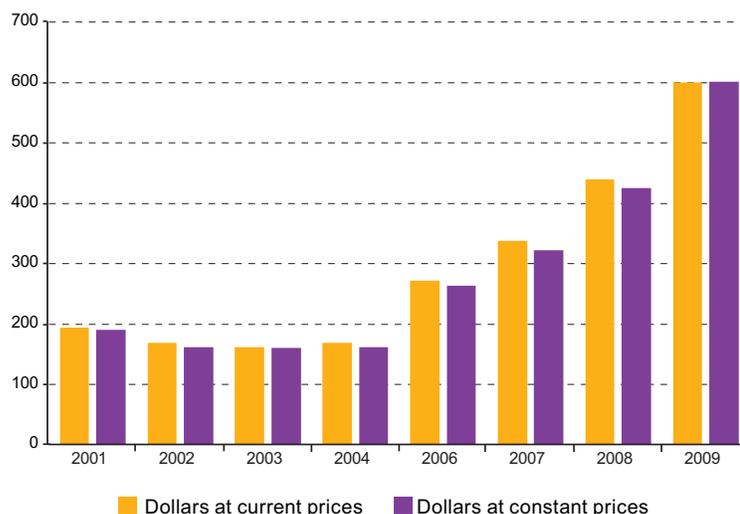
Direct investment support from development banks has consisted of identifying, promoting and financing business operations and promoting projects in keeping with national development strategies, including technology development. In promoting financial development they have encouraged the creation of new instruments (such as factoring, leasing, asset securitization, trust-fund management and the provision of guarantees), thereby expanding the range of instruments at the disposal of the production sector.

National development banks fulfil both first-tier and second-tier functions (lending to other institutions to finance development projects), complementing the role of the commercial banking sector basically by expanding access, financial innovation and risk management.

In the 1980s and 1990s the region's development banks saw their share of production finance slip; their role as second-tier banks became more important during the era of economic reforms. Since the 2000s they have gained renewed momentum, as their role in financing social and economic

demands has been recognized. Between 2000 and 2009, their loan portfolio grew by an average of 15% per year, tripling in that period to stand at some US\$ 600 billion in 2009 (see figure III.29).

Figure III.29
LATIN AMERICA AND THE CARIBBEAN: DEVELOPMENT BANK LOAN PORTFOLIO, 2001-2009
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Latin American Association of Development Financing Institutions (ALIDE).

This growth is reflected in the higher profile acquired by development banks in the financial systems of several countries in the region. In 2009, national development banks of the countries of Latin America accounted for nearly 30% of total lending to the private sector. The largest percentages were in Costa Rica and Uruguay, with nearly half of all loans, and in Argentina, Brazil and the Dominican Republic, with more than a third of the total (see table III.18). A similar pattern can be seen in national financial system deposits, with 24%, on average, channelled through development banks. Costa Rica stands out in this regard, as well, where development banks take in nearly 70% of total deposits, as do Argentina and Uruguay (about 45%) and Brazil and the Dominican Republic (with nearly a third).

Development banks have provided support for housing and infrastructure finance in the region. Argentina, Brazil, Chile, Colombia, Mexico, Peru and the Plurinational State of Bolivia have all made significant progress in mortgage loan securitization.²⁵ Project finance in partnership with public and private entities has gained ground in some countries. And the creation of guarantee funds in several countries is an example of the development of instruments that stimulate synergies between public and private financing targeting small and medium-sized enterprises.²⁶ Multilateral development banks have played a complementary role, as explained in box III.1.

²⁵ Loan securitization is an operation in which development banks buy portfolios of credit claims from first-tier banks, bundles them and places them on the securities market. This enables the banks to shift their credit risk to the securities market and take in new funding for lending.

²⁶ The supplier development programme through electronic factoring promoted by Nacional Financiera (NAFIN) in Mexico has resulted in timely and lower-cost financing for small and medium-sized enterprises.

Table III.18
SHARE OF DEVELOPMENT BANKS IN TOTAL LENDING TO THE PRIVATE SECTOR, 2009
(Percentages)

Country	Share
Argentina	37.7
Bolivia (Plurinational State of)	0.3
Brazil	37.0
Chile	20.8
Colombia	15.6
Costa Rica	49.0
Dominican Republic	36.3
Ecuador	18.6
El Salvador	8.0
Guatemala	22.0
Honduras	11.6
México	14.3
Panama	10.4
Paraguay	7.6
Peru	3.5
Uruguay	47.8
Latin America	29.9

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Latin American Association of Development Financing Institutions (ALIDE) and Latin American and Caribbean Macro Watch of the Inter-American Development Bank.

Box III.1

MULTILATERAL DEVELOPMENT BANKS

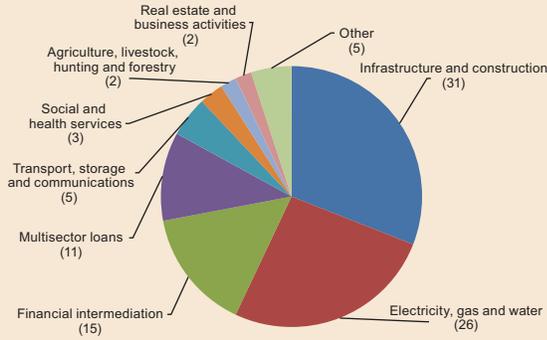
Multilateral development banks obtain funding in international financial markets under generally advantageous conditions because their risk rating is better than that of their member countries. In turn, they channel that funding to those countries. The multilaterals operating in the region include the International Bank for Reconstruction and Development (World Bank), whose scope is worldwide; the Inter-American Development Bank (IDB), which is regional; the Central American Bank for Economic Integration (CABEI); the Caribbean Development Bank (CDB); and the Development Bank of Latin America (CAF). At first, the multilateral development banks mobilized medium- and long-term resources for funding production investment in areas that promoted economic complementation. Gradually, regional and subregional development banks have taken on broader roles, engaging in indirect financial intermediation through loans to or investments in local financial institutions (for lending to businesses) or giving support (with venture capital and private equity funds) to companies with capital.

As is the case with national development banks, subregional banks lost some of their importance during the 1980s but started to regain it in the following decade. In the 2000s, subregional banks significantly increased their lending volume and relative share of total multilateral development bank lending to Latin America and the Caribbean. In 2011, subregional banks made almost US\$ 12 billion in loans to the region, representing 36% of total multilateral development bank lending to the region. The Inter-American Development Bank accounted for 34% of the lending, the World Bank for 30%. While these are large figures, they are far smaller than the loan portfolio of the region's largest development bank (BNDES) and Chinese loans to Latin America and the Caribbean in recent years (US\$ 73 billion, more than twice the amount granted by the World Bank) (Kevin Gallagher, China and the Latin American economies, paper submitted to ECLAC on 17 July 2012).

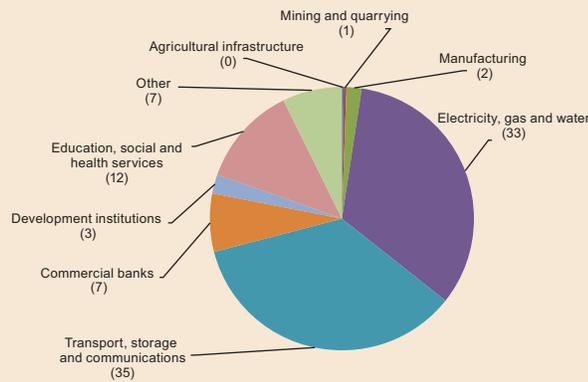
The following figures provide a sector breakdown of the portfolios of the Central American Bank for Economic Integration, the Development Bank of Latin America (CAF) and the Caribbean Development Bank.

Box III.1 (concluded)

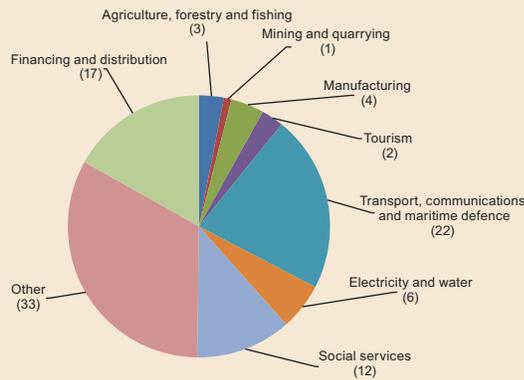
A. CENTRAL AMERICAN BANK FOR ECONOMIC INTEGRATION
(Percentages)



B. DEVELOPMENT BANK OF LATIN AMERICA (CAF)
(Percentages)



C. CARIBBEAN DEVELOPMENT BANK
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC) on the basis of annual reports published by the respective institutions.

G. Investment profitability and production structure inertia

1. The microeconomic dimension

In order to change a pattern of specialization, investment decisions made by economic agents must focus on new sectors instead of reinforcing old ones. For this to happen, the incentives structure (relative rates of return on investment) on which economic agents base their decisions must favour those new sectors.²⁷ Many inertia factors are a drag on diversification, particularly in Latin America and the Caribbean whose competitiveness is based on static comparative advantages instead of on technology capacities. There are marked asymmetries that explain the relatively low efficiency and profitability of the region's technology-intensive sectors. This is compounded by rising commodity prices, which have made natural-resource-intensive activities more profitable and thus encouraged investment in them by the main agents of production.

Investment decisions ultimately depend on the relative profitability of any given production structure. Particularly important are the investment decisions of major companies, because of the leading role they play in technology and production in so many dynamic sectors of the economy.²⁸

Relative sector profitability depends not only on the technology lag at any given time, but also on inertia in the evolution of technology and learning, which makes it hard to change course. This is known as “path dependence,” when certain situations or historical events can have major consequences for the future development of a system, with outcomes that are not necessarily optimal. The concept of path dependence assumes that there are increasing returns, or positive feedback, in which the advantages of a given technology path (or a certain type of decision) increase as they become more widely adopted. The resulting lock-in makes it increasingly costly to abandon the path (David, 1985; Arrow, 2000).

In lock-in situations, the decisions made by agents can hamper the review and correction of suboptimal outcomes. Such decisions reflect the current price structure and barriers to technology dissemination. In such cases, policy plays a crucial role in releasing the lock-in and in building institutions that foster a new path for learning and innovation. The State should intervene to change the production structure or transform the underlying relationships among agents (David, 2000). Absent such intervention, the existing pattern tends to be perpetuated, as seen below.

Instead of promoting a sustainable development path, public policy sometimes reinforces production structure lock-in—for instance, when driven by regulatory capture it subsidizes the consumption of fossil fuels and electricity to make mature, polluting activities more profitable (see table III.19 for the case of fossil fuels). In some countries, the amount of such subsidies exceeds public expenditure on health, for example (United Nations, 2012). This policy bias, together with a high correlation between energy consumption and income and a very low price elasticity of demand, hinders efforts to move towards a sustainable production pattern (Galindo and Samaniego, 2010).

²⁷ The incentives structure depends on static variables, such as the factors of production at a given point in time, and on the existence of policies aimed at turning static comparative advantages into dynamic ones (also referred to as competitive advantages).

²⁸ The presence of major Latin American companies in knowledge-intensive sectors has been limited, for various reasons. These include the macroeconomic context, public policies implemented in response to that context, institutional shortcomings, constraints on the implementation of industrialization policies, what is done to attract foreign investments, and issues related to management patterns and family control.

Table III.19
LATIN AMERICA (SELECTED COUNTRIES): FOSSIL FUEL SUBSIDIES, 2008-2010
(Billions of dollars and percentages of GDP)

	2008	2009	2010	2008	2009	2010
Argentina	18.1	5.9	6.5	5.5	1.9	1.8
Colombia	1.0	0.3	0.5	0.4	0.1	0.2
Ecuador	4.6	1.6	3.7	8.4	3.1	6.7
El Salvador	0.0	0.0	1.2	0.0	0.0	5.6
Mexico	22.5	3.4	9.5	2.1	0.4	0.9
Peru	0.6	0.0	0.0	0.5	0.0	0.0
Venezuela (Bolivarian Republic of)	24.2	14.1	20.0	7.8	4.3	5.1

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries and from the International Energy Agency (IEA), *World Energy Outlook 2011*, November 2011.

2. Microeconomic incentives and structure inertia

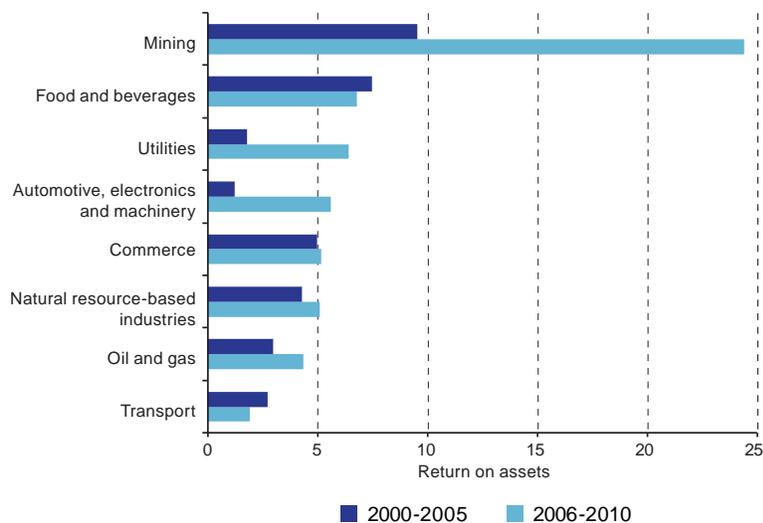
The production specialization dynamic depends on economic incentives and the behaviour of economic agents. This is important for understanding not only the pattern of specialization but also the forces that make it self-reinforcing and how external shocks impact the functioning of the development model. Differences between sector profitability determine where investment is channelled. If higher rates of returns on investment are associated with less knowledge-intensive sectors, the production structure will remain locked in a technologically less dynamic path. And if account is not taken of negative environmental externalities, cost and profit signals skew the growth model in an unsustainable direction. This blocks the development of new technologies that would, for example, open up lower-carbon-emission energy alternatives for transport, urban development and production.

Figure III.30 shows average return on assets, weighted by company size, across sectors for 2000-2005 and 2006-2010, permitting a comparison of the incentives to invest in different sectors. Knowledge-intensive sectors are not among the most profitable in either period. The return on assets in the electronics and computing, machinery and automotive industries is about 25% of the return on assets in the mining sector in 2006-2010.²⁹ Knowledge-intensive activities do not earn higher rates of return than mass consumption sectors (food and beverages) and public services.

Figure III.31 shows the return on assets for knowledge-intensive sectors compared with mining companies during the growth period of 2003-2010. The main reason for higher profitability in knowledge-intensive sectors starting in 2004 was domestic market growth (particularly for the automotive industry) and consistent policies favouring this industry, especially in the region's largest market (Brazil), where countercyclical fiscal and credit measures were deployed during the 2008-2009 crisis. The results contrast with high returns in the mining sector since the start of the decade in keeping with soaring international prices. This sample of firms shows marked differences in rates of return that explain why the current pattern of production specialization channels investment mainly towards natural-resource-based sectors.

²⁹ A look at the world's 500 largest companies shows that natural-resource sectors also display relatively high rates of return, although lower in absolute values than those seen in Latin America and the Caribbean. Another key difference is the lesser concentration of firms globally (and in certain regions) in these sectors.

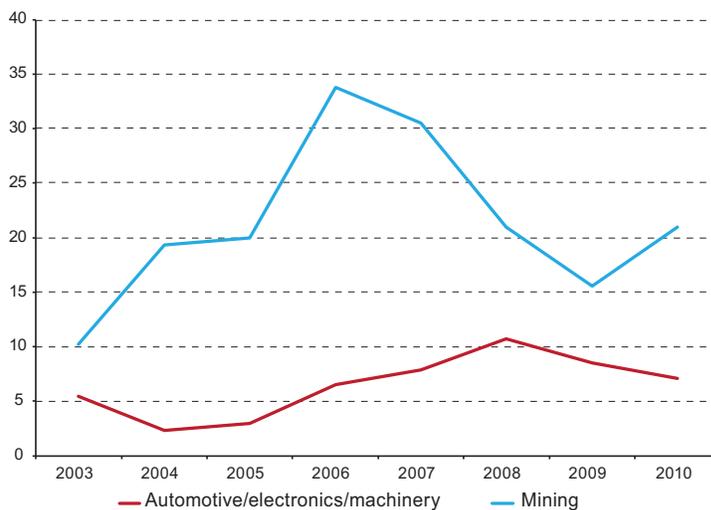
Figure III.30
 LATIN AMERICA: RETURN ON ASSETS BY SECTOR, WEIGHTED AVERAGE, 2000-2005 AND 2006- 2010^a
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of *América económica* magazine.

^a Weighting based on each company's share of sector sales. Natural resource-based industries include cement and aluminium, iron and steel, chemicals, petrochemicals, paper and pulp, and agribusiness.

Figure III.31
 LATIN AMERICA: RETURN ON ASSETS IN KNOWLEDGE-INTENSIVE SECTORS AND MINING, 2003-2010
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of *América económica* magazine.

In short, technology asymmetries between Latin America and the Caribbean, on the one hand, and developed countries on the other are more marked in knowledge-intensive sectors. These differences open a productivity gap, undermine competitiveness and make returns in these sectors lower than in sectors specializing in natural-resource-based export products. In the absence of active policies to change relative rates of return, the negative relation between technology intensity asymmetries and profitability will persist and help reproduce the existing pattern of specialization.

Against a backdrop of burgeoning commodity demand and rising prices, the open model pursued by the region consolidated a vector of incentives that led to the self-reinforcement of the specialization in goods that represented its initial competitive base. Investment decisions are strengthening the current path; macro prices are neither encouraging investments that could diversify the production structure nor creating forward and backward linkages. Overcoming this problem calls for redefining investment incentives and hence the structure of relative rates of return. This is a challenge that public policy cannot afford to ignore in the next few years if the aim is to bring about structural change that also creates quality jobs.



Chapter IV

Macroeconomy and production structure

The macroeconomic performance of the Latin American and Caribbean countries has improved substantially over the past two decades from the point of view of nominal stability, a policy goal that proved particularly elusive in the 1970s and 1980s and the earlier 1990s. However, nominal stability—generally associated with a low and stable inflation rate and balanced fiscal accounts—has not generally been accompanied by high and sustained economic growth or by reduced volatility in production activity. Indeed, economic growth in the region has been lower than in other emerging economies. Furthermore, the evidence on business cycles presented in the previous chapter shows that the pace of economic expansion in the Latin American and Caribbean countries has fluctuated greatly over the past two decades, with severe financial and balance-of-payments crises along the way.

ECLAC has warned of the risks of applying a narrow conception of stability like the one described, circumscribed as it is to nominal variables. Real-term instability is manifested in low levels of capacity utilization, inadequate investment, unemployment, and slow and volatile growth, and can be as harmful to development as nominal instability itself (ECLAC 2002, 2004 and 2010b).¹ A broader view needs to be taken of macroeconomic stability, with goals that are not limited to bringing down inflation and balancing the public finances but extend to the real sphere of production, including the pace and stability of economic and employment growth. Accordingly, macroeconomic policy ought to include goals for improved income distribution and

¹ The idea of stability merits revision in the light of the latest international crisis and ought to be understood in a broad sense that encompasses monitoring of different markets. See Ffrench-Davis (2008).

structural change (ECLAC, 2000 and 2010a, chapter II).² There should be positive two-way feedback between real and nominal stability.³

As was argued in *Time for equality: closing gaps, opening trails*, “a crucial leap forward needs to be made in macroeconomic policy and the approach to be adopted must explicitly prioritize productive development and level upwards capacities and social opportunities. This will reduce productivity gaps, which should pave the way for a reduction of inequalities. For this to happen, stability must be seen as more than control of inflation; it must be conceived as functional for development, and the overcompartmentalized vision of micro- and macroeconomics must be replaced with an integrated approach that takes into account the interaction of the two” (ECLAC, 2010a).

The need for a macroeconomy for development (to take an expression used in *Time for equality*) is not fortuitous. Following a period of extraordinary growth in much of Latin America and the Caribbean between 2003 and 2008 on the back of favourable international conditions, the traditional distinction between growth and development is once again coming to the fore in the region. Although, for the first time in decades, the period was one of substantial declines in poverty and even some improvements in income distribution indicators (Cornia, 2010; Gasparini, Cruces and Tornarolli, 2011; ECLAC, 2011), the same degree of forward movement has not been seen, as earlier chapters have argued, when it comes to technical progress and modernization of the production structure.

Macroeconomic policy can have a decisive effect on the production structure by influencing, among other variables, the amount and sectoral composition of investment flows, which are critical to the structure’s dynamic efficiency (both Keynesian and Schumpeterian). Fiscal policy regulates the level of activity over the course of the cycle and thereby affects investment spending, particularly (although not exclusively) by determining the volume of public investment, which has positive crowding-in effects on private investment (which is the bulk of total investment). Accordingly, the targets of public investment efforts should be aligned with industrial and social policy objectives. Monetary policy, meanwhile, influences the credit supply and macro prices (mainly the exchange rate and the interest rate), which affect the relative returns of tradables and non-tradables, or of sectors with different financing requirements. By doing so, it influences the direction of investment spending.

The effect of monetary policy on macro prices is associated with the opening up of the balance-of-payments financial account, which has meant that interest rate rises can lead to exchange-rate appreciation as short-term capital inflows increase. This is what is known as the “trilemma”: the impossibility of having an open financial account while at the same time operating an independent monetary policy and meeting exchange-rate targets. A key aim of macroeconomic policy, as will be discussed in chapter VI, is to ease this trilemma and broaden monetary policy spaces for development.

Equality and growth are not mutually exclusive. On the contrary, they are interdependent and reinforce each other, making it essential to move towards greater equality in income

² See Stiglitz and others (2006) and Bresser-Pereira and Oreiro (2012) for a similar stance.

³ One lesson from Latin American economic crises and from the recent international financial crisis is that macroeconomic performance can become destabilized even with low inflation and a small fiscal deficit owing to the transmission of disequilibria in the balance sheets and asset and liability structures of major financial or banking agents. These imbalances can arise when there are sudden large shifts in asset valuations or when maturity profiles are mismatched in terms of either time or currency exposures.

distribution if robust and stable long-term economic growth is to be achieved. The basic premise formulated by ECLAC, “grow to equalize and equalize to grow”, is particularly relevant under current conditions of weak or reduced growth in the world economy. Slacker external demand associated with the recession in much of the developed world is forcing a number of medium-sized and large Latin American economies to rely more on their domestic market for growth.

Achieving sustained economic growth requires long-term vision in the design of macroeconomic policy so that it explicitly integrates nominal and real stabilization policies with goals for development, structural change, convergence and equality. From the perspective of ECLAC, no single macroeconomic policy exists that can be applied in the different countries of the region irrespective of their characteristics (geography, production structure, institutions). These characteristics have a decisive influence on the policy options available and the leeway for implementing them. This document argues (see chapter VI) for the need to adopt a wide array of instruments combining fiscal, monetary and exchange-rate policies with macroprudential regulations, administration of cross-border capital flows and regulation of national financial markets, combined, if the institutional context allows it, with income policies. What is proposed, then, is an extension and reorganization of the set of goals towards which macroeconomic policy design and implementation have traditionally aimed.

This chapter will go on to analyse the evolution in recent decades of fiscal policy (section A) and monetary policy (section B) from a perspective that highlights the relationship between macroeconomic policies, the production structure and growth. Accordingly, it will discuss how these policies have contributed to the accumulation of production capacities, to the conditions needed to implement countercyclical measures in a way that creates real stability and thereby fosters investment growth, and to the prevention of unsustainable external imbalances. The premise is that achieving these goals helps to strengthen a policy agenda that has equality at its core.

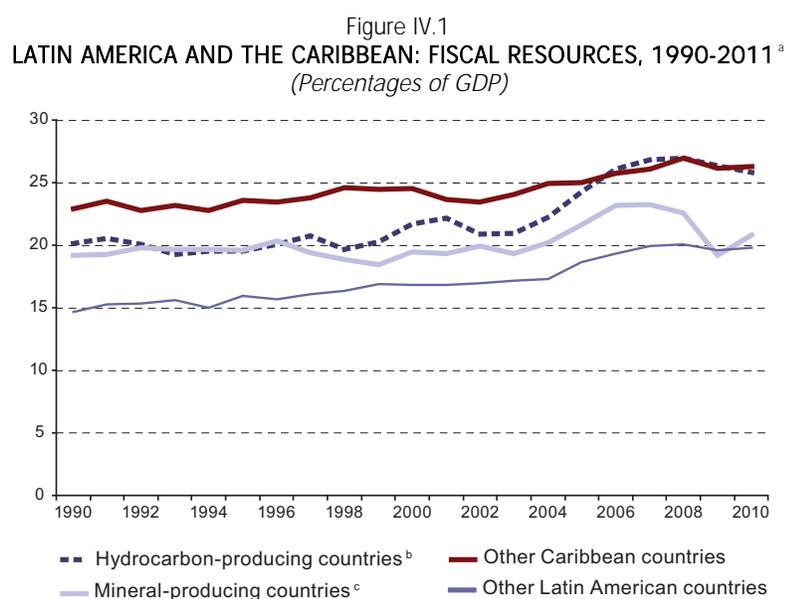
A. The public finances

Maintaining sufficiently rapid and stable economic growth, extending the coverage of social protection systems, boosting investment in infrastructure, health care and education and supporting the industrial policies needed for structural change are tasks that require a new fiscal covenant and the social accords to achieve it (ECLAC, 2010a, chapter VII). ECLAC has been a pioneer in calling for such a covenant to strengthen the State on the basis of a higher and more progressive tax burden, as each country’s degree of development permits.⁴ In this approach, “an explicit or implicit political agreement between the various sectors of society as to what the State should do helps to legitimize the amount, composition and orientation of public expenditure and the tax burden necessary to finance it” (ECLAC, 1998, p. 9).

Much of the region has made substantial progress with regard to tax revenues over recent decades (see figure IV.1). Revenue growth has not been homogeneous across the different countries, nor have the sources of fiscal income. In some countries (Argentina, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti and Uruguay), tax revenues, including social security contributions, are practically the only source of current government revenues. In others (the Bolivarian Republic of Venezuela, Chile, Colombia, Ecuador, Mexico, Peru, the Plurinational

⁴ The main contribution in this regard can be found in ECLAC (1998), and this is extended and developed in ECLAC (2000, 2004 and 2010a) and elsewhere.

State of Bolivia, and Trinidad and Tobago), tax revenues are supplemented by other income deriving from rents on natural resources (hydrocarbons and mining), which are more volatile. The high proportion of non-tax revenues in some countries reflects the fact that the State either owns natural resources or receives royalties and revenues from their exploitation. Panama and Paraguay are similar cases, with tax revenues being supplemented by other current income from service activities. In Cuba, the provision of goods and services by the State also generates substantial non-tax revenues. Conversely, in Honduras, Nicaragua and, to a lesser extent, Haiti, as well as in other countries of the Caribbean, grants supplement tax revenues and swell current income. Capital revenues represent only a small proportion of total income in the region's countries.



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The data refer to central government, except in the case of the Plurinational State of Bolivia, where they refer to general government.

^b Includes the Bolivarian Republic of Venezuela, Colombia, Ecuador, Mexico, the Plurinational State of Bolivia, Suriname, and Trinidad and Tobago.

^c Includes Chile, Guyana and Peru.

As will be described later, much of the region has succeeded in increasing tax pressure over recent decades. The situation is still far from matching that of the developed countries, however, or even that of many countries with a similar degree of development. Some improvements have also been made as regards the structure of the tax system, although in this area the gap with the developed countries remains very wide.

The problems of low tax pressure and the regressive distributive impact of the tax structure are closely related. The region's countries have less difficulty collecting indirect taxes than (potentially progressive) direct taxes, such as personal income and property taxes. Increasing the tax burden and improving the distributive impact of the tax collection structure are important issues for the development agenda of Latin America and the Caribbean. Notwithstanding, public spending is the main redistributive instrument of fiscal policy. International comparisons show that most of the redistributive effort in developed countries is based more on public-sector social

spending, and the system of transfers in particular, than on the tax system (Goñi, López and Servén, 2008).⁵

On another level, fiscal policy has a role to play in stabilizing economic activity and reducing external imbalances from a macroeconomic perspective, and also as an integral part of development policies. The historical experience of Latin America and the Caribbean, and more recently the response to the crisis of 2008 and 2009 in the region and the wider world, have made plain the key role of fiscal policy instruments in dealing with fluctuations in economic activity, especially those caused by external trade or financial shocks (see ECLAC, 2010b).

One of the main lines of action for strengthening the capacity for countercyclical action is the consolidation of fiscal space or leeway. Fiscal solvency is a precondition for a countercyclical response capability, although conditions in the external sector of the economy are equally important in determining the public sector's room for manoeuvre, as the experience of recent decades has shown (Martner and Tromben, 2004).

Macroeconomic policy management has improved in most of the region's countries in recent years, enabling them to reduce their external vulnerability while at the same time giving them greater fiscal space to deal with exogenous shocks. For the first time in decades, a number of governments in the region have not found fiscal constraints or the external sector to be an insurmountable obstacle to extending the coverage of their social protection systems, for example.

With regard to this challenge (that of creating a progressive tax burden suited to development needs and enhancing the solvency of the public finances), the region essentially falls into two camps. On the one hand, there are the countries where tax pressure is too low, and where tax reforms to increase the State's power of action should be the main objective. In these cases a new fiscal covenant is needed, understood as the vehicle that can provide the State with the capacity to play an active role in promoting development.

On the other hand, there are countries whose tax pressure matches their development level and, crucially, the needs of a modern State capable of maintaining an extended system of social protection, fomenting public investment (in infrastructure, health care and education) and financing industrial and technological policies. In these countries, the essential issue is not the availability of resources but their administration over the cycle and the scope for fostering economic expansion and the structural change that is at the root of development.

The following analysis will examine the region's fiscal performance over the past two decades by looking at how the countries are placed. In the first instance, the analysis will centre on the dynamics of tax collection, government spending and the resultant increase or decrease in public-sector debt; this will be followed by analysis of the procyclical or countercyclical character of fiscal policy and the evolution of fiscal space over the same period. Policy implications will be analysed in chapter VI. Monetary and exchange-rate policies are dealt with in section B.

1. Tax revenues

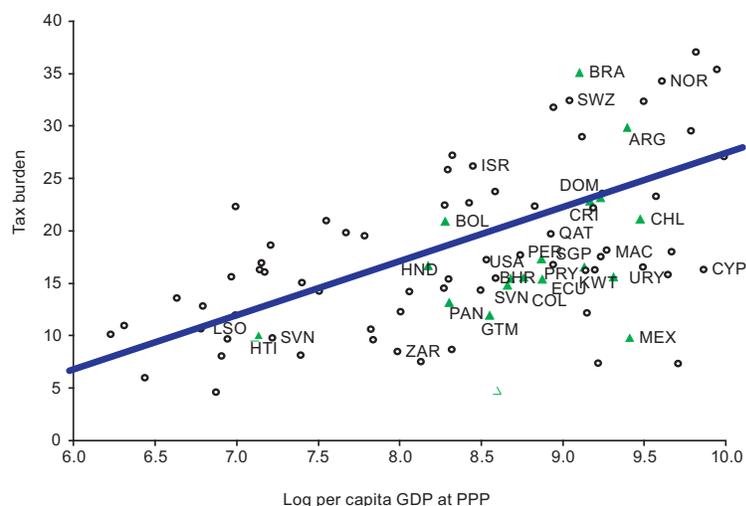
The countries of Latin America and the Caribbean have historically been characterized by a low tax burden. Tax pressure in 2010 averaged some 18% of GDP in Latin America and 22% in the

⁵ Analysing fiscal policy in Central America, the Dominican Republic and Panama, Barreix, Bes and Roca (2009) find the distributive impact of public-sector social spending 4.4 times greater than that of tax policy in those countries.

Caribbean. These figures contrast, for example, with those in the OECD countries, where the average tax burden is almost 35%.⁶

The lack of fiscal resources is not necessarily linked to the development level of the region's countries.⁷ Analysis of the correlation between the tax burden and per capita GDP in 121 countries in the mid-2000s (see figure IV.2) reveals that many of the countries of Latin America and the Caribbean have a lower tax burden than would be expected from their degree of development (measured in per capita GDP terms). Tax pressure is higher than the regression line in Argentina and Brazil and close to it in Uruguay, Costa Rica, the Plurinational State of Bolivia and Honduras. The other 12 countries of the region represented in the sample are below the line, indicating that the tax pressure is significantly lower than would be expected from their per capita GDP. It is telling that some countries in the region still do not have an income tax, or tax income only marginally, especially in the case of personal income. As will be seen further on, the problem of low tax pressure in the region is closely associated with the low level of personal income taxes.

Figure IV.2
SELECTED COUNTRIES: TAX BURDEN RELATIVE TO PER CAPITA GDP AT PURCHASING
POWER PARITY (PPP), MID-2000s^a
(Percentages of GDP and logarithms)



Source: Juan Pablo Jiménez, Juan Carlos Gómez Sabaini and Andrea Podestá (comps.), "Evasión y equidad en América Latina", *Documentos de proyecto*, No. 309 (LC/W.309), 2010, and Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the OECD and World Bank, World Development Indicators [online database].

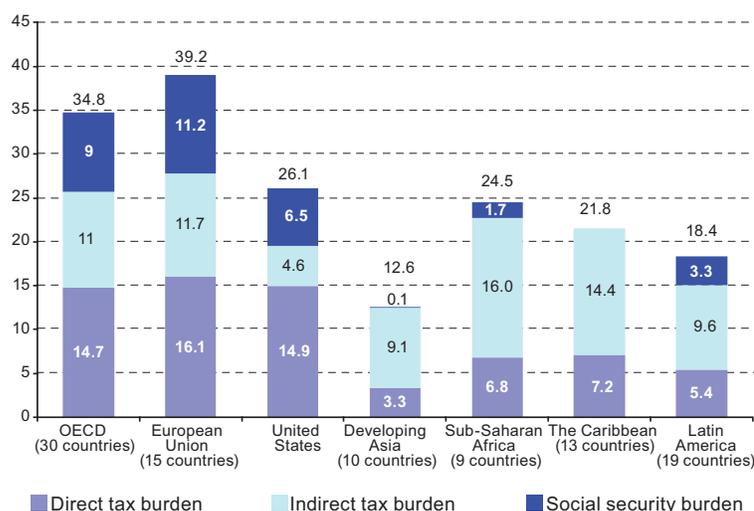
^a Coverage refers to central government in all the countries of Latin America except Argentina, Brazil, Chile, Costa Rica and the Plurinational State of Bolivia, where it refers to general government.

⁶ With certain exceptions, among them Argentina, Brazil, Uruguay and some Caribbean countries, tax revenues in the region do not exceed 20% of GDP. The tax burden is higher in South America and the Caribbean than in Central America (where it was just 15.6% of GDP between 2005 and 2010) and Mexico (10.6% of GDP).

⁷ This type of comparison does not reflect the full range of fiscal resources since, as noted earlier, it does not capture non-tax income or grants. In a number of the region's countries, such as the Bolivarian Republic of Venezuela, Chile, Colombia, Ecuador, Mexico, Peru and the Plurinational State of Bolivia, non-tax income makes up a substantial portion of public revenues. In these cases, the State's ability to finance public policies is substantially greater than would be calculated from a conventional estimation of the tax burden. In Honduras and Nicaragua, meanwhile, and to a lesser extent Haiti, grants raise current revenues above the level of tax receipts.

The low level of direct taxation reflects not only high levels of non-compliance, evasion and avoidance, which work against the principle of horizontal equity, but also the relative narrowness of the tax base. All this means that the redistributive impact of income tax is negligible. The (vertical) inequity resulting from the proliferation of income tax exemptions is compounded in turn by the degree of evasion, which tends to be much higher for income tax than for value added tax (VAT) (Jiménez, Gómez Sabaini and Podestá, 2010). Not only has tax policy increased the general taxation of consumption by strengthening VAT, but income tax has borne essentially on the income of legal persons and only to a much lesser extent on that of physical persons, reducing its redistributive effect. This becomes clear, for example, in a comparison with the countries of the European Union, where direct and indirect taxes represent 16.1% and 11.7% of GDP, respectively, whereas in Latin America they represent 5.4% and 9.6% of GDP, respectively (see figure IV.3).⁸ Social security revenues are also very low (3.3% of GDP in Latin America as compared to 11.2% in the European Union and 9.0% in the OECD countries), this being symptomatic of both the high level of informal employment and the diversity of public- and private-sector social security arrangements in the region. The Caribbean countries, meanwhile, have a higher tax burden than those of Latin America, but the relative shares of direct and indirect taxes are similar.

Figure IV.3
INTERNATIONAL COMPARISON OF THE LEVEL AND STRUCTURE OF THE TAX BURDEN, VARIOUS YEARS
BETWEEN 2002 AND 2010^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Organization for Economic Cooperation and Development (OECD) and International Monetary Fund (IMF).

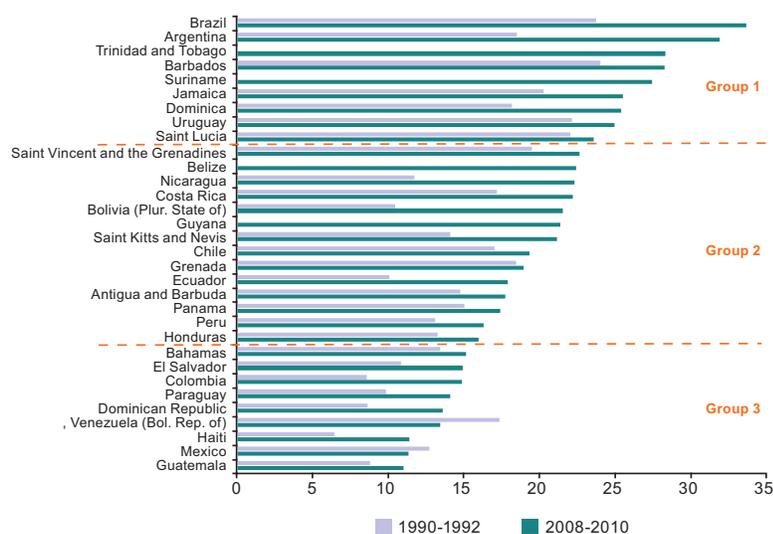
^a The coverage for calculating the Latin American average refers to central government except in Argentina, Brazil, Chile, Costa Rica and the Plurinational State of Bolivia, where it refers to general government.

⁸ The average take from personal income tax in the region is less than 1% of GDP (in 2000-2008 the figure was in fact 0.46% of GDP), whereas in the OECD countries it raises 9.1% of GDP. The difference is also substantial, though considerably smaller, in the case of corporation tax: in 2000-2008, an average of 1.6% of GDP was collected from these taxes in the region's countries and 3.3% of GDP in the OECD countries. See also Rossignolo and Gómez Sabaini (2011).

There are positive trends in the tax situation. The average tax burden in Latin America, including social security contributions, has risen steadily over the past two decades. Relative to the average for 1990-1992, the 2008-2010 average was up by about 5 percentage points of GDP in absolute terms, with growth of 35%.

Tax revenues and their recent evolution are highly heterogeneous across the region's countries. While some countries such as Brazil, Argentina, Trinidad and Tobago and Barbados now have tax burdens exceeding 30% of GDP, the figure in other countries such as Guatemala, Mexico and Haiti is below 14% of GDP and has furthermore been rising more slowly than in the former group (see figure IV.4).

Figure IV.4
LATIN AMERICA AND THE CARIBBEAN: TAX BURDEN (INCLUDING SOCIAL SECURITY CONTRIBUTIONS),
1990-1992 AND 2008-2010^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Coverage refers to central government except in Argentina, Brazil, Chile, Costa Rica, Mexico and the Plurinational State of Bolivia, where it refers to general government. Social security contributions are not included in the Caribbean countries.

Where the tax structure is concerned, the design of reforms over the past two decades has been based on the quest for greater fiscal solvency, to the neglect of other crucial tax policy objectives. One of the most significant tax policy developments during the period under analysis was the considerable increase in the share of total tax revenue in Latin America accounted for by general goods and services taxes (VAT and the like), which grew by 37% over the period analysed (see table IV.1). Furthermore, almost the whole of the increase in the percentage share of taxes of this type occurred during the 1990s as reforms expanded their tax base and increased their rates.

Table IV.1
LATIN AMERICA: AVERAGE TAX STRUCTURE, 1990-1992, 1999-2001 AND 2007-2009
(Percentages of GDP and percentages of total tax revenues)

Type of tax	Percentages of GDP			Percentages of total tax revenues		
	1990-1992	1999-2001	2007-2009	1990-1992	1999-2001	2007-2009
Income and capital gains	2.4	3.2	4.9	17.1	19.7	25.7
Property	0.5	0.6	0.8	3.8	3.8	4.0
General goods and services (VAT)	3.6	5.5	6.8	26.0	33.5	35.7
Specific goods and services	2.1	2.3	1.9	15.2	13.9	9.7
International trade	1.9	1.5	1.2	13.9	9.4	6.2
Other	0.7	0.4	0.4	5.4	2.2	2.0
Social security	2.6	2.9	3.2	18.7	17.6	16.8
Total tax revenues	13.8	16.4	19.1	100.0	100.0	100.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

The second factor accounting for the growth in the regional tax burden over the past two decades has been the rising take from income and capital gains tax, which increased by over 50% in the period. Despite a decrease in corporation tax rates, the percentage share of all tax resources provided by these taxes rose. In this case, the strongest growth was seen in the last decade, owing to a partial extension of some service tax bases, improved oversight of the universe of taxpayers and, in some countries, the appropriation of increased resources from goods production and exports. Corporation tax is the least direct of this type of taxes, insofar as some firms are able to shift the fiscal burden onto the prices of the goods and services consumed by individuals, and this weakens its redistributive capacity. In countries with a greater endowment of natural resources, furthermore, tax revenues that rely on exports of these resources are more volatile in the event of international price movements.

At the same time, one consequence of trade opening was a substantial drop in taxes on foreign trade. Similarly, the efforts to simplify tax systems mentioned earlier resulted in taxes on specific consumption of goods and services (selective taxes) also losing share in the average tax structure of the region. In the regional average, social security contributions represent a large percentage of tax resources and their share has held fairly steady at about 17% of the total.⁹ Lastly, the share provided by property taxes remained practically unchanged between the two periods.

Both the bias towards taxing consumption and the narrowness of income tax bases—along with high levels of tax evasion and non-compliance—have, then, limited the ability of tax systems to promote equality and have sometimes constrained the resources for pursuing development goals.

Rising tax revenues in most of the region's countries in the past two decades have essentially been due to higher general goods and services taxes and a broadening of tax bases as a

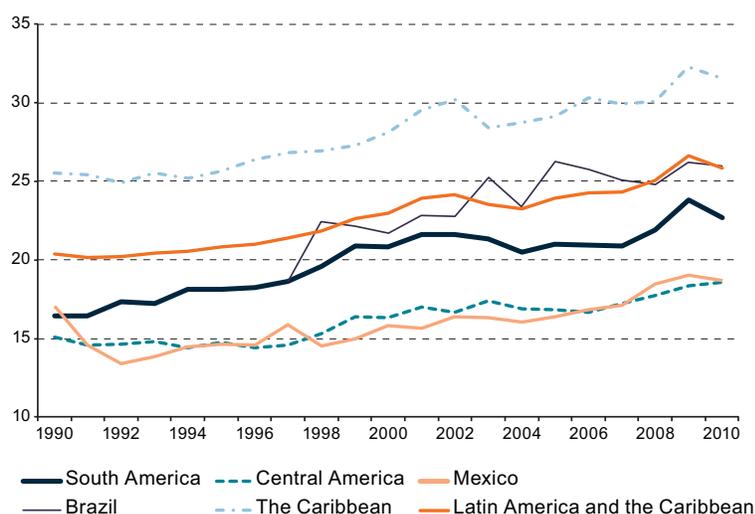
⁹ Nonetheless, it is important to bear in mind that there have been profound changes in the scope of social security programmes and in State participation and financing over the past 20 years. Furthermore, the approach to social security financing varies considerably across the region: some countries have pension systems in which the public sector is being replaced by private-sector administrators of individual saving accounts, some have systems in which the public and private sectors operate alongside each other, and others have wholly public systems.

result of three main factors: (i) stronger and rising economic growth in several countries; (ii) the introduction of new initiatives such as minimum taxes and financial transaction taxes, together with windfall taxes on revenues from natural resources;¹⁰ and (iii) a variety of reforms to tax structures and administration.

2. Public spending and fiscal balances

Growth in tax revenues over the past two decades has created the conditions for a large increase in public spending as a proportion of GDP (see figure IV.5). In South America, total public spending averaged 17.1% of GDP in 1991-2000 and 21.4% in 2001-2010, both of these levels being above the regional average. Mexico is at the other extreme, with a ratio between total spending and GDP of 14.7% in 1991-2000 and 18.1% in 2001-2010.

Figure IV.5
LATIN AMERICA AND THE CARIBBEAN: TOTAL PUBLIC SPENDING, 1990-2010^a
(Percentages of GDP)



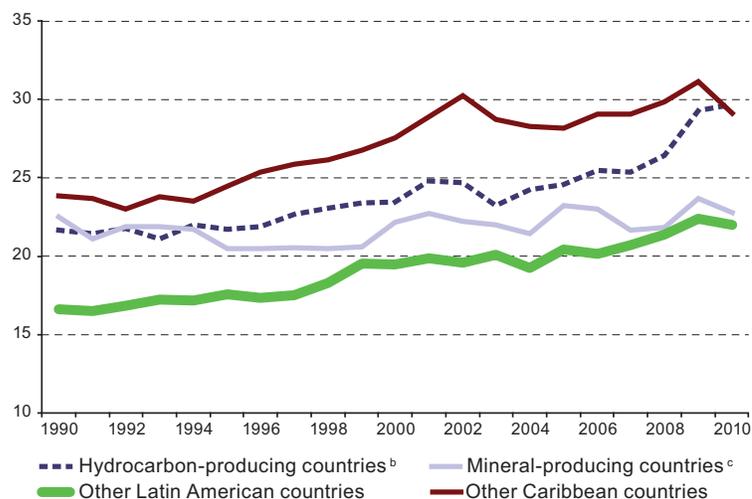
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Central government data.

From the perspective of the public finances, the production structure is also critical. In an analysis of the countries' public spending levels and trends in relation to their dominant production specialization and resource endowment, oil and gas producers are found to lead the group with an average ratio of 26.5%—above the regional average— between total public spending and GDP for 2001-2010. Those Latin American countries that do not specialize in hydrocarbons and minerals are at the other extreme, with a ratio of 20.6% between spending and GDP in 2001-2010, while the average in the mining countries was 22.4% over the period (see figure IV.6).

¹⁰ Although most revenue from natural resources is deemed to be non-tax income, so that the increase resulting from higher prices is observed mainly in the form of higher fiscal revenue, a substantial proportion of tax resources come from corporation tax levied on firms in the sector.

Figure IV.6
LATIN AMERICA AND THE CARIBBEAN: TOTAL PUBLIC SPENDING, 1990-2010^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The data refer to central government except in the case of the Plurinational State of Bolivia, where they refer to general government.

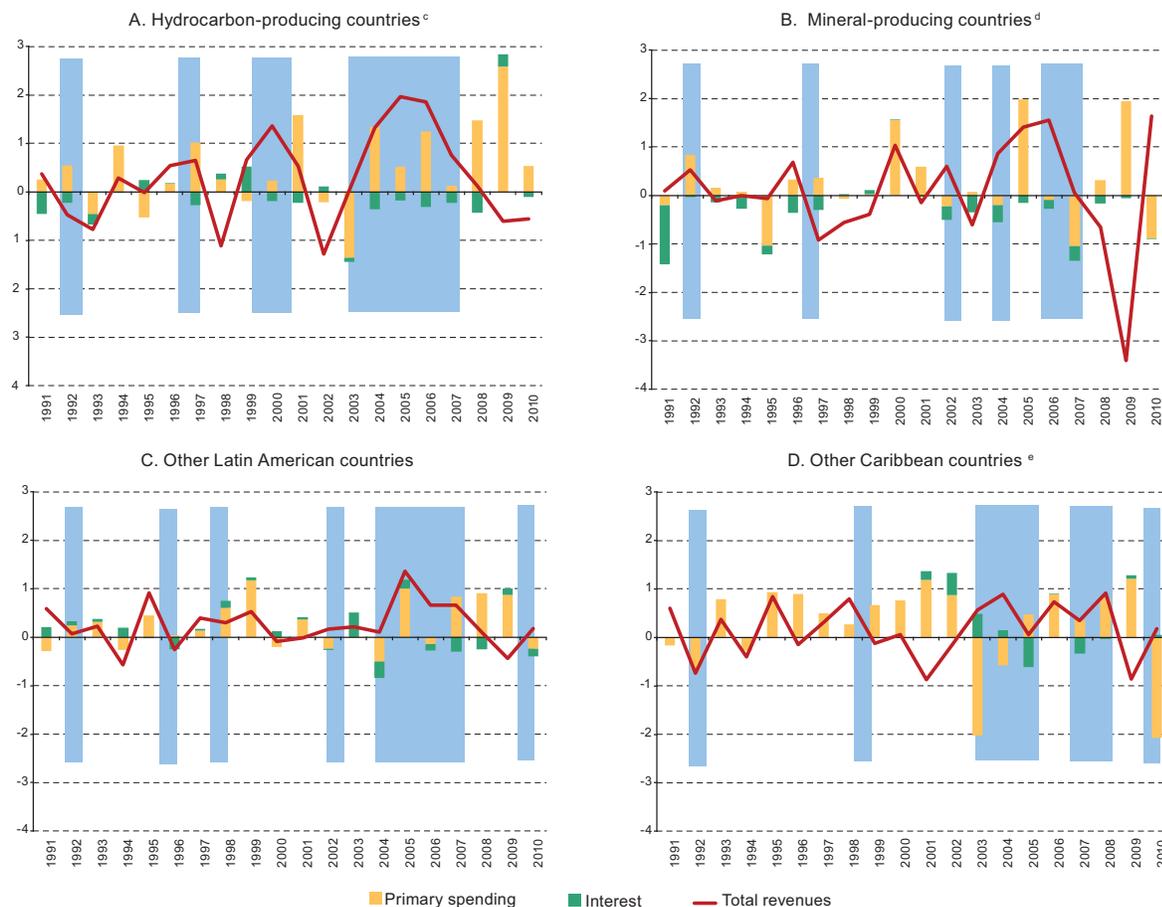
^b Includes the Bolivarian Republic of Venezuela, Colombia, Ecuador, Mexico, Suriname, the Plurinational State of Bolivia, and Trinidad and Tobago.

^c Includes Chile, Guyana and Peru.

The increase in fiscal resources was not devoted entirely to financing public spending. Annual growth in tax revenues, primary spending and interest payments in Latin America and the Caribbean, measured in percentage points of GDP, is shown below (see figure IV.7). In some instances, revenues rose by more than total public spending (as a proportion of GDP), especially in the 2000s. This is seen both in countries specializing in non-renewable natural resources and in the rest of the region's countries, and accounts for the reduction in public debt that decade. It also reflects an almost unprecedented countercyclical fiscal effort, as will be discussed further on. The chart also shows that revenue and spending have been more volatile in hydrocarbon- and mineral-producing countries than in the other countries.

Two well-defined trends may be distinguished in the region's primary and overall balances over the past two decades (see figure IV.8): a deterioration between 1990 and 2001, and a systematic improvement between 2002 and 2007. These trends are representative of developments both in countries specializing in non-renewable natural resources and in the rest of the region, irrespective of productive specialization. As a consequence of the international financial crisis of 2008-2009 and of the drop in revenues and implementation of different packages of countercyclical measures, the region's public accounts suffered considerably and went back into financial deficit. Although the economic recovery of 2010 was quite strong, particularly in the mining countries and elsewhere in South America, public balances did not return to pre-crisis levels, although they did behave countercyclically.

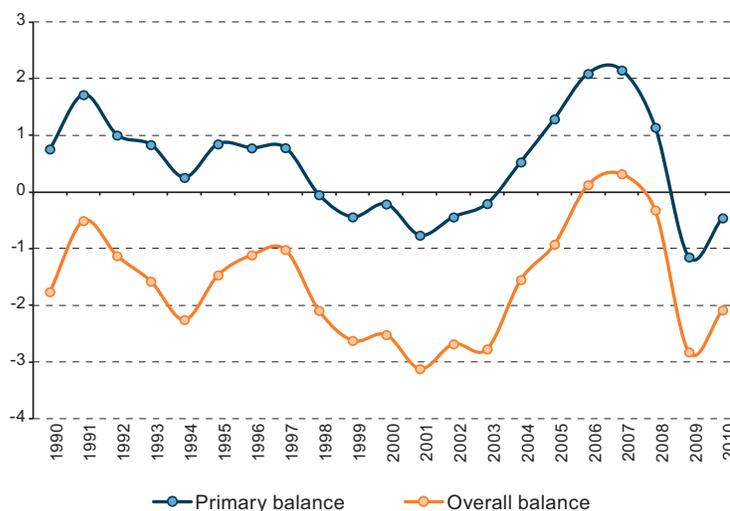
Figure IV.7
LATIN AMERICA AND THE CARIBBEAN: ANNUAL INCREASE IN FISCAL REVENUES, PRIMARY SPENDING AND PUBLIC DEBT INTEREST, BY GROUPS OF COUNTRIES, 1991-2010^{a,b}
(Percentage points of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

- ^a The data refer to central government except in the case of the Plurinational State of Bolivia, where they refer to general government.
- ^b The shaded areas indicate years when revenues increased by more than total spending (the sum of primary spending and public debt interest payments), improving the fiscal balance.
- ^c Includes the Bolivarian Republic of Venezuela, Colombia, Ecuador, Mexico, the Plurinational State of Bolivia, Suriname and Trinidad and Tobago.
- ^d Includes Chile, Guyana and Peru.
- ^e Data up to 2000 refer to the change in total spending.

Figure IV.8
 LATIN AMERICA AND THE CARIBBEAN (33 COUNTRIES): PRIMARY AND OVERALL BALANCES, 1990-2010^a
 (Percentage points of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The primary balance is calculated as revenues minus expenditure excluding interest. The overall balance is calculated as revenues minus expenditure including interest.

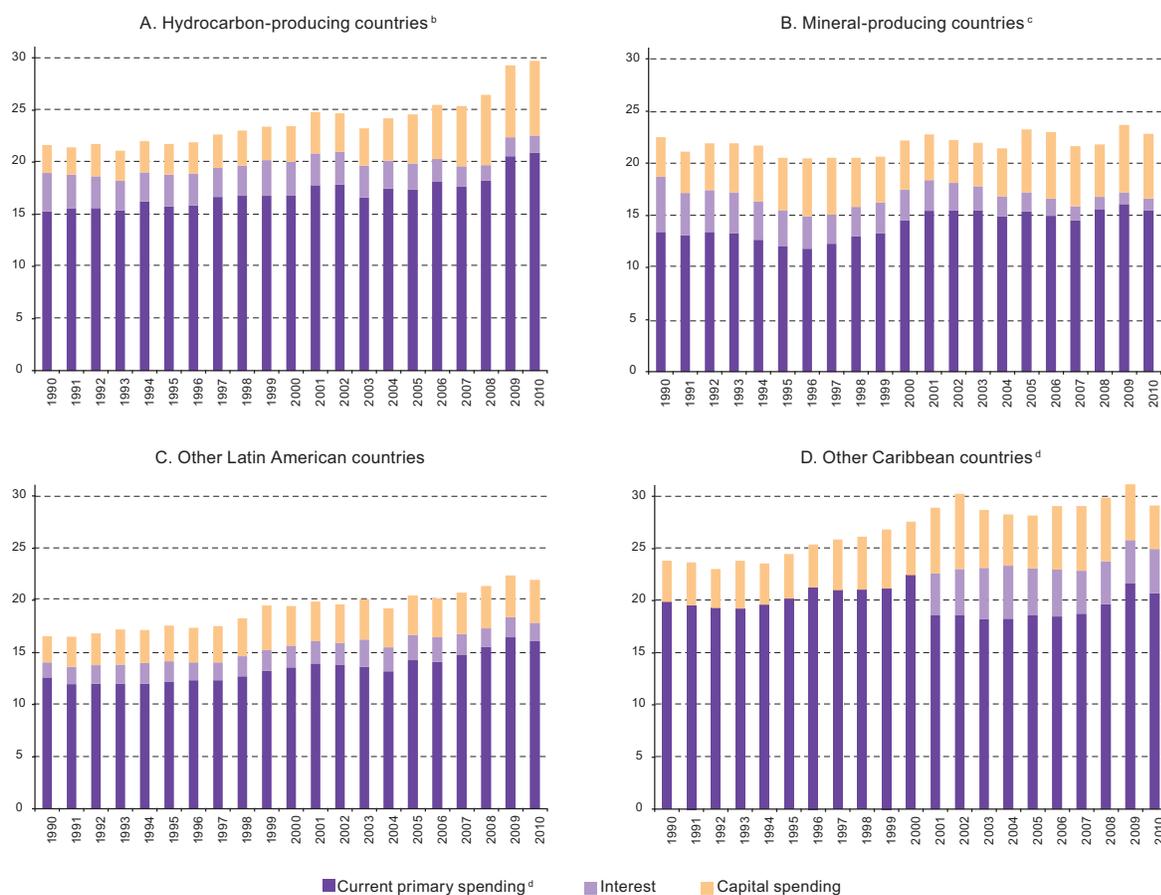
The improved fiscal balance and concomitant reduction in the debt-to-GDP ratio brought a reduction in the burden of public debt servicing and underpinned a rise in capital spending (of which infrastructure investment accounts for a large share), which practically doubled between the beginning and end years of the series, both in countries specializing in non-renewable natural resources and in the other countries of Latin America (see figure IV.9). However, the first group of countries shows a considerably higher level of capital expenditure than the second group. In the “other Caribbean” group, capital spending held fairly steady.

As an average for the whole region, interest payments fell by an amount equivalent to about 0.5% of GDP over the 2000s. The situation differs by group, however: in oil-, gas- and mineral-producing countries, these outgoings fell by over 1.5% of GDP on average, while in the other countries of Latin America and the Caribbean there was little change.¹¹

Public social spending has trended upward irrespective of the trend of public debt interest payments, rising from 44.9% of total public spending in 1990-1991 to 62.2% in 2008-2009. As a percentage of GDP, the increase was from 11.3% to 17.9% (ECLAC, 2011). Conversely, public infrastructure spending stagnated between 1999 and 2002, when interest payments peaked, and only recovered when these payments fell (see chapter III). By country groups, this tendency was clearest among the hydrocarbon producers. Public infrastructure investment has lasting effects from the standpoint of structural change and long-term development (see chapter VI), which means that sustaining it ought to be a first-order objective of macroeconomic policy generally and fiscal policy in particular. Raising public social spending, especially on education, also has clear positive implications for structural change.

¹¹ In the 2000s, the interest burden fell from 15% to 6% of fiscal revenues in hydrocarbon- and mineral-exporting countries, from 12% to 9% in the other countries of Latin America, and from 17% to 16% in the other Caribbean group.

