

# World Economic and Financial Surveys

## Regional Economic Outlook

### **Western Hemisphere**



**APR 07**

I N T E R N A T I O N A L M O N E T A R Y F U N D

©2007 International Monetary Fund

### **Cataloging-in-Publication Data**

Regional economic outlook : Western Hemisphere -- [Washington, D.C.] : International Monetary Fund, 2007

p. cm. -- (World economic and financial surveys)

Apr. 2007

Includes bibliographical references.

ISBN 978-1-58906-642-7

1. Economic forecasting -- North America. 2. Economic forecasting -- Latin America.  
3. Economic forecasting -- Caribbean Area. 4. North America -- Economic conditions. 5.  
Latin America -- Economic conditions. 6. Caribbean Area -- Economic conditions.  
I. International Monetary Fund.

HC94.R445 2007

Price: US\$31.00

(US\$26.00 to full-time faculty members  
and students at universities and colleges)

Please send orders to:

International Monetary Fund, Publication Services  
700 19th St. N.W., Washington, D.C. 20431, U.S.A.

Tel.: (202) 623-7430    Telefax: (202) 623-7201

E-mail: [publications@imf.org](mailto:publications@imf.org)

Internet: [www.imf.org](http://www.imf.org)

# Contents

Executive Summary	v
I. The Global Economy and the Outlook for the United States and Canada	1
The Global Context	1
The Outlook for the United States and Canada	2
II. The Outlook for Latin America and the Caribbean	5
Main Developments and Prospects	5
Financial Sector	11
External Developments	14
Monetary and Exchange Rate Policies	16
Fiscal Policy	18
III. The Effect of the External Environment on Growth in Latin America	20
Alternative World Growth Paths	21
Alternative Commodity Price Assumptions	22
Tighter Emerging Market Financing Conditions	23
A Combined Assessment	24
IV. Sustaining the Expansion and Raising Long-Term Growth	25
Toward Higher Long-Term Productivity Growth	25
Sustaining the Expansion	30
Main Economic Indicators	33

## CONTENTS

### Appendix

Modeling the Impact of External Shocks on Latin America	34
---	----

References	37
------------	----

### Boxes

1. The Slowdown in the U.S. Housing Market	3
2. Brazil: Revision of National Accounts	6
3. The Caribbean: Growth and Fiscal Effects of the 2007 Cricket World Cup	7
4. Peru's New Economic Reform Program	10
5. Offshore-Licensed Financial Entities in Central America and the Dominican Republic	13
6. Productivity, Investment, and Employment in the Current Expansion	28
7. Education Quality, Human Capital, and Growth in Latin America	29

This *Regional Economic Outlook: Western Hemisphere* was written by Roberto Benelli, Benedict Clements, and Jeromin Zettelmeyer under the direction of Caroline Atkinson and Anoop Singh, with contributions from Ana Lucía Coronel, Marcello Estevão, Eva Jenkner, Priyadarshani Joshi, Padamja Khandelwal, Vladimir Klyuev, Michael Moore, and Pär Österholm, and support from economists in the IMF's Western Hemisphere, Monetary and Capital Markets, and Research Departments. Tom Duffy, Priyadarshani Joshi, and Joy Villacorte provided research and production assistance.

# Executive Summary

*The outlook for the Western Hemisphere remains broadly favorable.* For the United States, annual growth is now forecast to come close to 2¼ percent for 2007 and to recover to just under 3 percent in 2008. After an exceptionally strong year in which real output rose by 5½ percent, growth in Latin America and the Caribbean (LAC) is expected to ease to just under 5 percent in 2007 and 4¼ percent in 2008, reflecting a deceleration from historically high rates in some countries, the slowdown in the United States, and lower prices for some commodities. Inflation is expected to pick up slightly, but will remain contained.

*The LAC region has made impressive economic progress in recent years, and 2007 is likely to become the fifth year of what is already the most vigorous period of recovery and expansion since the 1970s.* Although there remain significant differences across countries, the past year again witnessed record current account and primary fiscal surpluses, lower inflation, lower public debt, and further improvements in debt structures. Stability was maintained and growth increased, including in countries that experienced critical political transitions. Unemployment and poverty rates continued to fall, and regional inequality is falling for the first time in several decades.

*However, there are clear signs that some economic safety margins are beginning to erode, while popular impatience about social outcomes continues.* Significant declines in external and fiscal surpluses are projected for this year and the next as a result of high public expenditure growth rates, continued high growth of imports, and lower commodity prices. Credit—particularly to households—has also been growing rapidly. In light of still low aggregate credit rates, this is not unwelcome; but it will require careful monitoring—as will inflation risks in some countries.

*This issue of the Regional Economic Outlook: Western Hemisphere (henceforth, Regional Economic Outlook) takes a close look at the sensitivity of Latin American growth to the external environment,* which has been exceptionally benign in recent years. Though much-improved balance sheets and policy frameworks have made Latin America more resilient than it was a decade ago, the region remains sensitive to shocks to world growth, commodity prices, and financing conditions. While moderate changes in these factors can be accommodated, slower world growth combined with sharply tighter financing, or sharply lower commodity prices, could bring about a significant growth decline. Reducing Latin America's vulnerability to such shocks even further requires additional efforts to lower public debt, make budgets and exchange rates more flexible, strengthen financial systems, and diversify its export structure.

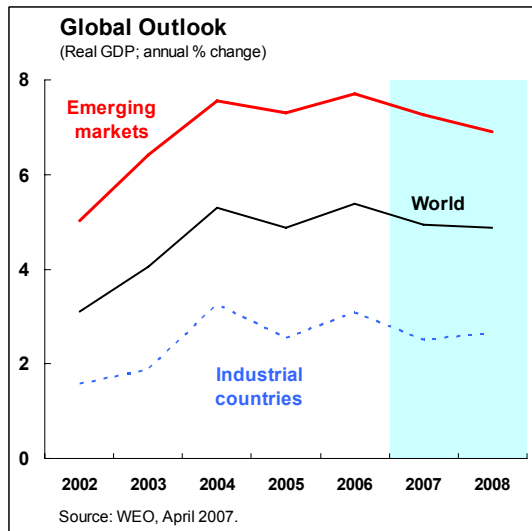
*Looking to the medium term, Latin America's challenge remains to raise growth, make it more sustained, and share its benefits more equitably.* This report shows that significant increases in investment and—more importantly—in productivity growth would be needed to raise per capita incomes substantially over the next two decades, and illustrates the effects of two particular policies: improvements in education and labor reforms. Drawing on recent research, the

*Regional Economic Outlook* also asks whether Latin America has now succeeded in breaking with its history of periodic growth reversals. Several determinants of sustained growth—including political institutions and trade regimes—have improved significantly in the last two decades, and macroeconomic volatility has declined significantly in recent years. However, efforts to create more equitable and less divided societies—which are better positioned to avoid drastic growth reversals in the future—are still at an early stage in many countries. Progress in this area will take time and require fiscal, education, labor, and financial sector reforms. In the meantime, macroeconomic policies will need to remain vigilant, to ensure that the region can grasp the continued opportunity presented by the benign global economic environment to entrench growth and raise it on a sustained basis.

# I. The Global Economy and the Outlook for the United States and Canada

## The Global Context

The global economy expanded vigorously in 2006 amidst moderating inflationary pressures. World growth was 5.4 percent,<sup>1</sup> despite some cooling around mid-year (see the April 2007 *World Economic Outlook* (WEO)). Notwithstanding a slowdown in the housing market, activity in the United States was sustained by strong consumption, continued employment growth, declining oil prices from

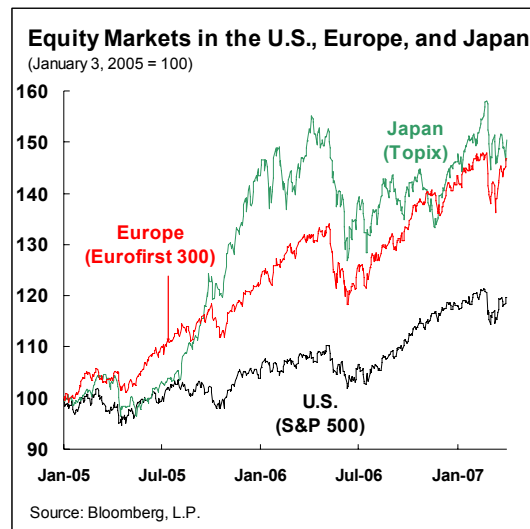


August highs, and some moderation of long-term interest rates. In the euro area, growth accelerated to its highest pace in six years as domestic demand was boosted by increasing business confidence and solid employment growth. Activity in Japan regained momentum toward year-end after slowing earlier in the year. Growth in emerging markets and developing countries was buoyant at around 8 percent, led by continued brisk expansions in

<sup>1</sup> Throughout the text, all data on country groupings are weighted averages based on countries' GDP at purchasing power parities (PPP), unless noted otherwise. For the external accounts, GDP at current prices and market exchange rates is used.

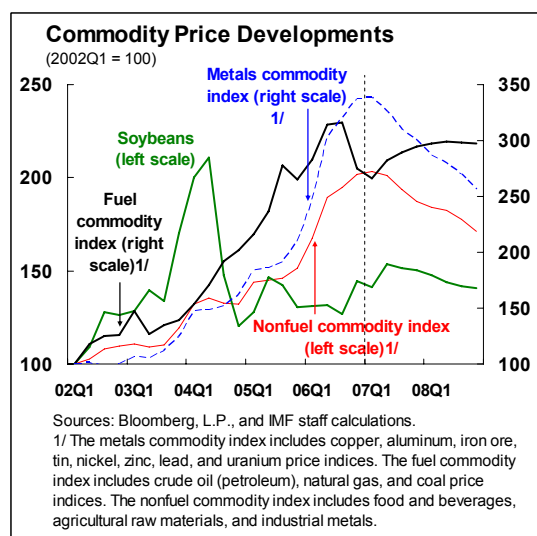
China and India. Inflationary pressures, which earlier in the year arose from strong growth and high oil prices, generally moderated during the second half of the year, dampened by monetary policy tightening and declining oil prices.

Expectations of continued solid economic growth and fading inflation concerns contributed to buoyant global financial conditions in the latter half of 2006 and early 2007. Strong earnings growth pushed advanced economy equity markets to new highs. At the same time, long-term bond yields remained low and spreads on risky assets narrowed, with volatility reverting to historically low levels (see the April 2007 *Global Financial Stability Report*). On the back of these positive developments, emerging bond and equity markets recuperated from the turbulence in May–June 2006 and pushed on to new highs. However, equity markets underwent a correction in late February and early March 2007 in reaction to a sudden global retreat from risky assets—including emerging market equities. The increase in volatility provided a reminder that unusually favorable financial conditions could



reverse rapidly.

The world economy is, nevertheless, expected to continue to grow robustly in 2007 and 2008. With the current expansion entering its fifth year, global growth is forecast to moderate to just below 5 percent in 2007, more in line with potential. The modest slowdown is expected to be driven mainly by the advanced economies. Growth in emerging market and developing countries is projected to continue at a rapid pace, supported by still-favorable financial conditions and relatively high nonenergy commodity prices, while somewhat lower oil prices in the near term are expected to support growth in oil-importing countries.

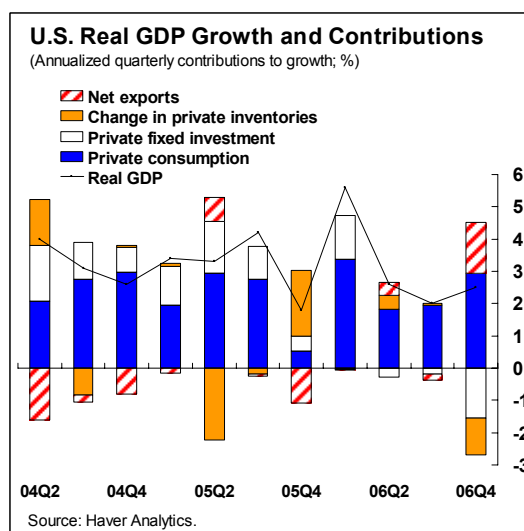


Although the prospects for the world economy continue to be favorable, risks remain weighted moderately to the downside. Besides the possibility of more far-reaching spillovers from the housing market to other sectors of the U.S. economy (see below), there are other risks for the world economy. These include: (i) the potential for more financial market volatility, prompting further retrenchment from risky assets; (ii) possible supply shocks in the oil market; and (iii) the low-probability but high-cost risk of a disorderly unwinding of global imbalances. In the April 2007 *World Economic Outlook*, IMF staff estimate that there is a one-in five-chance that world growth will fall below 4 percent in 2008. Commodity-rich countries—including those in Latin America—face the additional challenge of softening

export prices, although many commodity prices remain high by historical standards.

### The Outlook for the United States and Canada

The slowdown in the U.S. economy continued in the fourth quarter of 2006, with growth of 2.5 percent (on an annualized basis), ½ percentage point higher than in the previous quarter. Real GDP growth for the year as a whole was 3.3 percent, similar to that in 2005. Fourth-quarter growth was underpinned by strong consumption—sustained in turn by continued employment growth and declining energy prices—and a turnaround in the growth contribution of net exports. But a decline in residential investment as well as a slowing in business investment—unexpected in the face of continued strong profits and easy financing—and a drag from inventories represented dampening influences. The current account deficit narrowed to 5¾ percent of GDP in the fourth quarter on lower oil prices and a better non-oil trade balance.



Thus far, the U.S. economy has been resilient to the slowdown in business investment and the housing market (Box 1), even though the slowdown in the latter has been sharper than forecast at the time of the November 2006 *Regional Economic Outlook*. In particular, the slowdown in the housing market has so far had limited fallout on consumption, as a strong labor market has sustained household incomes and low long-term interest rates have

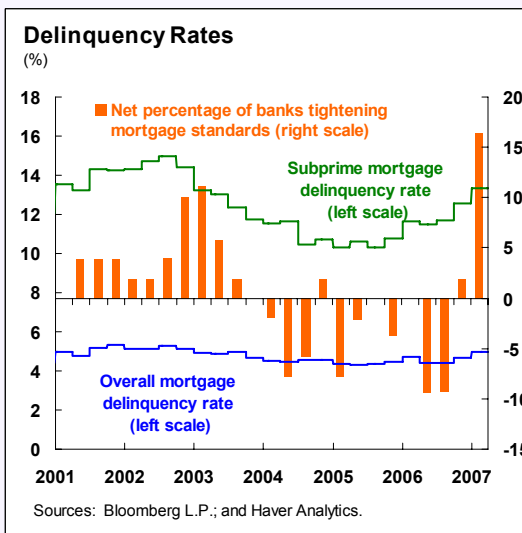
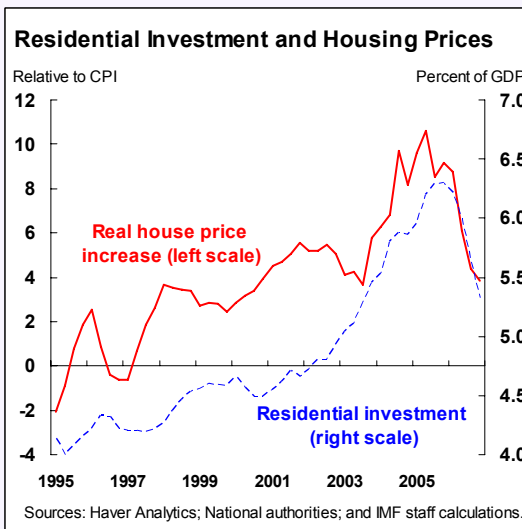


### Box 1: The Slowdown in the U.S. Housing Market

The rate of house price appreciation in the United States declined sharply over the course of 2006, and activity in the housing market weakened dramatically. Sales of new and existing homes came off their recent peaks, and residential investment fell 11 percent between the first and the fourth quarters. Despite some signs that the decline of residential construction is slowing, the outlook for the housing market has been complicated by problems in the subprime mortgage market, where foreclosures may add to supply and prolong the residential investment cycle.

From a broader economic perspective, housing market weakness has so far remained largely confined to immediately related sectors—residential investment, real estate, and industries supplying the construction sector. At the same time, household consumption has remained remarkably resilient, supported by robust income growth, low long-term interest rates, and stock market gains, and this trend is expected to continue.

Overall mortgage delinquency rates have started rising, but still remain at a very low level. A more pronounced spike has been observed in the subprime segment (which refers to riskier loans made to borrowers with tarnished credit histories, limited documentation, etc.) that grew rapidly in recent years. With the liquidity of the housing market already curtailed by stalling house prices and tightening lending standards, subprime delinquencies are expected to rise further. Although the level of delinquencies is not out of line with past experience, the trend has led to a marked spike in spreads on assets linked to the riskier portions of such loans. These difficulties have also taken a heavy toll on the originators of such mortgages. At the moment, the spike in spreads has remained contained to relatively small and risky parts of the U.S. bond market, and the impact on the overall financial system has been limited. There remains a concern, however, that problems in the subprime mortgage market may lead to a more significant tightening of consumer credit, thereby putting household finances under greater strain, or be symptomatic of loose lending and underwriting standards over a broader range of markets, which could lead to a more general tightening of U.S. and global financial conditions that would put downward pressure on activity.



Note: This box was prepared by Vladimir Klyuev.

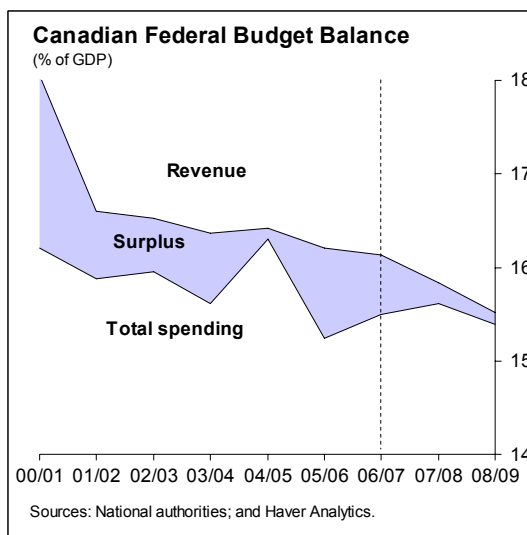
contained household debt service. Recent market turbulence, including a rapid rise in spreads on risky subprime mortgage instruments in response to rising default rates, has exposed lax lending standards at the end of the housing boom. Although the impact on broader markets has been modest to date, there are concerns that easy lending standards may have been more widespread than currently evident and risks will need to be closely monitored.

