

World Economic and Financial Surveys

# Regional Economic Outlook

## Western Hemisphere

Heating up in the South, Cooler in the North

.....



OCT 10

# World Economic and Financial Surveys

## Regional Economic Outlook

### Western Hemisphere

Heating Up in the South, Cooler in the North



OCT 10

©2010 International Monetary Fund

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

Regional economic outlook : Western Hemisphere : heating up in the south, cooler in the north  
— Washington, D.C. : International Monetary Fund, 2010.

p. ; cm.—(World economic and financial surveys, 0258-7440)

"October 10."

Includes bibliographical references.

ISBN 978-1-58906-953-4

1. Economic forecasting – North America. 2. Economic forecasting – Latin America. 3. Economic forecasting – Caribbean Area. 4. Economic development – North America. 5. Economic development – Latin America. 6. Economic development – Caribbean Area. 7. Credit – Latin America. 8. Business cycles – Latin America. 9. Financial institutions – State supervision – Latin America. I. International Monetary Fund. II. Series (World economic and financial surveys)

HC94 .R445 2010

Please send orders to:  
International Monetary Fund  
Publication Services  
PO Box 92780  
Washington, DC 20090, U.S.A.  
Tel.: (202) 623-7430 Fax: (202) 623-7201  
E-mail: [publications@imf.org](mailto:publications@imf.org)  
Internet: [www.imfbookstore.org](http://www.imfbookstore.org)

# Contents

<b>Preface</b>	<b>vii</b>
<b>Executive Summary</b>	<b>ix</b>
<b>1. Global, U.S., and Canadian Outlook</b>	<b>1</b>
The Global Backdrop—A Recovery Still Led by Emerging Economies	1
United States—Recovery Is Still Policy Driven	4
Canada—Strong Recovery with Elevated Risks	9
Implications for the Latin American and Caribbean Region	11
<b>2. Latin America and the Caribbean: Recent Developments and Outlook</b>	<b>13</b>
Growth to Normalize from Recent Highs	13
Wide Divergence in the Regional Outlook	14
Diverse Policy Challenges	18
South America—Ensuring a Soft Landing	19
Withdrawing Policy Stimulus Amid Ample Global Liquidity	19
Favorable Terms of Trade Continue to Offset Limited Market Access	28
Mexico and Central America—Recovery Gathers Strength Despite Headwinds from the United States	30
Mexico: Fiscal Consolidation Amid Weak Trading Partner Outlook	30
Central America: Rebuilding Policy Buffers	32
The Caribbean—Turning the Corner Amid Vast Challenges	34
Securing Growth	34
Reducing High Debt Burdens	35
Strengthening the Financial Sector	36
<b>3. Looking at the Last Credit Cycle to Better Manage the Next One</b>	<b>37</b>
An Overview of the Financial System	37
Learning from the Last Financial Cycle	39
How Big Was the Recent Cycle?	39
Shifts in Funding and Asset Structure	42
Differences in Bank Behavior: Foreign and Public Banks	45
Asset Quality	47
A Complementary Financing Role of Bond Markets	48
Policy Implications for the Ongoing Cycle	48
Using Macroprudential Regulation to Smooth out Financial Cycles	49
Keys to Financial Deepening in a Safe Manner	49

Increasing Crowding in, where Possible	52
Foreign and Public Banks	52
Strengthening Other Financial Markets	53
Final Remarks	54
<b>4. Macroprudential Tools in Latin America: A Primer</b>	<b>55</b>
Systemic Risk and Macroprudential Policy—An Ongoing International Debate	56
Recent Country Experiences with Macroprudential Tools	58
Macroprudential Policy Challenges in the Current Latin American Context	62
<b>5. A Cross-Country Perspective on Growth in the Caribbean: The Role of Tourism and Debt</b>	<b>67</b>
Growth Performance in the Last 40 Years	67
A First Pass: Growth Accounting	71
Does Tourism Help Growth?	72
The Drag from Debt	75
Conclusions	77
Appendix	78
<b>Western Hemisphere: Main Economic Indicators</b>	<b>80</b>
<b>Latin America and the Caribbean: Main Fiscal Indicators</b>	<b>81</b>
<b>References</b>	<b>82</b>
<b>New Publications from the Western Hemisphere Department</b>	<b>87</b>
<b>Boxes</b>	
1.1. Labor Market Adjustment in the United States	5
1.2. The Financing of U.S. Federal Budget Deficits—and Its Global Implications	7
1.3. Highlights of the 2010 U.S. Financial Regulatory Reform	10
2.1. Latin America’s Resilience to the European Financial Turmoil of 2010	15
2.2. The Outlook for Commodity Prices and the Role of China	16
2.3. Reserve Accumulation: Building Insurance or Leaning Against Appreciation Winds?	21
2.4. What Is Driving Financial Dedollarization in Latin America?	25
2.5. Domestic Demand Growth under Easy and Tight External Financial Conditions: The Role of Exchange Rate Flexibility	27
2.6. Real Spillovers from Brazil into Neighboring Countries	29
3.1. Structure of Private Sector Credit Market: Role of Foreign Banks	38
3.2. Government Bond Markets in Latin America	40

3.3. Financial Structure and Corporate Performance during the Global Crisis: Microevidence for Latin America	44
3.4. Public Banks as a Countercyclical Tool: Experience in Brazil, Chile, and Costa Rica	46
4.1. Dynamic Provisioning in Latin America	61
4.2. Reserve Requirements as a Macroprudential Tool in Latin America	63
5.1. Haiti's Growth Performance and Challenges	70
5.2. Outlook for Tourism in the Caribbean—Is Cuba a New Competitor?	73
5.3. Debt and Growth	74



## Preface

This October 2010 issue of the *Regional Economic Outlook: Western Hemisphere* (REO) was prepared by a team led by Steven Phillips and Luis Cubeddu under the overall direction of Nicolás Eyzaguirre and the guidance of Rodrigo Valdés. The team included Gustavo Adler, Jorge Iván Canales-Kriljenko, Leandro Medina, Rafael Romeu, Bennett Sutton, and Camilo E. Tovar. In addition, Marcelo Estevão, Oya Celasun, and Evridki Tsounta contributed to Chapter 1; Mercedes Vera Martin contributed to Chapter 4; Nita Thacker and Sebastián Acevedo contributed Chapter 5; and Mercedes García-Escribano, Andrea Maechler, Martin Sommer, Sebastián Sosa, and Aminata Touré contributed boxes. Martin Kaufman and Miguel Savastano provided especially helpful comments and guidance. Production assistance was provided by Patricia Attix, Luke Lee, Andrea Medina, and Breno Oliveira. Martha Bonilla and Joanne Blake of the External Relations Department edited the manuscript and coordinated the production. This report reflects developments through September 30, 2010.

*In memory of Kornelia Krajnyak (1967–2010). We will remember Kornelia as a superb economist, a person of great integrity, a generous mentor of others, and as our good friend.*





# Executive Summary

*The recovery of the global economy is continuing, mainly thanks to the sustained dynamism in many emerging economies. As expected, the recovery in key advanced economies is proceeding only slowly, as private demand is held back by the weakness of household and financial sector balance sheets. Notwithstanding large output gaps, governments in advanced economies face limits on their room to further stimulate demand through fiscal policy, as they must eventually turn to consolidate public finances in the face of large and growing public debt levels. Indeed some in Europe face market pressures and the need for substantial upfront fiscal action. In that context, policy interest rates in major reserve currency economies are likely to remain very low for quite some time, pushing private capital to the most attractive emerging economies and invigorating further their domestic demand dynamics. In fact many emerging and developing economies, which entered the global crisis with improved fundamentals, are showing strong growth largely based on domestic private consumption and investment. Their momentum, particularly in emerging Asian countries, is projected to be enough to keep world prices of commodities relatively high.*