Figure IV.9
**LATIN AMERICA AND THE CARIBBEAN: PUBLIC DEBT INTEREST, CURRENT PRIMARY SPENDING
 AND CAPITAL SPENDING, 1990-2010^a**
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The data refer to central government except in the case of the Plurinational State of Bolivia, where they refer to general government.

^b Includes the Bolivarian Republic of Venezuela, Colombia, Ecuador, Mexico, the Plurinational State of Bolivia, Suriname and Trinidad and Tobago.

^c Includes Chile, Guyana and Peru.

^d Data up to 2000 are for current spending.

3. Public debt

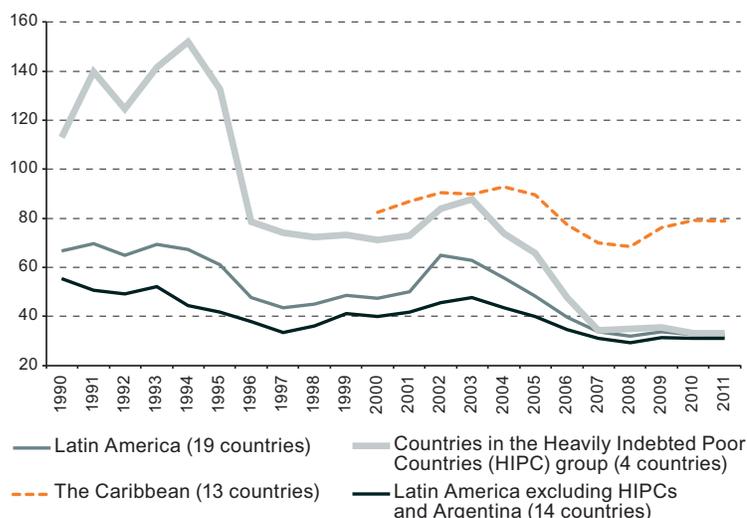
The external debt crisis of the early 1980s took a severe toll on the public finances, led to a long recession and limited the countries' room for macroeconomic manoeuvre well into the 1990s. The problem was not just the over-indebtedness of the region's countries, but more particularly the large proportion of public debt denominated in foreign currency.¹² The size of the public-sector external debt, compounded by the fact that the State assumed the external debt of the private sector, meant that this debt was the main determinant in the dynamic of overall public debt.

¹² This is the "original sin", to use the expression coined by Eichengreen and Hausmann (1999): a situation where neither borrowings abroad nor long-term loans in the domestic market are taken out in local currency.

Following the lost decade, in which fiscal and external adjustments hindered the region's recovery, the ratio between public debt and GDP tended to improve, dropping from about 80% in the early 1990s to 43% in 1997.¹³ This was due to a conjunction of factors that included a general economic recovery (associated in part with debt restructuring in a number of the region's countries and the consequent reopening of financial markets)¹⁴ and the tendency towards currency appreciation in several countries. In 1998, the ratio between public debt and GDP began to rise again as a result of the region's relative stagnation in the half-decade that followed and of large devaluations in some countries (Brazil in 1999 and Argentina in 2001). The level of public debt in 2002, which marked the end of another period of increase in the public debt-to-GDP ratio, was somewhat lower than it had been in the early 1990s.

Thus, the trajectory of debt in Latin America and the Caribbean between the early 1990s and 2002 takes the form of a U (see figure IV.10). The high level of initial indebtedness and the decline up until 1997 are skewed by the debt trajectory of the Plurinational State of Bolivia (72% of GDP), Nicaragua (270% of GDP) and Honduras (80% of GDP), countries that, together with Haiti, subsequently benefited from debt write-offs as part of the Heavily Indebted Poor Countries (HIPC) Initiative. In Argentina, currency devaluation resulted in debt tripling around 2002 to over 180% of GDP. Something similar can be seen in Uruguay, whose debt doubled to 100% of GDP. The two events represent the high water mark of debt in the region as a whole in the past two decades. The evolution of public debt-to-GDP ratios in the rest of the region has been less volatile, with higher debt levels in the Caribbean and Central America than in the South American group of countries.

Figure IV.10
LATIN AMERICA AND THE CARIBBEAN: TOTAL NON-FINANCIAL PUBLIC-SECTOR DEBT, 1990-2011^a
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a Figures for 2011 are provisional.

¹³ These severe adjustments, which resulted in a sharp fall in the investment rate, were associated with conditional structural adjustment programmes imposed by the International Monetary Fund (IMF) and the international banking system, organized into a pool of creditors (ECLAC, 2002).

¹⁴ The issuing of so-called Brady bonds from the late 1980s onward was what drove integration into international financial markets. The ability to use these bonds to pay for State asset purchases helped to bring down public-sector debt.

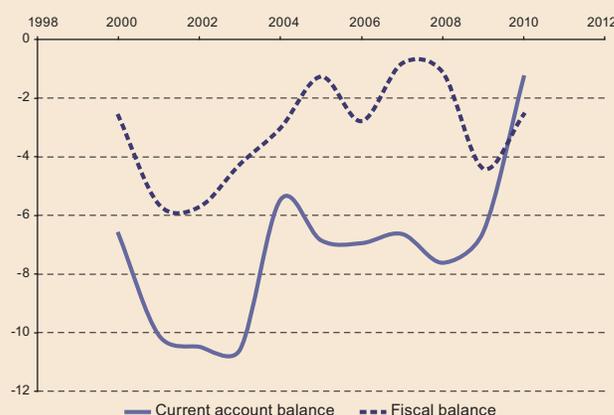
From 2003 until the crisis of 2008-2009, the public debt-to-GDP ratio fell back again considerably. Although this decline took place across the region, the debt relief afforded to the countries that acceded to the HIPC programme and debt reduction in Argentina and Uruguay were major contributors to the sharp fall seen up until 2008.¹⁵ The exception is Haiti, which has received debt relief from its external creditors in recent years. The Caribbean countries are the group with the highest level of debt relative to GDP, with a ratio of 80% in 2011 (see box IV.1).

Box IV.1

EXTERNAL DEBT IN THE CARIBBEAN AND ITS DETERMINANTS

Two facts emerge from analyses of external debt in the Caribbean. In the first place, it is a regional issue rather than a national one. Although some of the most heavily indebted economies are also the smallest, the region's larger economies, such as Barbados and Jamaica, are not immune to this problem. Secondly, the standard sustainability criteria show that debt levels are unsustainable in many of the subregion's economies. Throughout the world, economies that are structurally similar to those of the Caribbean are also facing debt problems. In 2010, 14 of the 31 countries classified as small island developing States had debt levels of over 60% of GDP. Although high debt levels are sometimes explained by excessive increases in public spending, they are also linked to the behaviour and performance of the external sector. External vulnerability, intensified in the Caribbean countries by their size, exposure to natural disasters and loss of competitiveness, largely accounts for this fiscal performance. As the following chart shows, there is a relationship between the current account balance and the fiscal balance.

THE CARIBBEAN: CURRENT ACCOUNT BALANCE AND OVERALL FISCAL BALANCE, 2000-2010
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

This relationship is shown by means of two indicators: fiscal stance (government spending divided by fiscal pressure) and export performance (exports divided by the average import propensity). A fiscal stance that exceeds export performance implies a fiscal and current account deficit. This is the case with most of the Caribbean economies. From this it can be deduced that improving the fiscal accounts, in a context where government efforts are called for to help improve the welfare of the population, will require improvements in the competitiveness and external conditions of these economies.

Source: United Nations Development Programme (UNDP), *Achieving Debt Sustainability and the MDGs in Small Island Developing States*, 2010; R. Sahay, "Stabilization, debt and fiscal policy in the Caribbean", *IMF Working Paper*, No. WP/05/26, Washington, D.C., International Monetary Fund, 2004; R. Machado, "Economic growth in the Caribbean", Port of Spain, ECLAC subregional headquarters for the Caribbean, 2009; E. Pérez Caldentey, "Debt accumulation in the Caribbean: origins, consequences and strategies", *Studies and Perspectives series*, No. 5 (LC/CAR/L.106), Port of Spain, ECLAC subregional headquarters for the Caribbean, 2007; A. Birchwood, "Should SIDS follow monetary and fiscal rules?", paper presented at the Expert Meeting on Growth and Development in Small States, Malta, 17 and 18 November 2011.

¹⁵ The average public debt of the 32 countries reporting this information was 47% of GDP in 2008. In December 2011 the region's public debt, at 51% of GDP, had not returned to the level prior to the 2009 crisis.

Fully as important as the fairly universal decline in public debt-to-GDP ratios has been the drop in the share of public external debt, a trend that can be seen in South America and especially in Mexico since the early 2000s (see table IV.2). A similar but less pronounced trend is in evidence in Central America. Alongside the reduction in overall borrowing indicators, this quite widespread improvement in the profile of public-sector liabilities has been a crucial factor in restoring the leeway for macroeconomic action in the region.

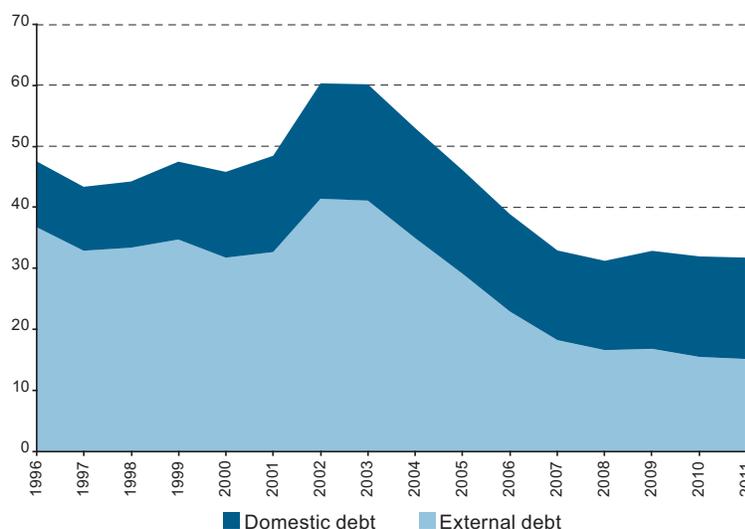
Table IV.2
LATIN AMERICA AND THE CARIBBEAN: DOMESTIC AND EXTERNAL PUBLIC DEBT, 1990, 2000 AND 2010
(Percentages of GDP)

	1995	2000	2008	2011
Latin America and the Caribbean				
Total	58.3	45.1	31.2	31.8
Domestic	10.1	14.1	14.7	16.8
External	50.4	31.8	16.5	15.0
Central America, Dominican Republic and Haiti				
Total	90.8	49.6	32.6	34.5
Domestic	8.2	11.3	11.0	13.6
External	85.9	39.6	21.6	20.9
South America				
Total	39.3	43.6	30.5	29.2
Domestic	11.0	16.2	17.0	18.5
External	29.7	27.3	13.5	10.7
The Caribbean				
Total	...	82.5	68.6	77.7
Brazil (net public debt)				
Total	24.2	38.3	38.5	39.4
Domestic	24.2	38.3	49.5	53.5
External	0.0	0.0	-11.0	-14.1
Mexico				
Total	47.4	25.3	26.9	36.3
Domestic	9.1	11.8	20.6	24.7
External	38.3	13.5	6.3	11.6

Source: Economic Commission for Latin America and the Caribbean (ECLAC) and Inter-American Development Bank (IDB), on the basis of official figures.

Beginning in the 2000s, the superior performance of South America and Mexico relative to Central America is directly attributable to the asymmetrical impact of rising international commodity prices on the different subregions' terms of trade. In 2010, in fact, only South America returned to the debt reduction path that had characterized the period prior to the crisis, when its terms of trade again took a turn for the better. Not all the improvement can be put down to terms-of-trade gains, however. The existence of fiscal rules in a number of South American countries, together with the implementation of successful strategies for administering liabilities (improvements in maturity profiles, renegotiation, debt restructuring, reduction of rate mismatches, de-dollarization of liabilities, and so forth), also contributed to this outcome. There is a clear tendency towards greater use of domestic debt instruments (see figure IV.11). The rest of the region did not succeed in returning to this path after the 2008 crisis. The countries of Central America, as net importers of food and energy, have had to cope with fiscal strains caused by rising international commodity prices.

Figure IV.11
 LATIN AMERICA (19 COUNTRIES): TOTAL NON-FINANCIAL PUBLIC-SECTOR DEBT
 BY CREDITOR'S COUNTRY OF RESIDENCE, 1996-2011
 (Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

4. Fiscal space and economic performance

Given the constraints on monetary policy management in economies with a very open financial and capital account and a generally low degree of financial intermediation compared to the developed countries, as is the case in virtually all the countries of Latin America and the Caribbean, a key role should be afforded to fiscal policy.¹⁶

Fiscal policy has shown positive signs in the past decade. In the past, the fiscal policy of the region's countries was often procyclical, accentuating rather than attenuating economic fluctuations.¹⁷ This tendency changed in the 2000s, with many countries adopting a countercyclical stance, or at least a less procyclical one, as can be seen from the effectiveness of the governments' response to the great international recession of 2008 and 2009 (ECLAC, 2010b).

The countercyclical policies deployed during that crisis have been beneficial for stability and growth. Fiscal policy has not only become a stabilizing factor in economic agents' expectations but has also been given a more assertive role in job creation and the maintenance of economic momentum in the region. Thus, control of the public finances is now a major asset for the region as a whole. As was shown in the crisis and its aftermath, fiscal space, when properly used, can help to strengthen the expansionary phase of the cycle in the region, as well as cushioning periodic downturns and promoting (through public investment) a structural shift towards dynamic efficiency.

¹⁶ Monetary policy is not only relatively ineffective in the region's countries from the standpoint of its impact on aggregate demand, but its effects are sometimes contradictory (see section B). Using interest rates to restrain aggregate demand can lead to exchange-rate appreciation and thus fuel consumption, counter to the original objective, quite apart from the implications for relative returns on tradable and non-tradable goods and for investment.

¹⁷ This is in fact a characteristic of most developing countries (Kaminsky, Reinhart and Végh, 2005).

In other words, everything indicates that the region is now better prepared than in the past to design and apply countercyclical fiscal policies. The following charts illustrate this using information on fiscal performance in the past two decades (see figures IV.12.a and IV.12.b). They reflect the evolution of public spending and public debt in the two boom periods (1991-1998 and 2003-2008) and the two recessions (1999-2002 and 2008-2010). On this basis, we may identify situations in which fiscal policy translated into a countercyclical stance in a strict sense —i.e. with public spending and public debt both falling at a time of economic expansion (or rising in a recession)— and in a loose sense —that is, with public debt falling (rising) while public spending increased (diminished). In all cases the variables are expressed as percentages of GDP.

The fiscal policy response in the region's countries tended to change between the 1990s and the 2000s (see figure IV.13). Although in the 1990s the countries tended to adopt countercyclical stances during the first recessionary phase (1999-2002), in the preceding expansionary phase (1991-1998) many of them (around half) had adopted procyclical policies. In the 2000s, conversely, virtually all the region's countries adopted countercyclical stances (strictly or loosely defined) in both the expansion (2003-2008) and the contraction (2009). The expansionary phase (2003-2008) was characterized in many cases by what were generally moderate increases in public spending and fairly substantial reductions in public debt, while in the recessionary phase (2009), public debt and spending rose in parallel.¹⁸

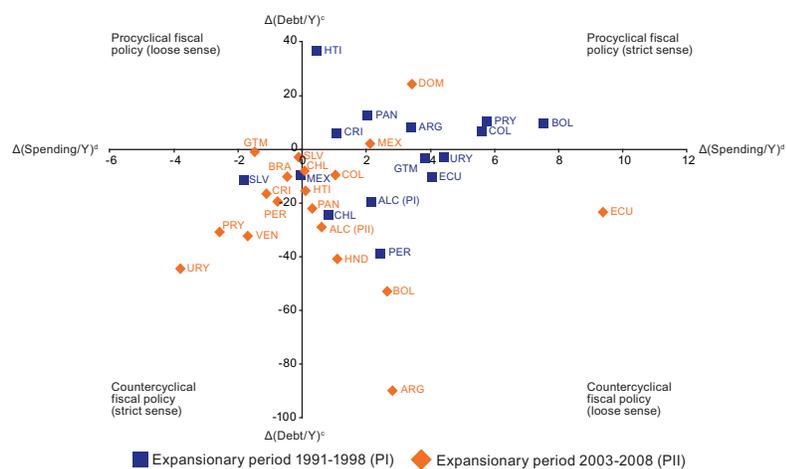
Implementing a countercyclical fiscal policy involves two major challenges. The first is to create enough fiscal space to undertake the extra spending necessary to boost aggregate demand and economic growth during the contractionary phase of the cycle. This extra fiscal space can be generated by increasing public saving during the boom phase so that the impact of adverse shocks can be absorbed without jeopardizing the financial sustainability of the State (see chapter VI).

A second challenge is that greater fiscal space needs to be complemented by an improvement in the economy's external position, so that internally generated resources can be supplemented by others from abroad. In other words, a countercyclical fiscal policy also has to be based on a monetary and exchange-rate policy conducive to the accumulation of international reserves, so that recovery is not choked off by external pressures, and on real exchange-rate levels that prevent the emergence of an unsustainable external deficit. An important factor in the ability of the region's countries to react in 2008-2009 was the external leeway available to many of them in the run-up to the crisis, either for exogenous reasons (improved terms of trade, favourable international financial conditions) or for endogenous ones (alertness to the negative effects of excessive external borrowing at times of strong international liquidity, a policy of reducing external debts and building up international reserves).

In other words, analysis of fiscal space needs to consider the dynamics of the external sector of the economy. A given package of countercyclical measures may result in different trajectories of external disequilibrium depending on the current account balance and the scope for financing it. Hence the need for a combined analysis of external and fiscal constraints, without disregarding the importance of sustainable management of the public finances in its own right.

¹⁸ A peculiarity of recent fiscal policy (2008-2010) is that most countries largely financed their spending from their own resources, so that increases in gross public debt were small.

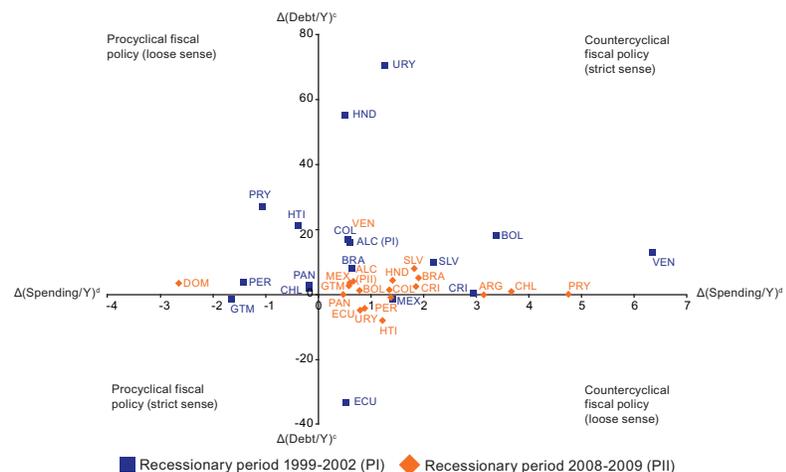
Figure IV.12.a
 LATIN AMERICA AND THE CARIBBEAN: FISCAL POLICY QUADRANTS IN EXPANSIONARY PERIODS^{a b}
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of M. Espada, I. González and R. Martner, "Hacia una mayor calidad de las finanzas públicas en América Latina", *Gestión pública series*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 2012, unpublished.

- ^a The figure shows variations in the ratio between public spending and GDP in the starting and ending years, respectively, of each period examined.
- ^b Refers to public debt and public spending of the central government.
- ^c $\Delta(\text{Debt}/Y)$: change in public debt in GDP points.
- ^d $\Delta(\text{Spending}/Y)$: change in public spending in GDP points.

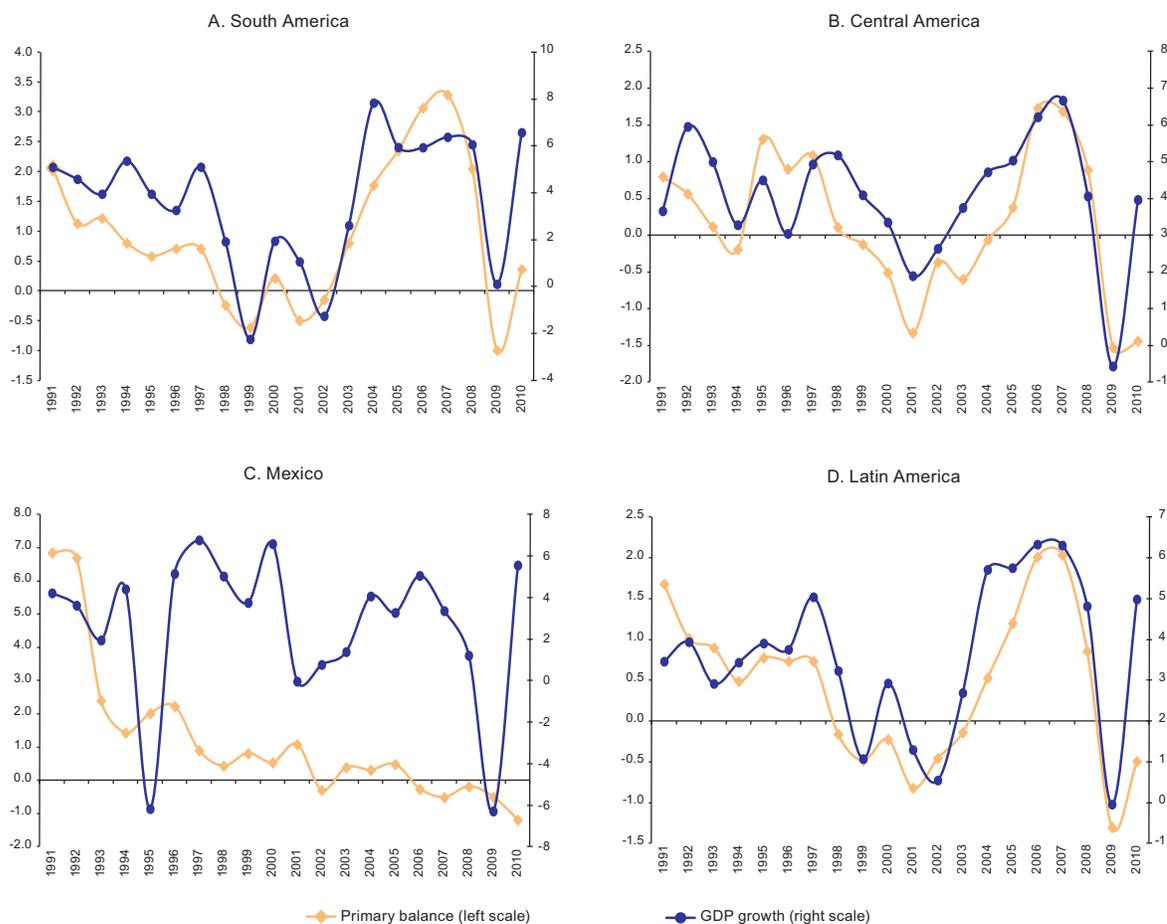
Figure IV.12.b
 LATIN AMERICA AND THE CARIBBEAN: FISCAL POLICY QUADRANTS IN RECESSIONARY PERIODS^{a b}
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of M. Espada, I. González and R. Martner, "Hacia una mayor calidad de las finanzas públicas en América Latina", *Gestión pública series*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 2012, unpublished.

- ^a The figure shows variations in the ratio between public spending and GDP in the starting and ending years, respectively, of each period examined.
- ^b Refers to public debt and public spending of the central government.
- ^c $\Delta(\text{Debt}/Y)$: change in public debt in GDP points.
- ^d $\Delta(\text{Spending}/Y)$: change in public spending in GDP points.

Figure IV.13
LATIN AMERICA AND THE CARIBBEAN: PRIMARY BALANCE AND GDP GROWTH, 1991-2010
(Percentage points of GDP and percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

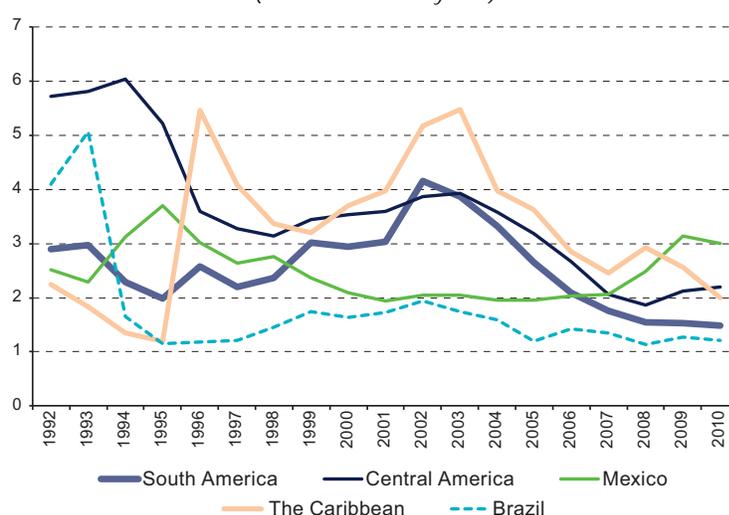
Fiscal space is measured in different ways in the literature. Some authors emphasize the relationship between fiscal leeway and the financial equilibrium of the public sector (Heller, 2005);¹⁹ others stress the relationship between public policies and the ability of the State to mobilize resources to meet particular development objectives (Roy and Heuty, 2009). Among the former, the analysis concentrates on public debt sustainability, with special attention paid to any inconsistencies that might arise between stocks and flows; among the latter, the issue highlighted is the availability of State resources, generally associated with an inadequate tax burden, although a lack of resources for financing public policies may also be associated with inconsistencies between stocks and flows.

An exercise is carried out below with a view to integrating the two outlooks, stressing both the degree of public sector indebtedness and the tax take as a percentage of GDP. Following Aizenman and Jinjarak (2011), fiscal space is taken to be inversely related to the ratio between total

¹⁹ In the view of Heller (2005), this idea refers to governments' budgetary capacity to put resources to desired purposes without imperiling the sustainability of their financial position or the stability of the economy (see also Schick, 2009).

public debt (D) and the tax take (T).²⁰ The smaller the ratio between D and T, the greater the fiscal space. Figure IV.14 shows the evolution of this ratio (the inverse of fiscal space) in the subregions of Latin America and the Caribbean.²¹ The long-term trend is favourable in Central America (i.e. the ratio has been declining), by contrast with the situation in Mexico where, following a long period of stability in the indicator, fiscal space has diminished in the recent period (the ratio has been rising). In South America and the Caribbean, the ratio tended to rise in the 1990s and fall in the 2000s, meaning that fiscal space increased in the latter decade. In the region as a whole, the improvement before the 2008-2009 financial crisis created a greater capacity for countercyclical response.

Figure IV.14
LATIN AMERICA AND THE CARIBBEAN: RATIO BETWEEN PUBLIC DEBT
AND THE AVERAGE TAX TAKE^a
(Number of fiscal years)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

^a The ratio is inversely related to fiscal space and is an indicator of the number of fiscal years needed to pay off the whole of the public debt from the tax take available at a given point in time. A three-year moving average has been used for tax pressure.

An alternative way of estimating fiscal space considers the consistency required between stocks and flows to attain a particular objective for fiscal solvency over time, given the initial conditions and the growth path followed by each country. For this, the debt level and interest payments are used to calculate, for each year, the primary balance required to stabilize the public debt-to-GDP ratio by 40% over a 10-year period. GDP is assumed to follow the average growth path of the previous 10 years. This indicator should be taken as a measure of fiscal solvency, but not as a guide to countercyclical action, as it abstracts the interaction between public spending and growth. A rise in the primary surplus tending to improve fiscal solvency may entail cutting public spending and thereby inducing a slowdown or even a recession, making the desired debt-to-GDP ratio harder to achieve.

²⁰ This ratio is an indicator of the number of (fiscal) years that would be required for an economy to repay the whole of the public debt out of the tax take available at a particular moment in time, even if this is not a policy objective. The indicator does not assume that the government aims to pay the debt, but seeks to capture the scope for increasing public spending without overburdening the public accounts.

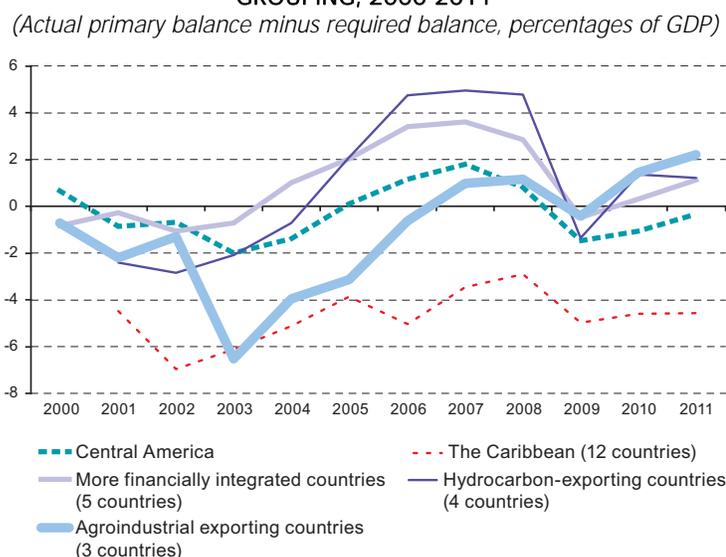
²¹ To smooth the impact of the cycle when estimating this ratio, a three-year moving average was used for tax pressure, as in Aizenman and Jinjark (2011).

To show the evolution of fiscal space in the region, the balance required is contrasted with the actual primary balance. If the required balance is greater than the actual one, fiscal space is negative. Conversely, if the required primary balance is less than the actual one, spending can be increased (by the percentage points of GDP corresponding to the difference) without jeopardizing the sustainability of the public finances.

The evolution of fiscal space in the subregions and countries (see figure IV.15 and table IV.3, respectively) exhibits a continuous improvement from 2003 onward, with the exception of the Caribbean countries, whose space has remained systematically negative owing to their higher debt levels and the fiscal difficulties they face because of exogenous factors, such as climate shocks and external prices. The positive evolution of the region is explained both by its increased growth rate and by improved external conditions and debt reduction policies (including the Heavily Indebted Poor Countries Initiative). It also shows the use of fiscal capacity to deal with the crisis, as manifested in a reduction of the gap between the required and actual primary balance. The great majority of the countries tended to regain fiscal space after the crisis, although the process was somewhat slower in Central America than elsewhere.

The existence of fiscal space is not enough for a countercyclical policy. Besides the evolution of its indicators, it is necessary to consider its interaction with the external sector. From this perspective, different tendencies are observed among the region's countries as regards their ability to cope with shocks and prevent the availability of external resources from becoming an obstacle to countercyclical action and growth.

Figure IV.15
LATIN AMERICA AND THE CARIBBEAN: EVOLUTION OF FISCAL SPACE BY COUNTRY
GROUPING, 2000-2011



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: The chart distinguishes country grouping on the basis of economic structure (trade and finance) and geography, yielding the following categories: more financially integrated countries (Brazil, Chile, Colombia, Mexico and Peru); South American agroindustrial exporting countries (Argentina, Paraguay and Uruguay); hydrocarbon-exporting countries (the Bolivarian Republic of Venezuela, Ecuador, the Plurinational State of Bolivia, and Trinidad and Tobago); Central America (Costa Rica, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Nicaragua and Panama, as well as Cuba where data are available); and the Caribbean excluding Trinidad and Tobago (Barbados, Bahamas, Guyana, Jamaica, Suriname and the members of the Organisation of Eastern Caribbean States).

Table IV.3
LATIN AMERICA AND THE CARIBBEAN: EVOLUTION OF FISCAL SPACE, BY COUNTRY, 2000-2011
(Actual primary balance minus required balance, percentages of GDP)

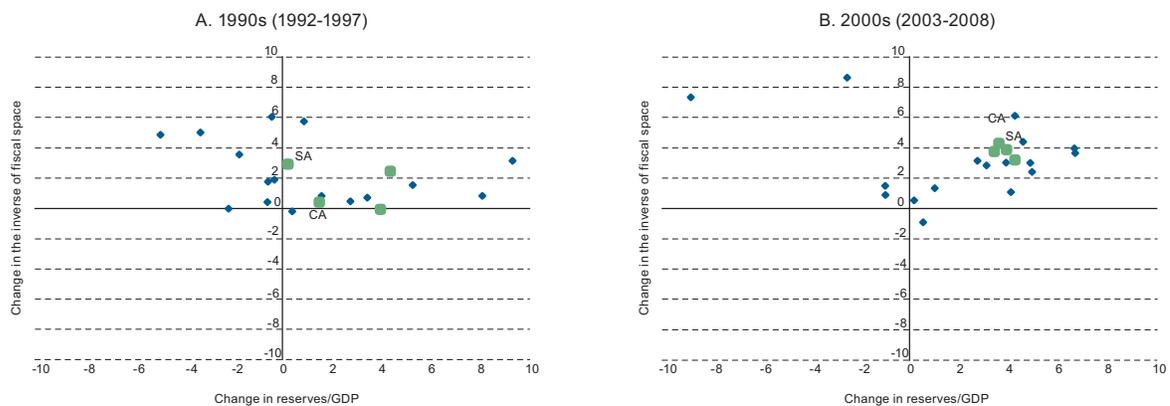
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Argentina	-2	-5.7	-1.4	-11.2	-6.6	-7.3	-1.2	-0.7	-0.5	-2.1	0.4	1.2
Bolivia (Plurinational State of)	-3.8	-7	-10	-9.1	-7.6	-3.9	3.1	2.2	4.5	1.7	3.2	2.5
Brazil	-2.5	-2.1	-3.3	-3.9	-1.9	-2.2	-2.1	-1.9	-0.9	-1.8	-1.1	-1
Chile	1.7	2.7	0.6	1.4	5.9	9.4	13.7	12.6	7.4	-0.3	3.8	3.8
Colombia	-1.8	-2.3	-2.7	-2	-1	0.1	-0.4	-0.2	1.1	-1.1	-1.7	-0.7
Costa Rica	7.1	0.5	-1.8	-0.6	-0.4	1.2	3.1	4.1	2.5	-2.2	-3.4	-3.4
Dominican Republic (CG)	3.9	4	4.9	2.4	3.3	5.6	1.8	3.2	-0.5	-0.7	0.1	1
Ecuador	-1	-1.7	0.1	1.5	2.5	1.6	4.7	4	2.5	-1.8	1.4	1.8
El Salvador	8.9	5.7	4.6	4.1	3.8	1.9	4.1	2.7	0.8	-4.9	-2.8	-2.2
Guatemala (CG)	0.6	0.5	1.5	0	1.4	0.7	0.5	1	0.9	-0.6	-1	-0.7
Haiti (CG)	-2.1	-2.5	-3.4	-4.9	-4.3	-0.3	0.1	-0.9	-0.4	-1.2	0.2	3.6
Honduras (CG)	-5.4	-4.4	-3.8	-4.8	-3.2	-2.3	0	-0.7	0.5	-3.3	-2.2	-1.6
Mexico (PS)	0.9	1.4	1	1.3	1.7	1.8	2.3	2.3	2.2	-0.4	-1.7	-1.3
Nicaragua	-9.4	-10.7	-5.5	-7.3	-6.8	-3.5	-1.4	0.7	0.6	0.1	0.3	0.3
Panama	1.6	0.3	-2	-4.9	-4.9	-2.4	1.2	4.5	2.1	1.1	0.2	0.5
Paraguay	1.3	0.9	0.3	-1.7	-0.3	0.3	0.8	4.4	5.4	2.2	3.8	4.4
Peru	-2.5	-1.1	-0.9	-0.3	0.3	1	3.5	5.2	4.4	1.2	2.4	4.9
Uruguay	-1.4	-1.8	-2.8	-6.7	-5	-2.4	-1.5	-0.8	-1.4	-1.4	0.2	1.1
Venezuela (Bolivarian Republic of) (CG)	-0.1	-2.8	-2.9	-4.5	-2.7	2.3	1.2	5.1	1.2	-2.5	-1.1	-1.3
Antigua and Barbuda (CG)	...	-13	-14.4	-10	-6.8	9.4	-9.4	-7	-6.4	-11.5	-4	-3.9
Bahamas (CG)	...	-0.5	-0.2	0.1	0.3	1	0.2	0.4	-1.5	-1.6	-2.6	-3.2
Barbados	...	-3.2	-5.8	-3.1	-2.3	-3.8	-2.1	-1.7	-5.2	-9.8	-10.2	-11.4
Belize (CG)	...	3.3	-7.5	-9.3	-8.1	-7.8	-3.2	-4.4	1.7	-2.5	-1.9	-2.5
Dominica (CG)	...	-10.4	-7.4	-6.9	-4.2	-3.8	-2.6	-3.8	-4.8	-3.5	0.5	-0.1
Grenada (CG)	...	-5.1	-13.6	-4.3	-1.8	1.2	-5.5	-6.3	-5.6	-5.3	-3.7	-5
Guyana (CG)	...	-1.2	-7	-10.9	-9.6	-13.8	-13.2	-9.2	-5.2	-4.6	-4	-0.6
Jamaica (CG)	...	-10.3	-11.6	-10.7	-9.6	-8.5	-9.8	-8.1	-7.3	-9.3	-11.1	-10.3
Saint Kitts and Nevis (FG)	...	-9.6	-13	-7.9	-9.7	-7.2	-7.2	-6.6	-4.3	-3.8	-9.2	-10.6
Saint Lucia (CG)	...	-2.5	-2.2	-7.1	-5.3	-7.3	-7	-2.7	-0.8	-2.8	-1.6	-1.5
Saint Vincent and the Grenadines (CG)	...	-1.4	-1	-1.7	-1.1	-3.3	-3.3	-2	0.3	-2.1	-3.8	-4.2
Suriname (CG)	...	0	0	-1.6	-3.5	-2.5	2.5	9.9	4.5	-3	-3.3	-1.4
Trinidad and Tobago (CG)	...	1.9	1.5	3.8	4.9	8.3	10	8.6	10.9	-2.9	2	1.8
Average gap in Latin America and the Caribbean	...	-2.4	-3.4	-3.8	-2.6	-1.1	-0.5	0.4	0.3	-2.5	-1.6	-1.3
Average gap in Latin America	-0.3	-1.4	-1.4	-2.7	-1.4	0.1	1.8	2.5	1.7	-0.9	0	0.7
Average gap in the Caribbean	...	-4	-6.3	-5.4	-4.4	-2.9	-3.9	-2.5	-1.8	-4.8	-4.1	-4.1
Maximum	8.9	5.7	4.9	4.1	5.9	9.4	13.7	12.6	10.9	2.2	3.8	4.9
Minimum	-9.4	-13	-14.4	-11.2	-9.7	-13.8	-13.2	-9.2	-7.3	-11.5	-11.1	-11.4

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Note: CG: central government; PS: public sector; FG: federal government.

In order to consider the external and fiscal fronts jointly, changes in the ratio between the total public debt (D) and the tax take (T) (the inverse of fiscal space) and the ratio between the international reserves and GDP of the region's countries will now be shown (see figure IV.16). A rise in the variable on the vertical axis signifies a reduction in fiscal space; a rise in the ratio between international reserves and GDP (on the horizontal axis) signifies a reduction in external vulnerability.²² Accordingly, the situations of greatest vulnerability will be reflected in the upper left-hand quadrant, where both fiscal space and the reserves position are diminished, while those of least vulnerability will be situated in the lower right-hand quadrant, where fiscal space is increased and the international reserves position improved. Thus, when the positions of the countries in the upturns of the cycle in the 1990s (1992-1997) and 2000s (2003-2008) are compared, most of them are found to have moved in the direction of the virtuous quadrant. The countries of South America show the best relative performance, owing to the boom in international commodity prices.

Figure IV.16
LATIN AMERICA AND THE CARIBBEAN: INVERSE OF FISCAL SPACE AND THE EXTERNAL SECTOR,
BY COUNTRY, 1990s AND 2000s^a
(Percentage points)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a SA: South America; CA: Central America.

The evolution of international reserves is associated with the behaviour of the balance-of-payments components. Between 2003 and 2008, countries that were net exporters of commodities ran current account surpluses, in addition to which they experienced large capital inflows. The Central American countries are more vulnerable externally; there was a temporary improvement in 2008 as a result of the large drop in the value of their imports. The Caribbean countries, with the exception of Trinidad and Tobago, showed sustained current account deficits, aggravated in 2008 by the sharp fall in external demand resulting from the global crisis. In these two groups, with some exceptions (mainly countries with strong foreign direct investment), external leeway is limited. The HIPC Initiative has alleviated the external debt repayment obligations of two countries in Central America. The Caribbean,

²² The external vulnerability indicator is used for illustrating variations in countries' external positions and should be interpreted with caution. Strictly speaking, external sustainability depends on too broad a range of variables to be represented in a single graph: the State's external debtor/creditor position, external debt levels and the interest rate carried on each category of debt, the structural position of the current account (i.e. measuring exports and imports and other components—such as remittances—at trend prices) and the ease of access to financial markets (credit rating and sovereign risk).

meanwhile, has not benefited from the external financing trends that favoured the other subregions, and has had to cope with higher import prices and lower demand for its exports from developed countries (tourism services in particular), all of this on top of the consequences of climate shocks.

It is important to forestall situations of external vulnerability that may hinder the implementation of countercyclical fiscal policies. Accordingly, from a perspective in which the balance of payments is the predominant factor in the short-term dynamics, the external position of an economy can prove as important as that of the public sector. Thus, monetary and exchange-rate policies play an essential role alongside fiscal policy because of their effects on the external sector. Terms-of-trade movements cannot be relied upon to strengthen the external and fiscal fronts simultaneously or to shift economies towards the virtuous quadrant.

In sum, major strides have been made in the fiscal arena, but further progress is needed towards making fiscal policy action serve the objective of equality and in creating fiscal space and linking it more effectively with the quality of investment and its role in structural change.

Increasing fiscal space so that countercyclical policies can be implemented means applying measures to systematically increase the resources saved during growth periods. Chapter VI will discuss the different policy instruments that can be used to this end, such as stabilization funds for saving windfalls from terms-of-trade gains, structural fiscal rules and automatic stabilizers of different kinds.

B. Monetary policy, exchange rates and inflation

1. Inflation, monetary policy and the exchange rate as a nominal anchor in the 1990s

Monetary policy plays an important role in promoting stability and growth and acts in tandem with fiscal policy. For many of the region's countries, the challenge of the 1990s was to reduce the high inflation levels inherited from the lost decade of the 1980s. After experiencing high inflation during the 1970s, 1980s and early 1990s, including several bouts of hyperinflation, the countries of Latin America and the Caribbean did in fact succeed in reducing inflation during the second half of the 1990s. Inflation was still quite high in the first half of the decade (see table IV.4); between 1991 and 1994, some of the region's countries had three-digit inflation rates (Argentina, Peru, Suriname and Uruguay) and even four-digit rates (Brazil and Nicaragua). Subsequently, near the end of the decade, inflation rates tended to converge on a single-digit level virtually everywhere in the region, with just a few exceptions.

In many cases, price stabilization was achieved by implementing monetary programmes that used the exchange rate as a nominal anchor, not only in the smaller economies of Central America and the Caribbean (where this type of monetary regime is still fairly predominant), but also in some of the larger economies of South America.²³ These programmes were usually implemented along with policies to open up trade and finance and deregulate domestic markets, including the financial and labour markets.

²³ Fixed parity regimes used "hard" pegs (currency boards, dollarization and fixed exchange rates) and "soft" pegs (crawling pegs and crawling bands).

Table IV.4
LATIN AMERICA AND THE CARIBBEAN: ANNUAL INFLATION, 1991-2000
(Percentages)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
South America ^a	129.7	127.4	218.6	229.9	25.8	23.1	15.3	13.7	11.2	15.3
Argentina	171.7	24.9	10.6	4.2	3.4	0.2	0.5	0.9	-1.2	-0.9
Bolivia (Plurinational State of)	21.4	12.1	8.5	7.9	10.2	12.4	4.9	7.7	2.2	4.4
Brazil	432.8	951.6	1 928.0	2 075.9	66.0	15.8	6.9	3.2	4.9	7.0
Chile	21.8	15.4	12.7	11.4	8.2	7.4	6.1	5.1	3.3	3.8
Colombia	30.4	27.0	22.4	22.8	20.9	20.8	18.5	18.7	10.9	9.2
Ecuador	48.7	54.6	45.0	27.3	22.9	24.4	30.7	36.1	52.2	96.1
Paraguay	24.2	15.2	18.2	20.6	13.4	9.8	7.0	11.6	6.7	9.0
Peru	409.5	73.5	48.6	23.7	11.1	11.5	8.5	7.3	3.5	3.8
Uruguay	102.0	68.5	54.1	44.7	42.2	28.3	19.8	10.8	5.7	4.8
Venezuela (Bolivarian Republic of)	34.2	31.4	38.1	60.8	59.9	99.9	50.1	35.7	23.6	16.2
Central America and Mexico ^a	349.3	13.0	13.9	12.9	17.3	14.8	11.4	8.8	8.0	7.5
Costa Rica	28.7	21.8	9.8	13.5	23.2	17.5	13.3	11.7	10.0	11.0
Cuba	...	...	...	...	...	...	...	...	...	0.3
Dominican Republic	47.1	4.3	5.2	8.3	12.5	5.4	8.3	4.8	6.5	7.8
El Salvador	14.4	11.2	18.5	7.2	9.7	9.8	4.5	2.5	0.5	2.3
Guatemala	35.1	10.2	13.4	12.5	8.4	11.1	9.2	6.6	5.2	6.0
Haiti	15.2	19.3	36.5	37.3	25.1	18.3	16.4	10.6	8.7	13.7
Honduras	34.0	8.8	10.7	21.7	29.5	23.8	20.2	13.7	11.6	11.1
Mexico	22.7	15.5	9.8	7.0	35.0	34.4	20.6	15.9	16.6	9.5
Nicaragua	2 945.0	23.7	20.4	7.8	10.9	11.6	9.2	13.0	11.2	11.5
Panama	1.2	1.8	0.4	1.3	1.0	1.3	1.2	0.6	1.3	1.4
The Caribbean ^a	16.7	24.0	30.2	69.5	45.1	5.8	4.8	5.6	19.7	13.8
Bahamas	7.3	5.7	2.8	1.3	2.1	1.4	0.5	-0.6	3.2	1.6
Barbados	6.2	6.1	1.1	0.7	1.9	2.4	7.7	-1.2	1.5	2.4
Jamaica	51.1	77.3	22.1	35.1	19.9	26.4	9.7	8.6	6.0	2.7
Saint Lucia	5.7	5.1	1.0	2.5	5.7	1.8	0.2	2.2	5.3	1.9
Suriname	26.0	43.6	143.5	368.5	235.5	-0.7	7.1	19.0	98.8	70.9
Trinidad and Tobago	3.9	6.4	10.8	8.8	5.3	3.3	3.6	5.6	3.4	3.6

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Simple average of the countries.

The combination of stabilization programmes based on the exchange rate as a nominal anchor and market reforms, particularly trade opening, led to strong alignment of the domestic prices of tradable goods and services with external prices —helping to bring about stabilization— but fuelled substantial currency appreciation, especially in Argentina and Brazil. In some cases, this hastened the specialization in the production and export of natural resources that had resulted from the economic reforms consolidated in the 1990s. These reforms involved not only the partial lifting of tariff protection and other trade policy instruments, but also the dismantling of industrial policy instruments (see chapter VI).²⁴

During the 1990s, the rise in unemployment caused by the retreat of tradable sectors, something that once again particularly affected certain South American countries, contributed to

²⁴ Trade opening, which resulted in large tariff cuts, was instrumental in increasing the consumption share of cheaper imports and containing inflation (Sáinz and Manuelito, 2006).

the decline in the income share of wage labour (see chapter V).²⁵ This retreat occurred in and was facilitated by a policy context of labour market deregulation.²⁶ The incorporation of the workforce of the Asian continent (essentially China and, to a lesser extent, India) into the dynamic of worldwide labour costs, and its increasing weight in international markets for manufactures, tended to reinforce this trend (Epstein and Yeldan, 2009). This trend affected Central America and Mexico particularly because of their export specialization in labour-intensive manufactures that competed directly with Asian production, but it also affected labour-intensive manufacturing sectors in the more industrialized countries of South America. To currency appreciation and a declining income share for wage labour must be added, in the early part of the 1990s, lower international prices for hydrocarbons and other raw materials and the dismantling of the price indexing systems that were a feature of some countries.

The drop in average regional inflation also reflects the large decline in inflation in countries that had recently had three- or four-digit rates (Argentina, Brazil, Nicaragua, Suriname, Peru and Uruguay). From 1995 onward, no country in the region had a three-digit rate and a number of countries had single-digit rates. Thus, by 2000 the mean inflation rate in the region (simple average) was 12%.

These factors —trade opening and the substitution of local by imported supply, the appreciation of local currencies and falling international prices for hydrocarbons and for metals and minerals— helped to reduce supply-side inflationary pressures by bringing down the cost of labour and of tradable inputs and final goods.

This also helps to explain the fact, which might seem contradictory at first glance, that the stabilization programmes were implemented in a period of relative economic prosperity like that experienced by much of the region between 1990 and the Asian crisis of 1997 (leaving aside the 1994 Mexican crisis). Although the drop in inflation was a global phenomenon, the shift to primary surpluses was a major achievement of the region's public finances that pushed up aggregate demand and inflationary expectations (Rogoff, 2006).

Besides its impact on the real economy, the currency appreciation associated with the kind of stabilization programmes that proliferated in the 1990s contributed to profound balance-of-payments crises in the region's largest economies (Mexico in 1994, Brazil in 1999 and Argentina in 2001).²⁷ The fallout from these crises on the financial systems and public finances of the countries involved, as well as the serious collateral damage in many other countries in the region,²⁸ tended to undermine the legitimacy of stabilization programmes based on exchange-rate anchors.

²⁵ The same phenomenon can be seen in the central countries during the so-called “great moderation”, the period of low inflation and low volatility seen in the industrialized countries between 1987 and 2007. In this period, the wage share of national income fell substantially in all the central countries, irrespective of their political situation and the macroeconomic regime in place (Wittwer, 2009; Torres, 2011; Keen, 2011).

²⁶ In some particular situations, the decline in the income share of wage labour was amplified by the shrinking of the State (see Novick and others, 2007).

²⁷ In fact, similar crises had already occurred in the region following the pioneering measures taken in the Southern Cone in the late 1970s, when stabilization programmes based on the exchange rate were also implemented alongside financial deregulation, liberalization of international capital flows and indiscriminate trade opening.

²⁸ This is the case, for example, with Uruguay, which had to cope with the collateral effects of the crises in Brazil (1999) and Argentina (2001) within the space of just a few years.

Following the financial crisis in the East Asian countries in 1997, predating similar processes in countries in the region (Brazil and Argentina), macroeconomic programmes based on the nominal exchange rate had already begun to lose favour in the conventional approach, for all their recognized effectiveness in reducing or restraining inflation. Thus, the need for a greater degree of exchange-rate flexibility became one of the lessons of the 1990s, although the experience of the region already furnished sufficient grounds for a conclusion of this kind.²⁹ Reforms aimed to increase financial openness were not called into question in the same way, however, even though were decisive in shaping the destabilizing dynamic that preceded the crises mentioned. While some countries continued to open up their financial systems, others took steps to restrict cross-border capital flows (Calderón and others, 2011).

Although many of the region's smaller and more open economies in Central America and the Caribbean have kept fixed exchange-rate or similar regimes, in Mexico and a number of South American economies stabilization programmes based on the exchange rate were replaced by monetary regimes that were more flexible in this regard, like the inflation targeting systems introduced in Brazil, Chile, Colombia, Mexico and Peru between the late 1990s and early 2000s (Frenkel and Rapetti, 2011).³⁰

2. Towards greater exchange-rate flexibility

Inflation targeting regimes have gained international acceptance since the late 1990s (Blanchard, 2008). These involve an official announcement of an inflation target for one or more consecutive periods, with explicit recognition that a low and stable inflation rate is the primordial objective of monetary policy (Bernanke and Mishkin, 1997).

In a system of this kind, the main tool for stabilizing inflation is the short-term nominal interest rate. The aim is to use this rate to influence the maturity structure of interest rates and thence the portfolio decisions of economic agents and the different components of aggregate demand, with a view to maintaining activity and employment at a level that keeps inflation expectations in line with the official target.³¹ Ideally, inflation targeting regimes operate alongside free-floating exchange rates although, as will be described later, in practice intermediate or “managed float” situations tend to be more common.

In an inflation targeting regime, the official target is the nominal anchor of the economy, and this is why the credibility of the monetary authority is critically important in a system of this type. A basic assumption is that central bank credibility helps internalization of the official inflation target by economic agents as they form expectations and take decisions on consumption, investment and portfolios. This in turn explains the importance attached to central bank

²⁹ In this connection, see the classic article by Díaz-Alejandro (1985).

³⁰ Guatemala also uses an inflation targeting system, while Uruguay is likewise usually considered to apply an inflation targeting regime, albeit with particular features.

³¹ From the standpoint of aggregate demand management over the cycle, fiscal policy tends to play a subsidiary role in inflation targeting regimes, one that is virtually confined to the countercyclical action of automatic stabilizers. To avoid situations of “fiscal dominance”, under this type of macroeconomic regime efforts are made to reduce fiscal activism and discretion to a minimum, other than in situations of widespread economic crisis (Arestis, 2009).

independence or operational autonomy in monetary regimes of this type.³² From this perspective, two other important concepts are the predictability and reputation of the central bank.³³

In a system of this type, in which the credibility of the central bank is essential to the effectiveness of monetary policy, establishing and consolidating a reputation can become one of the intermediate objectives of the monetary authority. There is a risk, however, that this intermediate objective may turn into a final objective. Thus, for example, in their zeal to enhance their reputation, the monetary authorities may overreact to a transitory supply shock, such as a temporary rise in international commodity prices. This is a particular issue in a region such as Latin America and the Caribbean, which is more vulnerable to supply shocks than to demand shocks (Arestis, De Paula and Ferrari-Filho, 2008). What is usually advised in these cases is the introduction of more flexible inflation targets by extending permissible ranges or the time allowed for convergence towards the target, or changing target itself subject to a commitment to maintain the long-term target.³⁴

Against this background, and given the difficulties that might be involved in bringing observed inflation into line with the midpoint of the official range, the monetary authorities may evince “asymmetrical” reaction functions, that is, they may tolerate undershoots more than overshoots of the middle value set for the inflation target (Carlin and Soskice, 2006). This asymmetry is of particular interest in the region in relation to the evolution of the nominal exchange rate. Considering the primacy of the anti-inflation objective over other goals, the monetary authority becomes more likely to resist exchange-rate depreciations than appreciations, given the inflationary effects of the former and the deflationary effects of the latter (Barbosa-Filho, 2008; Ocampo, 2011; Ros, 2012).

Notwithstanding the foregoing, central banks have shown increasing concern over exchange-rate appreciation in recent years (Levy-Yeyati and Sturzenegger, 2007).³⁵ By contrast with the conventional arguments for a “pure float”, reality shows that, even under inflation targeting regimes, currency market intervention is accepted as an option under particular circumstances, one example being situations of high volatility in that market which may affect price formation or financial stability.³⁶

The region’s central banks intervene in the currency markets to differing degrees, and this is true even of those that operate inflation targeting regimes (Brazil, Chile, Colombia, Mexico, Guatemala, Peru and Uruguay), as is shown below (see figure IV.17, where those countries are

³² When a central bank is independent, it sets the inflation target and decides how to meet it. When it has operational autonomy, the inflation target is set by the government and the bank operates instruments to achieve it. A historical reconstruction of the idea of central bank independence can be found in Bibow (2010).

³³ The concept of predictability refers to the need for institutions to have clear goals, such as a credible monetary policy that generates the effects agents expect. Reputation rests on the institution’s preferences being both transparent to the public and stable over time (Drazen, 2000).

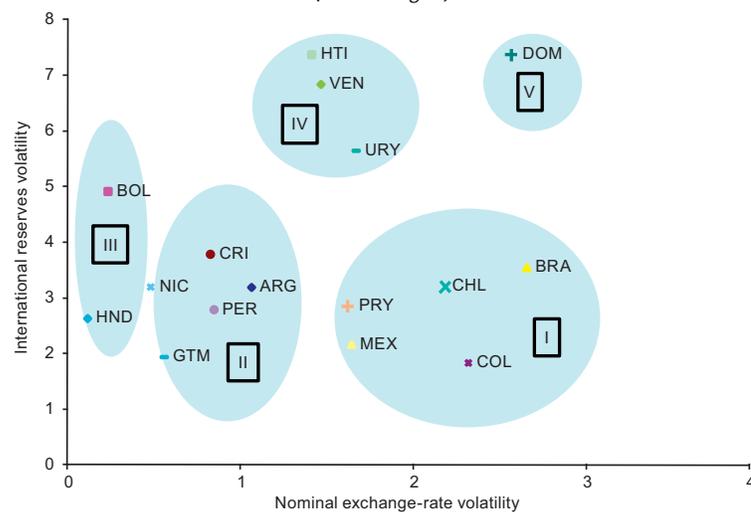
³⁴ One possibility is to adopt let-out clauses for when substantial shocks occur, as in Brazil, New Zealand and the United Kingdom.

³⁵ These authors speak of “fear of appreciation” as opposed to the more usual “fear of floating” popularized by Calvo and Reinhart (2000).

³⁶ Central bank interventions to purchase foreign exchange have been routine in the face of strong inflows of funds from abroad (as in the periods preceding and following the international crisis of 2008 and 2009), either to prevent excessive currency appreciation, which is a neo-mercantilist motive, to adopt a term used by Levy-Yeyati and Sturzenegger (2007), or to accumulate a greater volume of international reserves for self-insurance purposes (a precautionary motive), without however seeking to prevent currency appreciation (see Pérez Caldentey, 2009).

marked by a square). The vertical axis shows the volatility of international reserves, while the horizontal axis shows the volatility of the nominal exchange rate. In this representation, free float regimes would be expected to evince a high level of exchange-rate volatility and a low level of international reserves volatility. At the other extreme, fixed exchange-rate regimes would be expected to evince a high level of reserves volatility and zero exchange-rate volatility. Lastly, intermediate regimes ought to tend to display less exchange-rate volatility than free float regimes but more than fixed exchange-rate regimes, and less reserves volatility than fixed exchange-rate regimes but more than free float regimes.³⁷

Figure IV.17
LATIN AMERICA AND THE CARIBBEAN (16 COUNTRIES): DEGREES OF
CURRENCY MARKET INTERVENTION, 2003-2011^a
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Countries whose central banks operate within an inflation targeting regime are marked by a square.

Not all countries with inflation targeting regimes display the expected behaviour. Brazil, Chile, Colombia and Mexico tend to react as predicted (area I of the chart), albeit with less exchange-rate volatility than would result from a fully free float. The positions of Peru and Guatemala (area II), for example, do not differ that much from that of Argentina (area II), which followed a deliberate strategy of supporting the exchange rate in the period considered, and nor do they stand very clearly apart from Costa Rica (area II) and Honduras (area III), which operate crawling or nearly fixed exchange-rate regimes.

In practice, then, intermediate situations tend to prevail. Monetary authorities, it should be noted, are at pains to emphasize that they intervene in currency markets in response to temporary shocks, and that they have no intention of engineering a predetermined exchange rate (informed, for example, by industrial policy criteria) that might be inconsistent with economic fundamentals. Nevertheless, the marked tendency to accumulate international reserves, either for precautionary reasons or to restrain currency appreciation, suggests that central banks increasingly recognize that currency appreciation can have substantial medium- and long-run costs.