Looking forward, the U.S. economy should continue its “soft landing” in 2007, with growth gradually recovering toward potential (around 3 percent) thereafter. Softness in late 2006 and early 2007 is expected to bring the growth rate to close to 2¼ percent for 2007 on average and just under 3 percent for 2008. Baseline projections envisage a gradually fading impact from the housing market correction, with only a modest slowing of consumption growth. However, the financial market fallout from problems in the subprime market could take a more significant toll on construction and household spending, while business investment could also continue to falter if lending conditions tighten more generally.

Recent tax buoyancy as well as lower-than-expected spending on Medicare, defense, and debt service have improved U.S. fiscal prospects in the near to medium term. The FY2008 budget now targets the elimination of the federal budget deficit within five years, through expenditure restraint. As the U.S. Administration acknowledges, broad-based entitlement reform is still needed to ensure long-term fiscal sustainability in the face of an aging population and rising medical costs. Particularly if combined with supportive policies by other countries, deficit reduction would also help reduce global imbalances and mitigate the risk of their disorderly resolution.

In Canada, the economy grew close to potential in 2006, and unemployment declined to a 30-year low of 6.1 percent. The boost to activity from rising commodity prices has been offset by a roughly 35 percent nominal effective appreciation in the Canadian dollar over the last few years. Headline

inflation, which was earlier pushed up by higher energy prices, has fallen to around 2 percent, also in response to a cut in the goods and services tax in July 2006. High income tax elasticities and spending restraint have led to an estimated federal budget surplus of ¾ percentage point of GDP for fiscal year 2006/07, despite tax cuts.

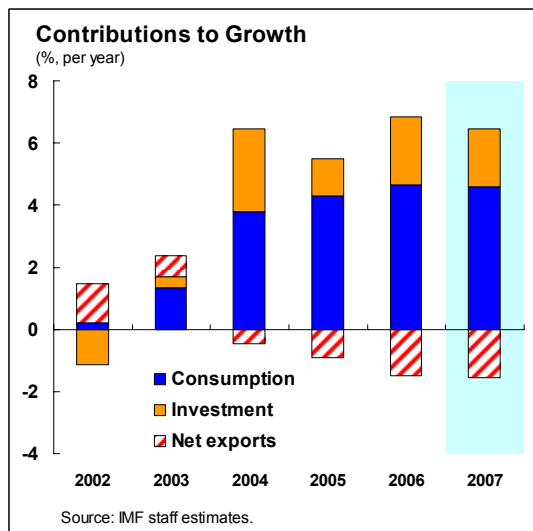


The outlook for 2007 and beyond remains broadly favorable. While the Canadian economy has recently slowed, partly owing to weaker U.S. activity, growth is expected to pick up to 2½ percent for 2007 as a whole and to return to potential in 2008. Thanks to a strong policy framework—including the recently renewed inflation targeting regime, and a medium-term debt reduction target—inflation of around 2 percent and small fiscal surpluses are projected for the next several years.

## II. The Outlook for Latin America and the Caribbean

### Main Developments and Prospects

Growth in the Latin American and Caribbean region (LAC) remains robust. For the region as a whole, growth in 2006 reached 5½ percent. Last year's outturn brings average growth in the last three years to 5¼ percent, the best performance since the late 1970s. With the recovery now at a more mature stage, the expansion has become increasingly reliant on domestic demand as the main engine of growth. Import growth has rebounded and net exports have exerted a downward pull on growth as several economies emerged from crises earlier in the decade.



Although there are significant differences across countries, the near-term outlook for Latin America and the Caribbean remains broadly favorable. Growth overall is expected to ease slightly to a little below 5 percent in 2007 and 4¼ percent in 2008, reflecting a deceleration from historically high rates in a number of countries, the slowdown in the U.S. economy, and some declines in commodity prices.

The impact of the slowdown in the U.S. economy on the region was more than offset by other external factors and the strength of domestic demand in 2006. Several countries—including Argentina, Colombia, Costa Rica, the Dominican Republic, Panama, Peru, Trinidad and Tobago, Uruguay, and Venezuela—grew at around 7 percent or more. Growth was also the highest in several years in Peru, Colombia, and Mexico, among others. In Brazil, recently revised national accounts data (Box 2) indicate that growth picked up during the year with the easing of monetary policy, reaching 4¾ percent in the last quarter of 2006 over the same quarter of 2005. Growth for 2006 as a whole was 3.7 percent, significantly higher than in 2005. In Chile, growth is recovering toward potential following a slowdown in 2006 (4 percent) due to one-off factors, including strikes and a landslide in the mining sector.

Central America grew by 5¾ percent in 2006, its fastest expansion since 1998. Here too, domestic demand has played an important role, with consumption supported by strong remittances. Several factors, including the good performance of nontraditional exports, stronger foreign direct investment in a number of countries, and a new free trade agreement with the United States (CAFTA-DR) also supported the positive growth outturn. Sound macroeconomic policies have so far generally helped underpin the expansion, although public spending growth has recently picked up (see below). Notably, sound policies have been maintained during a period marked by several congressional and

### Box 2. Brazil: Revision of National Accounts

In late March, the Brazilian Statistical Institute (IGBE) released revised national accounts data for 1995–2006. The revised data incorporate significant refinements in methodology, with the use of sectoral surveys and corporate income tax collection data to measure economic activity more accurately. The reference year for calculating the relative weights of each productive sector was also updated, from 1990 to 2000.

The revised 2006 GDP is 11 percent higher in nominal terms than previously estimated, with the main revisions affecting the last four years. On an annual basis, real GDP growth was revised from 2½ percent on average in 2002–06 to 3¼ percent. On the supply side, the most important change was an increase in the share of services (commerce and transportation particularly), reflecting the use of better data and statistical techniques. On the demand side, the main change stems from an upward revision in consumption. Overall investment was left broadly unchanged as an increase in investment in machinery and equipment was offset by downward revisions in construction.

The resulting higher GDP has altered key ratios in the Brazilian economy. The investment-to-GDP ratio was lowered to 16.2 percent during 2002–06— from 19.2 percent estimated earlier—while staff estimates for total factor productivity gains were revised up. The ratios of the primary fiscal surpluses and of the public debt to GDP were also revised downward. The primary surplus was reduced from an average of 4½ percent of GDP during 2002–06 to about 4 percent. End-2006 gross public debt is now estimated at about 65 percent of GDP, down from 70 percent in the previous data, and net public debt at 46 percent of GDP, compared with 51 percent in the previous data.

While the GDP revision seems large, it is not an outlier compared to comprehensive methodological changes in other countries. For instance, about a year ago, the introduction of new census information raised Chinese nominal GDP by close to 17 percent, also because of better measurement of service sector activity.

Note: This box was prepared by Marcello Estevão.



presidential elections—a testimony to the region’s strengthening economic and political stability.

In the Caribbean, growth has been supported by the strong performance of construction and tourism. In Trinidad and Tobago—the fastest-growing economy in the region—activity expanded at double-digit rates in 2006, benefiting from high energy prices, increased capacity in the gas processing industry, and a construction boom led by public expenditure.

Growth was also vigorous in the Dominican Republic at almost 11 percent, driven by strong consumption and investment (especially tourism-related construction) sustained by favorable external conditions and a rebound in confidence after the 2003–04 banking crisis. In addition, the upcoming Cricket World Cup (CWC) has boosted private and public construction across its host countries, helped by generous tax concessions, external grants, and public borrowing (Box 3). While the positive effects

**Box 3. The Caribbean: Growth and Fiscal Effects of the 2007 Cricket World Cup**

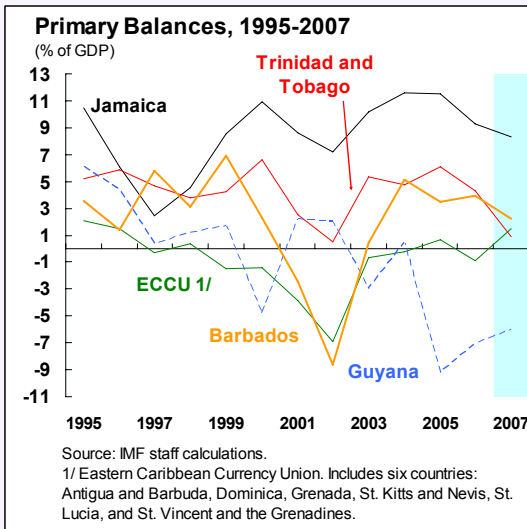
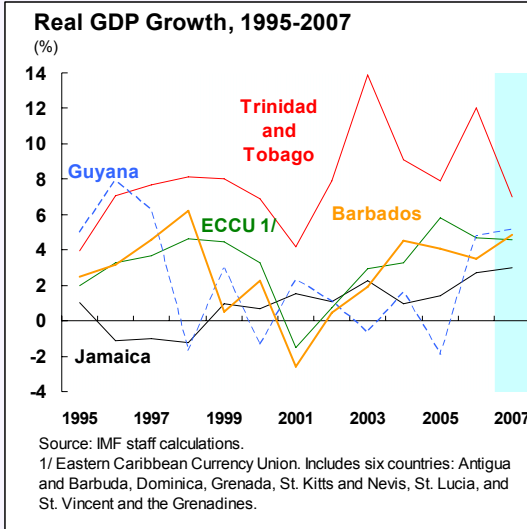
The ninth Cricket World Cup (CWC), held in the Caribbean from March 5 to April 28, 2007, is the largest sporting event ever held in the region. Matches are taking place in nine countries, with semifinals in Jamaica and St. Lucia, and the final in Barbados. Organizers expect to sell close to 800,000 tickets, over 2 billion people worldwide to watch the matches by television, and about 100,000 additional (non-Caribbean) visitors to travel to the region.

Preparations for the CWC have led to accelerated economic activity in the region, particularly since 2005, but have been costly in terms of direct government expenditure and provision of new tax concessions. Five new stadiums were built and others were upgraded. Some of the stadiums were financed by grants—construction costs are estimated at US\$250 million—and additional public expenditures were incurred on infrastructure (roads, airports, hotels, and marinas). Partly as a result of this expenditure, primary balances have deteriorated in most countries, and average public debt remained over 100 percent of GDP at end-2006 in host countries. There was strong expansion in private sector construction to increase tourism capacity, which is expected to continue into the medium term. Private investors have received generous tax concessions in most countries for such investment, which will erode the tax base going forward.

The long-term net impact of the CWC is unclear, especially in light of the associated fiscal costs. Studies of other states hosting large one-off sporting and cultural events (such as the 2003 CWC in South Africa and the 2002 FIFA World Cup in Korea/Japan) generally find a small net positive effect. The economic benefits of the 2007 CWC are likely to be diluted as the matches are spread across multiple countries, and are taking place in the midst of the peak winter tourist season when occupancy rates are already very high. In general, Caribbean public investment has shown a relatively weak link with growth, suggesting the need to increase the efficiency of these outlays.<sup>1</sup> Over the longer term, prospects for growth will hinge critically on the region’s ability to continue to market itself successfully as a tourist destination, to realize incremental revenues from the additional hotel rooms that have been constructed, and to address macroeconomic vulnerabilities, including high levels of public debt.

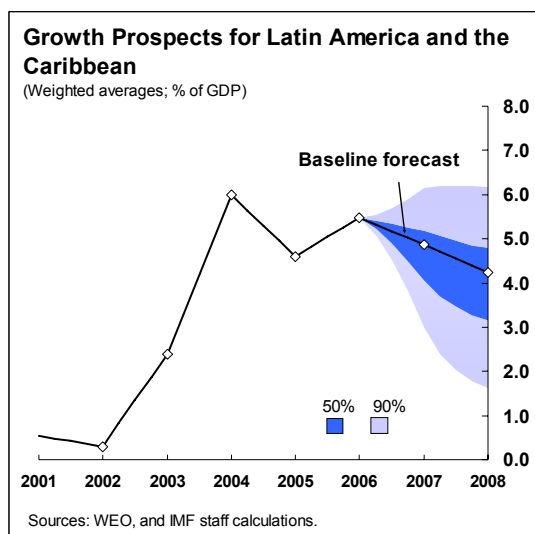
Note: This box was prepared by Padamja Khandelwal.

<sup>1</sup> See Roache (2007); and Sahay, Robinson, and Cashin (2006).



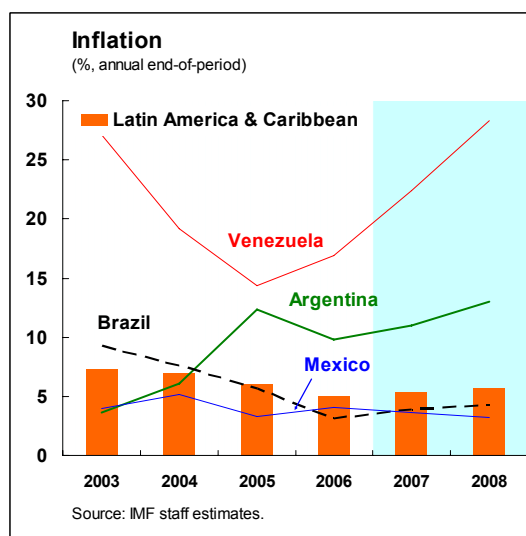
on the tourism sector could extend into the medium term, there is concern that the net effect of the CWC could well be negative in light of its heavy fiscal costs and already-high public debt burdens in the region.

In light of the exceptionally benign external environment that the LAC region has enjoyed in recent years, the risks to the regional outlook are moderately weighted to the downside. They include (i) a sharper-than-expected slowdown in the United States; (ii) tighter global financial market conditions, including higher-than-expected emerging market risk premia; and (iii) a larger-than-expected decline in nonfuel commodity prices. Upside risks stem from faster world growth, for example, as a result of stronger-than-expected growth in Western Europe, or a faster return of growth to potential in the United States. Based on an econometric analysis (see Section III and Appendix), it is estimated that a 1 percent reduction in world growth would, over time, affect Latin America about one-for-one. Typical commodity price and financing shocks (around 5 percent and 115 basis points, respectively, within a quarter) would affect Latin American growth by about 0.3–0.5 percentage point. Combining this analysis with the WEO’s assessment of global risks suggests that there is about a one-in-four chance that LAC growth might be below 4 percent in 2007, and a similar chance that it might be around 5¼ percent or higher. The risk of 2007



regional growth falling to less than 3 percent is estimated at about 5 percent.

Inflation declined in most countries last year. End-year inflation fell 1 percentage point to 5 percent. The decline was not universal, however. In some countries, inflation accelerated or remained high as economic activity continued to expand beyond potential. In some others, volatile items such as food pushed up inflation, as in Mexico—where end-year inflation was at the top of the authorities’ 2–4 percent band though it remained low by regional standards—and Paraguay.



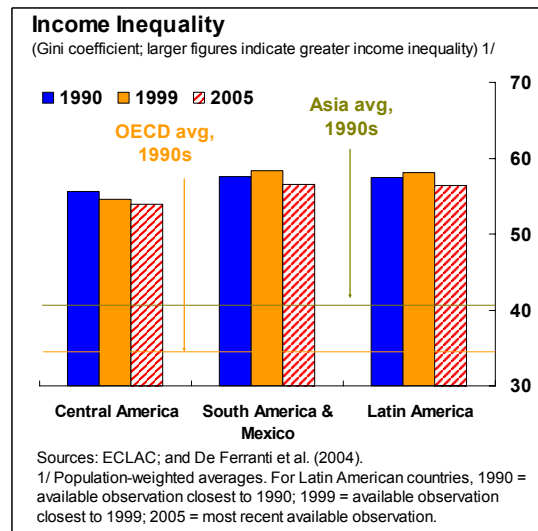
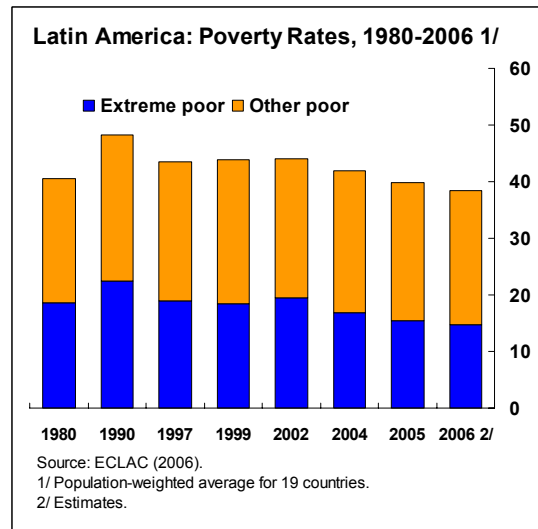
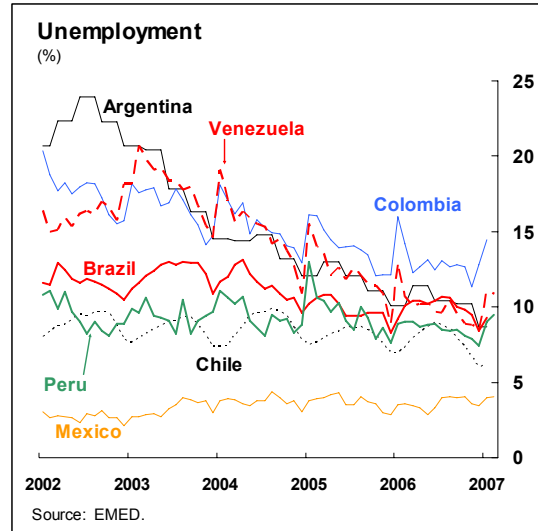
Inflation is expected to remain contained for the region as a whole in 2007 at an average of around 5½ percent. The small projected increase reflects modestly higher price increases in Brazil, where inflation is expected to rise toward the midpoint of the central bank’s target range. Inflation is likely to remain comparatively high in Argentina—where administrative measures contributed to a reduction of recorded inflation to just below 10 percent last year, while creating other distortions—as well as in Trinidad and Tobago and Venezuela.