*This mixed global environment has distinct implications for countries of the Latin American and Caribbean (LAC) region. The current global setting is stimulative for those LAC economies with greater real linkages to the more dynamic emerging economies, and for those likely to be most attractive to foreign investors. Most commodity-exporting countries of South America are facing highly favorable conditions—particularly those with stronger fundamentals, who have easiest access to external financing and stand to benefit the most from low global interest rates. On the other hand, the environment is least favorable for those with strong real linkages to the weaker-performing advanced economies. This is the situation for many countries in Central America, with close ties to the U.S. economy in terms of income from exports and workers' remittances, and much more so for the tourism-dependent economies of the Caribbean.*

*The outlook and challenges for LAC countries are shaped by these varying external influences, but also by the legacy of their past policies and their policy frameworks:*

- For many countries of South America—where growth recently has been even stronger than expected—policy challenges center on avoiding overstimulation of demand and credit, which would turn unsustainable. Although the strong recovery of domestic demand has been welcome in terms of bringing economies back to potential, its continued rapid expansion could bring overheating, inflation, and widening current account deficits. For these economies, it is essential to proceed with the timely removal of policy stimulus while ensuring that the monetary/fiscal policy mix does not exacerbate capital inflows. In most cases, fiscal policy should be the first line of immediate action, with emphasis on slowing the growth of public expenditure (and in some cases limiting the quasi-fiscal activities of public banks), with monetary policy playing a following role

(clearly, policy interest rates must in time transition to neutral levels, but they can be raised more gradually if fiscal policy is normalized first). Those commodity-exporting countries with a history of procyclical expenditure policy responses, and those with little market confidence in their finances, should seize the opportunity of today's high commodity prices to build policy buffers and reduce net public debt.

- In Mexico also, the recovery recently has been faster than expected, especially on the back of booming exports to the United States, though some moderation is expected in the future. With falling inflation and expectations well anchored, monetary policy has some room for maneuver, while fiscal policy is appropriately focused on consolidation, given medium term risks for budget revenues from uncertainties over future oil production. In this regard, the authorities' plans for fiscal consolidation in 2011 are appropriate.
- Growth in Central American countries is likely to be positive but moderate. As external conditions have acted to limit potential output, output gaps are modest, and so the usefulness of applying further stimulus would be limited. Countries would do well to rebuild buffers, to assure fiscal space for the future. Some need to continue strengthening their policy frameworks to be able to effectively use their independent monetary policy as a countercyclical tool in the future. Structural changes, rather than demand policies, will be key to boosting growth and competitiveness.
- For many countries of the Caribbean, recovery has begun only recently, and growth will be limited by the only gradual pickup of external demand, especially for the tourism-intensive countries. Very high public debt levels allow no space for fiscal stimulus. Rather than new stimulus, more benefit would come from pursuing steady fiscal consolidation—indeed, one chapter of this *Regional Economic Outlook: Western Hemisphere* shows that high debt itself is an important obstacle to growth in many of these countries.

*The need for cautious policies is heightened by global financial conditions that are now exceptionally "easy"—and potentially highly stimulative—for many countries in the region. Sovereigns with stronger fundamentals can now borrow at near-record low cost. Such easy conditions create important opportunities for debt management operations, but experience shows that they can also stimulate booms in demand and credit and the accumulation of risks. As economic slack and easy monetary policy in the major advanced economies will persist for some time, so too will the associated risks for other economies. Better outcomes are likely to be achieved with a combination of policy responses, including exchange rate flexibility to avoid attracting more inflows, and fiscal tightening to take a direct bite out of excessive domestic demand, complemented by careful regulation and supervision of domestic financial developments, with attention also to cross-border links.*

*This edition of the Regional Economic Outlook: Western Hemisphere includes a special focus on financial issues:*

- *Chapter 3 examines and draws lessons from the recent credit cycle in Latin America—the rapid growth of bank credit that ended abruptly with the global crisis, and which is resuming again in some countries. The region’s financial systems were generally resilient to the crisis, as reforms over the past decade aimed at improving oversight and regulation paid off. Unlike some economies in Europe, Latin American banks maintained low leverage ratios and asset quality was not impaired as they did not purchase toxic assets. Despite this relative success, the goal of avoiding financial crises, as well as undesirably high procyclicality of credit, remains as challenging as ever.*
- *Chapter 4 discusses the importance of considering “macroprudential” regulatory policies to complement—but not substitute for—traditional macroeconomic tools, particularly in the current context of easy external financing conditions. Following the recent global financial crisis, a broad consensus is emerging that financial regulation and supervision must move beyond looking at the stability and solvency of individual financial institutions, in order to come to grips with problems of systemic risks, interconnectedness, and excessive procyclicality. While discussions on precisely what this means in practice are ongoing, Chapter 4 offers a timely review of the issues and pending questions, and documents the recent experience with such policies in the region and beyond.*



# 1. Global, U.S., and Canadian Outlook

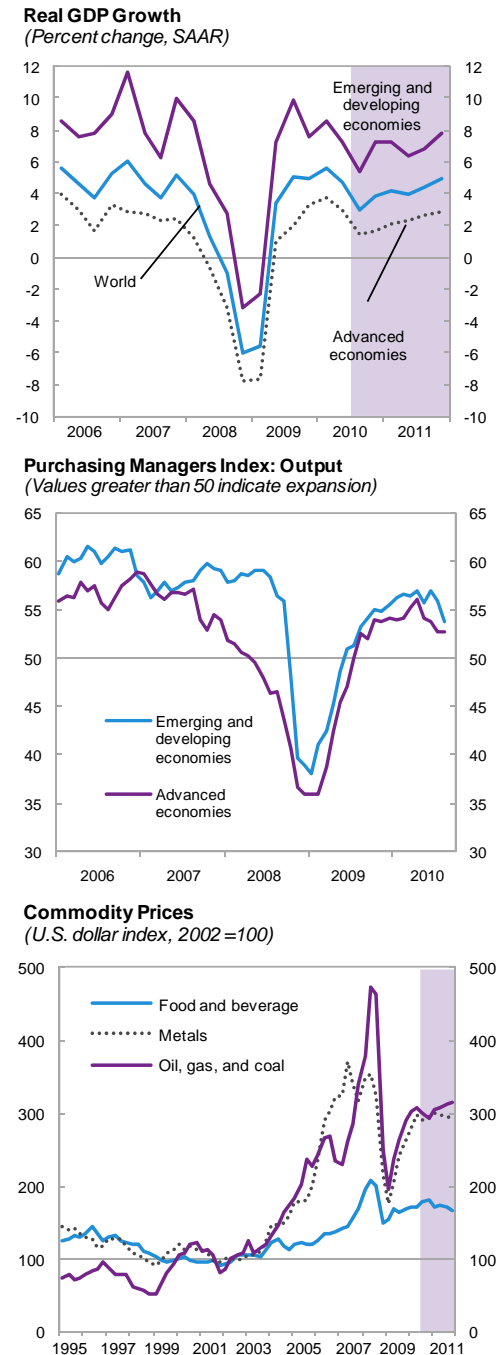
The global economic recovery is proceeding, although signs of some moderation of growth are emerging, especially in advanced economies. The upswing in advanced economies is still muted amid balance sheet weaknesses in key sectors, and uncertainties persist over the strength of private demand as fiscal policy support is withdrawn. In contrast, many emerging economies are experiencing vigorous growth buoyed by domestic demand, supported by easy external financing conditions as well as their own remaining policy stimulus. In that context, the prospects of a sustained—though not permanent—period of low global interest rates will create challenges for emerging economies. Commodity prices are expected to remain robust, underpinned by continued strong demand from emerging Asia.

## The Global Backdrop—A Recovery Still Led by Emerging Economies

The global recovery is proceeding, despite new bouts of market volatility and recent setbacks to growth in some countries (Figure 1.1). The world economy expanded by about 5 percent during the first half of 2010, underpinned by continued policy support and a stronger-than-anticipated recovery in emerging economies. Forceful policy actions restored market stability and lowered tail risks following worrying setbacks earlier in the year precipitated by the European sovereign debt crisis. Even so, there are increasing signs that economic activity is moderating, especially in advanced economies. Although part of this moderation is related to the natural unwinding of the inventory cycle, uncertainties have increased about the strength of the recovery in advanced economies, particularly as the policy stimulus begins to wane. A self-sustaining recovery of private demand has yet to take hold in advanced economies,

Note: This chapter was prepared by Luis Cubeddu and Marcello Estevão with contributions from Gustavo Adler, Oya Celasun, and Evridki Tsounta.

