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# Macroeconomy for development: countercyclical policies and production sector transformation

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**T**he argument that I will be making here is that the key to a well-designed macroeconomic policy for development is a mix of sound countercyclical policies and a proactive strategy for diversifying production structures. These two concepts are deeply rooted in ECLAC thinking. Countercyclical policies must withstand the challenges posed by abrupt external financing cycles and sharp fluctuations in commodity prices. Fiscal policy is of pivotal importance, but it must be coupled with equally countercyclical monetary and exchange-rate policies. In the light of the experience over the past decade, this policy mix seems to be achievable if intermediate exchange regimes are introduced alongside macroprudential policies, including regulation of capital flows. At the same time, the strategy used to spur the development of the production sector should foster innovative economic activities that generate domestic production linkages. The concept of innovation must be understood in a broad sense, but the critical test is its contribution to the accumulation of technological capabilities.

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# I

## Introduction

The recent international financial crisis has been a trial by fire for macroeconomic analysis, just as the Great Depression of the 1930s was. The orthodox economic ideas about self-regulating markets that had prevailed in the years leading up to each of these crises did not emerge from them unscathed. The Great Depression also spawned what we now call macroeconomic analysis, which came to the fore under the intellectual leadership of John Maynard Keynes. Unfortunately, macroeconomic thought has not always remained loyal to his legacy. Concern about the possible inflationary effects of Keynesian monetary and fiscal activism was at the root of the new orthodoxies that arose in the form of monetarism in the 1950s and 1960s. The recent crisis has led to a revival of Keynesian thought, particularly with respect to his ideas about the inherent instability of financial systems and the predominant role played by aggregate demand in determining the levels of economic activity and employment.

For the developing world, in general, and for Latin America, in particular, crises have also spurred the development of new economic ideas and practices. The Great Depression of the 1930s planted the seed for the school of economic thought that was later to be developed at the Economic Commission for Latin America and the Caribbean (ECLAC) under the intellectual leadership of Raúl Prebisch and that would eventually come to be known as Latin American structuralism. More recently, the implications of the sharp international financial cycles experienced by the developing countries since the 1970s, together with those of the financial and balance-of-payments crises that have accompanied them, have inspired new macroeconomic ideas. The developing world's relative success in coping with the worldwide economic disturbances of the last few years would seem to be a sign that we have finally learned how to deal with these situations. And that is why it is

crucial for use to correctly interpret the significance of the factors that have helped us to do so.

Macroeconomic analysis arose out of the need to understand short-run macroeconomic dynamics, but later on it came to encompass the analysis of economic growth. The core ideas in this respect emerged in the 1940s and 1950s and were elaborated upon in the following decades. The idea that took centre-stage had to do with the role of technological change as an engine of growth, although it was also closely tied to the concept of physical and human capital formation. For the developing countries, this analysis was, from the very start, associated with three other concepts: (i) the role of surplus labour and the dualism in labour markets to which it gives rise (which ties in very closely with the work of the Caribbean economist W. Arthur Lewis); (ii) the idea that balance-of-payments constraints play a critical role in the short-term and long-term macroeconomic dynamics of developing countries; and (iii) the crucial role of industrialization as a mechanism for the transmission of technological progress. This last mechanism operates, in part, via investment in machinery and equipment, but one of its more interesting aspects is the dynamic economies of scale that generate the learning processes associated with industrialization.

ECLAC and structuralist economic thought have been, in the past, as now, at the centre of this debate. Raúl Prebisch, in whose honour this lecture series is named, was obviously the one who pioneered these ideas. Section II therefore provides an overview of some of the main contributions made by Prebisch and ECLAC to macroeconomic analysis. This discussion is followed up in section III with a look at the major determinant of business cycles in the world in recent decades –international financial cycles– and what this implies for a proper countercyclical management of macroeconomic policy. The relationship between economic growth and the production structure, and between the macroeconomy and production-sector development, are the focus of section IV, which also looks at the crucial role played by the exchange rate. These last two sections also include a discussion of Latin America's recent experiences and what they can tell us about how closely the region has followed the policies suggested by these lines of thinking. The conclusions of the analysis are presented in section V.

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□ The ideas explored in this article have been developed in the course of discussions with many different colleagues, to whom I am immensely grateful. In addition, the literature on these issues is voluminous, and, in all likelihood, I fail to do it full justice here. In attempting to synthesize a number of my writings, I have drawn heavily upon them here.

## II

### ECLAC and macroeconomic analysis

#### 1. Classic writings

At the risk of erring on the side of oversimplification, the major ECLAC contributions to macroeconomic thought can be said to revolve around two concepts. The first has to do with the crucial role of the balance of payments in shaping the business cycle in developing countries and, hence, its further role as the focus of countercyclical policy. The second is the importance of changing these countries' production structures in ways that will underpin long-term growth, with industrialization being the most prominent manifestation of those changes. Both of these ideas have implications for State intervention. They are also both linked to a conceptualization of the international economic order as a system, composed of a centre and a periphery, in which business cycles and technical progress originate in the centre and are then propagated to the periphery. At least two more ideas could be added in: the need to improve financing mechanisms; and what has come to be known as the structuralist theory of inflation. For the sake of brevity, however, these latter two concepts will be dealt with only tangentially in this analysis.

The first of these ideas emerged during the Great Depression of the 1930s. The link between external shocks and business cycles was already quite well-understood in the region, and this was reflected in the fact that, in many countries, economic policymakers had tended to take the currency off the gold or silver standard for fairly long periods of time, although their intention had always been to return to it later on and follow the associated "rules of the game". The Great Depression of the 1930s changed all this, because it destroyed the mainstays of this orthodox view by triggering the complete collapse of the gold standard at the centre of the economic order itself. Economic theory and practice changed radically: the pivotal idea, which was expressed in Keynesian thought, is that the basic task of macroeconomic policymakers is to use proactive monetary and fiscal policies to smooth out business cycles.

Countercyclical macroeconomic policies were also introduced in Latin America as a result of the Great Depression, but the ways in which they were used to influence the market were different, since the determinants of the business cycle in the centre and the periphery of the world economy also differed. Whereas the focal point

of Keynesian thought was the stabilization of aggregate demand through the use of proactive fiscal and monetary policies, the prevalence of external commodity-price and capital-account shocks in Latin America steered the attention of the countries of the region towards the balance of payments.

Traditional macroeconomic analysis has developed the concept of "fiscal dominance" (which might be more aptly referred to as "fiscal predominance") in reference to situations in which monetary policy is determined by public finances. The concept developed by ECLAC might, by analogy, be referred to as "balance-of-payments predominance" in short-run macroeconomic dynamics. This implies that the basic macroeconomic task of economic policymakers is to devise ways of moderating external aggregate supply shocks rather than managing aggregate demand. The performance of this latter task is therefore contingent upon the scope of action that economic policymakers can create through skilful management of external supply shocks. What is more, the crucial problem with respect to the behaviour of aggregate demand is that external cycles tend to produce what are essentially procyclical effects via exporters' earnings, the supply and cost of external finance, and the impact that this has on domestic interest rates; the effects on the exchange rate are less straightforward. These questions will be discussed later on.

Action designed to influence the balance of payments thus became the focus of macroeconomic policy in the Latin America countries as decision-makers strove to deal with both negative and positive external shocks. The types of measures used for this purpose became more and more varied and came to include, with some differences from country to country, foreign exchange and capital controls; import duties and quantitative restrictions on imports; taxes on traditional exports combined with incentives for non-traditional ones; multiple exchange rates; and, from the mid-1960s on, gradual managed devaluations (crawling exchangerate pegs). Starting in the 1970s, many of these types of measures began to be restructured and/or dismantled under the countries' economic liberalization programmes, leaving a single tool—the exchange rate—for the management of the balance of payments. The effects that this has had on economic activity in the short run are, as we will see, ambiguous.

As can be seen from the types of measures used, they were closely linked to the second component of macroeconomic policy, for which the focus was long-term growth: the industrialization strategy. The basic idea underlying this policy is that growth is a process of structural change in which primary sectors give way to modern industries and services and in which industrial activity is the main channel for the transmission of technical progress from the centre to the periphery—a process that Prebisch found to be “slow and irregular”.

There has always been an essential paradox in this process because of the complexities involved in managing economies whose static comparative advantages clearly lie in the production of primary commodities. In the classic ECLAC approach to the subject, industrialization strategies were also tied in with the assumption that there is a secular downward trend in commodity prices but, at least in the way it was framed at the time, this postulate has not been borne out by actual events.<sup>1</sup> A much more solid line of reasoning is based on the fact that different sectors of the economy have very different capacities for transmitting technical progress and for generating new knowledge. This means that the classical justification for industrialization did not rely on the existence of a downward trend in commodity prices. Moreover, in the 1930s or immediately after the Second World War, there was little need to champion industrialization, since, in the wake of the collapse of the world economy, the only opportunities available were, by and large, those offered by domestic markets.

According to this approach, which was best expressed in the “Latin American manifest”, as Albert Hirschman dubbed the report issued by the Economic Commission in 1949 (Prebisch, 1973), the solution was not to isolate the region’s economies from the international economy, but rather to redefine the international division of labour so that Latin American countries could also reap the benefits of technological change, which they rightly saw as being closely associated with industrialization. In other words, this industrialization strategy sought to create new comparative advantages. Industrialization policies were modified as time passed in order to correct their own excesses and to take advantage of the new export opportunities that began to open up in the world economy in the 1960s. From that point on, ECLAC thinking

began to evolve from an import-substitution strategy (with the institution becoming critical of the excesses associated with it) to a “mixed” model that combined import substitution with export diversification and regional integration.<sup>2</sup> This eventually led to the region’s widespread adoption of export promotion policies, a partial reorganization of the complex system of tariffs and quantitative import restrictions, the streamlining or elimination of multiple exchange-rate systems, and the introduction of crawling pegs in economies with a long history of inflation.<sup>3</sup>

An inherent problem in dealing with the intersection between factors influencing the business cycle and the long-term economic strategy is that the changes in relative prices precipitated by external cycles make it difficult to hold to that strategy. Commodity price booms tend to generate incentives for a return to a heavier reliance on primary production, both via international price levels themselves and via the effects that those booms have on exchange rates. Both of these factors tend to exert downward pressure on the relative prices of manufactured exports and of industrial goods destined for the domestic market. Capital-account booms often coincide with sharp upswings in commodity prices and have similar effects on the exchange rate. In the past, the policy tools devised to manage commodity price booms included taxes on commodity exports, multiple exchange-rate regimes that discriminated against those exports, and incentives for non-traditional exports, while capital controls were designed to deal with shifts in financing cycles. The disappearance of many of these policy instruments gave rise, later on, to new challenges, and, too often, governments succumbed to the temptation to fall into step with external cycles and, in many instances, heightened their impacts, rather than mitigating them.

The industrialization strategy entailed a range of other elements, including the need to raise the rate of investment in industry and physical infrastructure. This gave rise to a demand for multilateral external financing and to the development of domestic mechanisms such as development banking and direct investment by the State in infrastructure and some industrial activities, although the level of investment varied sharply across the region. For the sake of brevity, however, these topics will not be explored here.