Social indicators have continued to improve. The ongoing economic expansion, coupled with improved and expanded social assistance programs, contributed to a further reduction in unemployment and poverty rates across the region last year.

According to the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), the average Latin American poverty rate declined from 44 percent in 2002 to about 40 percent in 2005, and is estimated to have fallen further to 38 percent in 2006. A reduction in extreme poverty rates, from 19 percent in 2002 to 15 percent in 2006, accounts for most of this decline. The largest reductions in poverty rates (through 2005) occurred in Venezuela and Argentina, where national data show poverty fell further to 27 percent in the second half of 2006, the lowest rate since 1998. Colombia, Ecuador, and Mexico experienced substantial declines as well. National source data also show sizable reductions in poverty in Brazil and Uruguay, as well as in Peru, where the authorities are targeting a further decline in the context of their Fund-supported program (Box 4). Several countries are also expanding targeted conditional cash transfer programs (see the November 2006 *Regional Economic Outlook*).

Falling poverty also reflects a moderate reduction in income inequality. The latest data show a reduction in income inequality (as measured by the Gini coefficient) since the late 1990s in 13 of 18 countries for which data are available. The largest improvements have been registered in Brazil, El Salvador, Paraguay, and Peru. However, inequality in Latin America remains very high compared with other regions (see Section IV).

Further progress has also been made on debt relief for low-income countries in the region. The Inter-American Development Bank approved full debt relief of US\$4.4 billion—of which US\$1 billion is for future interest payments—for Bolivia, Guyana, Haiti, Honduras, and Nicaragua in March 2007. Together with other debt relief provided under the Multilateral Debt Relief Initiative by the IMF and International Development Association, this is expected to sharply reduce debt burdens and assist countries in their efforts toward the Millennium Development Goals, including the goal of halving extreme poverty by 2015.

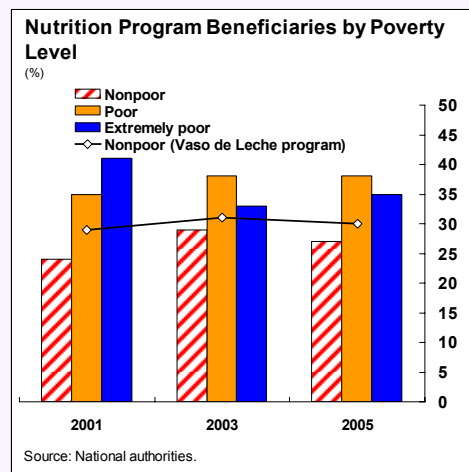


#### Box 4. Peru's New Economic Reform Program

In the second half of 2006, the Peruvian authorities developed an economic program centered on consolidating macroeconomic stability and advancing reforms to enhance the effectiveness of social assistance programs and promote higher sustainable growth. The Fund is supporting this program through a 25-month precautionary Stand-By Arrangement for about US\$250 million, which was approved in January 2007.

The new government's economic program aims to build on past achievements and address pending challenges. As a result of sound policies implemented over the past fifteen years, Peru's real GDP growth has averaged 5 percent a year since 2000, one of the strongest in Latin America, while annual average inflation was one of the lowest at 2 percent, and net international reserves reached US\$17.3 billion (close to 400 percent of short-term debt at end-2006). Less progress has been made in alleviating poverty, which still affects about half of the population. In these circumstances, President García and his economic team have developed an economic program centered on strengthening fiscal policy, enhancing social assistance programs, improving the business environment, strengthening the resilience and depth of the financial system, reducing high labor market informality, and further opening the economy. The authorities expect that this program will create conditions conducive to achieving investment-grade status over the medium term. Key elements are as follows:

- Consolidating macroeconomic stability.* Fiscal targets for 2007–08 are expected to remain below the 1 percent deficit ceiling in the Fiscal Responsibility and Transparency Law. The strength of the revenue effort will allow for increased spending to address social and infrastructure needs while keeping the debt-to-GDP ratio on a steady downward path. The government also intends to broaden the revenue base and improve the quality of public spending. Greater exchange rate flexibility is expected to enhance the credibility of the inflation-targeting regime and promote more widespread use of financial hedges, which would increase the overall resilience of the economy.
- Tackling high poverty.* The government is committed to enhancing the focus and effectiveness of social assistance programs (including for nutrition), as their current large number has complicated monitoring and there is some concern that not all of the resources channeled through these programs reach the intended recipients.
- Strengthening the financial system.* Reducing financial dollarization is another critical objective of the program, which will help strengthen the resilience of the financial system to exchange rate shocks. These efforts will be complemented by measures to allow for a better internalization of risks and deepen capital markets.
- Institutional and structural reforms to boost long-term growth prospects.* The government will continue its efforts to enhance the effectiveness of the state by consolidating agencies, simplifying regulatory requirements, and increasing the accountability of public institutions. Additional steps will also be taken to improve the business climate and competitiveness by extending commercial courts beyond Lima, enhancing labor market flexibility, and further opening the economy.



Note: This box was prepared by Eva Jenkner.



## Financial Sector

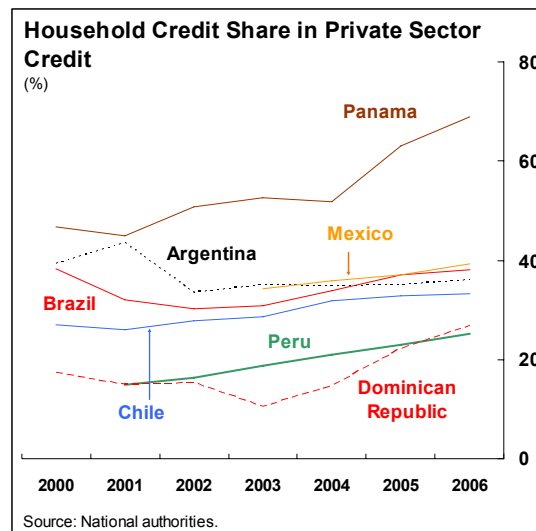
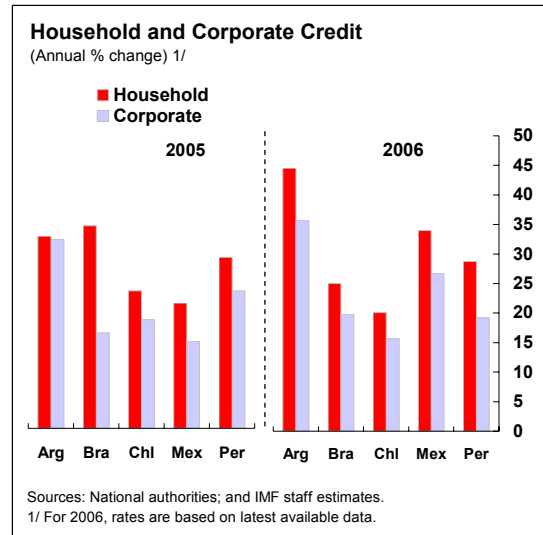
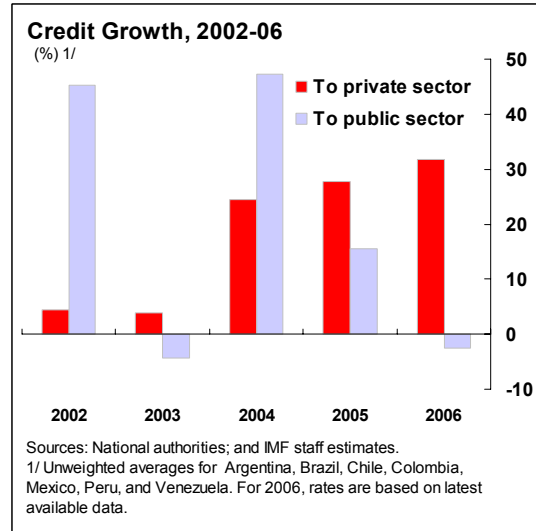
Private sector credit has continued to grow briskly. In 2006, it expanded at an average rate of 32 percent in nominal terms in the seven largest Latin American countries, with individual country rates ranging from 15 percent in Peru to 68 percent in Venezuela.<sup>2</sup> Private sector credit growth was also significant outside the largest countries, averaging 22 percent for the region as a whole (unweighted average of 20 countries). This expansion in private sector credit accentuates a trend that started in 2004. Credit to the public sector, by contrast, contracted in 2006 in many countries.

The expansion in private credit was driven mostly by credit to households. Household credit growth averaged 30 percent in five of the largest seven countries, and was also particularly strong in some countries in the Caribbean and Central America. As a result, household credit now constitutes between 30 and 40 percent of private sector credit across the region (except in Panama, where it exceeds 60 percent). While also growing at high rates, mortgage lending fell as a share of total household credit in most countries.<sup>3</sup> Finally, the share of foreign currency credit decreased in most countries, but remains high in some, including Bolivia and Nicaragua.

Although high rates of credit growth have, in the past, signaled increased vulnerabilities, conditions in most countries do not yet appear to reflect a “lending boom” (see the November 2006 *Regional Economic Outlook*). At an aggregate level, the pick-up of credit comes after an extended period in which the stock of real credit declined, and credit levels are still generally low. In many countries, private credit-to-GDP ratios are still well below those prevailing in other regions; for instance, at end-2006 they were

<sup>2</sup> The figure for Venezuela refers to credit growth through June 2006, the latest available data.

<sup>3</sup> The share of mortgage credit in total household credit averaged 37 percent at end-2006, ranging from 13 percent (Brazil) to 62 percent (Chile).

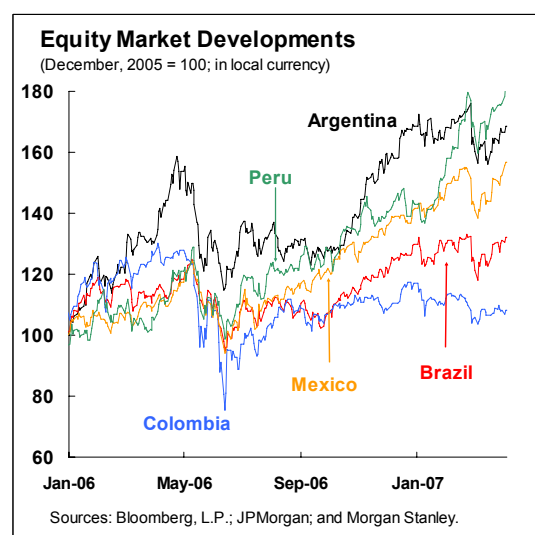
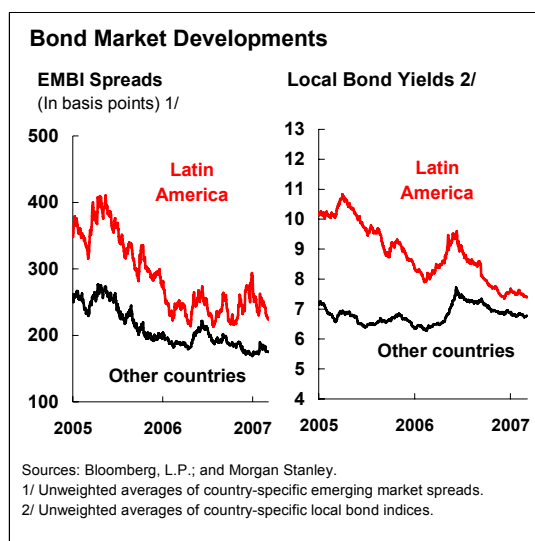


still below 20 percent of GDP in Argentina, the Dominican Republic, Paraguay, and Venezuela. Moreover, financial indicators, while backward-looking, remain strong thus far, and have improved further relative to 2005. Nevertheless, the recent rapid increases in banking credit require careful vigilance by financial sector supervisors, especially in cases when banks have limited experience with household loans and credit is unsecured by collateral. In addition, mergers and acquisitions in Central America, driven by the improved economic outlook, call for strengthened consolidated supervision, including of institutions licensed offshore (Box 5).

Financial market sentiment toward the region remained generally positive in 2006, reflecting both the benign conditions in global markets and the region's improved fundamentals. Record or near-record lows were registered for external debt spreads, volatility, and the number of sovereign credit downgrades relative to upgrades. After shrugging off the effects of financial market turbulence in May–June 2006, the region's emerging markets continued to benefit from large inflows from institutional investors, including hedge funds and pension funds, into local markets. This resulted in compressed spreads on external government debt but also lower interest rates in domestic debt markets, with yields on Latin American domestic issues falling faster than yields outside the region. Financial market gains were not limited to bond markets. The strength of global equity markets, combined with favorable domestic prospects, pushed equity markets in the region to record highs in all major countries. Despite these large gains, price-earnings ratios do not appear significantly out of line with other regions. However, the global sell-off that affected equity markets in late February and early March in most advanced and emerging market economies hit Latin America as well, with the major markets experiencing large swings. The financial turbulence primarily affected equity markets, with relatively subdued effects on exchange rates, interest rates, and spreads.

	2002	2003	2004	2005	2006 2/
NPL ratio 3/	10.9	8.5	5.3	4.0	3.4
Provisioning of NPLs	91.3	99.1	112.3	122.1	127.9
Return on assets	-0.6	1.4	1.7	2.0	2.0
Return on equity	9.6	14.1	17.8	20.0	22.6
Capital adequacy ratio 4/	15.8	15.5	15.6	15.1	15.1

Source: IMF (2007b).  
 1/ Unweighted averages. Fixed sample of countries over time for each indicator. The number of countries varies by indicator.  
 2/ Latest data available.  
 3/ Non-performing loans (NPLs) as a share of total loans.  
 4/ Regulatory capital/risk weighted assets.



### **Box 5. Offshore-Licensed Financial Entities in Central America and the Dominican Republic**

A significant share of domestic banking in Central America is conducted through entities licensed in offshore centers such as The Bahamas, Barbados, Cayman Islands, Montserrat, and Panama. These entities serve local clients and operate from the same offices of banks licensed in Central America. Their share of assets varies from zero in El Salvador (where they are prohibited) and Honduras to as much as one-fourth of the banking system in other countries. The offshore license allows entities to take advantage of lower costs such as reduced income and transaction taxes, less restrictive prudential regulations (i.e., lower capital adequacy, liquidity requirements, and lending to insiders), the absence of central bank reserve requirements and deposit insurance fees, and higher confidentiality. Thus, owners can increase profits and clients can earn higher yields on investments and obtain lower cost loans. From the perspective of home countries, allowing the local operation of offshore-licensed entities has reduced the outflow of funds from Central America.

The supervision of offshore-licensed entities adds to the challenges confronted by financial sector regulators, especially for entities that do not belong to a formal financial group but are owned in parallel by local banks through common shareholders. These parallel arrangements could exacerbate contagion risks that spread among banks under shared control, and facilitate capital overvaluation, insider or related-party lending, and the potential for fraud and money laundering. The recent intervention of Bancafé in Guatemala highlights how the risks from the exposure to related parties and poor investments through offshore affiliates can affect the health of local banks.

Central American supervisors deal with offshore-licensed entities using a variety of approaches. These differences reflect previous experiences, disparities in the overall quality of supervision, and specific features in legal and accounting frameworks. Some require specific local authorization for the offshore entities to operate subject to the provision of financial reporting by the offshore-licensed entity, and in a few cases prior approval for transfers between the local bank and the offshore-licensed entity. However, in general, legal and capacity constraints, bank secrecy regulations, and weak supervisory practices limit effective consolidated accounting and supervision—which are the key safeguards to deter abuse of offshore-licensed entities and enable proper application of prudential limits.

Looking forward, the strategy to deal with offshore-licensed entities should be based on strengthened consolidated supervision of financial groups operating in the region. This would require improved regulatory and supervisory practices. An enhanced regulatory framework should aim at (i) improving the legal basis for consolidated supervision; (ii) harmonizing prudential rules and adopting consolidated accounting on the basis of international standards; (iii) licensing authority to review the financial and managerial qualifications of owners and managers; and (iv) improving sanctioning powers to enforce laws and regulations. Supervisory practices should be strengthened by (i) training supervisory staff; and (ii) increasing collaboration among supervisors, including with the offshore jurisdictions, by clarifying their roles and responsibilities.

The Fund is collaborating in these efforts. Through financial sector assessments in all Central American countries, the Fund and the World Bank have helped identify the strengths and challenges of supervisory authorities in the region, while providing recommendations that are now being implemented. Furthermore, through an ongoing regional technical assistance project, the Fund is discussing with the authorities an action plan to strengthen cross-border consolidated supervision in the region.

---

Note: This box was prepared by Ana Lucía Coronel and Michael Moore.



Policy announcements in Ecuador and Venezuela had large effects on financial markets in these countries but did not spill over to others. In Ecuador, timely debt service of global bonds in February partly assuaged concerns that had earlier pushed spreads up sharply. In Venezuela, the announced nationalization of utility companies in early January 2007 was followed by sharp declines in the equity market.

Efforts to lengthen debt maturities and improve the liquidity of benchmark issues have continued in several countries. Peru and Uruguay swapped existing external debt—including Brady bonds in the case of Peru—for longer-term debt carrying maturities of up to 30 years. Uruguay used the proceeds from some of these placements to finance an early repayment of all of its outstanding IMF loans (US\$1.1 billion). Brazil, Colombia, and Mexico made further progress in issuing long-term debt in domestic currency. In particular, Brazil issued its longest external bond in reais (20 years) and Mexico placed additional debt under its 30-year domestic bond—the longest-dated domestic local currency bond in Latin America—in exchange for less liquid instruments. As a result of continued improvement in debt management, an increasing share of Latin America’s public debt is now traded in local markets—in 2006, Mexico’s and Brazil’s local debt

instruments were the most frequently traded local debt instruments among all emerging markets.