³⁷ Depending on the period examined, over-volatility in the two variables may reflect a crisis situation entailing a precipitous drop in reserves followed by devaluation.

In small, open economies with low levels of financial intermediation—a category that includes most of the countries of Latin America and the Caribbean—the exchange-rate channel, as opposed to the credit channel, tends to prevail as the main mechanism transmitting monetary signals to prices.³⁸ The evidence indicates that the elasticity of aggregate demand relative to interest rates is low in the region (Barbosa-Filho, 2008; Frenkel, 2008; Galindo and Ros, 2008). In regimes with a flexible exchange rate and an unrestricted financial account, any rise (fall) in the domestic interest rate will attract (expel) capital into (out of) the country, and the local currency will tend to appreciate (depreciate). This will directly affect local prices for tradable goods, and thence inflation. Less immediately, too, it will affect the evolution of credit, whose rate of growth may actually increase if a “wealth effect” arises on the financing demand side as a corollary of currency appreciation (Stiglitz and others, 2006; Ocampo, 2011). Thus, in financially shallow countries, a contractionary monetary policy will tend to reduce the inflation rate primarily through the exchange-rate channel, and only to a lesser degree through the credit channel.³⁹

Precisely because the exchange-rate channel is more effective, the authorities usually react quickly to the smallest possibility of devaluation of the nominal exchange rate (by increasing the benchmark rate, intervening directly in the currency market, or some combination of the two) in order to prevent this passing through to prices, and less promptly to any appreciation. In practice, this leads to a certain asymmetry in exchange-rate management by central banks in developing countries or those with limited financial depth. This asymmetry is embodied in the very system of incentives underlying inflation targeting regimes and it can be problematic, as it is detrimental to the production of tradables and can compromise economic diversification (as discussed in chapter I).⁴⁰

The foregoing discussion on the role of the exchange rate has important implications for the production structure. If macroeconomic policy strongly affects macro prices, it will have an impact on relative sector profitability (and hence on the direction of investment) that will be hard to reverse by means of industrial policy. Such shifts in relative returns will be even more difficult to counter where industrial policy is weak or non-existent, as is the case in most Latin America and Caribbean countries.

3. Monetary policy and exchange rates in the commodity price boom

During the 2000s, the countries of Latin America and the Caribbean had to cope with the challenge of controlling inflation in a context of rising international commodity prices and high external liquidity. Nonetheless, the region’s inflation rates stayed fairly low, varying between 6% and 10%, except in 2009, when they fell to 4.5%. In a number of countries that maintain inflation targets, rates hovered very close to the ceiling of the established bands during a significant number of years and exceeded it in several (see table IV.5). This occurred in the context of a quite widespread trend towards currency appreciation, induced by the international financial context and the policy responses of the region’s countries themselves.

³⁸ The discussion about the relationship between exchange rates and inflation targets is very important in some developed and transition countries as well. See Bernanke and Woodford (2004).

³⁹ This does not mean that the credit channel is not operative in the region’s countries, but that it is less important than in advanced economies, where the financial system is far more developed. This lesser importance is due not only to the relative lack of development and depth that usually characterizes the region’s financial systems, but also to the contradictory effects of monetary policy decisions. Given the effect of policy rate variations on the exchange rate, and of the latter on agents’ perception of how their own asset situation is developing (wealth effects), the contractionary (expansionary) impact of interest rate rises (reductions) may be offset by positive (negative) wealth effects. Chapter VI discusses the macroeconomic implications of the different degrees of financial opening displayed by the region’s countries.

⁴⁰ See Abeles and Borzel (2010).

Table IV.5
LATIN AMERICA AND THE CARIBBEAN: ANNUAL INFLATION, 2001-2011
(Percentages)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
South America ^a	8.3	10.4	11.6	6.4	6.1	6.2	7.0	10.8	6.7	6.7	7.8
Argentina	-1.1	25.9	13.4	4.4	9.6	10.9	8.8	8.6	6.3	10.5	9.0
Bolivia (Plurinational State of)	1.6	0.9	3.3	4.4	5.4	4.3	8.7	14.0	3.3	2.5	9.5
Brazil	6.8	8.5	14.7	6.6	6.9	4.2	3.6	5.7	4.9	5.0	6.2
Chile	3.6	2.5	2.8	1.1	3.1	3.4	4.4	8.7	1.5	1.5	3.0
Colombia	8.0	6.3	7.1	5.9	5.1	4.3	5.5	7.0	4.2	2.3	3.2
Ecuador	37.7	12.5	7.9	2.8	2.1	3.3	2.3	8.4	5.2	3.6	4.0
Paraguay	7.3	10.5	14.2	4.3	6.8	9.6	8.1	10.1	2.6	4.8	8.1
Peru	2.0	0.2	2.3	3.7	1.6	2.0	1.8	5.8	2.9	1.5	3.3
Uruguay	4.4	14.0	19.4	9.2	4.7	6.4	8.1	7.9	7.1	6.7	7.5
Venezuela (Bolivarian Republic of)	12.5	22.4	31.1	21.7	16.0	13.7	18.7	31.4	28.6	29.1	24.5
Central America and Mexico ^a	8.1	4.7	10.5	11.9	7.3	7.0	6.8	10.5	2.7	4.2	5.5
Costa Rica	11.3	9.2	9.4	12.3	13.8	11.5	9.4	13.4	7.8	5.7	4.7
Cuba	12.0	-5.2	2.0	-2.2	2.8	5.1	7.1	1.6	-1.2	1.3	0.9
Dominican Republic	8.8	5.2	27.5	51.5	4.2	7.6	6.1	10.6	1.4	6.3	8.0
El Salvador	3.8	1.9	2.1	4.4	4.7	4.0	4.6	7.3	0.5	0.9	4.9
Guatemala	7.3	8.1	5.6	7.6	9.1	6.6	6.8	11.4	1.9	3.9	5.8
Haiti	14.2	9.9	39.3	22.8	15.1	13.2	8.5	15.5	0.0	5.7	7.9
Honduras	9.7	7.7	7.7	8.1	8.8	5.6	6.9	11.4	5.5	4.7	6.6
Mexico	6.4	5.0	4.5	4.7	4.0	3.6	4.0	5.1	5.3	4.2	3.0
Nicaragua	7.4	4.0	5.1	8.4	9.4	10.0	10.7	19.6	3.0	5.9	7.7
Panama	0.3	1.1	1.4	1.6	0.9	2.5	4.2	8.8	2.4	3.5	5.4
The Caribbean ^a	11.2	4.8	7.1	5.2	7.4	7.4	4.9	11.1	3.8	6.4	6.1
Bahamas	2.1	2.1	3.0	1.2	1.8	1.9	2.5	4.4	1.3	1.8	1.0
Barbados	2.8	0.2	1.6	1.1	6.4	7.3	4.0	8.1	3.6	5.8	7.9
Jamaica	12.7	7.1	10.3	13.6	15.3	8.6	6.2	21.8	9.4	13.1	6.9
Saint Lucia	5.3	-0.3	1.0	1.5	3.9	6.9	2.2	5.9	1.5	1.9	-0.3
Suriname	38.6	15.5	23.0	9.9	10.0	11.3	6.5	14.6	-0.1	5.1	16.8
Trinidad and Tobago	5.5	4.2	3.8	3.7	6.9	8.2	8.0	12.0	7.0	10.5	4.1

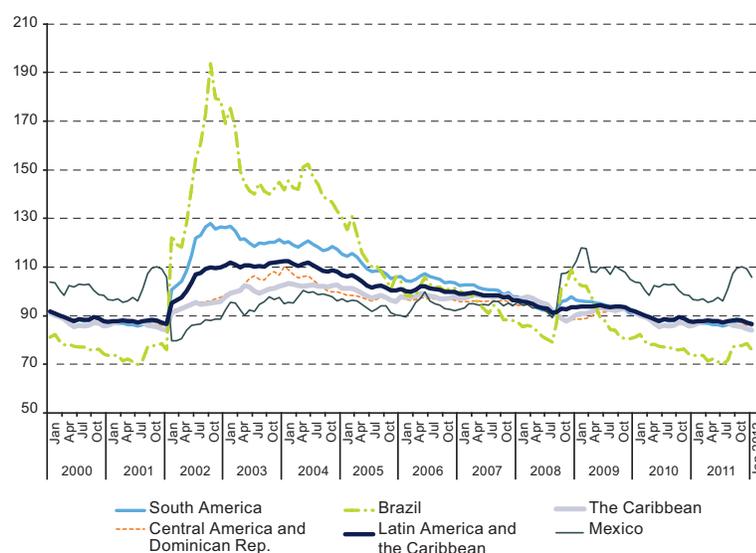
Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Simple average of the countries.

In South America and, to a degree, in Mexico, four stages may be identified in the exchange-rate, monetary and inflation situation over the last decade, largely in response to fluctuations in international commodity prices. The first stage, between 2003 and 2006, was characterized by steadily slowing inflation, in line with the trend that had begun in the 1990s, together with a certain tendency towards exchange-rate appreciation (see figure IV.18), another sign of continuity from the previous decade. International commodity prices held fairly steady during this period.⁴¹

⁴¹ The inflation targeting regimes referred to above were introduced between the late 1990s and the early 2000s in Brazil (1999), Chile (1999), Colombia (1999), Mexico (2001) and Peru (2002).

Figure IV.18
 LATIN AMERICA AND THE CARIBBEAN: REAL MULTILATERAL EXCHANGE RATE, 2000-2012
 (Index: 1990-1998=100)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the International Monetary Fund (IMF).

In the second stage, from late 2006 to mid-2008, inflationary pressures resurged (although inflation remained moderate by the historical standards of the region) associated with rising and more volatile international prices for commodities, energy and, especially, food.⁴² Except where effective countervailing mechanisms were applied,⁴³ rising international food prices put upward pressure on local inflation.⁴⁴

Currency appreciation played an important role in containing the local impact of higher international commodity prices, particularly in some South American countries (see figure IV.19). These are the raw material-exporting countries whose monetary policies are based on inflation targeting regimes: Brazil, Chile, Colombia, Peru and Uruguay.⁴⁵ Different studies have shown the countervailing effect exercised by nominal exchange-rate appreciation on domestic prices (Lora, Powell and Tavella, 2011; BIS/IMF, 2011). Conversely, countries that held nominal exchange rates steady during the upsurge in international prices, such as Argentina and the Bolivarian Republic of Venezuela, experienced a greater inflationary impact.

⁴² Three factors contributed to this: first, the rise in Asian demand for commodities and the effect of this on international raw material prices; second, the expansionary bias of monetary policy in the industrialized countries, particularly the United States, and its impact on the volatility of commodity prices as a result of rising global liquidity; and third, the growing trend towards the production of fuels from agricultural resources (ECLAC, 2011b and UNCTAD, 2011).

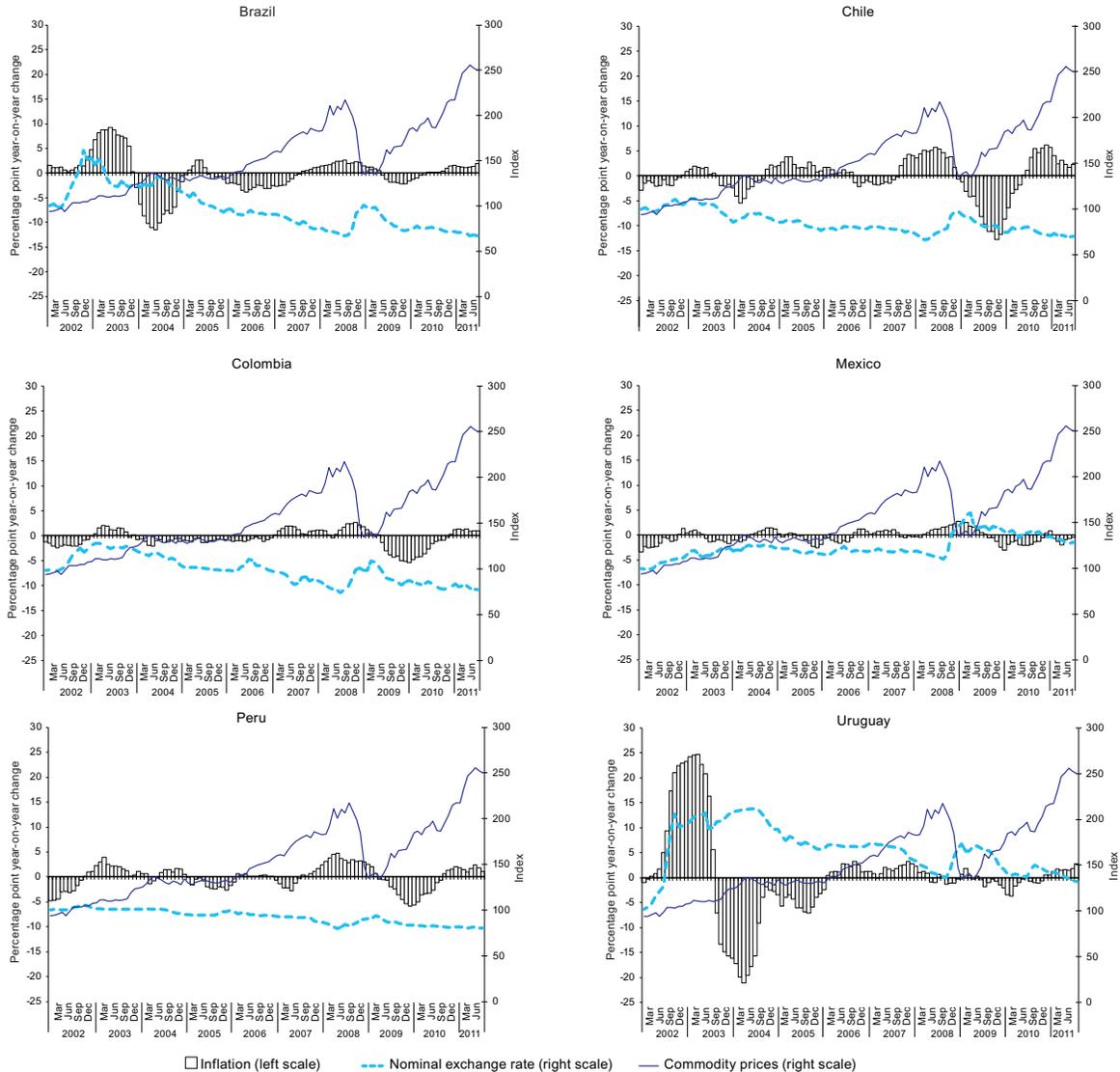
⁴³ For example, Argentina raised export duties on the main food commodities; domestic fuel prices in Brazil were held down by the State oil firm (Petrobras); Peru lifted import tariffs on a number of agricultural products. All these measures helped to offset the impact of rising international commodity prices on domestic prices. See Bianchi, Calidoni and Menegatti (2009).

⁴⁴ As is usually the case in developing countries, food prices are critical to the general retail price dynamic, owing to the proportion of people's consumption baskets that food accounts for. According to the IMF (2011), the median share of food in household consumption is 31% in developing countries and 17% in developed ones.

⁴⁵ Although the monetary system operated in Uruguay is not formally an inflation targeting regime, in practice it tends to operate like one.

Figure IV.19
LATIN AMERICA (6 COUNTRIES): COMMODITY PRICES, NOMINAL EXCHANGE RATES
AND INFLATION, 2002-2011

(Percentage points and indices: December 2000=100)



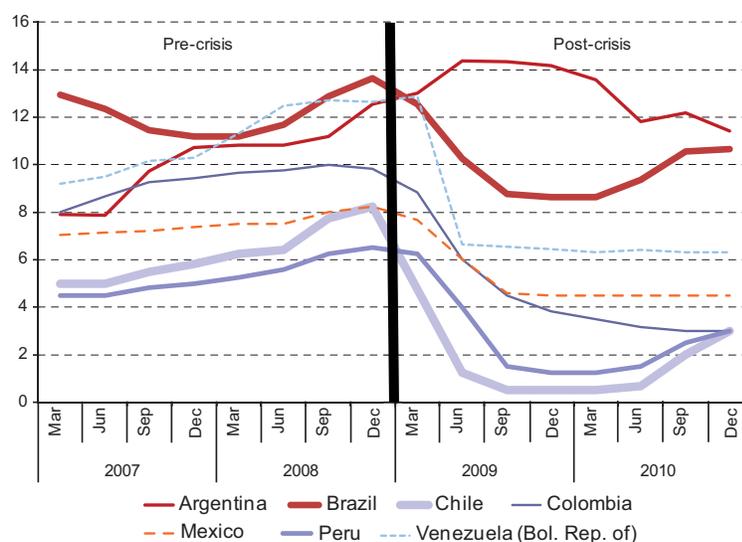
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

The third stage occurred in 2009, the nadir of the international crisis, when international commodity prices fell temporarily (albeit substantially), causing inflation to slow in a number of the region's economies, even though several countries experienced substantial currency devaluations in late 2008 and early 2009 as a result of the flight to quality triggered by the collapse of Lehman Brothers. After the initial shock, in a context of generally declining inflation, monetary policy was generally oriented towards economic recovery during 2009 and up until the end of the first quarter of 2010.

The fourth stage, from 2010 to 2011, coincided (like the 2007-2008 period) with a fresh uptrend in international commodity prices. The monetary and exchange-rate response by central banks did not differ greatly from that seen in the earlier period. Expansionary monetary policy in developed countries once again stimulated capital flows into emerging markets, including economies in the region. On this occasion, the monetary authorities tended to internalize concerns about the negative effects of excessive currency appreciation, whether on the real economy or on the financial markets.⁴⁶ An example of the former is reprimarization, while an example of the latter is the emergence of destabilizing behaviour leading to balance-of-payments crises like those seen in the 1990s. Thus, exchange-rate activism can be seen to have increased in 2010 and 2011.⁴⁷ To moderate exchange-rate volatility and prevent excessive appreciation, a number of countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru) adopted strong buying positions in the currency markets, and this resulted in a large build-up of reserves. Several countries also adopted measures to supplement monetary and exchange-rate policies, with a view to forestalling excessive appreciation.⁴⁸

The foregoing analysis reflects a new countercyclical approach on the part of the region's monetary authorities. By contrast with earlier periods, the stance of monetary policy was reasonably consistent with the countercyclical fiscal measures undertaken in response to the crisis of 2008-2009. From 2009 to late 2010, not only Brazil, Chile, Colombia, Mexico and Peru, but also Argentina and the Bolivarian Republic of Venezuela, two countries that did not have inflation targets, cut their monetary policy rates (see figure IV.20).

Figure IV.20
LATIN AMERICA: MONETARY POLICY RATES, MARCH 2007 TO NOVEMBER 2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

⁴⁶ The term “currency war” was coined in this period.

⁴⁷ Two papers published by IMF are paradigmatic in this movement towards increasing pragmatism. IMF (2011) and Ostry and others (2011) accept the application of measures to regulate the financial account, while Ostry, Ghosh and Chamon (2012) propose currency intervention (a managed float) as a dominant strategy, prevailing over both pure float systems and more rigid fixed exchange-rate systems.

⁴⁸ Brazil introduced a financial operations tax on foreign investment in fixed-income instruments, and this was gradually raised to 6% by October 2010. Chile and Peru increased the overall limit on foreign investments by pension funds.

Among the countries with inflation targeting regimes, Brazil, Chile and Peru raised their monetary policy rates during the first quarter of 2010. Colombia and Mexico refrained from doing so in order to strengthen an incipient recovery. Among countries without explicit inflation targets, Uruguay increased rates (albeit little and late) while Paraguay reduced the rate of growth in the monetary aggregates.⁴⁹ Argentina applied more expansionary policies.⁵⁰ The largest appreciations at the start of this fourth stage (the first nine months of 2010) were in Brazil (13.6%), Colombia (13.2%), Uruguay (13.1%) and Chile (9.4%), even though a number of these countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru) adopted heavy buying positions in the currency markets with a view to reducing exchange-rate volatility and preventing excessive appreciation, the result being a large build-up of reserves.

This period also saw the adoption of measures to reduce short-term capital inflows and increase outflows. Despite this heightened pragmatism, reflected in greater exchange-rate activism and firmer control of cross-border capital flows, real exchange rates appreciated almost everywhere, reaching levels above those seen pre-crisis. Indeed, the real effective exchange rates of some countries are substantially stronger than their average for the last 20 years.⁵¹ Developments were heterogeneous, meanwhile, in countries in which neither dollarization nor inflation targeting regimes applied; such countries often use monetary aggregates as a monetary policy instrument.

Monetary regimes vary in the countries of Central America and the Dominican Republic. The inflation targeting approach is applied in Guatemala and is on its way to being implemented in Costa Rica. Control of monetary aggregates is applied in the Dominican Republic, Honduras and Nicaragua, while El Salvador and Panama do not have a monetary policy as such because they are dollarized economies. Inflation in the subregion was kept under control during the 2000s, rising above one digit on only two occasions: in 2004, owing to the temporary rise in inflation in the Dominican Republic as a result of the devaluation of its currency the year before, and in 2008, when the subregional average touched 11.8% because of the pressures of international fuel, food and industrial input prices (see figure IV.21).

The immediate response to the pick-up in inflation was a rise in monetary policy benchmark rates. A degree of currency appreciation was also permitted in Costa Rica and Guatemala in 2008 to cushion the impact of imported inflation.

Since a large proportion of the population, and particularly the poorest families, spend a considerable share of their income on food, a rise in domestic inflation as a result of external shocks not only dampens the growth of domestic demand and production but, in the absence of supplementary measures, seriously worsens income distribution and increases poverty. Consequently, a number of countries have also introduced subsidies, implemented conditional transfer programmes (or raised their amounts or extended their coverage) and distributed basic foodstuffs to the poorest.

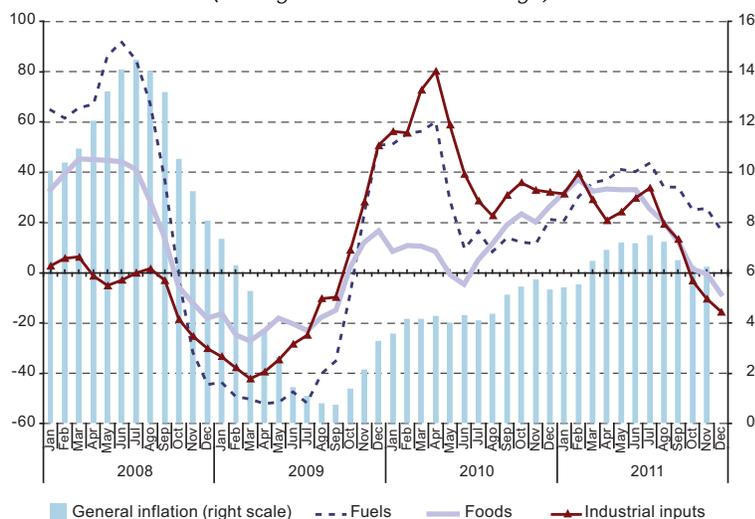
Inflation dropped back again in 2009, to 3.3%, as a result of falling international food, fuel and industrial input prices and the collapse of domestic demand resulting from the international economic crisis. Inflation spiked again in 2010 and 2011, however, with jumps in food and transport prices.

⁴⁹ In Uruguay, the policy rate was increased by 25 basis points in September 2010. In Paraguay, growth in the monetary aggregates eased significantly from December 2009, with M2 growing by just 5.6% (2.6% in real terms) between that month and September 2010.

⁵⁰ The rate of growth in the monetary aggregates increased in Argentina, especially from March 2010.

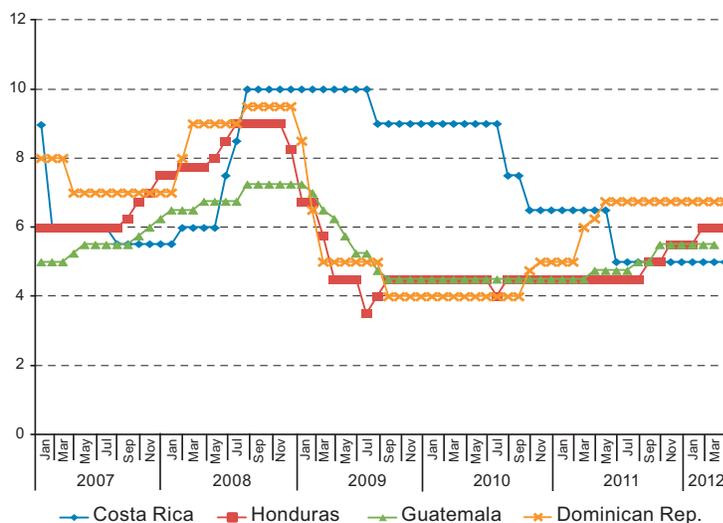
⁵¹ Five countries' currencies are more than 20% stronger than their historical averages: Trinidad and Tobago (27.7%), Colombia (27.7%), Brazil (25.3%), the Bolivarian Republic of Venezuela (23.5%) and Honduras (20.5%).

Figure IV.21
 CENTRAL AMERICA AND THE DOMINICAN REPUBLIC: SELECTED INTERNATIONAL PRICES
 AND INFLATION, 2008-2011
 (Average annual rates of change)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Figure IV.22
 CENTRAL AMERICA (3 COUNTRIES) AND THE DOMINICAN REPUBLIC: MONETARY POLICY
 BENCHMARK RATES, 2007-2012
 (Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

With the rise in inflation in 2010 and 2011, a monetary policy dilemma arose between reducing inflationary pressures or underpinning a sustained recovery in the face of the international crisis. Some monetary authorities began to raise the policy interest rates, with the Dominican Republic doing so in late 2010, followed by Guatemala and Honduras in 2011. In Costa Rica, on the other hand, the policy of low rates was maintained until the second quarter of 2011.

In the Caribbean, inflation behavior is heavily influenced by external and internal shocks, such as extreme weather events and food and fuel price shocks. In the past two decades, inflation rates varied considerably between the countries of the subregion. Those with flexible exchange-rate regimes reported much higher inflation rates than the group which maintained fixed exchange-rate regimes (see table IV.6). One explanation for this outcome is that, with fixed exchange rates, fiscal expenditure is restricted by the rules of the Eastern Caribbean Currency Union, for example (Duttagupta and Tolosa, 2006).

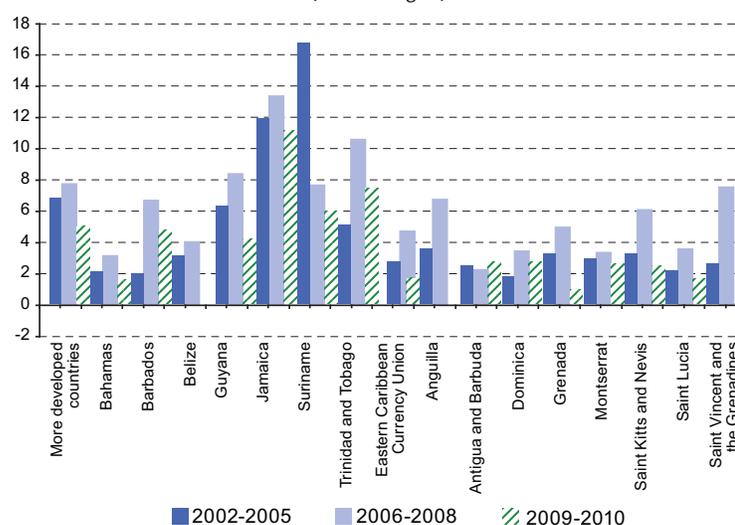
Table IV.6
THE CARIBBEAN: INFLATION BY EXCHANGE-RATE REGIME
(Percentages)

	Fixed exchange rate			Flexible exchange rate		
	Barbados	Belize	Eastern Caribbean Currency Union	Guyana	Jamaica	Trinidad and Tobago
1990-1999	2.9	2.2	2.9	15.5	28.1	6.2
2000-2011	3.9	2.4	2.8	5.6	11.3	6.7

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Figure IV.23 shows the inflation rates of individual countries and groups of countries for three periods: 2002-2005, 2006-2008 and 2009-2010. Throughout this time, inflation was higher in Guyana, Jamaica, Suriname and Trinidad and Tobago than in Belize or Barbados. Countries that maintained fixed exchange-rate regimes registered inflation rates of under 5% in all three subperiods, while in those with flexible exchange-rate regimes inflation ran at over 10% during the first two subperiods and over 7% in the third. On average, inflation in moderately developed countries in the region is still trending downward and converging on rates in the countries of the Eastern Caribbean Currency Union.

Figure IV.23
THE CARIBBEAN: AVERAGE INFLATION RATES, 2002-2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

Natural disasters are a frequent cause of economic shocks in the Caribbean. Between 1990 and 2011, at least five tropical storms affected practically all the islands of the Caribbean, the one exception being Trinidad and Tobago. The social and economic effects of these events tend to linger for several years after the initial impact, and their tendency to recur over time makes them part of the subregion's economic landscape and the cause of frequent shocks in its economies.

4. Macroprudential policies

The experience in the region and further afield in the developing world suggests that heavy concentration of lending in certain segments, especially real estate (be it residential or commercial), is a typical forerunner of a crisis, since it leads to overinvestment in those sectors. This tendency has to do in part with the short-sightedness and herding behaviour shown by individual financial agents in assessing the market risks arising from overall credit concentration, then applying that evaluation almost exclusively to the risks of their own portfolios. Underlying this is an overoptimistic perception of their ability to shift their portfolios in the event of difficulties—which tends to be reinforced by the procyclical behavior of risk-rating agencies.

Macroprudential policy became more crucial as financial globalization increased. The economies of the region have faced increasingly volatile access to external financial resources, sometimes caused by episodes of euphoria—fuelled by the impact of external financing in local asset markets—followed by panic and herd behaviour on the part of external economic agents, of the sort and with the dynamics described by Minsky (1975) and Kindleberger (1978).⁵²

Several of the region's countries have adopted flexible exchange-rate regimes, thereby avoiding implicit exchange-rate guarantees and forcing agents to assume the risk of their own operations. A managed float which introduces a degree of nominal short-term exchange-rate uncertainty—without disregarding the wisdom of sending signals of medium- and long-term stability—is one of the main strategies for preventing crises arising from overoptimistic expectations of access to external resources. But, given that agents are more risk-tolerant in boom periods, this may not be sufficiently dissuasive when external liquidity is high and interest rates low in the world's main financial centres.⁵³ Regulators must send clear messages on the risks institutions run both individually and systemically.⁵⁴

The global crisis of 2008-2009 showed once again that liquidity can behave procyclically during both the build-up of systemic risk and the outbreak of the crisis and its transmission to the rest of the economy. The misperception of agents—who thought that they could take and liquidate positions relatively easily in a broad, highly liquid market—became clear at the critical point. Several markets which had been liquid hitherto very quickly virtually dried up or slowed to

⁵² Greater exposure and volatility has also been facilitated by deficient financial regulation in development countries, as demonstrated by the subprime crisis in the United States after 2007. See Crotty (2009) and Kregel (2009).

⁵³ Borio and Zhu (2008) explore the link between the business cycle and risk perception and argue that this procyclical propensity has had a greater hand in triggering financial crises in recent time.

⁵⁴ Magud, Reinhart and Vesperoni (2011) recommend limiting incentives for the local financial system to obtain or supply foreign-exchange-denominated resources, by imposing higher liquidity requirements on foreign-currency assets and liabilities, higher capital requirements or dynamic provisioning for foreign-currency loans, smaller client debt-income ratios and smaller ratios between credit extended and the value of collateral or guarantees in boom periods, in order to control domestic credit expansion directly. These measures may be more effective than interest rates when it comes to lending. However, the interest rate has a much broader impact and scope of coverage than capital ratios, for example (Hannoun, 2010).

a trickle, worsening the uncertainty and the global credit crunch and forcing a number of central banks in the region to provide immediate emergency liquidity.

Financial markets are governed by expectations of returns, sometimes in the very short term and with little relation to real economic performance. Such expectations have been shown to behave in a manner that is over-optimistic during upswings —increasing risk tolerance— and over-pessimistic and risk-averse during market downswings.⁵⁵ The impacts of higher risk tolerance during upswings are worsened by systems of incentives which reward short-term returns: this induces agents to emulate risky behavior and tends to erode governance within institutions as the internal checks and balances, which should in theory limit risk-taking, are relaxed.

Certain regulatory standards can also sharpen procyclicality, particularly the measurement of risk on the basis of short-term portfolio performance.⁵⁶ Under the standards currently used in several of the region's countries, the level of loan-loss provisions (which are imputed credit costs) depends on credit compliance status. In the great majority of cases, these provisions are established on the basis of observed (not expected) portfolio performance. Since credit compliance is procyclical, provisioning tends to rise during upswings and fall during downswings. The New Basel Capital Accord (Basel II), which is in force in several countries, may worsen this procyclical behaviour since it links regulatory capital more closely with portfolio risk (see, for example, Ocampo, Rada and Taylor, 2009).⁵⁷

Table IV.7 describes the macroprudential policy instruments used in the Latin American and Caribbean countries, including different sorts of capital controls.⁵⁸ A report prepared by the Financial Stability Board (FSB), the International Monetary Fund (IMF) and the Bank for International Settlements (BIS) for the Group of Twenty (G20) (FSB/BIS/IMF, 2011) indicates that, although it is difficult to evaluate the effect of macroprudential instruments empirically, the experience of several countries suggests that caps on credit-to-collateral and debt-to-income ratios, limits on credit or credit growth, reserves and dynamic provisioning have countercyclical effects. These effects are independent of both the level of development and the exchange-rate regime in place.

C. Concluding remarks

This chapter has discussed the main aspects of macroeconomic policy developments in the region over the past two decades, highlighting their strengths and weaknesses. Significant progress has been made in building the fiscal space and making use of countercyclical fiscal and monetary policy, but much remains to be done to forge closer linkages between industrial and macroeconomic policies so that they can act together to promote structural change.

⁵⁵ This euphoric-depressive behaviour is not limited to private agents. Public spending and wage expectations also tend to exhibit procyclical traits.

⁵⁶ See, for example, Rochet (2008), Bikker and Metzmakers (2002), Gordy and Howells (2006), Taylor and Goodhart (2006) and Griffith-Jones (2009).

⁵⁷ Discussions are under way on a new Capital Accord, Basel III.

⁵⁸ Several central banks in Asia promoted the adoption of different macroprudential instruments before and after the crisis of 1997, including countercyclical provisioning in China, Hong Kong Special Administrative Region of China, the Republic of Korea and Singapore (Hannoun, 2010).

Table IV.7
LATIN AMERICA AND THE CARIBBEAN: MACROPRUDENTIAL POLICY INSTRUMENTS

Measure	Cases	Rationale/aim	Explanation
Countercyclical capital requirements	Basel III, Brazil (de facto, not de jure)	Build a buffer of capital during the upswing of the credit cycle, for use later in stress scenarios (under Basel III the buffer varies from 0% to 2.5%).	In the case of Brazil, loans for automobile purchases with a high loan-to-value ratio are penalized with a higher risk rating.
Caps on leverage ratios	Basel III	Reduce the risk of a need for deleveraging on such a scale as to destabilize the entire system and produce highly adverse impacts on the real sector.	
Liquidity requirements	Basel III, Colombia (2008)	Identify, measure and monitor illiquidity risk by building indicators that take possible stress scenarios in account.	In a recent financial stability report, Chile presents estimates of ratios similar to those proposed by Basel III. Colombia introduced a liquidity risk management system (SARL) in April 2009 to monitor and regulate the system's liquidity position and incorporate variables that capture possible stress scenarios into the calculations.
Dynamic provisioning	Bolivia (Plurinational State of) (2008), Colombia (2007), Peru (2008), Uruguay (2001)	Build a buffer of provisions during the upswing that can be used to cover losses during the downswing.	In the Plurinational State of Bolivia, countercyclical provisioning ranges from 1.5% to 5.5% of loans. In Colombia countercyclical provisioning requirements are set by applying risk scenarios to the different categories of loans. Peru does not maintain a standing cumulative fund but activates and deactivates provisions according to a criterion of GDP growth. General provisions range from 0.7% to 1.0% of loans and countercyclical provisions by an additional 0.3% to 1.5%. Uruguay's countercyclical provisioning fund varies from 0% to 3% of total lending. It is set by calculating the difference between bad debt forecasts and the amount obtained by applying certain statistical default percentages to direct and contingent risks of financial institutions. In Chile banks have the option of building countercyclical provisions voluntarily (see financial stability report for first semester of 2011, Central Bank of Chile).
Loan-to-value (LTV) ratio	Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua	Statutory cap imposed to curb credit growth in specific sectors and hence reduce demand for certain assets (usually assets thought to be experiencing a price boom).	Most Latin American countries apply LTV caps to mortgage loans.
Debt-to-income (DTI) ratio	Chile, Colombia, Costa Rica, Nicaragua, Panama	Statutory cap on borrowers' leveraging ratio to reduce the risk of bank lending.	
Reserve requirements for bank deposits	Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Paraguay, Peru, Trinidad and Tobago, Uruguay, Venezuela (Bolivarian Republic of)	Countercyclical instrument which acts on credit growth and allocation. It is also a monetary policy instrument.	This instrument is widely used. Most of the region's countries use it (with the notable exceptions of Mexico and Panama, which have no statutory reserve ratio).

Table IV.7 (concluded)

Measure	Cases	Rationale/aim	Explanation
Reserve requirements on other liabilities of the banking system (especially short-term liabilities payable to foreign banks)	Chile, Costa Rica (2012), El Salvador, Peru (2010-2011)	Reserve requirements are applied to bank liabilities which the authorities aim to discourage. They are often applied to short-term foreign loans to skew borrowing towards longer-term –and therefore more stable– liabilities.	Peru has made extensive use of reserve requirements on short-term foreign bank loans (with a term of under two years) to shift the composition of bank financing towards the longer term. In 2012 Costa Rica is due to implement (2012) a reserve requirement on foreign loans of under one year. El Salvador imposes a reserve requirement on foreign loans of under five years. Colombia has a reserve requirement but has kept the rate at 0% since 2008.
Limits on open foreign-exchange positions	Brazil, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Paraguay, Peru, Uruguay	These are limits imposed on the amount of exchange-rate risk financial institutions may incur.	Quantitative limits are usually expressed as a percentage of bank capital. In most cases the caps are applied to spot positions and derivatives. Sometimes the limits are symmetrical for long and short positions, and sometimes asymmetrical (for example, in Colombia, Guatemala, Honduras and Peru). Chile replaced the previous cap on open positions with a requirement for additional capital when open positions exceed a certain threshold. Costa Rica and Nicaragua also maintain additional capital requirements.
Management of credit risk arising from currency mismatches on the balance sheets of debtors in the financial system	Guatemala, Honduras, México, Nicaragua, Peru (2010), Uruguay	The aim is for banks to internalize (by means of higher capital requirements or by requiring larger provisions) the risk of lending to borrowers whose balance sheets have open foreign-exchange positions.	Peru and Uruguay, for example, have additional capital requirements for loans to borrowers whose balance sheets have currency mismatches. Peru had already set up additional provisioning requirements for credit default risk arising from currency mismatches in 2006. Uruguay has additional provisioning requirements for foreign-currency loans regardless of the currency alignment on the borrower's balance sheet.
Capital controls	Taxes	Brazil	A tool to make external borrowing more expensive and lower the returns on foreign investments in the country.
	Reserves	Peru (2008, 2010) Chile and El Salvador (only on external short-term lines of credit to the banking system)	Chile (1990s) and Colombia (1990s and 2006-2008) imposed a non-interest-bearing reserve requirement on capital inflows. In 2008 and again in 2010, Peru imposed reserve requirements on deposits by non-residents in the banking system and on banks' short-term foreign liabilities.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information.

Where fiscal policy is concerned, instruments of countercyclical policy, such as multiyear budgeting methods and extraordinary revenue or stabilization funds, have been introduced although they are not yet widespread (this is discussed in chapter VI). These instruments, together with the reduction of external public debt (as a result, among other factors, of high export prices and direct reduction programmes such as the Heavily Indebted Poor Countries Initiative), have progressively created greater scope for countercyclical measures. This effort has not been matched by measures to strengthen the financing available to meet spending needs through the tax system. Although progress has been made, the tax burden in the region is still lower than would be expected from the development level of its countries, and its composition is characterized by a preponderance of indirect taxes of a regressive bent. Thus, despite the progress referred to, the fiscal situation of the region is still far from fully consolidated. Remedying this will require a fiscal covenant laying down the bases for equitable, progressive financing of the needs that economic and social development entails.

Monetary policy too has progressively taken on a countercyclical character, although there are still significant differences between the countries in this regard, usually associated with their degree of financial development. In a substantial number of countries, the direction is set by policies governed by inflation goals, in which interest rates are the main tool. In others, conversely, methods of regulating the monetary aggregates are used for this purpose.

Over the past two decades, and particularly since 2001, the countries of Latin America and the Caribbean have made major strides in reducing inflation, and this has provided a significant boost to policies for reducing poverty and indigence, given how regressive the effects of inflation are. This has been a result of lessons learned from the experience of high inflation in earlier decades, and of external factors such as the worldwide declines in food and fuel prices in the 1990s and by the reduction in wage costs resulting from the substantial rise in China's output and global trade. At the same time, this achievement was also the consequence of more balanced public finances from the turn of the century, assisted both by tax reforms and, in several cases, by the fiscal bonanza resulting from the upsurge in commodity export prices. As has been noted, this latter factor affected the region's economies in various ways, and the Central American and Caribbean countries, as net importers of food and fuel, saw their terms of trade deteriorate, something that also had a negative impact on their fiscal situation, given the need to offset the social effects of these price rises.

Almost irrespective of the monetary regime adopted, there has been a long-term trend towards real-term appreciation in the region. Although this has occurred as part of a worldwide tendency for reserve currencies to lose value, in some cases it has arisen from the direct or indirect use of the nominal exchange rate as an inflation-fighting tool. The tendency towards currency appreciation has created a dichotomy between the goals of stabilizing short-term inflation and strategically encouraging exporters and new sectors of the economy, including import-substituting ones. Real-term appreciation not only affects returns in non-tradable goods-producing sectors, making it harder to diversify the production structure and thereby compromising the stability and pace of medium- and long-run growth, but can also expose the region's economies to external vulnerability that tends to lead to real instability.

Conditions in the external sector of the economy help to determine fiscal space. It is important to consider macroeconomic policies in an integrated way and ensure that the analysis includes effects which transcend the traditional spheres of fiscal and monetary policy, such as the effects on the production structure and the risk of losing capabilities in the long term. The role of the different instruments, including exchange-rate policy and macroprudential regulations, as well as their relationship with the goals of structural change and social inclusiveness, are discussed later (see chapter VI).



Structural heterogeneity, labour market segmentation and social inequality

The structural change described in this document, which involves stimulating high-productivity activities, clearly falls into the distributive policy category.¹ In the long term, the economic development policies that would drive this virtuous structural change are distributive initiatives in the broad sense, since they would change the way that the production process generates income. This structural change would create job opportunities in more productive sectors, as well as overall increases in the employment level. As a result, it would raise the income level of the population and lead to a more equal distribution at the end of the process.²

In the short and medium terms, however, higher demand for skilled workers for the expanding high-productivity sectors would cause an increase in labour inequality and, therefore, in total inequality. During the transition to more homogeneous economies with higher productivity levels, the large weight of the informal sector in the region's labour markets would continue to represent the main challenge for social protection, an area in which the region still has substantial weaknesses. There could also be significant tension in the labour market, which should have mechanisms to protect the most disadvantaged workers. In this context of structural change, the labour supply must be adapted to match the new demand, in particular in the area of training and capacity-building.

¹ ECLAC has traditionally made a distinction between distributive and redistributive policies, where distributive policies lead to a change in the conditions that determine income or the original distribution of income and redistributive policies involve ex post changes in distribution (see, for example, Pinto and di Filippo, 1973).

² The term employment is used in a broad sense, encompassing the full universe of workers.

The final goal continues to be guaranteeing universal social protection. This challenge is threefold: (a) address historical weaknesses in social protection, which are largely due to contributory system coverage gaps and the shortcomings of the non-contributory system, depriving many people of timely access to protection networks; (b) mitigate the effects of vulnerability caused by fluctuations in growth and the impact of economic crises; and (c) protect the population that is temporarily affected by structural changes in the labour market.

Over the long run, the expansion of high-productivity activities would bring substantial social security improvements. During the transition, however, it would be necessary to establish and strengthen redistributive instruments that offer concrete protection guarantees. These instruments should take into account the particularities and specific needs of each society and population group.

Earlier chapters described how investment patterns reinforce acute productivity gaps and how this, in turn, translates into structural labour market segmentation in terms of access to decent jobs and wages. This segmentation reveals the high rate of informal employment and the low percentage of the population with employment-based social security protection, which together generate deep inequality and large gaps in social protection.³

The persistence of high levels of inequality in the region is related to the interactive processes in a chain made up of structural heterogeneity, the labour market and social protection. In this sequence, structural heterogeneity is the basic starting point, the first link in the inequality reproduction chain. The labour market operates as a “hinge” space where the effects of structural inequality are transmitted, where productivity gains are distributed, where job and income stratification takes place, and where social protection is accessed (also in a stratified manner). The third link, social protection, largely reflects what happens in the first two, but it is also a space where inequality can be either reinforced or neutralized, depending on the relevant policies adopted.

In contrast, the positive dynamics between cycle management and structural change with productive convergence enables the economy to develop its potential and, in the long run, helps society benefit from the changes more equally. The main mechanism through which these two processes converge (productive development and social equality) is undoubtedly the labour sphere, which could be called the main driver of social inclusion. It is here that work needs to be done to ensure that a broader social inclusion unfolds in a context of greater skills development for all members of society, better opportunities to productively reward these skills and abilities and better conditions for harmonizing the interests of the different actors in the labour sphere.

Achievements in the area of employment are not only related to a greater convergence of job quality and the subsequent narrowing of the gap in wages and access to social security, but are also positioned within the framework of “employment with the full endowment of social rights”, as ECLAC argues in *Time for equality: closing gaps, opening trails* (ECLAC, 2010a). This means that the positive impacts of structural change should be articulated with labour market institutions and collective bargaining, thus contributing to fulfilment of the specific rights of decent work and a more equal distribution of the fruits of progress and productivity gains. Thus, as described in *Time for equality*, greater equality in the labour market is also related to income and citizenship.

³ Workers in the informal sector are defined as unskilled independent workers, unpaid workers, microenterprise owners and employees (excluding skilled workers) and domestic workers. Another way to analyse job quality is based on whether the job has social protection benefits.

Transitioning from a highly heterogeneous production structure where household income is markedly unequal requires examining what happens in the labour market, in terms of both employment and wages. Differences in productivity translate into differences in wages, which, together with employment, have an impact on household distribution patterns. Nevertheless, there are several factors at play in this transition that make it a complex relationship, as analysed below. These factors include the ownership of productive and non-productive assets,⁴ education level, public policies on cash transfers and taxes, labour market institutions and family structure.

Time for equality highlighted the importance of considering the narrowing of productivity gaps jointly with its impact on inclusion and equality of both labour income and access to productive assets, as well as with a set of redistributive social policies that mitigate the risks for the disadvantaged population and promote the development of capacities across all segments of society (ECLAC, 2010a). *Time for equality* also held that social equality is not at odds with a dynamic economy that transforms the production structure. Rather, what is needed is to grow with less structural heterogeneity and more production development and to promote equality by enhancing individual capacities and mobilizing State resources. As already indicated, in the area of equality, the State must take responsibility for increasing the participation of excluded and disadvantaged sectors in the benefits of growth. To this end, equality of citizenship —of rights, of public representation, of full status under the law— is the link between policy and social equality. That requires a State that is involved in setting the course for development and has a real capacity to allocate resources and carry out regulatory functions.

This chapter explores the issues addressed in *Time for equality* more deeply, with an emphasis on how positive structural change should work to advance employment and income equality. The chapter opens with a discussion of the links between heterogeneity and inequality. The labour market is a key component for understanding this relationship, and it is therefore examined in greater detail from the perspective of both business cycles and production structure. The analysis focuses on the inequalities generated in the labour market, which can be addressed from the perspective of functional income inequality or from the perspective of individual labour income. Finally, the chapter looks at the evolution of income inequality in the region in the last two decades.

A. Structural heterogeneity and social inequality: Complementary approaches

Over the last two decades, ECLAC has emphasized two distinctive characteristics of the economic and social structure of the region: the strong heterogeneity of the production structure and the high levels of inequality in different areas, which are usually captured in high income inequality indexes. As argued in *Time for equality* (ECLAC, 2010a), structural heterogeneity is a key factor to consider when it comes to designing policies that seek to balance higher growth and equality.

The early studies that developed the idea of structural heterogeneity identified three segments: a traditional segment, with low productivity and income levels; a modern segment, mostly made up of export industries and large firms; and an intermediate segment, where the

⁴ Productive assets can be defined as those which, together with employment, are directly involved in the production of goods and services, and thereby generate income. Other household physical or financial assets (non-productive assets) also generate income, through housing leases or financial investments, and they affect the final income distribution without being directly associated with production markets.

productivity level is around the average for the countries in the region (ECLAC, 1964; Pinto, 1973). Structural heterogeneity is characterized by the coexistence in a single economy of production sectors that would be characteristic of economies at different stages of development, with low-productivity segments figuring heavily. The countries in the region tend to have a poorly diversified, commodity-based export structure; this impacts the production structure, where difficulties in the diffusion of technical progress hinder the implementation of a solution and perpetuate the productivity gaps.

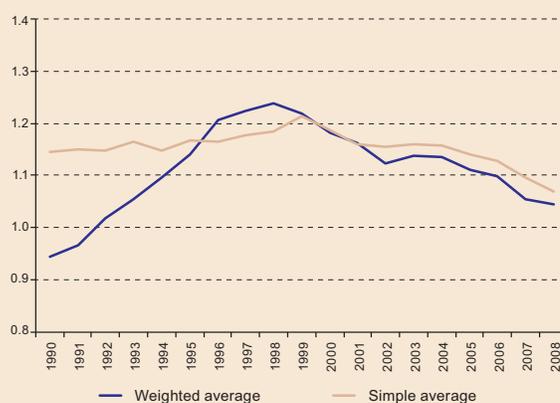
ECLAC has used several indicators to look at structural heterogeneity from two main perspectives, one focused on the differences in productivity among economic sectors and one focused on differences among units of production according to company size and type of labour market insertion (see box V.1). These two measures of heterogeneity (by sector and by production segment) are complementary, and they both contribute to understanding structural heterogeneity in the region.

Box V.1

MEASURING STRUCTURAL HETEROGENEITY

Under one approach, structural heterogeneity is measured by the coefficient of variation of the productivity levels of different sectors (ECLAC, 2010a). Both the simple and the weighted averages of this indicator show an increase in structural heterogeneity from 1990 to 1998 (when the region underwent a period of substantial structural reform including trade opening and investment in natural resource and commodity sectors), with a downward trend thereafter (see the figure below). The indicator based on weighted averages rose more than the one based on the simple average: it increased 10.9% from 1990 to 2008, and 31.3% from 1990 to 1998.^a

LATIN AMERICA (11 COUNTRIES): COEFFICIENT OF VARIATION OF INTERSECTORAL PRODUCTIVITY, 1990-2008



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the CEPALSTAT database and International Labour Organization, LABORSTA database.

Based on the value of the indicator at the end of the period, the region can be broken down into three groups of countries. The first group is characterized by severe heterogeneity (indicator equal to or greater than 1.2) and includes the Bolivarian Republic of Venezuela, Ecuador and Mexico, where productivity is sharply differentiated by branch of economic activity. At the other extreme, the production structure in Argentina, Chile, Costa Rica and Uruguay exhibits moderate heterogeneity by regional standards (indicator below 0.9). The intermediate group of countries includes Brazil, Colombia, El Salvador and Peru, which have indicators ranging from 0.9 to 1.2.^b

The second measure of structural heterogeneity is based on the labour market (Infante, 1981; Tokman, 1982). It identifies three production segments based on company size and the occupational category of employees (Infante, 2011). The underlying rationale is that each sector encompasses production segments with marked differences in productivity. The high-productivity segment comprises employers and workers in firms with 200 or more employees, while the low-productivity one includes employers and workers in enterprises with up to 5 employees, as well as unskilled self-employed workers, unpaid family members and domestic workers (that is, the informal sector). The medium-productivity segment is made up of employers and workers in small and medium-sized enterprises (6 to 199 employees).

Box V.1 (concluded)

Based on the differences in productivity among the three segments and taking account of the low segment's large share of total employment, the countries are classed in three groups: those with moderate structural heterogeneity, those with intermediate structural heterogeneity and those with severe structural heterogeneity (see the table below). So much statistical information is required that this indicator could only be built for a specific point in time (2009), so there is no way to examine its long-term trend.^c

COUNTRY CLASSIFICATION BY DEGREE OF STRUCTURAL HETEROGENEITY

Moderate	Intermediate	Severe
Argentina	Brazil	Bolivia (Plurinational State of)
Chile	Colombia	Dominican Republic
Costa Rica	Panama	Ecuador
Uruguay	Mexico	El Salvador
	Venezuela (Bolivarian Republic of)	Guatemala
		Honduras
		Nicaragua
		Paraguay
		Peru

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Infante, "América Latina en el "umbral del desarrollo". Un ejercicio de convergencia productiva", *Working Paper*, No. 14, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), June 2011, unpublished.

This classification is consistent with the country classification according to the share of formal and informal employment. In the four countries classified here as having moderate structural heterogeneity, over 60% of the economically active population (EAP) was working in the formal sector in 2010. In the group with intermediate structural heterogeneity, four of the five countries (the Bolivarian Republic of Venezuela, Brazil, Mexico and Panama) had less than 60% but more than 50% of the economically active population working in the formal sector in 2010. For the rest of the countries, which are classified here as having severe structural heterogeneity, less than 50% of the economically active population was working in the formal sector. Colombia is an exception, in that the formal sector accounted for around 48% of the total economically active population in 2010 (very close to the 50% threshold).

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a The weighted average is highly sensitive to the trend of the indicator for Mexico and Brazil.

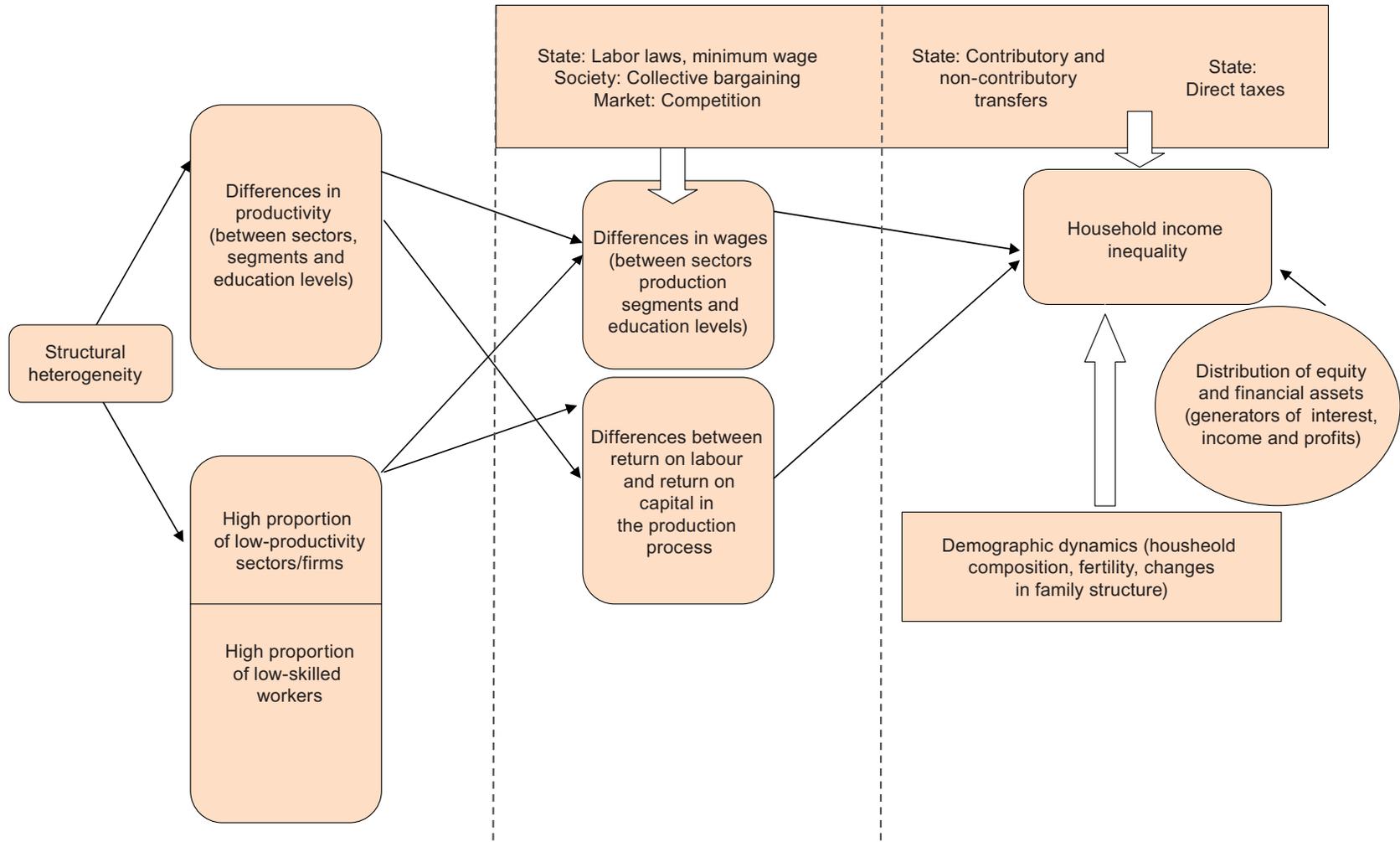
^b The indicators are calculated using data from CEPALSTAT and LABORSTAT (International Labour Organization).

^c The two criteria for classifying the region's production structures yielded the most widely divergent results in Mexico. Table V.1 shows Mexico in the intermediate group.

Wages are a key link between structural heterogeneity and income inequality. To better understand the differences in labour income, it is necessary to take into account not only the differences in productivity among economic sectors or production segments, but also differences in skills development, which very much depend on the socioeconomic background of the workforce and on the power asymmetries between employers and employees that surface during wage negotiations. The disparity in productivity is apparent not only between economic sectors and production segments, but also within them, where individual workers can have very different levels of productivity associated with differences in their education level. The promotion of positive structural change (and job growth in high-productivity sectors) therefore needs to be complemented with a stronger effort to equalize opportunities for skills development, in both the formal education system and in training systems.

Diagram V.1 illustrates how differences in the production structure translate (though not automatically) into wage differences and, hence, into differences in household income.

Diagram V.1
FROM STRUCTURAL HETEROGENEITY TO INEQUALITY



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Production structure heterogeneity entails substantial differences in productivity among economic sectors and production segments, which are also related to differences in the education levels of the economically active population. Another characteristic of the region's production structures is the large weight of the low-productivity sector, which mostly employs workers with a low education level. Moreover, the sectors with the lowest productivity levels usually have very low social security coverage.