Figure 1.1. Global recovery is being led by strong growth in emerging economies, with commodity prices remaining high.

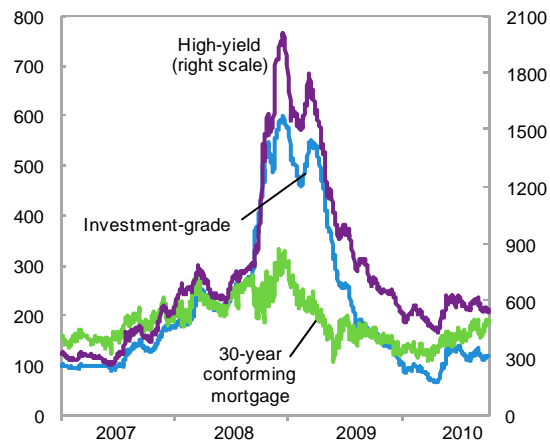


Sources: Bloomberg; Haver Analytics; and IMF staff calculations.

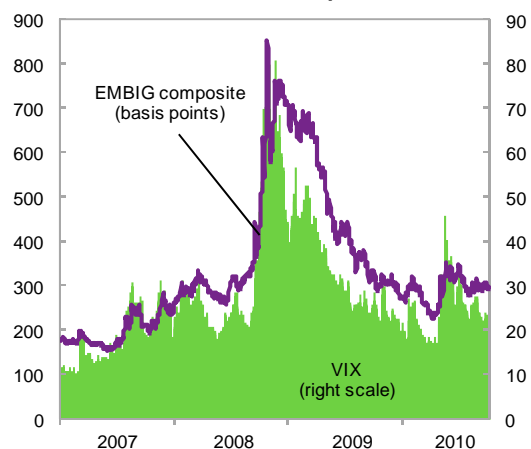
**Figure 1.2. Financial market conditions have stabilized, following short bouts of volatility related to problems in southern Europe.**

**United States: Selected Spreads**

(Spread to 10-year Treasury bills; basis points)

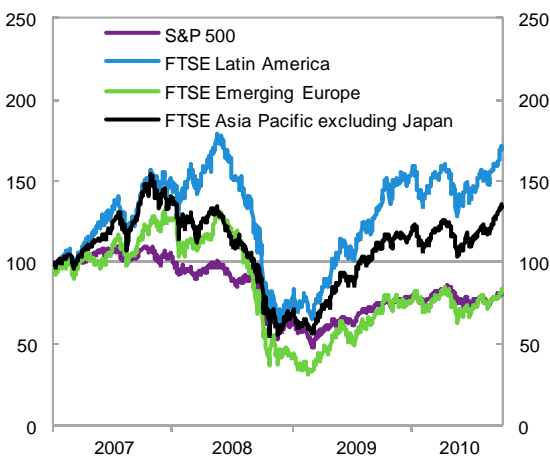


**Global Risk Aversion and EM Spreads**



**Equity Prices**

(January 4, 2007=100)



Sources: Bloomberg; and IMF staff calculations.

reflecting continued weaknesses in household and financial sector balance sheets. Fixed capital investment has started to expand again on the back of strong cash flows of firms. However, consumer confidence remains frail, largely reflecting poor employment prospects, which in the case of the United States are aggravated by weaknesses in the housing market. Despite forceful responses by European policymakers, financing conditions in some European countries remain vulnerable to funding pressures, while Japan's export-led recovery continues to be affected by weak U.S. demand and spells of yen appreciation.

The world recovery continues to be driven by strong growth in emerging economies, which expanded by more than 7½ percent during the first half of the year (compared with 2½ percent in all of 2009), with Asia in the lead together with a number of Latin American economies. Growth in these economies appears increasingly self-sustained on the back of robust domestic demand, just as the push from inventory rebuilding and the policy stimulus begins to lose steam. Capital inflows to emerging economies with good fundamentals remain strong, partly in response to easy monetary conditions in advanced economies and improving risk appetite (Figure 1.2).

Commodity prices have broadly stabilized after their strong rally in late 2009, sustained by strong demand from Asia and the lingering effects of tight markets before the global crisis. Looking forward, metal and oil prices are expected to remain near current levels—quite high in historical perspective—as there is just enough spare capacity in the extractive industries to meet growing demands in the period ahead.<sup>1</sup> The recent surge in wheat prices, however, is expected to be short-lived.

In this context, IMF staff projects world growth in 2010 to exceed 4½ percent (about ½ percent higher than projected in the April 2010 *Regional Economic Outlook: Western Hemisphere*), which is

<sup>1</sup> For a more detailed discussion of the commodity price outlook see *World Economic Outlook*, September 2010.

consistent with a modest slowing of activity during the second half of this year. Looking further ahead, global growth is forecast to reach 4¼ percent in 2011, with output of emerging economies expanding at roughly 6½ percent. Growth in advanced economies is projected only at about 2¼ percent, which is low considering the depth of their earlier recession and will imply a continued substantial gap between actual and potential output.

Risks to the global outlook are tilted to the downside, given current dynamics in advanced economies. A further softening of real estate prices could undercut household and financial sector balance sheets, undermining the recovery in advanced economies. Another risk is that a further drop in confidence in the soundness of government finances in some European countries could trigger an adverse feedback loop between the sovereign and financial sectors, inflicting major damage to their recovery, and further constraining their fiscal space.

Such scenarios of softer growth in advanced economies would mean, all things constant, somewhat lower growth in emerging and developing economies according to the strength of their real and financial linkages. However, for many economies, the strength and momentum of their own domestic demand are likely to dominate their near-term growth prospects if advanced economies do not suffer major setbacks.

Overall, the transition to healthy global growth in advanced countries is likely to be a protracted process. The dynamics of the recovery in advanced economies needs to change if the initial rebound is to morph into a sustained upswing. Demand needs to shift over time from public to private sources, given the widespread need to roll back large fiscal deficits, and financial institutions and markets need more repair and reform before credit can meaningfully support the recovery. Demand also needs to transit from deficit to surplus countries, with the implied exchange rate movement.

In this context, monetary policy should stay highly supportive in most of the advanced

economies. More broadly, further progress is required in the healing of the capital base of financial intermediaries and greater clarity is needed on the details and timing of the full range of regulatory reforms. These would help financial markets and institutions provide more support, on a sounder basis, to consumption and investment.

Meanwhile, fiscal policy in many advanced economies should generally remain supportive through end-2010, and start to consolidate in 2011. The most urgent challenge is to put in place credible fiscal consolidation plans to achieve sustainable fiscal positions before the end of the next decade. These would have to include reforms to rapidly growing spending programs and entitlements, and broadening of tax bases. If lower-than-expected growth were to materialize, monetary policy should remain the first line of defense. Should growth soften considerably, some slowing in the pace of fiscal consolidation would be appropriate as long as credible plans for medium-term fiscal adjustment are in place.

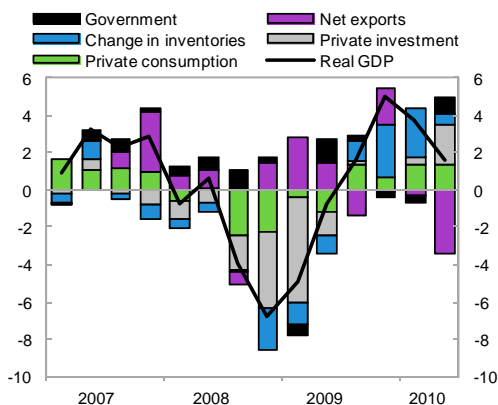
Policy challenges for many emerging economies are different, as they will need to cope with the effects of relative success—including avoiding an eventual overheating or asset bubbles. Maintaining stability will depend on their ability to deal with surges in capital inflows in a context in which macroeconomic policies have to transit from earlier stimulus toward a neutral stance and eventual contractionary bias.