<sup>1</sup> The empirical evidence shows that, while there was a downturn in the twentieth century (but not in the nineteenth), it was not a steady trend but rather the result of two sharp declines during the crises of the 1920s and of the 1980s (Ocampo and Parra, 2010).

<sup>2</sup> For histories of the development of ECLAC thought, see Bielschowsky, 1998; Rodríguez, 2006; and Rosenthal, 2004. For a review of the first half-century of the *Economic Survey of Latin America and the Caribbean*, see ECLAC, 1998c.

<sup>3</sup> See Ffrench-Davis, Muñoz and Palma (1998); Ocampo (2004); and Bértola and Ocampo (2010).

Nor will this article delve into the work done during those years on the dynamics of inflation. In the structuralist view, which was pioneered by Noyola (1956) and Sunkel (1958),<sup>4</sup> a distinction is drawn between inflationary shocks as such and inflation propagation mechanisms. In later work on inertial inflation theories, inflationary shocks were seen as primarily taking the form of disturbances in the exchange rate and in food prices, while mechanisms for the propagation of inflation were primarily associated with the indexation of prices, especially of wages, the exchange rate (in gradual devaluation schemes) and finance costs. As part of this dynamic, commodity price or exchange rate shocks drive up inflation, which is then perpetuated by indexation. These shocks can therefore give rise to a sustained increase in inflation, whose level may change later on with the advent of additional shocks; consequently, inflation, at whatever rate, is always at an unstable equilibrium. Therefore, the only way to lower inflation is, ultimately, to stabilize basic macroeconomic prices and do away with indexation mechanisms, as the heterodox experiments in the stabilization of inflation of the 1980s indicated. The success or failure of those experiments was determined by the aggregate demand effects associated with those inflationary processes. In effect, this type of inflationary dynamic has a recessionary impact because of its impact on aggregate demand, whereas the measures used to curb inflation are expansionary. Accordingly, attempts to stabilize inflation will be successful only if they are combined with measures that will counteract those expansionary pressures (Taylor, 1991, chap. 4).<sup>5</sup>

These ideas were formulated long before similar Keynesian theories that focused on the stickiness of inflation expectations. The policy implications of these later theories were quite different, since the focus shifted to the credibility of anti-inflation policies. The two schools of thought agree on some points, especially with regard to situations in which reductions in inflation must be supported by the elimination of indexation mechanisms (a concession on the part of orthodox theorists to the structuralists) and those in which it becomes necessary to adopt policies to curb demand in order to allow heterodox policies for the stabilization of inflation to succeed (a concession on the part of these theorists to the orthodox school of thought).

<sup>4</sup> See also the contribution made somewhat later on by Olivera (1964).

<sup>5</sup> As shown by Taylor (1991) and other authors, aggregate demand effects operate primarily through the differing propensities to consume (or, more generally, to spend) of the various economic agents. Thus, rising inflation works to the benefit of the recipients of capital rents, while its stabilization benefits those who are receiving labour income.

## 2. Contributions in the last two decades

The ground-breaking study entitled *Changing Production Patterns with Social Equity. The Prime Task of Latin American and Caribbean Development in the 1990s* (ECLAC, 1990) marked the beginning of a complete reworking of ECLAC thinking which, with some alterations, has exhibited a remarkable degree of continuity over the past two decades. One of the crucial elements has been the continuing commitment to the promotion of equity and, going even further, equality, especially with regard to citizens' rights. This commitment also underpins the Commission's most recent contribution, *Time for Equality: Closing Gaps, Opening Trails* (ECLAC, 2010a), as well as its turn-of-the-century *Equity, Development and Citizenship* (ECLAC, 2000). Here again, the allotted space is too limited to do justice to the major effort that was undertaken to draw clear connections between economic policy and its social outcomes, so the discussion presented here will have to be confined to those contributions that are most closely related to countercyclical policy management and structural change.

In developing its approach to countercyclical policy as part of a broader policy package designed to give shape to a new fiscal covenant, ECLAC (1998b) demonstrated the need to move away from the procyclical orientation that, for the most part, public finances continued to demonstrate in Latin America in the 1990s. The key element in the Commission's proposal was the idea of isolating the cyclical components of public finances from its structural components in terms of both expenditure and revenues and to set fiscal targets in line with structural rules. This proposal, which has recently been embraced in international forums, represents a departure from the fiscal responsibility laws that were in vogue at the time. Those types of laws, which established targets for the current fiscal deficit or set public debt ceilings and which were advocated at the time by international financial institutions and taken up by the European Union in the Treaty of Maastricht, are intrinsically procyclical.

ECLAC also proposed that the proceeds from short-lived upswings in fiscal revenues occasioned by high prices for given natural resources or by cyclical increases in tax revenues in general should be used to set up stabilization funds, rather than being spent during economic booms, so that they could be used to finance public spending during crises. It also pointed out the need to find ways of keeping accurate accounts on the quasi-fiscal expenditures involved in extending loan guarantees to the financial system and hedging private infrastructure investment risk. Both of these types

of guarantees are inherently procyclical, since these contingent expenditures are incurred during booms but are actually disbursed during busts, when they often displace other types of expenditure as well.

Another short-run issue that was addressed by various authors, particularly ECLAC (1998a and 2000), revolved around the management of external financing cycles, whose ravages had already been felt in the region. The main policy recommendation offered in this respect was to take precautions to ensure that the real exchange rate did not become overvalued during booms. Whereas the prevailing line of thinking at the time was that exchange-rate regimes should be at one or the other extreme of the continuum of possible systems (either completely flexible or absolutely fixed, such as dollarization or the convertibility system adopted at the time by Argentina), ECLAC advocated intermediate systems, such as managed floats. It also proposed that steps should be taken to smooth out external financing cycles by reducing capital inflows during periods of financial-market euphoria through the use of measures such as the reserve requirements on capital inflows that were being used at that time by Chile and Colombia.

ECLAC (2000, vol. III, chap. 1) then went even further, suggesting that domestic financial regulations could be used as countercyclical tools. This implied that prudential regulation should take into account not only microeconomic risks but also the macroeconomic risks incurred during periods of rapid credit growth. In order to do so, ECLAC suggested that capital and liquidity requirements for financial institutions should be raised during credit booms, that the asset-liability currency mismatches that tended to proliferate when external financing was in ample supply should be corrected, and that caps should be placed on the value of assets that could be used as collateral during periods of asset price inflation. To use the terminology proposed soon thereafter by the Bank of International Settlements, which came into general use during the recent crisis, ECLAC was nearly a decade ahead of its peers in proposing the use of “macroprudential” regulations to manage capital inflows and domestic credit.

In line with the proposals concerning economic growth that it put forward in its seminal 1990 study, ECLAC (1998a, 2000, 2007 and 2008a) went on to offer up an agenda for the development of the production sector in open economies. The point of departure for this agenda, as well as for the Commission’s more classic theories,

was the idea that development is a process of structural change in which progress hinges on the economy’s ability to develop more technologically advanced production sectors. Accordingly, together with the promotion of more competitive production structures and “horizontal” policies to correct factor-market failures,<sup>6</sup> ECLAC proposed a series of policies for developing more dynamic production structures by fostering innovative activities with greater technological content (national innovation systems) and promoting exports (diversification of export products, domestic export linkages and the conquest of new markets). It also suggested ways of developing inter-sectoral synergies and complementarities in order to achieve “systemic competitiveness”, which was the seminal concept put forward in *Changing Production Patterns with Social Equity*.

One of the situations that this type of policy ran up against (and, for the most part, continues to do so) is the institutional void that was created with the elimination of the mechanisms for supporting production sectors that had been created in the region during the period of State-led industrialization. ECLAC advocated the idea of forming public-private partnerships (which each country should establish in line with its own characteristics and development history) to rebuild these institutional frameworks. The destruction of earlier institutions and the failure to build others to replace them were seen as the root causes of the fragility of the region’s production structures. This strategy was also tied in with short-term macroeconomic policy because of policymakers’ obsession with maintaining competitive exchange rates, which were viewed as an essential ingredient of proactive policies for fostering the diversification of the production sector.

The recent turns taken by economic debates appear to have validated the approach taken by ECLAC to short-run macroeconomic policy. The widespread acceptance in the past few years of innovation strategies also reaffirms the validity of the approach which ECLAC advocated during Latin America’s industrialization stage and which it has continued to endorse and to adapt to changing circumstances in the region that affect its development process.

<sup>6</sup> These policies focused on providing small and medium-sized enterprises (SMES) with access to long-term capital and, more generally, to credit, as well as to technology, skilled human resources and land.

### III

## Countercyclical policies

### 1. Contemporary forms of “balance-of-payment predominance”

International trade continues to have a powerful impact on the balance of payments in developing countries, in general, and in Latin American countries, in particular. This is especially true in the case of the terms of trade for commodity producers. The recent crisis has demonstrated that the quantum of exports of manufactures and services (especially in the tourism industry, which is the region’s largest service export sector) is also procyclical. The issues relating to commodity prices, which continue to have a strong influence on the Latin American countries, will be explored in a later section.

The importance of these trade variables notwithstanding, since the 1970s the capital account has played a central role in the economic fluctuations experienced by developing countries, particularly the growing number of them that have access to international private capital markets. Moreover, although a considerable part of the instability generated by external financing cycles is transmitted through public-sector accounts (as was particularly the case in Latin America in the 1970s and 1980s), the predominant factor in recent decades has been the steep fluctuations in private expenditure and balance sheets associated with these cycles. One outcome of all this has been the proliferation, since the 1970s, of “twin crises” (i.e., combined external and domestic financial crises). The crises that broke out in the early 1980s in the Southern Cone were some of the first of this type.

This is, of course, just one manifestation of a more general problem: the tendency of financial sectors to experience boom-bust cycles. This was a central concern in the Keynesian revolution and was analysed with remarkable insight by Minsky (1982). The existence of this pattern has been corroborated, at an empirical level, by the classic writings of Kindleberger (see Kindleberger and Aliber, 2005), the more recent work of Reinhart and Rogoff (2009) and, in relation to emerging economies and those of Latin America in particular, the studies of Agosin and Huaita (2009) and Ffrench-Davis and Griffith-Jones (2011), among others. The emblematic aspects of this pattern are volatility and contagion. As the cycle unfolds, financial agents alternate between “appetite for risk” (or, perhaps more accurately, an

underestimation of risk) and “flight to quality” (risk aversion); these perceptions and expectations feed into one another, generating, first, a contagion of optimism, followed by a contagion of pessimism. The information asymmetries that characterize financial markets, as well as the use of risk-assessment models and certain market practices (“competitive benchmarking”, for example), tend to accentuate these trends.

The effects of these cycles are particularly harsh in the case of agents that are considered by the market as high risks. These agents have ample access to financing during booms but find themselves cut off from financing during downturns in the business cycle. At the country level, these agents are SMEs and low-income households, while, at the international level, they are emerging and developing economies.<sup>7</sup> This situation can be interpreted as one in which the financial integration of the developing world is segmented; in other words, market integration is segmented into different risk levels and developing countries are placed in high-risk categories and are therefore subject to particularly strong cyclical shocks (Frenkel, 2008).