In a neoclassical framework, workers' real wages would equal their marginal productivity. Labour markets are far from competitive, however, because of power asymmetries between employers and employees, very unequal access to production assets, information deficits and imperfect mobility, among other factors. These various factors pull the real functioning of labour markets away from the theoretical model of perfect competition, making the relationship between wages and productivity imperfect, although it is verifiable in the countries of the region (see box V.2). Labour market institutions also come into play in this link between productivity and wages, since they affect workers' capacity to benefit from the fruits of the production process and the way in which the returns on capital and labour are distributed to pay for their contribution. Wage negotiations play a key role in this link: the empirical evidence indicates that centralized bargaining is associated with lower levels of wage inequality among covered workers (for example, Aidt and Tzannatos, 2002; Freeman, 1984; Card, 1992), especially within each sector. This equalizing potential of collective bargaining will be larger in more formalized economies, where it covers a larger share of the workforce. Wage negotiation also means higher average salaries or, equivalently, a greater capacity for workers to benefit from the fruits of the production process. Strengthening collective bargaining is therefore essential for ensuring that productivity increases translate into wage increases, which in turn increases the weight of the wage bill in total income and helps narrow inequality gaps.

Box V.2

SECTOR PRODUCTIVITY AND WAGES

In the neoclassical model, in a state of equilibrium a worker's real wages should equal the marginal productivity of his or her work. This principle is derived from a series of very restrictive assumptions on the functioning of markets and the behaviour of economic agents, so it is not surprising that the relationship is hard to prove empirically.

The hypothesis set out by ECLAC—that the high degree of productive heterogeneity in the region is linked to high income inequality—also rests on a link between labour productivity and labour income. It is much broader than the orthodox theory, however, since it incorporates institutional (and other) factors that influence the productivity-income relationship.

In its original formulation, the concept of structural heterogeneity is based on differences in labour productivity—not between individual workers, but between economic sectors or production segments (a combination of sectors and company size). Sectoral labour productivity refers to average productivity (that is, the ratio between sector output and the number of workers); theoretically, wages should include all forms of payment to workers, including remuneration and benefits.

Documenting the relationship between productive heterogeneity and income inequality is not easy, even if the analysis is limited to income from the labour market. The availability of time series data with an appropriate level of aggregation represents a significant hurdle. Efforts to correlate the coefficient of variation for sectoral labour productivity with labour income inequality, or even with the coefficient of variation for labour income by sector, have not produced clear results for the countries in the region. One reason is that the time series are relatively recent, and the level of disaggregation they support (nine economic sectors) is very limited for capturing this type of phenomenon. Nevertheless, all of the country case studies analysed display considerably greater dispersion in sectoral productivity than in average labour income by sector.

What emerges from the data is that in the different countries, the ranking of economic sectors by average labour productivity versus average wages is similar. The following table presents, for each economic sector in 10 countries of the region in 2008, the correlation between productivity or average labour income for the sector and the average for the whole economy. With a few exceptions, the economic sectors with above-average productivity relative to the economy as a whole (greater than 1) also have higher wages than the economy-wide average. As mentioned above, the inequalities are greater in terms of productivity than in terms of labour income.

important sources of total family income, and whether they contribute to greater levels of equality depends on how progressive they are. Similarly, direct taxation can also contribute to greater equality of available household income, to the extent it is progressive.⁶ The level of income inequality in a society will depend on two additional factors: access to non-productive assets and demographic factors. Non-productive assets contribute to individual and household wealth, and they generate highly concentrated income flows (interest, profits or rents).⁷ Demographic factors, especially those that have to do with household makeup (family structure, number of children and educational homogeneity, among others) also affect the distribution of income in a country.

Thus, gaps in the production structure of the region's economies in turn generate gaps that typify segmented and unequal societies. Segmentation in productivity is fed by gaps in several areas: workforce education level and skills development; access to domestic and foreign commercialization markets and to credit for production investment; the incorporation of technological progress in production processes; how well coordinated the political institutions for development and support are; social capital networks; and, more recently, connectivity. Gaps in all these areas tend to be linked; together they form a strongly heterogeneous production structure that ranges from very low-productivity urban informal sectors and scattered rural ones to highly dynamic, internationally competitive fields.⁸

Box V.3

STRUCTURAL HETEROGENEITY AND INEQUALITY IN BRAZIL

A study of Brazil (Soares, 2012) under the "Inclusive development in Brazil" project conducted jointly by ECLAC and the Institute for Applied Economic Research (IPEA) calculates the coefficient of variation of sectoral productivity for the period 2000-2009, using a high level of disaggregation (49 economic sectors). The coefficient of variation fell steadily in the last decade. This drop occurred simultaneously with a reduction in income inequality for both total income and labour income, as shown in the figure below.

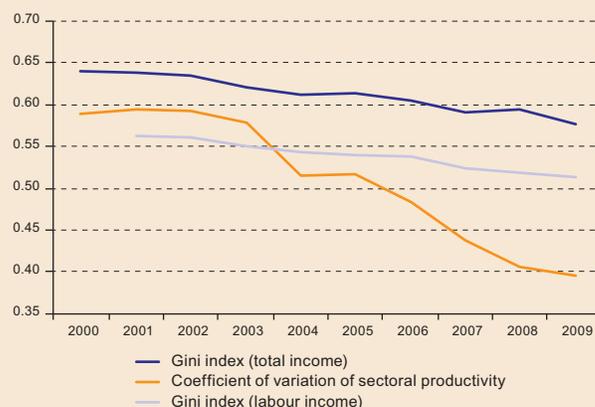
The study mentioned looks at the link between the two trends, starting by demonstrating that there are substantial wage differences between economic sectors (groups), even after controlling for the traditional variables that reflect the accumulation of human capital, and that these differences were relatively stable over the decade. This finding suggests that the wage differences are associated with differences in productivity across economic sectors. The author also presents an additive decomposition of the Theil index, which allows total inequality to be broken down into the component explained by differences between groups and the component explained by differences within groups. The inter-group component reflects differences in average income among the different groups, while the intra-group component captures income dispersion within a given group. The result showing that inter-sector inequality as a portion of total inequality has shrunk is consistent with the hypothesis that a reduction in structural heterogeneity could explain the recent drop in inequality in Brazil. The study highlights the need to move forward on empirical research on the link between wage inequality and structural heterogeneity, as there are few specific studies and they are not yet conclusive. This recommendation applies to all the countries of the region.

⁶ The assumption here is that direct taxation operates at the family level rather than the individual level, but this does not change the argument.

⁷ In developed countries, where there are specific surveys on the distribution of wealth, it has been found that wealth is usually much more concentrated than household income. Unfortunately, data for a quantitative assessment of this point are not available in the region.

⁸ Empirically proving the relationship between heterogeneity in the production structure and income inequality would require countries to compile data with wide sectoral, geographic and historical coverage, to support the calculation of indicators that sufficiently capture the link. This is, therefore, yet to be done.

Box V.3 (concluded)

BRAZIL: STRUCTURAL HETEROGENEITY AND INEQUALITY, 2000-2009

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special processing of household surveys, and data from the Inclusive Development Project in Brazil, ECLAC and the Institute for Applied Economic Research (IPEA).

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of S. Soares, "A Queda na heterogeneidade estrutural explica a queda da desigualdade dos rendimentos do trabalho? Uma análise preliminar", IPEA/ECLAC project on inclusive development, Brasília, 2012.

B. The labour market: Employment and income

The labour market and its institutions are a point of connection between production structure heterogeneity and sharp household income inequality. Access to employment and access to labour income are the basic determinants of income inequality. Following the logic of the previous chapters, the link between employment and the business cycle, on the one hand, and the production structure, on the other, is fundamental. Both aspects are explored below. With regard to labour income, the discussion covers its relationship with the business cycle and analyses inequality from a functional and a personal perspective.

1. Employment and the business cycle

As described in chapter 1, in the last two decades (1990-2010), Latin America and the Caribbean recorded an economic growth rate of over 3% a year, on average —far better than in the 1980s. The period featured two growth phases (1991-1997 and 2003-2008), separated by five years (1998-2002) of relative stagnation (or even contraction in some countries).

The two growth phases differ substantially in terms of employment dynamics and, therefore, the evolution of living conditions. In general, higher economic growth rates would be expected to coincide with an increase in the demand for labour and a higher employment rate, which would contribute to reducing the unemployment rate. This positive dynamic is not always triggered, however. The production structure, based on the size of the economic agents involved, is a key factor for explaining employment dynamics across the cycle. In the absence of negotiations and labour protection policies, larger firms tend to cut jobs during the contraction phase of the cycle and hire on workers during the growth phase. Smaller firms are more resistant to firing workers during recessions and they hire more slowly during the growth phase, but they are especially vulnerable to a drop in demand. Microenterprises can serve as a refuge in an

economic crisis, when employment in these businesses may even increase since they are largely independent and often informal. This reflects an effort by workers to survive in societies with no unemployment insurance. Labour supply dynamics are also a key factor in the impact of growth processes on employment and especially on unemployment (ILO, 2000).⁹

The dynamics of the business cycle affect not only the number of jobs created but also their quality. In recession phases, economic contraction tends to increase unemployment and expand the informal labour sector. The slow economy in the downward phase of the cycle leads broad sectors of the population to seek alternatives to the formal labour market as a source of income (ECLAC/ILO, 2009). This expansion of the informal sector brings a lower standard of living because it tends to be associated with lower-productivity work and, therefore, lower income and little or nothing in the way of social protection mechanisms tied to employment. But living conditions would deteriorate even further if these workers were fully unemployed. The impact is strongest on lower-skilled, lower-income workers, women and young persons, as well as their households, which are the hardest hit during recessions. The experience of the 2008/2009 crisis indicates, however, that there is room for countercyclical policies focused on employment and low-income households, which can alleviate the negative impact. Such measures include the promotion and development of direct employment programmes; support for investment in infrastructure; hiring subsidies; increases in public wages or minimum wages; the strengthening, protection or expansion of anti-poverty and social assistance programmes; and the development or expansion of transportation, housing and food subsidies (ECLAC/ILO, 2011).

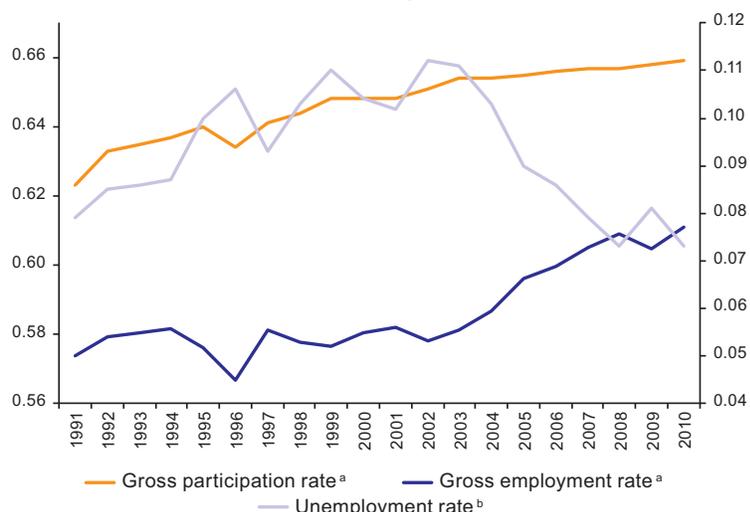
The relationship between economic growth and changes in employment is different for each country. The correlation between economic growth and employment is higher in countries with a higher average income, where high- and medium-productivity sectors figure more heavily. The reason is that wage employment is more closely correlated with economic growth than other occupations, and, in higher-income countries, a larger share of the labour force works in wage jobs (Weller, 2012).

Over the past two decades, the countries of the region have seen that rising unemployment and stagnating employment do not occur solely during periods of economic stagnation or recession (see figure V.1 and table V.1). The behaviour of the labour market in the region in 1990-1997 reveals that economic growth was not accompanied by an improvement in employment indicators (ECLAC, 2010b). In this period, the unemployment rate grew 17.7% (from 7.9% to 9.3%), while the gross employment rate only increased 1.3% (from 57.3% to 58.2%) in a context of growing labour market participation. The gross participation rate increased 2.9%, from 62.3% to 64.1%, driven by the growing participation of women and ongoing rural-urban migration.¹⁰

⁹ An increase in the participation rate, that is, an increase in the share of the working-age population that is active in the labour market, can partly neutralize the effect of changes in economic activity on unemployment. If only some of the people who enter the workforce find jobs while the rest remain unemployed, the unemployment rate can remain stable or even increase, despite the increase in the employment rate.

¹⁰ The gross participation rate is the share of the economically active population (or labour force) in the total population. The unemployment rate is the share of unemployed in the economically active population. These two indicators are then used to build the gross employment rate, defined as the correlation between the employed population and the total population.

Figure V.1
LATIN AMERICA AND THE CARIBBEAN: MAIN LABOUR MARKET INDICATORS, 1991-2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from CEPALSTAT.

^a The gross participation rate and the gross employment rate are measured on the left axis.

^b The unemployment rate is measured on the right axis.

Table V.1
LATIN AMERICA AND THE CARIBBEAN: CHANGES IN GDP AND LABOUR MARKET INDICATORS, 1991-2010
(Percentages)

	1991-1997	1998-2002	2003-2010	1991-2010
Cumulative rates				
Change in GDP	26.2	8.9	35.6	86.5
Change in unemployment rate	17.7	20.4	-34.8	-7.6
Change in gross participation rate	2.9	1.6	1.2	5.8
Change in gross employment rate	1.3	-0.6	5.7	6.5
Average annual rates				
Change in GDP	3.4	1.7	3.9	3.2
Change in unemployment rate	2.4	3.8	-5.2	-0.4
Change in gross participation rate	0.4	0.3	0.2	0.3
Change in gross employment rate	0.2	-0.1	0.7	0.3

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from CEPALSTAT.

Several factors had a negative effect on employment in the 1990s, largely associated with the economic reforms implemented in the region and, to a lesser extent, with the limited way the region incorporated the techno-production transformations occurring in the world economy. Key economic reforms included trade opening and stabilization plans based on the exchange rate as a nominal anchor, which produced a currency appreciation trend as analysed in chapters II and IV. The growing supply of imports (and falling import prices) broke production linkages and weakened the production system. The result was fewer jobs, primarily in labour-intensive activities, and output of durable consumer goods and capital goods fell in countries with a relatively more developed manufacturing sector.

External factors also played a role. In the first half of the 1990s, productivity grew strongly as production structures were modernized to incorporate automation processes that generated labour savings and, hence, sharply cut labour costs. The new operating logic of transnational firms – with their global input supply schemes – also weakened the links between subsidiaries located in the region and local companies, with a negative effect on employment.

Labour market institutions in the region also underwent some important changes. Beyond the institutional differences existing at the country level, the region in general tended to promote reforms aimed at deregulating the labour market and making it more flexible, with varying degrees of emphasis and intensity (Lora, 1997; Lora and Panizza, 2003). The package of trade, financial and labour reforms did not create the number of jobs expected by the advocates of regime change (Correa, 2002; Weller, 2000). Thus, in an institutional context characterized by weak employment policies, increasing trade openness (in many cases heightened by exchange rate appreciation) and a global process of labour-saving techno-production transformations, the growth of the 1990s (1991-1997) did not translate into significant job creation and did not avoid a sharp rise in unemployment. Consequently, the severe distributive problems that had intensified in the previous decade were not corrected.

In 1998-2002, the region's GDP barely grew 8.9% (with an average annual rate of 1.7%). The unemployment rate continued to follow an upward trend, as did the gross participation rate, while employment virtually stagnated. A comparison of the growth phases of 2003-2010 and 1991-1997 reveals that the annual GDP growth rate was slightly lower in the 1990s than in the 2000s. Nevertheless, the unemployment rate grew significantly in the 1990s, together with the informal sector. In the later period, in contrast, growth was accompanied by a drop in the unemployment rate and an increase in formal employment.

Thus, unemployment began to ease for the first time in two decades. Unlike the previous growth phase (when volatility had a strong effect on employment trends due to weak countercyclical and employment policies), actions were now taken to stimulate growth, with a positive effect on job creation (ECLAC/ILO, 2011).

The redistributive policies had a direct effect on the demand for wage goods and the increase in their production for the domestic market, thereby contributing to Keynesian efficiency.¹¹ This trend, together with a favourable international context of economic growth both at the global level and, in particular, among the emerging economies, supported positive employment growth rates in the region, with the exception of the international crisis in 2008-2009.

Over the business cycles of the last two decades, the region saw substantial qualitative transformations; they are described in the next section.

2. Employment and the production structure

In the past two decades, changes in the production structure have had a number of effects on employment. The services sector, which accounts for the largest number of jobs in the region, has increased its relative share, to the detriment of agriculture (see table V.2). This change has been unfolding for more than two decades, and it persisted throughout both the growth and the stagnation

¹¹ Wage goods are those goods that make up the consumption basket purchased by wage workers, including food, clothing and basic services.

phases in the period under consideration.¹² The agricultural sector has become less labour-intensive, and agricultural employment is shifting toward more precarious jobs in the modern agro-export sector (Weller, 1998). The relative share of employment on small farms, where job quality tends to be poor, has fallen. The use of capital-intensive methods had an impact, albeit fairly small, on agricultural employment, while lower-productivity services continue to be labour-intensive. The contraction in the relative share of primary activities in total employment was smallest in the countries of South America.

Table V.2
DISTRIBUTION OF EMPLOYMENT BY ECONOMIC SECTOR, 1990-2010
(Percentages)

	Latin America			South America ^a			Central America			Mexico			Brazil		
	Agriculture	Industry	Services	Agriculture	Industry	Services	Agriculture	Industry	Services	Agriculture	Industry	Services	Agriculture	Industry	Services
1990	20	25	56	18	25	58	36	21	43	22	26	52	16	25	59
1997	18	23	59	17	22	61	30	22	48	17	27	56	16	22	62
2003	16	23	62	15	22	63	26	23	51	15	27	58	13	23	64
2010	13	24	64	12	23	64	21	21	58	11	26	62	10	24	66

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a South America includes Brazil.

Table V.3 shows the share of wage jobs in total employment. The employment structure shifted significantly in the most recent period of economic growth (2003-2010), when the share of public- and private-sector wage earners in total employment increased. This share was relatively stable in the first economic growth period (1990-1997) and in the “lost half decade” (1998-2002). The recent uptick is still incipient, but it is a good sign in that it indicates that the growth of employment is being driven by the creation of wage jobs. While self-employment continues to serve as a backup job option and to be concentrated in low-productivity areas, it has now lost ground for the first time in two decades.¹³

Table V.3
WAGE EMPLOYMENT: PERCENTAGE OF WAGE JOBS IN TOTAL EMPLOYMENT,^a 1990-2010

	Latin America	South America ^b	Central America	Mexico	Brazil
1990	65.2	63.1	61.0	72.5	64.6
1997	66.9	65.8	61.9	78.5	69.6
2003	65.6	64.4	59.7	71.8	70.0
2010	69.0	66.4	63.6	79.1	73.4

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a Includes public and private sector wage earners.

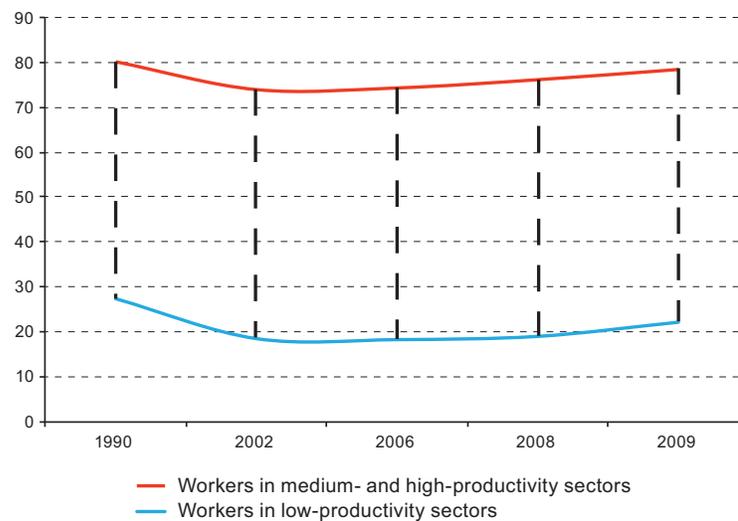
^b South America includes Brazil.

¹² Since the 1950s, the economies in the region have undergone significant transformations, with the contribution of agricultural sectors declining, albeit at a slower pace in the 1980s (when smallholder agriculture served as a refuge for displaced workers during the economic crisis). The importance of agricultural employment continued to trend down in the second half of the 1980s and in the 1990s (Weller, 1998).

¹³ In addition to wage earners and self-employed workers, total employment includes employers, who accounted for around 5% throughout the period.

The evolution of the relative shares of the formal and informal sectors is extremely important in terms of social protection, as there is a strong correlation between informal work and a lack of social security coverage (see figure V.2). In 2009, the percentage of workers who were covered by social security was almost four times higher in medium- and high-productivity sectors than in low-productivity ones, which represents an increase in the gap relative to 1990. This entails a substantial divergence in the current and future well-being of these workers and their families in terms of access to benefits during their working life and especially during retirement. There is also a large wage gap between the two sectors, as discussed below.

Figure V.2
LATIN AMERICA: WORKERS WITH SOCIAL SECURITY COVERAGE, BY SECTOR (WEIGHTED AVERAGE^a),
AROUND 1990, 2002, 2006 AND 2009
(Percentage of total workers in each sector)



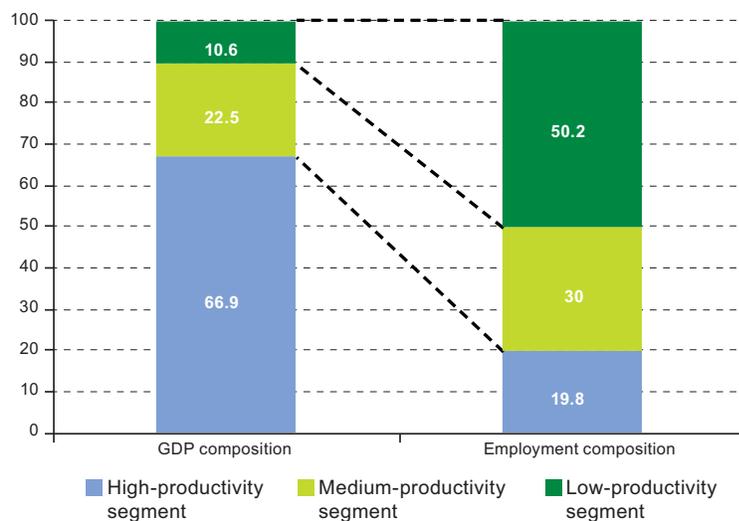
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a Weighted average of countries that have data available for the period under consideration.

Infante (2011) analyses the employment structure using the definition of structural heterogeneity based on productivity segments (see box V.1). He finds that in Latin America, two thirds (66.9%) of GDP is generated by the high-productivity segment, 22.5% by the medium-productivity segment and just 10.6% by the low-productivity segment. This distribution is reversed for employment: the high segment accounts for just 19.8% of jobs, the medium segment 30% and the low segment 50.2% (see figure V.3). This sharp disparity between the different segments' contribution to GDP and employment translates into a very unequal distribution of the returns on productivity among workers. A high-productivity job contributes 16.3 times more to GDP than a low-productivity job and 4.5 times more than a medium-productivity job. The GDP contribution of a medium-productivity job is 3.7 times greater than that of a low-productivity job (see figure V.4). These figures illustrate how the region "manufactures" inequality: huge productivity gaps, a proportionally inverse distribution of employment and productivity, and sharp wage inequality. There are also skills gaps, since educational attainment is largely conditional on household socioeconomic background. To ensure that skills development is in line

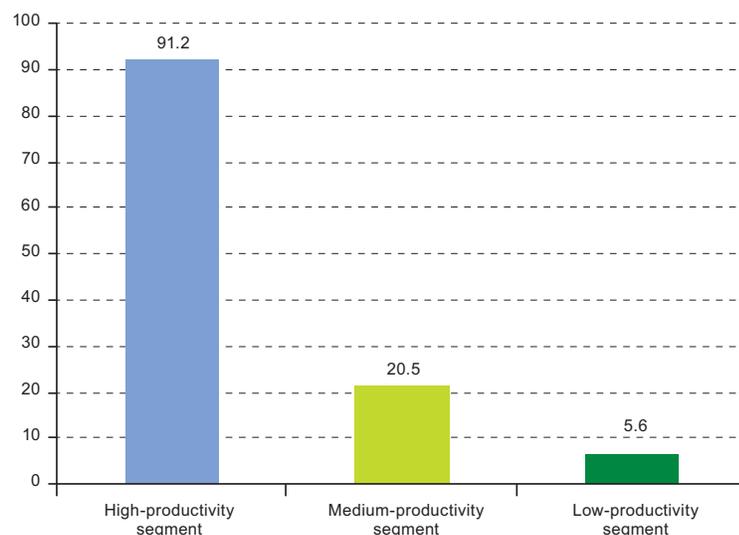
with a shift in employment towards higher-productivity sectors, it is necessary to rethink and redesign education systems, work training programmes and the diffusion of information and communications technologies (ICT), under national projects to support the transition to knowledge-intensive societies and economies.

Figure V.3
LATIN AMERICA (18 COUNTRIES): STRUCTURAL HETEROGENEITY INDICATORS, AROUND 2009
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Infante, "América Latina en el 'umbral del desarrollo'. Un ejercicio de convergencia productiva", *Working Paper*, No. 14, Santiago, Chile, June 2011, unpublished.

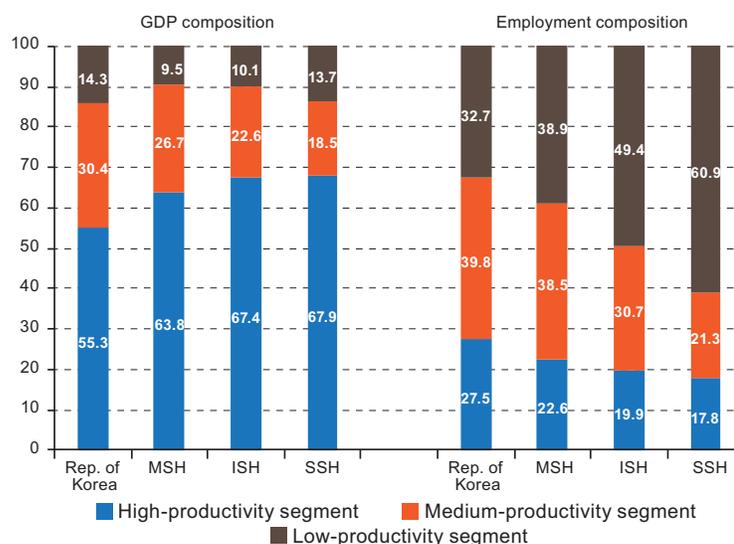
Figure V.4
LATIN AMERICA (18 COUNTRIES): GDP PER WORKER, PPP AROUND 2009
(Thousands of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Infante, "América Latina en el 'umbral del desarrollo'. Un ejercicio de convergencia productiva", *Working Paper*, No. 14, Santiago, Chile, June 2011, unpublished.

To explore the structure of employment and GDP in the region, the countries are classified into three groups based on their degree of structural heterogeneity and then compared with the corresponding variables for the Republic of Korea (see figure V.5).¹⁴ The region displays large differences, in which greater heterogeneity correlates with a greater concentration of GDP in the high-productivity segment and employment in the low-productivity segment. In comparison, the Republic of Korea has a greater concentration of employment in the medium-productivity segment (almost 40%) and a lower concentration of GDP in the high-productivity segment, particularly when compared with the Latin American group with severe heterogeneity. This suggests that Korea has a more homogeneous production structure.

Figure V.5
LATIN AMERICA (COUNTRY GROUPS ACCORDING TO HETEROGENEITY^a) AND REPUBLIC OF KOREA:
STRUCTURAL HETEROGENEITY INDICATORS, AROUND 2009
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Infante, "América Latina en el "umbral del desarrollo". Un ejercicio de convergencia productiva", *Working Paper*, No. 14, Santiago, Chile, 2011, unpublished.

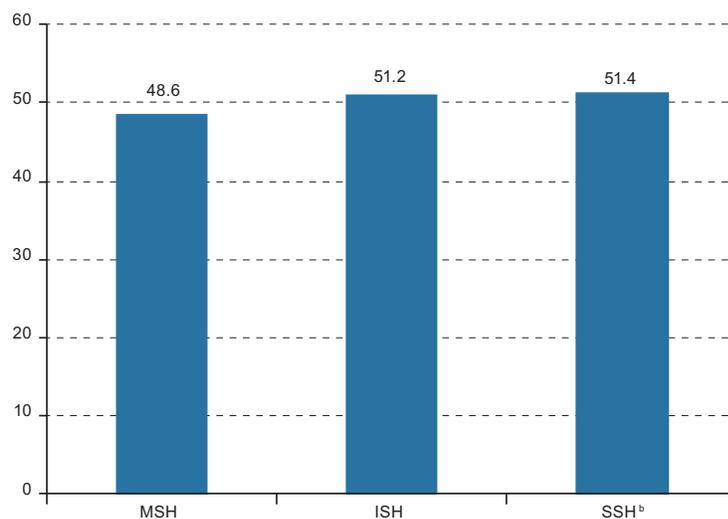
^a MSH: moderate structural heterogeneity; ISH: intermediate structural heterogeneity; SSH: severe structural heterogeneity.

Latin America and the Republic of Korea diverge widely in terms of the contribution of the lower-productivity segment to GDP and employment. The weight of this segment in Korea's total GDP is only slightly larger than in the countries of the region. However, Korea's low-productivity sector accounts for only a third of the country's employment, whereas in Latin America the share is much larger and increases with the degree of heterogeneity at the country level.

¹⁴ The three groups correlate strongly with the breakdown of the economically active population between the formal sector and the informal sector, with higher formality associated with lower structural heterogeneity. The group of countries with moderate heterogeneity includes Argentina, Chile, Costa Rica and Uruguay. The group with intermediate heterogeneity comprises the Bolivarian Republic of Venezuela, Brazil, Colombia, Mexico and Panama. The countries with a high degree of heterogeneity are the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, Peru and the Plurinational State of Bolivia (see box V.1).

The labour force participation rate of women and the youth unemployment rate do not vary widely among the three groups of countries in the region (see figure V.6).¹⁵ The average participation rate of women in the moderate-heterogeneity group of countries (48.6%) is lower than the average for the intermediate group (51.2%) and the severe group (51.4%). In all of the countries, regardless of the level of structural heterogeneity, women's labour force participation and youth unemployment are sharply stratified (ECLAC, 2010b).

Figure V.6
LATIN AMERICA (COUNTRY GROUPS BY HETEROGENEITY^a): GLOBAL LABOUR FORCE PARTICIPATION RATE, WOMEN AGED 15 AND OVER (SIMPLE AVERAGES), AROUND 2009
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a MSH: moderate structural heterogeneity; ISH: intermediate structural heterogeneity; SSH: severe structural heterogeneity.

^b The SSH group does not include Nicaragua or Guatemala.

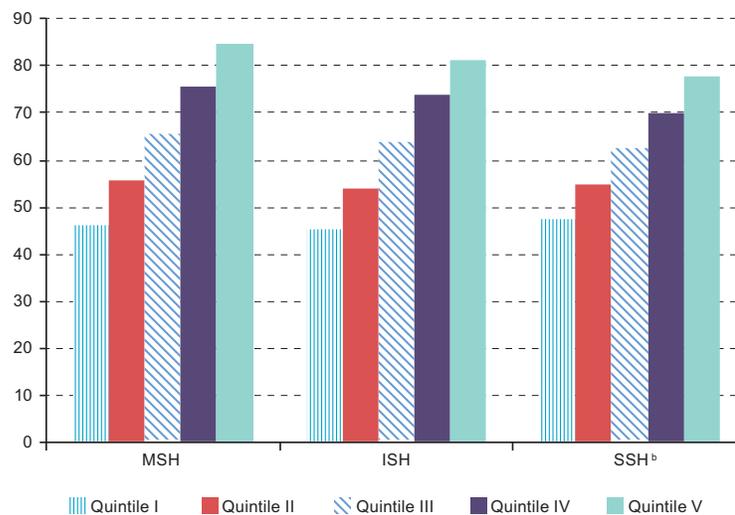
The stratification of female labour-force participation is associated with lower education levels among lower-income women and lesser availability of jobs in these sectors because labour markets have been raising educational requirements. However, numerous studies show that the stratification largely reflects very stratified abilities and possibilities for women to reconcile paid and unpaid work. When resources are scarce, households larger and social and cultural connections weak, then women's options shrink and the possibility of entering the labour market diminishes (ECLAC, 2010b; Montaña, 2010; ECLAC, 2012). The exception occurs in highly precarious segments of informal work where, as mentioned, the job is part of a survival strategy in very low productivity sectors.

This stratification in female labour participation is especially worrisome in countries with a more homogeneous economic structure, which have traditionally had a lower labour-force participation rate. A comparison of these countries with those in the intermediate structural heterogeneity group reveals lower participation rates in all quintiles, but especially in the first quintile (see figure V.7). This point calls for a deeper exploration of the factors that determine

¹⁵ The labour force participation rate is the ratio between the economically active population and the working-age population.

labour force participation, including women's education level, work experience and household characteristics, as well as the production structure and the stratification of job opportunities for women in the poorest sectors.

Figure V.7
LATIN AMERICA (COUNTRY GROUPS BY HETEROGENEITY^a): GLOBAL LABOUR FORCE PARTICIPATION RATE, WOMEN AGED 25 TO 54, BY PER CAPITA INCOME QUINTILE (SIMPLE AVERAGES), AROUND 2009
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

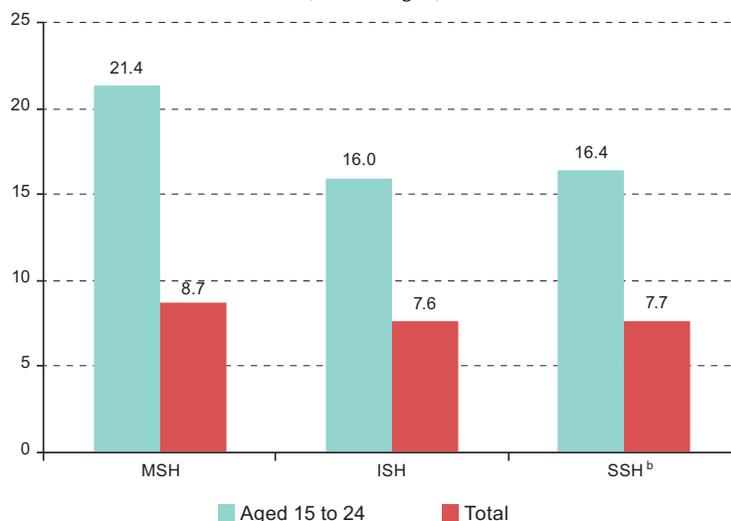
^a MSH: moderate structural heterogeneity; ISH: intermediate structural heterogeneity; SSH: severe structural heterogeneity.

^b The SSH group does not include Nicaragua or Guatemala.

The youth (aged 15 to 24) unemployment rate is highest in countries with moderate heterogeneity, while it is lower and similar in the other two groups (see figure V.8). All three groups, however, post high levels of youth unemployment, at more than double the rate for the economy as a whole. Although unemployment rates usually fall during periods of economic growth, in the first decade of the twenty-first century youth unemployment has done so more slowly than adult unemployment, causing the gap between the different age groups to widen.

Youth unemployment rates decrease from the first income quintile to the last, but all the quintiles reveal vast differences between this age group and average unemployment levels, in all three groups of countries (see figure V.9). High youth unemployment should raise an alarm, as it is a symptom of a society's inability to integrate broad social groups into economic and social life. It also reflects the inability of the labour markets to incorporate the available workforce and, to some extent, the absence of a development concept that sees young people as strategic actors in the development process. Furthermore, the persistence of high youth unemployment rates reinforces the process of education devaluation, in particular for secondary education. Today, the real threshold for accessing acceptable levels of well-being (to live above the poverty level or to earn higher-than-average wages) is post-secondary education in the majority of the countries. The path that children and youth must follow to acquire sufficient tools for economic and social inclusion grows longer and longer, but the effort increases their ability to fully exercise their rights as citizens (ECLAC, 2011).

Figure V.8
**LATIN AMERICA (COUNTRY GROUPS BY HETEROGENEITY^a): YOUTH (AGED 15 TO 24)
 AND TOTAL UNEMPLOYMENT RATE (SIMPLE AVERAGES), AROUND 2009**
(Percentages)

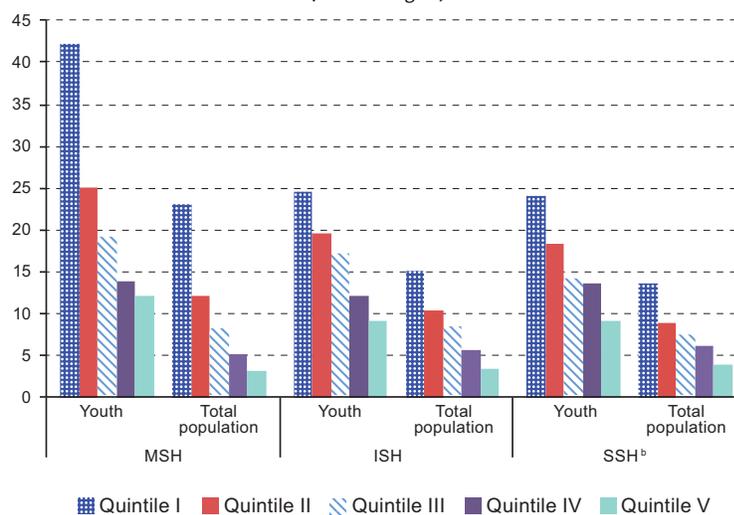


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a MSH: moderate structural heterogeneity; ISH: intermediate structural heterogeneity; SSH: severe structural heterogeneity.

^b The SSH group does not include Nicaragua or Guatemala.

Figure V.9
**LATIN AMERICA AND THE CARIBBEAN (COUNTRY GROUPS BY HETEROGENEITY^a): YOUTH
 (AGED 15 TO 24) AND TOTAL UNEMPLOYMENT RATE, BY PER CAPITA INCOME QUINTILE**
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a MSH: moderate structural heterogeneity; ISH: intermediate structural heterogeneity; SSH: severe structural heterogeneity.

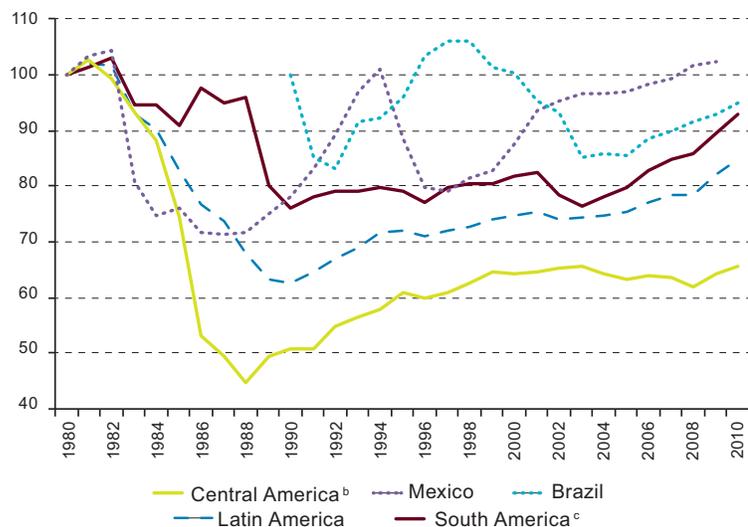
^b The SSH group does not include Nicaragua or Guatemala.

3. Labour income and the business cycle

The evolution of real wages in the region has been closely linked to business cycles. Between 1980 and 1990, real wages fell 34% in Latin America (in simple averages), with an even larger drop in Central America (49%). Following this sharp contraction, the trend reversed in 1990-1997, this time with a sharper increase in Central America. Mexico saw strong growth but recorded a substantial drop during the economic crisis that began in 1994. In Brazil, where data are only available from 1990 on, the real wage fell in the first few years of the decade and then began to recover. Between 1998 and 2003, average real wages in the region fell due to the performance of wages in South America, although the real wage increased significantly in Mexico, which was in full economic recovery. The most recent growth period was satisfactory in terms of access to employment and job quality, and real wages evolved favourably for the region overall (see figure V.10 and table V.4).

The growth of real income in the most recent period is explained not only by the economic upsurge, but also by labour policies –minimum wage policy in particular. The minimum wage has recovered in all the subregions in recent years, with the exception of Mexico (see table V.5). South America stands out with an average annual growth rate of almost 6%, while in Central America the rate was 4%. Argentina, Uruguay and some Central American countries, such as Honduras and Nicaragua, had the highest average annual growth rate. In Brazil, the minimum wage grew steadily over the past two decades.

Figure V.10
EVOLUTION OF REAL WAGES, 1980-2010^a



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from CEPALSTAT.

^a Non-weighted averages, where 1980 index = 100, except for Brazil, where 1990 index = 100.

^b The average for Central America includes Costa Rica, Guatemala, Mexico, Nicaragua and Panama.

^c The average for South America includes Argentina, the Bolivarian Republic of Venezuela, Chile, Colombia, Paraguay and Peru.

Table V.4
REAL WAGES AND ECONOMIC GROWTH, 1980-2010
(Percentages)

	1981-1990	1991-1997	1998-2002	2003-2010	1980-2010
Change in GDP	14.4	26.2	8.9	35.6	113.2
Change in real wages					
Latin America	-37.5	14.9	3.1	14.3	-15.3
South America ^a	-24.0	5.0	-1.9	18.7	-7.1
Central America	-49.1	19.5	7.2	0.6	-34.4
Mexico	-22.1	1.7	20.2	7.3	2.2
Brazil	n.a.	6.0	-11.9	1.5	n.a.
Average annual rates					
Change in GDP	1.4	3.4	1.7	3.9	2.6
Change in real wages					
Latin America	-6.5	2.0	0.6	1.7	-0.6
South America ^a	-3.8	0.7	-0.4	2.2	-0.2
Central America	-9.2	2.6	1.4	0.1	-1.4
Mexico	-3.5	0.2	3.8	1.0	0.1
Brazil	n.a.	0.8	-2.5	0.2	n.a.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from CEPALSTAT.

^a South America includes Brazil.

Table V.5
LATIN AMERICA: REAL VARIATION IN THE MINIMUM WAGE
(Percentages)

	1991-1997	1998-2002	2003-2010	1991-2010
Latin America	-6.8	5.7	38.2	36.1
South America	13.3	7.4	49.7	82.2
Central America	-20.8	4.5	29.0	6.7
Mexico	-29.3	-0.9	-5.5	-33.8
Brazil	25.1	23.8	59.2	146.6
Average annual rates				
Latin America	-1.0	0.8	4.7	4.5
South America	1.8	1.0	5.9	8.9
Central America	-3.3	0.6	3.7	0.9
Mexico	-4.8	-0.1	-0.8	-5.7
Brazil	3.2	3.1	6.9	13.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from CEPALSTAT.

A comparison of growth in the 1990s with the most recent period reveals that only in the recent period was the improvement in employment rates combined with steady, significant wage increases. The next section examines the extent to which these increases were shared by all workers, looking at income distribution inequality from different angles.

4. Labour income and inequality

The most common approach for assessing income inequality in the past decades has been to look at the distribution between people or households. This approach is basically grounded in microeconomics, and the available theoretical and methodological tools have led to advances in understanding the determinants. However, economic theory originally took an aggregate approach to income distribution, focusing on how the income generated through economic activity was divided among the participants in the production process (basically, the appropriation of profits by the factors of production). In this classical approach, the wage bill as a percentage of total GDP generated by the economy is a key indicator (Atkinson, 1997).

The complexity of modern production processes, together with the considerable heterogeneity among the groups associated with the different factors of production, explains why the analysis of inequality is centred on personal income distribution. This approach also allows the analyst to take an in-depth look at the distributive role of the State, by studying the effects of taxes and transfers on income using household survey data. Paradoxically, information on the share of the wage bill in GDP, which should be based on the national accounts, is not always available. Beyond the shift toward analysing personal income distribution in the 1970s, it should be borne in mind that personal distribution is closely correlated with functional or factor distribution. Daudey and García Peñalosa (2007) provide empirical evidence that the low share of the wage bill in GDP has a significant negative effect on personal income inequality. These are appealing arguments and further research should be carried out into the relationship between structural heterogeneity and both measures of income distribution, taking into account the dynamics of the generation and appropriation of income from productivity.

This section offers a first attempt to systematize comparable data on the evolution of the wage share of national income in some countries in the region. This analysis requires a wealth of information that, in many countries in the region, is not systematized. Moreover, given the range of methodologies used by the countries to measure the share of wages in national income, cross-comparisons are not always possible or reliable. It is worth noting that the data presented here are from the countries' systems of national accounts. In this accounting system, the income received by independent or self-employed workers, called mixed income, is included under operating surplus. To make progress in this regard, this component of labour income would have to be estimated so that it could be included in the analysis.

In recent decades, the wage share of national income in the countries of Latin America and the Caribbean has reflected the same downward trend seen at the international level, and the trend has held even during economic upswings. The latest available data indicate that the weight of wages in total income fluctuates between 31% and 47% in the region (see table V.6). This share has tended to shrink in the last two decades, with the exception of Chile and Paraguay. In the most recent growth cycle (2003-2009), the share of wages in total income decreased in all countries but Brazil. Weller (2012) shows that according to the empirical analysis presented in ILO/IILS (2011), the opening of the financial account had a negative impact on the wage share of GDP in the countries of Latin America.

The flip side of this drop in the wage share of income is the growing weight of the gross operating surplus, which is a good proxy for corporate savings. This increase does not correspond exactly to a rise in private savings, because the public sector accounts for a significant share of production in countries like the Bolivarian Republic of Venezuela, Chile and Colombia. The

increase in the operating surplus in 2003-2009 is associated with an increase in public savings that, in some cases, allowed for a reduction of debt and the application of countercyclical policies during the financial crisis of 2008-2009. This aggregate approach reveals the absence of improvements in the functional distribution of income and suggests that wage earners were not the group that benefited the most from productivity gains.

Table V.6
WAGE SHARE OF INCOME, AT FACTOR COST, 1990-2009

	1990	1997	2002	2009	Change			
					1991-1997	1998-2002	2003-2009	1991-2009
Bolivia (Plurinational State of) ^a	39.0	39.7	37.8	31.1	1.9	-4.9	-17.7	-20.3
Brazil ^a	53.5	47.1	46.8	48.3	-11.9	-0.7	3.2	-9.7
Chile	38.7	44.1	46.7	44.5	13.9	5.8	-4.6	15.0
Colombia	41.6	40.7	37.2	36.1	-2.2	-8.6	-3.0	-13.3
Honduras	54.1	50.1	50.8	47.5	-7.3	1.3	-6.4	-12.1
Mexico	32.2	32.7	35.6	31.4	1.6	8.6	-11.8	-2.6
Panama	58.6	39.3	38.6	35.2	-32.9	-2.0	-8.7	-39.9
Paraguay ^a	43.4	57.1	49.2	47.2	31.6	-13.9	-4.0	8.8
Peru	24.9	27.3	27.5	23.3	9.8	0.5	-15.2	-6.4
Venezuela (Bolivarian Republic of)	31.1	37.0	36.1	33.5	18.8	-2.4	-7.3	7.6

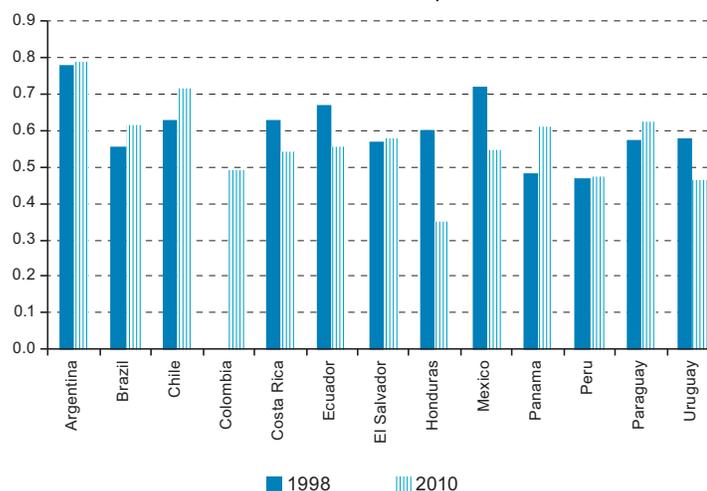
Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a For Brazil, Paraguay and the Plurinational State of Bolivia, the most recent available data are for 2006.

Although comparable data are not available for carrying out a similar analysis for Argentina, some estimates based on national accounts data suggest that the country's performance was in line with —or even better than— Brazil, as the share of wages in national income grew from 35% in 2002 to 43% in 2007 (Peirano, Tavosnanska and Goldstein, 2010). The available estimates for Uruguay indicate that when the wage bill and the labour income of dependent workers are taken together, the share of labour income in GDP was almost 49% in 1997, 39% in 2003 and just under 44% in 2009 (Amarante and Vigorito, 2011). In these countries, the recent reduction in personal income inequality (see below) occurred in conjunction with an improvement in the share of wages in total income.

Another way to analyse income inequality in the labour market is to link it with productivity gaps. Average pay in the informal sector is significantly lower than in the formal sector. A comparison of the averages at the end of the period reveals that informal-sector workers earn between 36% and 80% less than formal-sector workers, depending on the country (see figure V.11). A comparison of the simple averages for 1998 and 2010 does not show a uniform trend among the countries. In some (Argentina, Brazil, Chile, Panama and Paraguay), the ratio between the average earnings of informal- and formal-sector workers grew, indicating a narrowing of the gap. In others (Costa Rica, Ecuador, Honduras, Mexico and Uruguay), it fell, indicating a widening of the gap.

Figure V.11
RATIO BETWEEN THE AVERAGE LABOUR INCOME OF INFORMAL-SECTOR WORKERS AND THE WAGES OF FORMAL-SECTOR WORKERS, 1998 AND 2010



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

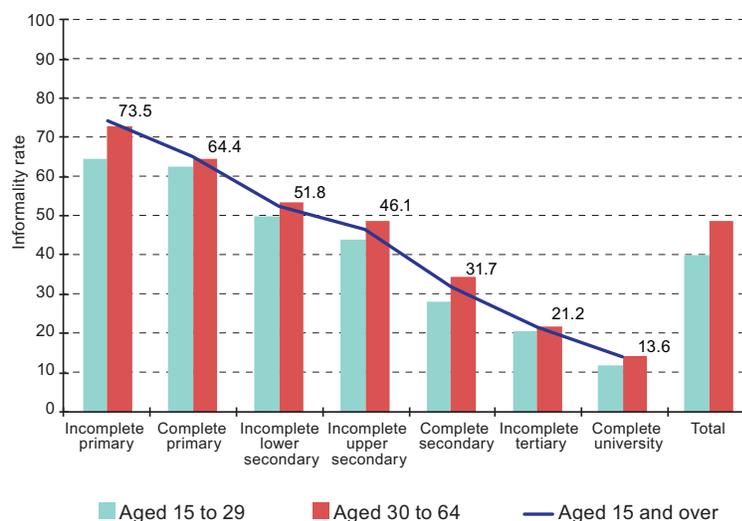
A portion of these gaps is explained by the different characteristics of the workers in the two sectors, in particular education level, age and the economic sector in which they work. As shown in table V.7, informal-sector workers have considerably fewer years of education than formal-sector workers, although this gap has narrowed in most countries in the past decade. Figure V.12 shows that the likelihood of entering the informal- or low-productivity sector decreases as the education level rises (ECLAC, 2011).

Table V.7
LATIN AMERICA: YEARS OF EDUCATION, FORMAL- AND INFORMAL-SECTOR WORKERS, 1998-2010

	1998			2010			Informal/formal	
	Total	Formal	Informal	Total	Formal	Informal	1998	2010
Argentina	10.5	11.7	8.7	12.0	13.0	10.1	75%	78%
Brazil	6.8	8.1	5.2	8.8	9.7	6.8	64%	70%
Chile	10.9	11.7	9.0	11.3	12.2	9.4	77%	77%
Colombia	--	--	--	8.0	10.7	6.7	--	63%
Costa Rica	7.9	9.3	6.4	9.1	9.8	7.1	69%	73%
Dominican Republic	7.1	8.7	5.7	8.8	11.1	6.9	66%	62%
Ecuador	10.0	11.9	8.1	10.7	12.9	8.7	68%	67%
El Salvador	6.3	8.7	4.4	7.9	10.3	5.9	51%	58%
Honduras	5.4	7.9	4.0	6.3	9.6	4.8	50%	51%
Mexico	7.0	8.8	5.2	9.3	11.1	7.3	59%	66%
Panama	9.6	11.6	7.0	10.3	12.2	7.9	61%	65%
Peru	7.8	10.6	6.2	9.5	12.4	7.7	58%	62%
Paraguay	8.2	10.2	6.9	8.8	11.5	7.1	67%	62%
Uruguay	9.1	10.0	7.7	10.0	11.1	8.2	77%	74%
Venezuela (Bolivarian Republic of)	8.5	10.0	6.8	9.9	11.7	8.1	68%	69%

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

Figure V.12
LATIN AMERICA (18 COUNTRIES): INFORMALITY RATE AND MONTHLY LABOUR INCOME OF THE WORKING POPULATION BY AGE GROUP AND BY EDUCATION LEVEL, AROUND 2008



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

In Argentina, the Dominican Republic and the Plurinational State of Bolivia, an analysis of wage differences between the formal and informal sectors, controlling for worker characteristics in each sector, shows that informal-sector workers earn lower wages than similar workers in the formal sector (Perry and others, 2007). If self-employed workers are included in the analysis, the conclusion holds for Argentina and the Plurinational State of Bolivia, but self-employed informal-sector workers have a wage advantage in the Dominican Republic.

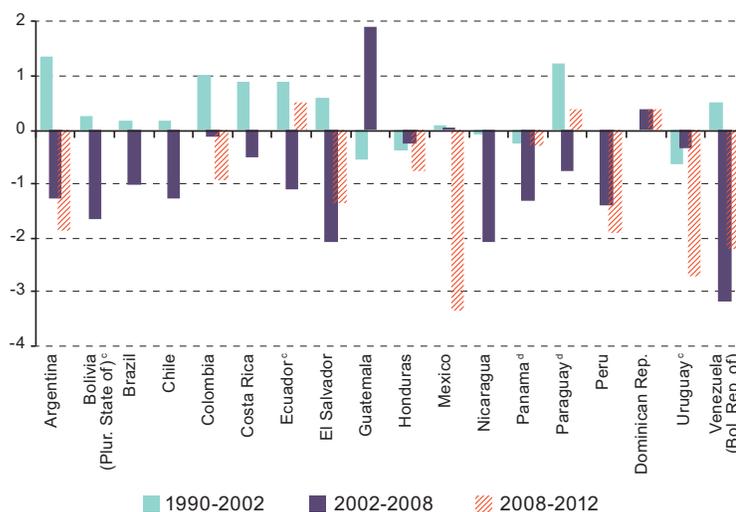
C. Recent evolution of household income inequality

For the first time in a long time, there has been good news recently with regard to the distribution of income in the region (figure V.13).¹⁶ In the 1990s and through the early 2000s, inequality trended up in the majority of the countries of the region. This trend has turned downward in recent years in a large set of countries, and it does not appear to have been changed by the recent economic crisis.

The increase in household income inequality in the 1990s was determined by the rise in income inequality in the labour market. The wage premium for skilled workers grew substantially in the 1990s; the literature attributes this increase to the greater relative demand for skilled workers, which was only partially offset by an increase in supply (Manacorda, Sánchez-Páramo and Schady, 2010; Gasparini and others, 2011). The reasons behind the relative uptrend in demand for skilled workers are still a matter of debate. As in industrialized countries, the explanations are centred on technological change and its bias toward skilled labour and the impact of trade opening. Also mentioned as a possible factor was the weakening of labour institutions, mainly through minimum wage cuts and declining unionization (Cornia, 2012).

¹⁶ The traditional indicators of income distribution inequality are calculated using household surveys, which are an imperfect source of data on capital income.

Figure V.13
LATIN AMERICA (18 COUNTRIES): GINI INDEX, 1990-2002, 2002-2008^a AND 2008-2010^b



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

^a Data for 2004-2006 in Argentina; 2001-2008 in Brazil, Paraguay and Peru; 2000-2006 in Chile; 2001-2004 in El Salvador; 2002-2007 in Honduras.

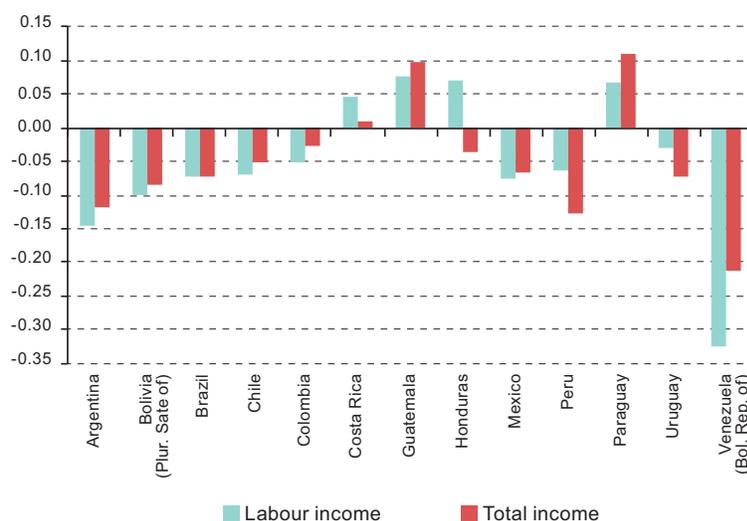
^b Data for 2006-2010 in Argentina; 2004-2010 in El Salvador; 2007-2010 in Honduras.

^c Urban areas.

^d Urban areas only in 1990-2002.

While household income inequality has fallen in recent years in the majority of the countries in the region, it is not easy to weight the causes behind this trend. The causes run from political motivations, stemming from citizens' demands for greater equality, to economic factors, such as non-contributory transfers and the dynamics of the labour market in the recent growth cycle, based on good external conditions and not on structural change (see figure V.14). ECLAC (2011) has repeatedly stressed that what happens in the labour market is the most important factor in the reduction of household income inequality. Studies on the topic attach different levels of importance to two key factors: namely, the increase in the relative supply of skilled workers and the increase in the relative demand for unskilled workers, associated with the expansion of the non-tradable goods sector (see Gasparini and others (2011), and López Calva and Lustig (2011)).

Figure V.14
CHANGE IN LABOUR INCOME AND TOTAL INCOME INEQUALITY, GINI INDEX, 2002-2010



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.

In sum, while personal income inequality has fallen, this did not improve functional distribution, which reflects the relationship between the owners of the factors of production, mainly capital and labour. The improvement in personal distribution has been spurred gradually by public policies aimed at closing education and wage gaps and redistributive policies, such as non-contributory transfers, minimum wage hikes and wage bargaining. A pro-equality dynamic linked to structural change as put forward in this document calls for a labour market in which the growing supply of skilled workers is matched by equally dynamic demand. To the extent that their bargaining power is strengthened, this will allow workers to capture a larger share of the profits from productivity (in the form of higher real wages). This process will not unfold spontaneously, but rather will require simultaneous actions on three fronts: industrial policies that promote structural change, macroeconomic policies for growth and jobs and the creation or reinforcement of rights-based social protection systems. These three areas will be discussed in the next chapter.