Several governments undertook steps to regularize relations with creditors. In Belize, a restructuring of the government’s external commercial debt was successfully completed with high creditor participation. The government in Antigua and Barbuda has announced its intention to regularize arrears and bring public debt (estimated at 103 percent of GDP at end-2006) to a manageable level, and is developing a strategy to approach creditors. In Argentina, the government reached an agreement to restructure some of its outstanding bilateral arrears to Spain, a further step toward the normalization of relations with creditors after the 2001–02 crisis. In addition, two Argentine provinces tapped the international capital markets for the first time since the crisis.

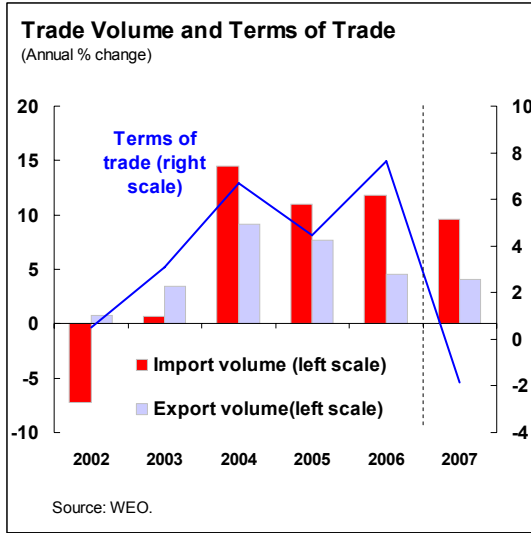
## External Developments

Last year’s external current account surplus was  $1\frac{3}{4}$  percent of GDP for the region as a whole, marginally stronger than in 2005, and the highest for the region in several decades. This strong performance was the result of favorable changes in the terms of trade (up  $7\frac{3}{4}$  percent over the previous year) and moderate—albeit decelerating—export volume growth ( $4\frac{1}{2}$  percent). These developments offset the negative impact of strong import growth (about 12 percent) on the trade balance. Outturns nevertheless varied widely across regions. While most countries in South America, including Argentina, Bolivia, Brazil, Chile, Ecuador, Peru, and

	2002	2003	2004	2005	2006	2007 2/
Trade balance	0.5	1.7	2.2	2.5	2.7	1.1
Current account	-0.9	0.4	1.0	1.4	1.7	0.5
Private capital inflows	0.7	1.5	0.6	1.3	0.4	1.0
o/w: FDI	2.7	2.1	2.4	2.0	1.2	1.9
portfolio	-0.7	-0.6	-0.6	1.2	-0.5	-0.2
Public inflows	1.0	0.2	-0.4	-1.2	-0.6	0.0
Reserves/ST-debt (%)	200	248	266	300	340	347
Reserves/monthly imports	6.6	8.2	7.3	7.0	6.7	6.5

Source: IMF staff estimates.  
1/ Refers to LAC region as a whole.  
2/ Projections.

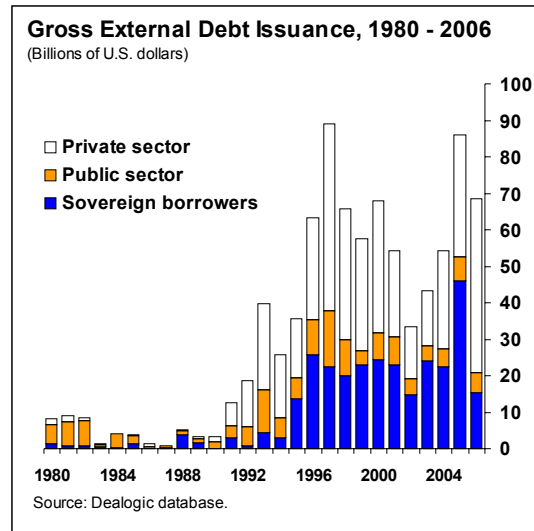
Venezuela, experienced large trade surpluses, deficits were recorded in many countries in the Caribbean, in Central America and—to a lesser extent—in Mexico. In some of these countries, the high level of remittances (above 10 percent of GDP on average in Central America, and a high of 26 percent of GDP in Honduras) helped offset large trade deficits, as in previous years.



Foreign direct investment (FDI) remained the largest source of net foreign capital inflows, albeit at lower levels than in earlier years. FDI inflows in 2006 equaled about 2¾ percent of GDP, about ¼ percentage point lower than in 2005 and well below the record high in 1999–2000 (around 4 percent of GDP), when privatizations of public companies boosted FDI.<sup>4</sup> The region overall has lost ground as a destination for FDI, capturing only one-fifth of these flows to developing countries, compared to its 46 percent share at the start of the decade. Almost two-thirds of the 2006 FDI flows to the region were directed to Brazil, Chile, and Mexico—although some countries, including Colombia and Uruguay, have seen a surge in their shares in recent years.

<sup>4</sup> The included table reports *net* foreign direct investment, that is, direct investment inflows to the region net of outward investment originating from the region. Net FDI fell in 2006 as a result of acquisitions of assets outside the region, including a large acquisition by a Brazilian mining company.

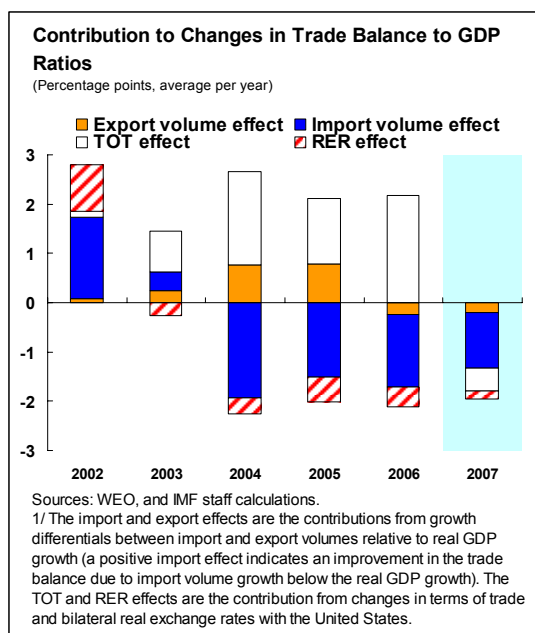
Non-FDI private capital flows have remained relatively subdued on a net basis for the region as a whole. A few countries attracted the lion’s share of financial inflows in 2006 and early 2007. In Brazil, short-term capital inflows seeking to benefit from interest rate differentials—including “carry trades,” for which data are not readily available—have assumed increasing importance. Large net positions have also been acquired in the currency and interest rate futures markets. As in the previous two years, there were net repayments by sovereign borrowers. Lower levels of issuance by sovereign borrowers allowed for a “crowding-in” of corporate issuers in primary markets (see the April 2007 *Global Financial Stability Report*).



Looking forward, continued rapid import growth and less favorable terms of trade are projected to erode trade surpluses by 1¾ percentage points of GDP this year, reducing the region’s external current account surplus to only ½ percent of GDP. The deterioration in trade balances is expected in most countries across the region, with the most pronounced changes in commodity-rich countries. More subdued oil prices, however, are expected to help some oil-importing countries. As in the recent past, import volumes are projected to grow faster than real GDP (at an average rate of almost 10 percent). At the same time, growth in export volume, which has been losing momentum since 2004, is projected to remain below real GDP

growth. And whereas improved terms of trade boosted the region’s trade balance by a remarkable 5½ percentage points of GDP during 2004–06, declining terms of trade are projected to subtract ½ percentage point of GDP in 2007.<sup>5</sup>

The region’s external sector remains dependent on commodity prices, given the continued high share of primary products in the export basket. Additional reductions in commodity prices would further erode trade and current account surpluses. For example, a decline in the terms of trade to the 2004 average would worsen the region’s overall trade balance by over 2 percentage points of GDP, pushing the trade balance into deficit. This risk would be compounded if import volume growth were to continue at last year’s brisk pace.

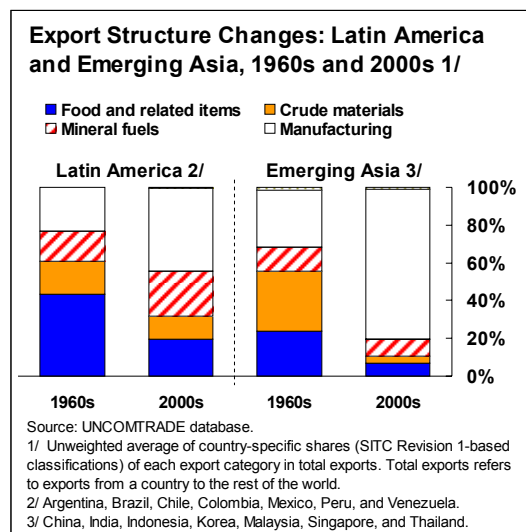


## Monetary and Exchange Rate Policies

Central banks have continued to pursue a mix of inflation and exchange rate objectives:

- In the large countries that have adopted inflation targeting frameworks—Brazil, Chile,

<sup>5</sup>The terms of trade are forecast to worsen by 2 percent in 2007, after an average annual increase of over 6 percent in the last three years.



Colombia, Peru, and Mexico—monetary policy has evolved in response to cyclical developments, and inflation expectations appear well anchored. Brazil, Colombia, and Peru have also undertaken foreign exchange market intervention to bolster reserves, which has tended to smooth or brake nominal exchange rate appreciation.

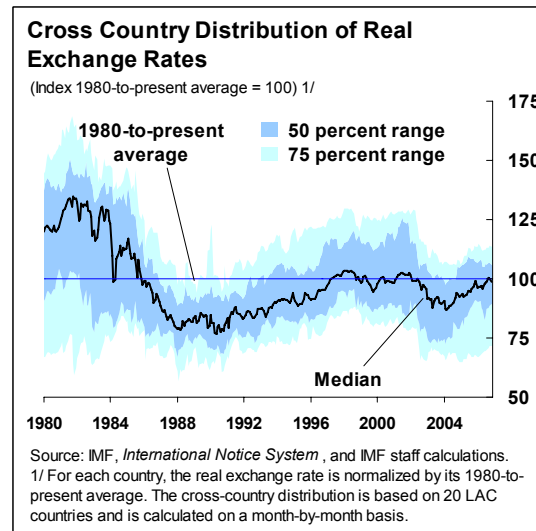
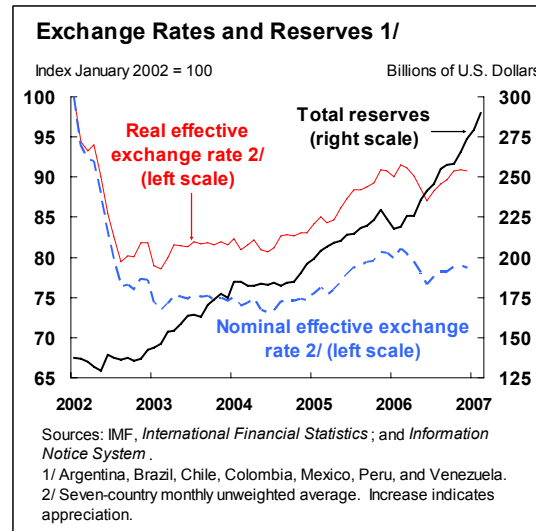
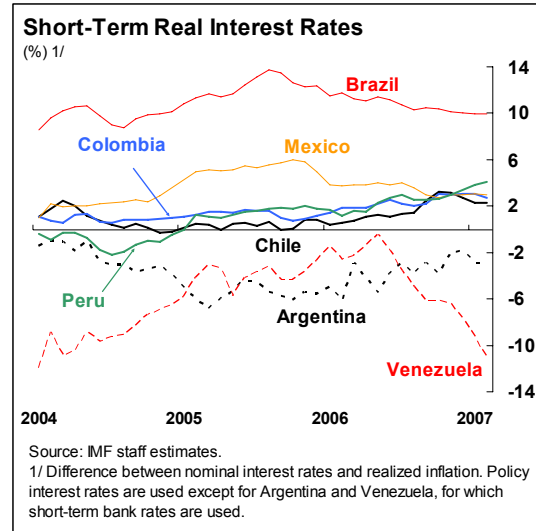
- Elsewhere, monetary conditions have often been influenced by developments in the balance of payments and, sometimes, by fiscal policy. In Argentina, although growth of the targeted monetary aggregate has moderated (through the continued sterilization of foreign exchange purchases), short-term interest rates remain negative in real terms and fiscal policy is adding to demand pressures. In Paraguay, reserve accumulation has led to rapid growth in currency despite sustained sterilization. In contrast, in Bolivia, a large fiscal surplus in 2006 helped absorb the impact of foreign currency inflows associated with the current account surplus.

Following significant appreciations in Brazil, Chile, Colombia, and Uruguay during 2005 and early 2006, currencies have stayed broadly constant vis-à-vis the U.S. dollar over the last twelve months, despite some fluctuations within the year. However, with the dollar weakening against the euro, nominal *effective* (trade-weighted) exchange rates have

depreciated in most countries. Reserve accumulation played a role in limiting currency appreciation in many cases, pushing gross external reserves to record highs. In the largest countries, combined reserves stood at US\$274 billion at end-2006, having further increased in relation to short-term external debt (to 3½ times) but not in terms of months of imports, owing to even more rapid import growth.

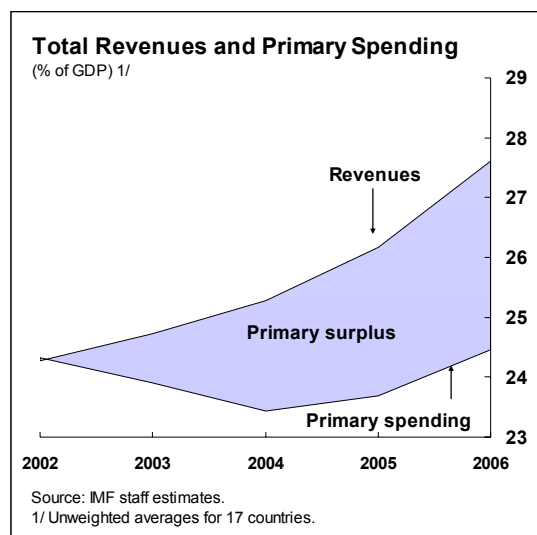
Real effective exchange rates do not generally point to significant changes in competitiveness, and real exchange rates are broadly in line with their long-run averages. Following large depreciations early in the decade, the end-2006 real exchange rate in more than half of the countries in the region was more depreciated than its 1980–2006 average (based on a sample of 20 countries). Empirical models also suggest that, in most countries, real exchange rates are broadly in line with fundamentals.

Looking forward, benefits from reserve accumulation—aimed in part at resisting appreciation—need to be carefully weighed against potential costs. If exchange rate targets are seen as dominant, the credibility and transparency of monetary policy could suffer and make the sterilization of foreign exchange intervention more difficult and costly. This could eventually jeopardize the objective of maintaining low inflation. Moreover, creating opportunities for one-way “bets” in financial markets could lead to the build-up of positions that would be destabilizing if unwound in a disorderly fashion.



## Fiscal Policy

Soaring commodity-based revenues have helped boost primary fiscal balances to historic highs. Public sector revenues in Latin America rose by an average of 1½ percentage points of GDP in 2006, with commodity-based revenues accounting for more than half of this increase.<sup>6</sup> Since 2002, commodity-based revenues have surged by an average of 4¾ percentage points of GDP in the seven countries where they generate a substantial share of public receipts.<sup>7</sup> Noncommodity revenues have also risen over the past three years in both Central and South America. As a consequence of the strengthened revenue effort in 2006, primary surpluses rose for the fourth consecutive year to 3¼ percent of GDP. Overall fiscal balances have also improved, with budgets in balance, on average, in the region.<sup>8</sup>



Public spending has also grown rapidly, after being contained in the early phase of the recovery. Real primary (i.e., noninterest) spending increases were above 10 percent in several countries in 2006, most notably in Venezuela, where these outlays rose by

<sup>6</sup> Unless otherwise noted, regional figures in this section refer to an unweighted average for 17 Latin American countries.

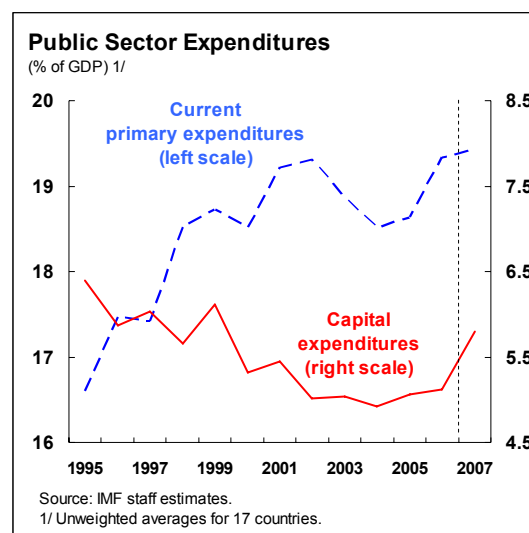
<sup>7</sup> Bolivia, Chile, Colombia, Ecuador, Mexico, Peru, and Venezuela.

<sup>8</sup> See the November 2006 *Regional Economic Outlook* for a more extensive discussion of developments in the fiscal stance.

about 40 percent. Excluding Venezuela, real primary outlays rose by an average of 7¼ percent. Primary current outlays accounted for the lion's share of the spending increases in the region (rising by an average of ¾ percentage point of GDP), while capital outlays remained virtually flat in relation to output. These developments are consistent with longer-term trends in the region, which suggest that little progress has been made in reversing the decline in the share of public investment in government expenditures and containing the upward drift in current outlays (Clements, Faircloth, and Verhoeven, 2007).

	2003	2004	2005	2006
Latin America	1.4	3.8	6.0	9.2
Latin America (excl. Venezuela)	1.8	2.7	5.4	7.3
Central America	5.9	-0.2	1.6	7.8

Source: IMF staff estimates.  
1/ Unweighted averages.