As a result, countries experience boom-bust cycles that are somewhat removed from their economies’ macroeconomic fundamentals (Calvo, Leiderman and Reinhart, 1993; and Calvo and Talvi, 2008). The countries considered to be “successful” are particularly liable to experience such booms, which tend to give rise to large private-sector deficits that can ultimately leave them in vulnerable positions (Ffrench-Davis, 2005; and Marfán, 2005). As a consequence of this dynamic, economies that are at one point regarded as success stories may end up being pariahs in the international financial community.

Volatility is reflected in risk premiums as well as in the supply and maturity profile of financing, which are all procyclical. Risk levels also tend to be higher in developing countries owing to shortcomings in the development of their financial sectors, which show up in the form of currency and maturity mismatches on firms’ balance sheets. Although all forms of financing tend to

<sup>7</sup> The term “emerging economies” has no clear definition, so the broader term of “developing countries” will be used to refer to the countries in this category here.

be procyclical, this pattern is more marked in short-term finance, which therefore carries a higher level of risk (Rodrik and Velasco, 2000). Foreign direct investment, by contrast, tends to be somewhat more stable.

Although strong short-term shocks —such as the Russian moratorium of August 1998 or the collapse of Lehman Brothers in September 2008— are especially traumatic, medium-term fluctuations generate even more serious problems. Since the mid-1970s, we have witnessed three cycles of this type and we may be in the midst of a fourth one. The boom of the second half of the 1970s was followed by the crisis of the 1980s; the boom of 1990-1997 (with the brief interruption of the Mexican crisis in December 1994) gave way to the crisis in Asia and other emerging economies that broke out in 1997; the boom seen between 2003 and mid-2008 was followed by the sharp contraction triggered by the collapse of Lehman Brothers; and the boom that started in mid-2009.

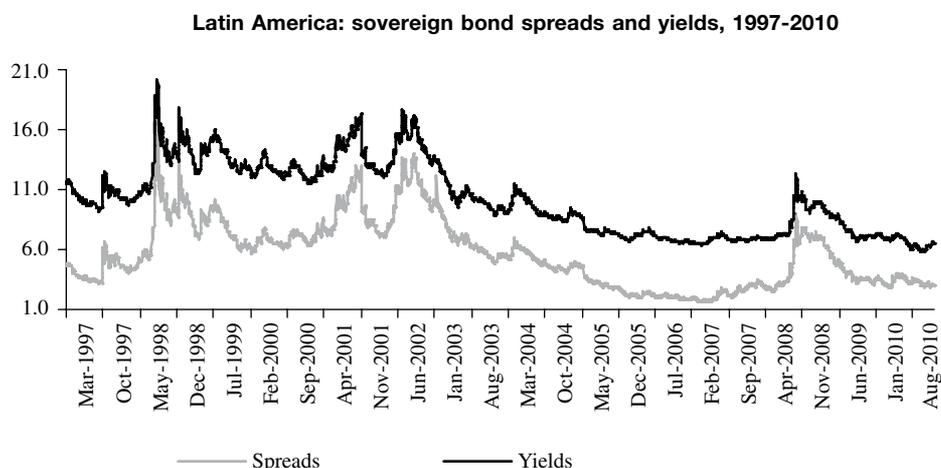
Figure 1 traces the changes seen in risk premiums since 1997 and illustrates the fact that the intensity and duration of the shock generated by the Russian moratorium of August 1998 were far greater than those seen during the most recent crisis. One reason for this is that the duration of any given crisis is directly correlated with the scale of the measures taken by industrialized countries to contain it. This is why the Mexican crisis of December 1994 did not have a major impact on the developing world, and the same is true of the most recent international financial crisis. Another reason is that the improvement in macroeconomic policies has succeeded in reducing emerging economies' external vulnerability. This was one of the factors in the steep reduction in

risk premiums for emerging economies experienced in 2004-2007, which bottomed out shortly before the subprime mortgage crisis erupted in the United States in August 2007, as well as, in particular, the lessened impact of the crisis triggered by the bankruptcy of Lehman Brothers. In that sense, the events that have occurred in international financial markets since the mid-2000s can be interpreted as signalling a reduction in the market segmentation of preceding decades thanks to better-designed macroeconomic policies (Frenkel, 2010).

The problems posed by these medium-term cycles have to do not only with the procyclical behaviour of private expenditure, but also with the pressure exerted on decision-makers to adopt procyclical macroeconomic policies and the declining effectiveness of countercyclical policies. As we will see, this problem is particularly evident in the case of monetary policy. In fact, precisely because of the limited effectiveness of the different policies and the constraints involved, it is important to have a wide range of policy tools to choose from. This is especially the case because macroeconomic stability —the core objective of countercyclical policies— it not simply a matter of price levels (as it is portrayed as being in many studies), but also of stability in financial activity, economic activity and employment (real economic stability).

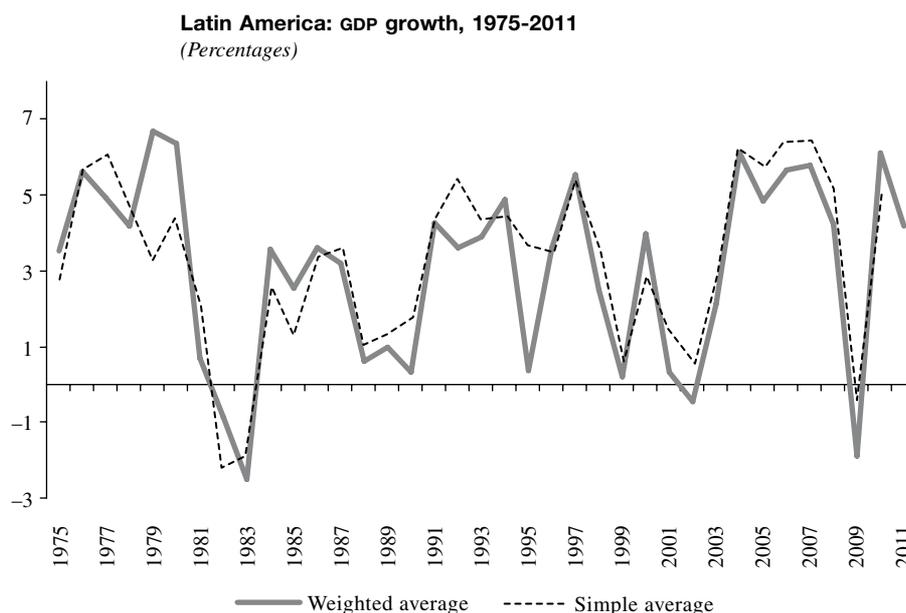
In fact, while a great deal of progress has been made in curbing inflation and, during the recent upheaval, in averting national financial crises, the intensity of the business cycle has not abated so far. In fact, the 2009 recession was quite deep in the region, with gross domestic product (GDP) falling more sharply than at any other time since 1983, and this is true regardless of whether

FIGURE 1



Source: J.P. Morgan.

FIGURE 2



Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

GDP: gross domestic product.

the drop is measured in terms of weighted growth rates or a simple average for the various Latin American economies, which indicates that it occurred across the board (see figure 2). The region's performance was also worse than any other world region except Central and Eastern Europe (Ocampo and others, 2010), although it rebounded vigorously, especially in the case of the South American economies. Hence the importance of continuing to refine the design of countercyclical policies.

The following discussion will focus on how effective three different types of policies —fiscal, monetary and exchange-rate policies—are in smoothing out the business cycle. Because these policies are so closely interrelated, they will be approached as a single unit. We will also look at what Epstein, Grabel and Jomo (2003) termed “capital management techniques” (Ocampo, 2008), although here I will refer to them as macroprudential policies, in line with the most recent terminology being used.

## 2. Countercyclical fiscal policies

In open economies, it is very difficult to use monetary policy as a countercyclical tool, especially when the capital account has been opened. This is why fiscal policy is clearly a better instrument for the job. In countries where commodity price fluctuations are one of the

primary sources of cyclical swings, one alternative is to set up stabilization funds. The most instructive example of this approach in recent years is provided by Chile; going back a few years further, another is Colombia's National Coffee Fund. Based on these experiences and in line with recommendations made by ECLAC (1998b), consideration should be given to setting up stabilization funds for public revenues on a larger scale in order to absorb the transitory components of government revenues.

More generally, as also proposed by ECLAC and as Chile has been doing, it would be a good idea to establish structural rules for the management of public finances in order to isolate the cyclical components of both public revenues and expenditures. This is no easy task, of course, because, among other things, the trend of GDP may not be independent from the business cycle in economies that are hit by strong cyclical swings (Heymann, 2000) and because commodity price shocks often generate changes that ultimately become permanent (i.e., they reverse a pre-existing trend).

Be that as it may, the implication is that structural rules should guide public expenditure on the basis of its long-term trend. Strictly speaking, this is a neutral (or acyclical) rule in terms of the business cycle and should therefore be coupled with strictly countercyclical

expenditures.<sup>8</sup> However, in order to avoid lags in the fiscal policy response, it is better to have some components of expenditure that respond automatically to variations in the business cycle.

Industrialized countries' experiences suggest that it is best to have automatic stabilizers linked to social protection mechanisms. Although unemployment insurance fulfils this role in those countries, it is not necessarily the best mechanism to use in developing economies, where the informal sector accounts for a large part of job creation. It may therefore be wise to use additional instruments, such as emergency employment schemes that kick in automatically when a crisis hits. Conditional cash transfers were used for this purpose in a number of Latin American countries during the recent crisis, but it is highly unlikely that they can be cut back during economic booms, as a good countercyclical policy measure should be.

In addition to policies on expenditure, tax measures can also be designed to serve countercyclical purposes. The best tool is a progressive income tax, which acts as an automatic stabilizer. Other tax measures can also be designed to act as stabilizers (e.g., taxes that will directly absorb a portion of commodity producers' windfall profits, with the tax receipts going to the corresponding stabilization fund). A similar argument can be made for taxing capital inflows during credit booms. It should be noted that this argument is based on fiscal considerations, in addition to the monetary and exchange-rate factors (which will be discussed later on) that make this type of tax advisable. Using the same approach, a value-added tax (VAT) could be designed whose rates varied in step with the business cycle. Temporary tax cuts to spur demand are another option that was used in some countries of the region during the recent crisis.

There are, of course, economic and political constraints on the implementation of countercyclical fiscal policies. The most serious economic problems in this respect are the lack of access to financing during recessions and the pressure exerted by the market (and, possibly, the International Monetary Fund (IMF), although its stance in this respect has changed in recent years) for the adoption of fiscal austerity policies to generate credibility —i.e., to give signs that there is no default risk. If the authorities are obliged to adopt austerity policies, they will have a difficult time, politically, in justifying the continuation of those policies once economic conditions have improved. This sets up a vicious circle

in which austerity measures during a crisis are followed by increases in spending during the recovery, thus giving shape to a procyclical pattern in public finances.

Nor is it an easy task to justify austerity measures during economic booms as a means of counterbalancing the exuberance of private spending and, in particular, of upswings in expenditure in high-income groups (Marfán, 2005). This is especially the case if cuts are made in items of expenditure that have a progressive social impact, since countercyclical fiscal policies will then be seen as having a regressive effect. What is more, policymakers may also face classic time inconsistencies associated with political decision-making. In particular, the practice of setting funds aside during booms may spark pressure to spend them (as occurred in Chile during the boom that preceded the recent global crisis) or even to squander them in the form of unsustainable and unwise tax cuts (as was done in the United States after the Clinton Administration built up a budget surplus).