**Chapter VI**

Policies for an integrated approach to development

Structural change for equality is a long-term vision, where the role of policy is to prioritize, direct and create consensus, and where the development of efficient and democratic institutions forms a bridge between the vision and its effective implementation. It is a truly forward-looking approach intended to ensure that future generations are fully able to realize their rights and potential. No single model embodies this approach: it will take different forms in different countries, depending on specific national requirements.

The 2008-2009 crisis marked a turning point because it opened up spaces for reflection and discussion that had been unthinkable under the prevailing development model, especially with regard to acceptance of industrial policies, of orienting macroeconomic policies towards growth rather than towards nominal stability, and of rights-based pro-equality policies.

The current technology revolution is accelerating and opening up new paths for harmonizing growth with environmental sustainability, thanks to savings in materials, energy and movements of people and goods brought about by growing virtualization. Technological change can therefore be oriented to reconcile productivity gains with environmental criteria.

In demographic terms, societies in the region will age and rely increasingly on the productivity of the working generation. In the current demographic-dividend phase, where the number of children is falling while the working-age population is increasing, it is worthwhile investing in the skills of future generations. This makes it imperative to seize the opportunities and anticipate the risks of changes in the age pyramid.

These forces provide a close connection between this proposal and the younger generation. Today it is young people who are mobilized—with their greater versatility embodied by social networks and their aspirations of inclusiveness—to ensure more equal rights, timelier access to skills development and more informed advocacy of environmental sustainability.

This chapter prioritizes three key areas: industrial policy for structural change; macroeconomic policy for generating an environment conducive to growth, investment and real and nominal stability; and social and employment policies for fostering income distribution and equality.

This document has shown that structural change is the cornerstone of a long-term process of growth with employment and equality. Such change cannot occur spontaneously: all successful development experiences have been the result of active policies to stimulate high-productivity, more knowledge-intensive sectors (Schumpeterian efficiency) in which internal and external demand grows fast (Keynesian efficiency).

Section one of this chapter discusses the evolution of industrial policies in the region and emphasizes the need for a policy that defines precisely where a sustained effort of structural change should be invested, respecting the differing production, scale and institutional requirements of countries in the region. Having an industrial policy entails choosing which sectors should drive this process. This would be a futile exercise unless it was accompanied by institution-building to ensure that policies are implemented effectively, including building social consensus on this goal, both of which are areas where the region has been ineffective.

It is also shown that the process of structural change is not independent from the business cycle and that cycle duration, the intensity of the expansion and contraction phases, and the scale and composition of investment affect the production structure and help to define its trajectory over time. For this reason, section two of this chapter addresses macroeconomic policy from a different perspective, emphasizing its structural and long-term impact. Special attention is given to two aspects. First, macroeconomic policies must sustain aggregate demand, use of installed capacity and employment, i.e. Keynesian efficiency. Second, they must prevent the volatility and structure of macroprices from undermining efforts to diversify production. Macroeconomic policies that support structural change are based on a broad notion of stabilization which, while not disregarding the evolution of nominal variables, incorporates growth and employment objectives. In particular, they must sustain boom periods, preventing them from being disrupted early as a result of imbalances and crises that undermine investment and jeopardize the production of non-tradable goods. An important task of macroeconomics geared to the long term is to expand the space of fiscal and monetary policies. This could include macroprudential policies and policies to control short-term capital flows to overcome the constraints imposed by the trilemma discussed in chapter IV.¹

Lastly, it is shown that sustained employment growth and improved functional and personal distribution of income over the long term stem from diversification of production. To redress inequality, short-term social measures are required urgently, including income transfer policies. Such policies are consistent with efforts to maintain Keynesian efficiency and aggregate demand. They must be supplemented by policies for improving the operation of the labour

¹ Chapter IV states that it is impossible to have an independent monetary policy, an exchange-rate target and a fully open financial account simultaneously.

market and increasing the number of workers in formal jobs covered by social protection. Education and training are therefore strategic variables that contribute simultaneously to improving income distribution and building the capacity required for an intensive process of structural change with equality.

A. Industrial policy

Latin America and the Caribbean has had experience in a variety of industrial policies, stemming from each country's specific objectives, experience and economic and institutional capacity. Measures have ranged from the implementation of sectoral policies to the development of horizontal (cross-sector) policies, and included support for clusters or production chains. Moreover, there is growing acceptance of the need to develop horizontal policies, which until recently were fiercely resisted in many countries. As a result, there has been gradual recognition that industrial policies should be at the core of strategies for production structure diversification and structural change.

1. Evolution of industrial policy

Policies to create new sectors were the centrepiece of industrial policy until 1980.² Their goal, which is still valid today, was to create a denser production structure in the countries. At that time, they sought to achieve this goal taking advantage of growth in domestic demand, particularly investment, which would otherwise have led to higher imports, with all the external constraints these imply. Over the course of the 1950s and 1960s, the region's largest economies made progress with building a mass consumer goods industry and that of high-value durables, like cars. In the 1970s, there was a growing perception that the effects of investment could be divided into two types: first, the installation of productive capacity, with positive effects on aggregate supply; and second, the concomitant demand for capital goods which, for lack of the right kind of domestic supply, increased import demand, and therefore negated the beneficial spillover effects for the rest of the production structure. At that time, the concepts of industrial policy, policy for the manufacturing sector and incentive policies for capital goods production were closely linked.

Industrial policies were used to organize domestic supply growth and provide a focus for planning or programming in relation to the production structure.³ Three interrelated factors strengthened this organizing role: public-sector support mechanisms were organized at sectoral or even subsectoral level;⁴ private-sector interests were also organized in sectoral chambers or associations, which were the main defenders of the trade protection system; and international trade negotiations yielded negative or positive lists of sectoral preferences. Industrial policies concentrated on the agricultural and manufacturing sectors, although the preponderance of the latter was such that the concepts of industrial policy and policy for the manufacturing sector tended to be conflated.

² Most of the region's economies were closed in financial and commercial markets, and there were even markets that only local producers could supply.

³ The leading examples in the 1970s, prior to the rupture produced by the external debt crisis, were Brazil's second National Development Plan and Mexico's National Industrial Development Programme 1979-1982, which was in operation during the boom that accompanied the growth of the country's oil export platform.

⁴ For example, ministries of industry, agriculture, mining and others and, within these, departments for food, metallurgy, chemicals, capital goods, etc.

After playing this central role, industrial policies gradually lost legitimacy over the course of the 1980s, to the extent that they were virtually absent from the new economic model ushered in by structural reforms, at least in its strictest version. Industrial policies lost credibility for a number of reasons. The main ones were: the privatization or closure of public-sector enterprises that invested directly in new sectors because the new vision prevailing at the time gave the State only a subsidiary role in the economic dynamic; the need to balance public finances by doing away with subsidies, particularly those of a fiscal nature and the subsidy components of lending operations; and the perception that many investments had involved poor planning, faulty project management and corruption, and indeed that some projects were no more than pointless “white elephants”. This loss of legitimacy did not occur everywhere in the world. In a number of East and South-East Asian countries, active policies targeted at individual sectors or even companies remained in force well into the 1990s, when they became less common as, albeit at different paces, these countries gradually entered the free market mainstream and the new international trading regime.⁵

Whatever the merits of the economic arguments against industrial policy, the policy debate was polarized into the “developmentalists versus neoliberals” stereotype. Leaders of pro-market reforms blamed industrial policies for distorting the allocation of resources and creating the fiscal imbalances that underlay inflation. A growing number of governments in the region gradually came to share this stance.⁶ This extreme position was not always matched by the reality, however; even some staunchly pro-market governments kept some sectoral policies, particularly for the automotive industry.

(a) Industrial policy following the economic reforms

As chapter II has shown, financial and trade liberalization, and privatization, had a major impact on the industrial structure, leading to structural change that in turn altered not only the ownership structure, employment and business dynamics, but also the organization of major markets for goods and services. Following the reforms, much of what the region was doing in terms of industrial policy was encompassed within the concept of “competitiveness policies”.⁷ After an initial period extending until the mid-1990s, when burgeoning economic reforms led to industrial policies being all but excluded from the public agenda, there was a resurgence of interest in competitiveness, understood as the ability to increase presence in international markets.

In this new context, three approaches to competitiveness policy were shaped. Some countries, chiefly Brazil, Mexico and some in the English-speaking Caribbean (including Jamaica, with its 1996 National Industrial Policy, and Trinidad and Tobago, with its Industrial Policy 1996-2000), produced policy documents targeted specifically at the manufacturing sector and its linkages with technological development and international trade. These policy documents were not so much industrial plans or programmes, strictly speaking, as shared working agendas for government and the private sector, and this led their critics to accuse them of being “programmes without goals” and even “without resources”.

⁵ The literature on industrial policies in East Asia is very extensive. For a review of such policies, see, for example, Devlin and Moguillansky (2010, annex to chapter II) and Peres and Primi (2009).

⁶ In the early 1990s, it was common to hear from top macroeconomic policy officials Gary Becker’s dictum (1985) that “the best industrial policy is none at all”. Simple as it was, this maxim summed up their attitude quite well.

⁷ It is useful to maintain the distinction between industrial and competitiveness policies to highlight the need for policies to create new sectors in the strict sense. Competitiveness policies alone are not enough to change the production structure because not all sectors have the potential to benefit equally from increased efficiency. Naturally, creating new sectors requires the development of appropriate economic agents and institutions.

Second, in Andean and Central American countries, the main thrust of policy was to raise the competitiveness of the economy as a whole without giving any particular priority to the manufacturing sector. National competitiveness strategies were based on the cluster analysis methodology, and clusters were referred to in Spanish under a variety of names, including “*agrupaciones*”, “*aglomeraciones industriales*”, “*arreglos productivos*” and “*conglomerados productivos*”.⁸ In practice, these approaches led to the negotiation and implementation of sectoral agreements, generally spanning value chains, between private-sector actors and the government, with the latter acting as catalyst or facilitator.

Policies to support clusters spread rapidly. In some countries, they became the centrepiece of national competitiveness strategies, as in Colombia, where cluster-based policies have been in place since the early 1990s,⁹ or in El Salvador, a country that has an active policy of supporting clusters and micro and small enterprises. In other, generally larger countries, vigorous measures have been taken to encourage these clusters at the subnational level. This is illustrated, in the case of Mexico, by the support formerly given to the footwear sector in Guanajuato and the electronics sector in Jalisco (Unger, 2003; Dussel Peters, 1999), and in the case of Brazil by the actions of the Brazilian Micro and Small Business Support Service (SEBRAE) throughout the country as part of the Project to develop “local production arrangements” (in Portuguese, *arranjos produtivos locais* (APL)). This type of policy still enjoys great legitimacy, even among international financial organizations, which has made it more acceptable to governments and even led to some measures being described as “support for clusters”.

Finally, Argentina, Chile and Uruguay did not work on the basis of industrial policies or national competitiveness strategies. Preference was given instead to what are known as horizontal policies,¹⁰ which were supposed to be non-discriminating between sectors and to be implemented by means of incentives to company demand, by contrast with the supply subsidies that characterized the earlier industrial policy model of import substitution. When sector-wide problems arose, horizontal policy instruments would be brought to bear on solving them, without these policies being deemed to have lost their essentially neutral character. It was in Chile that this type of intervention was conceptualized and implemented most forcefully, although the country long continued to provide direct subsidies to the forestry and mining sectors, and to export activities (Moguillansky, 2000).¹¹

⁸ This approach was based on Porter (1990) and culminated in the work of the Monitor Company in Andean countries in the early 1990s and in the project Central America in the 21st century: an agenda for competitiveness and sustainable development, coordinated by the Latin American Centre for Competitiveness and Sustainable Development (CLACDS) of the Central American Business Administration Institute (INCAE) in the mid-1990s.

⁹ In 2006, the Colombian government set up an institution called National Competitiveness System (SNC) to take charge of activities to develop, implement and monitor policies for building the capacity of companies in domestic and foreign markets. Colombia’s National Policy on Competitiveness and Productivity (PNCP) included a vision to 2032 and focused on five strategies: development of world-class sectors or clusters; leap forward in productivity and employment; formalization of business and employment; promotion of science, technology and innovation; and cross-sector strategies to promote competition and investment. In June 2008, this strategy culminated in 15 action plans (Gómez Restrepo, 2009). This vision, which combines cross-sector and sectoral policies, was reformulated in Colombia’s Productive Development Policy introduced in 2011 (Díaz Granados and Pinto, 2011).

¹⁰ The expression “neutral or horizontal”, in widespread use across the region, conceals the fact that any policy will ultimately favour certain sectors over others. This happens because these policies seek to raise the efficiency of production factor markets, which are used in different proportions by the different sectors or products. In some cases, policies that are presented as neutral to give them greater legitimacy are oriented from the outset towards specific sectors. This is usually the case with technological development policies.

¹¹ As discussed below, between 2007 and 2010, Chile’s experience began to take on different characteristics. In 2011, Argentina and Uruguay implemented policies targeted at production chains.

(b) Competitiveness policies

As the specialized literature has often pointed out (IDB, 2001; Melo, 2001; Peres, 1997), competitiveness policies in the region, even those that are fundamentally sectoral in scope, have focused far more on increasing the efficiency of existing sectors than on creating new ones, something that is consistent with a quest for greater international market share relying chiefly on static comparative advantages (natural resources and unskilled labour). This has happened both in countries with a diversified production structure (Brazil and Mexico, among others), and in countries with more specialized structures. Of the former it might be said that only a very few sectors are wholly absent from their economies and that sectoral policies should be detected at the individual product level. While this is true, the evidence suggests that in Brazil, particularly prior to its 2008 Productive Development Policy, and in Mexico generally, sectoral-type measures have focused on strengthening and expanding established sectors, the most noteworthy example being the automotive industry, as indicated earlier.

The creation of new activities comes up sporadically as a policy objective. In this case, two main lines of action have been followed: international trade negotiations to secure market access, chiefly through bilateral or multilateral free trade agreements, and efforts to attract foreign direct investment (FDI) to develop export platforms, including free trade zone and maquila activities.

Attracting FDI has been the main mechanism used to create new sectors in most of the region's countries. Measures of this kind include the deepening of the Mexican export platform as part of the North American Free Trade Agreement (cars and car parts, electronics and clothing), more elementary assembly activities in export processing zones in some Central American and Caribbean countries,¹² and investments in privatized service and commodity sectors in South American countries (Mortimore, 2000; Peres and Reinhardt, 2000). The activities leading to the diversification of production structures have largely been determined by the different strategy combinations of investing multinationals (discussed in chapter III) and government sectoral policies, albeit with the limitations deriving from low value-added (owing to the preponderance of assembly activities) and a lack of linkages with the rest of the national economy concerned (ECLAC, 2011a).

The instruments that have been used to attract foreign investment can be classified into three major groups: (i) incentives, chiefly in the form of free trade zones and fiscal benefits; (ii) standards to create an efficient business environment (rule of law, transparency, assured access to international markets, good infrastructure, etc.); and (iii) specialized factors of production, particularly skilled labour. The countries of the region have applied these three types of instruments to differing degrees; with few exceptions, however, it is the first two that predominate (Mortimore and Peres, 1998).

Besides specific instruments to attract foreign investment, countries have used two other types that apply to any kind of investment (domestic or foreign). These are financial and fiscal incentives and a large group of measures used by governments to create competitive environments for companies to perform (pro-competition measures and regulation of monopoly sectors), bring down transaction costs (reducing administrative controls, among other things) or enable companies to act collectively to take advantage of economies of scale (sectoral agreements spanning production chains,¹³ support for partnerships between companies, etc.).

¹² In the 1980s, these activities were promoted by the Caribbean Basin Initiative (CBI) and, in latter years, by the Central America-Dominican Republic Free Trade Agreement (DR-CAFTA).

¹³ In small economies typical of the region, policies to support production chains inevitably consisted of promoting the integration of local firms into global value chains. Such policies require lines of action to reduce firms' transaction costs, which can be particularly burdensome for smaller firms.

The region's competitiveness policies can be grouped as follows, in accordance with the degree of acceptance they have attained (although this classification bears no relation to their efficiency): policies with strong legitimacy, policies with weak legitimacy and emerging policies. Policies with strong legitimacy are those that have been generally accepted by governments. In addition to the above-mentioned policies for export promotion (trade promotion) and inward FDI, this group includes policies to promote scientific and technological development and innovation (see box VI.1); human resources development, including business training; support for micro and small enterprises (see box VI.2),¹⁴ and productive development at the local or subnational level, these two last being very closely intertwined. These policies have proved so acceptable because of their perceived sectoral neutrality, as they operate on markets for production factors (technology and training) or because of their perceived positive impact on job creation, especially at the subnational or local level.¹⁵

Box VI.1

SCIENCE, TECHNOLOGY AND INNOVATION POLICIES IN LATIN AMERICA AND THE CARIBBEAN

While there was no explicit science, technology and innovation (STI) policy in the region until the early 1980s, the public sector played a role in laying the foundations for scientific and technological development and put in place the institutional infrastructure for the future management of STI policies. Governments adopted linear, selective supply policies, i.e. policies based on unidirectional causality from the creation of knowledge to its technological application. As a result of these policies, which sought to expand endogenous technological capability, 80% of research and development (R&D) spending was publicly funded and most of these activities were carried out by State corporations in strategic sectors like energy and telecommunications. In addition, research institutes and scientific councils were established to support capability-building and national development strategies.

Following the economic reforms, this model was replaced by a demand-oriented model, based on the same linear view of knowledge. Government policies played a marginal role. The main instruments were incentives for the implementation of horizontal policies, in which priority was given to incentives for demand from the production system, and State intervention was consented only to correct market failures and stimulate the private sector. As a result, STI policies became subject to market behaviour and the trend towards importing knowledge and technology was reinforced, with foreign direct investment being favoured as a source of technology, while at the same time the rules on intellectual property were amended (ECLAC, 2004). Simultaneously, the institutional infrastructure and organizational routines of development institutions were streamlined and modernized, a number of research institutes were shut down and management criteria closer to private models were introduced, favouring a service delivery rationale.

In recent years, countries in the region have afforded increasing importance to STI policies and, with varying speed and success, have gained experience in designing and implementing them. The main advance has been to incorporate the concept of "national innovation system", where innovation is seen as a complex, non-linear, systemic phenomenon that depends not on the efforts of individual companies or research centres, but on interaction between actors responding to market incentives (companies) or non-market incentives (some universities and research centres), as well as on public institutions establishing incentives and regulatory systems (ECLAC/OECD, 2011). This cemented the idea that knowledge creation and innovation calls for interaction between supply policies (public resources and support for specific sectors and technologies) and policies to encourage and subsidize demand from the production sector (ECLAC, 2010a; Cimoli, Ferraz and Primi, 2005).

¹⁴ A possibly unique case is the Plurinational State of Bolivia, where article 318.II of its 2008 Constitution states that the State recognizes and will prioritize support for the organization of clusters of urban and rural micro, small and medium-sized manufacturing enterprises. Furthermore, article 334 states that the State will protect and promote micro and small enterprises, as well as rural economic organizations and small producer organizations or associations, which will be given preference in government procurement. See also Bolivia's Ministry of Productive Development and Plural Economy (Ministry of Productive Development and Plural Economy, 2009).

¹⁵ These competitiveness policies are not the only public measures to affect an economy's competitiveness: there are also macroeconomic policies (discussed in the next section), as well as infrastructure development and other policies.

Box VI.1 (concluded)

Some governments in the region have only recently incorporated this “systemic” concept of innovation into their intervention rationale and the design of their institutional structure and management, and have prioritized reforms for the modernization of STI policy management agencies (Calza, Cimoli and Laplane, 2009). Five countries have a ministry of innovation (Argentina, Bolivarian Republic of Venezuela, Brazil, Costa Rica and Cuba). Others use different models: national innovation councils reporting to the office of the president (Chile and Nicaragua) or to ministries of industry or education (e.g. Mexico). Brazil has the most developed system in the region, where a large number of agencies are responsible for programme decision-making, implementation and financing, and the ratio of R&D expenditure to gross domestic product (GDP) is the highest in the region (1.2%). In terms of new instruments, Brazil has introduced sectoral funds to support innovation, which combine supply mechanisms with demand incentives (Pacheco, 2003).

Learning how to design and implement STI policies has generally been slow in the region and been accompanied by weak instruments, for a number of reasons. First, even though strong financial support is required to implement policies, STI expenditure in the region is still low and the private sector contributes very little. Second, STI policy remains reliant on other economic policies – a reliance based on the erroneous idea that when macroeconomic signals are correct, production and technology will adopt a virtuous growth path. However, the implementation of STI policies necessitates an institutional architecture that removes them from this subsidiary position. Finally, there is no coordination between STI policy and a strategy of structural change. As a result, STI policies are still limited by a production structure with little complexity or diversification, poor endogenous technological capabilities and weak demand from the private sector, which has no incentives to prioritize knowledge creation and innovation in the production sector.

Any government policy to boost investment in research, development and innovation must encourage private sector participation, considering the bottlenecks it faces when deciding on investments (great uncertainty associated with R&D investments, high interest rates, high operating costs, limited access to the credit market, especially for smaller firms, and limited opportunities for linkages with other firms, universities, research centres, or others).

The role of the State, in particular its development banks, in financing innovation is key to reducing uncertainty and increasing private return on investment, internalizing the externalities typically associated with technological activity (ECLAC, 2010a). The policy model should include incentives for collaboration between the public and private sectors, in terms of both strategy and finance, based on common spaces for discussion where divergent interests can be reconciled (e.g. those of the business world, STI institutions and civil society).

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information.

Box VI.2

POLICIES TO SUPPORT SMALL AND MEDIUM-SIZED ENTERPRISES: PROGRESS IN POLICYMAKING AND FAILURES OF IMPLEMENTATION

Policies to support small and medium-sized enterprises (SMEs)⁸ are on the agenda of the region's governments, in institutional contexts where efforts have varied in terms of effectiveness, coverage and continuity. In the past decade, there has been progress in reorganizing support institutions. Innovative and fairly widely disseminated instruments have been put into operation, including productive linkages, partnership programmes and productive networks and clusters, and access has been provided to non-financial support services. Some countries have also made it easier for SMEs to access financing by improving institutional management and creating new financial instruments (ECLAC/IDB/OAS, 2011).

While the introduction of instruments such as leasing, factoring, guarantee schemes or venture capital are a move in the right direction, they have not been sufficient to remove the bias against smaller companies. To move forward in building an inclusive financial system that provides a strong impetus to SMEs, public development banks need to be strengthened to counter the biases of private banking (Ferraro and Goldstein, 2011). The provision of capital resources to medium-sized enterprises and innovative firms makes it necessary to tackle key problems of moral hazard and asymmetric information between investors (or venture capitalists) and company managements. Development banks can play a key role in this market segment, both by channeling funds through intermediary companies in the case of venture capital, or by taking a direct share in the company's ownership as a minority shareholder.

The incorporation of microenterprises into SME policy has increased the number of beneficiaries and compounded the complexity of an already broad and heterogeneous universe of firms (ECLAC, 2010a). This has called for targeted policies to be developed and implemented as part of a systemic approach, in particular policies oriented towards sectors where SMEs have a strong presence.

Box VI.2 (concluded)

Despite progress, the results of SME support policies have been unsatisfactory because there is still a wide gap between efforts and results, as well as between policymaking and implementation. Many countries have announced, developed and adopted policies that they did not actually put into operation owing to inconsistency between objectives, instruments and budget allocations. Brazil is the only country in the region with a budget to support SMEs, amounting to around 0.1% of GDP. Further problems include the weakness of institutions responsible for policy implementation and a limited conceptual framework that takes policy measures only to solve market failures (Goldstein and Kulfas, 2011). In addition to implementation failures, policy evaluation processes are weak and little is known about the effectiveness of programmes and instruments, results obtained, levels of coverage and assistance to businesses, or impact of the instruments on company performance.

Following the reforms, in most cases economic intervention by governments is considered only when markets fail to operate efficiently, and actions must cut across all sectors, which excludes targeted SME support policies and sectoral policies. However, according to a structuralist approach, the SME support policy should be part of an industrial policy designed to foster changes in the production structure. This conflict between the two approaches is embodied by the contradiction between individual assistance policies and system-wide interventions. With individual policies, actions tend to be ad hoc and aimed at reducing or eliminating distortions in the functioning of markets, while the system-wide approach seeks to implement integrated support strategies.

As any approach that uses policies only to correct market failures will result in interventions aimed solely at resolving ad hoc problems, an SME support policy designed from this perspective will produce a mixture of uncoordinated, incomplete measures that fail to recognize production sectors as key components of economic development or to provide an option for targeting growth-boosting measures on the most dynamic SMEs. Some countries in the region aim to implement more targeted policies by distinguishing groups of SMEs according to their degree of development and sectoral location, and to implement instruments customized to each group's needs. While this process is still incipient, it indicates progress towards more targeted policies.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information.

^a ECLAC analysed the role of SME-support policies in promoting innovation, weathering crises and improving access to financing in the framework of the cooperation programme "Policies and instruments for promoting growth in Latin America and the Caribbean", implemented during 2009-2010 with the support of the Spanish Agency for International Development Cooperation (AECID).

Policies with weak legitimacy, meanwhile, are those that are more clearly in contradiction with the current development model, particularly the open economy model and balanced public finances. They include direct fiscal subsidies, non-targeted tax exemptions, directed credit and the use of subsidized interest rates, tariffs on foreign trade and the use of the State's purchasing power. Concerning this instrument, the situation varies from one country to another. While some use it at the national or subnational level,¹⁶ others regard it as being outside the range of applicable policies because it would go against objectives of spending efficiency and transparency.

Emerging policies, in particular pro-competition measures, regulation of infrastructure sectors whose markets do not operate efficiently and environmental policies, are acquiring growing legitimacy, but are still maturing and are at very different stages of development in the region's countries (see box VI.3).¹⁷ Some have modern legislation and fairly solid institutions with which to implement these policies, while in others they are still at the stage of debate and decision-making, or are not a major item on the public agenda.

¹⁶ A noteworthy example, discussed later in this chapter, is Brazil's *Plano Brasil Maior*, launched in August 2011.

¹⁷ Other important policies include improving corporate governance regimes and corporate social responsibility.

Box VI.3

PRO-COMPETITION MEASURES AND CREATION OF ENVIRONMENTALLY SUSTAINABLE SECTORS

Pro-competition measures

Anti-competitive practices are common in the region owing to the small scale and high concentration of most national markets. In many countries there are companies that, despite being inefficient, enjoy great market power. Therefore, not only can regulatory and pro-competition policies reduce consumer prices, they can also foster innovation and increase efficiency and productivity.

The regulations in this area must: (i) distinguish the type of concentration that meets the need to increase plant scale in order to reduce costs from the type that seeks only to increase market power; (ii) differentiate the type of concentration derived from anti-competitive practices from the type that is normal in small economies, where it is common for a few firms to dominate a sector; and (iii) decide whether it is appropriate to discipline local businesses, which are usually far from the technological and productivity frontier, by means of greater foreign competition, or whether to allow them to conclude agreements to take advantage of economies of scale and learning.

The special characteristics of small economies underscore how important it is for competition rules to be specific to each country. In some cases, the best pro-competition measure may be prohibition of cartels, whereas in others it may be prohibition of abuse of dominant position, merger regulation or surveillance of exclusive agreements (Stewart, 2006). Given the asymmetry of power between multinationals and small-country governments, regional agreements on competition need to be developed or strengthened, introducing regional methods for gathering evidence or measuring market power, rather than just national ones.

Environmental policies

Achieving a sustainable pattern of development entails implementing strategies that address economic, social and environmental issues simultaneously. These strategies must define a new set of economic incentives, as well as new regulatory and institutional frameworks. This makes it necessary to do the following.

Modify the vector of relative prices in a direction consistent with the sustainable use of natural resources and the environment. This means internalizing negative externalities (many environmental) associated with the production, distribution and consumption of goods and services, and recognizing the need for economic instruments, such as taxes, fiscal incentives or tradable permits, to help reduce their worst impacts.

Implement regulations consistent with economic incentives. Evidence in the region points to persistent market failures, in conjunction with low response sensitivity of agents to economic incentives because of weak price signals and poor long-term returns, coupled with lack of substitute goods and services for such items as private transport or fossil fuels. Relative price policies must be accompanied by regulations in areas where these signals are insufficient and there is a risk of irreversible losses, for instance in biodiversity or forest cover.

Move forward with a more environmentally sustainable technological paradigm. This entails building knowledge, developing infrastructure, establishing economic incentives and boosting spending on technological research and development. All this must form part of industrial policies aimed at creating new knowledge-intensive, environmentally sustainable sectors. Ultimately, this means selecting and developing long-term technological trajectories.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information.

The content of the region's most recent policy documents has displayed a high degree of convergence, except as regards acceptance of sectoral policies. National differences notwithstanding, this convergence has focused on six basic elements:

- (i) an emphasis on raising competitiveness in the global market;
- (ii) horizontal or neutral instruments, whose legitimacy has become firmly established even though, as noted earlier, their effects in practice are far from neutral;
- (iii) support for micro and small enterprises, basically because of their capacity to create jobs;
- (iv) growth in programmes to support clusters;
- (v) strengthening of science, technology and innovation policies and, more recently, policies for the widespread use of broadband internet;
- (vi) targeting of subnational or local economic areas.

The fact that the above six elements have remained a fairly constant feature of competitiveness policies would suggest that a certain amount of policymaking skills and experience have been gained, which could serve as a basis for designing and implementing new industrial policies.

2. Urgent return of sectoral policies

The pattern of productive specialization in Latin America and the Caribbean has led to the closure or lock-in of a production structure centred on environmentally inefficient and non-knowledge-intensive activities. The activities typical of the current technological revolution have little impact on this production structure, with the resulting adverse effect on the productivity gap in terms of the technology frontier (see chapter I). To overcome this lock-in, relative sector profitability needs to be re-gearred in favour of knowledge-intensive sectors, which can only be achieved by means of policies for progressive structural change, i.e. industrial policies aimed at creating new manufacturing, primary and service sectors. Such policies are critical to a development path that incorporates and transcends competitiveness policies designed to improve the efficiency of existing sectors. It is essential to transcend existing sectors in order to generate sectors that make more efficient use of materials and energy, and to promote activities with higher knowledge content.

In the early 2010s, by contrast with what has been happening in other development policy areas, there is still no convergence in the positions of Latin American and Caribbean countries where sectoral policies are concerned. While in a decreasing number of countries the official stance is strongly against these policies (although sectoral support is provided ad hoc), in others they are recognized as a valid way of raising the competitiveness of activities that have the potential to penetrate external markets or that face stiff competition from imports. There are some double standards with these policies: countries that deny their utility, particularly when it comes to support for manufacturing, use them openly and without any need for justification in numerous areas of agriculture and services (tourism, for example).

Sectoral policies have been making a slow comeback in Latin America and the Caribbean. After the crisis of the early 2000s, Argentina selected nine production chains to receive support under its Programme of National Forums for Industrial Competitiveness and Production Chains. Shortly afterwards, Mexico chose 12 priority production branches to benefit from sectoral programmes under its 2002 Economic Policy for Competitiveness. More recently, the Mexican government defined Ten guidelines for increasing competitiveness, 2008-2012, which includes actions with a sectoral content: promoting scaling-up to high value-added activities; speeding up the restructuring of traditional industries; and the use of pioneering technologies. In 2005, Peru produced its National Competitiveness Plan focusing on six areas, including areas that determine measures for competitive chains, innovation and competitiveness.¹⁸

Meanwhile, between 2007 and 2010, Chile moved from a position of having only horizontal policies to a policy of innovation and competitiveness based on a selected set of “priority clusters”.¹⁹ Chile’s 2007 National Strategy of Innovation for Competitiveness demonstrated a shift

¹⁸ Similar efforts to position knowledge and innovation as engines of growth also featured in Costa Rica’s National Development Plan 2006-2010 and the National Strategic Plan of Barbados 2005-2025 (see Devlin and Mogueillansky, 2010).

¹⁹ The clusters are in the areas of aquaculture, fruit growing, pig and poultry farming, functional foods, mining, special interest tourism, logistics and transport, financial services, outsourcing and construction, i.e. all primary or service sectors where the country has shown comparative advantage, with manufacturing activities virtually absent (National Council for

in emphasis, with some progress towards actions focused on these priority clusters (Agosin, Larraín and Grau, 2009). In early 2010, this strategy was clarified in Chile's Agenda for Innovation and Competitiveness 2010-2020, which defined priorities for clusters and horizontal platforms for competitiveness (National Council for Competitiveness Innovation, 2010). A debate on whether to continue this strategy has been in progress since the Government changed in March 2010.

In other countries, promotional measures have been targeted more closely, to the extent that support has been given to the individual projects of particular companies. Some examples are the incentives for investment in megaprojects in the Peruvian mining sector, the measures taken by the government of Costa Rica so that Intel Corporation would establish an operation in the country (Alonso, 2003), and tax exemptions to support projects declared to be of national interest in Uruguay. Brazil is the clearest example of this comeback of sectoral policies. The country's three experiences, outlined in box VI.4, have characteristics in common: continuity of priorities, in particular innovation and competitiveness; flexibility to take into account unforeseen problems; a growing concern to set explicit goals, mobilize instruments and establish effective interaction with the private sector; and integration with other development policies, such as education and science and technology (Ferraz, 2012).

Box VI.4

BRAZIL'S EXPERIENCE WITH INDUSTRIAL POLICY IN THE 2000s

In November 2003, the Brazilian Government announced its Industrial, Technological and Foreign Trade Policy (PITCE) guidelines, which set out its sectoral strategic options in four knowledge-intensive productive activities: semiconductors; software; drugs and medicines; and capital goods. It also established the Brazilian Agency for Industrial Development (ABDI) to coordinate implementation of the PITCE policy.^a Suzigan and Furtado (2006) pointed out in their evaluation of this policy that, in spite of positive aspects like the emphasis on innovation, clear goals and a new institutional organization, it had weaknesses, such as incompatibility with macroeconomic policy, inconsistencies between instruments, poor infrastructure, deficiencies in the science, technology and innovation system, and lack of coordination.

In May 2008, Brazil launched its Productive Development Policy (PDP), a new industrial policy with a greater sectoral emphasis. In addition to horizontal, mainly fiscal and credit, measures and six strategic technology programmes coordinated by the Ministry of Science and Technology (MCT), this policy includes seven programmes coordinated by Brazil's National Bank for Economic and Social Development (BNDES) targeted at leading sectors (aerospace; oil; natural gas and petrochemicals; bioethanol; mining; pulp and paper; and beef), coupled with 12 competitiveness programmes coordinated by the Ministry of Development, Industry and Foreign Trade (MDIC) in the automotive, capital goods, textiles and clothing, wood and furniture, cosmetics, civil engineering, services, shipbuilding, leather and footwear, biodiesel, plastics and other industries (Government of Brazil, 2008; Ferraz, Nassif and Oliva, 2009).

To implement the PDP, a structure was designed in which the Ministry of Development, Industry and Foreign Trade was in charge of overall coordination, under the strategic guidance of the National Industrial Development Council (CNDI),^b supported by a *sui generis* institution: an executive secretariat comprising representatives from Brazil's National Bank for Economic and Social Development, Ministry of Finance, Brazilian Agency for Industrial Development and the Ministry of Science and Technology. The secretariat was established in order to overcome institutional bottlenecks that could hamper the operation of the PDP, particularly when it is run by ministries with less *de facto* power than the institutions responsible for implementing the funding, a problem already identified by Suzigan and Furtado (2006).

Although the PDP is the region's most advanced and ambitious industrial policy effort to date, it had to overcome a severe implementation problem only a few months after it was launched. When the international financial crisis erupted in the second half of 2008, it changed many of the parameters on which the policy was based. Since then, its goal has been much more to prevent a sharp decline in the economy, through credit and fiscal measures to reduce the cost of capital, than to promote structural change and growth.

^a Competitiveness Innovation, 2007 and 2008). Later, broadband Internet access was added to the list (National Council for Competitiveness Innovation, 2010). The latter document was prepared shortly before the Government changed in March 2010.

Box VI.4 (concluded)

Brazil's rapid recovery in 2009 and strong growth in 2010 provided renewed opportunities for industrial policy. In August 2011, the new Government that had come into office in January of that year implemented *Plano Brasil Maior*, which accords greater importance to sectoral development schemes, particularly in labour- and technology-intensive sectors. The new plan, covering the period 2011-2014, is wider in scope than the PDP and, in addition to policies to boost innovation, investment and foreign trade, it contains measures for protecting the domestic market and local manufacturing output, including use of the State's purchasing power. This defensive approach was particularly important in a context where strong appreciation of the local currency increased the pressure of imports on domestic production, with the resulting fall in the latter's domestic content.^c In April 2012, the Brazilian Government announced a set of accompanying measures for the plan, including the prevention of customs offences and stricter compliance with technical standards as defensive measures, in aid of strengthening land borders (*Frenteira Blindada*), textile and clothing imports (*Panos Quentes*) and footwear imports (*Passos Largos*).^d

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information.

^a The PITCE states that these sectors were selected because they: (i) have shown fast and sustained growth; (ii) account for a significant share of international investment in research and development; (iii) open up new business opportunities; (iv) relate directly to innovation in processes, products and uses; (v) increase the density of the productive fabric; and (vi) are important for Brazil's future and have potential for developing dynamic comparative advantage (Ministry of Development, Industry and Commerce, 2003, p. 16).

^b The CNDI was established in 2004 as an advisory body responsible for identifying key policy priorities. It is chaired by the MDIC and comprises 13 line ministries, the BNDES president and 14 representatives of business associations, key industry sectors and unions.

^c See www.brasilmaior.mdic.gov.br/oplano/brasilmaior.

^d See Federal Government, *Novas medidas do Plano Brasil Maior*, Brasília, 3 April 2012.

The renewed emphasis on sectoral policies in Brazil's strategies has heightened the region's interest in such policies, particularly in the Southern Common Market (MERCOSUR) where, in 2011, Argentina launched its Industrial Strategic Plan 2020, which includes measures to boost 11 industry chains, while in 2010 Uruguay embarked on a similar effort for 15 value chains (Torres, 2010).

However, the slow comeback of sectoral policies in the region is out of step with the urgent need for countries to progress with structural change to unlock their production structures. The idea of reinstating the role of industrial policies in creating new sectors, rather than just increasing competitiveness, should be given greater legitimacy and placed at the centre of the policy agenda, helping to move towards an environmentally sustainable technological paradigm. These policies are crucial in enabling the region to participate fully in the current technological revolution, promoting environmentally sustainable paths in nanotechnology, biotechnology and information technology, and communications, with the ensuing generation of new energy sources and substantial improvements in urban services. However, first this entails resolving the failures of implementation discussed below.

3. Key role of implementation and evaluation

(a) Implementation failures and lack of impact assessments

With some exceptions, the degree of policy implementation in Latin America and the Caribbean has traditionally been low, as indicated in Peres (1997 and 2009). Particularly clear analyses are provided by Alonso (2003) concerning the situation of the five Central American countries and Fairbanks and Lindsay (1997) concerning the Andean countries that designed competitiveness strategies around the concept of clusters. According to these studies, the causes behind widespread policy implementation failures (i.e. "government failures"), and the resultant gap between what is decided and what is actually done, fall into a number of categories, as shown below.

(i) Non-operational or unattainable objectives

The inclusion of non-operational or unattainable objectives in policymaking transfers real implementation decisions to the budgetary allocation stage. The problem in these cases is that because of shortcomings in their formulation, policies tend to be more akin to declarations of intent than to resource allocation instruments.²⁰ Evaluation of the 41 sectoral agreements in Colombia to determine the factors conducive to success shows that: (i) agreements containing well-structured, quantifiable and time-limited commitments are easier to follow and implement; (ii) agreements comprising just a few simple commitments achieve greater results; (iii) the leadership and decision-making capabilities of the people behind the agreements are fundamental; and (iv) production chains that had been supported since before the agreements achieved better results (Velasco, 2003). The practice followed in the region does not usually take these success factors into account. Thus, policy documents tend to end up as long “shopping lists” of needs and objectives. While the multiplicity of objectives may be due to the action of numerous agents in complex societies, it also reflects an inability to set priorities and build consensus around a few that can realistically be achieved.

(ii) Shortages of human and financial resources

The implementation of these policies requires major human and financial resources. Shortages of these resources needed for policy implementation, especially serious in smaller and poorer countries, often means reliance on external resources (lending or aid) to make policy and, especially, to enforce it. When donor priorities change and they withdraw support for a policy, it usually vanishes. Furthermore, when policies are rolled out they do not tend to be accompanied by an implementation programme, nor are the cost and the financing required for full policy implementation and evaluation usually considered, the approach being once again to “decide first and then see what can be done and how it can be afforded”. This is compounded by the fact that direct fiscal subsidies, and directed credit with subsidized interest rates, are policies with weak legitimacy. It calls for a macroeconomic policy whose rules recognize the need to use these instruments.

(iii) Lack of institutional capabilities

Almost all the countries in the region are deficient in the institutional capabilities needed to implement policies, even some quite straightforward ones. The difficulties increase when countries try to introduce policies that are more a reflection of “international best practice” than of their own actual needs and specific characteristics. This results in policy formulations that are detached from reality and, worse still, are often sponsored by State agencies with little weight in the government power structure or by business associations that are unrepresentative and have little economic or political influence. The problem is compounded by the fact that policymaking and implementation authorities in the region are usually separate. Although countries can increase their institutional capacity over time, and some in the region have done so, institutional creativity and innovation require stability of objectives over longer periods than the four- to six-year terms that are the norm for governments in Latin America and the Caribbean, together with financial resources to make action possible. The great disparity in tax burdens between the various countries in the region, ranging from under 10% to over 30% of GDP, means there are structural differences in the potential for progress in this area (see chapter IV).

²⁰ While data exists concerning the financial resources that were allocated to some policies, there is not enough information to assess whether the policies were actually implemented.

Despite these problems, in the 2000s significant advances were made in building an institutional framework for policymaking and implementation, ranging from the establishment of agencies such as Colombia's National Competition Commission (CNC) or Chile's National Innovation Council for Competitiveness (CNIC), to more complex developments such as the institutional structure of Brazil's 2008 Productive Development Policy (PDP).

(iv) Weakness of public-private agreements

Policy implementation agreements between government and the private sector are unreliable, as transpires when the time comes for the public sector to release funds or for the private sector to make matching investment and spending commitments. Furthermore, there is a proliferation of plans and programmes that are only produced in reaction to political pressure from economic actors, or as a means of soliciting international financing, or to comply with legal or constitutional provisions. Businesses, which vigorously defended protection policies until the late 1970s, are not showing the same robust commitment to policies for diversifying and improving productive specialization in the region's countries (ECLAC, 2008a).²¹

(v) Weakness of economic signals

Implementation problems are compounded, in the case of industrial policies, by the weak and ambiguous economic signals sent out by programmes. What businesses are now offered, at best, is a set of signals that are difficult to interpret and translate into concrete measures, and whose implications for profitability are uncertain. No matter how well formulated a policy may be, unless it is accompanied by clear signals of profitability, it will be hard for it to achieve its objectives.

Implementation failures and the perception that "policies don't work" affect the legitimacy of industrial policies and the interest they may arouse among businesses, their main beneficiaries. This leads to a paradoxical situation: businesses consider that the resources available for policy implementation are inadequate and high-risk, and yet they do not make full use of them.

Overcoming these five causes of implementation failure and making policies work is one of the main challenges for development strategies.

Efforts to evaluate the implementation and effects of industrial policies are constrained not only by the information available, but also by the fact that, until very recently, these policies rarely specified which criteria and mechanisms should be used for evaluating them. The problem is compounded by the technical complexities involved in evaluating policies that have multiple objectives and lines of action, often without establishing verifiable quantitative targets.

The steps taken to evaluate the effects of industrial policies have been even more limited and unsatisfactory than the efforts to evaluate their implementation. In the region there have been evaluations of only a few specific programmes, such as small business support or technological innovation programmes, plus general evaluations of what has happened after policies have been applied, but without any effort being made to show a clear causal link between policy measures and observed outcomes.

²¹ Furthermore, even though disagreements between the government and the private sector have diminished, they are far from over.

(b) How to remedy the shortcomings

What can be done to close the gap between what is decided and announced, and what is actually done and evaluated? Three lines of action, which are not mutually exclusive, look promising.

First, policymaking should be accompanied by explicit considerations as to which institutions are responsible for implementation. This means that those involved with industrial policy will have to venture into matters of State structural reform. The aim is to transform the structure of State, strengthening implementing agencies by endowing them with political power, effective budgetary instruments and technical capacity, to ensure that the structure works for the policies designed. This is particularly important when it comes to implementing system-wide or transversal policies which, by definition, will cover more than one sector or more than one implementing agency.

Given the shortage of qualified human resources in those areas of the State that are involved in policy implementation, a second line of action would be to transfer to these areas highly qualified staff with an executive profile who are currently engaged in policymaking. In the short term this will necessitate the reallocation of human resources, which must be accompanied by appropriate incentives.

A third line of action is to develop and strengthen policy operators, i.e. institutions and individuals who will ensure policy implementation by using a combination of policymaking, action and funding capabilities. This can be done by identifying and building the capacity of public or private institutions to lead and ensure policy implementation.

The region's experience shows that long-term institutional development within the State is possible, as evidenced by ministries responsible for macroeconomic policy and central banks. In the agricultural and extractive sectors, too, many countries in the region have created and maintained vigorous institutions, examples being the Brazilian Agricultural Research Corporation (EMBRAPA) and the oil institutes of Mexico and Bolivarian Republic of Venezuela. This experience can be emulated in areas linked to the development of other production sectors. This requires leadership, resources and continuity.

Private-sector policy leadership has been efficient in some cases (in the formation of certain clusters at the local level, for example), and needs to be employed whenever possible, but such leadership has proved difficult to systematize in the region and remains concentrated in relatively strong sectors. Thus, economically weak sectors, which need major efforts from policy operators, tend to be weak in leadership as well.

Strengthening intermediate-level implementation bodies has been a successful strategy in countries such as Chile, where the PROFO programme has been used to support clusters of micro, small and medium-sized enterprises (SMEs), although the predictable problems of adverse selection and moral hazard have not gone away.

None of these measures is a panacea, nor will implementation be easy. They do open up new options, however, and deserve to be considered from perspectives that combine the economic, institutional and administrative dimensions.

4. The way forward

With industrial policy strategies there are five major aspects to be considered: the criteria for deciding which sectors to support; the policy instruments available; the constraints imposed by the size of national markets and the accumulated capabilities in the different countries in the region; the spaces for action to facilitate multilateral and bilateral trade agreements; and the political will to take measures of this type.

The choice of sectors must set out from the recognition that there are no universal criteria for deciding which activities ought to be promoted. However, a large body of international experience has shown that, in practice, countries have chosen and continue to choose sectors in accordance with a few more or less precise criteria. Chief among these criteria are the knowledge content of the activities concerned, dynamism in the international market because of a high level of elasticity in relation to world income and especially the income of developed countries, and the potential for productivity growth. Another consideration is the strategic character of certain activities, essentially because they account for a large share of total output, exports or employment, usually at the national level but sometimes at the local or subnational level as well. A review of policies provides a good illustration of how these criteria are used, not always explicitly, in the countries of the region.

The technology dimension has been increasingly important for determining the scope of industrial policies. Although the term “sector” has traditionally been applied to groups of activities whose common feature is the production of goods or services with a high cross-elasticity of demand, it can also be used for activities that have a common technological development path (Robinson, 1953): thus, we speak of the aerospace sector, the biotechnology sector and the information and communication technology sector. When it comes to encouraging activities that share a particular technology, the focus has sometimes been on horizontal policies, while at other times intervention has been focused directly on particular companies, market segments or knowledge networks.

Ultimately, the criteria for choosing sectors are based on differing views of the role of the market and the importance of efficiency based on Ricardian comparative advantage for the allocation of productive resources. For instance, some point to the market’s limitations in allocating productive resources efficiently, in the belief that capacity-building occurs on paths far removed from static comparative advantage (Cimoli, Dosi and Stiglitz, 2009; Chang, 1994 and 2002), which tends to be concentrated in industrial sectors because of increasing returns, technology spillovers and innovation (Greenwald and Stiglitz, 2006). By contrast, others are more favourable to market efficiency and, while recognizing the need to diversify the economy, stress that the economy should move close to static comparative advantage (Lin, 2011; Hausmann and Klinger, 2006; Hausmann and Rodrik, 2003).

Moreover, as policies become systemic in scope, special attention needs to be paid to their impact on the conditions for competitiveness in the economy as a whole. The extra costs associated with the early phases of learning curves must not be so great that they jeopardize the competitiveness of the businesses using the new goods or services, especially if these businesses are strongly oriented towards external trade. It is not easy to strike the right balance between supporting diversification of the nation’s productive apparatus and taking advantage of opportunities to import cheaper or technologically superior capital goods and inputs; thus balance can only be sought through experimentation and trial and error, i.e. through policies of a pragmatic rather than doctrinaire cast. As pragmatic policies tend to be reactive, a major challenge for the region is to combine pragmatism with much more proactive policies.

The programmes of the above-mentioned countries of the region already use many of the instruments available for implementing industrial policies. They consist mainly of combining competitiveness policy instruments with public-sector direct financing instruments, particularly national development banks, tax incentives and public investment, as well as use of the purchasing power of the State and State-owned enterprises. The idea behind these policies is to provide temporary conditions conducive to profitable new activities and technological trajectories, such as the widespread introduction of broadband internet access as a platform for cloud computing.

The concentration of instruments on support for new sectors has much in common with the “infant industry” concept, extended by Greenwald and Stiglitz (2006) to include “infant economies”. By contrast with the former situation in the region and elsewhere, however, economies are now open and it is not possible to use permanent, across-the-board trade protection instruments. This constraint weakens the economic signal (expected returns) sent out to potential investors in the new activities and means that a significant part of the cost and risk of the promotional measures has to be met by the State. This creates problems both for the selection of budget priorities and for the stability of budgetary allocations at times of fiscal tightening. Sustaining development mechanisms over the long run so that they outlast individual terms of government is a challenge that the countries of the region have yet to address successfully.

Another powerful instrument of sectoral policy is direct State investment, possibly implemented via State-owned enterprises, which are very important in key sectors in a number of countries in the region. Even though there is a great deal of room for manoeuvre in this area, as a number of cases show, particularly at the local or subnational level, they are little used in the region. The experience suggests that while the cumulative effects of the policy combinations applied so far have yet to be evaluated, the inducements they create have not been strong enough.

It has been argued that small countries with more limited institutional capacity cannot and should not introduce policies that are sectoral in scope. While it is certainly important that the domestic market could be used to achieve economies of scale and learning, it cannot be denied that this is less of an issue in open economies or economies with potential for regional or subregional integration, as shown by the experience of numerous small countries that operate as highly competitive export platforms. That institutional capacity is a significant requirement is not in doubt, particularly in the short term, but the fact of its being limited does not mean that sector-wide activities need be ruled out, but rather that they should be focused on subsectors, segments or even products for which existing capacities suffice. The region’s experience with cluster policies reveals that even small countries have succeeded in creating policies to improve their pattern of specialization.

With regard to the spaces for action to allow international trade agreements, Ul-Haque (2007) points out that, at present, the scope of industrial policy is limited by the growing interference of World Trade Organization (WTO) rules in areas previously considered as being within the purview of national domestic policies. In addition to reducing trade barriers overall, WTO rules prohibit export subsidies and quantitative restrictions on trade, except in the least developed countries. The rules also include trade-related foreign investment measures (TRIMs) (under which local content or export performance requirements are not permissible) and intellectual property measures (TRIPS) (the rules on the subject must meet certain minimum standards). However, as Rodrik (2004) states, the importance of these constraints should not be exaggerated because the biggest obstacle to the development of industrial policies is not the ability of governments to implement them but rather their willingness to do so, as the cases of Republic of Korea, Singapore and others have demonstrated.

There is no consistent political will to implement sectoral initiatives in the region. Even in countries that do not regard sectoral policies as legitimate, they are still practiced in an ad hoc way, and specific support measures are often applied to crisis-hit sectors. Given that these policies are necessary for development in the region, the question is what has to be done to increase their legitimacy.

Two lines of action are paramount. First, there is a need to improve implementation capacity to narrow the gap between the policies formulated and the ability of institutions to implement them; the persistence of this gap damages the credibility of policymakers and, hence of the policies themselves. Second, considerable progress is needed in the task of assessing the impact of policies in relation to their ultimate objectives: economic growth, technological progress, higher productivity. Given the scarcity of public resources, only robust evaluations can create the scope for reallocating resources from other policy areas to these, backing up the argument that it is just as important to use fiscal resources for these policies as it is to invest in education, or public health or safety.

Despite significant progress since the days when the belief was that “the best industrial policy is none at all”, from a broader perspective a crucial question remains open. Apart from improving policy implementation and evaluation to diversify the production structure, it is necessary to bolster social agents interested in seeing these policies applied on a wide scale in the region’s countries, i.e. agents that would pledge their economic and political resources to initiatives of this type. Industrial policies have made a slow comeback in Latin America and have been able to operate, albeit on a small scale, in most countries with open economies and macroeconomic policies favouring nominal stability above that of real variables, despite the prior belief that such macroeconomic policies would be incompatible with the use of industrial policies. For these policies to have more than a marginal impact, social actors, including the State, will have to commit themselves to them and back them up with their authority and resources, linking them with the macroeconomic, social and environmental policies that drive productive development.

B. Macroeconomic policies

A macroeconomic policy for development faces a number of challenges: real and nominal stabilization of the economy; transformation of the production structure; and progressive income redistribution for equality. Without overlooking the region’s positive performance in terms of nominal stabilization (by preventing inflationary pressures and insurmountable strains on the balance of payments and public finance), the goal is to achieve and sustain a high growth rate in productive activity. This growth should be able to generate the number of jobs needed to absorb the growing labour force and maintain full utilization of installed capacity, stimulating investment and structural change.

This document proposes that special importance should be accorded to the way in which macroeconomic policy impacts on income distribution. In addition to the known effects of inflation on the poorest sectors of the population, there is the impact of the real exchange rate on real wages and the composition of employment between tradable and non-tradable sectors, coupled with the impact of public spending and the tax structure on the income of the various economic strata.

Macroeconomic policy encompasses fiscal, monetary, exchange-rate and financial policy (including macroprudential regulatory measures), as well as incomes policies. There is no ideal recipe for combining policies and instruments that can be replicated in all countries of the region irrespective of their structural characteristics. Moreover, as this proposal suggests, broadening policy objectives beyond nominal stability alone, the repertoire of policy instruments needs to be revised and expanded.

This section discusses, first, the role of fiscal policy; second, the role and linkages between monetary and exchange-rate policies; third, macroprudential regulation; and fourth, the regulation of cross-border capital flows.²²

1. Fiscal policy

(a) Countercyclical fiscal policy

As mentioned in chapter IV, fiscal policy is one of the most effective instruments in countercyclical macroeconomic policy. This requires it to play a complementary role to that traditionally played by monetary policy in managing aggregate demand and controlling inflation. Implementing a countercyclical policy entails: timely identification of the start, end and intensity of each phase of the cycle; appropriate institutions to monitor macroeconomic variables and estimate the impact of shocks; and enough fiscal space to allow the necessary public spending to offset the weakening of aggregate demand during the downturn, without jeopardizing the sustainability of public finance and the balance of payments.

(i) Broader fiscal policy

The importance of expanding the fiscal space during boom periods is evident given the costs of making drastic adjustments during downturns. Such adjustments would further reduce disposable income and tax revenues, increase debt in terms of GDP and exacerbate inequality.²³ The fact that most countries in the region (except for Brazil, Argentina and a few others) have a small tax burden and a lower share of direct taxation than other countries justifies increasing the tax burden as a means of expanding the fiscal space during the upswing phase, especially personal income tax. Advantage could be taken of the favourable circumstances associated with cyclical upswings to abolish, or at least limit, personal income tax exemptions (referred to as “tax expenditures”). The same rationale could also be applied, during periods of rising international prices, to tax on revenue from the exploitation of natural resources. For countries where natural resources are a not major source of budget revenue, public debt levels are higher or tax revenues are more modest, including several in Central America and the Caribbean, the challenges for expanding their fiscal space will be greater and their options more limited.

(ii) Automatic fiscal stabilizers

Automatic fiscal stabilizers can be applied to both revenue and expenditure. Countercyclical behaviour of tax revenues can be promoted by combining progressive taxation (i.e. tax rates rising in step with real income) with a broad tax base. This would lead to a relative

²² Incomes policy is discussed in section VI.C.

²³ Apart from helping to manage demand by taking a countercyclical approach, expanding the fiscal space is also warranted in order to maintain fiscal surpluses for resolving tensions in the financial system, which can increase during downturns (Hannoun, 2010).

reduction in tax revenue during downturns and a relative increase during upswings, inducing a countercyclical dynamic of disposable income and spending.

The tax that best meets these requirements is income tax. However, as mentioned in chapter IV, this is precisely the tax with which most Latin American and Caribbean countries have the biggest problem, owing to narrow tax bases, high levels of evasion and avoidance, and preferential treatment or hefty exemptions (Gómez Sabaini, Jiménez and Podestá, 2010). Expanding the tax base, reducing exemptions, strengthening tax control, ensuring tax progression and simplifying taxation (along the lines of the dual systems in Scandinavia, Spain or Uruguay, for example) would reinforce it as a countercyclical instrument and allow a better relationship to be established between taxation and equality. Sales tax or value added tax (VAT) also play a stabilizing role by virtue of their countercyclical behavior, but have potentially regressive distributive effects.

On the public spending side, while some Latin American and Caribbean countries use countercyclical mechanisms, they are too small-scale to rely on exclusively. Only seven countries in the region have unemployment benefit or insurance schemes (Argentina, Barbados, Bolivarian Republic of Venezuela, Brazil, Chile, Ecuador and Uruguay) and, even there, the coverage of such schemes is insufficient given the high level of informal employment and failure to register a significant percentage of the employed. Accordingly, it has been suggested that, under certain conditions associated with downturns, the region's legislatures could authorize the executive branch to automatically implement emergency investment programmes that are both directly and indirectly labour-intensive (ECLAC 2010a). Furthermore, consideration could be given to temporary conditional cash transfer programmes targeted at vulnerable groups and to training programmes for the unemployed, as a number of countries have done. In an especially severe economic recession, the executive would have prior approval from the legislature to extend the programmes automatically. Such authorization would need to be for a limited period to ensure that interventions are temporary and consistent with the intended countercyclical impact.

(iii) Fiscal rules

The aim of fiscal rules is to make macroeconomic policy credible by minimizing the possibility of discretionary intervention by the authorities.²⁴ The first fiscal rules to be introduced in the region were associated with stabilization programmes funded by multilateral lending agencies. This first generation of rules was based on quantitative targets for public sector financial performance, such as fiscal balance or a maximum level of deficit, which ultimately contained a bias that was just as procyclical as the bias they sought to avoid, if not more so.²⁵ Three factors drove proposals to reduce the discretionary power of the region's governments: (i) the weakness of automatic stabilizers, (ii) the procyclical bias of public finances; and (iii) the opposition to State economic intervention that had prevailed since the mid-1980s.²⁶

²⁴ There are different types of fiscal rules. While Australia, Canada, New Zealand and the United Kingdom prioritize transparency and accountability in the management of public finances, in continental Europe and some emerging economies, including a number in Latin America, fiscal rules rely more on numerical reference values (targets or limits) relating to the performance of certain fiscal indicators than on procedural matters (Kopits, 2001).