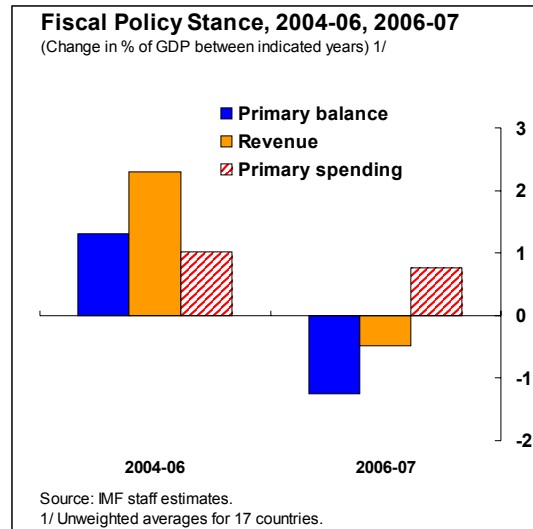
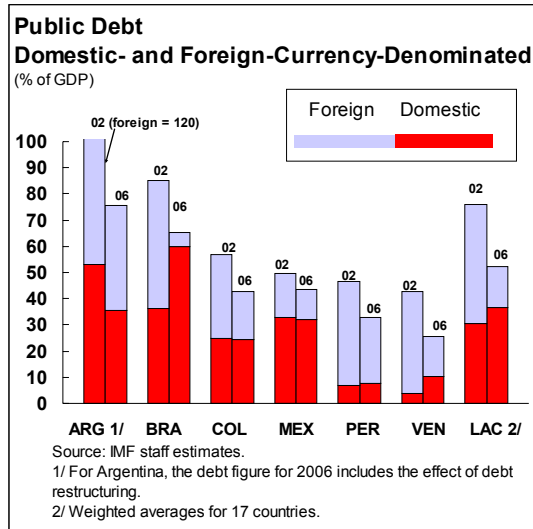


Nevertheless, stronger fiscal balances, combined with solid economic growth, have resulted in declining debt-to-GDP ratios. Public debt is estimated to have declined to about 52 percent of GDP (weighted average basis) in 2006. Although still higher than in the mid-1990s, debt ratios have dropped by 24 percentage points since 2002. Vulnerabilities have also been reduced by changes in the composition of public debt, with foreign-currency-denominated debt showing an especially sharp decline over the past four years. However, in



general, the increased reliance on domestically issued debt has not—at least not yet—been accompanied by an improvement in debt maturity; short-term debt-to-GDP ratios remain roughly unchanged despite some success in issuing domestic debt at longer maturities. Debt with residual maturity of less than one year remains at around 10 percent of GDP in the LAC region (unweighted average), somewhat higher than in emerging Asia and emerging Europe.

(though this might be offset by continued underexecution of public investment budgets). As with the external accounts, fiscal positions would be affected if commodity prices fell more rapidly than expected. For the seven countries in the region that generate a substantial share of revenues from commodities, for example, a return of these revenues to their 2004 levels would reduce public receipts by an average of about 2½ percent of GDP.



With commodity-based revenues declining and overall expenditure growth projected to remain high, primary balances are projected to weaken in 2007. The cooling of commodity prices, combined with real spending increases in the range of 8½ percent, is projected to lead to a deterioration in primary balances of about 1¼ percentage points of GDP for the region, continuing the procyclical pattern of the recent past (see the November 2006 *Regional Economic Outlook*). For those countries where activity is above potential, the envisaged expansionary fiscal policy could exacerbate inflationary pressures and place a burden on monetary policy.

Risks to the fiscal outlook come primarily from current spending and commodity prices. If primary current spending—which on average is projected to remain roughly unchanged relative to GDP in 2007—were instead to continue to rise at the same pace as in 2005 and 2006, primary balances would decline by an additional ½ percentage point of GDP

### III. The Effect of the External Environment on Growth in Latin America

The recent slowing of growth in the United States and the projected softening of nonfuel commodity prices has rekindled interest in an old question: how are changes in external conditions likely to affect growth in Latin America? This section seeks to provide a quantitative answer based on a model estimated on 1994–2006 data (see appendix for details) and a variety of “scenarios” of how the external environment for Latin America might evolve, which draw on the analysis of global risks in the April 2007 WEO. These elements form the basis for the probability distributions around the baseline growth projection presented in Section II.

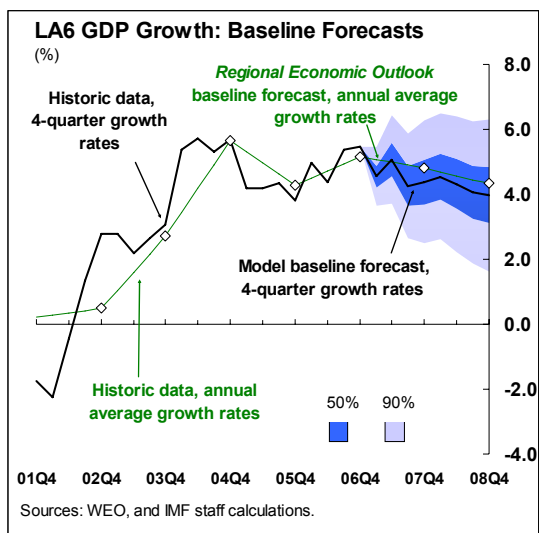
Critical external factors for Latin America include external demand, interest rates in advanced countries, investor risk appetite (or alternatively, global liquidity), and commodity prices. In the econometric model underlying this section, these factors are proxied by world growth, U.S. treasury bill rates, the high-yield corporate bond spread in the United States, and a trade-weighted index of commodity prices that are relevant for Latin America. As a measure of Latin American growth, a weighted index for Argentina, Brazil, Chile, Colombia, Mexico and Peru—referred to as the “LA6” in the remainder of this section—was used.<sup>9</sup> In addition, the model included the Latin America subcomponent of JPMorgan’s emerging market bond index, which is influenced both by external financing conditions and domestic fundamentals in Latin America.<sup>10</sup>

<sup>9</sup> The LA6 group represents about 90 percent of Latin American output. Together with Venezuela, which was excluded because of its different economic structure, it includes the largest economies in the region. For results with respect to individual Latin American countries, see Österholm and Zettelmeyer (2007).

<sup>10</sup> A real effective exchange rate index for the region was initially also included, but had no effect on the results.

The results shed light both on the relative contribution of external shocks to fluctuations, and the typical effects of particular shocks on Latin America. External factors are estimated to account for at least half of the medium-term variance of Latin American GDP growth. Within these, external financial conditions are the biggest influence (accounting for about 35 percent), followed by world growth shocks (10–15 percent) and commodity price shocks (5–6 percent). The model also suggests “rules of thumb” for the effect of external shocks on Latin American growth. The overall impact of a world growth shock on Latin America is roughly one-for-one (including lagged effects). One-standard-deviation shocks for commodity prices and the Latin EMBI—namely, changes of about 5 percent and 115 basis points, respectively, within one quarter—are estimated to lead to a change in Latin American growth of around 0.4–0.5 percentage point. The effect of a standard deviation shock in the U.S. high-yield bond spread (90 basis points) is estimated to be even higher (0.9 percentage point).

In addition to generating these results, the model provides a vehicle for forecasting LA6 growth under various assumptions about the paths of the external



variables. As a consistency check, the average growth forecast for the LA6 based on the WEO projections presented in this *Regional Economic Outlook* (Section II and main economic indicators table) was first compared with the model’s “baseline forecast” conditional on WEO projections for world growth and commodity prices. The two forecasts turn out to be very close.

The next step is to examine a number of scenarios for the external environment, which seek to quantify the risks to Latin American growth briefly described in Section II. Specifically, four types of risks are considered, consistent with the WEO:

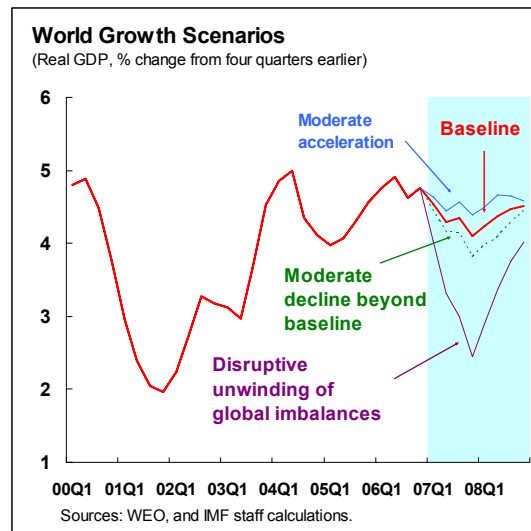
- Moderate deviations from the projected baseline for world growth. These could be either deviations on the downside—for example, prompted by a larger-than-expected slowdown in U.S. growth triggered by spillovers from the cooling housing market—or deviations on the upside, prompted by a faster-than-expected recovery of U.S. growth to potential, or stronger-than-expected demand in Europe or emerging Asia.
- A much sharper downturn in world growth, reflecting a—low-probability but potentially very costly—disruptive unwinding of global imbalances. This is assumed to go along with sharply higher spreads in the high-yield corporate bond market in the United States.
- Declines in nonfuel commodity prices beyond those assumed in the WEO baseline.
- A sharp tightening of emerging market financing conditions, triggered by a global retreat from risk, an emerging market crisis, or any other shock outside the region that would lead to a sudden rise in emerging market risk premia. To distinguish it from the second scenario (a disorderly unwinding of global imbalances), world growth is assumed to remain unaffected by this shock, though some deterioration of global financial market conditions (in the form of a higher U.S. high

yield bond spread) is assumed to accompany higher emerging market premia.

Each scenario is represented by a hypothetical path (or set of paths) of the external variables in the model. The following subsections briefly describe both these paths and the corresponding forecasts generated by the model, and compare them with the model’s forecast under baseline assumptions.

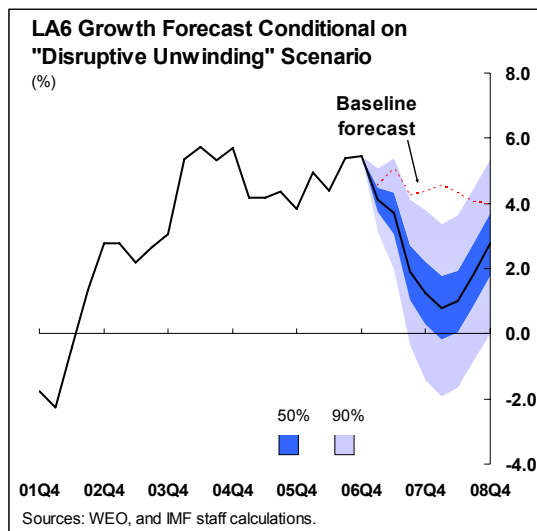
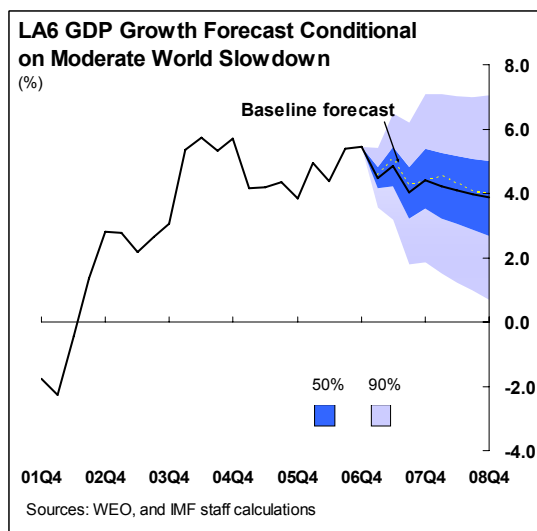
### Alternative World Growth Paths

As described above, alternative world growth paths include (i) moderately stronger growth than assumed under the baseline, representing the effect of a smaller-than-expected slowing in U.S. growth on world growth; (ii) moderately slower world growth, representing the response of world growth to a similar shock of the opposite sign; and (iii) a sharp downturn in world growth, assumed to go along with a widening of the high-yield corporate bond spread in the United States by 400 basis points. These growth paths are taken from simulations by staff of the IMF Research Department discussed in the April 2007 and September 2006 issues of the WEO (Chapter 4 and Box 1.3, respectively). To isolate the effect of the three scenarios from changes in commodity prices, the baseline scenario for commodity prices is maintained in each of these cases.



Of the three growth scenarios, only the sharp world slowdown would have a significant impact on Latin American growth. In particular, a larger-than-expected slowdown in the United States that falls short of a recession would have a muted impact on LA6 average growth (largely because its impact on world growth would be minor). Moreover, a U.S. slowdown would in part be offset by changed monetary conditions, as the model forecasts U.S. short interest rates to fall/rise when growth

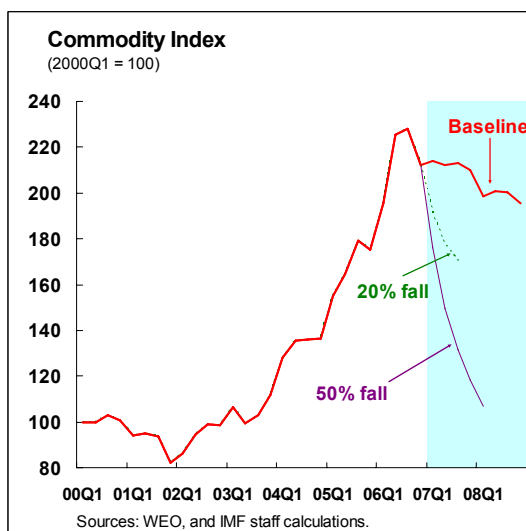
imbalances would not only have stronger effects through trade links, but would also be expected to lead to sharply higher risk and maturity premia in the United States (here, represented by a spike in the U.S. high-yield bond spread). This, in turn, would affect Latin American growth both directly and through higher EMBI spreads. Hence, the model forecasts a severe downturn in Latin America, with four-quarter growth falling to less than 1 percent by early 2008, and average growth falling to about 2¾ percent in 2007 and 1½ percent in 2008.



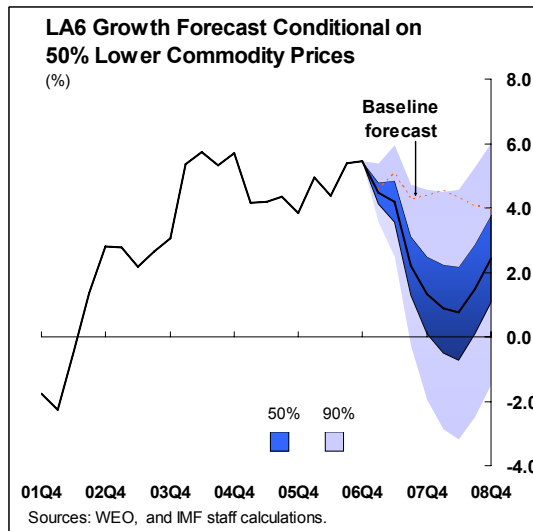
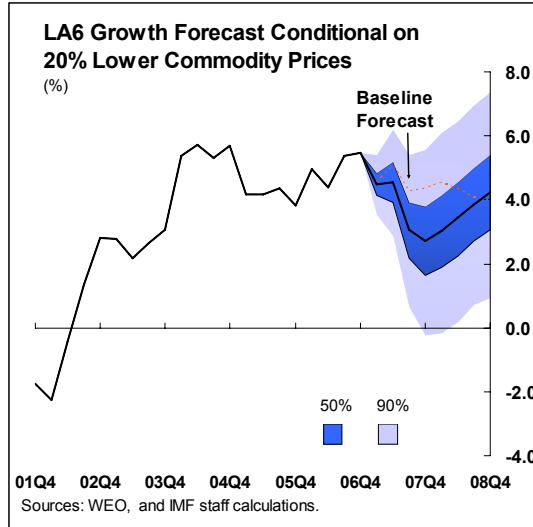
slows/accelerates. Emerging market risk premia would scarcely be affected, so that financing conditions would remain broadly favorable. In contrast, the much sharper shock to world growth associated with a disruptive adjustment of global

### Alternative Commodity Price Assumptions

The WEO baseline for nonfuel commodity prices already envisages a moderate decline during 2007 and 2008. The question is how Latin American growth would react if nonfuel commodity prices experienced a larger fall, for example, say, to end-2005 levels (approximately 20 percent below end-2006 levels, in terms of the LA6 net commodity export index used to estimate the model) or end-2003 levels (an approximately 50 percent decline relative to end-2006, undoing the sharp rise in prices from which Latin America has benefited over the course of the most recent expansion). To focus on the effect of commodity price corrections, both scenarios retained the baseline world growth path, while the remaining variables were allowed to adjust endogenously.



The model predicts that a 20 percent fall in commodities prices in early 2007 would lead to noticeably lower, but still robust growth in Latin America (about 3½-3¾ percent on average in 2007

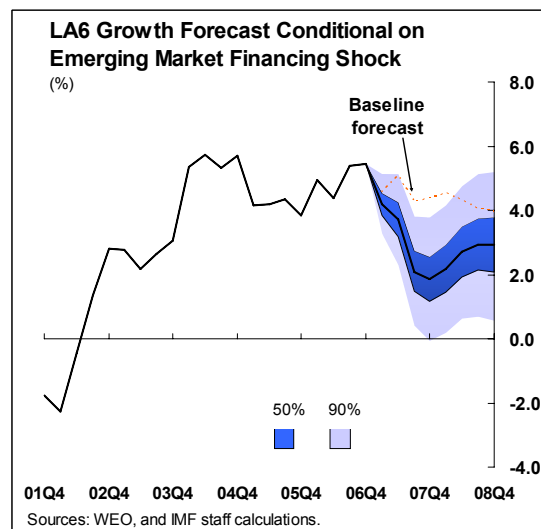


and 2008). In contrast, a 50 percent decline would lead to a severe slowdown, of almost the same magnitude as a disruptive unwinding in global imbalances. Four-quarter growth would fall to around ¾ percent by mid-2008, while average growth would decline to 3 percent in 2007 and about 1¼ percent in 2008. This mainly reflects the direct effect of net commodity export income on the economy, but also indirect effects through less favorable financing conditions, via EMBI spreads. The latter could reflect the impact of sharply lower terms of trade both on the trade balance—a

50 percent commodity shock would imply that trade surpluses would be erased, removing one important element that currently provides comfort to external investors in Latin America—and on the fiscal accounts, by significantly reducing primary surpluses (see the November 2006 *Regional Economic Outlook* and Section II).