The countercyclical management of public expenditure can also generate inefficiencies (e.g., interruptions of public works during booms that ultimately increase their cost) or long-term rigidities (increases in social spending or tax cuts during crises that then become permanent). In addition, for strictly political reasons, it may be difficult to design countercyclical tax measures, as demonstrated by the opposition to tax increases for commodity exporters during boom periods.

For all of these reasons, countercyclical fiscal policies have been the exception rather than the rule in the developing world. In their study of cyclical patterns in public expenditure in over 100 countries in 1960-2003, Kaminsky, Reinhart and Végh (2004) found that —unlike what had occurred in industrialized countries— fiscal policies had indeed tended to be procyclical in developing countries, especially in Africa and Latin America. Working on the basis of these estimates, Ocampo and Vos (2008, chap. IV) have shown that this procyclical pattern is associated with lower long-term growth. In the case of Latin America, Martner and Tromben (2003) concluded that procyclical episodes outnumbered the periods in which neutral or countercyclical policies were in place during the years from 1990 to 2001. This finding has also been corroborated by Bello and Jiménez (2008) for the period 1990-2006. Procyclical patterns in social expenditure have also been a recurring theme in the analyses presented in the annual studies published by ECLAC in the *Social Panorama of Latin America* series (see, for example, ECLAC, 2010b).

There is no clear indication that anything approaching steady progress has been made in this area in recent years.

<sup>8</sup> See, for example, the analysis of Chilean fiscal mechanisms in Ffrench-Davis (2010).

Some countries have tended to adopt countercyclical policies, but procyclical patterns continue to predominate.<sup>9</sup> Figure 3 illustrates the characteristic pattern for the region as a whole over the last two decades: with moderate deficits (which indicates that this is not a recent achievement but rather the product of adjustments made during the “lost decade”), primary expenditure exhibits a procyclical pattern with a one- or two-year lag. This pattern can be outlined as follows: during booms, the upturn in revenues precedes the recovery of primary expenditure, but the latter speeds up towards the end of the boom (2006–2008, in the latest one); spending continues to rise during the initial phase of the crisis (2009, as well as in 1999), but then slows as policymakers strive to reduce fiscal imbalances. These lags make it seem as though a countercyclical policy is being followed during the initial phases of booms and busts, but the underlying pattern is actually procyclical. An analysis of the most recent cycle at the country level clearly shows that countries in which primary expenditure has been countercyclical are the exception rather than the rule. Table 1 shows the different categories of countries, with the vast majority exhibiting a procyclical pattern. It also includes a third

category corresponding to countries that have tended to increase expenditure levels during both phases of the cycle.

Notwithstanding the headway made in terms of fiscal discipline—which, as noted earlier, dates quite far back at this point—and the reductions seen in almost all of the countries’ public debt levels, much remains to be done in designing appropriate countercyclical fiscal policies and in building the necessary institutions to back them up.

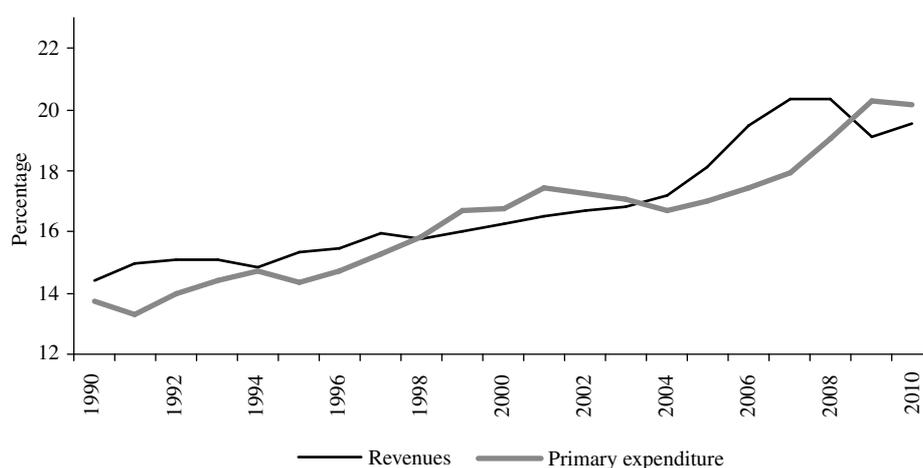
### 3. Monetary and exchange-rate autonomy in economies characterized by “balance-of-payments predominance”

An examination of the crises experienced by the developing world in recent decades demonstrates the accuracy of the Economic Commission’s characterization of the developing countries as being subject to “balance-of-payments predominance” and, especially in the past few decades, to capital-account cycles. It also provides categorical evidence that one of the main problems is that these cycles put pressure on decision-makers to employ procyclical monetary and exchange-rate policies. This is particularly true in the case of monetary policy, since economies that have opened up their capital accounts come under pressure to lower interest rates during booms and raise them during crises. When the

<sup>9</sup> See, inter alia, IDB (2008), ECLAC (2008b, chap. IV) and Ocampo (2007) for a discussion of the boom that preceded the most recent crisis and IMF (2010, chap. 4) for an analysis of the most recent business cycle as a whole.

FIGURE 3

**Latin America: public-sector revenues and primary expenditure, 1990–2010**  
(Percentages of GDP)



Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

GDP: gross domestic product.

TABLE 1

## Latin America: features of public expenditure

	Real increase in primary spending (percentages)			Increase in spending, 2004-2008, vs. GDP growth in:	
	2004-2008	2009	2010	2004-2008	1990-2010
<b>Countercyclical</b>					
Chile	5.5	15.3	4.4	1.15	1.10
El Salvador	1.6	10.8	5.1	0.49	0.47
Paraguay	2.0	28.0	11.4	0.42	0.73
Peru	7.3	12.7	12.6	0.96	1.66
<b>Acyclical (moderate increase)</b>					
Guatemala	2.3	4.6	3.3	0.52	0.62
<b>Acyclical (steady increase)</b>					
Argentina	12.3	19.7	14.5	1.46	3.03
Colombia	7.7	10.9	-4.2	1.41	2.21
Costa Rica	7.6	10.6	3.3	1.29	1.61
Uruguay	7.0	7.4	10.7	0.84	2.02
<b>Procyclical</b>					
Bolivia (Plurinational State of)	10.2	0.2	10.2	2.12	2.67
Brazil	7.9	2.2	10.6	1.67	2.91
Dominican Republic	11.7	-12.1	0.7	1.67	2.26
Ecuador	19.7	6.0	7.4	3.66	6.34
Honduras	8.1	3.5	-3.8	1.38	2.29
Mexico	5.7	3.4	-3.6	1.71	2.05
Nicaragua	6.9	5.1	3.0	1.73	2.33
Panama	12.8	-0.3	6.3	1.46	2.26
Venezuela (Bolivarian Republic of)	12.6	-1.4	-12.5	1.22	4.28
Average	8.3	7.0	4.4	1.40	2.27

Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

authorities do not allow themselves to be swayed by this pressure and opt for a countercyclical policy, they simply shift the pressure onto the exchange rate, which results in a stronger currency during booms and a weaker one during busts. This indicates that the authorities in charge of monetary and exchange-rate policies are not actually autonomous and that all they can do is to choose between the two types of procyclical effects.<sup>10</sup> Although this may be more or less the case in different countries, it nonetheless speaks to a highly conspicuous facet of monetary and exchange-rate dynamics in economies with open capital accounts.

The exchange-rate fluctuations generated by capital movements have ambiguous effects in the short run and counterproductive ones in the long run. Their main

countercyclical effect is reflected in the current account of the balance of payments, which tends to deteriorate during booms and to improve during crises. Beyond a certain level, however, this pattern is counterproductive. In fact, revaluation and the resulting deterioration in the current account during booms have been the root cause of crises in the past, since, although they help to “absorb” excess credit during booms, they then become the main source of economic vulnerability when capital movements change direction. In view of this fact and the ambiguous effects that exchange-rate volatility has on specialization and growth patterns (a topic that we will return to later), the structuralist literature has come down firmly on the side of those who are not in favour of using this type of adjustment mechanism, at least beyond a certain level.<sup>11</sup>

<sup>10</sup> This is something akin to what Robert Mundell famously said when he noted that, in the presence of a fixed exchange rate, the authorities cannot control the money supply, but can only influence the mix of domestic and external assets on the central bank’s balance sheets.

<sup>11</sup> See, for example, Ffrench-Davis (2005); Frenkel (2007 and 2010); Ocampo (2003 and 2008); Ocampo, Rada and Taylor (2009); and Stiglitz and others (2006).

This effect of exchange-rate fluctuations has often proved to be weaker than the procyclical effects of two other factors that have a great deal to do with the ambiguity of the exchange rate's effects on aggregate demand and thus on its usefulness as a countercyclical instrument. The first and perhaps most important of these two factors is the impact that the exchange rate has on private-sector balance sheets in economies in which this sector is a net debtor to the rest of the world, as has tended to be the case in Latin America.<sup>12</sup> In these cases, a revaluation brought about by an abundance of capital during booms generates capital gains that boost aggregate demand; by the same token, devaluations during crises trigger capital losses that have recessionary effects. These impacts are compounded by the distributional effects that have been discussed in the traditional literature on the recessionary impacts of devaluations (Díaz-Alejandro, 1988, chap. 1; and Krugman and Taylor, 1978). The simplest way of visualizing this is to look at real wages: a revaluation tends to cause them to rise, which will have an expansionary effect if there is a high propensity to spend labour income, while a devaluation during a crisis will depress real wages, which will further reduce aggregate demand.

The traditional macroeconomic literature has characterized the constraints that economic authorities face as a “trilemma” in open economies. The most important implication here is that, in economies with open capital accounts, the authorities can control the exchange rate or the interest rate, but not both. In the years leading up to the crisis, this prompted advocates of this view to proclaim that the only sustainable (or “credible”) exchange-rate regimes were those that were completely flexible (those in which the authorities choose to maintain their monetary autonomy but entirely give up their autonomy in handling the exchange rate) or those with fixed or managed exchange rates (in which the authorities opt for autonomy in dealing with the exchange rate but relinquish the ability to manage monetary policy). Moreover, since fixed but readjustable exchange rates are prone to destabilizing speculative movements, the best approach in such cases—in this view—is to opt for a rigid regime based on currency boards or dollarization, in which the authorities give up their autonomy in respect of both monetary and exchange-rate policy.

The line of reasoning being followed in this analysis indicates that the problem with the second of

these options is that it is clearly procyclical and, more importantly, when it is adopted in an extreme form that lacks credibility, its collapse can be chaotic, as was seen in Argentina at the start of the twenty-first century and in many countries when the gold standard was abandoned in the 1930s.