²⁵ The problems the euro zone is experiencing support this view.

²⁶ In general, the argument for the usefulness of fiscal rules has drawn on what has been dubbed the "new political economy" that, in democratic societies, fiscal rules are necessary to limit the power of rulers, who are prone to adopting discretionary measures with a deficit or procyclical bias when faced with an electorate that may be unable to understand the adverse consequences of such discretionary action, or is indifferent to the intertemporal budget constraint of the public sector (Buchanan and Wagner, 1977).

Countercyclical policy calls for the maintenance of a cyclically adjusted fiscal balance that forces governments to save resources during boom periods (generating a fiscal surplus) and allows them to spend resources during downturns (when there is a temporary deficit).²⁷ Working with a cyclically adjusted fiscal balance makes it possible to stabilize expenditure, by mitigating or removing the procyclical bias of a policy aimed at achieving an annual fiscal balance or a specific target of overall balance. Table VI.1 lists the main features of the fiscal rules adopted in the region between 2000 and 2010, some of which had a procyclical orientation and others a countercyclical or acyclical orientation, as in the case of Chile and Colombia.

Table VI.1
LATIN AMERICA: MAIN FEATURES OF FISCAL RULES

Country	Rules	Type	Coverage	Period of adjustment	Status	Year of entry into force
Argentina	Nominal growth in primary expenditure must not exceed nominal GDP growth.	Rule on spending	General government	Yearly	Law	2004
	Jurisdictions must maintain financial equilibrium in executing their budgets.	Current-account rule	General government	Yearly	Law	2004
	In each fiscal year, debt servicing must not exceed 15% of net revenue-sharing transfers to municipalities.	Rule on debt	Subnational governments	Yearly	Law	2004
Brazil	Spending target set by the government	Rule on spending	General government	Yearly	Law	2000
	Budget target set by the government.	Current-account rule	General government	Yearly	Law	2000
	Debt target and ceilings set by the government.	Rule on debt	General government	Yearly	Law	2001
Chile	Non-financial public sector (NFPS) primary surplus target set by the government and adjusted on the basis of the business cycle.	Current-account rule	Central government	Cyclical	Political commitment	2000
Colombia	The operating costs of subnational territorial entities must be financed from their current revenue.	Current-account rule	General government	Yearly	Law	2003
	Public expenditure is budgeted on the basis of structural revenue obtainable in various medium-term scenarios net of cyclical components (structural balance).	Current-account rule	Subnational governments	Yearly	Law	2001
Ecuador	Central government current expenditure must not increase by more than 3.5% in real terms.	Rule on spending	Central government	Yearly	Law	2003
	Non-financial public sector (NFPS) current operating expenditure must not increase by more than 2.5% in real terms.	Rule on spending	General government	Yearly	Law	2003
	The non-petroleum deficit must be reduced by 0.2% of GDP per year (until it reaches zero).	Current-account rule	General government	Yearly	Law	2003

²⁷ That is to say, excluding from the estimate any variations arising from specific booms, slowdowns or even contractions in economic activity.

Table VI.1 (concluded)

Country	Rules	Type	Coverage	Period of adjustment	Status	Year of entry into force
Mexico	Any proposal for new or higher expenditure must correspond to a (non-borrowing) revenue initiative or must be offset against reductions in other spending items (balanced budget).	Rule on revenue	General government	Multi-year with a budget ceiling	Law	2006
	Surplus income (above the budgeted figure) must be used to offset rises in unbudgeted spending. Any remaining funds must be credited to four different funds in the proportions specified by law.	Rule on revenue	General government	Multi-year with a budget ceiling	Law	2006
Panama	Non-financial public sector (NFPS) deficit of between 2% and 2.5% of GDP.	Current-account rule	General government	Yearly	Law	2002
	Reduce public debt to under 40% of GDP by 2017.	Rule on debt	General government	Yearly	Law	2002
Peru	Current expenditure growth must not exceed 3% in real terms.	Rule on spending	General government	Yearly	Law	2000
	Non-financial public sector (NFPS) deficit equivalent to 1% of GDP.	Current-account rule	General government	Yearly	Law	2000
Venezuela (Bolivarian Republic of)	Current account targeting.	Current-account rule	General government	Yearly	Law	2000

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Economic Survey of Latin America and the Caribbean 2010-2011* (LC/G.2506-P), Santiago, Chile. United Nations publication, Sales No. E.1.1.II.G.3.

The adoption of a structural balance rule poses methodological problems in calculating parameters, particularly the long-term trend growth rate of potential GDP. The rule could create a situation where underestimation of the sustainable growth rate of potential GDP results in an effective growth rate lower than would otherwise have been feasible. Indeed, the definition of cyclically adjusted tax revenue depends on this fundamental parameter. The lower the expected growth in taxes, the less public spending needs to grow to maintain the fiscal balance, so reducing effective growth. Thus, underestimation of the potential growth rate reduces growth, leading to a “self-fulfilling prophecy” of low growth. The design and analysis of structural balance rules must take into account the impact exerted on long-term GDP growth by policies on income, spending and fiscal financing. The rules must also consider the quality or composition of public spending, recognizing that the proportion of investment in spending is likely to affect the long-term growth rate of the economy.

Owing to its institutional implications, the establishment of a fiscal rule (should this option be chosen) should be part of every country’s gradual learning process. Such a rule could be part of a fiscal covenant, which, by embodying political consensus, confers greater institutional strength. Having built this consensus, it would be possible to define further components of the rule, such as the simultaneous removal of budget rigidities and the methodology for measuring the cyclically adjusted deficit, as well as the escape clauses and institutional arrangements for ensuring proper control and accountability. Provided that the necessary agreements are reached, it is possible to resort to temporary discretionary measures to deal with cyclical swings, while remaining wary of any temporary inconsistencies these may cause.

(iv) Discretionary policies

An important point in the discussion about the appropriateness of introducing fiscal rules is their credibility. Given that, in practice, this is achieved over time and not merely by announcing a rule, in principle there is nothing to prevent governments from adopting consistent fiscal behaviour, supported by restricted discretionary measures. The benefits in terms of credibility would be the same as from compliance with a fiscal rule, without losing room for manoeuvre or the ability to exercise discretion, especially in extreme circumstances (see, for example, Leith and Wren-Lewis, 2005). Many countries in the region adopted restricted discretionary measures of a countercyclical nature during the 2008-2009 crisis, which included a temporary increase in public investment and current expenditure, especially transfers to vulnerable groups, and lower taxes (ECLAC, 2009).

There are a number of practical problems with discretionary interventions, especially during cyclical downturns. First, political and administrative decisions can delay spending or tax changes and prevent timely intervention.²⁸ To avoid this type of problem, an investment programme covering a long period of time, associated with industrial policy priorities, should form part of a restricted discretionary approach. Second, it is not always clear when the contraction (or expansionary) phase of the cycle has ended, or how quickly public spending can be implemented. Accordingly, the precise time to switch from an expansionary fiscal policy to one of reversing stimulus packages is debatable. There are two risks: ceasing stimulus measures too soon, as has happened in some developed countries as a result of a political focus on fiscal austerity not necessarily consistent with technical criteria (Romer, 2011); or retaining stimulus measures even though they are no longer warranted, as occurred in some countries in the region following the 2008-2009 crisis.²⁹ One way to avoid such risks is to establish or strengthen automatic stabilizers.

It is important for countercyclical fiscal policy to be tied closely to industrial policy, as regards both the destination of spending and tax collection. The use of fiscal space resources should be defined in the light of the objectives not only of stability and smoothing the business cycle, but also of structural change and equality. Countercyclical fiscal policies define amounts of resources and the best time for spending and investment based on cyclical dynamics. However, the sectors to which resources are allocated (the qualitative dimension of spending) must be defined taking into account development goals. Only by sustaining investment, especially in fast-growing sectors, will it be possible to keep up output and productivity growth, averting a sharp recession and the resulting widening of the technology gap.

It matters from which sectors taxes are raised. The choice of sectors and actors for funding the increased fiscal space has implications not only on distribution but also on industrial policy. Environmental taxation is one way of combining the qualitative dimension of tax collection with a policy of structural change, as discussed below.

²⁸ This problem may also affect schemes governed by fiscal rules that fail to specify in advance what type of spending can be undertaken during the contraction phase of the cycle.

²⁹ This type of problem can also arise under a fiscal rule, given the difficulties with calibration, or when an unusually favorable or adverse external shock occurs.

(v) Other instruments

Fiscal revenue stabilization funds, using revenues from taxation or the exploitation of natural resources, can help to stabilize current expenditure and add countercyclical financing. They can also help to stabilize the foreign exchange market by regulating the supply of foreign exchange, which makes it essential to maintain close coordination between tax and foreign exchange authorities usually located in different institutions.³⁰ Examples in some countries in the region may provide a basis for designing such funds (see box VI.5).

Box VI.5

TRINIDAD AND TOBAGO'S HERITAGE AND STABILIZATION FUND

Trinidad and Tobago's Heritage and Stabilization Fund (HSF) was established with the passing of HSF Act. No. 6 in March 2007. This fund was previously known as the Interim Revenue Stabilization Fund (IRSF), which came into existence in 2000. All proceeds from the IRSF were transferred into the HSF, and the fund is denominated in United States dollars. The HSF Act incorporates several of the "best practices" identified in literature pertaining to such commodity funds. It also outlines details on the establishment and management of the fund, including operational guidelines, resources of the fund and governance arrangements. The purpose of the fund is to save and invest surplus revenues derived from petroleum production in order to:

- cushion the impact on, or sustain, public expenditure capacity during periods of revenue downturn, caused by a fall in prices of either crude oil or natural gas;
- generate an alternative stream of income so as to support public expenditure capacity as a result of revenue downturn caused by the depletion of non-renewable petroleum resources;
- provide a heritage for future generations of Trinidad and Tobago, from savings and investment income derived from excess revenues.

Source: Ministry of Finance and the Economy, Government of the Republic of Trinidad and Tobago [online] www.finance.gov.tt/legislation.php?mid=20

In the 2008-2009 crisis, multilateral lending agencies played an important countercyclical role by granting loans that were extended considerably at that time.³¹ Even though it is not an automatic stabilizer, this form of quick access to credit could be put in place systematically and, in particular, lending agencies could facilitate the development and speedy implementation of bilateral or subregional investment programmes, in such areas as infrastructure, during downturns. The regional financial architecture could be strengthened in support of economic integration objectives and contribute to the countercyclical policy, particularly in small open economies.

The consolidation of expanded subregional or regional markets could broaden the geographic scope of individual national countercyclical measures. This could be achieved, as Central America is currently attempting and the European Union has already done, by establishing a single market with

³⁰ For a description of these stabilization funds in the region, see ECLAC (2011b), Ffrench-Davis (2010b) and Martner and Tromben (2004).

³¹ Several Latin American and Caribbean countries were given access to new facilities implemented by the International Monetary Fund (IMF), such as the Flexible Credit Line (FCL), "precautionary" standby arrangements and quick access to short-term loans under the Exogenous Shocks Facility (ESF). The 11 agreements signed in 2009 were under these new arrangements. Costa Rica, the Dominican Republic, El Salvador and Guatemala signed precautionary standby agreements; Mexico (US\$ 47 billion) and Colombia (US\$ 10.5 billion) accessed the FCL. Dominica, Saint Lucia and Saint Vincent and the Grenadines received ESF credits, and Belize and Saint Kitts and Nevis accessed the Emergency Natural Disaster Assistance (ENDA) facility. In the first half of 2010, El Salvador and Jamaica signed non-precautionary standby agreements, Grenada increased its Poverty Reduction and Growth Facility (PRGF) arrangement and Mexico extended the FCL it received in 2009. See Jiménez and Lorenzo (2010) and ECLAC (2010a).

free movement of goods. Agreements are needed to avoid the collection of sales tax (VAT and excise taxes) at borders,³² as well as transport and infrastructure improvements and logistical arrangements at customs to reduce transaction costs between countries (Funes, 2011). Valuable experiences already exist that should be developed further, such as the Initiative for the Integration of Regional Infrastructure in South America (IIRSA) by the South American Infrastructure and Planning Council (COSIPLAN) of the Union of South American Nations (UNASUR), or the Mesoamerican Integration and Development Project (Project Mesoamerica or Puebla-Panama Plan (PPP)).

(b) Taxation and structural change

Fiscal policy must go beyond quantitative aspects and numerical rules on public debt, deficits or spending. It must take into account the impact of public finances on development goals, long-term growth and income distribution. It is not only public spending that matters but also the quality of such spending, as it has a decisive impact on the long-term trajectory of the economy (Stiglitz, 2002). Two of the most important public spending components are social spending and public investment in infrastructure, health and education, as discussed in the next section. Spending on public investment can offset the decline in private spending in downswings. It also lays the foundations for higher long-term growth because it increases capital stock and may shift the production structure. It is therefore necessary to avoid social spending and public investment being used as adjustment variables during downturns, as often happens in the region, although this was not the case in the 2008-2009 crisis (see chapter III).

Discussed below are two areas with the potential to combine increased fiscal resources with strategies and lines of action to advance environmentally sustainable structural change. They could have a powerful impact as they change profitability incentives across sectors, internalizing negative externalities and reducing the depletion rate of non-renewable resources. There are externalities to be corrected in both production and consumption, in what chapter II described as “showcase modernity”.

The first potential area is environmental tax reform. The abolition of fossil fuel consumption subsidies and well-designed environmental taxes are crucial to align relative prices and internalize negative externalities (Ekins and Speck, 2011; Kreiser and others, 2011; Cnossen, 2005). This would help to generate the resources needed for a structural change towards knowledge-intensive, low-pollution sectors. Environmental tax reform must be accompanied by a set of regulations to support these changes with the right economic incentives and price signals, and an appropriate institutional framework. In the region, such a reform would expand the fiscal space and narrow gaps in income distribution because the environmental costs are borne primarily by the poor.

There is scope to reduce fossil fuel consumption subsidies, especially petrol, paying attention to and implementing compensatory mechanisms for low-income sectors and bearing in mind that some countries in early stages of development consider such subsidies to be an effective tool for promoting their industrialization. The trade-off is not easy and achieving a suitable compromise means stepping up efforts to develop new technologies, for example for the production of substitute goods and services, such as new forms of public transport. Meanwhile, increasing environmental taxes has great revenue potential, not least because of strong growth in the region’s vehicle fleet. Data for member countries of the Organization for Economic Cooperation and Development (OECD) show that taxes on energy and motor vehicles account for between 1.5% and 2% of GDP (see OECD, 2010).

³² To prevent governments from losing tax revenue, other tax collection mechanisms can be used to offset losses.

Environmental tax reform, appropriate regulation, green public procurement, mainstreaming environmental criteria into investment projects, credit support and aligned sectoral policies are some of the ways to create the right framework for environmentally sustainable structural change.

The second potential area is good governance of natural resources. On the back of a rise in commodity prices, between 2004 and 2010 revenue from the region's mining sector as a percentage of GDP nearly quadrupled, while that from the hydrocarbon sector doubled compared with the average for 1990-2003.³³ The State collects taxes, royalties and other duties on this revenue.

Good governance of natural resources refers to the policy framework regarding the ownership of those resources and the appropriation and distribution of rents therefrom to maximize their contribution to development. A combination of the following objectives is therefore crucial.

- Increase revenue collection from the extractive sector through schemes to increase progressiveness during cycles of rising prices, without impairing investment growth.
- Channel these funds into long-term investments, such as education and training, innovation and technological development, and infrastructure. Efficient investment of rents from non-renewable resources is a basic criterion of long-term sustainability, known as Hartwick's rule.³⁴
- Institutionalize proper macroeconomic management of such rents, while preventing them from having a negative impact on the exchange rate and the production system.

Increasing rent collection during cycles of rising prices necessitates adjustments to the regulatory framework and tax treatment. In contrast to the hydrocarbon sector, where such instruments as production-sharing contracts and windfall taxes are in common use, tax regimes in the mining sector have been slower to incorporate progressive instruments to tax windfall profits, once the projects have recovered their sunk costs for exploration and capital investment, and attain or exceed rising thresholds in their rates of return.³⁵

Latin American and Caribbean countries have struggled to translate boom periods for exporting their natural resources into development processes. Challenges with organizational efficiency and the establishment of institutions remain, which are of special importance in the current price cycle. To address them it is necessary to build political consensus on improving institutions, regulatory frameworks and policy instruments governing the exploitation of non-renewable resources.

³³ See ECLAC (2012a). This document examines the share of States in the economic rent from the mining and hydrocarbon sectors over the past decade. For example, the estimated revenue from the region's mining sector rose from an average of 0.54% of GDP over the 1990-2003 period to an average of 2.08% of GDP over the 2004-2010 period (World Development Indicators, Database 2011).

³⁴ Hartwick's rule defines the amount of investment in capital stock (buildings, roads, knowledge stocks, etc.) that is needed to exactly offset declining stocks of natural resources. This investment is undertaken so that the standard of living does not fall as society moves into the indefinite future (Hartwick, 1977).

³⁵ The main exception in the region's mining sector is the contract for the Pueblo Viejo project, concluded between the Government of the Dominican Republic and Barrick Gold Corporation. This contract includes the condition that, once the project has reached a 10% internal rate of return, the State will take a 28.75% share of net profits. In combination with 3.2% royalties and 25% income tax, this instrument would give the Dominican State close to a 50% share in the project's net flows. For examples of progressive instruments in the hydrocarbon sector, see IMF (2010).

2. Monetary and exchange-rate policies

(a) Degrees of freedom in monetary policy

Some of the objectives of monetary policy are to achieve low and stable inflation, moderate cyclical fluctuations in real variables and help to set the main macroprices for promoting development. As monetary policy is also closely linked with the stability and solvency of the financial sector, it needs to be coordinated with macroprudential policy and policy to control cross-border capital flows. Monetary policy should also be coordinated with fiscal, industrial, incomes and other policies. Which strategy a country's monetary authority chooses to adopt will depend largely on the structural characteristics of the country's economy and the external environment (including changes in terms of trade, exposure to international liquidity shocks and changes in expected external demand).

The effectiveness of monetary policy is conditioned by the response of capital flows to interest rate changes in economies that have liberalized their financial account – the “trilemma” described in chapter IV.³⁶ This document has shown how strategically important the level, variance and dynamics of the real exchange rate are in the medium and long terms. The deepening financial globalization following the fall of the Bretton Woods regime of fixed exchange rates, particularly over the past two decades, has highlighted the constraints that monetary authorities face in practising an independent monetary policy, while at the same time maintaining some control over the exchange-rate path, especially in countries most deeply integrated into international financial markets (Eatwell and Taylor, 2000). As discussed in chapter IV, these constraints are reflected in the importance of the exchange-rate channel in the region.

A countercyclical monetary policy that raises the interest rate during the boom phase may be at odds with the procyclical effect of the capital inflows it encourages, which promotes exchange-rate appreciation. Even though appreciation can help to keep inflation under control during the expansionary phase, by stimulating imports and penalizing exports it increases the external deficit and discourages investment and employment in the production of tradable goods and services. In many cases, the price of tradable goods falls relative to non-tradable goods, which is an unsustainable trend in the context of a growing current account imbalance. The perception of vulnerability can then disrupt capital inflows. Conversely, during a downturn the process may be reversed: reducing the interest rate causes an outflow of capital that contributes to exchange-rate depreciation. This stimulates inflation, to which the response is an interest rate increase, which then exacerbates the recession.

The use of monetary policy to sustain a competitive exchange rate also has its problems, such as increased inflationary pressure. This may make it necessary to slow the expansion of aggregate demand using non-interest rate mechanisms, such as fiscal policy, which conflicts with using it for achieving other policy objectives, in particular development goals. There are a number of complementary lines of response to challenges such as this.

A first line of response is to alter the starting conditions of the trilemma, limiting the free entry and exit of short-term capital. By restricting such movements, interest rate changes will fail to generate the arbitrage opportunities that attract foreign capital, limiting their impact on the

³⁶ The trilemma states that it is impossible for an economy to have all three of the following at the same time: (i) free entry and exit of foreign capital; (ii) an independent monetary policy; and (iii) a fixed exchange rate.

foreign exchange market. The regulation of short-term capital flows affords greater latitude in the exercise of monetary policy, making it possible to contain the expansion of aggregate demand when it accelerates too fast, while avoiding the risk of causing an untenable situation in the external sector. In turn, by reducing the need for intervention in the foreign exchange market in times of high capital inflows, this type of regulation reduces the quasi-fiscal cost associated with such interventions. In order to provide an exchange-rate policy with greater latitude, a number of countries in the region have introduced measures to reduce the potential for high short-term profits using interest rate arbitrage (carry trade).³⁷

The following section discusses in more detail the different types of control on international capital flows and their main effects. A complementary policy for regulating the financial account is macroprudential regulation of domestic financial systems, which is also analysed in the following section. By restricting the rate at which domestic credit expands during the upward phase of the cycle, macroprudential regulation can, in addition to its original goal of mitigating the systemic risk of domestic financial systems, play a countercyclical role complementary to that of monetary policy.

A second line of response is to give fiscal policy a more influential role in managing aggregate demand. The less independent the monetary policy is (a more open financial account), the greater this role will be. It is therefore necessary to evaluate the trade-offs between using fiscal policy as an anti-inflationary tool or as an engine of long-term economic growth.

When the trigger of inflation is exogenous (typically a rise in the price of a basic input or food), international experience shows that there are other policy instruments (such as taxes or variable tariffs applied to domestic consumption or foreign trade) that can help to contain inflation, reducing the need for a contractionary monetary or fiscal policy (Jones and Kwiecinski, 2010).

For this reason, any short-term analysis of the relationship between monetary and exchange-rate policy, on the one hand, and inflation and growth, on the other, will need to distinguish between pressures of supply and pressures of demand. If rising inflation has been caused by international price shocks, stabilization instruments will be needed to reduce price volatility, preventing upward pressure on inflation expectations.

Such economic policy dilemmas are not easy to resolve in practice. If monetary policy relegates its traditional anti-inflationary role, even partially, in pursuit of an exchange-rate target (or, more generally, to preserve the external equilibrium), and transfers to fiscal policy the role of containing any increases in inflation, this may excessively restrict the scope of public investment policies. There should therefore be more tolerance of short-term inflation stemming from large demand-generating investment packages before deciding to increase productive capacity, which would avoid disrupting the investment process early. For this and other reasons, coordination between monetary and fiscal policies is essential to moderate business cycles and resolve any conflict between growth and price stability objectives.³⁸

³⁷ Examples include Chile in the early 1990s, Colombia between the early 1990s and now, Argentina following its debt restructuring in early 2005 and, more recently, Brazil and Peru.

³⁸ One institutional mechanism to facilitate such coordination might be an economic policy committee or office tasked with reconciling macroeconomic and financial objectives with productive and social objectives.

A third line of response refers to incomes policies, specifically the coordination of price and wage increases between trade unions and employers. The aim is to reduce the rate of price and wage rises through agreements in order to avoid recessionary measures. This is only feasible where workers' and employers' organizations are strong and representative, and are able to reach a credible and verifiable commitment.³⁹

(b) Exchange-rate policy: effects on the diversification of production and distribution

The region's experience in recent decades suggests that it is necessary to avoid using the exchange rate as the only variable of adjustment to external imbalances. Stabilizing macroeconomic policies should, especially if a boom in capital inflows is in the offing or in progress, consider policies that avoid excessive short-term exchange-rate fluctuations with a permanent negative effect on resource allocation. This requires a managed float exchange rate, which has advantages over rigid fixed exchange-rate regimes.

One means for achieving a stable competitive exchange rate is an international reserve management policy. The costs and benefits of accumulating reserves should be considered when implementing such a policy. Benefits include discouraging speculative short-term capital movements and guarding against sudden capital outflows. A comfortable stock of international reserves would make it possible to avoid making sudden adjustments in the balance of payments, especially during downturns when there is more danger of a sudden or sharp devaluation. Costs include a lower return on short-term investment of international reserves than could be achieved by other means. Where there is no sterilization of foreign-exchange-market interventions carried out to build reserves, an additional cost is incurred in terms of inflationary pressures. By contrast, where the policy is accompanied by sterilization measures, the quasi-fiscal cost must be taken into account.⁴⁰

Policies for increasing productivity, thereby increasing competitiveness for a given nominal exchange rate, also help to reduce pressure on the exchange rate. Greater diversification of the economy by enhancing the quality of the basket of goods creates non-price competition and provides return on investment with a degree of independence from the real exchange rate.⁴¹

Furthermore, to support the efforts of governments seeking to avoid exchange-rate overkill, the international financial architecture (both global and regional) should put in place timely and sufficient compensatory financing schemes under conditions that foster development.

In the relationship between exchange-rate policy and income distribution, it is necessary to consider the negative impact of exchange-rate depreciation on real wages (Díaz-Alejandro, 1963; Krugman and Taylor, 1978). All else being equal, real wages increase or decrease as the exchange rate appreciates or depreciates. The positive relationship between real wages and exchange-rate appreciation has led some analysts to describe prolonged episodes of ultimately unsustainable exchange-rate appreciation as "exchange-rate populism" (Dornbusch and Edwards, 1991; Bresser-Pereira, 2010, chapter 4). As discussed earlier, this is when real wages are raised artificially, while at the same time the current account balance deteriorates and job creation contracts owing to the negative impact of the appreciation on the production of tradable sectors. However, maintaining

³⁹ For a discussion of the role of incomes policies in managing the business cycle, see Abeles, Gerstenfeld and Vega, (2011).

⁴⁰ For an analysis of the quasi-fiscal impact and sustainability of a sterilization policy associated with a policy to prevent currency appreciation, see Frenkel (2007).

⁴¹ There is considerable literature stressing the importance of the exchange rate as an instrument for productive development and real macroeconomic stability (Ffrench-Davis, 2010a; Rodrik, 2011).

competitive real exchange rates can generate sustainable paths of real wage growth over time, as they provide greater access to global markets, economies of scale and rapid output, productivity and employment growth.⁴²

Like incomes policies, pro-competition policy plays an important role. It prevents firms with great market power from passing on costs to prices disproportionately, while incomes policies moderate the intensity of the distributive struggle in the process of price and wage formation.

In short, it is necessary to ensure that wage growth does not lag behind nominal GDP growth. This means that the “price effect” (falling real wages in response to a depreciating short-term nominal exchange rate) should be more than offset by the “employment effect” (growth in jobs linked to improved profitability of the tradable sector, higher investment and more demand for labour in the long term), plus the “productivity effect” (stemming from faster growth and access to the economies of scale in the international market (Kaldor-Verdoorn’s law)).

3. Macprudential policy

The aim of macroprudential regulation is to preserve the stability of the financial system by minimizing systemic risk (Correia, Jiménez and Manuelito, 2009).⁴³ This helps to prevent the excessive contraction (or expansion) of the balance sheets of financial institutions that tends to accompany the recessionary (or expansionary) phase of the business cycle, as well as to control their economic and social costs (Hanson, Kashyap and Stein, 2011).

To date, macroprudential countercyclical measures in the region have been limited to dynamic provisioning for credit losses, as in Colombia, Peru and the Plurinational State of Bolivia.⁴⁴ As regards countercyclical capital requirements for financial institutions, the proposals are more diverse.

To minimize the procyclicality of the current capital standards (the ratio between capital and risk-weighted assets), it has been proposed to supplement it with a limit on leverage based on the ratio between the core capital or Tier 1 capital (Financial Services Authority, 2009) and gross assets (i.e. credits, but this time non-risk-weighted).⁴⁵ It is argued that not only is this a more robust measure of a financial institution’s solvency, it is also less procyclical than the current criterion. A second proposal is for dynamic capital requirements, which would be increased in credit expansion phases and lowered in declining phases, lessening the procyclicality of credit because the cost (the need to raise new capital) would rise during upswings.

⁴² It is necessary to take into account the extent and speed with which changes in the nominal exchange rate are transferred to prices (pass-through), affecting the inflation rate. If this effect is strong, a devaluation will result in a significant increase in domestic prices, without the real exchange rate being affected substantially.

⁴³ This has been defined as “a risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy”. There are two major dimensions to systemic risk: one is temporal, relating to how risk in the financial system evolves over time, how it accumulates and how it links in with the real business cycle; the other is cross-sectional, relating to how risk is distributed in the financial system at a given point in time and what interconnections and common exposures may exist between its agents (IMF, 2010). See Kaufman and Scott (2003).

⁴⁴ In Colombia, for example, banks reached an agreement with the regulator for part of their profits to be deposited in a reserve fund for emergencies. In Brazil, cyclically adjusted capital reserves are used (*de facto*, not *de jure*).

⁴⁵ The core capital or Tier 1 capital refers to the portion of regulatory capital that is provided directly by shareholders. While definitions vary from case to case, this is akin to effective net worth, excluding subordinated bonds.

As regards liquidity, the debate has only just begun and regulation of this aspect is expected to become even more important than that of capital, requiring the adoption of measures to restrict maturity transformation and so ensure a closer match between the maturity structure of assets and liabilities. While this carries a cost in terms of the ability to support long-term ventures, it has the benefit of promoting a stable financial system, with positive implications for long-term growth.

The primary aim of domestic macroprudential regulatory instruments is to prevent financial instability and fragility. However, in practice, they can produce effects similar to those of a countercyclical monetary policy, inducing changes in aggregate demand but without the strict need to modify the policy interest rate, with the result that there are fewer side effects in the foreign exchange market. Indeed, during the expansionary (or contraction) phase of the business cycle, macroprudential policy tends to mitigate (or stimulate) growth in domestic credit, which is generally used to increase private consumption, preventing the burden of adjustment (stimulus) in aggregate demand from being placed entirely on monetary and fiscal policies. Thus, macroprudential regulation can help to distribute the burden of countercyclical measures across a wider range of instruments, improving the chances of success and curbing unwanted side effects caused by implementing each instrument separately.

From the macroprudential standpoint, financial account regulation is key to mitigating the local impact of more volatile international financial flows. Furthermore, it can effectively influence the behaviour of local financial institutions and the portfolio decisions of external agents, influencing the financial account balance. Given the difficulties in enforcing financial account controls, some authors suggest that efforts should focus on macroprudential regulation (Calvo, 2010).

Moreover, financial account regulation is a necessary complement of managed float exchange-rate policies, as it makes monetary policy decisions more independent from the dynamics of foreign exchange markets. If the financial account is unregulated, opting for a managed float regime would mean relinquishing virtually any chance of pursuing an independent monetary policy.

4. Financial account regulation

Liberalization of the financial account following the reforms of the late 1980s and the 1990s was based on the assumption that free international capital movements would stimulate growth. The theory was that incomplete openness to cross-border capital flows would undermine global risk diversification and decrease investment in developing countries, diminishing their long-term growth.⁴⁶

However, volatility and abrupt reversal of capital flows has been a factor in the spread of financial crises, exacerbating macroeconomic volatility, with adverse consequences on growth, employment and income distribution (Akyuz, 2012; Easterly, 2001). The increased macroeconomic instability associated with volatile cross-border flows amplifies the procyclical tendencies of some government policies, narrowing the scope for governments to use countercyclical measures (Kaminsky, Reinhart and Végh, 2005). As a result, the administration of cross-border financial flows has become a prerequisite for progress towards a macroeconomic policy more consistent with industrial policy objectives (Ffrench-Davis, 2005; Ocampo, 2009 and 2011).

⁴⁶ Indeed, during the 1990s, the International Monetary Fund discussed the possibility of amending Article VI of its Articles of Agreement authorizing member countries to use controls on the entry and exit of foreign capital. In the end the plan was thwarted by the Asian financial crisis of 1997.

There are two types of instrument for regulating the financial account (Epstein, Grabel and Jomo, 2003). Direct instruments are associated with administrative measures such as bans or quantitative limits on capital flows. Indirect, or price-based instruments, are normally associated with measures to increase the cost of capital flows, such as explicit taxes or unremunerated reserve requirements on flows. Explicit taxes are based on a percentage fee, usually imposed on the gross amount of foreign capital. Unremunerated reserve requirements are an obligation on potential foreign investors to deposit in the central bank a fraction of the capital entering the country, without receiving interest payments. In practice it acts as a tax.⁴⁷

The region has had mixed experience with financial account regulation. Chile's, in the first half of the 1990s, was successful.⁴⁸ More recently, countries like Argentina, Brazil, Colombia and Peru have attempted regulation to avoid excessive appreciation of the exchange rate (ECLAC, 2009 and 2010a, cap. II).⁴⁹ In addition, several countries have increased the number of instruments for regulating cross-border capital flows. Costa Rica (2012), El Salvador and Peru (2010-2011) have implemented unremunerated reserve requirements on short-term liabilities payable to foreign banks in order to skew foreign bank lending to the longer term. Chile and El Salvador have reserve requirements on foreign loans to banks of less than a certain term, and Costa Rica is seeking to implement such requirements in 2012. Peru has made ample use of such instruments in recent years in order to skew foreign bank lending to the longer term. In 2007, in a scenario of capital inflows, Peru exempted long-term foreign loans from the 30% reserve requirement then in place for foreign debt. It reduced the cost of this form of funding and improved the profile of bank liabilities, making banks less vulnerable to changes in external financing conditions. Although reserve requirements were abolished in 2008, in response to prevailing liquidity constraints, in early 2010 renewed capital inflows led to their being re-imposed on foreign loans to banks for a term of less than two years (Terrier and others, 2011).

There is some debate in the region about the effectiveness of this form of regulation because of economic agents' ability to circumvent or evade regulatory schemes by creating new financial instruments not covered by the original regulation. According to authors such as Stiglitz and others (2006), interventions do not need to be fully effective to justify being implemented. The purpose of regulations on capital inflows is to reduce the amount of short-term inflows by turning them into long-term investment projects, penalizing their "premature" withdrawal and making monetary and exchange-rate policies more independent. They also make it easier to manage the exchange-rate policy in times of speculative capital outflows (flight to quality), reducing the financial and external vulnerabilities associated with sudden stops (Magud and Reinhart, 2006).

⁴⁷ For a calculation of the tax rate implicit in reserve requirements, see De Gregorio, Edwards and Valdés (2000), and Ocampo and Tovar (2003).

⁴⁸ In that period, Chile faced a significant supply of external financing, which led the authorities to regulate the amount and composition of capital inflows, making short-term flows more expensive by imposing an unremunerated reserve requirement deposited with the central bank. This gave the authorities breathing space to implement simultaneous countercyclical monetary and exchange rate policies (Magud and Reinhart, 2006; Edwards and Rigobon, 2009). In the latter half of the 1990s, Chile's policy changed and, in 2001, it curtailed the regulatory power of the reserve requirement to liberate the capital account (Ffrench-Davis, 2010b, chapter IX; Le Fort and Lehmann, 2003).

⁴⁹ For example, Brazil has an explicit tax on capital inflows (financial transactions tax (IOF)). The IOF was abolished in October 2008, after the fall of Lehman Brothers, in a context of severe external illiquidity. However, in late 2009 the IOF was reinstated, this time leaving out foreign direct investment (FDI) and foreign loans to banks and businesses with a term of more than three years, in a scenario of strong capital inflows into Brazil and pressure towards currency appreciation.

Without effective regulation of short-term capital flows, instability in international financial markets has negative implications for income distribution. The poorest sectors of the population tend to be hardest hit by exchange-rate and financial crises, in the form of rising unemployment and falling real wages. In developing countries, weak social safety nets exacerbate the negative effects of a crisis. Moreover, the asymmetry in international mobility of factors of production (labour immobility versus capital mobility) results in capital acquiring more bargaining power than workers (especially unskilled workers), which also has distributional impacts.

5. Final comments

The analysis in this section reveals a need to expand macroeconomic policy objectives and instruments and enhance coordination between authorities in charge of the various macroeconomic policy areas, as well as between them and authorities responsible for industrial and social policies. It also highlights the importance of building up fiscal space to allow the implementation of countercyclical policies and of tying the structure of taxation and quality of spending to development goals.

The instruments are already in place and there have been successful experiences of using them. By far the greatest challenge lies not in choosing which instruments to use or discussing their usefulness but in having (or building) the institutional basis and political backing needed to implement and operate them effectively.

The proposed instruments relating to cross-border capital movements and financial system regulation call for complex negotiation with a highly concentrated and organized economic sector with strong international connections, this being a classic problem of collective action. Other instruments influence the real exchange rate, with a heavy impact on the purchasing power of workers and the middle classes. It is no wonder that “exchange-rate populism” has been so widespread in the region, as it offers immediate political benefits and deferred costs, by creating a perception of purchasing power, which is in fact inconsistent with real levels of productivity and competitiveness.

Since the 2008-2009 crisis, civil society has lobbied increasingly for tighter regulation of the financial system, in response to the enormous economic, social and political costs incurred by unsustainable financial and real estate booms. This problem is compounded when financial sector imbalances are “socialized”, i.e. when governments end up taking over these liabilities and transfer the risk and costs onto sovereign debt and society as a whole. The difficulties currently facing Europe, as well as those experienced by the United States not long ago (which it has not completely overcome), and those suffered by Japan in the 1990s (whose effects continue to this day), are examples of such costs and of how difficult it is to recover afterwards.

Similarly, experience in recent decades has made the costs of excessive appreciation of the real exchange rate only too apparent. Such currency appreciations have been behind the powerful external shocks to have struck the region since the 1970s, and often overlap with and compound domestic financial crises. Avoiding excessive appreciation is central to economic stability and growth; international consensus has shifted in favour of stricter regulation of short-term capital movements.

A further point is that, in the short term, a higher real exchange rate has a negative impact on real wages. This will be acceptable only where the trade-off is higher employment (to avoid reducing the wage share of GDP), accompanied by faster productivity rises, with real wages growing at the same rate. Over time, this can offset initial losses.

Substantial institution-building is needed to build consensus among key stakeholders (government, business and workers) on the distribution of costs and benefits and to secure viable compensation commitments.

C. Social policies

The previous sections have shown that macroeconomic policy and industrial policy must be coordinated and not left to go their separate ways. This is in the interests of establishing synergies between the long and the short term, where exchange rate, fiscal and financial policies influence not only the duration and amplitude of cycles and their costs and benefits, but may also create incentives or disincentives to investment, diversification of the production structure and, more specifically, greater convergence or divergence in productivity levels throughout the economy. Conversely, greater diversification of production, with significant absorption of technical progress and narrower productivity gaps, is key to cushioning the effect of cycles and building endogenous capacity to sustain competitiveness and move forward with structural change.

The relationship between macroeconomic policy and industrial policy is the prelude to a set of dynamics that occur in the sphere of employment and distribution of productivity gains.

Productivity gaps lead to gaps in the quality of employment, which in turn segments access to social protection. The ultimate challenge remains to move towards universal social protection, which calls for: (i) closing historical gaps in the area of social protection, stemming largely from gaps in the coverage of the contributory system and incomplete coverage by general government revenues, depriving many people of timely access to safety nets; (ii) to mitigate the impact of vulnerability caused by fluctuating growth and economic crises; and (iii) as mentioned in chapter V, to protect those temporarily affected by changes in the world of work from the planned structural changes.

In the sphere of workers' social security, a long-term scenario under which the proportion of high-productivity activities grows would bring about significant improvements. However, during the transition to this scenario, redistributive instruments should be established and strengthened to provide specific guarantees of protection. Such instruments must address the specific characteristics and requirements of each society and the various population groups within it.

Under the broad umbrella of social protection, more traditional redistributive policies (transfers and taxation) are an important feature in the region, as are labour policies. They include risk protection policies (mainly unemployment insurance) and labour market stimulus policies (training, labour market intermediation and job creation), both of which are crucial in supporting and enhancing the process of structural change. Finally, the process of transformation to a more homogeneous production structure dominated by high-productivity sectors necessitates deep-seated changes in the labour market, which must take place within a framework of reinforced labour market institutions, where the minimum wage and wage negotiations play a key role.

This document argues that a virtuous process of structural change would create the necessary conditions for quality employment with rights. However, it is not enough on its own. Labour market institutions must be designed in such a way as to create and enhance virtuous circles between productivity gains, higher wages and quality job creation (Weller and Roethlisberger, 2011). This entails, first, passing on more of the productivity gains to working conditions (in the form of higher wages and other monetary and non-monetary aspects of job

quality) and, second, enhancing objective and subjective facets of job quality that increase productivity. Legal regulations and regulation through collective bargaining are means for furthering these goals.

Moreover, growth and development strategies that focus on higher productivity and the increasing incorporation of knowledge and technology require a leap forward in human capacity and more equal opportunities for building it. It is difficult to use new investment efficiently and realize potential productivity gains without a workforce with growing skills and knowledge. In addition, narrowing skills gaps enables new investment in the production structure to be capitalized, ensuring that employment leads not only to higher productivity but also to narrower wage disparities.

Below are a number of proposals in different labour and social policy areas that are relevant to the changes advocated in this document.

1. Countercyclical employment and income policies

Wages, coupled with productivity, affect the competitiveness of businesses and economies, as well as household consumption and hence domestic demand. Skewing policies in favor of only one of these aspects has negative distributional implications. Accordingly, policies that overemphasize the wage aspect as a production cost tend to result in greater inequality. Continuing such policies over the long term in regions with severe inequalities like Latin America and the Caribbean is not only ethically questionable, it also jeopardizes the social sustainability of prevailing patterns of economic growth.⁵⁰ In turn, policies aimed at stimulating domestic demand by means of large wage increases unrelated to productivity may accelerate inflation,⁵¹ creating external imbalances and endangering the competitiveness of many businesses, in addition to posing a risk of destroying lower productivity jobs. Incomes policies should therefore seek a sustainable balance between wages and productivity, in terms of both their long-term objectives and their management over the cycle.

Quality job creation is key to reducing poverty, as well as a means for increasing long-term growth capacity. In past crises that have struck the region's economies, formal employment was typically an adjustment variable. While not all countries suffered to the same degree, invariably this led to higher unemployment and informal employment, with different weightings between the two mechanisms.⁵²

⁵⁰ It has been argued that great inequality impacts negatively on economic growth, in terms of the rate of growth as well as the sustainability of growth periods (Bourguignon, Ferreira and Walton, 2005; Berg and Ostry, 2011). One factor at the root of the financial crisis that erupted in United States in 2007 was the move by low-income households to offset increased income inequality and the resulting impact on their purchasing power by increasing debt (credit cards, mortgages) (ILO-IILS, 2011).

⁵¹ Where productivity gains outstrip real wage increases, as has been the case in the region at certain times, it is feasible and desirable for real wages to rise above productivity for a given period.

⁵² As pointed out by Ros (2006), wages were not an alternative adjustment variable. Although historically real wages in the region have been more flexible than, say, in the United States (González Anaya, 1999), falling real wages had little impact on retaining formal employment during crises. Instead, formal employment and wage purchasing power were lost simultaneously because falling output was often accompanied by high inflation.

Falling real wages owing to shrinking labour demand, combined with bouts of high inflation tend to have a long-term impact. For example, it was not until 2005 that real wages in Mexico's formal sector returned to their level prior to the 1994-1995 crisis. Similarly, real wages in Uruguay took until 2010 to return to 1999 levels.⁵³

In turn, the variability of growth also has an adverse impact on employment in the long run because not all the job losses suffered during recessions are offset by the gains during recoveries. So, between the mid-1990s and 2002, when there was a string of recessions followed by brief periods of recovery, the unemployment rate of many countries in the region see-sawed, with a general upward trend.⁵⁴

During the recent crisis of 2008-2009, two aspects differentiated labour market performance compared with previous crises. Both relate to government policies implemented during the crisis, which provide a number of lessons for the implementation of countercyclical employment and income policies (see ECLAC/ILO, 2011).

First, contrary to what happened in previous crises, real wages did not fall in 2009. In 2008, nominal wages rose sharply in response to stagnant or lower wage purchasing power caused by a surge in inflation (especially in the price of food). The subsequent fall in inflation from 8.2% in 2008 to 4.7% in 2009 on a weighted average of the region, mainly on the back of falling international food and oil prices, allowed a significant percentage of the nominal wage increases to be translated into real gains. In addition, countries pursued minimum-wage policies, which resulted in a median 3.6% increase in real minimum wages across 16 countries. Thus, the evolution of real wages, both as an average and in the lowest echelons, helped to stabilize the purchasing power of wage-earners' households.

Second, a number of countries made efforts to safeguard employment by means of social protection. In spite of the contraction in regional GDP in 2009, formal employment grew slightly. This was aided by the optimism of many businesses that the crisis would be temporary, coupled with a strong and rapid recovery in the region's economic activity. A number of labour market policies already in force, or introduced during the crisis, also helped to increase formal employment (ECLAC, 2009).⁵⁵

In addition to policies for safeguarding employment covered by social protection, the region has used other labour instruments that can be implemented effectively during the contraction phase of the cycle and could be developed further. They include unemployment insurance schemes, which are automatic stabilizers par excellence and played a key role in some countries during the crisis. Further development of existing unemployment insurance schemes and the creation of new schemes in other countries are key tasks for any labour policy seeking to combine business cycle management with protection of workers' incomes in the event of job loss.

⁵³ Workers who experience periods of unemployment often have to contend with poorer quality employment and lower wages later in their careers (Bucheli and Furtado, 2002; Herrera and Hidalgo, 2003).

⁵⁴ In a panel study, Navarro (2009) found that the elasticity of employment to economic growth is much higher in recessionary phases than in upswings.

⁵⁵ A number of countries have continued to implement policies for formalizing businesses and labour relations, which have resulted in a large increase in the number of jobs covered by social protection, in excess of the job creation rate. This has been facilitated by enhanced labour inspection, following a period where it had become weakened, as was typical of the 1990s (Bensusán, 2009). In turn, several countries helped to provide training to workers threatened with dismissal owing to the difficult economic context.

Countries in the region have extensive experience with emergency public employment programmes, which are designed to stabilize household income in the contraction phase of the cycle. Emergency programmes focus primarily on people who do not have a formal job and are therefore unaffiliated to a contributory unemployment insurance scheme. The advantage with emergency programmes is that, provided they have been properly designed in advance, they can be implemented and extended rapidly in a shock situation. On the other hand, they pose a challenge of how to manage them throughout the cycle because there tends to be resistance to their removal during the expansionary phase. Finally, to supplement labour policies, the targeted social programmes already in operation could be extended quickly to stabilize the incomes of the neediest households.

One instrument that is little used in Latin America and the Caribbean but has proved effective in other regions is negotiated, partially subsidized short-time work (IMF, 2010). It combines lower costs for firms during a crisis with a proportionally smaller pay cut for workers than their reduction in working hours (while providing more time off). This averts total loss of employment.

Over the past decade, many countries have strengthened their labour market institutions, which helped to enhance implementation of the policies mentioned (Weller, 2009). However, the fact is that the resources available for such policies tend to be meagre, making it difficult to speed up the processes of decentralization and modernization needed to expand their coverage and efficiency.

In short, minimum wage policies, unemployment insurance, emergency employment schemes, transfers and social programmes for the poorest and most vulnerable sectors of the population can help to maintain or increase aggregate demand and shorten the duration of the contraction phase, producing a countercyclical effect on employment and incomes.

2. Employment policies and care networks

Labour policies are instrumental in supporting and driving the process of structural change. Unemployment insurance to provide income to unemployed workers is one of the most important policies because of its stabilizing effect. Apart from being a countercyclical instrument, unemployment insurance, together with training programmes, can serve as a compensatory mechanism in processes of structural change that will alter the sectoral composition of demand for skilled labour.

As noted above, few countries in the region have unemployment insurance, and even in those that do, it is limited in scope owing to the large proportion of jobs without social protection. Structural change would lead to growth in employment covered by social protection and, hence, to a higher percentage of social security affiliates, with positive effects in terms of revenue for the system. Accordingly, closer productive convergence, the formalization of businesses and growth in medium- and high-productivity firms would serve to broaden unemployment insurance coverage. However, it is also necessary to progress with implementing unemployment insurance programmes in countries where none yet exist. Specific aspects of the design of new programmes (eligibility requirements, replacement rate, financing) call for detailed preparatory studies and consideration of the lessons learned from countries in the region with experience of such programmes.

Until insurance coverage is expanded, a section of workers will continue to be unprotected and it will be necessary to guarantee their coverage by funding alternative non-contributory schemes.

A major shortcoming of existing unemployment insurance schemes in the region is their weak linkage with policies for improving the functioning of labour markets and the quality of labour supply. This group of policies usually includes labour market intermediation services, training policies and job creation policies (direct employment programmes or employment subsidies for firms hiring staff). This may require public employment systems to be established or strengthened, integrating support for job-seekers with training and unemployment insurance. Information and communication technologies (ICTs) are a key tool in the labour market intermediation process, as they can help to match workers more closely with firms, an area that has not yet been fully exploited in the region.

Public employment systems have a further role to play in including the groups least integrated into the labour market. In particular, they can provide access to a first job by introducing incentives targeted at increasing youth employment, for instance. The increased public investment in infrastructure required by structural change will boost job creation. Public employment programmes can also be used to offset the recomposition of labour demand stemming from structural change, which must be coordinated with training and support for job-seekers.

Within a context of promoting high-productivity activities, it is vital to ensure that the workforce matches labour demand requirements. Learning must be geared to each country's future needs in line with its productive development. Strengthening the linkage between the technical training system and the world of work is an unfinished agenda in countries of the region. This would be aided by increasing labour market transparency by supplying information on employment conditions for various professions and trades, employment/unemployment, wages, and other aspects. Such information should be provided by the labour market observatories established in several countries in the region. Labour market intermediation systems must be given access to this information, and should be informed of the specific needs of businesses and the existing knowledge and skills of job-seekers in order to achieve good job placement outcomes, not only in terms of quantity (high recruitment rate) but also in terms of quality (matching worker skills closely with employer requirements). Public employment systems need to be developed and made sustainable, to enable them to coordinate the various interventions involved.

A number of challenges may be identified in relation to vocational education and training. First, it is necessary to ensure that a growing proportion of young people without a university degree enter the workforce with a qualification as a non-university technician or skilled worker, steadily expanding the proportion of workers with intermediate-level training. Non-university technical training is still weak in many countries of the region (Jacinto, 2010). Second, the technological and organizational changes so typical of today's labour market call for workers to acquire new knowledge and skills as part of a lifelong learning process.

Special consideration should be given to care networks, where labour policies tie in with social protection systems. Up to now, the social organization of care has tended to place the burden of caring for children and sick or elderly relatives on women. Market solutions, namely paying for care out of pocket, primarily benefits higher-income households and women, which is another form of inequality among women themselves. This requires a decisive move towards networks of care where the State plays a more prominent role in the provision of services, ranging from workplace crèches and nurseries, schools and community centres to care centres and home support workers for disabled or elderly adults unable to take care of themselves. Very few

countries in the region today have a clear agenda for integrating into their social protection policies care services that ensure a more equal distribution of the care burden among the four stakeholders involved: families, communities, the State and the market.

There are clear synergies to be derived from integrated care networks (where labour and social protection policies overlap). Releasing some of the time women spend on this unpaid and thankless care task contributes to the path of egalitarian structural change. Including women in quality employment is synergistic with productivity gains. Women's higher average level of formal education compared with men in the region is an asset that should be tapped to boost this female labour supply and to facilitate their employment in more knowledge-intensive sectors by means of policies to prevent labour market discrimination against women.

Precisely because they reach the most vulnerable families, social care networks support households that cannot afford care: those with the largest number of young children and single-parent households headed by women. The lower labour force participation of women in low-income households creates a vicious cycle of inequality and poverty, as it is those very households that face the highest ratio of dependents to income contributors. So, to facilitate higher labour force participation among women in these groups, it is necessary to increase the incomes of the neediest households.

Finally, incorporating the organization of care into integrated social protection systems expands the life choices of many women who shoulder the largest burden of care in family arrangements. This would contribute to gender equality by providing opportunities for personal development and participation in society.

3. Labour market institutions

Over the past decade, many countries in the region have improved their labour market indicators while at the same time strengthening their labour market institutions, in stark contrast to previous trends (Weller, 2009). However, there are still severe shortcomings in labour market institutions and unfinished business in the area of labour market regulation. There are marked age and gender biases, and large swathes of the working population are not covered by core labour standards. The "dual" model that exists in the region is one of the main obstacles to the transferral of productivity gains to low-income workers and to breaking down the barrier between "insiders" (formal workers) and "outsiders" (informal workers), which is then transposed to social protection.

To facilitate the structural change scenario, labour market institutions must be designed in such a way as to create and enhance virtuous circles between productivity gains and quality employment.

Productivity gains must be used to improve working conditions, in both monetary and non-monetary terms and with an emphasis on training. This will help to create a virtuous cycle including greater job satisfaction and worker commitment. A strengthened framework of labour institutions will help to bring about these changes.

The region needs to push forward with legal regulations that establish minimum labour rights regarding working hours and social benefits, as well as such rights as paid leave and a year-end bonus (13th month salary). Although countries in the region have introduced a statutory minimum wage, its real coverage is limited because of the high proportion of jobs without social

protection.⁵⁶ Again, expanding protected employment as part of a productivity-increasing process would help to broaden the scope of the minimum wage, augmenting the positive impact of this instrument on poverty and inequality. In recent years, countries in the region have upgraded their minimum wage, improving the lives of low-income workers. They should pursue this policy direction, while recognizing that increases must be consistent with economic development, to avoid falling into default (Marinakis, 2008).

Employee profit-sharing should be considered an integral part of collective bargaining, based on the premise that the active involvement of workers in an organization is crucial to enabling it to optimize gains (Durán, 2011). Legal regulations must ensure another fundamental right to avoid excluding workers from quality employment and ensure that productivity gains are transferred to them: unionization and collective bargaining. Following a marked decline in unionization in the region over the past decade, trade union organization has increased in a number of countries. In some cases, legal changes facilitated collective bargaining, for example for subcontracted workers and female domestic workers. This raises a need to move towards the formalization of social dialogue by embedding it in government agencies, in the form of social dialogue councils, which are already operating in some countries in the region. New dimensions could be incorporated into spaces for negotiation, or even escalation clauses in an economic crisis to address the different phases in the cycle, moderating adjustment costs during downswings and boosting growth phases, while giving a central role to the relationship between productivity gains and wage increases (Marinakis, 2008).

4. Redistributive policies

While ECLAC has argued that employment is the main route to social inclusion, it also recognizes that, in the short and medium term, the very segmentation of access to quality jobs will prevent the region from achieving the levels of welfare to which it aspires (ECLAC, 2006). The classical contribution equation between employment and social protection does not close because the large proportion of informal employment sets a “ceiling” on possibilities for increasing productivity and contributory social protection for much of the working population. It also determines the type of employment open to those who are outside the labour market or unemployed.

Immediate action is needed to remedy this structural conditioning and achieve long-term results. In most countries only a portion of the population is employed in medium- and high-productivity sectors and is affiliated to social security. Employment in low-productivity sectors and unemployment are typically associated with larger, lower-income households, young mothers with small children, and sectors that are the least educated, poorest or most vulnerable to poverty (ECLAC, 2012b).

As a result, the non-contributory solidarity pillar of social protection, which in developed countries was intended to cover a residual sector of the population, has come to occupy a central role in Latin America and the Caribbean. The demands on this pillar are great, primarily because a large section of the population is still excluded from the contribution equation. While only a small percentage of households receive public transfers, they are relatively significant among poor

⁵⁶ Some countries in the region have a nationwide minimum wage (Argentina, Brazil, Chile, Peru and Uruguay), while others set wage levels by occupational category (Costa Rica, Guatemala, Honduras and Paraguay) or by region (Mexico). Uruguay has a national minimum wage in general application throughout the country, which is combined with a specific minimum wage for each activity and occupation set by wage boards (Marinakis, 2008).

households, with those in the first decile receiving double the average. Despite persistent limitations in terms of coverage, there is a highly progressive distribution of public transfers and they play a major redistributive role in the region (ECLAC, 2010b).

Cash transfers have the advantage of tackling people's risks head on, as they target households with children, teenagers and young adults, prioritizing coverage of poor households headed by women and focusing effectively on the non-working and unemployed sectors (ECLAC, 2011b). Some countries use cash transfers to help the neediest sectors of the population to procure social services. However, cash transfer programmes are not a replacement for the functions of other instruments, and their effectiveness largely depends on the presence of well-established universal health and education systems (Cecchini and Madariaga, 2011). Boosting the supply of such services remains a priority in the region.

Even in countries with more developed social protection systems, non-contributory programmes, including non-contributory pensions, continue to be critical to people's social protection, especially where there are high levels of informal employment. In terms of both coverage and spending, the non-contributory pillar is still a long way from catering to all those experiencing acute vulnerabilities. The expansion and consolidation of this pillar remains a priority objective and, to that end, it is important to enhance institutional and financial stability in order to turn the non-contributory pillar into State policy.

The process of structural change should consider including a further means for achieving equality, apart from reducing wage gaps and ensuring a fairer distribution of productivity gains and other factors. The State could appropriate some of the productivity gains, through taxation, to boost funding for social policies targeted at sectors of the population that are experiencing the greatest difficulties or need more time to secure better-paid, quality jobs. As discussed in the following section, while non-contributory transfers clearly have the greatest redistributive bias, they cost very little in monetary terms and, as a whole, account for a tiny percentage of social spending and GDP. So, capitalizing on leaps in productivity to continue building more robust and inclusive social protection systems is part of any agenda for combining structural change with equality.

As mentioned earlier, segments of the economically active population and their families may face periods of adjustment to changing production patterns, with job losses and problems in regaining decent employment. This makes investment in unemployment insurance and job training a crucial part of any development agenda seeking to promote inclusive social protection linked with capacity-building and a more productive return to the labour market. Using the dynamics of production itself to fund a resource buffer for these ends will, in the long term, result in more cohesive societies with a shared development strategy and, when structural change is complete, in a less segmented labour force.

As already mentioned, tax policies are a key component of structural change with equality. Not only do they further change by generating revenue to finance public spending (including transfers), they also impose progressive taxes, the burden of which increases in step with taxpayers' rising levels of income or wealth. As the region's tax structures rely mainly on indirect taxation on goods and services (chiefly value added tax), the potential redistributive effects of taxation are greatly weakened by inadequate income taxation, including a narrow tax base, high degree of evasion and targeting mainly of corporate and non-personal income (see chapter IV).

Overall, taxation on capital is low (differential treatment and exemptions persist) and wealth tax represents a very small portion of tax revenues. Even though the total tax burden has increased in recent decades, it is lower than in other countries with similar levels of development. The scale of indirect taxation undermines the redistributive effects of the fiscal system, even making it regressive in some countries.

Levels of income inequality prior to State intervention are much the same in Latin America as in developed countries. However, the redistributive capacity of national tax systems in the region is, at best, poor or non-existent compared with developed countries. As a result, the region's levels of income inequality after State intervention are considerably greater than in developed countries. This means that there is room for making the tax system more progressive, which should be done by improving the design of income and wealth tax and increasing revenues from it. This is no easy road, as there are strong structural constraints, including a large informal sector, low average income levels and weak tax administrations, as well as the resistance that direct taxation often triggers. Increasing the progressivity of tax systems is therefore one of the fundamental means to increase income equality.