### Tighter Emerging Market Financing Conditions

Finally, a scenario illustrating much tighter emerging market financing conditions was considered, in the form of a 400-basis-point shock to the Latin EMBI spread and a 200-basis-point increase in the U.S. high-yield bond spread—close to the changes in these variables during one of the major “sudden stop” events of the 1990s. Unlike a disruptive adjustment in global imbalances, this financing shock was not assumed to impact industrial country growth. Hence, the scenario isolates the effects of a “pure” emerging market financing shock from a global crisis involving a growth decline in all major regions. The model suggests that a financing shock would significantly reduce growth in Latin America, but by less than either a global crisis or a 50 percent drop in commodity prices. On an annual basis, the model predicts growth to drop to just under 3 percent in 2007 and to about 2¾ in 2008. In practice, this is likely to overestimate the average impact of a financing shock on LA6 growth, as it is



based on the reaction of the LA6 to the EMBI during the 1994-2006 period, in which these countries for the most part suffered from higher macroeconomic vulnerability than they do today.

## A Combined Assessment

As can be seen from the figures, all forecasts involve a probability distribution, denoted by blue and gray shading, in addition to a central conditional forecast which represents the median of the distribution (the 50th percentile). By assigning probabilities to the various scenarios, it is possible to generate a single risk-weighted probabilistic forecast (see Österholm, 2006, for a technical description).<sup>11</sup> The “fan chart” presented in Section II is an adaptation of this probabilistic forecast, in which the probability distribution has been drawn around the staff’s baseline forecast. As shown in that chart, the overall risk is moderately tilted to the downside, reflecting the fact that while some (albeit unlikely) scenarios could lead to much lower-than-projected growth in Latin America, there is no offsetting scenario—given the already benign current conditions—that involves much higher growth in the short run (though moderately higher-than-projected growth is of course a possibility). Even so, the model suggests that a growth outcome below 3 percent in 2007 or 1¾ percent in 2008 is very unlikely (less than a 5 percent probability).

The analysis of this section supports two main conclusions.

- On average, Latin American growth appears fairly resilient to moderate deteriorations in the external environment, such as a mid-cycle slowdown in the United States, a decline in commodity prices of the order of 20 percent, or

a tightening of emerging market financing that is not coupled with slower world growth. (Shocks of this kind could of course pose problems in individual countries, particularly countries with high commodity dependence and/or remaining financial sector vulnerabilities.)

- However, the region may remain sensitive to a number of more adverse (albeit low-probability) external scenarios. These include sharply tighter financing conditions, particularly when combined with slower world growth, or a large and rapid drop in commodity prices, which in turn would have consequences for capital flows to the region.

Reducing Latin America’s vulnerability to such shocks is to a large extent a matter of increasing its resilience to fluctuations in international financing. Governments have taken significant steps in this direction in recent years, leading to improved economic institutions and policy frameworks, primary fiscal surpluses, safer debt structures, and more flexible exchange rates. These provide a measure of assurance that the region’s finances would remain solid even in the event of a sharp deterioration in the external environment. However, as governments in the region recognize, further action is needed, particularly in lowering public debt further, making budgets more flexible, and ensuring the resilience of financial systems (see Section II and the November 2006 *Regional Economic Outlook*).

<sup>11</sup> For the four growth scenarios (moderately higher, baseline, moderately lower, and global crisis), a probability distribution of 0.15, 0.575, 0.25 and 0.025 was assumed; for the three commodity price states (baseline, 20 percent decline, and 50 percent decline), probabilities of 0.88, 0.10 and 0.02 were assumed; and an emerging market financing shock was assumed to occur with probability 0.05. Combinations among these events were also allowed.

## IV. Sustaining the Expansion and Raising Long-Term Growth

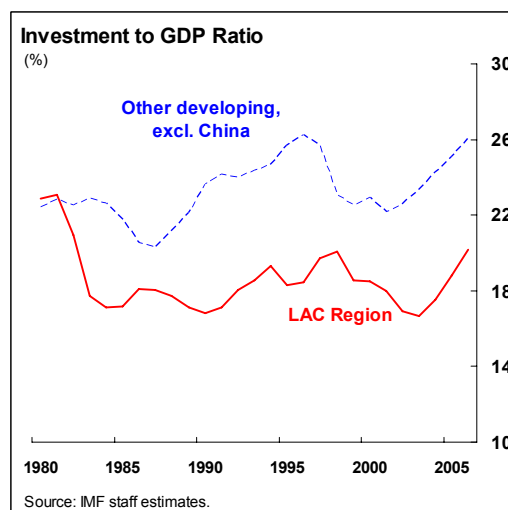
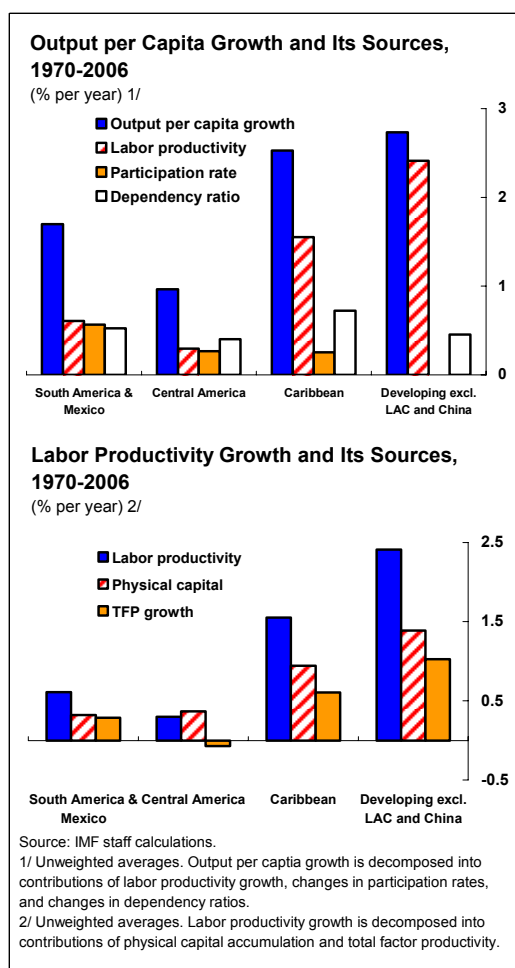
The ongoing expansion in Latin America represents the most vigorous period of sustained growth since the 1970s. Even so, growth has lagged most other developing country regions. What would it take for investment and productivity growth in Latin America to catch up? And what can be done to make the current expansion sustained—that is, to avoid a relapse to earlier boom-bust cycles? These questions are addressed in turn.

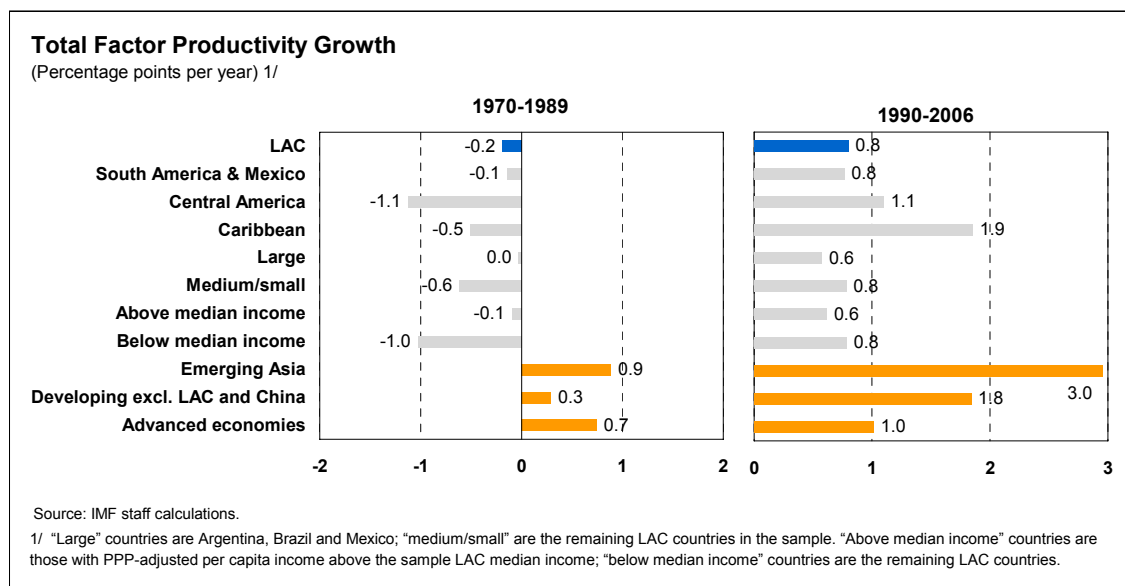
### Toward Higher Long-Term Productivity Growth

Over the long run, growth in Latin America has been low compared with other developing countries. This is overwhelmingly attributable to a history of macroeconomic instability and weak growth in labor productivity, which was only partly offset by increases in labor market participation (from below 60 to about 72 percent) and declines in dependency ratios. The low accumulation of physical capital has played a role in subdued labor productivity growth. Even more important, however, has been the low growth in “total factor productivity” (TFP)—that is, the efficiency with which labor and physical capital combine to produce output. TFP growth picked up starting in the early 1990s, but the gap with other regions, if anything, seems to have increased in recent years.<sup>12</sup>

As a share of GDP, investment in Latin America has remained lower than the developing country

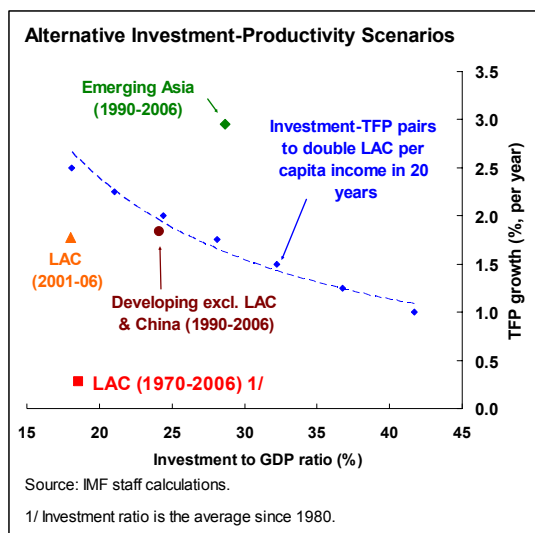
<sup>12</sup> See the September 2006 *World Economic Outlook*, Chapter 3, for more details on the methodology and related references. In this section, productivity estimates are based on a sample of 20 countries from the Caribbean, and South and Central America.





average. Investment contracted sharply in the aftermath of the debt crisis in the early 1980s and has since failed to recover significantly, in contrast with the experience of other regions. As a result, for the region as a whole, the contribution of capital accumulation to output per capita growth during 1970–2006 was only 0.3 percentage point per year, less than a fourth that in other developing countries (excluding China).

which per capita real incomes double over the next 20 years through different combinations of TFP growth and investment.<sup>13</sup> These scenarios require considerably higher investment and TFP growth rates than seen in the region in the past—for comparison, if investment and TFP growth stayed at the 2001–06 regional average during the next 20 years, average per capita income would increase by only around 50 percent. More specifically, two of such scenarios are as follows:



- In a high-productivity scenario, TFP growth would be 2 percent per year over the projection period. This is high by international standards: slightly above the average rate that has been achieved in developing countries (excluding China) since 1990 and more than twice the average rate for the LAC region during the same period. Even at this high rate of productivity growth, the region’s investment rates would need to rise significantly from current levels to an average of 24½ percent of GDP (from 20 percent in 2006).

Thus, achieving significant increases in per capita incomes will require higher investment and, more importantly, substantial improvements in TFP growth. To illustrate the challenges facing LAC countries, different scenarios were constructed in

<sup>13</sup> Doubling per capita incomes in 20 years is ambitious: average real per capita income grew only 80 percent in Latin America and the Caribbean between 1970 and 2006. As a point of reference, this would roughly correspond to the experience of non-LAC developing countries (excluding China) in the last 20 years.



- With lower productivity growth, doubling per capita income over the next 20 years would require investment to rise to well above 30 percent of GDP. For example, if TFP were to grow by 1½ percent a year, still twice the average since 1990, investment would need to rise by an additional 8 percentage points of GDP (to 32 percent).

These scenarios are only indicative of the many possible combinations that could raise per capita income over the long run. However, they underscore the importance of policies that foster both higher investment and a more efficient use of resources. In practice, there is a two-way, positive association between high rates of investment and productivity growth. The modest pickup of productivity during the present recovery (Box 6) further highlights the need to deepen pro-growth reforms.

The question of what policy measures could raise productivity growth in Latin America today has attracted an intense policy debate in recent years. A full discussion is beyond the scope of this report (see the November 2006 *Regional Economic Outlook*, and Zettelmeyer, 2006, for a survey). Instead, the results of two simple simulations that quantify the effect of two classes of reforms are considered:

- *A reduction of labor market rigidities.* In addition to its beneficial effect on productivity growth via more efficient resource allocation, this would raise potential growth during the transition to lower structural unemployment rates.<sup>14</sup> The latter can be quantified by allowing factor utilization rates to vary in an aggregate production function.<sup>15</sup> For instance, if unemployment rates were to fall

permanently from their current levels to the average in advanced economies (6 percent), the boost in employment growth along the transition to lower unemployment rates would raise per capita income in 20 years' time by 4½ percent, while real growth would rise by some ¼ percentage point per year. Reducing informality and underemployment, and promoting higher female participation in the labor market, would also have a favorable effect on growth through similar channels.

- *An improvement in education levels.* A boost to Latin America's human capital stock<sup>16</sup> could significantly increase per capita growth. Simulations in which human capital enters explicitly as an input to the aggregate production function show that, if Latin America were to catch up with the current OECD human capital stock in 2035, rather than in 2050, per capita income levels in 20 years would be 3 percent higher; per capita income would be boosted by an additional 5 percentage points if the catch-up happened 10 years earlier. Faster rates of improvement would also help close an "education gap" that is likely to open up with the most dynamic developing regions, especially East Asian countries, that have recorded impressive advances in secondary completion and tertiary enrollment in recent years. High inequality in the region, reflected in lower enrollments of the poor and rural populations, and high dropout and repetition rates, would also need to be addressed (UNESCO, 2007). This fillip to growth would be even more powerful if accompanied by improvements in the quality of education, an area where Latin America lags (Box 7).

<sup>14</sup> The region has some of the most rigid labor market institutions in the world, which contribute to high unemployment rates (9 percent on average in 2006). See the November 2006 *Regional Economic Outlook*, Box 9, for an overview.

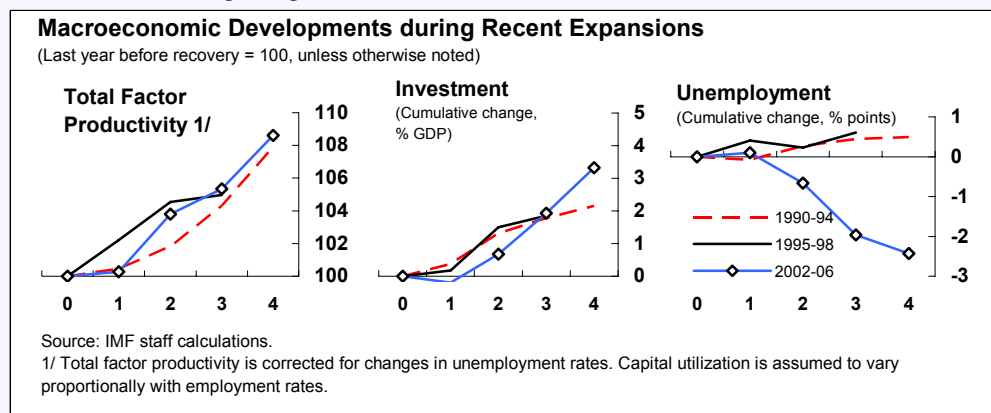
<sup>15</sup> In these simulations it is assumed that capital utilization rates vary proportionally with unemployment rates.

<sup>16</sup> Constructed as an average of a country's educational attainment rates (defined as the shares of the adult population with primary, secondary, and tertiary education) weighted by average rates of return to the different educational levels.

### Box 6. Productivity, Investment, and Employment in the Current Expansion

In the fourth year of the expansion, the cumulative increase in real GDP in Latin America and the Caribbean reached 20 percent, which is about two percentage points higher than in the previous two expansions.<sup>1</sup> The contribution of total factor productivity growth to GDP growth in the last three recoveries has been roughly unchanged at just over 40 percent. More specifically, the main developments are as follows:

- The ongoing pick-up in investment followed closely the pattern of the previous two expansions during the earlier stages of the recovery. In its fourth year, however, the recovery in investment exceeded that in the 1995–98 expansion. This reflected in part the lower level of investment at the beginning of the recovery—average investment was 17 percent of GDP at the beginning of the current expansion, more than 1 percentage point below investment at the beginning of the 1995–98 expansion.
- The pace of productivity growth in the fourth year of the current expansion was slightly faster than in the 1990–94 expansion, with a cumulative increase in productivity of around 8½ percent (compared with 8 percent). The rise in productivity appears modest in light of the unusually favorable conditions during this recovery, including abundant liquidity in the global economy and improvements in the terms of trade. The latter improved by a cumulative 20 percentage points in the current recovery, in contrast with the previous recoveries, when it declined.
- Similar rates of employment growth have been recorded in this recovery as in the two previous recoveries. A key difference is, however, that the current expansion has seen a reduction in unemployment rates—by an average of 2½ percentage points by its fourth year—whereas the previous two expansions resulted in slightly higher unemployment rates. The decline in unemployment in the current expansion has taken place from higher initial levels (11 percent) and has in turn offset lower growth in labor market participation.