The option of having flexible exchange rates and an inflation-targeting monetary policy does, on the other hand, have some countercyclical virtues, provided that (and, therefore, to the extent that) aggregate domestic demand is the main determinant of inflation.<sup>13</sup> Nonetheless, the exchange-rate variations that this system allows to take place tend to have procyclical effects on aggregate demand, however, for the reasons already mentioned. Moreover, given the interrelationship between the exchange rate and inflation, it can have procyclical effects under a pure inflation targeting system: since a revaluation will tend to push prices down during a boom, interest rates do not climb enough to contain the surge in demand; on the other hand, the inflationary effect of a devaluation prompts decision-makers to adopt a tight monetary policy during crises. Thus, as noted by theorists who look at inflation targeting systems, a strict regime of this type tends to heighten the volatility of economic activity (Svensson, 2000).

Clearly, with a “flexible” system of inflation targeting—in which the level of economic activity is also taken into account—these problems are at last partially corrected, but the effects that the exchange rate has on price levels also need to be corrected. What is more, if external shocks and indexation are the fundamental determinants of inflation, rather than fluctuations in aggregate demand (as posited in structuralist theory), then the foundations for using inflation targeting as a rule for monetary policy management crumble.<sup>14</sup> It therefore makes much more sense to say, as is implicitly assumed in flexible inflation targeting regimes, that, within the constraints that they face in trying to reconcile their various goals, central banks of developing countries should focus on at least three different types of objectives: inflation, economic

<sup>12</sup> This also applies to public-sector balance sheets, but this effect has already been analysed in the preceding subsection.

<sup>13</sup> Under these conditions, what macroeconomic theorists have called the “divine coincidence” comes into play. This coincidence is one in which the achievement of inflation targets will ensure success in stabilizing economic activity at full employment. Needless to say, this outcome has yet to be seen even in industrialized countries.

<sup>14</sup> This analytical framework also assumes that demand is sensitive to interest rates and that the interest rates set by the central bank have a significant influence on the rates that affect consumption and investment decisions. Both of these assumptions may not hold in developing countries, and this is certainly the case in economies with underdeveloped financial systems.

activity and the exchange rate.<sup>15</sup> In addition, financial stability objectives should be added, as stability in financial markets is closely tied to macroeconomic stability. This does not mean, of course, that inflation should be a secondary or contingent goal. Quite to the contrary, in economies with a tradition of inflation such as those of Latin America, it must obviously be one of the primary objectives.

An alternative reading of this “trilemma” is that freedom of capital movements is what should be relinquished. The need to set multiple targets, as noted above, also means that the authorities need to have a wider array of policy tools for meeting those targets, and this is all the more so when the effectiveness of individual tools is limited.<sup>16</sup> This situation points up one of the underlying problems in the macroeconomic management of open economies: the cost of doing without given policy instruments is high in economies subject to balance-of-payments predominance. In the past, Latin American economies had countless policy instruments at their disposal for mitigating external shocks, including trade policy tools and capital and exchange-rate regulations. When they gave up these tools, the full burden of managing external shocks was shifted onto the exchange rate, which is not necessarily the most appropriate countercyclical policy tool, as discussed above. If the instruments used in the past are now not sufficient for dealing with the challenges now being faced by Latin American economies, then the authorities must devise new ones.

In the face of these dilemmas, economic authorities in the developing world have arrived at the pragmatic conclusion that, not only are extreme regimes counterproductive, but also that other tools need to be used in order to regain monetary and exchange-rate policy autonomy. The two most popular types of policies have been the active management of foreign exchange reserves and a return to the regulation of capital flows. Both of these instruments are being used with clearly countercyclical objectives in mind and show that exchange-rate management in the developing world is moving in the direction of “intermediate” exchange-rate regimes based on a form of “administered” (and, in many cases,

such as those seen in East Asian nations and Peru, heavily administered) flexible exchange-rate regimes. One way of thinking about this is to say that these countries are taking up positions inside the triangle formed by the “trilemma”. They have also been adding another policy tool —countercyclical prudential regulations— into the mix. These regulations, in conjunction with regulations on capital flows, have been included in policymakers’ macroprudential toolkits, which also sometimes include traditional monetary instruments, such as the active management of bank reserve requirements. This latter policy tool was reintroduced by various Latin American countries during the 2003-2008 boom and was used for opposite purposes, as an expansionary instrument, during the crisis.<sup>17</sup>

The chief advantage of a policy stance whereby the authorities actively manage foreign exchange reserves is that they can then control both the exchange rate and interest rates, even in the presence of capital mobility —within, of course, certain limits. This point has also been made by Frenkel (2007). During boom times, this obviously calls for the sterilized accumulation of foreign exchange reserves. As demonstrated by the developing world’s experience during the most recent global financial crisis, the availability of reserves provides more manoeuvring room for the adoption of expansionary monetary policy measures during crises in order to counter contractions in aggregate demand. Proactive management of these reserves makes it possible to cushion the impact of capital flows on the exchange rate during booms, while at the same time helping to stave off future crises. Maintaining reserves at high levels therefore helps to ensure the stability of intermediate exchange-rate regimes. This policy is not cost-free, however, especially since building up sterilized reserves is expensive. At the national level, the yield on reserve assets is lower than the yield of capital inflows during booms, and from the standpoint of the central bank, the cost of sterilization instruments is generally higher than the yield of reserves (although, over time, the capital gains generated by the management of such reserves may offset that cost).

The existence of these costs is precisely what justifies the reintroduction of a second instrument, although on a smaller scale: the regulation of capital flows in order to curb volatile capital inflows during booms. The term “capital account regulation” is preferable to the term “capital controls”, since, in practice, it operates much

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<sup>15</sup> The Federal Reserve Act of the United States establishes a number of objectives. There is no mention of the exchange rate, but one of the goals set forth in the Act is the promotion of moderate long-term interest rates. The stated objective for economic activity is defined as “maximum employment,” which is listed before the objective of stable prices.

<sup>16</sup> This is the underlying message in one of the most well-known writings of Stiglitz (1998).

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<sup>17</sup> This was also done, for example, by IMF (2010, chap. 3), but it is best to draw a clear distinction between the two.

like other forms of financial regulation. Since these types of regulations avert volatile capital inflows, they have prudential effects and can therefore rightly be called “prudential capital account regulations”. They have two types of effects: they make the structure of external liabilities less volatile, and they provide more scope for the adoption of countercyclical macroeconomic policies. Consequently, like the proactive management of foreign exchange reserves, they increase governments’ monetary and exchange-rate autonomy. These effects tend to be limited and temporary in nature, but this does not mean that these tools should not be used: it simply means that they should be employed to the extent that they can be effective and should be fine-tuned to compensate for financial markets’ tendency to evade them; these mechanisms do, in any event, entail costs which contribute to the effectiveness of these regulations.<sup>18</sup> One promising approach for heightening their effects and blending them with other regulatory instruments is to convert the traditional bank reserve requirements for capital inflows, such as those used in the past by Chile and Colombia, into reserve requirements for foreign-currency liabilities of the financial sector and of non-financial agents. This would be in line with other monetary and financial regulatory instruments that target stocks rather than flows.

In addition to these instruments, domestic financial regulations can also be used as countercyclical tools. This option, which Spain pioneered in the year 2000, is precisely what the Bank of International Settlements and ECLAC have been recommending for more than a decade now.<sup>19</sup> The current crisis has steered the debate towards an active use of these types of instruments. The approach adopted by the Basel Committee on Banking Supervision in 2010 tends to favour the use of capital requirements as a countercyclical tool. This tool could be supplemented, however, with the countercyclical use of loan-loss provisions (the Spanish system) or liquidity requirements, along with the broader range of policy measures discussed earlier, and especially those designed to cope with the procyclical effects of asset prices. An important point here is the need to avoid currency mismatches in countries’ balance sheets, since they generate high levels of risk for developing countries and are one of the main sources of the procyclical effects of exchange-rate fluctuations.

In addition to these two types of countercyclical regulations for managing capital account or domestic financial cycles, there are a number of others. One that was in great favour during the 2003-2008 boom focuses on the improvement of the structure of public-sector liabilities. Tax measures are one type of instrument that has not yet been used for this purpose, however. One possibility would be to introduce tax provisions that discourage the use of external credit by lowering the allowable tax deduction for the financial costs associated with such liabilities, as suggested by Stiglitz and Bhattacharya (2000) more than a decade ago.

The recent empirical literature on the subject is overwhelmingly in favour of this approach. It shows, in particular, that the developing economies’ lower level of external vulnerability was a decisive factor in their relatively strong performance during the recent global financial crisis. Different studies have linked this lower level of external vulnerability with different combinations of five interrelated factors: (i) smaller current account deficits; (ii) competitive exchange rates; (iii) ample foreign exchange reserves; (iv) low levels of short-term external liabilities; and (v) the regulation of capital flows.<sup>20</sup> This emphasis on external vulnerability validates the idea that the macroeconomic predominance of the balance of payments is the crucial factor that must be addressed in developing economies.

This is the underlying source of the solid macroeconomic position of developing countries over the past decade, rather than sound fiscal positions (with some notable exceptions, such as India) or the expansion of independent central banks that adopt inflation targeting and flexible exchange rates as their policy framework. A flexible system of administered exchange rates has come into general practice, along with, implicitly, approaches to monetary and exchange-rate management that combine inflation targeting with targets for the level of economic activity and the exchange rate. This administered flexibility and its combination with varying mixes of proactive and macroprudential measures for managing foreign exchange reserves, including the regulation of capital flows, have succeeded in reducing the countries’ external exposure and increasing their monetary and exchange-rate autonomy.

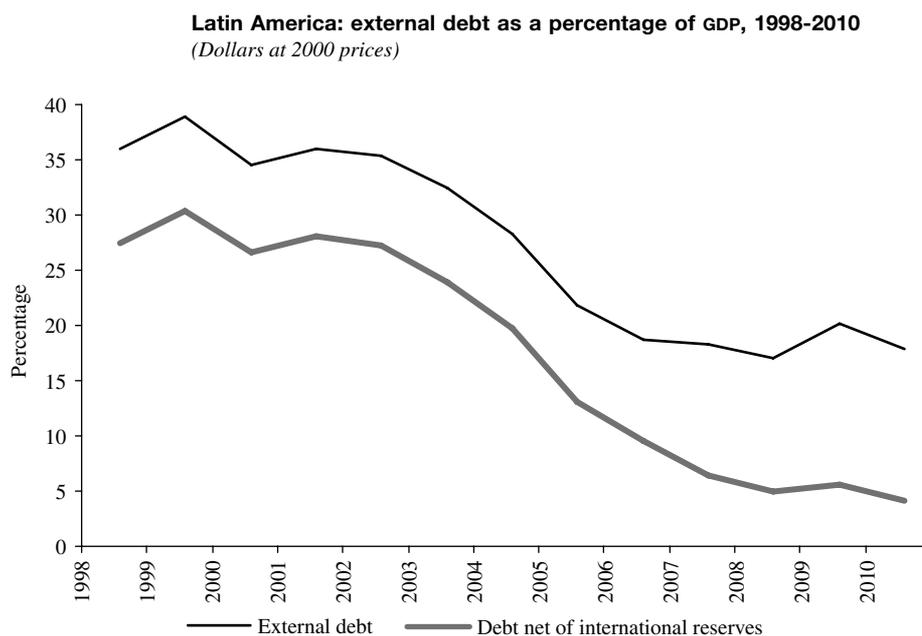
Latin America’s main achievement during the 2003-2008 boom was the reduction of its external debt and, in particular, the improvement of its net foreign exchange reserves position, as shown in figure 4, thanks

<sup>18</sup> For a review of the literature on this question, see Ocampo (2008) and Ostry and others (2010).