The timing and sequencing of exit from monetary and fiscal stimulus in emerging economies will vary according to country circumstances. Countries facing overheating and complications from capital inflows should withdraw fiscal stimulus quicker and rebuild policy buffers. Traditional tools may need to be supplemented, though not substituted, by macro- and microprudential policies to meet the needs arising from particular domestic circumstances. On the other hand, should a large setback to world growth materialize, supportive policies may have to be redeployed.

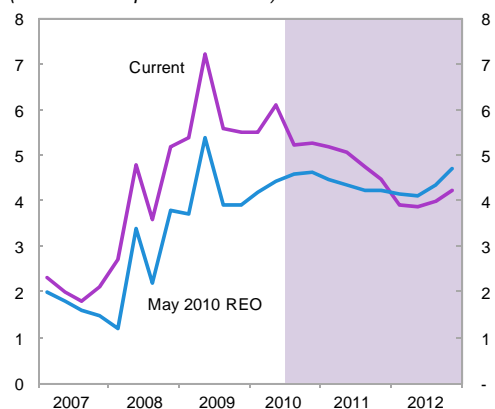


**Figure 1.3. The U.S. recovery is losing strength, with the unwinding of the inventory cycle and weakness in private consumption.**

**United States: Contributions to Real GDP Growth**  
(Percentage points, SAAR)

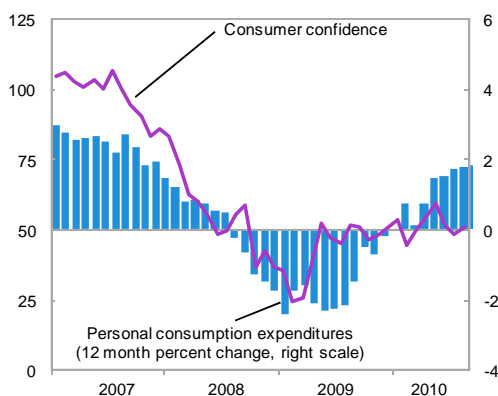


**United States: Household Saving Rate<sup>1</sup>**  
(Percent of disposable income)



<sup>1</sup> Historical variations reflect annual revision of NIPA accounts by the Bureau of Economic Analysis.

**United States: Consumer Confidence**  
(Index January 2005=100)



Sources: U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; and IMF staff calculations.

## United States—Recovery Is Still Policy Driven

Thanks to a massive and sustained policy response, the U.S. economy has continued to recover from the worst recession since the Great Depression. Near-zero monetary policy rates and a doubling of the Federal Reserve’s balance sheet provided liquidity support to the economy. Fiscal stimulus measures added more than 1 percent to growth in 2009, with a smaller effect expected in 2010. Capital injections in major financial institutions, emergency lending, stress tests, and guarantees stabilized financial conditions and broke the adverse macrofinancial spiral. As a result, stimulus-sensitive components of demand bounced back, including auto and house purchases which were beneficiaries of targeted subsidies. The inventory adjustment cycle began to turn around in mid-2009, contributing massively to the recovery.

However, and as expected, the recovery has been modest by historical standards; a fact reinforced by revised national accounts showing that the recession was deeper and the recovery weaker than first estimated. Unlike the usual “V-shaped” episodes that characterized past U.S. business cycles, the ongoing recovery has been tame, with consumer spending particularly lackluster. Business investment levels are well below precrisis levels, even though investment recovered briskly in the first half of 2010, and residential construction remains in the doldrums. Persistently high unemployment rates and long unemployment duration are key factors in the weak recovery through their effects on private consumption and credit household risk (Figure 1.3). Moreover, the depressing effects emanating from the labor market will likely be more persistent than usual, as large sectoral and geographical skill mismatches are estimated to have interacted with weak housing conditions to raise structural unemployment (Box 1.1).

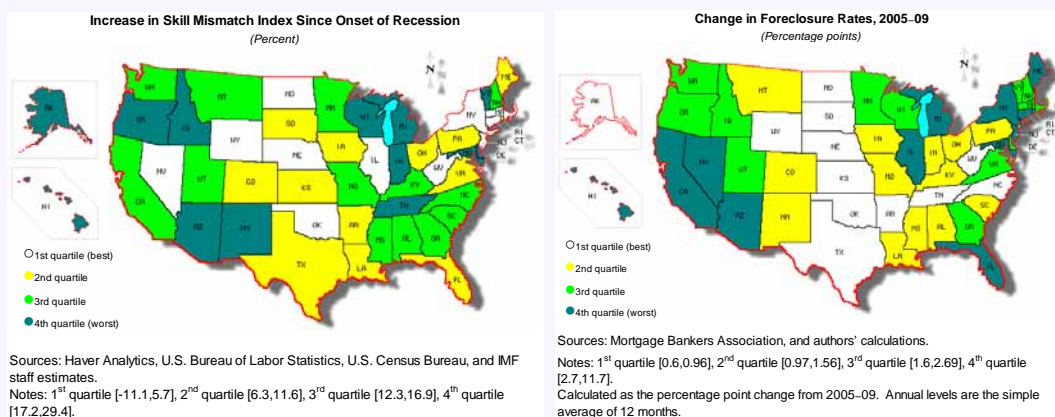
### Box 1.1. Labor Market Adjustment in the United States<sup>1</sup>

Historically, the sharp contraction in employment observed during the recent recession would be followed by a sharp recovery in coming years. However, jobs have lagged economic growth to a greater extent than usual in the last two complete recession cycles in the United States, giving rise to what has come to be known as “jobless recoveries.” An important question is whether the current recovery will also have little job creation.

#### Several factors are playing a role in determining the pace of employment growth:

- **Credit recovery:** The recent recession was triggered by a financial shock unprecedented since the Great Depression that has hobbled credit. In general, strong and sustained U.S. recoveries usually come in the context of rapid rebounds in the credit cycle; however, credit conditions in the current recovery are likely to remain impaired as banks and households repair their balance sheets.
- **Unemployment duration:** As was the case in the recessions of the early 1990s and early 2000s the current recession generated a surge in permanent layoffs and a large drag in labor force participation. Going beyond the experience of the past two recessions, the length of unemployment spells has reached highs not seen previously. Extensions of unemployment insurance benefits (although needed to support the unemployed) may affect the intensity of job search, limiting employment growth.
- **Labor hoarding:** Involuntary part-time employment surged during the crisis, implying that firms can get more labor during the recovery partly by raising hours for existing employees, while not hiring new workers.

**The speed of employment adjustment may also be hampered by reduced labor mobility and mismatches between the supply and the demand for labor skills.** Estevão and Tsounta (2010) show that skill mismatches resulting from regional and industry-specific shocks have interacted with weak housing conditions, boosting the equilibrium unemployment rate by about 1½ percentage points by the end of 2009. The negative interaction between skill mismatches and housing conditions are probably related to the reduced labor mobility since the start of the crisis, which could be explained by the resulting capital losses an unemployed individual would suffer from trading a house in a depressed state for another in a more prosperous region.<sup>1</sup>



Note: This box was prepared by Marcello Estevão.

<sup>1</sup> Nevada, Florida, and California were hit particularly hard by the housing bubble (accounting for more than half of all foreclosures); Ohio and Michigan suffered from the manufacturing collapse; and New York hosted the restructuring of financial institutions. Lower interstate labor mobility is also documented in Ferreira, Gyourko, and Tracy (2010).

**Box 1.1 (concluded)**

**Other factors may help employment recovery.** Batini, Estevão, and Keim (2010) find that a surge in uncertainty could help explain the larger-than-usual reaction of employment to output declines during the recent recession, and that the labor intensity of output is sensitive to the relative path of labor and capital costs. Hence, looking ahead, reduced uncertainties about the outlook could boost hiring, while credit constraints could affect investment more severely than hiring as the former tends to be lumpier. Moreover, the slow wage growth expected in the near term, given high unemployment and government programs to subsidize hiring, could also help boost the labor intensity of output.