Note: This box was prepared by Roberto Benelli.

<sup>1</sup> Expansions are identified with the 1990–2004, 1995–98, and 2002–06 periods. The beginning of the expansion (“year 0”) coincides with the trough of the previous economic cycle.

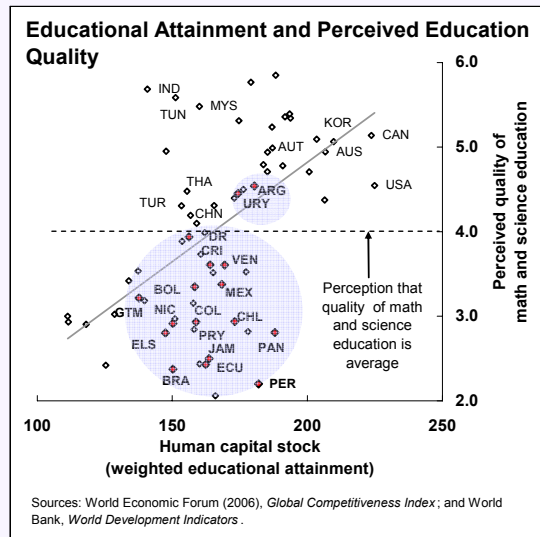
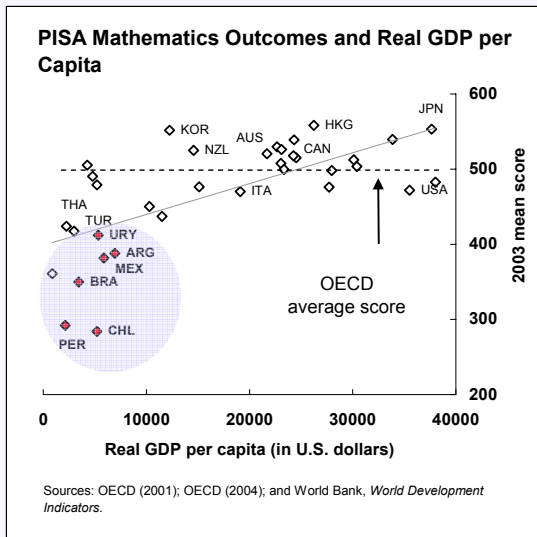
### Box 7. Education Quality, Human Capital, and Growth in Latin America

Education quality matters as much as, if not more than, educational attainment levels for improving a country's stock of human capital and fostering economic growth (Hanushek and Kimko, 2000; Barro, 2001). Moreover, improving the quality of education can help reduce dropout and repetition rates, leading to higher levels of educational attainment.

While access to schooling is adequate in most of Latin America, students often do not perform well on critical skills (De Ferranti and others, 2003; Vegas and Petrow, forthcoming). The poor quality of education cannot be solely attributed to the region's level of development: even after controlling for GDP per capita, Latin American countries perform worse than East Asian and OECD countries on international assessments. Concerns about low schooling quality are mirrored in survey responses by local business communities in the Global Competitiveness Index on their perceptions of the quality of math and science education in their countries (World Economic Forum, 2006).

Poor quality may also reflect inefficiencies in education spending, since outlays are not low by international standards (Clements, Faircloth, and Verhoeven, 2007). In many countries, efficiency could be improved by reducing the share of spending allocated to teacher salaries and increasing outlays for capital, textbooks, and classroom material (De Ferranti and others, 2003). In addition, incentives for good performance need to be strengthened. The experience of many countries in the region in linking education transfers to local governments and salaries to performance, and increasing the role of parents in the allocation of school budgets, is promising (De Ferranti and others, 2003).

In sum, the evidence implies that Latin America lags further behind East Asia and the OECD countries in human capital than is suggested by educational attainment data. Therefore, greater emphasis on improving quality, including by bolstering the efficiency of public education spending, is needed for Latin America to catch up with more advanced regions.



Note: This box was prepared by Priyadarshani Joshi.

<sup>1</sup> Mathematics scores for Argentina, Chile, and Peru are from the PISA 2000 international assessments. The PISA assessment tests assess abilities in reading, mathematics, and science. See also OECD (2001, 2004).

## Sustaining the Expansion

In addition to low average productivity growth, a striking fact of Latin America's economic history is the frequency and regularity with which growth, once underway, has suffered setbacks. Rather than taking the form of a smooth, sustained "hill" (Pritchett, 2000), expansions have often been short-lived, ending with crises or prolonged periods of stagnation. Latin American business cycles have tended to be volatile compared to advanced countries and developing countries outside the region (Aiolfi, Catão, and Timmerman, 2006). Large output drops have happened more frequently than in any other region except for Africa (Becker and Mauro, 2006). Long-run growth spells—that is, sustained periods of growth, with only transitory interruptions—have tended to be rarer than in other regions.

Frequency and Duration of Growth Spells 1/					
Region	No. of countries	No. of spells	Mean duration	% spells lasting at least	
				10 years	16 years
Industrial Countries	37	20	21.6	80	55
Emerging Asia	22	20	20.7	75	55
Latin America	18	14	12.6	43	29
Sub-Saharan Africa	43	31	11.2	45	13
Other developing	20	18	13.4	39	28

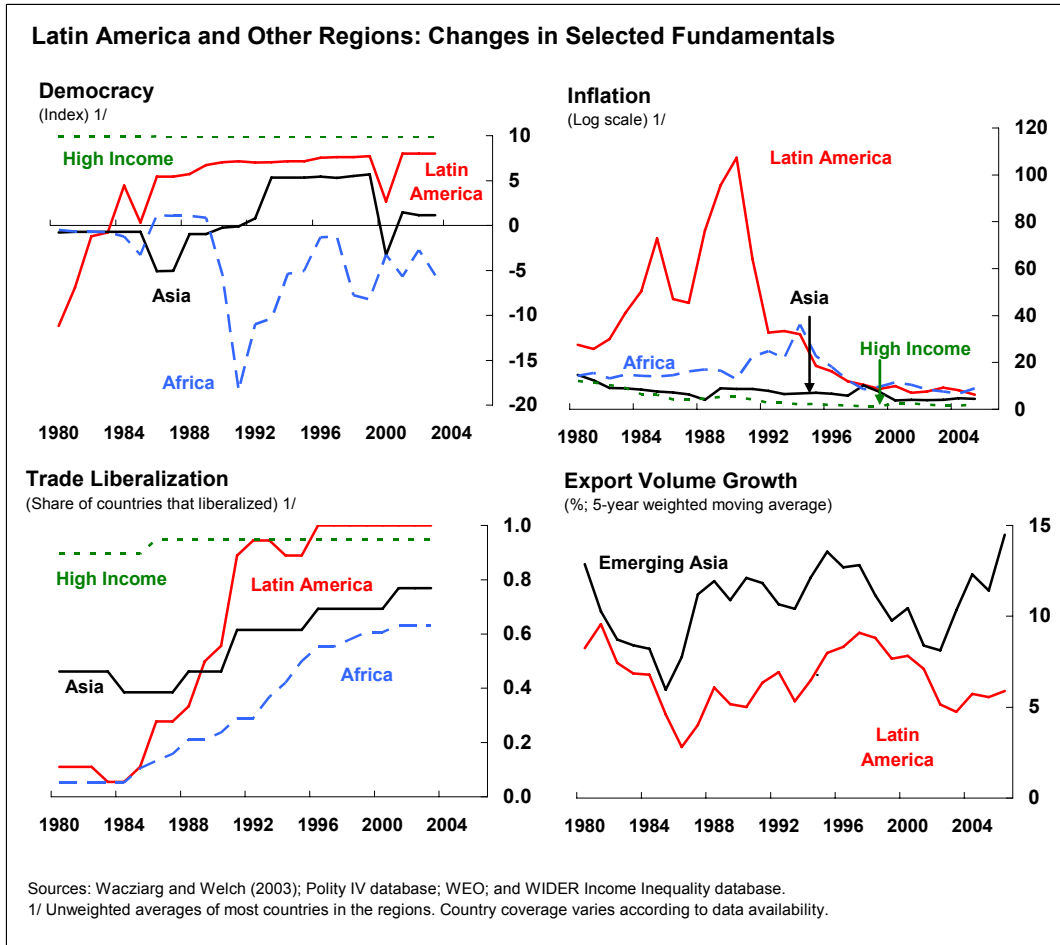
1/ Refers to growth expansions of at least 5 years length that began with a structural upbreak in growth and ended either with a downbreak or the end of the sample period (mostly 1950-2006 or 1960-2006). Structural breaks identified at the 10 percent significance level, see Berg and others (2006) for details.

In light of this discouraging record, what are the prospects for sustaining Latin America's current expansion? At one level, an answer to this question can be inferred from Sections II and III, as well as previous analyses (see, particularly, Box 1 in the November 2006 *Regional Economic Outlook*). Macroeconomic volatility in Latin America has typically been a result of fiscal and external imbalances, which in turn reflected public and private overspending (Singh, 2006; Singh and Cerisola, 2006). Stabilization typically gave way to excessive capital inflows, credit booms, real exchange rate appreciation, and public and external debt accumulation, resulting in vulnerabilities to adverse shocks and, eventually, new crises. In light of this historical pattern, the

current situation in Latin America looks greatly improved. With the region entering its fifth year of expansion, fiscal and external balances remain in surplus, and several traditional sources of vulnerability—particularly, relating to debt structure, exchange rate policies, and the financial sector—have been significantly reduced.

This said, the most recent expansion has occurred under exceptionally favorable external conditions. Would it withstand their deterioration? Section III provided a partial answer: growth in Latin America appears resilient in the face of moderate shocks, including a moderate deterioration in the terms of trade, but not to a significant deterioration in the international financing environment. It is possible that the empirical analysis in Section III exaggerates the current sensitivity of Latin America to such shocks, as it reflects the region's behavior during the entire 1994–2006 sample period, and as such may not fully capture recent reductions in external vulnerability. However, there are also arguments in the other direction. Improvements in Latin American fiscal positions have mainly been revenue-driven, and little progress has been made in improving the composition of public expenditure—a key determinant of the durability of fiscal adjustments (Gupta and others, 2005). Furthermore, little progress has been made in reducing budget rigidities, which have traditionally compromised the quality of fiscal adjustment in response to revenue downturns (Alier, 2007). Entrenching lower macroeconomic volatility in Latin America is thus likely to require fiscal reforms.

Another approach to answering the question of what makes growth sustained is to examine the economic and political characteristics of economies undergoing long-lived expansions and compare them with economies experiencing shorter booms. These could include macroeconomic fundamentals, but also deeper structural characteristics that could have effects on economic policies, on the business environment,



or on the ability of economies to cope with external shocks. Recent empirical work in this area (Berg, Ostry, and Zettelmeyer, 2007), based on the experience of 140 countries over five decades, identifies four main factors that seem to contribute toward sustaining growth over long spells:

- First, trade and export orientation, in particular, liberal trade regimes and the absence of persistent current account deficits or overvalued exchange rates. The structure of exports also matters. Long-lasting growth spells tend to be associated with increases in the share of manufacturing in total exports over time.
- Second, improvements in political institutions. Many countries—even autocracies—can get growth going. However, countries that are democratic, or that democratize over time, appear to be more likely to prolong growth spells.
- Third, a more equal income distribution. Long growth spells are far more likely to occur in countries with relatively low levels of income inequality. A one-percentage-point higher Gini coefficient seems to increase by 5–10 percent the probability that a growth spell will end in any given year.
- Finally, macroeconomic stability. Countries with high inflation or exchange rate depreciations tend to experience shorter growth spells. Macroeconomic stability, in turn, could be a result of better policy frameworks, a higher degree of social cohesion, and more developed financial systems.

Clearly, these are areas in which Latin America has traditionally fared poorly: during several decades through the early 1980s, the region was predominantly autocratic, inward oriented, and unequal, and suffered from high macroeconomic volatility. Much has changed in the meantime. The greatest progress has been achieved in the areas of democratic change and macroeconomic stability. Democracy is now firmly entrenched, and the region's victory over hyperinflation is well known. More specifically, the last five years have been a period of much improved macroeconomic management. Progress has also been made in trade integration and export orientation, though the record in this area is mixed. While virtually all Latin American countries have liberalized trade to some degree, lack of competition and limited de facto openness remains a problem. Ratios of trade to GDP are still relatively low, export growth has underperformed other regions, and the share of manufacturing in total exports remains much lower than in Asia. Finally, economic inequality was on an upward trend during the 1980s and most of the 1990s. Very recently, there has been an improvement (Section II), but there is no question that Latin America remains highly unequal compared with other regions of the world (De Ferranti and others, 2004; Zettelmeyer, 2006).

Two main messages emerge from this discussion. First, with democratic societies across the region, macroeconomic stability, and more openness to trade, the prospects for prolonging the ongoing expansion are better than at any time in recent history. Second, the economic improvements underpinning more sustained growth are a recent development and have not yet been fully entrenched. In particular, efforts to create more equitable and less divided societies—which are better positioned to avoid drastic growth reversals in the future—are at an early stage. The desired progress in this area will take time, and require a combination of better education, labor and financial sector reforms, a nondistortionary tax system, and better targeting and quality of government expenditures (see the November

2006 *Regional Economic Outlook*). Reforms in these areas are also critical because of their direct effects on long-run productivity growth. In the meantime, macroeconomic and financial sector policies will need to remain vigilant, so that the region can grasp the ongoing opportunity for entrenching and raising growth, even in the event of less favorable external conditions than those that prevail today.

# Main Economic Indicators

	Output Growth (annual rate in percent)					Inflation (eop rate in percent)					Ext. Current Account (in percent of GDP)				
	1995- 2004 Avg.	2005	2006	2007 Proj.	2008 Proj.	1995- 2004 Avg.	2005	2006	2007 Proj.	2008 Proj.	1995- 2004 Avg.	2005	2006	2007 Proj.	2008 Proj.
	<b>North America 1/</b>	<b>3.2</b>	<b>3.2</b>	<b>3.4</b>	<b>2.3</b>	<b>2.8</b>	<b>3.3</b>	<b>3.6</b>	<b>2.1</b>	<b>2.6</b>	<b>2.5</b>	<b>-3.0</b>	<b>-5.4</b>	<b>-5.4</b>	<b>-5.2</b>
United States	3.2	3.2	3.3	2.2	2.8	2.5	3.7	1.9	2.6	2.5	-3.4	-6.4	-6.5	-6.1	-6.0
Canada	3.3	2.9	2.7	2.4	2.9	1.9	2.3	1.3	2.2	2.2	0.8	2.3	1.7	0.7	0.6
Mexico	2.7	2.8	4.8	3.4	3.5	15.5	3.3	4.1	3.7	3.3	-2.1	-0.6	-0.2	-1.0	-1.4
<b>South America 1/</b>	<b>2.4</b>	<b>5.1</b>	<b>5.6</b>	<b>5.3</b>	<b>4.5</b>	<b>9.5</b>	<b>6.8</b>	<b>5.2</b>	<b>6.0</b>	<b>6.7</b>	<b>-2.1</b>	<b>1.3</b>	<b>1.5</b>	<b>0.7</b>	<b>0.0</b>
Argentina	1.3	9.2	8.5	7.5	5.5	4.9	12.3	9.8	11.0	13.0	-0.5	1.9	2.4	1.2	0.4
Bolivia	3.3	4.1	4.5	4.5	5.3	5.0	4.9	4.9	6.8	6.0	-3.8	6.6	11.3	8.7	6.4
Brazil	2.5	2.9	3.7	4.4	4.2	9.1	5.7	3.1	3.9	4.3	-2.4	1.6	1.3	0.8	0.3
Chile	4.8	5.7	4.0	5.2	5.1	4.2	3.7	2.6	2.5	3.0	-1.8	0.6	3.8	2.7	-0.2
Colombia	2.2	5.3	6.8	5.5	4.5	12.0	4.9	4.5	4.0	3.5	-2.4	-1.6	-2.2	-2.3	-3.3
Ecuador	2.8	4.7	4.2	2.7	2.9	31.4	3.1	3.0	2.6	3.0	-1.6	1.7	4.5	0.4	0.7
Paraguay	1.5	2.9	4.0	4.0	4.5	8.9	9.9	12.5	5.0	3.0	-1.7	-0.3	-1.5	-2.0	-1.8
Peru	3.6	6.4	8.0	6.0	5.5	4.9	1.5	1.1	2.0	2.0	-3.7	1.3	2.6	0.7	0.4
Uruguay	0.9	6.6	7.0	5.0	3.5	14.0	4.9	6.4	6.0	5.0	-1.1	0.0	-2.4	-3.3	-2.3
Venezuela	1.3	10.3	10.3	6.2	2.0	35.1	14.4	16.9	22.4	28.3	6.5	17.8	15.0	7.0	6.2
<b>Central America 1/</b>	<b>3.7</b>	<b>4.3</b>	<b>5.7</b>	<b>5.0</b>	<b>4.6</b>	<b>7.8</b>	<b>8.4</b>	<b>6.3</b>	<b>5.6</b>	<b>5.1</b>	<b>-5.0</b>	<b>-4.8</b>	<b>-4.8</b>	<b>-5.0</b>	<b>-5.2</b>
Costa Rica	4.3	5.9	7.9	6.0	5.0	12.4	14.1	9.4	8.0	6.0	-4.1	-4.8	-4.9	-4.8	-4.7
El Salvador	3.0	2.8	4.2	4.0	4.0	4.0	4.3	4.9	4.0	3.0	-2.4	-4.6	-4.8	-4.7	-4.7
Guatemala	3.4	3.2	4.6	4.5	4.0	7.4	8.6	5.8	6.0	6.0	-4.7	-4.4	-4.4	-4.5	-4.7
Honduras	3.3	4.1	5.5	4.8	3.4	13.4	7.7	5.3	6.0	7.0	-3.9	-0.4	-1.2	-2.5	-2.8
Nicaragua	4.2	4.0	3.7	4.2	5.0	8.5	9.6	9.4	6.1	5.2	-20.5	-14.2	-14.2	-13.6	-12.9
Panama	4.4	6.9	8.1	6.6	6.8	0.9	3.4	2.2	2.3	2.4	-5.3	-5.0	-4.3	-5.0	-6.3
<b>The Caribbean 1/</b>	<b>4.2</b>	<b>6.5</b>	<b>8.3</b>	<b>5.4</b>	<b>4.2</b>	<b>11.0</b>	<b>8.3</b>	<b>6.2</b>	<b>5.7</b>	<b>5.1</b>	<b>-3.4</b>	<b>0.0</b>	<b>2.1</b>	<b>1.7</b>	<b>-0.3</b>
The Bahamas	3.3	2.7	4.0	4.5	4.0	1.7	1.2	2.3	2.0	2.0	-10.1	-8.8	-10.9	-13.4	-11.5
Barbados	2.3	4.1	3.5	4.9	2.0	2.3	7.3	7.0	2.8	2.0	-4.0	-12.6	-8.7	-7.5	-7.8
Dominican Republic	5.2	9.3	10.7	6.0	4.5	13.0	7.4	5.0	5.0	4.0	-0.9	-1.5	-2.4	-2.2	-1.6
ECCU economies 1/	2.7	5.8	4.7	4.6	3.9	2.1	4.6	2.0	2.9	2.6	-15.8	-22.1	-21.4	-18.9	-21.1
Guyana	2.3	-1.9	4.8	5.2	4.7	5.4	8.3	3.6	5.0	4.0	-13.5	-19.1	-28.0	-23.0	-21.4
Haiti	1.5	0.4	2.2	3.5	4.0	17.1	14.8	12.4	7.9	8.0	-1.0	0.7	1.4	0.2	-1.0
Jamaica	0.5	1.4	2.7	3.0	3.1	11.5	12.9	5.8	6.9	6.2	-5.9	-11.2	-10.7	-9.5	-9.3
Trinidad & Tobago	7.7	7.9	12.0	7.0	4.5	4.2	7.2	9.1	9.0	9.0	2.1	22.2	28.1	25.2	15.5
Memorandum item: <b>Latin America and the Caribbean 1/</b>	<b>2.6</b>	<b>4.6</b>	<b>5.5</b>	<b>4.9</b>	<b>4.2</b>	<b>10.6</b>	<b>6.1</b>	<b>5.0</b>	<b>5.4</b>	<b>5.8</b>	<b>-2.0</b>	<b>1.4</b>	<b>1.7</b>	<b>0.5</b>	<b>-0.2</b>

Sources: IMF *World Economic Outlook* and IMF staff estimates.