<sup>19</sup> For a review of the background and debate on this issue, see Griffith-Jones and Ocampo (2010); for a review of Spain’s experience, see Saurina (2009).

<sup>20</sup> See, among many others, Frankel and Saravelos (2010); Frenkel (2010); Llaudes, Salman and Chivakul (2010); Ostry and others (2010).

FIGURE 4



Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

GDP: gross domestic product.

both to debt reduction and to the build-up of reserves. The development of a domestic government bond market was an important step in this process because it helped to reduce the public sector's long-standing dependence on external financing. The factors underlying this improvement were not the reduction in the region's fiscal disequilibria as such, which has actually been in place for the past two decades (see figure 3), nor the increasing propensity to use countercyclical fiscal policies, which, as we have seen, continue to be the exception rather than the rule. Nor was it a slowdown in the growth rate of aggregate demand, which, in fact, was climbing steeply. These observations are corroborated by figure 5, which shows

that there was, on average, an improvement in the current account, although this was due more to the upswing in the terms of trade than to austerity measures. In fact, when adjusted for the terms of trade, the figures point to a sharp deterioration in the current account. This indicates that Latin America, on average, spent the proceeds from the boom in commodity prices. This has actually been the rule, with the exception of only a handful of countries (Ocampo, 2009). Be this as it may, what were, overall, fairly well-balanced current account results, helped along by booming commodity prices, contributed to an improvement in external balance sheets which, in turn, gave macroeconomic policymakers greater autonomy.

FIGURE 5

**Latin America: Current account balance adjusted by the terms of trade, 1997-2010**  
(Percentages)



Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

## IV

### Economic growth and structural change

#### 1. Patterns of specialization and economic growth

Economic growth is invariably accompanied by changes in production structures, including changes in the composition of GDP and employment and in international specialization patterns. In addition, in developing countries, sharp gains in productivity are invariably linked to shifts in labour from low- to high-productivity sectors, as noted in classic development theory and discussed more recently by Ros (2000). Most traditional studies ignore this link between economic growth and the production structure, however, portraying this structure as simply a by-product of growth. The essence of the structuralist views, including those that ECLAC has espoused over the years, is that these changes are neither mere by-products nor neutral in terms of their effects; quite to the contrary, they are the actual engine of economic growth. Seen

from this perspective, development can be understood as an economy's capacity to generate new dynamic production activities (Ocampo, 2005). By the same token, an absence of growth is linked to an interruption of the process of structural change.

In industrialized countries, this process is driven by technological change. Since technology generation is highly concentrated at the world level, it creates a centre-periphery pattern, as explained by Prebisch. In developing countries, growth is driven by the capacity to absorb, with a certain lag, these technological changes and economic activities as they become technologically mature and are gradually transferred to the periphery, or by the capacity to respond to the demand for commodities generated by economic expansion at the centre. The transfer of technology and production activities is not a passive process: it entails an active effort to attract given industries and production activities that shift from the

centre to the periphery as value chains disintegrate. These industries and activities are nonetheless new arrivals for the periphery and therefore still demand an active technological learning process that can also generate secondary innovations (Katz, 1987). If efforts to narrow the technological gap succeed, then these lags will be reduced and developing countries may even become secondary sources of technology.

This emphasis on changing production structures is not at odds with the need to achieve higher rates of investment. Rapidly growing economies also have high investment rates, but this link is much less systematic than the one that exists between economic growth and structural change (Ocampo, Rada and Taylor, 2009, chap. 3). This is because high investment rates are actually more of an effect than a cause of dynamic structural change. This is why more attention will be devoted here to structural change than to investment. This does not mean, however, that there may not be other determinants of capital formation, such as, in particular, factors related to financing mechanisms, although they will not be discussed here.

There are a number of reasons why economic growth and changes in production structures are interrelated. The first explanation, which has the longest history in development thought, is that different branches of production create very different opportunities for generating and transmitting technical progress and, hence, for boosting the economy's productivity. The classic defence of industrialization made the argument that industrial activities were the best channel for transferring technology and spurring other innovations. Some primary-sector activities, such as agriculture and mining, may also experience steep increases in productivity, but they have been less effective in transmitting those increases to other sectors of production.

This leads us to the second explanation, which has to do with different sectors' production linkages. The more traditional sorts of linkages, which are the type focused on by Hirschman (1958), are created by the demand that a new activity generates for others (backward linkages) and the opportunities that it offers for the development of other activities (forward linkages). The key feature to notice in this connection, as well as in the case of the transmission of technical progress, is that, in order to generate growth dynamics in a given nation, these effects must take place within a given territory and must not radiate out to the rest of the world, although this is exactly what tends to occur in an increasingly integrated world economy.

A more recently identified type of linkage has to do with what Hidalgo and others (2007) call the "product

space". In these authors' view, the factors and inputs used in a given branch of production are invariably specific in nature: particular kinds of production plants or facilities, workers with certain types of skills, specific intermediate inputs, etc. Consequently, they cannot be directly shifted over to other economic activities except at the cost of lower levels of productivity. They can, however, be used or adapted for use in activities that are near to the "product space". In this view, a production activity's capacity to innovate and diversify will depend on what activities are "nearby". Thus, depending on the "density" of nearby production activities (the authors use the simile of a forest which is more dense in some areas and sparser in others), they will generate very different opportunities for the diversification of production.

These two phenomena, which, in a broad sense, can be referred to as "innovation" and "complementarities", are the essential components of any production-sector development policy. The interrelationship between the two is the source of most externalities and, hence of market failures: coordination problems and the leaks and diffusion of information (including technological information). In the first case, the key problem lies in the interrelationship among the investment decisions of different economic agents, since, in the absence of coordination among those agents (which the market does not guarantee), investments may not be made or may be made at suboptimal levels. In the second case, the "new information" may be costly for the agent that needs to generate or acquire it, while the benefits may largely be reaped by other agents. As a result, the investment made in acquiring that information may also be suboptimal.

There is plentiful evidence of a link between specialization patterns and growth rates. In the recent literature, Hausmann, Hwang and Rodrik (2007) have made what is perhaps the most ambitious effort to demonstrate that the technological content or "quality" of countries' exports is a fundamental determinant of their growth. These authors estimate that content as the "income level" embodied in a country's exports (the value of exports, weighted by the income level of the countries that typically export those same products).

Ocampo, Rada and Taylor (2009, chap. 4) engage in a simpler exercise in which they estimate the relationship between economic growth and the dominant technological contents of a country's exports, using the technological categories proposed by Sanjaya Lall. This exercise indicates that countries specializing in high-technology exports tend to grow the fastest, followed by those that mainly export intermediate- and low-technology

exports, while countries whose export structures are based on natural resources tend to grow more slowly. This tendency is not as obvious during periods when commodity prices are high, which indicates that one of the reasons why, over the long term, growth based on high- and even low-technology industries is preferable is that it relies less on price spikes or windfall profits and thus engenders a more stable development process. Interestingly enough, mid-level technology exports (which are largely composed of standardized iron and steel products and chemicals, i.e., industrial commodities) do not afford the same advantage.

When value chains disintegrate, the link between the technological content of export products and production activities may be broken, especially in the case of *maquila*. In these cases, and in export industries that use large volumes of imported inputs, the complementarities may also be very limited. Many export manufacturing activities may therefore lack the virtues that they are portrayed as having in the economic literature.

Various disadvantages that are associated with a specialization in natural resources have been explored in the course of the controversy about the “natural-resource curse”.<sup>21</sup> Two main problems with this type of specialization have been identified by Agosin (2007): the structural effects of this pattern of specialization as such (i.e., production/technological effects) and macroeconomic vulnerability (“portfolio effects” in his terminology). To use the terms employed by Hidalgo and others (2007), the first problem may be understood as the fact that countries with abundant endowments of natural resources (including oil) are situated in sparsely populated areas of the product space, which limits their opportunities for diversifying their production activities. The second is that countries that specialize in natural resources are more prone to crises emanating from the export sector owing to their less diversified export structures and their vulnerability to sharp fluctuations in the terms of trade. One of the consequences of this is a strong propensity to use procyclical policies and vulnerability to crises that they generate.<sup>22</sup> “Dutch disease” links the two problems: in this case, the crucial problem is that commodity price booms can spark exchange rate appreciations that can

have lasting effects on production structures —effects that can turn out to be very costly when the terms of trade subside.<sup>23</sup> The issues involved in exchange-rate management will be discussed in a later section.

There is also, however, an opposing body of literature that postulates that the forward and backward linkages of primary production activities can be used to leverage the diversification of production. Sweden and Finland boast two of the best success stories of this type of production-sector diversification (Blomström and Kokko, 2007), along with Australia and New Zealand (ECLAC, 2006, chap. V). There are also certain technologically demanding niches for commodities in terms of quality, processing, storage or transport, some of which also afford access to dynamic markets (Akyüz, 2003, chap. 1; ECLAC, 2008a, chaps. III and V).

In view of this situation, and looking beyond the specific issues involved in natural-resource specialization, the critical issue for Latin America is the low technological content of its production activities and its scant levels of research and development, not only in comparison to the more successful East Asian economies, but also to developed countries whose exports are natural-resource intensive. The data shown in table 2, which have been drawn from Cimoli and Porcile (2011) and from a broader ECLAC study (2007), corroborate these findings.

Numerous studies have shown that one of the major differences between the success stories of East Asia and the experiences of Latin America has been that East Asian economies have made the transition to knowledge generation, whereas Latin America is still lagging behind in this respect (ECLAC, 2008a, chap. III; Cimoli and Porcile, 2011; and Palma, 2009 and 2011). Hausmann (2011) has demonstrated that the region’s slower long-term growth rate is correlated with a poorer-quality export basket and with the fact that it is, in general, located in less dense portions of the product space. In contrast, industrialized countries are, for the most part, situated in high-density portions of that space, and the rapidly growing economies of East Asia have been moving in that direction.

The main lesson to be drawn is that, above and beyond the fact that different branches of production have differing capacities for promoting productivity gains, the key to robust growth is the synchronization of export development, production linkages and technological capacity-building.

<sup>21</sup> The paper of Sachs and Warner (1995) is the most well-known attempt to devise an econometric test of the adverse growth effects of natural-resource-based specialization patterns. Lederman and Maloney (2007) offer a different interpretation according to which, above and beyond the economic issues addressed in the paper, they posit that this “curse” can also be linked to political economy factors, and particularly the associated rent-seeking behaviour to which it gives rise.

<sup>22</sup> See also Manzano and Rigobón (2007).

<sup>23</sup> There are many analyses of this problem; for one of the most insightful, see Krugman (1987).

TABLE 2

**Specialization, the production structure and growth**

	PR1	PR2	KI	AI	Percentage NR	R&D	Patents	Per capita GDP
Latin America	0.30	0.23	0.78	0.44	70	0.40	0.5	1.6
Natural-resource-based developed economies	0.70	0.72	0.33	1.32	59	1.89	65.4	2.3
Emerging Asian economies	0.80	0.99	0.39	2.33	30	1.21	30.5	4.8
Mature economies	0.88	0.97	0.16	1.80	24	2.43	132.6	2.0

Source: Mario Cimoli and Gabriel Porcile, "Learning, technological capabilities and structural dynamics", in *The Oxford Handbook of Latin American Economics*, José Antonio Ocampo and Jaime Ros (eds.), New York, Oxford University Press, 2011.