**Despite the existence of substantial cyclical unemployment in the economy, a possible increase in equilibrium unemployment rates underscores the role of targeted labor and housing policies to reduce joblessness.** Effective measures to alleviate housing market strains, including further supporting loan modifications, could facilitate labor mobility, thus helping to clear state-level labor markets. Targeted policies aiming at retraining the unemployed and hiring the long-term unemployed (maybe through expanding the subsidies to net hiring adopted in March 2010) could reduce mismatches between supply and demand for labor skills and structural unemployment rates. Both interventions would add to the ongoing macroeconomic stimulus by allowing the cyclical recovery to make deeper inroads on unemployment rates.

Looking ahead, balance-sheet strains in the household, financial, and public sectors pose headwinds to growth. The household saving rate has already risen to about 6 percent in the second quarter of 2010, and household deleveraging and weak labor markets point to continued lackluster consumption. Larger financial institutions have managed to rebuild capital ratios, in part by shedding risk, but protracted effects of the crisis on the quality of existing loans will maintain pressures on institutions' balance sheets. The federal debt held by the public nearly doubled between 2007 and 2010 to about 65 percent of GDP—the highest since 1950—raising the need for decisive fiscal consolidation.<sup>2</sup>

Thus, the U.S. outlook is for a continued gradual recovery, with contained inflation. The economy is projected to expand by 2.6 percent in 2010—somewhat lower than the 3.1 percent projected in the last *Regional Economic Outlook: Western Hemisphere*. Revisions reflect stronger-than-anticipated imports during the second quarter and weaker housing outlook (following

declines in house sales after the expiry of a homebuyer tax credit). Growth is projected to reach 2.3 percent in 2011, as the output gap narrows, the inventory cycle matures, and the fiscal stimulus fades. The unemployment rate is likely to decline gradually; this along with substantial excess capacity in product markets will keep a lid on inflation.

Risks around this baseline scenario are tilted to the downside. The backlog in mortgage foreclosures could push down housing prices. Possible further stress in commercial real estate would hurt small and medium-sized banks, thus crimping credit provision to firms. Both factors could trigger negative macrofinancial feedback loops. Very large economic slack feeds the risk of persistent deflation, although this is still only a tail risk given stable medium-term inflation expectations. On the upside, a brisk recovery in confidence could release pent-up consumption and investment from current very low levels. Looking into the medium term, risks associated with higher interest rates are growing, owing to concerns over how fiscal balances will affect borrowing costs once private demand recovers (Box 1.2).

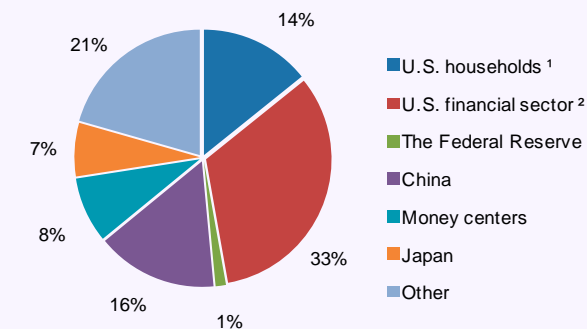
<sup>2</sup> Balanced-budget requirements have limited state-level borrowing but have forced sharp expenditure cuts that are projected to continue in the next couple of years.

### Box 1.2. The Financing of U.S. Federal Budget Deficits—and Its Global Implications

**Despite rapidly rising public debt, long-term bond yields in the United States recently have been restrained owing to cyclical and safe-haven factors.** Higher private saving, weak corporate investment, subdued inflation, and a flight to the relative safety of U.S. government bonds amid financial market strains in Europe have all contributed to keep interest rates low. Recent Federal Reserve purchases of Treasury debt (and closely substitutable debt of Government Sponsored Enterprises) also have helped. In the future, however, given the large expected debt issuances, financing conditions are likely to tighten as private investment recovers and safe-haven flows abate.

**An analysis of investment flows suggests that, in the future, the bulk of Treasury bond purchases will have to be made by domestic investors.** Foreign purchases will be dampened by unwinding safe-haven flows. In addition, *World Economic Outlook* (WEO) projections of reserve accumulation in emerging markets suggest limits on the size of new purchases by official holders. In those circumstances, domestic holders would have to pick up the slack, implying a significant shift in their portfolio allocations. Indeed, absent such a reallocation, the projected supply of Treasury debt for 2015 would exceed estimated demand (calculated on the basis of WEO forecasts of key variables) by a significant margin—about 30 percent of GDP, similar in size to the projected increase in the debt stock between 2010 and 2015.

Purchases of U.S. Treasury Debt in 2008–09



Sources: U.S. Treasury TIC data; Board of Governors of the Federal Reserve, *Flow of Funds of the United States*; and IMF staff calculations.

<sup>1</sup> Includes hedge funds and nonprofits.

<sup>2</sup> Banks, mutual funds, pension funds, and insurers.

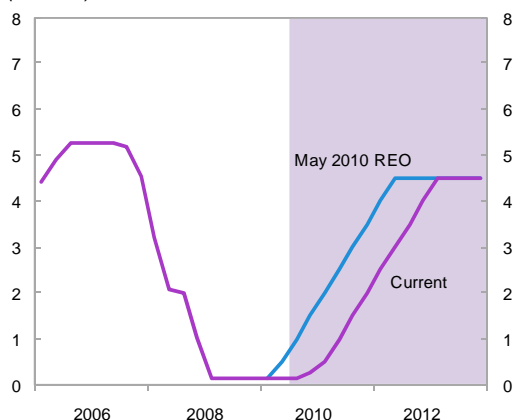
**Over the medium term, higher real interest rates will likely be necessary to facilitate the portfolio shifts.** Assuming—in line with the empirical literature—that one percentage point of GDP in excess U.S. federal debt supply increases long-term bond yields by 2–5 basis points, the debt effect could raise long-term interest rates by 60–150 basis points in the medium term (see also Laubach, 2009). Adding this effect to the yield increases due to gradual normalization of monetary policy and macroeconomic conditions leads to a projection for the 10-year bond yield of slightly above 6 percent by 2015. That said, the near-term movements in yields are highly uncertain as U.S. Treasury debt continues to benefit from its safe-haven status.

**What would this mean for borrowing costs for emerging markets?** IMF staff research on the relationship between emerging market sovereign bond spreads and U.S. federal government bond yields suggests that a 100-basis points increase in the long-term U.S. federal government bond yield would add about 35 basis points to emerging market bond spreads (see Celasun, 2009). The increase in the U.S. federal debt-to-GDP ratio (by about 30 percent of GDP from current levels) would also have a further direct impact of about 50 basis points on emerging market sovereign spreads. As a result of these effects on emerging market spreads and the underlying Treasury long-term bond yields, the average yield on emerging market sovereign debt would increase by about 185 basis points, assuming IMF staff's medium-term projections for the U.S. federal debt. Lower public debt or enhanced growth prospects in emerging market countries relative to those in the United States would have a tendency to offset these effects.

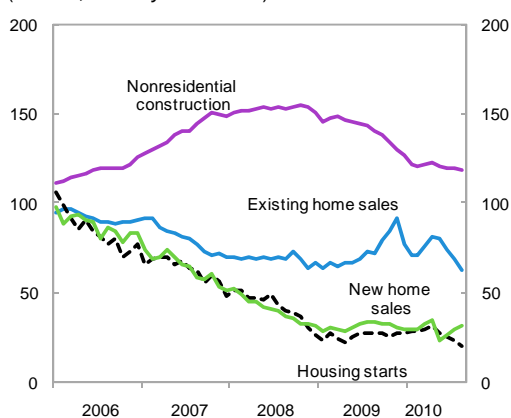
Note: This box was prepared by Oya Celasun and Martin Sommer based on Celasun and Sommer (2010).