5. Social spending in the transition towards structural change with equality

In the past two decades, countries in the region have made great efforts to increase the resources available for social policy. Encouragingly, public social spending in the region has shown steady growth. While in 1990-1991 it accounted for 45% of total public expenditure, by the start of the third millennium it had risen to 58% and, in 2006-2007, it reached 63%. Social spending in 21 Latin American and Caribbean countries increased from 11.3% of GDP in 1990-1991 to 17.9% in 2008-2009.

With regard to sectoral trends in social spending, all the major items have increased, albeit unevenly. Welfare and social security was the fastest-growing item, rising to more than three percentage points of GDP between the periods 1990-1991 and 2008-2009 and accounting for more than half the entire public social spending increase. The second item was education, with an increase of 1.85% of GDP over the same period.

How is this dual component of social protection —welfare and social security— distributed across society? The two types of spending have a very different distributional bias. While welfare transfers, both public and private, benefit mainly those in the first deciles, retirement benefits (given that they are contributory or fully funded by individual savings accounts) benefit the wealthiest deciles. Pensions are more evenly distributed on account of their strong non-contributory component (ECLAC, 2010b).

As a result of high labour market segmentation, the preponderance of the contributory pillar in social security leads to retirement benefits being paid mainly to those in the highest income deciles. Increasing the number of jobs covered by social protection in a context of higher productivity, as part of a process of structural change, would lead to a more even distribution of retirement benefits in the long run.

However, as noted, non-contributory transfers are a critical resource to protect those most at risk during the early stages of structural change. Combined with appropriate capacity-building, they generate the necessary synergies to ensure that change is socially inclusive and that it taps into a wider pool of skilled workers to meet the new production requirements. Moreover, the composition of social spending is likely to be reformed and funding may well increase (as a result of changes in

the appropriation of surpluses from productivity gains). This would promote a pro-equality distributional bias as the solidarity pillars of social protection gradually carve out a gateway to a universal system of incremental minimum thresholds of welfare. For this to happen, it is crucial to increase substantially the items corresponding to non-contributory transfers, in order to continue moving from a welfare bias to integrated and inclusive social protection systems.

It is important to consider how approaches to social protection have changed: there has been a gradual shift of emphasis towards protection to alleviate collapse of income, exposing people to situations of vulnerability and social risk. Such approaches break with the targeting rationale and call into question the benefits of individual capitalization models in social protection systems. They also seek to combine the poverty reduction component with that of fighting inequality, by linking together and implementing a variety of social programmes integrating the provision of traditional social security, social services and non-contributory transfers.

Finally, investment in education is crucial to both promoting structural change and progressing towards more egalitarian societies. There is abundant and conclusive literature to confirm this. While it is not within the scope of this document to propose education sector reforms, it is within its scope to stress the key role of capacity-building in structural change. Educational systems play a pivotal role in matching labour supply to demand. While recognizing the importance of education as an end in itself, the magnitude of this matching task should not be underestimated, especially at a time when production and work organization models are changing in response to vigorous absorption of technical progress.

Most countries in the region have tested a wide range of education system reforms and have injected an increasing share of their total social expenditure into the sector. While it is true that the upcoming generation will enjoy more years of formal education than its predecessors, neither the increased resources nor the direction of reforms have succeeded in narrowing educational attainment gaps between different social groups, nor have they led to clear improvements in the quality of education, measured as relevant learning throughout the formal education cycle.

Experience shows that some policies do help to narrow gaps in educational paths and to improve learning. They include: universal free public education at pre-school level; widespread introduction of ICTs into public schools and their use in the classroom; increased investment in support of learning and in timely school progression throughout secondary education; teacher training geared to the new methods of knowledge production and transmission; and the consolidation of technical and vocational education systems to provide many young people with options to join the labour market and take part in the dynamics of productive change.

All this calls for additional resources for the education sector. As current expenditure swallows up almost 90% of total spending, it is essential for there to be higher financing margins to undertake systemic reforms in the field of capacity-building. As has been stated on many occasions, social spending on education is much more than spending – it is social investment in human capacity.

6. Key role of the State in charting a new social policy course towards structural change with equality

For the adoption of social and labour policies with a clear redistributive effect, as proposed in this section, it must be recognized that the State has a key role to play in harmonizing structural change with equality. On the one hand, the State must ensure that labour market institutions promote a fairer appropriation of productivity gains between the various actors in the productive world. On the other hand, it must promote an integrated social protection system, based on progressive social spending, which would address the risks and vulnerabilities that occur in the workplace and in workers' families as a result of the dynamics of transformation inherent in structural change. Finally, given the lags and gaps in human capacity, and the mismatch between the requirements of labour demand and characteristics of labour supply, the State must meet all the challenges posed by the knowledge society in this area, to ensure a more educated society where the development of relevant skills for the new world of production and communication is a universal right, coupled with an integrated system of job training that includes technical and vocational skills training components, and that provides employment opportunities commensurate with the structural change.

This is the basis of the social agenda for structural change with equality. As stated two years ago in the ECLAC document *Time for equality: closing gaps, opening trails*, this key role for the State also calls for a fiscal covenant. First, it must be a fiscal covenant where the redistributive impact of government policy is underpinned by tax reform to increase the share of direct taxation, especially personal income tax, in the total tax burden and to reduce tax evasion and exemptions. Second, the fiscal covenant should place at the heart of the public and policy debate an agenda of restructured social spending that strikes a better balance between contributory and non-contributory components, and where access to good education, health and care services does not depend on out-of pocket spending.

The State needs to be afforded a more active role in the provision of public goods and promotion of well-being, with a sustained increase in social spending, capacity-building in social and labour institutions to improve public management and remedy asymmetries in the world of work, income transfer systems with a clear redistributive impact, and integrated social protection systems with non-contributory solidarity pillars and a clear universalist approach, compatible with the principle of equal rights.



Concluding remarks: The State and policy in the integrated approach to development

A. Policy and the State in an integrated approach to development

The proposals put forth herein seek to continue further with the ideas set out in *Time for equality: closing gaps, opening trails*,¹ building on an integrated vision that combines the economic, social and environmental dimensions of development. What is proposed is to advance, in an integrated, systematic fashion, towards the strategic horizon of structural change with equality, in the spheres of industrial, macroeconomic, labour, social and environmental policy. But the focus is, first and foremost, on the interlocking nature of and synergies among these spheres of intervention.

The integrated approach emerging from these long-range proposals calls for coordinated action by involved, committed stakeholders. It also calls for robust, efficient institutions that can regulate, guide, target and even fund many of the actions needed to advance towards this vision over time.

Politics and the State therefore have critical roles to play. Politics, because the combination of stakeholders for transforming the production pattern and deciding which sectors to target requires political covenants to ensure support for this approach and for its continuity over time. The relationship between structural change with equality and political legitimacy is a two-way street. Because a development strategy such as the one proposed here has such a long-term horizon, coordination among political institutions, government agencies, the business community, workers and other civil society stakeholders is paramount.

¹ LC/G.2432(SES.33/3), 2010.

There is a bicausal link between the quality of a democracy and the continuity of development policies geared towards structural change with equality. Sounder, more transparent political democracy institutions make for stakeholders who are more inclined to rally around a shared strategy. When deliberative spaces, channels of participation and mechanisms for political representation and policymaking operate smoothly, the wheels of the systemic adjustment proposed herein will run more smoothly, too.

Political will and policy quality are, therefore, conditions —or achievements— that should be the foundation of profound change that requires agreements and a shared ethic for reaching compromises among the actors involved in structural change.

But this also calls for a different kind of State. First comes a State whose political legitimacy is grounded in its ability to set the course for future development towards horizons such as those spelled out by ECLAC in *Time for equality* and herein. It is not enough for a State to exhibit administrative probity and efficient use of resources (although these are essential if society is to trust in its government). The State must be able to substantively mobilize and communicate its citizens' aspirations for well-being and progress by means of messages that link the present and the future, mapping out the route from one generation to the next and winning support and commitment (which does not at all mean uniformity of opinion or of vision).

Second comes a State with a clear ability to rally stakeholders around far-reaching projects. In Latin America and the Caribbean there is no other actor that could shoulder this role of coordinator in the face of such a complex industrial, macroeconomic, labour and social policy scenario. Experience shows that self-regulating markets do not optimize factor allocation, foster synergies, achieve social integration or set or hold the best sustainable course towards development. In this second decade of the twenty-first century, there is evidence at the national, regional and global levels that coordination and regulation are essential in a wide range of spheres (finance, trade, production, environment and migration, among others). It is the State that can regulate, oversee, target and coordinate at the national level, both inwards and outwards, from a vantage point that encompasses all facets of development. Economic strategy in the region has largely been lacking in this active role of the State in coordinating decision-making by the actors involved.

Last, what is needed is a State with clear goals to drive many of the processes proposed under the aegis of structural change with equality and environmental sustainability. This calls for appropriate incentives and robust investments that, at the same time, target knowledge-intensive sectors, activities that create quality jobs and are competitive internationally, and a technology paradigm that ensures lower carbon intensity and high energy and environmental efficiency. It is equally essential to invest in human capacities for structural change and greater equality in the generational changeover. Policies must be devised and funded to provide a shield against the risks of income loss and to guarantee minimum levels of well-being during the transition towards a new production and information paradigm. All of this also calls for new fiscal covenants and arrangements that enable the State to capture more resources for promoting economic growth in the context of an improved, more progressive tax strategy.

The central role of the State in the policy areas proposed herein is examined in more detail below.

B. Central role of the State in policies geared towards structural change with equality

1. Industrial policy: Institutions to be built

This document highlights the central role that industrial policy has to play in structural change with equality. It acknowledges that the road to a new paradigm consistent with greater environmental sustainability and energy efficiency will only be possible if there is a move towards profound change in production structures to respond to the pressing need for a leap in technology. But the region lacks industrial policy and, above all, consistent public institutions that can move these policies forward, keep them targeted and funded and ensure that they are in line with current challenges in the spheres of technology, production, the environment and global integration.

For this same reason, institution-building is priority number one. Just as in the 1980s and 1990s, when highly professionalized central banks and ministries of finance were consolidated and conferred with decision-making power and the autonomy needed to be consistent over time and beyond electoral swings, what is needed today is a similar consolidation and empowerment of development banks and ministries of industry or production. Such institutions promote and marshal the interests of all stakeholders around structural change and provide a framework of institutional legitimacy and technical competence for making decisions that are not easy: which sectors should be targeted for change, how to disseminate technological capacities, how to coordinate industrial policy with macroeconomic management, where to invest fiscal resources to enhance the scope and speed of structural change and how to bring into the transformation process sectors where investments and jobs might be threatened by accelerating technological progress. Without adequate institutions there is no viable governance capacity or political will to move forward consistently, with a targeted, long-term vision, along the lines laid out here in terms of industrial policy. We are facing a potential third industrial revolution that may be similar in scope to previous ones. This calls for more urgent, active action by the State in the face of global vulnerability and uncertainty.

Under the industrial policy approach laid out herein, the State should act in complementary directions, i.e., build the capacities and competitiveness of existing sectors with clear potential for specialization and for incorporating technological progress, and diversify the production structure by creating or consolidating new high-productivity, more environmentally efficient sectors. This is on top of the pressing need to promote higher efficiency among small and medium-sized enterprises and microenterprises, especially because of their capacity to generate jobs and become disseminators of knowledge and of technology appropriation. This shift in modes of production requires scientific and technological knowledge and synergies in order to marshal advances in biotechnology, nanotechnology and digital technology so as to leap forward in reducing the use of materials, in recycling waste and in harnessing new knowledge emerging from biodiversity.

Among the actors, only the State, by means of adequate institutions and techno-political capacity, can coordinate the various components of structural change to promote synergies across the economy, with backward and forward linkages, including support for intermediate productivity sectors to link more dynamically with larger companies or sectors at the leading edge of productivity. And State institutions with suitable technical capacity can evaluate policy impacts in terms of the end goals: economic growth, innovation and technological progress, higher

productivity and enhanced capacities. The sustainability of this approach to development depends on maintaining the integrity of the material base of the economy: water, energy, air and biodiversity in the context of growing urbanization. These issues, while not addressed in detail in the preceding chapters, are at the core of this proposal for structural change with equality. Because public resources are scarce, only appropriate assessments will enable the State to reallocate resources and use fiscal space in areas as diverse as production promotion and investment, education, public health, environmental protection and citizen safety.

The central role of the State also has to do with the funding of industrial policy. In open economies, where blanket, permanent trade protection is not desirable, the economic signal (expected profitability) sent to potential investors in new activities is weakened. By the same token, much of the cost and risk of promotion falls to the State. Here, robust and relatively autonomous institutions are important, because industrial policy should stand on its priorities and budgets, even during times of fiscal constraint. In other words, sustaining promotion mechanisms over the long haul requires policies that outlast a given administration. This has yet to be accomplished in Latin America.

In addition to State funding for promotion policies, direct State investment is important, too. There is ample scope for action here, albeit with marked differences among regions and subregions. These differences do not mean that smaller countries or those with less developed institutions should relinquish sector-wide policymaking. There is always room for targeting sector-based action at the level of subsectors, segments or even products within the scope of existing capacities. In this sense, the region's experience with policies promoting production clusters shows that even the smaller countries have been able to design policies for improving their pattern of specialization. Here, again, the State should promote and invest in the development of sectors and subsectors with the greatest potential and synergy. Nor should it be forgotten that the role of the State is not just to offer incentives to those who are willing to invest in structural change, but also to penalize those who have benefited from such incentives without making investments. One of the main differences between successful industrial policies in Asia and the less successful ones implemented in Latin America in the past lies, for our region, in the lack of oversight and in granting permanent benefits to firms that are not performing well in either technology or exports.

National funding to support industrial policy can now find specific international counterparties in order to, for example, speed the transition to lower-carbon economies. Between 2006 and 2011, the region captured US\$ 90 billion in clean-energy investment, 80% of which went to Brazil.² However, the region would be able to access additional investments that are better distributed geographically if it had active industrial policies ensuring production practices that are less carbon-emission-intensive.³

² Bloomberg and Multilateral Investment Fund (MIF), Climatescope 2012 [online] <http://www5.iadb.org/mif/climatescope/2012/overview.html>.

³ In 2011, new investments in clean energy totaled US\$ 280 billion but went mainly to Europe, the United States and China. The region attracted less than 5% of the total.

2. The State and macroeconomic policy: Multiple goals and necessary agreements

The macroeconomic policy role of the State is indisputable and has grown in the region over the past two decades, both technically and institutionally. This is clear to see in the higher profile of central banks and finance ministries. One field where there has been unquestionable progress in State and government policy is in the sphere of macroeconomics. In this regard, it is important to take State institutions as a reference point for consolidating more robust and consistent industrial and social policies over time.

However, as stressed herein, macroeconomic policy goals need to be broadened. The instruments exist, and they have been used successfully. The challenge lies less in choosing what instruments to use or debating their usefulness, and more in having (or building) the institutional base and political support needed for them to be implemented and work well. Many of the instruments proposed concern cross-border movements of capital and credit control, which requires that the State conduct complex negotiations with a sector that is very concentrated and organized and has strong external connections.

Both the State and civil society have come to see greater regulation of the financial system in a more favourable light in view of the enormous economic, social and political cost of crises sparked by bubbles, liquidity cycles, crises and unsustainable financial and real estate market booms. Experience over the past few decades has very clearly shown the costs and benefits of real exchange-rate appreciation. Avoiding excessive appreciation is one of the keys for stability and growth, and the international consensus has shifted in favour of stricter regulation of short-term capital movements. But it should not be forgotten that a higher real exchange rate has a negative short-term impact on real wages. This would be acceptable only if the trade-off were a higher employment rate (to keep from lowering the wage bill as a percentage of GDP) along with faster rates of increase in productivity matched by real wage growth. This, over time, would offset the initial loss.

For the same reason, the State should push for covenants whereby stakeholders accept the distribution of costs and benefits over time. Reaching an agreement on the exchange rate and wages, along with credible compensatory commitments among the main actors (Government, companies and workers), requires intense institution-building and policy coordination by the State.

3. Central social and labour policy role of the State with a view to structural change with equality

Adopting social and labour policies with a clear redistributive impact as proposed herein entails acknowledging the central role of the State in reconciling structural change with equality. On the one hand, the State must ensure that labour institutions work towards fairer appropriation of productivity gains among the various stakeholders in the world of production. It should, on the other hand, promote an integrated social protection system based on progressive social expenditure that covers the risks and vulnerabilities for workers and their families triggered by the transformation dynamics of structural change.

Last, given the lags and gaps in human capacities and the mismatch between labour demand requirements and the characteristics of the labour supply, the State should take on all of the challenges posed by the knowledge society in this sphere: a more educated society where

everyone is entitled to developing capacities in keeping with the new world of production and communication, and an integrated job training system that includes technical education and occupational training components and provides job opportunities in accordance with that structural change.

That is the foundation of the social agenda for structural change with equality. As posited in 2010 in *Time for equality*, this central role of the State also entails a fiscal covenant. What is needed is, on the one hand, a fiscal covenant where the redistributive impact of public policy is fed by tax reform that increases the relative weight of direct taxes (especially, personal income tax) and the total tax burden while reducing tax evasion and exemptions. On the other hand, the fiscal covenant should inject into the public and policy discussion an agenda for reshaping social spending with greater balance between contributory and non-contributory components, where access to a good education, health and care services does not depend exclusively on spending by individuals.

As noted in *Time for equality*, the idea is to advance towards a social turning point where the State has a more active role to play in the provision of public services and the promotion of well-being, with a sustained increase in social spending, progress in building social and labour institutions that improve governance and reverse the asymmetries in the world of work, income transfer systems that yield a clear redistributive impact, and integrated social protection systems with strong non-contributory solidarity-based pillars.

4. Global governance, national States and regional integration

Last, from an international perspective, the early twenty-first century made very clear the pressing need for greater coordination among countries and national States to address changes that take place at the global level and affect the paths to economic, social and environmental development. These include the growing weight of emerging economies and South-South relationships in the world economy; the urgent need to mitigate the impact of climate change, foster standards for environmental sustainability and lower-carbon-content economies; and the need for stricter regulation of the global financial system and for innovative mechanisms for funding development. Redefining and enhancing global governance institutions remains an unfinished task, both to reflect new world balances and to strengthen multilateralism when facing these challenges. Such governance calls for active participation by national States, as well as regional integration in which those States play a key role.

The countries of Latin America and the Caribbean are seeking to play a more active role in these global debates by means of a more coordinated presence in interregional and global forums. New integration schemes that go beyond trade are paving the way to enhanced regional and subregional cooperation. Examples of this are the recently created Community of Latin American and Caribbean States (CELAC) and Union of South American Nations (UNASUR). They complement existing integration mechanisms and expand the space for political dialogue. Increasing policy coordination at the regional and subregional level, in areas such as infrastructure, telecommunications, transport and energy, is appropriate and necessary for creating conditions conducive to the structural change with equality envisioned herein.

C. Integrated policies and synergies

The potential synergies between macroeconomics and the production structure and between business cycles and short- and long-term growth trends pose the challenge of how to achieve the most virtuous possible combination of macroeconomic policy and industrial policies based on a new technology paradigm that is more knowledge-intensive and environmentally efficient and also enhances the conditions for social inclusion and equality. Macroeconomics for development cannot dissociate cycle management and (real and nominal) stability from structural change and a higher rate of long-term growth. This coordination must be part of an integrated approach where production change and a levelling up of capacities and social opportunities are explicit priorities. This process should be accompanied by social policy (especially during temporary stages of structural change when production is still not the universal prime route to inclusion with well-being. Achieving equality does not necessarily run counter to investing in and protecting the environment (the raw material for development). The idea is to achieve virtuous linkages between the economic, social and environmental spheres by means of renewed industrialization.

The preceding chapter looked at policy direction on several fronts (industrial, macroeconomic and social), geared towards promoting the central dimensions of development addressed herein: structural change, technology and income convergence with the developed world and correction of the high levels of inequality that have characterized Latin America and the Caribbean. In the face of these challenges, what are the potential synergies and contradictions between these policies? The synergies do tend to outweigh the contradictions, opening up the possibility of harnessing development policy complementarities. But it should not be forgotten that synergies operate in both directions, creating virtuous circles and vicious ones. When policies are correct and work with each other, they can have more impact than a single policy on its own. However, when policies point in opposite directions or are applied without considering the integral goals of development, their negative impacts tend to reinforce each other and can give rise to vicious circles which lead economies to fall behind.

There are many spaces for inter-policy synergies. Some —but not all— of them are examined below.

Strong complementarity is the one between industrial policy and the need for countercyclical and income-distribution policies. Industrial policy requires sustaining public investment during the down phase of a cycle and keeping private investment from plummeting in a set of strategic sectors and activities (because of their Keynesian and Schumpeterian efficiency). A sustained investment programme that ties in with industrial policy has a built-in strongly countercyclical component because it lessens the investment elasticity of the cycle. And the investment timeline can be adjusted, to the extent possible, to expand investment in recessionary phases and slow it during upswings.

Behind a programme of this type is the perception that some State policies go beyond political and business cycles and reflect a stable consensus in society as to the goal of development. Industrial policy should define the qualitative or long-range dimension (expenditure composition) of countercyclical or short-range policy (expand fiscal space on the upswing, narrow it during the recessionary phase). Maintaining the (public and private) investment programme over time will keep the technology lag from increasing during periods of slower growth; this, in turn, will contribute to post-crisis recovery (another factor that helps

smooth the cycle). Environmental efficiency and natural heritage stewardship are essential for defining the qualitative dimension of investment and industrial policy.

Another powerful synergy is between industrial policy and short-term capital controls to prevent unsustainable currency appreciation, which could drive investment away from industrial policy priority sectors. As pointed out above, what industrial policy does is to adjust incentives in order to channel investment towards where the long-term benefits are strongest (the cost of environmental externalities should be figured into these benefits). If the relative price structure works strongly against tradable goods, it will be very difficult to reverse the market signals. Conversely, policies to avoid currency appreciation will yield the same stimulation impact on tradables output with much less fiscal effort.

An examination of incentives also reveals the fundamental role of macroprudential policies. When speculative bubbles form, especially in the real estate sector, investing in producing tradable goods becomes less attractive because the expected return will be unable to compete with the promise held by soaring markets. When the bubble bursts, there is a general pull-back of credit that also hits fixed capital formation very hard. Both the public sector and the private sector have recently been caught up in Ponzi processes of financial fragility; these are very costly to pull out of. The literature often flags crowding-out issues between public and private investment, but crowding out between different kinds of investment may be a more serious problem, especially between investments seeking to profit from existing assets and asset-creating investments. An unsustainable investment in the first kind of assets can set back investment in new assets for very long periods. This is true for the public sector and the private sector alike. Investments in very high-yield government bonds successfully compete with investments in the real sector, whose rates of return (corrected for financial risk and for not internalizing environmental vulnerability)⁴ are lower.

Another major synergy is the one between labour-market policies, stabilization policy and industrial policy. Industrial policy should, over the long run, seek for competitiveness to be based more on knowledge than on abundant natural resources or low wages. Social and training policies should support this transition in two ways: help lessen wage demand during the initial phase, compensating workers by, for example, expanding education and health service coverage (which also has positive impacts on their productivity); and ensure the supply of skilled labour in line with industrial policy priorities. Industrial policy, in turn, by promoting productivity gains, brings costs down and pushes real wages up without triggering inflationary pressures. By fostering more constant investment rates it reduces the pressure of unemployment on social spending and frees up fiscal space for other purposes. It is important to recover the idea that real wages should not be allowed to lag behind productivity. It has already been seen that the functional distribution of income worsened in the region over the past decade. This helped curb inflation, but historical experience suggests that when productivity gains are not transferred to real wages for a long time, tensions accumulate and wind up feeding wage-price spirals.

Harnessing these synergies to the fullest requires a renewed institutional environment allowing for interaction between policymakers in different spheres. It is no exaggeration to say that ministries currently work in considerable isolation from each other. At times, having each of these authorities autonomous from its peers (where each one keeps to its own affairs and is held

⁴ Environmental vulnerability includes the growing economic and social cost of extreme weather events. In 2010 the region was hit by more than 98 extreme events at a cost of approximately US\$ 50 billion, almost seven times more than the previous decade.

accountable only by its own indicators) and from the government is seen as more efficient than coordination. But policy management is subject to the same issues as other areas exposed to externalities. A decision taken by a particular actor may impose costs on other actors which are not internalized by the decision-maker. Accordingly, mechanisms for dialogue, coordination and evaluation must be established. This takes us back once more to the subject of social consensus and State policymaking with an integrated, long-term vision that extends beyond any individual ministry or cabinet of ministers or even any single administration.

D. A future with greater well-being

The approach proposed herein seeks to infuse politics and policies with a vision of the future. The idea is to look at structural change through the prism of progressive equality and to consider a production dynamic in constant renewal that meets the challenges of globalization in a knowledge society that addresses the aspirations of sustainable development and has a growing impact on social inclusion through the world of work. The foregoing chapters have set out the main challenges and obstacles on the way to this future horizon, in such diverse spheres as industrial, macroeconomic, employment and social policy. They have offered a critical assessment, a hopeful look, lessons learned from successes and failures and, on that basis, a road map that links the short run and the long haul moving forward.

We have stressed that structural change for equality that also fully embraces environmental sustainability is a long-term proposition entailing profound transformations where policy returns to the centre in its irreplaceable role in prioritizing, guiding and reconciling. ECLAC believes that the time has come to recast policymaking, not only to advance democracy in the region but also because now that there is no single model there is more freedom to reinvent the future. We welcome that freedom and see it as a platform for dialogue.

In the opening pages we also said that the proposed approach focuses on the leading role to be played by coming generations in the full exercise of their rights and their potential. It will fall to these new generations to fully develop the capacities required by intense changes in productivity, knowledge and technological progress, in citizen involvement, in a deliberative culture and in environmental stewardship. These are the generations who will have to promote new ways of producing, organizing and communicating. They are also the ones who will be tasked with preserving and promoting the well-being of all in societies under increasing pressure from population ageing, growing urbanization and scarcer global public resources. And these generations are the ones who will have to live with the effects of several centuries of predatory natural resource use and the diminished capacity of those resources to sustain high rates of growth.

That is exactly why there is no time to lose. Now more than ever, we must push for change to achieve greater productivity and greater equality. There is room in the political imaginary, which is no longer haunted by the spectre of single models and has more space, for each country to map its future in keeping with its own realities and goals. In some spheres, the pace is being set by the speed of the technology revolution, production paradigm shifts, the demographic transition, the financial crisis and environmental disasters. Experience has shown what works and what does not. Looming threats to political stability and citizen safety need to be addressed by bringing the future closer to the present and stepping up public and policy action for development and social inclusion.

The countries of Latin America and the Caribbean are not all striding towards the future at the same pace. They differ in stages of development, production strengths and weaknesses, population and domestic market size, degree of institutional and fiscal consolidation, capacities and culture. But diversity is not an obstacle to reflecting on what the region's hallmark should be, adjusting the details to individual realities: dynamic combination and coordination of macroeconomics, structural change, environmental sustainability, employment with rights and a net of social protection in the face of risks. It is not by chance that throughout this document we have returned again and again to intraregional heterogeneity to weigh policies and strategies that set the same course, albeit at different speeds.

We would once more like to conclude by stressing the importance of covenants between stakeholders to make that shared course possible. *Time for equality* highlighted the key role of fiscal and social covenants in bringing about change with political viability, citizen support and sustainability over time. Any strategy involving radical changes, conflicting interests, resource investment alternatives and tensions between short- and long-term impacts will require covenants.

It is above all the capacity of policies and of the State that should be maximized to move such covenants forward. These covenants are lessons in formal and substantive democracy, and they are key for legitimizing strategies that go beyond election cycles. They represent legal and political achievements that encompass the direction and depth of change, the body of laws and the citizens' imaginary. They go beyond agreement to bind and rally society's stakeholders around a shared vision of development.



Bibliography

Chapter I

- Abeles, Martín, Pascual Gerstenfeld and Daniel Vega (2010), "Crecimiento, distribución y desarrollo: Un enfoque integrado", Project documents, No. 441 (LC/W.441), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Alesina, Alberto and Dani Rodrik (1994), "Distributive politics and economic growth", *The Quarterly Journal of Economics*, vol. 109, No. 2, May.
- Alleyne, Dillon y Alfred Francis (2008), "Balance of payments constrained growth in developing countries: A theoretical perspective", *Metroeconomica*, vol. 59, No. 2.
- Alleyne, Dillon, M. Hendrickson and Tom Amonde (2011), *Macroeconomics for Development: The Caribbean Experience*, Economic Commission for Latin America and the Caribbean (ECLAC).
- Amsden, A. (1989), *Asia's Next Giant: South Korea and Late Industrialization*, New York, Oxford University Press.
- Armbrust, Michael and others (2009), "Above the clouds: a Berkeley view of cloud computing", *Technical Report*, No. UCB/EECS-2009-28, Electrical Engineering and Computer Sciences, University of California, Berkeley, February [online] <http://www.eecs.berkeley.edu/Pubs/TechRpts/2009/EECS-2009-28.pdf>.
- Astorga, R., M. Cimoli and J.G. Porcile (2012), "Technological upgrading and employment: patterns from developing economies", working paper presented at the conference "After the money's gone: why industrial policy matters for inclusive growth and job creation", Geneva, 16 - 17 February.
- Baldwin, R. (1988), "Hysteresis in import prices: The beachhead effect", *American Economic Review*, No. 78.
- Baldwin, R. and P. Krugman (1989), "Persistent trade effects of large exchange rate shocks", *Quarterly Journal of Economics*, No. 104.
- Barbosa-Filho, N.H. (2002), "The balance-of-payments constraint: from balance trade to sustainable debt", *CEPA Working Paper*, No. 2001.06, New School University.

- Barletta, F., M. Pereira and G. Yoguel (2011), "Schumpeterian, Keynesian, and endowment efficiency: some evidence on the export behaviour of Argentinian manufacturing firms", Working Paper, National University at General Sarmiento.
- Bell, M. (2006), "Time and technological learning in industrialising countries: how long does it take? How fast is it moving (if at all)?", *International Journal of Technology Management*, vol. 36, No. 1–3.
- Bértola, L. and J.A. Ocampo (2010), *Desarrollo, vaivenes y desigualdad. Una historia económica de América Latina desde la Independencia*, Ibero-American Secretariat (SEGIB).
- Blecker, R.A. (2011), "Long-run growth in open economies: export-led cumulative causation or a balance-of-payments constraint?", *Handbook of Post-Keynesian Economics*, G. Harcourt and P. Kriesler (eds.), Oxford, Oxford University Press.
- _____ (1999), "Kaleckian macro models for open economies", *Foundations of International Economics: Post Keynesian Perspectives*, Johan Deprez and John T. Harvey (eds.), London, Routledge.
- Bresser-Pereira, L.C. (2008), "Dutch disease and its neutralization: a Ricardian approach", *Brazilian Journal of Political Economy*, vol. 28, No. 1.
- Calvo, Guillermo A. (1998), "Capital flows and capital-market crises: the simple economics of sudden stops", *Journal of Applied Economics*, vol.1, No. 1, November.
- Chang, H.J. (2003), *Kicking Away the Ladder: How the Economic and Intellectual History of Capitalism Have been Rewritten to Justify neo-Liberal Capitalism*, Cambridge University Press.
- _____ (2001), "Infant industry promotion in historical perspective. A rope to hang oneself or a ladder to climb with?", paper presented at the seminar Development theory at the dawn of the 21st century, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- Cimoli, Mario (1992), "Exchange rate and productive structure in a technological gap model", *Economic Notes*, vol. 21, Monte dei Paschi di Siena.
- _____ (1988), "Technological gaps and institutional asymmetries in a North-South model with a continuum of goods", *Metroeconomica*, vol. 39, No. 3.
- Cimoli, M. and J. Katz (2003), "Structural reforms, technological gaps and economic development: a Latin American perspective", *Industrial and Corporate Change*, Oxford University Press, vol. 12, No. 2, April.
- Cimoli, Mario and Gabriel Porcile (2011), "Learning, technological capabilities and structural dynamics", *The Oxford Handbook of Latin American Economics*, J.A. Ocampo and J. Ros, Oxford University Press.
- _____ (2009), "Sources of learning paths and technological capabilities: an introductory roadmap of development processes", *Economics of Innovation and New Technology*, vol. 18, No. 7.
- Cimoli, M. and G. Dosi (1995), "Technological paradigms, patterns of learning and development: an introductory roadmap", *Journal of Evolutionary Economics*, vol. 5, No. 3, Springer.
- Cimoli, M., G. Dosi and J. Stiglitz (eds.) (2009), *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*, Oxford, Oxford University Press.
- Cimoli, M., G. Porcile and S. Rovira (2010), "Structural convergence and the balance-of-payments constraint: why did Latin America fail to converge", *Cambridge Journal of Economics*, vol. 34, No. 2, March.
- Díaz Alejandro, C.F. (1983), "Stories of the 1930s for the 1980s", *Financial Policies and the World Capital Market: The Problem of Latin American Countries*, P. Aspe Armella, R. Dornbusch and M. Obstfeld (eds.), Chicago, University of Chicago Press.

- Dosi, G. (1988), "Sources, procedures and microeconomic effects of innovation", *Journal of Economic Literature*, vol. 26, No. 3.
- Dosi, G., K. Pavitt and L. Soete (1990), *The Economic of Technical Change and International Trade*, London, Harvester Wheatsheaf Press.
- Dosi, G., S. Lechevalier and A. Secchi (2010), "Introduction: Interfirm heterogeneity? Nature, sources and consequences for industrial dynamics", *Industrial and Corporate Change*, vol. 19, No. 6.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2012), *Macroeconomic Report on Latin America and the Caribbean. June 2012* (LC/G.2541-P), Santiago, Chile. United Nations publication, Sales No. E.12.II.G.14.
- _____ (2011), *Economic Survey of Latin America and the Caribbean, 2010-2011*(LC/G.2506-P), Santiago, Chile. United Nations publication, Sales No. E.11.II.G.3.
- _____ (2010), *Time for equality: closing gaps, opening trails* (LC/G.2432(SES.33/3)), Santiago, Chile.
- _____ (2009), *The reactions of the Governments of the Americas to the international crisis: an overview of policy measures up to 31 December 2009* (LC/L.3025), Santiago, Chile.
- _____ (2008), *Structural Change and Productivity Growth 20 Years Later. Old Problems, New Opportunities* (LC/G.2367(SES.32/3)), Santiago, Chile.
- _____ (2007), "Progreso técnico y cambio estructural en América Latina", *Project documents*, No. 136 (LG/W. 136), Santiago, Chile, October.
- _____ (2003), *Economic Survey of Latin America and the Caribbean 2002-2003* (LC/G.2208-P), Santiago, Chile. United Nations publication, Sales No. E.03.II.G.2.
- _____ (2002), *Globalization and development* (LC/G.2157(SES.29/3)), Santiago, Chile
- _____ (2001), "A decade of light and shadow. Latin America and the Caribbean in the 1990s", *Libros de la CEPAL*, No. 76 (LC/G.2205-P/I), Santiago, Chile. United Nations publication, Sales No. E.03.II.G.79.
- _____ (1998), *The Fiscal Covenant: Strengths, Weaknesses, Challenges, Libros de la CEPAL series*, No. 47 (LC/G.1997/Rev.1-P), Santiago, Chile, July. United Nations publication, Sales No. E.98.II.G.5.
- Eichengreen, B. (2008), "The real exchange rate and growth", *Working Paper*, No. 4, Commission on Growth and Development.
- Ffrench-Davis, R. (2006), *Reforming Latin America's Economies: After Market Fundamentalism*, Macmillan, April.
- _____ (2000), *Reforming the Reforms in Latin America: Macroeconomics, Trade, Finance*, Macmillan.
- _____ (1999), *Macroeconomía, comercio y finanzas: Para reformar las reformas en América Latina*, Santiago, Chile, McGraw Hill.
- Frenkel, R. (2004), "From the boom in capital inflows to financial traps", *IPD Working Paper*, Initiative for Policy Dialogue (IPD), May.
- Frenkel, R. and J. Ros (2006), "Unemployment and the real exchange rate in Latin America", *World Development*, vol. 34, No. 4.
- Frenkel, R. and L. Taylor (2006), "Real exchange rate, monetary policy and employment", *DESA Working Paper*, No. 19 (ST/ESA/2006/DWP/19), February.
- Frenkel, R. and M. Rapetti (2011), "A concise history of exchange rate regimes in Latin America", *The Oxford Handbook of Latin American Economics*, J.A. Ocampo and J. Ros, Oxford University Press.
- Freund, C. and M.D. Pierola (2008), "Export surges: the power of a competitive currency", *Policy Research Working Paper*, No. 4750, Washington, D.C., October.

- Friedrich, Roman and others (2011), *Measuring Industry Digitization: Leaders and Laggards in the Digital Economy*, Booz & Company Inc [online] <http://www.booz.com/media/uploads/BoozCo-Measuring-Industry-Digitization-Leaders-Laggards-Digital-Economy.pdf>.
- Fuentes, Juan Alberto and Kelvin Sergeant (2011), "Dynamics of sustained growth and development among small developing States in Central America and the Caribbean", presentation at the first meeting of the Caribbean development round table, Port of Spain, ECLAC subregional headquarters for the Caribbean, unpublished.
- Gallagher, K. and J.C. Moreno-Brid (2008), "The dynamism of Mexican exports: Lost in (Chinese) translation?", *World Development*, vol. 8, No. 36.
- Gerschenkron, A. (1962), *Economic Backwardness in Historical Perspective*, Harvard University Press.
- Gouvea, R.R. and G.T. Lima (2010), "Structural change, balance of payments constraint and economic growth: evidence from the multi-sectoral Thirlwall's Law", *Journal of Post Keynesian Economics*, vol. 33, No. 1, October.
- Guerrero de Lizardi, Carlos (2009), *Nuevas mediciones de la inflación y el crecimiento económico en México*, Tecnológico de Monterrey.
- Hamilton, James (2008), "Internet-scale service efficiency", Large Scale Distributed Systems & Middleware (LADIS 2008) Keynote, Yorktown Heights.
- Harms, Rolf and Michael Yamartino (2010), "The economics of the cloud", Microsoft, November [online] <http://www.microsoft.com/en-us/news/presskits/cloud/docs/The-Economics-of-the-Cloud.pdf>.
- Hausmann, R., J. Hwang and D. Rodrik (2007), "What you export matters", *Journal of Economic Growth*, vol. 12, No. 1, March.
- IFR (International Federation of Robotics) (2011), "Robots to create more than a million jobs by 2016", November [online] <http://www.ifr.org/news/ifr-press-release/robots-to-create-more-than-a-million-jobs-by-2016-295/>.
- ILPES (Latin American and Caribbean Institute for Economic and Social Planning) (2009) "Economía y territorio en América Latina y el Caribe: desigualdades y políticas", *Libros de la CEPAL series*, No. 99 (LC/G.2385-P), Santiago, Chile. United Nations publication, Sales No. S.09.II.G.16.
- IMF (International Monetary Fund) (2011), "Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework", Washington, D.C., IMF Strategy, Policy, and Review Department, February
- Jordán, Valeria, Hernán Galperin and Wilson Peres (coords.) (2010), "Acelerando la revolución digital: banda ancha para América Latina y el Caribe" (LC/R.2167), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Katz, J. (1997), "Structural reforms, the sources and nature of technical change and the functioning of the national systems of innovation: the case of Latin America", paper presented at the STEPI International symposium on innovation and competitiveness in NIEs, Seoul, May.
- Katzenstein, P.J. (1985), *Small States in World Markets: Industrial Policy in Europe*, Ithaca, Cornell University Press.
- Kindleberger, Charles P. (1986), *The World in Depression, 1929-1939*, University of California Press, April.
- Krugman, P.R. (1979), "A Model of innovation, technology transfer, and the world distribution of income", *Journal of Political Economy*, vol. 87, No. 2.
- Krugman, P. (1999), "Balance sheets, the transfer problem, and financial crises", *International Tax and Public Finance*, vol. 6, No. 4.
- Krugman, Paul and Lance Taylor (1978), "Contractionary effects of devaluation", *Journal of International Economics*, vol. 8, No. 3, August.

- Lall, S. (2000), "The technological structure and performance of developing country manufactured exports, 1985–98", *Oxford Development Studies*, vol. 28, No. 3.
- Lau, Lawrence J. and Jungsoo Park (2003), *The Sources of East Asian Economic Growth Revisited*, Stanford University and the State University of New York at Buffalo.
- Lima, G.T. and G. Porcile (2012), "Economic growth and income distribution with heterogeneous preferences on the real exchange rate", *Journal of Post-Keynesian Economics*, in press.
- Lipson, Hod and Melba Kurman (2010), "Factory @ home: the emerging economy of personal fabrication", December [online] <http://web.mae.cornell.edu/lipson/FactoryAtHome.pdf>.
- Lucas, Robert (2004), "The Industrial Revolution: past and future", *Annual Report of the Federal Reserve Bank of Minneapolis*, May.
- McCombie, J.S.L. and A.P. Thirlwall (1999), "Growth in an international context: A Post-Keynesian view", *Foundations on International Economics: Post-Keynesian Perspectives*, J. Deprez and J. Harvey (eds.), London, Routledge.
- McMillan, M. and D. Rodrik (2011), "Globalization, Structural Change and Productivity Growth", International Labour Organization (ILO)/World Trade Organization (WTO), February.
- Moreno-Brid, J. (2003), "Capital flows, interest payments and the balance of payments constrained growth model: a theoretical and empirical analysis", *Metroeconomica*, vol. 54, No. 3.
- Moreno-Brid, J. and E. Pérez (1999), "Balance-of-payments-constrained growth in Central America: 1950-1996", *Journal of Post Keynesian Economics*, vol. 22, No. 1.
- Ocampo, J.A. (2011), "Macroeconomy for development: countercyclical and production sector transformation", *CEPAL Review*, No. 104 (LC/G.2498-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- _____ (2005), "The quest for dynamic efficiency: structural dynamics and economic growth in developing countries", *Beyond Reforms, Structural Dynamics and Macroeconomic Vulnerability*, Stanford University Press.
- Ocampo, J.A., C. Rada and L. Taylor (2009), *Growth and Policy in Developing Countries: A Structuralist Approach*, New York, Columbia University Press.
- Pacheco-López, P. and A.P. Thirlwall (2006), "Trade liberalization, the income elasticity of demand for imports and economic growth in Latin America", *Journal of Post-Keynesian Economics*, vol. 29, No. 1.
- Peres, Wilson (2010), "The (slow) return of industrial policies in Latin America and the Caribbean", *The Political Economy of Capabilities Accumulation: the Past and Future of Policies for Industrial Development*, M. Cimoli, G. Dosi and J.E. Stiglitz (eds.), Oxford University Press.
- Prebisch, R. (1981), *Capitalismo periférico: Crisis y transformación*, Mexico City, Fondo de Cultura Económica.
- _____ (1950), *The Economic Development of Latin America and its Principal Problems*, New York.
- Pritchett, L. (1997), "Divergence: big time", *Journal of Economic Perspectives*, vol. 11, No. 3.
- Rapetti, M. (2011), "Macroeconomic policy coordination in a competitive real exchange rate strategy for development", *Working Paper*, No. 2011-9, Amherst, Economics Department, University of Massachusetts.
- Razmi, A., M. Rapetti and P. Skott (2009), "The real exchange rate as an instrument of developing policy", *Working Paper*, No. 2009-7, Amherst, Department of Economics, University of Massachusetts.
- Reinert, Erik S. (2000), "Full circle: economics from scholasticism through innovation and back into mathematical scholasticism. Reflections on a 1769 Price essay: 'Why is it that economics so far has gained so few advantages from physics and mathematics'", *Journal of Economic Studies*, vol. 27, No. 4/5, September, Emerald Group Publishing.

- _____ (1995), "Competitiveness and its predecessors: a 500 year cross-national perspective", *Structural Change and Economic Dynamics*, vol. 6.
- Rodríguez, O. (2007), *El estructuralismo latinoamericano*, Mexico City, Siglo XXI.
- Rodrik, D. (2008), "The real exchange rate and economic growth", *Brookings Papers on Economic Activity*, No. 2.
- Saviotti, P and K. Frenken (2008), "Export variety and the economic performance of countries", *Journal of Evolutionary Economics*, No. 18.
- Setterfield, M. (2009), "Neoclassical growth theory and heterodox growth theory: opportunities for and obstacles to greater engagement", *Working Paper*, No. 09-1, Trinity College Department of Economics, December.
- Shaikh, Anwar and Amr Ragab (2008), "The vast majority income (VMI): a new measure of global inequality", *Working Paper*, New York, Schwartz Centre for Economic Analysis (SCEPA).
- Stallings, B. and W. Peres (2000), *Growth, Employment and Equity: The Impact of Economic Reforms in Latin America and the Caribbean*, Washington, D.C., Brookings Institution Press.
- Thirlwall, A. (2011), "Balance of payments constrained growth models: history and overview", *School of Economics Discussion Paper*, No. 1111, University of Kent, May.
- Van Lieshout, M. and others (2008), "Converging Applications Enabling the Information Society. Technical Report" [online] <http://fiste.jrc.ec.europa.eu/pages/documents/ConvTechReportforWEBv9.pdf>.
- Wade, R. (1990), *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialisation*, Princeton, Princeton University Press.

Chapter II

- Abraham, Katharine G. and Susan N. Houseman (1993), "Earnings inequality in Germany", *NBER Working Paper*, No. 4541, National Bureau of Economic Research (NBER).
- Aghion, P. and P. Howitt (1998), *Endogenous Growth Theory*, MIT University Press.
- Alesina, Alberto and Dani Rodrik (1994), "Distributive politics and economic growth", *The Quarterly Journal of Economics*, vol. 109, No. 2, May.
- Alleyne, Dillon and Alfred Francis (2008), "Balance of payments constrained growth in developing countries: A theoretical perspective", *Metroeconomica*, vol. 59, No. 2.
- Alleyne, Dillon and Beverly Lugay (2011), "Inflation and the variability of prices in the Caribbean: evidence from panel threshold models", *Documentos de proyecto*, ECLAC subregional headquarters for the Caribbean [online] <http://www.eclac.cl/publicaciones/xml/5/45465/LCARL.347.pdf>.
- Amsden, A. (1989), *Asia's Next Giant: South Korea and Late Industrialization*, New York, Oxford University Press.
- Araujo, R.A. and G.T. Lima (2007), "A structural economic dynamics approach to balance-of-payments-constrained growth", *Cambridge Journal of Economics*, vol. 31, No. 5, Oxford, Oxford University Press.
- Arellano, M. and S. Bond (1991), "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations", *Review of Economic Studies*, No. 58.
- Arrow, K.J. (1963), "Uncertainty and the welfare economics of medical care", *American Economic Review*, vol. 53, No. 5.
- Arthur, W. Brian (1994), *Increasing Returns and Path-Dependency in the Economy*, University of Michigan Press.

- _____ (1989), "Competing technologies, increasing returns and lock-in by historical events", *Economic Journal*, vol. 99, No. 1.
- Astorga, R., M. Cimoli and J.G. Porcile (2012), "Technological Upgrading and Employment: Patterns from Developing Economies", working paper presented at the conference After the money's gone: why industrial policy matters for inclusive growth and job creation, Geneva, 16-17 February.
- Barbier, Edward (2011), "A global green recovery and the lessons of history", *The European Financial Review* [online] <http://www.europeanfinancialreview.com/?p=2497>.
- Barbosa, Nelson (2010), "Industrial policy and macroeconomic policy", presentation at the International Conference on Industrial Policies in the 21st Century, Rio de Janeiro, 10 - 11 May.
- Barbosa-Filho, N.H. (2002), "The balance-of-payments constraint: from balance trade to sustainable debt", *CEPA Working Paper*, No. 2001.06, New School University.
- Berg, A. and Y. Miao (2010), "The real exchange rate and growth revisited: the Washington Consensus strikes back?", *IMF Working Paper*, No. 10/58, Washington, D.C., International Monetary Fund, March.
- Bello, Omar, Rodrigo Heresi and Ramón E. Pineda (2010), "El tipo de cambio real de equilibrio: un estudio para 17 países de América Latina", *Macroeconomía del desarrollo series*, No. 82 (LC/L.3031-P), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC).
- Bértola, Giuseppe and Richard Rogerson (1996), "Institutions and labour reallocation", *CEPR Discussion Papers*, No. 1519.
- Blecker, R.A. (2011), "Long-run growth in open economies: export-led cumulative causation or a balance-of-payments constraint?", *Handbook of Post-Keynesian Economics*, G. Harcourt and P. Kriesler (eds.), Oxford, Oxford University Press.
- BNDES/CGEE (National Bank for Economic and Social Development/Centre for Strategic Management and Studies) (coords.) (2008), *Bioetanol de caña de azúcar: Energía para el desarrollo sostenible*, Rio de Janeiro, Economic Commission for Latin America and the Caribbean (ECLAC)/Food and Agriculture Organization of the United Nations (FAO).
- Bresser-Pereira, L.C. and P. Gala (2008), "Foreign savings, insufficiency of demand, and low growth", *Journal of Post Keynesian Economics*, vol. 30, No. 3.
- Buchanan, James M. and Yong J. Yoon (eds.) (1994), *The Return to Increasing Returns*, University of Michigan Press.
- Chang, H.J. (2001), "Infant Industry Promotion in Historical Perspective. A Rope to Hang Oneself or a Ladder to Climb With?", paper presented at the Seminar on development theory at the dawn of the 21st century, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- Cimoli, M. (1992), "Exchange rate and productive structure in a technological gap model", *Economic Notes*, vol. 21, Monte dei Paschi, Siena.
- _____ (1988), "Technological gaps and institutional asymmetries in a North-South model with a continuum of goods", *Metroeconomica*, vol. 39, No. 3.
- Cimoli, Mario and Giovanni Dosi (1995), "Technological paradigms, patterns of learning and development: an introductory roadmap", *Journal of Evolutionary Economics*, vol. 5, No. 3.
- Cimoli, M. and J. Katz (2003), "Structural reforms, technological gaps and economic development: a Latin American perspective", *Industrial and Corporate Change*, vol. 12, No. 2, Oxford University Press.

- Cimoli, M., G. Dosi and J. Stiglitz (eds.) (2009), *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*, Oxford University Press.
- Cimoli, M. and G. Porcile (2011), "Learning, technological capabilities and structural dynamics", *The Oxford Handbook of Latin American Economics*, J.A. Ocampo and J. Ros, Oxford University Press.
- _____ (2009), "Sources of learning paths and technological capabilities: an introductory roadmap of development processes", *Economics of Innovation and New Technology*, vol. 18, No. 7.
- Cimoli, M., G. Porcile and S. Rovira (2010), "Structural change and the BOP constraint: why did Latin America fail to converge?", *Cambridge Journal of Economics*, vol. 34, No. 2.
- Cimoli, M. and S. Rovira (2008), "Elites and structural inertia in Latin America: an introductory note on the political economy of development", *Journal of Economic Issues*, vol. 42, No. 2, June.
- De Miguel, Carlos and Osvaldo Sunkel (2011), "Environmental sustainability", *The Oxford Handbook of Latin American Economics*, José Antonio Ocampo and Jaime Ros (eds.), Oxford University Press.
- Dosi, Giovanni (1988), "Sources, procedures, and microeconomic effects of innovation", *Journal of Economic Literature*, vol. 26, No. 3.
- Dosi, G., K. Pavitt and L. Soete (1990), *The Economics of Technical Change and International Trade*, New York, Harvester Wheatsheaf.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2010a), *Time for equality: closing gaps, opening trails* (LC/G.2423(SES.33/3)), Santiago, Chile.
- _____ (2010b), *Latin America and the Caribbean in the World Economy, 2009-2010* (LC/G.2467-P), Santiago, Chile. United Nations publication, Sales No. E.10.II.G.5.
- _____ (2008), *Preliminary Overview of the Economies of Latin America and the Caribbean, 2008* (LC/G.2401-P), Santiago, Chile. United Nations publication, Sales No. E.08.II.G.2.
- _____ (2007), *Social Cohesion: Inclusion and a Sense of Belonging in Latin America and the Caribbean* (LC/G.2335), Santiago, Chile, January.
- Eichengreen, Barry (2008), "The real exchange rate and economic growth", *Working Paper*, No. 4, Washington, D.C., Commission on Growth and Development/World Bank.
- Eichengreen, Barry and David Leblang (2003), "Capital account liberalization and growth: was Mr. Mahathir right?", *International Journal of Finance & Economics*, vol.8, No. 3, John Wiley & Sons.
- Fajnzylber, Fernando (1983), *La industrialización trunca de América Latina*, Mexico City, Editorial Nueva Imagen.
- Frenkel, Roberto (2008), "Tipo de cambio competitivo, inflación y política monetaria", *Revista de economía política de Buenos Aires*, year 2, vols. 3 and 4.
- Frenkel, Roberto and Martín Rapetti (2011), "A Concise History of Exchange Rate Regimes in Latin America", Washington, D.C., Center for Economic and Policy Research.
- Frenkel, Roberto and Jaime Ros (2006), "Unemployed and the real exchange rate in Latin America", *World Development*, vol. 34, No. 4.
- Frenkel, Roberto and Lance Taylor (2006), "Real exchange rate, monetary policy and employment", *DESA Working Paper*, No. 19 (ST/ESA/2006/DWP/19), February.
- Freund, C. and M.D. Pierola (2008), "Export surges: the power of a competitive currency", *Policy Research Working Paper*, No. 4750, Washington, D.C., World Bank.
- Friedrich, Roman and others (2011), *Measuring Industry Digitization Leaders and Laggards in the Digital Economy*, Booz & Company Inc [online] <http://www.booz.com/media/uploads/BoozCo-Measuring-Industry-Digitization-Leaders-Laggards-Digital-Economy.pdf>.

- Gallagher, K. and R. Porzecanski (2010), *The Dragon in the Room: China and the Future of Latin America Industrialization*, Stanford University Press.
- Gouvea, R.R. and G.T. Lima (2010), "Structural change, balance of payments constraint and economic growth: evidence from the multi-sectoral Thirlwall's law", *Journal of Post Keynesian Economics*, vol. 33, No. 1, October.
- Gylfason, Thorvaldur (2004), "Natural resources and economic growth: from dependence to diversification", *CEPR Discussion Papers*, No. 4804.
- Hausmann, R., J. Hwang and D. Rodrik (2007), "What you export matters", *Journal of Economic Growth*, vol. 12, No. 1.
- Holland, M., F.V. Vieira and O. Canuto (2004), "Economic growth and the balance of payments constraint in Latin America", *Investigación económica*, vol. LXIII, No. 249.
- IPCC (Intergovernmental Panel on Climate Change) (2007), *IPCC Fourth Assessment Report: Climate Change 2007*, Brussels.
- Jayme, F.G. (2003), "Balance of payments constrained economic growth in Brazil", *Brazilian Journal of Political Economy*, vol. 23, No. 1.
- Jayme, F.G., Adriana Moreira and Marco Flávio da Cunha (2007), "Growth cycles in Latin America and developed countries", *Anais do XXXV Encontro Nacional de Economia*, ANPEC.
- Katz, Jorge (2008), "Cambios estructurales y ciclos de destrucción y creación de capacidades productivas y tecnológicas en América Latina", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- _____ (1997), "Structural reforms, the sources and nature of technical change and the functioning of the National Systems of Innovation: the case of Latin America", paper presented at the International symposium on innovation and competitiveness, Seoul, Science and Technology Policy Institute (STEPI), May.
- Lall, S. (2000), "The technological structure and performance of developing country manufactured exports, 1985-98", *Oxford Development Studies*, vol. 28, No. 3.
- León-Ledesma, M.A. (2002) "Accumulation, innovation and catching-up: an extended cumulative growth model", *Cambridge Journal of Economics*, No. 26.
- López, J. and A. Cruz (2000), "Thirlwall's Law and beyond: the Latin American experience", *Journal of Post Keynesian Economics*, vol. 22, No. 3.
- McMillan, M. and D. Rodrik (2011), "Globalization, structural change and productivity growth", *NBER Working Paper*, No. 17143.
- McCombie, J.S.L. and A.P. Thirlwall (1997), "The dynamic Harrod foreign trade multiplier and the demand-orientated approach to economic growth: an evaluation", *International Review of Applied Economics*, vol. 11, No. 1.
- Metcalfe, J.S. (2001), "Institutions and progress", *Industrial and Corporate Change*, vol. 10, No. 3, Oxford University Press.
- Moreno-Brid, J. (2003), "Capital flows, interest payments and the balance of payments constrained growth model: a theoretical and empirical analysis", *Metroeconomica*, vol. 54, No. 3.
- _____ (2002), "Liberalización comercial y la demanda de importaciones en México", *Investigación económica*, vol. 62, No. 240, April-June.
- _____ (1998), "On capital flows and the balance of payments constrained growth model", *Journal of Post Keynesian Economics*, vol. 21, No. 2.
- Murphy, K., A. Shleifer and R.W. Vishny (1989), "Industrialization and the Big Push", *The Journal of Political Economy*, vol. 97, No. 5.

- Narula, R. (2004), "Understanding absorptive capacities in an innovation systems context: consequences for economic and employment growth", *DRUID Working Paper*, No. 04-02, December.
- Nugent, J.B. and J.A. Robinson (2010), "Are factor endowments fate?", *Journal of Iberian and Latin American Economic History*, vol. 28, No. 1.
- Pacheco-Lopez, Penélope and A.P. Thirlwall (2007), "Trade liberalisation and the trade-off between growth and the balance of payments in Latin America", *International Review of Applied Economics*, vol. 21, No. 4.
- Pavitt, K. (1984), "Sectoral patterns of technical change: towards a taxonomy and a theory", *Research Policy*, vol. 13.
- Peneder, M. (2002), "Tracing empirical trails of Schumpeterian development", *Papers on Economics and Evolution*, Vienna, Max Planck Institute for Research in Economic Systems.
- Pérez, Carlota (2008), "Una visión para América Latina: Dinamismo tecnológico e inclusión social mediante una estrategia basada en los recursos naturales" [online] http://www.carlotaperez.org/Articulos/Perez_Vision_AL_castellano_v1.pdf
- Pérez Caldentey, E. (2009), "Can balance-of-payments constrained economies pursue inflation targeting? A look at the case of Chile", *Investigación económica*, vol. LXVIII.
- Prebisch, Raúl (1986), "Notes on trade from the standpoint of the periphery", *CEPAL Review*, No. 28, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April.
- _____ (1980), "Towards a theory of change", *CEPAL Review*, No. 10 (E/CEPAL/G.1110), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- _____ (1961), *Economic Development, Planning and International Cooperation*, New York.
- Rodrigues, Monica and Adrián Rodríguez (orgs.) (2012), "Information and communication technologies (ICT) for agricultural development in Latin America: trends, barriers and policies", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), unpublished.
- Rodríguez, O. (1977), "On the conception of the center-periphery system", *CEPAL Review*, No. 3, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April.
- Rodrik, D. (2008) "The real exchange rate and economic growth", *Brookings Papers on Economic Activity*, No. 2.
- Ros, Jaime (2012), "Institutional and policy convergence with growth divergence in Latin America: the role of industrial and macroeconomic policy", paper presented at the International conference on industrial policies in the 21st Century, Rio de Janeiro, 10 - 11 May.
- _____ (2005), "El desempleo en América Latina desde 1990", *Estudios y perspectivas series*, No. 29 (LC/L.2265-P), México City, ECLAC subregional headquarters in Mexico, February.
- _____ (2002), *Economic Growth and Development Theory*, Michigan University Press.
- Rosenberg, N. (1982), *Inside the Black Box: Technology and Economics*, Cambridge University Press.
- Rosenstein-Rodan, P. (1961), "Notes on the theory of the 'big push'", *Economic Development for Latin America*, H.S. Ellis and H.C. Wallich (eds.), New York, St. Martin's.
- Sachs, J.D. and A.M. Warner (2001), "Natural resources and economic development: the curse of natural resources", *European Economic Review*, vol. 45.
- Samaniego, Joseluis (2010), "Presentación", Seminar on the vulnerability of trade in light of the carbon footprint, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 2-3 September [online] http://www.eclac.org/ddisah/noticias/paginas/1/40741/01_Joseluis_Samaniego.Introduccion.pdf.