Note:

Mature economies: France, Italy, United Kingdom, United States, Japan and Sweden.

Developed countries based on natural resources (NR): with 40% or more of the exports based on those resources.

PR1: Share of industrial value added accounted for by engineering industries (coefficient relative to the United States, 1982-2002).

PR2: Share of industrial value added accounted for by engineering industries (coefficient relative to the United States, 2002-2007).

Patents: Total number of patents per 1 million persons (1996-2007).

GDP pc: GDP growth per capita (1970-2008).

AI: Adaptability Index (1985-2000).

KI: Krugman Index (vs. United States)

R&D: Investment in research and development as a percentage of GDP (1996-2007).

## 2. Production-sector development policies in open economies

The relationship between production structures and economic growth has major economic policy implications. Inasmuch as development is closely linked with changes in production structures, an essential task of economic policy is ensuring that the economy has the capacity to bring about dynamic changes in its production patterns by putting into place proactive production-sector development policies. This concept is preferable to that of industrial policies because it does not necessarily assume, as used to be the case, that these measures are specific to manufacturing industries but instead recognizes that they can be implemented in natural-resource or service-intensive sectors as well. One of the virtues of this approach is that it opens up development opportunities for many countries of the region that do not have the capacity to export high-technology products.

In open economies such as those of Latin America today, progress in this area is closely intertwined with the capacity to develop increasingly high-technology export structures. The domestic market should not be overlooked, however, because it plays a critical role in economic growth. For most of the countries in the region, regional integration should serve the same purpose as a larger domestic market would, but, in order for this to be possible, the many economic (strong susceptibility to the business cycle) and political obstacles that are hindering the implementation of such integration initiatives will have to be overcome. Particular attention also needs to be devoted to export activities' production

linkages, which represent what might be thought of as the "domestic market" generated by an export activity. These linkages are some of the complementarities created by this type of activity. It can also be argued that the competitiveness of a given export sector, which makes it less prone to relocation, lies precisely in the complementary production activities that supply it with inputs or services at the local level, especially in the case of non-tradable (or imperfectly tradable) goods and services. These complementarities are, to use the term employed by ECLAC (1990), sources of system-wide competitiveness.

The debate surrounding types of production-sector development policies has raised a number of questions that will be looked at only very briefly here. The first question is what the focus of such policies should be. The literature tends to advocate placing emphasis on innovative activities that generate externalities in a given economic area (see Ocampo, 2005; Rodrik, 2007a, chap. 4; and Cimoli, Dosi and Stiglitz, 2009). This approach underscores a factor that is of key importance, as we have seen, in a world where value chains are breaking down. In turn, the term "innovation" should not be understood as being restricted to technological innovation, but should instead be interpreted in a broader sense as referring to new types of activity. It thus includes not only technology (new production processes and new products), but also marketing and markets (for example, new ways of marketing products and the conquest of new markets), new ways of structuring a company or an industry, and the development of new sources of raw materials. This is an approach that I have advocated in an earlier paper

(Ocampo, 2005), but it is also the one used by Australia and New Zealand in their innovation policies (ECLAC, 2006, chap. V). The generation of externalities (which may be technological, commercial or both) is crucial, since their presence implies that the benefits of innovation will not be appropriated exclusively by the innovating firm but can instead be replicated.<sup>24</sup>

In the long run, the chief objective of any production-sector development policy is, in any event, to build technological capabilities. This raises a second series of questions. Some of them refer to the coexistence of high- and low-productivity sectors and ways of promoting the diffusion of technology. Others have to do with the relationship between building production capacities and the accumulation of technological capabilities. Acquiring new production capacities inevitably involves learning how to use a given technology, but the acquisition of technological capabilities is a more active process encompassing everything from adapting technologies, introducing small innovations or modifying a product design to developing the capacity to generate new technologies and new products.

In the early stages of development and, in some industries, even today, technological learning is a by-product of the development of new production sectors. In this case, technology plays an important, but passive, role. Accordingly, the policy focus should be on promoting the sector, rather than on explicit technological strategies. This was, to some extent, done during the stage of State-led industrialization. During that stage, technological development was a by-product, rather than the objective, of technological policy as such, which was absent from Latin America, apart from a few notable exceptions (including agriculture). The substitution of that strategy by trade liberalization certainly created incentives for the adoption of the best available technology so that producers could compete and obliged them to streamline their production processes. This strategy placed more emphasis on importing technology than on adapting and developing it, however. In some cases, this even led to the dismantlement of technological centres and institutions that had been developed in the past. Thus, in terms of their effectiveness in inducing economic growth, these processes proved to be less satisfactory in Latin America than the preceding strategy.

It is therefore of crucial importance to determine when or in what sectors the focus should be production

activities as such or the development of an innovation system. There is no single “right” answer to this question. In some cases, local technological innovation is essential for competitiveness. This occurs in high-technology sectors in the region (Brazil’s aeronautics industry, for example), but it may also be the case in natural-resource-intensive sectors (e.g., the role of national research institutes in the development of agroindustrial complexes of Argentina and Brazil). In any event, the adaptation and creation of knowledge are always “infant industries” and should therefore be given preferential treatment in any production-sector development policy.

When production-sector development policies are being actively implemented, it may not be clear which “innovative activity” should be promoted, and the idea of fostering innovation may, as a result, be identified with the promotion of a given sector’s development. In this type of situation, saying that all selective strategies are misguided because they entail “picking winners” is to ignore the intrinsic characteristics of production-sector development policies. The first point that is being overlooked is that a learning process is involved in determining what should be promoted and, even more importantly, how to go about doing so. Many things have to be learned along the way, and mistakes will be made. Seen from this angle, the types of choices to be made are not very different from those that any private firm makes when it decides to expand into new product lines and has to make a strategic gamble based on the capacities that the firm has built up over time. Firms in this position are liable to make mistakes, too. The second point is that policies of this type are designed to create conditions that will lead to the initiative’s success, so that rather than “picking winners”, they are actually aimed at “creating winners”. Yet another consideration is the fact that, in line with one of the basic conclusions of modern international trade theory, when scale economies (including learning processes) are present, comparative advantages are, in large measure, created.

Regardless of whether a technological or sectoral approach is being taken, incentives may be either horizontal or selective. There are some crucial horizontal components that should be a part of any production-sector development policy, such as measures for fostering innovation and the diffusion of technology, improving long-term financing mechanisms, and supporting micro-, small and medium-sized enterprises. Compelling arguments can be made, however, for selective strategies, since opportunities for innovation do not arise across the entire range of the production structure. What is more, advocates of the general preference for horizontal schemes overlook

<sup>24</sup> When a country or region comes to be recognized as a reliable supplier of a given product, this generates marketing channels that benefit other producers.

the fact that, when such schemes rely on scarce fiscal resources, it becomes necessary to specify where those resources should be used, and this necessarily entails selectivity of some sort. No matter what policy tools are used, these kinds of choices should be made within the framework of a production-sector development strategy. And in the interests of transparency, it is better for these choices to be explicit rather than implicit.

A third group of questions concerns public-private partnerships, which are an inherent part of any production-sector development policy. Such partnerships are necessary because of the information problems facing the various agents involved: better information on production processes and markets on the part of the business community, and better information about the economy as a whole and the progress of international negotiations and, most importantly, the capacity to coordinate different agents on the part of the State. It is important, however, to ensure that the incentives provided by the State actually serve a collective purpose rather than simply being converted into rents. The crucial issue is how to go about developing a close partnership that will ensure policy relevance while avoiding policy capture by the private agents involved. There are many different solutions for this problem, as is illustrated by the range of experiences in this field that can be identified the world over (ECLAC, 2008a, chap. VI; Devlin and Moguillansky, 2010). The interaction between the public and private sectors should, like production-sector development policy, be viewed as a mutual learning process.

The last type of question has to do with the timing of incentives. The fact that mistakes may be made implies, first of all, that the system must include clear-cut mechanisms for detecting errors and correcting them. The quid pro quo for any incentive should be a performance requirement, or a “reciprocal control mechanism,” to use Amsden’s (2001) terminology. In addition, incentives, by their very nature, should last only for as long as they continue to meet certain basic requirements: that they be necessary in order for innovation to take place and for it to be diffused to other agents. Because of information failures, however, it may not be feasible to set strict time frames at the outset of a process about which full information is not available. In fact, setting definite time frames may undermine the incentives’ effectiveness, and they may end up being wasted (which may increase the probability of creating “losers” instead of “winners” or may make it necessary to extend an incentive whose initial cut-off date had been described as firm, at the expense of government credibility). Again, what is needed is a way of designing a process that allows the

agents involved to see when it is going off track so that they can correct it and to determine when the innovation has become consolidated.

This means that governments need to invest in the development of the institutions responsible for policy implementation. If anything can be said with certainty in this respect, it is that the destruction of institutions during the market-reform period was widespread in Latin America. Fortunately, some institutions survived and have adapted to the changed circumstances and, more recently, a new wave of institutional reconstruction has begun. The most outstanding example of this is Brazil’s recent production-sector development strategy.

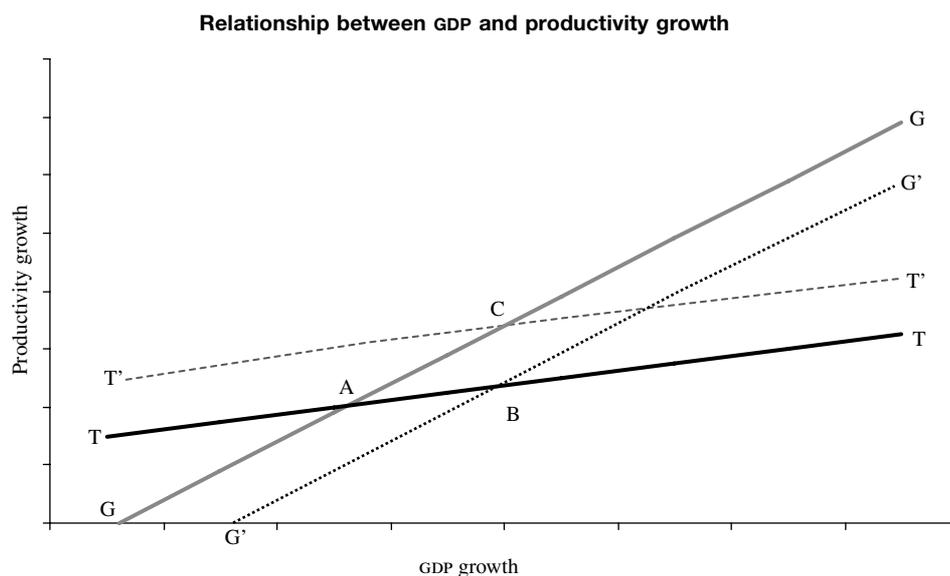
### 3. Interaction between the macroeconomy and production-sector development and the crucial role of the exchange rate

A simple way of visualizing the link between the production-sector development and macroeconomic conditions is by looking at the double relationship that exists between economic growth and productivity gains, as shown in figure 6 (see Ocampo, 2005). The function of technical progress,  $TT$ , is determined by structural conditions. The direction of causality in this case runs from the growth of production to increases in productivity: the expansion of the production sector boosts productivity by spurring investment (better technology embedded in production equipment), learning processes and the reallocation of labour from low- to high-productivity sectors.