**Figure 1.4. Monetary conditions are projected to remain easy for a longer period, amid weak housing and employment conditions.**

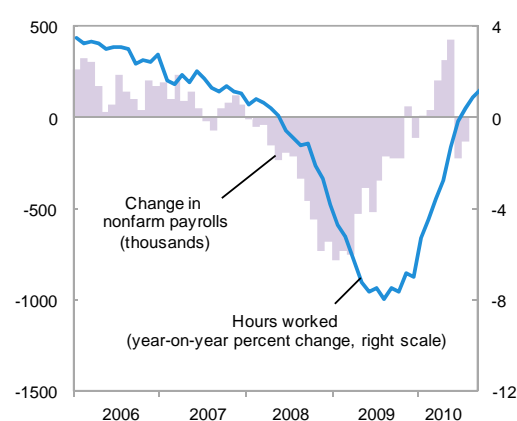
**United States: Fed Funds Rate Outlook (Percent)**



**United States: Housing Market Indicators (Indices, January 2006 = 100)**



**United States: Nonfarm Payrolls and Hours Worked**



Sources: Haver Analytics; National Association of Relators; U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; U.S. Census Bureau; and IMF staff calculations.

Given the relatively weak outlook, it would be advisable for policies to maintain a supportive tilt for some time (Figure 1.4). The Federal Reserve has continued to elaborate its exit strategy while signaling exceptionally low policy rates for an extended period. It has also recently stated that it would provide further monetary accommodation if needed to support the recovery and bring inflation, over time, to levels consistent with its mandate. Thus, market participants expect no significant monetary policy rate tightening until end-2011. The 2011 budget proposal includes additional short-term support to the economy, although it projects some fiscal withdrawal next year. If downside risks to growth were to materialize, immediate actions to reduce the deficit could reasonably be backloaded, as long as credible plans for medium-term fiscal adjustment are in place. Under such a scenario, policies to alleviate structural problems in the housing and labor markets (Box 1.1) could be considered within the budget framework.

Beyond the near term, the main policy challenges for the United States are getting its fiscal imbalances under control and implementing the recent reform of financial supervision and regulation. The draft FY2011 budget proposes measures aimed at reducing the Federal fiscal deficit to 4 percent of GDP by the middle of the decade, which is not enough to stabilize the debt-to-GDP ratio even under more optimistic growth assumptions.<sup>3</sup> A new Fiscal Commission has been charged with recommending measures to reduce the Federal deficit by an additional 1 percent of GDP, although under the staff assumptions a larger effort would be needed to stabilize the debt ratio over the medium term. In the long term, moderation of health care cost inflation is needed to limit government transfers to Medicare and Medicaid; this raises the profile of the newly created Independent Payments

<sup>3</sup> Measures to reduce the federal deficit include (among others): (i) the expiration of the 2001 and 2003 tax cuts for upper-income taxpayers; (ii) broadening of the corporate tax base; and (iii) savings from a freeze on non-security discretionary spending. Significant savings are also expected from scaled-down overseas military operations.

Advisory Board, whose cost-control recommendations would be directly implemented unless voted down in Congress.

The recent reform of financial supervision and regulation in the United States, if well implemented, could be a major step toward addressing weaknesses exposed by the 2008 crisis, while bolstering market discipline and stability through better transparency and less complexity (Box 1.3).

## Canada—Strong Recovery with Elevated Risks

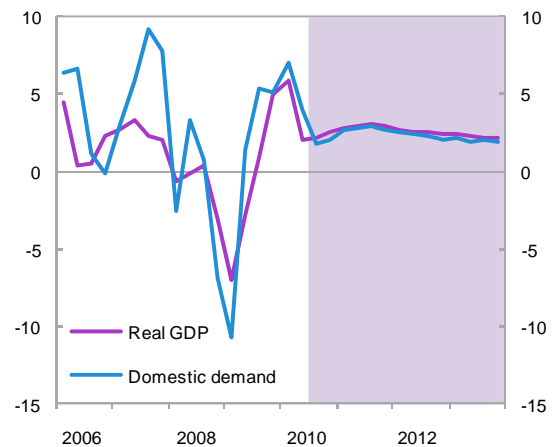
The Canadian economy has emerged strongly from the recession since the second half of 2009, driven by robust domestic demand (Figure 1.5). This turnaround, with GDP already back to its precrisis level, reflected a decisive policy response to the crisis and strong fundamentals, including a healthy financial sector.

Among the main policy measures, the recovery was boosted by a fiscal stimulus, which added about 0.6 percentage point to growth in 2009, and emergency liquidity measures by the federal government and the central bank, including through the purchase of insured mortgages and an all-time-low policy rate for an extended period.

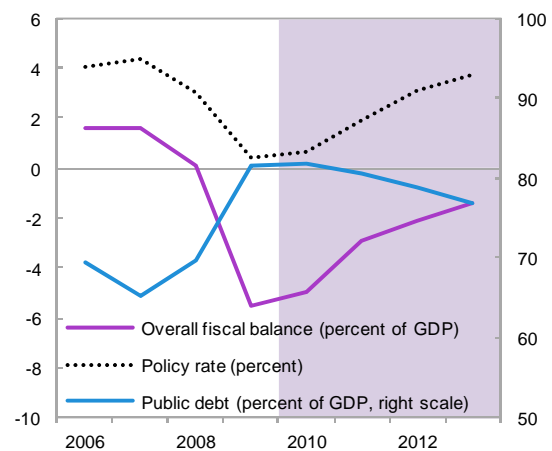
Compared with the United States, a sounder banking system and a more resilient household net worth (down about 1 percent peak-to-trough during the crisis) underpinned a stronger labor market rebound—with employment already back to precrisis levels—and an impressive recovery in consumption spending. Similarly, an upturn in residential investment supported growth, with housing sales reaching historic highs at end-2009, while investment in machinery and equipment benefited from a less leveraged corporate sector and sharp increases in commodity prices. As was also the case in the United States, a strong inventory cycle emerged in early 2010, following sharp drawdowns in early 2009. Meanwhile, financial conditions have remained favorable, reflecting low funding costs and the absence of financial system strains evident in other countries. At the same time, the strong Canadian dollar continues to be a drag on growth.

**Figure 1.5. Canada's growth is rebounding on the back of strong domestic demand and stimulative policies.**

**Canada: Real GDP and Domestic Demand Growth (Percent change, SAAR)**



**Canada: Fiscal and Monetary Policy**



Sources: Bloomberg; Haver Analytics; and IMF staff calculations.

As in the United States, output growth in Canada seems to be moderating. Following very strong growth in late 2009 and early 2010, recent data suggest a slowdown in the pace of expansion—although above potential—as external demand eases, policy stimulus is withdrawn, inventory accumulation dissipates, the housing market cools down, and consumers deleverage. IMF staff expects a continued gradual recovery, with inflation contained and steadily improving labor market conditions. Canadian real GDP is projected to expand by about 3 percent in 2010—in line with



### Box 1.3. Highlights of the 2010 U.S. Financial Regulatory Reform

In July 2010, President Obama signed into law a comprehensive package of reforms that lays the foundation for a stronger, more resilient financial system. Even if it missed the opportunity for bolder streamlining of the regulatory architecture, the Financial Reform Act is far reaching and could have significant cross-border implications, given strong interlinkages with the global financial system. The new legislation addresses weaknesses in supervision and regulation exposed by the crisis, and is expected to bolster market discipline and stability through better transparency and less complexity, if well implemented.