- Sarukhán, José and others (2010), *Patrimonio natural de México. Cien casos de éxito*, Mexico City, National Commission for Knowledge and Use of Biodiversity (CONABIO).
- Schnabl, Günther (2007), "Exchange rate volatility and growth in small open economies at the EMU periphery", *Working Paper Series*, No. 773, European Central Bank, July.
- Schumpeter, J.A. (1911), *Theory of Economic Development*, Cambridge, Harvard University Press.
- Sekkat, K. and A. Varoudakis (2000), "Exchange rate management and manufactured exports in Sub-Saharan Africa", *Journal of Development Economics*, vol. 61, No. 1.
- Sinnott, Emily, John Nash and Augusto de la Torre (2010), *Natural Resources in Latin America and the Caribbean. Beyond Booms and Busts?*, Washington, D.C., World Bank.
- Stern, Nicholas (2007), *The Economics of Climate Change: The Stern Review*, Cambridge University Press, January.
- Thirlwall, A.P. (2011), "Balance of payments constrained growth models: history and overview", *School of Economics Discussion Paper*, No. 1111, University of Kent, May.
- _____ (1979), "The balance of payments constraint as an explanation of international growth rate differences", *Banca del Lavoro Quarterly Review*, No. 128.
- UNCTAD (United Nations Conference on Trade and Development) (2010), "Background Note Prepared by the UNCTAD Secretariat for the Ad Hoc Expert Meeting on The Green Economy: Trade and Sustainable Development Implications" (UNCTAD/DITC/TED/2010/2), Geneva, 7-8 October [online] www.unctad.org/en/docs/ditcted20102_en.pdf.
- United Nations (2012), *Sustainable Development 20 Years on from the Earth Summit: Progress, Gaps and Strategic Guidelines for Latin America and the Caribbean* (LC/L.3346/Rev.1), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Wade, R. (1990), *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton, Princeton University Press.

Chapter III

- ALIDE (Latin American Association of Development Finance Institutions) (2010), "Papel contracíclico de la banca de desarrollo y áreas estratégicas de actuación", Lima, November.
- Arrow, K. (2000), "Increasing returns: histographic issues and path dependence", *European Journal of the History of Economic Thought*, vol. 7, No. 2.
- Barbosa-Filho, N.H. (2002), "The balance-of-payments constraint: from balance trade to sustainable debt", *CEPA Working Paper*, No. 2001.06, New School University.
- Basu, Parantap and William T. Gavin (2011), "What explains the growth in commodity derivatives", *Excessive Speculation in Agricultural Commodities*, Ben Lilliston and Andrew Ranallo (eds.), Institute for Agriculture and Trade Policy.
- Beck, Thorsten and Ross Levine (2004), "Legal institutions and financial development", *NBER Working Papers*, No. 10417, National Bureau of Economic Research.
- Bry, Gerhard and Charlotte Boschan (1971), "Cyclical analysis of time series: selected procedures and computer programs", *NBER Books*, No. 71-1, National Bureau of Economic Research (NBER), May.
- Chinn, Menzie D. and Hiro Ito (2008), "A New Measure of Financial Openness", *Journal of Comparative Policy Analysis*, vol. 10, No. 3.
- _____ (2006), "What matters for financial development? Capital controls, institutions, and interactions", *Journal of Development Economics*, vol. 81, No. 1.

- Cipoletta Tomassian, Georgina and Ricardo Sánchez (2011), *UNASUR: Infrastructure for regional integration* (LC/L.3408), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Damill, Mario and Roberto Frenkel (2011), "Macroeconomic policies and performances in Latin America 1990-2010", Center for the Study of State and Society (CEDES), December.
- David, P. (2000), "Path dependence, its critics and the quest for historical economics", *Working Papers*, No. 00011, Stanford University.
- _____ (1985), "Clio and the economics of QWERTY", *The American Economic Review*, vol. 75, No. 2, May.
- De Schutter, Olivier (2010), *Food Commodity Speculations and Food Prices*, Briefing Note, No. 2 [online] http://www.makefinancework.org/IMG/pdf/un_deschutter_2010_commodity_speculationpdf.
- Díaz-Alejandro, Carlos (1985), "Good-bye financial repression, hello financial crash", *Journal of Development Economics*, vol. 19, No. 1-2.
- Dunning, J. (2002), "La inversión extranjera directa europea en América Latina", *Inversión extranjera directa en América Latina. El papel de los inversores europeos*, Z. Vodusek, (ed.), Washington, D.C., Inter-American Development Bank (IDB).
- ECLAC (Economic Commission for Latin America and the Caribbean) (2012), *Foreign Direct Investment in Latin America and the Caribbean 2011*, Santiago, Chile.
- _____ (2011a), *Foreign Direct Investment in Latin America and the Caribbean 2010* (LC/G.2494-P), Santiago, Chile. United Nations publication, Sales No. E.11.II.G.4.
- _____ (2011b), *Economic Survey of Latin America and the Caribbean 2010-2011* (LC/G.2506-P), Santiago, Chile. United Nations publication, Sales No.E.11.II.G.3.
- _____ (2011c), *Latin America and the Caribbean in the World Economy 2010-2011* (LC/G.2502-P), Santiago, Chile.
- _____ (2010a), *Time for equality: closing gaps opening trails* (LC/G.2423(SES.33/3)), Santiago, Chile.
- _____ (2010b), *Latin America and the Caribbean in the World Economy, 2009-2010* (LC/G.2467-P), Santiago, Chile. United Nations publication, Sales No. E.10.II.G.5.
- _____ (2009), *Latin America and the Caribbean in the World Economy, 2008-2009* (LC/G.2413-P), Santiago, Chile. United Nations publication, Sales No. E.09.II.G.62.
- Franco, Rolando, Martín Hopenhayn and Arturo León (2010), *Clases medias en América Latina. Retrospectiva y cambios recientes*, Mexico City, ECLAC-SEGIB/Siglo XXI editores.
- Galindo, J.M. and J. Samaniego (2010), "The economics of climate change in Latin America and the Caribbean: stylized facts", *CEPAL Review*, No. 100 (LC/G.2442-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Harding, Don and Adrian Pagan (2005), "A suggested framework for classifying the modes of cycle research", *Journal of Applied Econometrics*, vol. 20, No. 2.
- Hodrick, Robert and Edward Prescott (1997), "Postwar U.S. Business Cycles: An Empirical Investigation", *Journal of Money, Credit, and Banking*, vol. 29, No. 1.
- IMF (International Monetary Fund) (2011a), "Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework", IMF Strategy, Policy, and Review Department, Washington, D.C., February.
- _____ (2011b), *World Economic Outlook*, Washington, D.C.
- Jiménez, Luis Felipe and Sandra Manuelito (2011), "Latin America: financial systems and financing of investment. Diagnostics and proposals", *CEPAL Review*, No. 103 (LC/G.2487-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

- Jordán, Valeria, Hernán Galperin and Wilson Peres (coords.) (2010), "Acelerando la revolución digital: banda ancha para América Latina y el Caribe" (LC/R.2167), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Kacef, Osvaldo and Sandra Manuelito (2008), "El ingreso nacional bruto disponible en América Latina: una perspectiva de largo plazo", *Macroeconomía del desarrollo series*, No. 69 (LC/L.2982-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Kaiser, Regina and Agustín Maravall (2001), *Measuring Business Cycles in Economic Time Series*, New York, Springer.
- Male, Rachel (2011), "Developing country business cycles: Characterizing the cycle" , *Emerging Markets Finance and Trade*, vol. 47, No. 2.
- _____ (2010), "Developing country business cycles: characterizing the cycle", *Working Paper*, No. 663, University of London.
- Martner, Ricardo, Ivonne González and María Espada (2012), "Hacia una mayor calidad de las finanzas públicas en América Latina", *Gestión pública series*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), forthcoming.
- Masters, M.W. and A.K White (2008), "The Accidental Hunt Brothers: How Institutional Investors are Driving up Food and Energy Prices" [online] <http://www.loe.org/images/content/080919/Act1.pdf>.
- McCombie, J.S.L. and A.P. Thirlwall (1999), "Growth in an international context: A Post-Keynesian view", *Foundations on International Economics: Post-Keynesian Perspectives*, J. Deprez and J. Harvey (eds.), Routledge.
- Mihaljek, D. y F. Packer (2010), "Derivatives in emerging markets", *BIS Quarterly Review*, December.
- Morales, M. (2009), "Bolsa, banca, productividad y crecimiento", *El reto de modernizar el mercado bursátil: Cinco principios*, Santiago, Chile, Office of the Superintendent of Securities of Chile.
- Moreno-Brid, Juan Carlos (1998), "On capital flows and the balance of payments constrained growth model", *Journal of Post Keynesian Economics*, vol. 21, No. 2.
- _____ (2002), "Liberalización comercial y la demanda de importaciones en México", *Investigación económica*, vol. 62, No. 240, April-June.
- OECD (Organization for Economic Cooperation and Development) (2009), *OECD Annual Report, 2009*, Paris
- Pérez Caldentey, Esteban and Ramón Pineda (2010), "Does Latin America lag behind due to shaper recessions and/or slower recoveries?", *MPRA Paper*, No. 25036, University Library of Munich.
- Perrotti, Daniel and Ricardo Sánchez (2011), "La brecha de infraestructura en América Latina y el Caribe", *Recursos naturales e infraestructura series*, No. 153 (LC/L.3342), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Rigobon, R. (2002), *International Financial Contagion: Theory and Evidence in Evolution*, The Research Foundation of AIMR.
- Stiglitz, Joseph and others (2006), *Stability with Growth: Macroeconomics, Liberalization and Development*, New York, Oxford University Press.
- Titelman, Daniel, Ramón Pineda and Esteban Pérez Caldentey (2008), "The bigness of smallness: The financial crisis, its contagion mechanisms and its effects in Latin America", *CEPAL Review*, No. 98 (LC/G.2404-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- UNCTAD (United Nations Conference on Trade and Development) (2011), *World Investment Report 2011. Non-equity modes of international production and development*, Geneva. United Nations publication, Sales No. E.11.II.D.2.

- _____ (2009), *World Investment Report 2009. Transnational corporations, agricultural production and development* (UNCTAD/WIR/2009), Geneva. United Nations publication, Sales No. E.09.II.D.15.
- _____ (2008), *World Investment Report 2008. Transnational corporations and the infrastructure challenge*, Geneva. United Nations publication, Sales No. E.08.II.D.23.
- _____ (2005), *World Investment Report 2005. Transnational corporations and the internationalization of R&D*, Geneva. United Nations publication, Sales No. E.05.II.D.10.
- United Nations (2012), *Sustainable development 20 years on from the Earth Summit: progress, gaps and strategic guidelines for Latin America and the Caribbean* (LC/L.3346/Rev.1), Santiago, Chile, Economic Commission for Latin America and the Caribbean
- World Bank (2011), *World Development Report 2011: Conflict, Security, and Development*, Washington, D.C., May.

Chapter IV

- Abeles, Martín and Mariano Borzel (2010), “El régimen bajo presión: Los esquemas de metas de inflación en Brasil, Chile, Colombia y Perú durante el boom en los precios internacionales de materias primas”, *Documento de trabajo*, No. 31, Buenos Aires, Centro de Economía y Finanzas para el Desarrollo.
- Aizenman, Joshua and Yothin Jinjarak (2011), “The fiscal stimulus of 2009-2010: trade openness, fiscal space, and exchange rate adjustment”, *NBER Chapters*, International Seminar on Macroeconomics.
- _____ (2009), “Current account patterns and national real estate markets”, *Journal of Urban Economics*, vol. 66, No. 2.
- Alleyne, D., M. Hendrickson and T. Amonde (2011), “Macroeconomics for development: the Caribbean experience”, Port of Spain, ECLAC subregional headquarters for the Caribbean, unpublished.
- Arestis, P. (2009), “Fiscal policy within the new consensus framework”, *Working Paper*, No. WP06-09, Cambridge Centre for Economic and Public Policy (CCEPP), University of Cambridge.
- Arestis, P., L. de Paula and F. Ferrari-Filho (2008), “Inflation targeting in Brazil”, *Working Paper*, No. 544, Levy Economics Institute of Bard College.
- Barbosa-Filho, N. (2008), “Inflation targeting in Brazil: 1999-2006”, *Beyond Inflation Targeting: Central Bank Policy for Employment Creation, Poverty Reduction and Sustainable Growth*, G. Epstein and E. Yeldan (eds.), Edward Elgar.
- Barreix, Alberto, Martin Bes and Jerónimo Roca (2009), “Equidad fiscal en Centroamérica, Panamá y República Dominicana”, Washington, D.C., Inter-American Development Bank (IDB).
- Bernanke, Ben and F. Mishkin (1997), “Inflation targeting: a new framework for monetary policy?”, *Journal of Economic Perspectives*, vol. 11, No. 2.
- Bernanke, Ben and Michael Woodford (2004), “The inflation-targeting debate”, *NBER Books*, National Bureau of Economic Research (NBER), May.
- Bianchi, Carluccio, Federica Calidoni and Mario Menegatti (2009), “Pitfalls in estimating β -convergence by means of panel data: an empirical test”, *International Review of Economics*, vol. 56, No. 4, December.
- Bibow, Jörg (2010), “A post Keynesian perspective on the rise of central bank independence: a dubious success story in monetary economics”, *Working Paper*, No. 625, Levy Economics Institute.
- Bikker, J.A. and P.A.J. Metzmakers (2002), “Bank provisioning behaviour and procyclicality”, *Research Series Supervision* (discontinued), No. 50, Netherlands Central Bank.

- Birchwood, Anthony (2011), "Should SIDS follow monetary and fiscal rules?", paper presented at the expert meeting on growth and development in small states, Malta, 17-18 November.
- BIS/IMF (Bank for International Settlements/International Monetary Fund) (2011), "Macroprudential Policy Tools and Frameworks. Progress Report to G20", 27 October [online] <http://www.imf.org/external/np/g20/pdf/102711.pdf>.
- Blanchard, Olivier (2008), "The state of macro", *NBER Working Paper*, No. 14259, National Bureau of Economic Research (NBER).
- Borio, Claudio and Haibin Zhu (2008), "Capital regulation, risk taking and monetary policy: a missing link in the transmission mechanism?", *BIS Working Papers*, No. 268, Basel, Bank for International Settlements.
- Bresser-Pereira, Luiz Carlos and José Luis Oreiro (2012), "A theoretical framework for structuralist development macroeconomics", paper presented at the conference Financial Stability and Growth, Getulio Vargas Foundation/Ford Foundation, São Paulo, 22 to 23 of March .
- Calderón, César and others (2011), "Macro-Prudential Policy Issues: A Latin American Perspective" [online] https://www.flar.net/documentos/4279_De_La_Torre.pdf.
- Calvo, Guillermo and Carmen Reinhart (2000), "Fear of floating", *NBER Working Paper*, No. 7993, National Bureau of Economic Research (NBER).
- Carlin, W. and D. Soskice (2006), *Macroeconomics, Imperfections, Institutions & Policies*, Oxford University Press.
- Cornia, Giovanni Andrea (2010), "Income distribution under Latin America's new left regimes", *Journal of Human Development and Capabilities*, vol. 11, No. 1.
- Crotty, James (2009), "Structural causes of the global financial crisis: a critical assessment of the 'new financial architecture'", *Cambridge Journal of Economics*, vol. 33, Nº 4, Oxford University Press.
- De Beaufort, J.O and A. Kapetyn (2001), "Reserve adequacy in emerging market economies", *IMF Working Paper*, No. WP/01/143, Washington, D.C., International Monetary Fund.
- Díaz Alejandro, Carlos (1985), "Good-bye financial repression, hello financial crash", *Journal of Development Economics*, vol. 19.
- Drazen, Allan (2000), "Political contagion in currency crises", *NBER Chapters*, National Bureau of Economic Research (NBER).
- Duttgupta, Rupa and Guillermo Tolosa (2006), "Fiscal policy: is the Eastern Caribbean Currency Union a free riding paradise", *The Caribbean: from Vulnerability to Sustained Growth*, R. Sahay, D.O. Robinson and P. Cashin (eds.), Washington, D.C., International Monetary Fund.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2011), *Social Panorama of Latin America, 2011* (LC/G.2514-P), Santiago, Chile. United Nations publication, Sales No. E.12.11.G.6.
- _____ (2010a), *Time for equality: closing gaps, opening trails* (LC/G.2432(SES.33/3)), Santiago, Chile.
- _____ (2010b), *The reaction of the Governments of the Americas to the international crisis: an overview of policy measures up to 31 December 2009* (LC/L.3025/Rev.6), Santiago, Chile, 31 January.
- _____ (2004), *Productive development in open economies* (LC/G.2234(SES.30/3)), Santiago, Chile.
- _____ (2002), *Globalization and development* (LC/G.2157(SES.29/3)), Santiago, Chile, abril.
- _____ (2000), *Equity, Development and Citizenship* (LC/G.2071/Rev.1-P/E), Santiago, Chile, August. United Nations publication, Sales No. E.00.II.G.81.
- _____ (1998), "The fiscal covenant. Strengths, weaknesses and challenges", *Libros de la CEPAL*, No. 47 (LC/G.2024/E), Santiago, Chile.
- Eichengreen, Barry and Ricardo Hausmann (1999), "Exchange rates and financial fragility", *NBER Working Paper*, No. 7418, National Bureau of Economic Research.

- Epstein, G. and E. Yeldan (eds.) (2009), *Beyond Inflation Targeting: Central Bank Policy for Employment Creation, Poverty Reduction and Sustainable Growth*, Edward Elgar.
- Ffrench-Davis, Ricardo (2008), "Del 'financierismo' a la macroeconomía real", *Ensayos económicos*, No. 52, Investigaciones económicas series, Central Bank of Argentina, October-December.
- _____(2006), *Reforming Latin America's Economies: After Market Fundamentalism*, Macmillan, April.
- _____(2000), *Reforming the Reforms in Latin America: Macroeconomics, Trade, Finance*, Macmillan.
- Frenkel, R. (2008), "Tipo de cambio competitivo, inflación y política monetaria", *Revista de economía política de Buenos Aires*, year 2, vols. 3 and 4.
- Frenkel, Roberto and Martín Rapetti (2011), *A Concise History of Exchange Rate Regimes in Latin America*, Washington, D.C., Center for Economic and Policy Research (CEPR).
- FSB/BIS/IMF (Financial Stability Board/Bank for International Settlements/International Monetary Fund) (2011), "Macroprudential policy tools and frameworks. Progress Report to G20", October.
- Galindo, L.M. and J. Ros (2008), "Alternatives to inflation targeting in Mexico", *Beyond Inflation Targeting: Central Bank Policy For Employment Creation, Poverty Reduction and Sustainable Growth*, G. Epstein and E. Yeldan (comps.), Edward Elgar.
- Gasparini, Leonardo, Guillermo Cruces and Leopoldo Tornarolli (2011), "Recent trends in income inequality in Latin America", *Journal of LACEA Economía*, Latin American and Caribbean Economic Association (LACEA).
- Goñi, Edwin, Humberto López and Luis Servén (2008), "Fiscal redistribution and income inequality in Latin America", *World Bank Policy Research Working Paper*, No. 4487, Washington, D.C., World Bank.
- Gordy, Michael B. and Bradley Howells (2006), "Procyclicality in Basel II: can we treat the disease without killing the patient?", *Journal of Financial Intermediation*, vol. 15, No. 3.
- Griffith Jones, Stephanie (2009), "How To Create Better Financial Regulation and Institutions", *Briefing*, No.2, Friedrich Ebert Foundation (FES), March.
- Hannoun, Hervé (2010), "Towards a Global Financial Stability Framework", speech at the 45th SEACEN Governors' Conference, Cambodia, 26-27 February.
- Heller, Peter S. (2005), "Understanding fiscal space", *IMF Policy Discussion Paper*, No. PDP/05/4, Washington, D.C., International Monetary Fund.
- IMF (International Monetary Fund) (2011), *Regional Economic Outlook: Western Hemisphere*, Washington, D.C.
- Jiménez, Juan Pablo, Juan Carlos Gómez Sabaini and Andrea Podestá (comps.) (2010), "Evasión y equidad en América Latina", *Project Documents*, No. 309 (LC/W.309/Rev.1), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC)/German Agency for Technical Cooperation (GTZ).
- Kaminsky, Graciela L., Carmen M. Reinhart and Carlos A. Végh (2005), "When it rains, it pours: procyclical capital flows and macroeconomic policies", *NBER Chapters*, vol. 19, National Bureau of Economic Research.
- Keen, S. (2011), "A monetary Minsky model of the Great Moderation and the Great Recession", *Journal of Economic Behavior & Organization*.
- Kindleberger, Charles P. (1978), *Manias, Panics, and Crashes: A History of Financial Crisis*, New York, Basic Books.
- Kregel, J. (2009), "Managing the impact of volatility in international capital markets in an uncertain world", *Working Paper*, No. 558, The Levy Economics Institute.
- Levy-Yeyati, E. and F. Sturzenegger (2007), "Fear of appreciation", *KSG Working Paper*, No. 07-047, Harvard University.

- Lora, Eduardo, Andrew Powell and Pilar Tavella (2011), *¿Qué efecto inflacionario tendrá el shock de precios de los alimentos en América Latina?*, Washington, D.C., Inter-American Development Bank, April.
- Machado, Roberto (2009), "Economic growth in the Caribbean", Port of Spain, ECLAC subregional headquarters for the Caribbean, unpublished.
- Magud, N., C. Reinhart and E. Vesperoni (2011), "Capital inflows, exchange rate flexibility, and credit booms", *NBER Working Paper*, No. 17670, National Bureau of Economic Research, December.
- Martner, Ricardo and Varinia Tromben (2004), "Public debt sustainability", *CEPAL Review*, No. 84 (LC/G.2258-P/E), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- Minsky, Hyman P. (1975), *John Maynard Keynes*, Columbia University Press.
- Moreno Brid, Juan Carlos, Juan Carlos Rivas Valdivia and Francisco G. Villarreal (2012), "El *trade off* entre inflación y crecimiento económico: ¿Qué nos dice la econometría de panel de la evidencia internacional 1950-2010?", Mexico City, ECLAC subregional headquarters in Mexico, unpublished.
- Novick, M. and others (2007), "Tras la crisis: El nuevo rumbo de la política económica y laboral en Argentina y su impacto", *serie de Investigación*, No. 114, International Labour Organization (ILO), International Institute for Labour Studies.
- Ocampo, José Antonio (2011), "Macroeconomy for development: countercyclical policies and production sector transformation", *CEPAL Review*, No. 104 (LC/G.2498-P/E), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- Ocampo, J.A., C. Rada and L. Taylor (2009), *Growth and Policy in Developing Countries. A Structuralist Approach*, New York, Columbia University Press.
- Ocampo, J.A. and C.E. Tovar (2003), "Colombia's experience with reserve requirements on capital inflows", *CEPAL Review*, No. 81 (LC/G.2216-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- Ostry, Jonathan D., Atish R. Ghosh and Marcos Chamon (2012), "Two targets, two instruments: monetary and exchange rate policies in emerging market economies", *IMF Discussion Note*, Washington, D.C., International Monetary Fund (IMF), February.
- Ostry, Jonathan D. and others (2011), "Managing capital inflows: what tools to use", *IMF Discussion Note*, Washington, D.C., International Monetary Fund (IMF), April.
- Pérez Caldentey, E. (2009), "Can balance-of-payments constrained economies pursue inflation targeting? A look at the case of Chile", *Investigación económica*, vol. LXVIII.
- _____ (2007), "Debt accumulation in the Caribbean: origins, consequences and strategies" (LC/CAR/L.106), Port of Spain, ECLAC subregional headquarters for the Caribbean.
- Pritchett, L. (1997), "Divergence: big time", *Journal of Economic Perspectives*, vol. 11, No. 3.
- Rochet, Jean-Charles (2008), "Le futur de la réglementation bancaire", *TSE Notes*, No. 2, December.
- Rogoff, Kenneth (2006), "Global imbalances and exchange rate adjustment", *Journal of Policy Modeling*, vol. 28, No. 6, Elsevier, September.
- Ros, Jaime (2012), "Estudio comparativo de las economías de Canadá y México en el período 1994-2011", *Estudios y perspectivas series*, No. 136 (LC/MEXL.1059), Mexico City, ECLAC subregional headquarters in Mexico, May.
- Rossignolo, Darío and Juan Carlos Gómez Sabaini (2011), "Impacto de las políticas tributarias sobre la equidad en los países de América Latina", *La desigualdad y los impuestos (II)*, José Nun (ed.), Buenos Aires, Capital Intelectual.

- Roy, R. and A. Heuty (2009), *Fiscal Space: Policy Options for Financing Human Development*, New York, United Nations Development Programme (UNDP).
- Sahay, Ratna (2004), "Stabilization, debt and fiscal policy in the Caribbean", *IMF Working Paper*, No. WP/05/26, Washington, D.C., International Monetary Fund (IMF).
- Sáinz, P. y S. Manuelito (2006), "Relative prices in Latin America in periods of low inflation and structural change", *CEPAL Review*, No. 89 (LC/G.2312-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- Schick, Allen (2009), *Budgeting for Fiscal Space*, Paris, Organisation for Economic Cooperation and Development (OCDE).
- Stiglitz, Joseph and others (2006), *Stability with Growth: Macroeconomics, Liberalization and Development*, New York, Oxford University Press.
- Taylor, Ashley and Charles Goodhart (2006), "Procyclicality and volatility in the financial system: the implementation of Basel II and IAS 39", *Procyclicality of Financial Systems in Asia*, Stefán Gerlach and Paul Gruenwald (eds.), Houndsmill, Basingstoke, Palgrave Macmillan.
- Torres, R. (2011), "From the 'Great Moderation' to growth with equity", paper presented at the Jornadas Monetarias y Bancarias 2011, Buenos Aires, Central Bank of Argentina.
- UNCTAD (United Nations Conference on Trade and Development) (2011), *World Investment Report 2011. Non-equity Modes of International Production and Development*, Geneva. United Nations publication, Sales No. E.11.II.D.2.
- UNDP (United Nations Development Programme) (2010), *Achieving Debt Sustainability and the MDGs in Small Island Developing States*, Discussion Paper, New York.
- Wittwer, Glyn (2009), "The economic impacts of a new dam in South-East Queensland", *Australian Economic Review*, vol. 42, No. 1, University of Melbourne.

Chapter V

- Aidt, T. and Z. Tzannatos (2002), *Unions and Collective Bargaining. Economic Effects in a Global Environment*, Washington, D.C., World Bank.
- Amarante, V. and A. Vigorito (2011), "Los futuros posibles de la desigualdad de ingresos", *La aventura uruguaya. ¿Naidas más que naidas?*, R. Arocena and G. Caetano (coord.), Montevideo, Editorial Debate.
- Atkinson, A. (1997), "Bringing income distribution in from the cold", *Economic Journal*, vol. 107, No. 441, Royal Economic Society.
- _____. (1989), *The Economics of Inequality*, Oxford, Clarendon Press, second edition.
- Card, D. (1992), "The effect of unions on the distribution of wages: redistribution or relabeling?", *NBER Working Paper*, No. 4195, October.
- Cornia, G. (2012), "Inequality trends and their determinants: Latin America over 1990-2011", *Working Papers*, World Institute for Development Economics Research (WIDER).
- Correa, R. (2002), "Structural reforms and growth in Latin America: a sensitivity analysis", *CEPAL Review*, No. 76 (LC/G.2175-P/E), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Daudey, E. and C. García Peñalosa (2007), "The personal and the factor distributions of income in a cross-section of countries", *Journal of Development Studies*, vol. 43, No. 5.
- DiNardo, J., N. Fortin and T. Lemieux (1996), "Labor market institutions and the distribution of wages, 1973-1992: a semiparametric approach", *Econometrica*, No. 65.

- ECLAC (Economic Commission for Latin America and the Caribbean) (2012), *Social Panorama of Latin America 2011* (LC/G.2514-P), Santiago, Chile. United Nations publication, Sales No. E.12.II.G.6.
- _____ (2011), *Social Panorama of Latin America 2010* (LC/G.2481-P), Santiago, Chile. United Nations publication, Sales No. E.11.II.G.6.
- _____ (2010a), *Time for equality: closing gaps, opening trails* (LC/G.2432(SES.33/3)), Santiago, Chile.
- _____ (2010b), *Social Panorama of Latin America 2009* (LC/G.2423-P), Santiago, Chile. United Nations publication, Sales No. E.09.II.G.135.
- _____ (1964), *La mano de obra y el desarrollo económico de América Latina en los últimos años*, Santiago, Chile.
- ECLAC/ILO (Economic Commission for Latin America and the Caribbean/International Labour Organization) (2011), *The Employment Situation in Latin America and the Caribbean*, ECLAC/ILO Bulletin, No. 5, Santiago, Chile.
- _____ (2009), "Crisis and the labour market", *The Employment Situation in Latin America and the Caribbean*, ECLAC/ILO Bulletin, No. 1, Santiago, Chile.
- Freeman, R. (1984), "Longitudinal analyses of the effects of trade unionism", *Journal of Labor Economics*, January.
- _____ (1996), "The minimum wage as a redistributive tool", *Economic Journal*, No. 108.
- ILO-IILS (International Labour Organization-International Institute for Labour Studies) (2011), *World of Work Report 2011. Making Markets Work for Jobs*, Geneva.
- Infante, Ricardo (1981), "Heterogeneidad estructural, empleo y distribución del ingreso", *El trimestre económico*, vol. 48(2), No. 190, Mexico City, Fondo de Cultura Económica, April-June.
- _____ (2011), "América Latina en el 'umbral del desarrollo'. Un ejercicio de convergencia productiva", *Working Paper*, No. 14, Inclusive development project, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), unpublished.
- Gasparini, L. and others (2011), "Educational upgrading and returns to skills in Latin America. Evidence from a supply demand framework. 1990-2010", *Working Paper*, No. 127, Centro de Estudios Distributivos Laborales y Sociales (CEDLAS), Universidad de la Plata.
- López Calva, L. and N. Lustig (2011), *Declining Inequality in Latin America. A Decade of Progress?*, Washington, D.C., United Nations Development Programme (UNDP)/Brookings Institution.
- Lora, E. (1997), "Una década de reformas estructurales en América Latina: Qué se ha reformado y cómo medirlo", *Documentos de trabajo series*, No. 348, Inter-American Development Bank (IDB).
- Lora, E. and U. Panizza (2003), "The future of structural reform", *Journal of Democracy*, vol. 14, No. 2.
- Manacorda, M., C. Sánchez-Páramo and N. Schady (2010), "Changes in returns to education in Latin America: the role of demand and supply of skills", *Industrial and Labor Relations Review*, No. 63.
- Montaño, S. (2010), "El cuidado en acción", *El cuidado en acción. Entre el derecho y el trabajo* (LC/G.2454-P), S. Montaño and C. Calderón (coords.), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Peirano, F., A. Tivosnanska and E. Goldstein (2010), "El crecimiento de Argentina entre 2003 y 2008. Virtudes, tensiones y aspectos pendientes", *Consenso progresista. Política económica de los gobiernos del Cono Sur. Elementos comunes, diferencias y aprendizajes*, Red de Fundaciones Progresistas.
- Perry, G. and others (2007), *Informality: Exit and Exclusion*, Washington, D.C., World Bank.
- Pinto, A. (1973), "Naturaleza e implicaciones de la heterogeneidad estructural en la América Latina", *El trimestre económico*, No. 145, México D.F., Fondo de Cultura Económica.

- Pinto, A. and A. Di Filippo (1973), "Notas sobre la estrategia de la distribución y redistribución del ingreso en América Latina", *Distribución del ingreso*, A. Foxley (ed.), Mexico City, Fondo de Cultura Económica.
- Soares, S. (2012), "A Queda na heterogeneidade estrutural explica a queda da desigualdade dos rendimentos do trabalho? Uma análise preliminar", ECLAC/IPEA project on structural heterogeneity and inclusive development in Brazil, Brasilia, April.
- Tokman, V. (1982), "Unequal development and the absorption of labour: Latin America 1950-1980", *CEPAL Review*, No. 17, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Weller, J. (2012), "Crecimiento, empleo y distribución de ingresos en América Latina", *Macroeconomía del desarrollo series*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), forthcoming.
- _____. (2000), *Reformas económicas, crecimiento y empleo: Los mercados de trabajo en América Latina*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (EPAL)/Fondo de Cultura Económica.
- _____. (1998), "Los mercados laborales en América Latina: Su evolución en el largo plazo y sus tendencias recientes", *Reformas económicas series*, No. 11 (LC/L.1160), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

Chapter VI

- Abeles, Martín, Pascual Gerstenfeld and Daniel Vega (2011), "Crecimiento, distribución y desarrollo: Un enfoque integrado", Project documents (LC/W.441), Santiago, Chile, June.
- Agosín, Manuel, C. Larraín and N. Grau (2009), "Industrial policy in Chile", *Working Paper*, No. 294, Santiago, Chile, Economics Department, University of Chile, March.
- Akyüz, Yilmaz (2012), "The staggering rise of the South?", *South Centre Research Paper*, No. 44.
- Alonso, E. (2003), *Centroamérica: Políticas para el fomento de los sectores productivos en Centroamérica*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Auerbach, A.J., W.G. Gale and B.H. Harris (2010), "Activist fiscal policy", *Journal of Economic Perspectives*, vol. 24, No. 4.
- Becker, G. (1985), "The best industrial policy is none at all", *Business Week*, 25 August.
- Bensusán, G. (2009), "Estándares laborales y calidad del empleo en América Latina", *Perfiles latinoamericanos*, vol. 17, No. 34.
- Berg, A. and J. Ostry (2011), "Inequality and unsustainable growth: two sides of the same coin?", *IMF Staff Discussion Note*, No. 11/08, Washington, D.C., International Monetary Fund.
- Bonelli, R. and P. Motta Veiga (2003), "A dinâmica das políticas setoriais no Brasil na década de 1990: continuidade e mudança", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Bourguignon, Francois, Francisco Ferreira and Michael Walton (2005), "Is greater equity necessary for higher long term growth in Latin America?", paper presented at the seminar Economic growth with equity: challenges for Latin America, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 1-2 September.
- Bourguignon, F. and M. Walton (2007), "Is greater equity necessary for higher long-term growth in Latin America?", *Economic Growth with Equity: The Challenges for Latin America*, R. French-Davis and J.L. Machinea (eds.), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).

- Bresser-Pereira, L.C. (2010), *Globalização e competição: por que alguns países emergentes têm sucesso e outros não*, Rio de Janeiro, Elsevier-Campus.
- _____ (2009), "The tendency to the overvaluation of the exchange rate", *Mondialisation et compétition*, Paris, La Découverte.
- Buchanan, James M. and Richard E. Wagner (1977), *Democracy in Deficit: The Political Legacy of Lord Keynes*, New York, Academic Press.
- Bucheli, M. and M. Furtado (2002), "Impacto del desempleo sobre el salario: Una estimación de la pérdida salarial para Uruguay", *Desarrollo económico*, vol. 42, No. 165, Buenos Aires, April-June.
- Calvo, Guillermo (2010), "Controls on cyclical capital inflows. Some skeptical notes", *IDB Discussion Paper*, No. IDB-DP-102, Washington, D.C., Inter-American Development Bank (IDB).
- Calza, E., M. Cimoli and A. Laplane (2009), "El proceso de aprendizaje en el diseño e implementación de las políticas de CTI", *Pensamiento iberoamericano*, No. 5, December.
- Cecchini, S. and A. Madariaga (2011), "Conditional cash transfer programmes: the recent experience in Latin America and the Caribbean", *Libros de la CEPAL series*, No. 95, (LC/G.2497-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. E.11.II.G.55.
- Chang, Ha-Joon (2002), "Breaking the mould: an insitutionalist political economy alternative to the neo-liberal theory of the market and the state", *Cambridge Journal of Economics*, vol. 26, No. 5, Oxford University Press, September.
- _____ (1994), *The Political Economy of Industrial Policy*, Macmillan Press.
- Cimoli, M., G. Dosi and J.E. Stiglitz (ed.) (2009), *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*, Oxford University Press.
- Cimoli, M., J.C. Ferraz and A. Primi (2005), "Science and technology policies in open economies: the case of Latin America and the Caribbean", *Desarrollo productivo series*, No. 165 (LC/L.2404-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), October. United Nations publication, Sales No. E.05.II.G.151.
- Cnossen, Sijbren (2005), *Theory and Practice of Excise Taxation: Smoking, Drinking, Gambling, Polluting, and Driving*, Oxford University Press, April.
- Correia, Filipa, Luis Felipe Jiménez and Sandra Manuelito (2009), "Financial regulation and oversight: lessons from the crisis for Latin America and the Caribbean", *CEPAL Review*, No. 99 (LC/G.2418-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Crotty, James (2009), "Structural causes of the global financial crisis: a critical assessment of the 'new financial architecture'", *Cambridge Journal of Economics*, vol. 33, N° 4, Oxford University Press.
- De Gregorio, J., S. Edwards and R. Valdés (2000), "Controls on capital inflows: do they work?", *Journal of Development Economics*, vol. 63, No. 1, Amsterdam, Elsevier Science Publishers, October.
- Devlin, Robert and Graciela Mognillansky (2010), "Alianzas público-privadas para una nueva visión estratégica del desarrollo", *Libros de la CEPAL series*, No. 108 (LC/G.2426-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), April. United Nations publication, Sales No. S.09.II.G.152.
- Díaz-Alejandro, Carlos (1963), "A note on the impact of devaluation and the redistributive effect", *Journal of Political Economy*, vol. 71, No. 6.
- Díaz-Granados, S. and H. Pinto (2011), "Política de desarrollo empresarial: La política industrial de Colombia", Bogota, Ministry of Trade, Industry and Tourism.
- Dornbusch, Rudiger and Sebastian Edwards (1991), *The Macroeconomics Populism in Latin America*, Chicago, Chicago University Press.

- Durán, G. (2011), "Institucionalidad laboral para un desarrollo inclusivo", *El desarrollo inclusivo en América Latina y el Caribe. Ensayos sobre políticas de convergencia productiva para la igualdad*, R. Infante (coord.), Libros de la CEPAL series, No. 112 (LC/G.2500-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.11.II.G.56.
- Dussel Peters, E. (1999), "La subcontratación como proceso de aprendizaje: El caso de la electrónica en Jalisco (México) en la década de los noventa", *Desarrollo productivo series*, No. 55 (LC/L.1183-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.99.II.G.16.
- Easterly, William (2001), *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*, The MIT Press.
- Eatwell, John and Lance Taylor (2000), *Global Finance at Risk: The Case for International Regulation*, New York, New Press.
- ECLAC (Economic Commission for Latin America and the Caribbean) (2012a), "Rentas de recursos naturales no-renovables en América Latina y el Caribe: Evolución 1990-2010 y participación estatal", paper presented at the International seminar on natural resources governance in Latin America and the Caribbean, 24-25 April.
- _____ (2012b), *Social Panorama of Latin America 2011* (LC/G.2514-P), Santiago, Chile. United Nations publication, Sales No. E.12.II.G.6.
- _____ (2011a), *Foreign Direct Investment in Latin America and the Caribbean, 2010* (LC/G.2494-P-P), Santiago, Chile. United Nations publication, Sales No. E.11.II.G.4.
- _____ (2011b), "Conditional cash transfer programmes: the recent experience in Latin America and the Caribbean", *Libros de la CEPAL series*, No. 95, (LC/G.2497-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. E.11.II.G.55.
- _____ (2010a), *Time for equality: closing gaps, opening trails* (LC/G.2423(SES.33/3)), Santiago, Chile.
- _____ (2010b), *Social Panorama of Latin America 2009* (LC/G.2423-P), Santiago, Chile. United Nations publication, Sales No. E.09.II.G.135.
- _____ (2009), *The reactions of the Governments of the Americas to the international crisis: an overview of policy measures up to 30 September 2009* (LC/L.3025/Rev.5), Santiago, Chile.
- _____ (2008a), *Structural Change and Productivity Growth, 20 Years Later: Old Problems, New Opportunities* (LC/G.2367(SES.32/3)), Santiago, Chile.
- _____ (2008b), "Information societies in Latin America and the Caribbean: development of technologies and technologies for development", *Libro de la CEPAL series*, No. 98 (LC/G.2363-P), Santiago, Chile. United Nations publication: E.08.II.G.72.
- _____ (2007), "Progreso técnico y cambio estructural en América Latina", Project documents, No. 136 (LC/W.136), Santiago, Chile.
- _____ (2006), *Shaping the Future of Social Protection: Access, Financing and Solidarity* (LC/G.2294(SES.31/3)), Santiago, Chile.
- _____ (2004), *Foreign Direct Investment in Latin America and the Caribbean, 2003* (LC/G.2226-P), Santiago, Chile. United Nations publication, Sales No. E.04.II.G.54.
- ECLAC/IDB/OAS (Economic Commission for Latin America and the Caribbean/Inter-American Development Bank/Organization of American States) (2011), *Experiencias exitosas en innovación, inserción internacional e inclusión social: Una mirada desde las pymes* (LC/L.3371), Santiago, Chile, September.

- ECLAC/OECD (Economic Commission for Latin America and the Caribbean/Organisation for Economic Cooperation and Development) (2011), *Perspectivas económicas de América Latina 2012: Transformación del Estado para el desarrollo*, Paris, OECD Publishing.
- ECLAC/ILO (Economic Commission for Latin America and the Caribbean/International Labour Organization) (2011), *The Employment Situation in Latin America and the Caribbean*, ECLAC/ILO Bulletin, No. 5, Santiago, Chile.
- Edwards, Sebastian and Roberto Rigobon (2009), "Capital controls on inflows, exchange rate volatility", *Journal of International Economics*, vol. 78, No. 2, Elsevier, July.
- Ekins, Paul and Stefan Speck (2011), *Environmental Tax Reform (ETR): A Policy for Green Growth*, Oxford University Press, May.
- Epstein, Gerald, Ilene Grabel and K.S. Jomo (2003), "Capital management techniques in developing countries: an assessment of experiences from the 1990's and lessons for the future", *G-24 Technical Paper* [online] <http://www.umass.edu/peri/pdfs/WP56.pdf>.
- Fairbanks, M. and S. Lindsay (1997): *Plowing the Sea: Nurturing the Hidden Resources of Growth in the Developing World*, Boston, Harvard Business School Publishing.
- Fairlie, A. (2003), "Políticas sectoriales y cadenas productivas en el Perú reciente", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Federal Government (2012), *Novas medidas do Plano Brasil Maior*, Brasília, 3 April.
- Ferraro, C. and E. Goldstein (2011), "Políticas de acceso al financiamiento para las pequeñas y medianas empresas en América Latina", Project documents (LC/W.425), Santiago, Chile.
- Ferraz, J.C. (2012), "Política industrial para a transformação económica", *O Estado de Sao Paulo*, 1 May [online] <http://www.brasilmaior.mdic.gov.br/artigos/1765>.
- Ferraz, J.C., A. Nassif and R. Oliva (2009), "Avanços, desafios e oportunidades para políticas de desenvolvimento produtivo na América Latina", Rio de Janeiro, National Bank for Economic and Social Development.
- Ffrench-Davis, R. (2010a), "Macroeconomics for development: from 'financierism' to 'productivism'", *CEPAL Review*, No. 102 (LC/G.2468-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- _____ (2010b), "Latin America: the structural fiscal balance policy in Chile: a move toward counter-cyclical macroeconomics", *Journal of Globalization and Development*, vol. 1, No. 1, Berkeley Electronic Press.
- _____ (2005), *Reformas para América Latina después del fundamentalismo neo-liberal*, Buenos Aires, Siglo XXI Editores.
- Financial Services Authority (2009) [online] http://www.fsa.gov.uk/pubs/plan/financial_risk_outlook_2009.pdf.
- Frenkel, Roberto (2007), "Argentina: the Central Bank in the foreign exchange market", *Issue Brief*, Washington, D.C., Center for Economic and Policy Research (CEPR).
- Funes, O. (2011), "Retos de la Unión Aduanera en Centroamérica", *Estudios y perspectivas series*, No. 131 (LC/MEX/L.1036), Mexico City, ECLAC subregional headquarters in Mexico, October.
- Goldstein, E. and M. Kulfas (2011), "Alcances y limitaciones de las políticas de apoyo a las pymes en América Latina. Debates para un nuevo marco conceptual", Apoyando a las pymes: Políticas de fomento en América Latina y el Caribe (LC/R.2180), C. Ferraro (comp.), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Gómez Restrepo, Hernando José (2009), "Prioridades de la agenda competitiva y políticas a desarrollar", presentation at INALDE, Bogota, Consejo Privado de Competitividad, 21 April.

- Gómez Sabaini, J.C., J.P. Jiménez and A. Podestá (2010), "Tributación, evasión y equidad en América Latina y el Caribe", *Evasión y equidad en América Latina*, Project documents, No. 309 (LC/W.309), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- González Anaya, J.A. (1999), *Labor Market Flexibility in Thirteen Latin American Countries and the United States: Revisiting and Expanding Okun Coefficients*, Washington, D.C., World Bank.
- Government of Brazil (2008), "Innovar e investir para sustener el crecimiento", Rio de Janeiro, Agência Brasileira de Desenvolvimento Industrial (ABDI)/National Bank for Economic and Social Development (BNDES)/Ministry of Finance/Ministry of Development, Industry and Commerce.
- Greenwald, Bruce and Joseph E. Stiglitz (2006), "Helping infant economies grow: foundations of trade developing countries", *American Economic Review*, vol. 96, No. 2, May.
- Hannoun, Hervé (2010), "Towards a Global Financial Stability Framework", speech at the 45th SEACEN Governors' Conference, Cambodia, 26-27 February.
- Hanson, Samuel G., Anil K. Kashyap and Jeremy C. Stein (2011), "A macroprudential approach to financial regulation", *Journal of Economic Perspectives*, vol. 25, No. 1, American Economic Association.
- Hartwick, John M. (1977), "Intergenerational equity and the investing of rents from exhaustive resources", *American Economic Review*, No. 67, December.
- Hausmann, Ricardo and Bailey Klinger (2006), "Structural transformation and patterns of comparative advantage in the product space", *Working Paper series*, No. rwp06-041, Harvard University, John F. Kennedy School of Government.
- Hausmann, R. and D. Rodrik (2003), "Economic development as self-discovery", *Journal of Development Economics*, vol. 72, No. 2.
- Hendrickson, M. (2003), "Caribbean Tourism: Trends, Policies and Impact, 1985-2002" (LC/CAR/G.765), Economic Commission for Latin America and the Caribbean (ECLAC).
- Herrera J. and N. Hidalgo (2003), "Vulnerabilidad del empleo en Lima. Un enfoque a partir de la encuesta de hogares", *Financiamiento del desarrollo series*, No. 130 (LC/L.1880-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.03.II.G.49.
- IDB (Inter-American Development Bank) (2001), *Competitividad: El motor del crecimiento. Progreso económico y social en América Latina: Informe 2001*, Washington, D.C.
- ILO-IILS (International Labour Organization-International Institute for Labour Studies) (2011), *World of Work Report 2011. Making Markets Work for Jobs*, Geneva.
- IMF (International Monetary Fund) (2010), "The Challenges of Growth, Employment and Social Cohesion", paper presented at the ILO-IMF Conference "The Challenges of Growth, Employment and Social Cohesion", Oslo.
- Jacinto, C. (2010), *Recent Trends in Technical Education in Latin America*, Paris, International Institute for Educational Planning, United Nations Educational, Scientific and Cultural Organization (UNESCO).
- Jiménez, J.P. and F. Lorenzo (2010), "Los cambios en el FMI y el impacto en su relación con los países de América Latina", *Pensamiento iberoamericano*, No. 6.
- Jones, D. and A. Kwiecinski (2010), "Policy responses in emerging economies to international agricultural commodity price surges", *OECD Food, Agriculture and Fisheries Working Papers*, No. 34, OECD Publishing.
- Kaminsky, Graciela L., Carmen M. Reinhart and Carlos A. Végh (2005), "When it rains, it pours: procyclical capital flows and macroeconomic policies", *NBER Macroeconomics Annual 2004*, M. Gertler and K. Rogoff (eds.), vol. 19, The MIT Press.

- Kaufman, George G. and Kenneth E. Scott (2003), "What is systemic risk, and do bank regulators retard or contribute to it?", *Independent Review*, No. 7.
- Kopits, George (2001), "Fiscal rules: useful policy framework or unnecessary ornament?", *IMF Working Paper*, No. WP 01/145, Washington, D.C., International Monetary Fund.
- Kreiser, Larry and others (2011), *Environmental Taxation and Climate Change: Achieving Environmental Sustainability through Fiscal Policy*, Edward Elgar Publishing, November.
- Krugman, Paul and Lance Taylor (1978), "Contractionary effects of devaluation", *Journal of International Economics*, vol. 8, No. 3.
- Le Fort, Guillermo and Sergio Lehmann (2003), "The unremunerated reserve requirement and net capital flows: Chile in the 1990s", *CEPAL Review*, No. 81 (LC/G.2216-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Leith, Campbell and Simon Wren-Lewis (2005), "Fiscal stabilization policy and fiscal institutions", *Oxford Review of Economic Policy*, vol. 21, No. 4.
- Lin, Justin Yifu (2011), "New structural economics: a framework for rethinking development", *World Bank Research Observer*, vol. 26, No. 2, Oxford University Press, July.
- Magud, Nicolás and Carmen Reinhart (2006), "Capital controls: an evaluation", *NBER Working Paper*, No. 11973, National Bureau of Economic Research.
- Marinakis, A. (2008), *Evolución de los salarios en América Latina, 1995-2006*, Santiago, Chile, International Labour Organization (ILO).
- Martner, Ricardo and Varinia Tromben (2004), "Public debt sustainability", *CEPAL Review*, No. 84 (LC/G.2258-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- Melo, A. (2001), "Industrial policy in Latin America and the Caribbean at the turn of the century", *IDB Working Paper*, No. 459, Washington, D.C., Inter-American Development Bank (IDB).
- Ministry of Development, Industry and Commerce (2003), *Diretrizes de política industrial, tecnológica e de comércio exterior*, Brasília, 20 November.
- Ministry of Economic Affairs (2005), *Propuesta de la política industrial 2005-2009*, San Salvador, September.
- Ministry of Productive Development and Plural Economy (2009), *Plan Sectorial de Desarrollo Productivo con Empleo Digno*, La Paz.
- Moguillansky, G. (2000), *La inversión en Chile. ¿El final de un ciclo de expansión?*, Santiago, Chile, Fondo de Cultura Económica.
- Mortimore, M. (2000), "Corporate strategies for FDI in the context of Latin America's new economic model", *World Development*, vol. 28, No. 9, Elsevier, Amsterdam, September.
- Mortimore, M. and W. Peres (1998), "Policy competition for foreign direct investment in the Caribbean Basin: Costa Rica, Jamaica and the Dominican Republic", *Desarrollo productivo series*, No. 49 (LC/G.1991), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- National Council for Competitiveness Innovation (2010), *Agenda de innovación y competitividad 2010-2020*, Santiago, Chile, March.
- _____ (2008), *Estrategia nacional de innovación*, vol. 2, Santiago, Chile.
- _____ (2007), *Estrategia nacional de innovación*, vol. 1, Santiago, Chile.
- Navarro, L. (2009), "Dinámica del empleo y crisis en América Latina: Resultados de estimaciones de panel", *Macroeconomía del desarrollo series*, No. 94 (LC/L.3106-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.09.II.G.87.

- Ocampo, J.A. (2011), "Macroeconomy for development: countercyclical policies and production sector transformation", *CEPAL Review*, No. 104 (LC/G.2498-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), August.
- _____ (2009), "The impact of the global financial crisis on Latin America", *CEPAL Review*, No. 97 (LC/G.2400-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Ocampo, J.A. and C.E. Tovar (2003), "Colombia's experience with reserve requirements on capital inflows", *CEPAL Review*, No. 81 (LC/G.2216-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), December.
- OECD (Organization for Economic Cooperation and Development) (2010), *Taxation, Innovation and the Environment*, Paris.
- Pacheco, C.A. (2003), "As reformas da Política Nacional de Ciência Tecnologia e Inovação no Brasil, 1999- 2002", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC)/German Agency for Technical Cooperation (GTZ).
- Peres, W. (2009), "The (slow) return of industrial policies in Latin America", *Industrial Policy and Development*, M. Cimoli, G. Dosi and J.E. Stiglitz (eds.), Oxford University Press.
- _____ (2006), "The slow comeback of industrial policies in Latin America and the Caribbean", *CEPAL Review*, No. 88 (LC/G.2289-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- _____ (coord.) (1997), *Políticas de competitividad industrial en América Latina y el Caribe en los años noventa*, Mexico City, Siglo XXI Editores.
- _____ (1993), "Industrial policy: where do we stand?", *CEPAL Review*, No. 51 (LC/G.1792-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Peres, W. and A. Primi (2009), "Theory and practice of industrial policy. Evidence from the Latin American experience", *Desarrollo productivo series*, No. 187 (LC/L.3013-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), February. United Nations publication, Sales No. E.09.II.G.34.
- Peres, W. and N. Reinhardt (2000), "Latin America's new economic model: micro responses and economic restructuring", *World Development*, vol. 28, No. 9, Elsevier, Amsterdam, September.
- Peres, W. and G. Stumpo (2002), *Las pequeñas y medianas empresas industriales en América Latina y el Caribe*, México, D.F., Siglo XXI Editores.
- Pérez Caldentey, E. (2003), "Policies for productive development in Caribbean economies", Port of Spain, ECLAC subregional headquarters for the Caribbean.
- Porter, M. (1990), *The Competitive Advantage of Nations*, New York, Free Press.
- Robinson, J. (1953), "Imperfect competition revisited", *Economic Journal*, vol. 63, No. 251, Oxford.
- Rodrik, D. (2011), "IMF macro presentation", IMF Conference on macro and growth policies in the wake of the crisis, Washington, D.C., March.
- _____ (2004), "Industrial policy for the twenty-first century", UNIDO Background paper, Vienna.
- _____ (2001), *The Global Governance of Trade: as if development really mattered*, New York, United Nations Development Programme (UNDP).
- Romer, D. (2011), "What have we learned about fiscal policy from the crisis?", IMF Conference on Macro and Growth Policies in the Wake of the Crisis, Washington, D.C., March.
- Ros, J. (2006), "Patrones de especialización comercial y desempeño del mercado de trabajo en América Latina", *Macroeconomía del desarrollo series*, No. 49 (LC/L.2566-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.06.II.G.94.

- Scarone, C. (2003), "Las políticas sectoriales de Uruguay 1998-2002", ECLAC7GTZ regional project "Natural resource-cluster development strategy: its growth, distributive and environmental implications", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Secretariat of Economic Affairs (2003), *Política económica para la competitividad*, Mexico City.
- _____ (2001), *Programa de desarrollo empresarial de México, 2001-2006*, Mexico City.
- Stallings, B. and W. Peres (2000), *Growth, Employment and Equity: The Impact of Economic Reforms in Latin America and the Caribbean*, Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC)/Fondo de Cultura Económica.
- Stewart, Taimoon (2006), "Enhancing development through protection of competition: empirical findings in CARICOM", Senior Research Fellow, Sir Arthur Lewis Institute of Social and Economic Studies (SALISES), The University of the West Indies.
- Stiglitz, Joseph (2002), "New perspectives on public finance: recent achievements and future challenges", *Journal of Public Economics*, vol. 86.
- Stiglitz, Joseph and others (2006), *Stability with Growth: Macroeconomics, Liberalization and Development*, New York, Oxford University Press.
- Suzigan, W. and J. Furtado (2006), "Industrial policy and development", *CEPAL Review*, No. 89 (LC/G.2312-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Terrier, Gilbert and others (2011), "Policy instruments to lean against the wind in Latin America", *IMF Working Paper*, No. 11/159, Washington, D.C., International Monetary Fund, July [online] <http://www.imf.org/external/pubs/ft/wp/2011/wp11159.pdf>.
- Torres, S. (2010), "Políticas industriales y agendas regionales sur-sur: Próximos pasos", Encuentro de especialistas en política industrial e integración productiva, Brasilia, Agência Brasileira de Desenvolvimento Industrial (ABDI)/United Nations Conference on Trade and Development (UNCTAD).
- Ul-Haque, Irfan (2007), "Rethinking industrial policy", *Discussion Papers*, No. 183, United Nations Conference on Trade and Development (UNCTAD).
- Undersecretary of Industry and Commerce (2007), *Diez lineamientos para incrementar la competitividad, 2008-2012*, Mexico City, Secretariat of Economic Affairs.
- Unger, K. (2003), "Clusters industriales en México: Especializaciones regionales y la política industrial", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Velasco, M.P. (2003), "Una evaluación de las políticas de competitividad en Colombia", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Velásquez Pinto, M. (2010), "Seguros de desempleo y reformas recientes en América Latina", *Macroeconomía del desarrollo series*, No. 99 (L/L.3144-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.09.II.G.117.
- Villagómez, A. (2003), "Una revisión de la política sectorial en México: 1995-2003", Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC).
- Weller, J. (2009), *El nuevo escenario laboral latinoamericano. Regulación, protección y políticas activas en los mercados de trabajo*, Buenos Aires, CEPAL/Siglo Veintiuno Editores.
- Weller, J. and C. Roethlisberger (2011), "La calidad del empleo en América Latina", *Macroeconomía del desarrollo series*, No. 110 (LC/L.3320-P), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC). United Nations publication, Sales No. S.11.II.G.39.



In today's complex and changing global context, the development the Latin American and Caribbean region needs requires perseverance in three directions: structural change to underpin progress towards more knowledge-intensive sectors, convergence to reduce internal and external gaps in income and productivity, and equality of rights.

This implies tackling three major challenges: to achieve high and sustained rates of growth so as to close structural gaps and generate quality jobs; to change consumption and production patterns in the context of a genuine technological revolution with environmental sustainability; and to guarantee equality on the basis of greater convergence in the production structure, with universal social protection and capacity-building.

Such an endeavour requires the return of politics and of the State's role in promoting investment and growth, redistribution and regulation with a view to structural change for equality, through industrial, macroeconomic, social and labour policies.

These are some of the key proposals of *Structural Change for Equality: An Integrated Approach to Development*, which ECLAC will present to its member States at the thirty-fourth session of the Commission (San Salvador, August 2012). These proposals deepen and broaden the ideas set forth in *Time for equality: closing gaps, opening trails*, aiming towards sustainable development with equality and taking into account the diverse national conditions across the region.