A state of macroeconomic equilibrium,  $GG$ , indicates either that aggregate demand is in equilibrium or, if there is an external gap, that the balance of payments is. The relationship is positive in both cases, with the direction of causality being from productivity gains to growth, but it runs through different channels in each case. If it is demand that is in equilibrium, then increases in productivity will boost investment and labour income (and consumption) and will improve the external balance. In the second case, productivity gains will drive up exports or reduce imports and, either way, will narrow the external gap.

Equilibrium is reached at point A. If macroeconomic conditions improve, then  $GG$  shifts to the right and results in a new equilibrium point (B) at which there is both more growth and faster gains in productivity. This effect can operate through an expansionary macroeconomic policy that is sustainable because it induces higher investment and does not generate inflationary barriers or untenable balance-of-payments disequilibria. A

FIGURE 6



Source: The author.

GDP: gross domestic product.

successful production-sector development policy will shift the **TT** function upward, as it leads both to more economic growth and higher productivity (point **C** in figure 6).

As pointed out by Ocampo (2005) and Ocampo, Rada and Taylor (2009), this implies that the relationship between increases in productivity and in growth runs in two directions, rather than, as in the traditional view, it simply being one in which productivity is the cause and economic growth is the effect.<sup>25</sup> More specifically, a poor growth performance tends to undercut the rate of productivity growth. There can be various reasons for this, including a balance-of-payments crisis or a destructive restructuring process in the production sector. Declines in productivity will operate through the pathways mentioned earlier: lower investment, less learning and a perverse reallocation of labour to informal sectors. A strong macroeconomic performance will have the opposite effect.

Although this conceptual scheme can be used to analyse many different types of problems, here we will focus on the real exchange rate, which is perhaps the most critical macroeconomic variable in open economies. It also establishes a fundamental connection between the

analysis of growth and the analysis of countercyclical policies presented earlier.

The exchange rate has a number of complex features. One is that, because it is a macroeconomic variable, it cannot generate the selective incentives that a trade regime can, and it can therefore serve only as a partial, but not complete, substitute for a production-sector development policy. Another is that it is, at one and the same time, both the price of a set of financial assets and one of the determinants of the relative price of internationally traded goods and services.

This latter feature gives rise to a number of well-known complex effects. For example, one of the main ideas underlying the concept of an “anti-export bias” was that protection led to an overvaluation of the exchange rate, which undermined the incentive to export. In orthodox theory, the expectation was therefore that any reduction in protection would trigger a real devaluation that would spur the development of the export sector. However, the experiences of the countries of the Southern Cone in the 1970s have shown us that, if the move to open up the current account is coupled with an expansion of capital inflows because the capital account has been opened up at the same time, not only does the expected real devaluation not occur, but it may have the exact opposite effect: a real appreciation. This blocks the pathway through which liberalization would correct the “anti-export bias” and can even give rise to

<sup>25</sup> The fundamental problem has to do with the assumption of full employment of resources used in traditional growth models, in which the direction of causality runs only from productivity to growth.

a paradoxical situation in which economic growth is driven by domestic demand rather than by exports. This has often occurred in Latin America (see, among many others, Vos and others, 2006, chap. 3).

The empirical evidence shows that the real exchange rate is one of the determinants of economic growth. According to Rodrik's estimates (2007b) for developing countries in the period from 1950 to 2004, a 10% undervaluation of the exchange rate was associated with 0.27% in additional growth per year. One of the explanations that he offers has to do with the externalities generated by producers of tradables and indicates that an undervaluation of the exchange rate functions as a partial substitute for a production-sector development policy. Hausmann, Pritchett and Rodrik (2005) show that one of the factors behind an acceleration in growth rates in developing countries is a competitive exchange rate. This evidence is also in line with the findings of Prasad, Rajan and Subramanian (2008) and the results of Frenkel's and Rapetti's review of the literature (2010), which indicate that higher growth rates are associated with improved current account balances.

Frenkel and Taylor (2007) call this effect of the real exchange rate on growth the "development effect" and draw a distinction between this and other effects of this variable, such as its short-run macroeconomic effect, which, as we have seen, is ambiguous, and its impact on employment. The development effect is linked, first of all, with the externalities generated by the dynamic development of tradables, which include the repercussions that this has on the diversification of the export structure. Second, it is associated with the fact that economies with a robust current account are less sensitive to sharp turnarounds in the capital account, which, as we have seen, has been one of the most important lessons learned from recent crises. One way of understanding these effects is to see that a stable, competitive exchange rate shifts TT upward (see figure 6) (i.e., serves as a partial substitute for a production-sector development policy) and shifts GG to the right (i.e., moves the macroeconomy towards a balanced position).

Apart from these development effects, the exchange rate has, as noted by Frenkel and Taylor (2007), additional

implications for employment that have to do with its effect on labour-output elasticity. A real revaluation tends to reduce this elasticity in two different ways: first, it lowers the price of production equipment in economies that import a large share of their machinery and equipment, which leads to a substitution of capital for labour; second, it tends to bias the selection of inputs in production processes towards imported inputs, which weakens domestic production linkages.

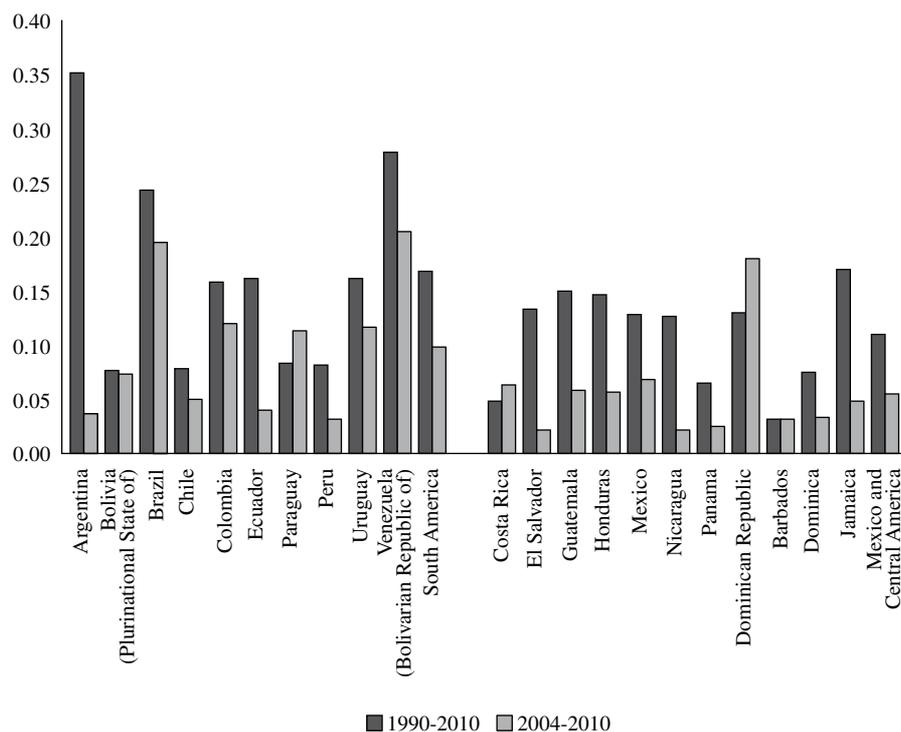
Instability in the real exchange rate also heightens risk and thereby depresses investment in the production of tradable goods and services that can be exported or used as import substitutes. This problem is compounded by the greater vulnerability to international price shocks displayed by countries that are dependent on commodity exports. And, in point of fact, the greater volatility of the real exchange rate in the countries of South America, as illustrated in figure 7, is associated with this subregion's greater reliance on such products.

This underscores the fact that the macroeconomic challenges are especially formidable in economies where a considerable portion of the export base is composed of natural-resource-based goods. In order to deal with this situation, mechanisms need to be developed that can soften the macroeconomic impacts of fluctuations in the prices of these types of goods. This brings us back to the importance of the role of stabilization funds in these economies.

It should be remembered, however, that even in economies in which natural-resource-based products make up a large share of exports, the real exchange rate is not determined solely by export prices. Figure 7 shows, for example, that Peru has been much more successful in avoiding exchange-rate volatility than other South American countries, thanks to its central bank's active intervention in foreign-exchange markets. The other side of the coin is that the introduction of more flexible exchange rates heightens the volatility of the real exchange rate, especially in economies dependent upon natural-resource-based exports. This points in the direction of the use of managed flexible exchange rates as part of the broader countercyclical policies that have been examined in earlier sections of this lecture.

FIGURE 7

## Coefficient of variation in the real exchange rate, 1990-2010 and 2004-2010



Source: Original estimates based on information drawn from the database maintained by the Economic Commission for Latin America and the Caribbean (ECLAC).

## V

### Conclusions

The argument made here is that a sound macroeconomic policy for development combines well-designed countercyclical policies with a proactive strategy for the diversification of the production structure. Countercyclical fiscal policies should be used to meet the challenges posed by the sharp swings in external financing cycles faced by developing countries, as well as steep fluctuations in commodity prices. However, while countercyclical fiscal policy is an extremely important tool, it needs to be paired with an equally countercyclical monetary and exchange-rate policy. The core objective of this latter policy should be to ease the pressure for procyclical monetary and exchange policies that is generated by external financing cycles in countries with open capital accounts. In the light of the experiences of the last decade, it would seem that this can be achieved

by using intermediate exchange-rate regimes in which an active management of foreign exchange reserves is employed as a stabilization mechanism, in conjunction with macroprudential policies, which include capital-account regulations.

The need for a production-sector development strategy stems from the close relationship that exists between economic growth and the diversification of production structures. The central policy objective is to promote innovative production activities that will generate strong production linkages and, through them, system-wide competitiveness. The concept of “innovation” should be understood in the broad sense of the term, i.e., not as being confined to technological innovation, but as encompassing the creation of new production activities, new marketing methods, the

conquest of new markets and new ways of organizing a company or an industry. The critical test, however, is the extent to which it helps an economy build up technological capabilities. The challenge is particularly formidable in economies that, like most of those of Latin America, have static, natural-resource-based comparative advantages. The exploitation of those advantages should not, however, be a barrier to the diversification of the production structure, and steps should be taken to ensure that increasingly sophisticated technologies are incorporated into the countries' natural-resource-based production activities. Wise management of the exchange rate throughout the business cycle is essential if this is to be accomplished.

Countercyclical policy and the diversification of production are crucial elements in the contributions to economic thought made by ECLAC and, in particular, Raúl Prebisch, in whose honour this lecture series was created. And they, in turn, are based on two other fundamental concepts: the key importance of managing the external vulnerabilities of economies whose macroeconomic dynamics are subject to "balance-of-payments predominance", and the close relationship that exists between economic growth and changing production patterns. These two pivotal ideas are as valid today as they were in the past and demonstrate the cogency of the concepts that ECLAC has espoused throughout its history.

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