#### Key features of the new legislation:

- **Stronger systemic oversight.** The Act creates a fourteen-member Financial Stability Oversight Council (FSOC), which is chaired by the Treasury Secretary and empowered to: (i) recommend changes in prudential requirements; (ii) designate financial firms, activities, or market utilities as systemic; and (iii) approve the breakup of large and complex companies if they threaten financial stability. Its work is to be supported by a new Office of Financial Research (OFR) in the Treasury.
- **Redesign of the regulatory architecture.** The Act abolishes the Office of Thrift Supervision but creates four new entities (in addition to the FSOC and OFR, it creates an independent Consumer Financial Protection Bureau and a Federal Insurance Office). The Federal Reserve retains supervision over Bank Holding Companies (BHCs) and member state-chartered banks, and is responsible for designating systemically important nonbank financial companies.
- **Stronger microprudential regulation and supervision.** New capital and leverage standards will be issued for all BHCs, bank subsidiaries, and systemically important nonbank financial companies. Systemic firms will be held to especially stringent standards, ranging from “living wills” to tighter prudential requirements. Riskier activities, such as proprietary trading and sponsoring or investing in private equity and hedge funds, will be curtailed.
- **Regulated derivative markets.** Structured products will be subject to stricter disclosure and transparency requirements and originators of uninsured mortgage-backed securities will be subject to an additional 5 percent “skin in the game” requirement. Higher capital requirements will be imposed on companies with large swap positions, whereas over-the-counter swaps will go through third-party central clearing and exchange trading, with data collected for surveillance purposes.
- **Stronger crisis management, resolution, and systemic liquidity arrangements.** The Act gives authority for the liquidation of failing systemically important financial firms, the cost of which is not borne by taxpayers. The Federal Deposit Insurance Corporation (FDIC) deposit insurance coverage is raised to \$250,000 per depositor, funded by a broader assessment base and a higher FDIC statutory minimum reserve ratio. The Federal Reserve is limited to provide system-wide liquidity support for solvent firms.

#### Implementation challenges:

- **Rule making and regulatory complexity.** The implementation of the Act calls for extensive rules writing and reports, which will require close cooperation both domestically and with G-20 and other international initiatives to avoid mutually inconsistent rules that could widen the scope for regulatory arbitrage. The legislation’s failure to streamline the complex U.S. regulatory system, as recommended in the U.S. Financial System Stability Assessment (FSAP), will complicate coordination via the FSOC.

Note: This box was prepared by Andrea Maechler.

- **Cross-border coordination.** Many of the reforms are also being considered by the international standard setters, the G-20, the Financial Stability Board, and others. Every effort should be taken to coordinate these efforts internationally to ensure a “race to the top” rather than pushing transactions to less stringent jurisdictions. Continued international efforts will also be needed for dealing with the resolution of global financial conglomerates. The “living wills” required by the Act could help identify tensions with legal frameworks in foreign jurisdictions and catalyze the preparation of coordinated ex ante crisis management frameworks.
- **Housing.** The Act leaves untouched the housing government-sponsored enterprises, and action on this front is critically important given their weakened financial situations.

that projected in the last *Regional Economic Outlook: Western Hemisphere*—and by about 2¾ percent in 2011. Domestic demand is expected to remain the main driver of growth, even amid gradual dissipation of fiscal stimulus. Inflation pressures are expected to remain muted against a backdrop of a still sizable output gap, despite some near-term price effects from the harmonization of federal and provincial sales taxes. In view of this stronger outlook, the Bank of Canada was the first G-7 central bank to raise interest rates this summer.

Risks in Canada are also tilted to the downside, mostly stemming from possible external shocks, although domestic factors also pose some risk. Globally, and particularly in the United States—Canada’s main trading and financial partner—private demand might be insufficient to sustain the recovery amid stubbornly high unemployment rates. Domestic downside risks include a larger-than-expected downturn in the housing market (in the context of a highly indebted household sector), as real estate prices in regions remain somewhat above levels implied by fundamentals.

## Implications for the Latin American and Caribbean Region

The global recovery is spurring exports from Latin America, with further buoyancy added for commodities exporters. Following a steep collapse of global trade, trade flows started to pick up in mid-2009, and a continued recovery in 2010–11 will remain a pull factor, particularly for more trade-oriented economies and those with stronger trade linkages with Asia.

Although the weak recovery in advanced economies will weigh on global demand, growth in emerging economies is likely to be strong enough to continue supporting trade and commodity prices and favoring Latin American and Caribbean commodity exporters (see also Box 2.2).

Weak employment growth prospects in the United States and Europe will further restrain the recovery in tourism, constraining the pace of recovery in tourism-dependent economies. At the same time, weakness in the U.S. housing market and tepid construction activity suggest that construction employment will remain subdued. Given the sector’s strong links with workers’ remittances—most clearly for the case of Mexico and Central America—remittances may recover only slowly from current depressed levels.

On the positive side, the United States will contribute for some time to the ongoing financial push under way as a number of countries in the region faces fluid access to international financial markets. The expected low federal funds rate (likely to persist for some time), weak domestic credit demand in the United States, and improving risk appetite—combined with the attractive risk profile of some Latin American markets—will continue to drive private capital to the region. This poses important policy challenges, as discussed in the following chapter.

Not soon, but perhaps over the medium term, increased public indebtedness in the United States may also put sizable pressure on borrowing costs in Latin America, though this is likely to occur only after private demand in the United States and other advanced economies regains its momentum.





## 2. Latin America and the Caribbean: Recent Developments and Outlook

The economic recovery in the region has been stronger than previously anticipated for 2010, but also more divergent across countries. Growth in economies more advanced in the recovery—mainly in South America—is expected to moderate somewhat as the inventory cycle matures and policy stimulus is unwound. Although a more dampened outlook for advanced economies may create headwinds, strong commodity prices and a prolonged period of easy external financing conditions will continue to support domestic demand and growth—while also posing challenges in ensuring a moderation in domestic demand to avoid overheating. For countries with stronger linkages to the United States and other advanced economies, challenges are shaped by continued sluggish growth and often limited policy space.

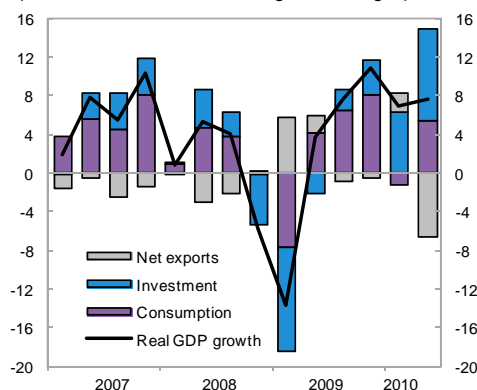
### Growth to Normalize from Recent Highs

After posting impressive gains in the first half of 2010, economic growth in the Latin America and Caribbean (LAC) region is projected to moderate somewhat during the remainder of this year, but remain above trend. For the region as a whole, growth in the first six months of 2010 reached 7¼ percent (saar), driven by a strong rebound in private consumption and investment, reflecting still stimulative policies, a buildup in inventory, favorable terms of trade, and easy external financial conditions (Figure 2.1). High frequency data suggest some signs of normalization in recent months, particularly in the two largest economies (Brazil and Mexico). In Central America, the recovery is progressing more gradually after a sluggish start, while in the Caribbean, growth remains muted, following a severe contraction last year.

Note: This chapter was prepared by Gustavo Adler, Luis Cubeddu, and Rafael Romeu.

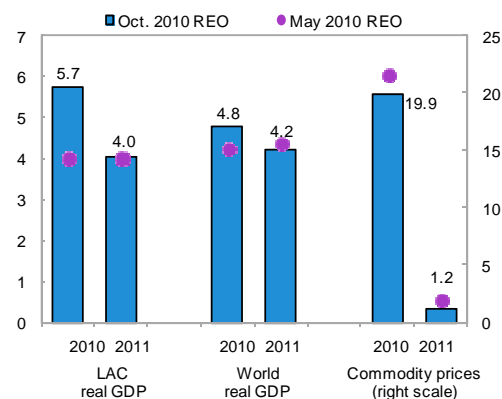
Figure 2.1. Strong domestic demand continues to support the recovery, with increased contribution from investment.

Selected Latin American Countries: Contribution to GDP Growth<sup>1</sup>  
(Percent, SAAR; GDP PPP-weighted averages)



<sup>1</sup> Includes Argentina, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Mexico, Peru, and Venezuela; except 2010 Q2 for which data for Ecuador and the Dominican Republic were not available.