1/ Weighted average. For output and inflation, weighted by PPP GDP; for external current account, dollar-weighted GDP.

# Appendix

## Modeling the Impact of External Shocks on Latin America

Section III in this *Regional Economic Outlook*—as well as the confidence intervals around the central forecast shown in section II—is based on a multivariate autoregressive model that relates growth outcomes in Latin America to a variety of economic variables. Specifically, the analysis employs a “Bayesian Vector-Autoregression” model for Latin American growth. This can be written as

$$\mathbf{G}(L)(\mathbf{x}_t - \boldsymbol{\psi}) = \boldsymbol{\eta}_t \quad (1)$$

In equation (1),  $\mathbf{x}_t$  stands for an  $n \times 1$  vector of macroeconomic variables including growth,  $\mathbf{G}(L)$  denotes a “lag polynomial of order  $p$ ” (a shorthand for the fact that several lags of  $\mathbf{x}_t$  were included in the model) and  $\boldsymbol{\eta}_t$  an  $n \times 1$  vector of identically independently distributed error terms. Finally,  $\boldsymbol{\psi}$  is a vector of steady state values describing the levels to which the variables converge in the long run. This model is specified in terms of deviations from the steady state (see Villani, 2005, for details), thereby allowing the researcher to specify an informative prior distribution for the steady-state values. In this way, knowledge about policy frameworks and economic structure that affect the long-run behavior of the  $n$  variables—which may not be fully reflected in their realizations in the estimation sample, such as views about long-run potential growth—can be reflected in the estimation. Using Bayes’ law, this information is then combined with the data to estimate a “posterior” distribution of  $\boldsymbol{\psi}$ .<sup>1</sup>

<sup>1</sup> For the parameters governing the dynamics of the model around the steady state, a slightly modified “Minnesota prior” (Litterman, 1986) was used. This involves setting the prior mean on the first own lag to 0.9 for variables that are modeled in levels, and to 0 on all coefficients for variables

(continued)

The framework described by (1) was used to estimate two different models. In the first,  $\mathbf{x}_t$  was set as follows:

$$\mathbf{x}_t = (\Delta y_t^{world} \quad i_t^{US} \quad HY_t \quad \Delta y_t \quad \Delta c_t \quad EMBI_t)' \quad (2)$$

where  $y_t^{world}$  is the logarithm of world GDP (excluding Latin America) in fixed prices,  $i_t^{US}$  is the three-month treasury bill rate,  $HY_t$  is the high-yield corporate bond spread in the United States (a proxy for global risk appetite),  $y_t$ , the logarithm of aggregate real GDP for six of the largest Latin American countries (namely, Argentina, Brazil, Chile, Colombia, Mexico, and Peru),  $c_t$ , a (net) export commodity price index for these countries, and  $EMBI_t$ , the JPMorgan emerging market bond index spread for Latin America. The second model focused on linkages between the United States and Latin America and included U.S. growth and inflation instead of world growth. Both models were estimated using quarterly data from 1994Q2 to 2006Q4. Lag length was set to two (more lags made no difference to the results).

Some steady-state priors followed standard conventions, for example, U.S. inflation and short-term nominal interest rates were centered on 2 and 4 percent, respectively (see table). Steady-state priors for world and U.S. growth were based on medium-term WEO projections; while the steady-state prior for Latin American growth, centered on 4.25 percent, was based on econometric studies of long-run growth in Latin America (see Loayza, Fajnzylber, and Calderon, 2005; and Zettelmeyer, 2006 for an overview). The table shows that post and prior distributions are generally close, indicating that the assumed prior intervals were judged reasonable by the data. Importantly, it was confirmed that the dynamics

that are modeled in first differences (see Österholm and Zettelmeyer, 2007, for details on the modeling approach).



of the model were not affected by the steady-state priors chosen (“non-informative” or “diffuse” priors, which give the data a free hand in estimating the steady state parameters, produced similar results). Hence, the assumed steady state priors do not prejudice the model’s short-run forecasts.

When estimating the model, exogeneity of the world/U.S. variables with respect to the Latin American variables was assumed, and shocks were orthogonalized using a standard recursive ordering: world (or U.S.) growth was ordered first (i.e. assumed to be contemporaneously unaffected by the other variables), followed by the remaining variables in the order listed in equation (2).

Model Variables: Steady State Prior and Posterior Distributions (In units of the variables shown: 95 percent probability intervals) 1/		
	prior	posterior 2/
World growth	(3.75, 4.75)	(3.4, 4.1)
U.S. growth	(2.0, 4.0)	(2.8, 3.9)
U.S. inflation	(1.0, 3.0)	(2.0, 2.8)
U.S. T-Bill rate	(3.0, 5.0)	(3.5, 5.0)
U.S. HY spread	(3.0, 6.0)	(3.8, 5.9)
Commodity prices	(-2.0, 4.0)	(-1.4, 4.4)
LA6 growth	(3.5, 5.0)	(3.4, 4.8)
Latin EMBI spread	(2.0, 5.0)	(2.1, 4.9)

1/ Probability intervals refer to a normal distribution.  
2/ Except for U.S. growth and U.S. inflation, posterior estimates are based on model including world growth.

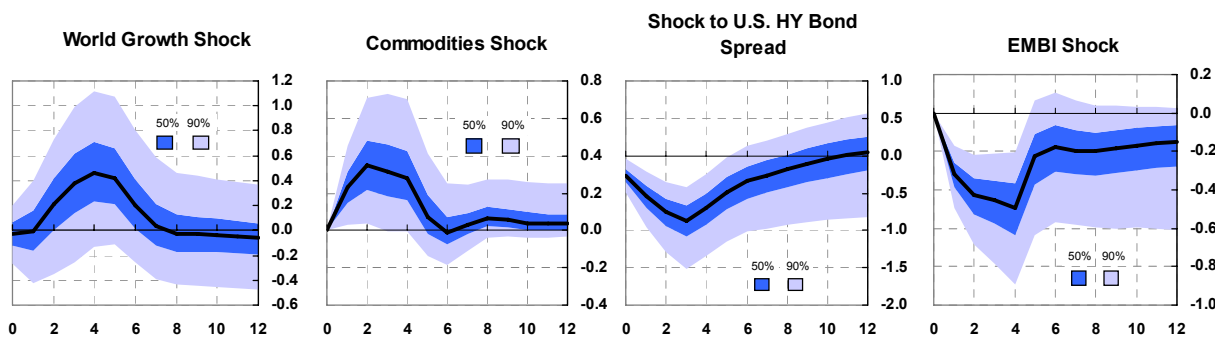
As usual, the properties of the estimated models can be summarized using variance decompositions, which summarize the relative contribution of various shocks to the variation of the endogenous variables at different time horizons, and impulse response functions, which show how a variable responds to a particular

shock (see Österholm and Zettelmeyer, 2007, for a full set of impulse responses and variance decompositions):

*Variance decompositions* suggest that about 52 percent of the medium-term variance of Latin American GDP growth is explained by external factors: approximately 12 percent by world growth shocks, 6 percent by commodity prices, and a remarkable 34 percent by U.S. financial conditions (the combined influence of U.S. short-term interest rates and the U.S. high yield bond spread). If the model with U.S. growth and inflation is used, the influence of external factors rises to about 57 percent, of which 16 percent corresponds to U.S. growth and 5 percent to commodity prices. U.S. financial conditions account for 27 percent of the variance in this model; this rises to 36 percent if the contribution of U.S. inflation is included in this category.

*Impulse responses* give a direct answer to the question of how growth in Latin America has tended to react to external shocks, taking account not only the direct effects of shocks, but also the effects through the reactions of other endogenous variables. The figures show the growth response (with growth expressed as the percentage change in GDP with respect to the same quarter of the preceding year) to a one-standard-deviation shock in the variable indicated in the title; this shock turns out to be about 0.28 percentage point for world growth, 5 percent for commodity prices, 90 basis points for the U.S. high yield bond

**Response of LA6 Growth with Respect to One Standard Deviation External Shocks (%)**



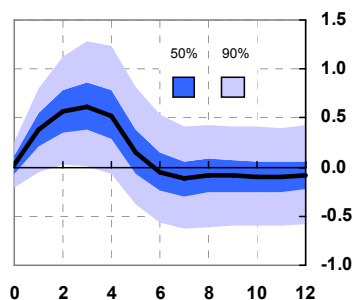
spread, and 115 basis points for the Latin EMBI. Hence:

- Increases in world growth are passed on to Latin America about one-for-one: a 0.3 percent world growth shock leads to an increase in (four-quarter) Latin American growth by about 0.4 percentage point after four quarters. This is similar to the impulse response of world growth with respect to its own shock (not shown) which also reaches a maximum of about 0.4 in the fourth quarter after the shock.
- A standard deviation commodity shock—which in this sample is a change of almost 5 percent in a quarter, illustrating how volatile Latin American commodity prices have been—leads to a change in four-quarter Latin American growth of about 1/3 percentage point after two quarters.
- A 90-basis-point rise in the U.S. high yield bond spread, interpreted as reflecting a retreat of investors from risk, leads to a decline of four-quarter growth in Latin America by about 0.9 percentage point after three quarters.
- Finally, a 115-basis point rise in the Latin EMBI is associated with drop in four-quarter growth by 0.5 percent after four quarters.

about 0.8 percentage point after three quarters. The reaction to a U.S. growth shock is faster and slightly larger (it is also more precisely estimated, in the sense that the standard error bands are tighter). The figure describes the reaction to a 0.48 percent increase in U.S. growth (U.S. growth being more volatile than world growth); this is shown to lead to an increase of 4-quarter Latin American growth by about 0.6 point. Since the U.S. growth shock eventually leads to a total increase in U.S. growth of about 0.55 percentage point after three quarters (not shown), this implies that the overall average reaction of Latin American growth to U.S. growth is a little over one-for-one.

The alternative model, which includes U.S. growth and inflation instead of world growth, has very similar effects for the commodities and EMBI shocks, while the reaction to a shock to the U.S. high yield bond spread is slightly more muted, with LA6 growth increasing by only

**LA6 Growth Response with respect to U.S. Growth Shock (%)**



## References

- Aiolfi, Marco, Luis Catão, and Allan Timmerman, 2006, “Common Factors in Latin America’s Business Cycles,” IMF Working Paper 06/49 (Washington: International Monetary Fund).
- Alier, Max, 2007, “Measuring Budget Rigidities in Latin America,” forthcoming IMF Working Paper (Washington: International Monetary Fund).
- Berg, Andrew, Jonathan Ostry, and Jeromin Zettelmeyer, 2007, “What Makes Growth Sustained?” forthcoming IMF Working Paper (Washington: International Monetary Fund).
- Barro, Robert, 2001, “Human Capital and Growth,” *American Economic Review, Papers and Proceedings*, 91(2): 12–17 (May).
- Becker, Törsbjörn, and Paolo Mauro, 2006, “Output Drops and the Shocks that Matter,” IMF Working Paper 06/172 (Washington: International Monetary Fund).
- Clements, Benedict, Christopher Faircloth and Marijn Verhoeven, 2007, “Public Expenditure in Latin America: Trends and Key Policy Issues,” IMF Working Paper 07/21 (Washington: International Monetary Fund).
- De Ferranti, David, Guillermo Perry, Indermit Gill, J. Luis Guasch, William Maloney, Carolina Sanchez-Paramo, and Norbert Schady, 2003, *Closing the Gap in Education and Technology* (Washington: World Bank).
- \_\_\_\_\_, Guillermo Perry, Francisco Ferreira, and Michael Walton, 2004, *Inequality in Latin America and the Caribbean: Breaking with History* (Washington: World Bank).
- Gupta, Sanjeev, Emanuele Baldacci, Benedict Clements, and Erwin Tiongson, 2005, “What Sustains Fiscal Consolidation in Emerging Market Countries?” *International Journal of Finance and Economics*, Vol. 10, pp. 307–321.
- Hanushek, Eric, and Dennis Kimko, 2000, “Schooling, Labor-Force Quality, and the Growth of Nations,” *American Economic Review* 90 (5): 1184–1208.
- International Monetary Fund, 2006a, *World Economic Outlook*, September (Washington).
- \_\_\_\_\_, 2006b, *Regional Economic Outlook: Western Hemisphere* (Washington).
- \_\_\_\_\_, 2007a, *World Economic Outlook: April 2007* (Washington).
- \_\_\_\_\_, 2007b, *Global Financial Stability Report: April 2007* (Washington).
- Litterman, Robert B., 1986, “Forecasting with Bayesian Vector Autoregressions—Five Years of Experience,” *Journal of Business and Economic Statistics* 5, 25–38.
- Loayza, Norman, Pablo Fajnzylber, and Cesar Calderón, 2005, *Economic Growth in Latin America and the Caribbean: Stylized Facts, Explanations, and Forecasts* (Washington: World Bank).
- Österholm, Pär, 2006, “Incorporating Judgment in Fan Charts,” Finance and Economics Discussion Series 2006–36, Board of Governors of the Federal Reserve System.
- Österholm, Pär, and Jeromin Zettelmeyer, 2007, “The Effect of External Conditions on Growth in Latin America,” forthcoming IMF Working Paper (Washington: International Monetary Fund).
- Organization for Cooperation and Economic Development, 2001, *Knowledge and Skills for Life: First Results from PISA 2000 -Publications 2000* (Paris: OECD).
- \_\_\_\_\_, 2004, *Learning for Tomorrow’s World: First Results from PISA 2003* (Paris: OECD).
- Pritchett, Lant, 2000, “Understanding Patterns of Economic Growth: Searching for Hills Among Plateaus, Mountains, and Plains,” *World Bank Economic Review*, May, pp. 221–250.

United Nations Educational, Scientific and Cultural Organization (UNESCO), 2007, *EFA Global Monitoring Report, Education for All: Strong Foundations* (Paris: UNESCO).

Roache, Shaun, 2007, "Public Investment and Growth in the Caribbean," forthcoming IMF Working Paper (Washington: International Monetary Fund).

Sahay, Ratna, David O. Robinson, and Paul Cashin, 2006, *The Caribbean: From Vulnerability to Sustained Growth* (Washington: International Monetary Fund).

Singh, Anoop, 2006, "Macroeconomic Volatility: The Policy Lessons From Latin America," IMF Working Paper 06/166 (Washington: International Monetary Fund).

\_\_\_\_\_, and Martin Cerisola, 2006, "Sustaining Latin America's Resurgence: Some Historical Perspectives," IMF Working Paper 06/252 (Washington: International Monetary Fund).

Vegas, Emiliana, and Jenny Petrow, forthcoming, *Raising Student Learning in Latin America: The Challenge for the 21st Century* (Washington: World Bank).

Villani, Mattias, 2005, "Inference in Vector Autoregressive Models with an Informative Prior on the Steady State," Working Paper No. 181, Sveriges Riksbank (Stockholm: Sveriges Riksbank).

Wacziarg, Romain, and Karen Horn Welch, 2003, "Trade Liberalization and Growth: New Evidence," NBER Working Paper No. 10152 (Cambridge, Massachusetts: National Bureau of Economic Research).

World Economic Forum, 2006, *Global Competitiveness Report 2006–2007* (Basingstoke, Hampshire, United Kingdom: Palgrave Macmillan).

Zettelmeyer, Jeromin, 2006, "Growth and Reforms in Latin America: A Survey of Facts and Arguments," IMF Working Paper 06/210 (Washington: International Monetary Fund).