LAC and External Conditions: Forecast 2010–11<sup>1</sup>  
(Annual percent change, GDP PPP-weighted averages)

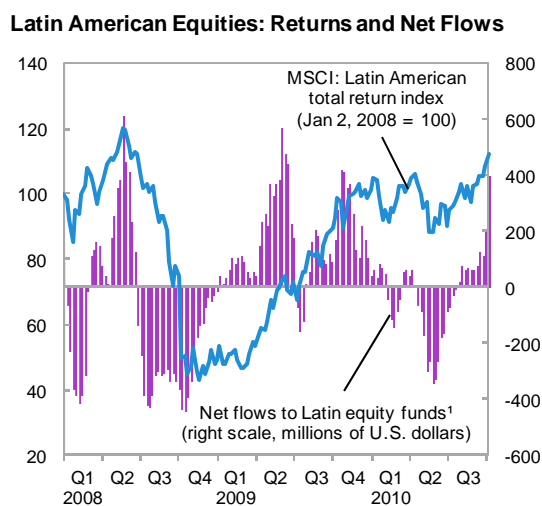
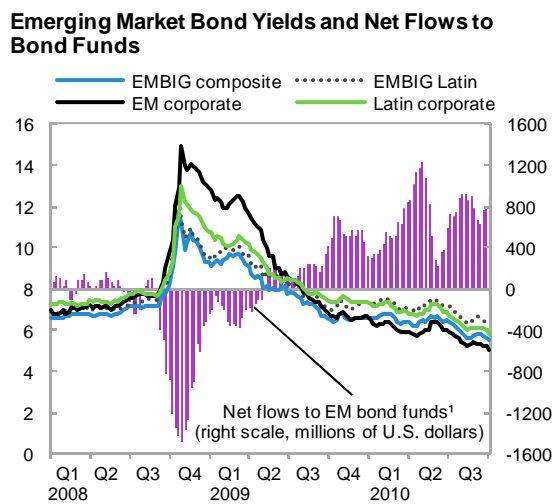


<sup>1</sup> Numbers in chart correspond to the values of the current projection (blue bars).

Source: Haver Analytics; and IMF staff calculations.

For 2010 as a whole, aggregate GDP is now projected to grow more than 5½ percent in 2010 (from a fall of 1¼ percent in 2009). This represents an upward revision of about 1½ percentage points from our earlier projection (May 2010 *Regional Economic Outlook: Western Hemisphere*). Within the region, the largest upward revisions are concentrated in the largest economies, underpinned by surprisingly robust

**Figure 2.2. Markets have normalized following distress in Europe, and highly favorable financing conditions have returned.**



Sources: Morgan Stanley; and EPFR Global.  
<sup>1</sup> Five-week moving average.

domestic demand growth. The outlook for the key external conditions (commodity prices, world trade, and external financing costs), however, remains broadly unchanged since our last edition. Bouts of market volatility related to sovereign debt problems in southern Europe in the past months had only small and short-lived effects on the region (Box 2.1 and Figure 2.2), while the more recent deterioration of market conditions in some countries of the European periphery has not spilled over to Spain, the country with strongest ties to Latin America.

Looking ahead, growth in the LAC region is projected to slow to about 4 percent in 2011, converging to more sustainable growth rates as output gaps close in most countries in the region. Importantly, the growth projection for 2011 assumes a necessary tightening in fiscal policy, although it remains unclear whether this will end up materializing.

Despite the drag from softer activity in advanced economies, continued growth in emerging Asia, which has become more domestically driven, should help support prices of the region's key commodity exports (see Box 2.2). In addition, the prospects of an even longer period of easy monetary conditions in the United States will make conditions conducive to strong capital inflows to the more financially integrated economies of the region.

Barring an extreme downside scenario for global growth, the main risks for the largest countries in the region relate to the possibility of continued fast growth of domestic demand fueled by favorable external conditions (leading to a surge in capital inflows) and the continuation of stimulative policies. This could be problematic especially where output has already reached its potential level and demand pressures threaten to increase inflation or widen current account deficits.

Tail risks from a full-blown crisis in Europe have diminished, although difficulties in refinancing large sovereign obligations could renew market volatility. Countries with stronger linkages to the United States and other advanced economies are more vulnerable to the possibility of weaker-than-projected growth in advanced economies, which will be undergoing fiscal retrenchment and may encounter new financial sector challenges.

## Wide Divergence in the Regional Outlook

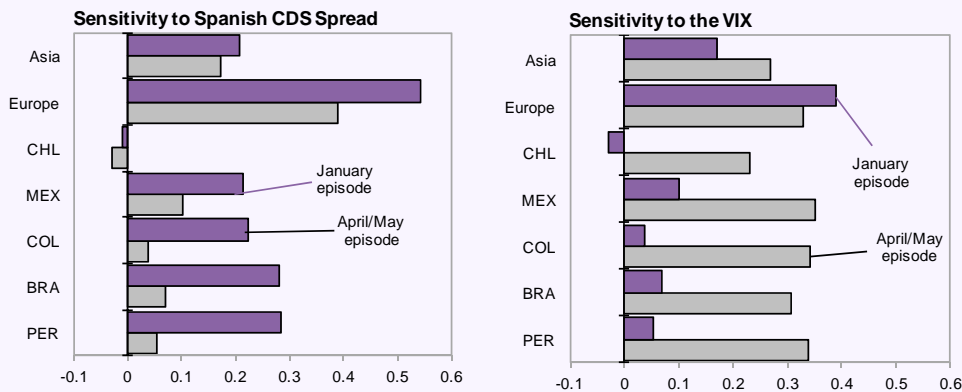
Growth prospects within the region continue to be quite diverse reflecting the varying strength

**Box 2.1. Latin America’s Resilience to the European Financial Turmoil of 2010**

**Latin America has shown significant resilience to the turbulence in European financial markets.**

Distress of Greek sovereign debt instruments, both in January and more seriously in April/May, spilled over quickly to other European periphery countries (Ireland, Portugal, Spain, and even Italy)—reflecting market concerns about cross-border exposures and fiscal and competitiveness woes—as well as beyond the European region. The direct impact on Latin America, however, was limited. Sovereign spreads across the region were little affected by the shocks to southern Europe assets in January, and the effect was even smaller during the April/May episode. This stronger decoupling may reflect limited direct links between Latin America and southern Europe as well as the agreement on international financial assistance for Greece. It is noteworthy, however, that the region’s sensitivity to global risk aversion (proxied by the VIX) increased between the two episodes. This may suggest that distress in Europe could still affect the region through its impact on global financial markets.

**Sensitivity of Sovereign CDS Spreads to Key Variables<sup>1</sup>**

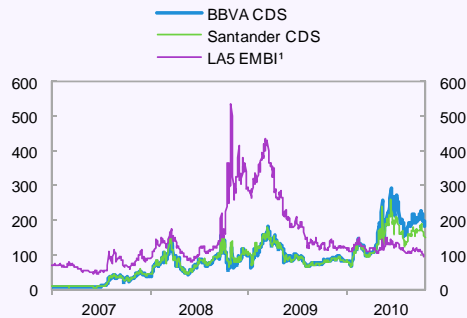


Sources: Bloomberg; and IMF staff calculations.  
<sup>1</sup>Based on multivariate country-by-country regressions of weekly percent changes LA5 CDS spreads on the Spanish CDS spread and the VIX during October 2009 to February 2010, and March 2010 to July 2010. Spain’s spreads are used to factor in that country’s closer ties to the LAC region than other European countries.

**Potential spillovers through the financial sector have not materialized, and contagion through other channels is likely to be small.**

A significant presence of Spanish banks in LAC had the potential to become an important transmission channel for shocks. However, funding pressures faced by parent Spanish banks did not spill over to the region. As noted in the last *Regional Economic Outlook: Western Hemisphere*, this was partly due to the stable funding base of Latin American subsidiaries, which rely primarily on local deposits as opposed to wholesale or cross-border borrowing, and their healthy balance sheets. The information contained in the European bank stress tests released in July further dispelled concerns about parent banks. The full impact through trade also has yet to be seen, but likely will be modest for most countries as the trade exposure to southern Europe, and Europe in general, is relatively small. FDI and remittances from Europe are also relatively low in the larger economies of the LAC region. Weaker growth prospects for Europe are, however, likely to affect some of the smaller countries that depend heavily on European tourism.

**Bond Spreads of Latin American Sovereigns and Selected Spanish Bank CDS Spreads (Basis points)**



Sources: Bloomberg; and IMF staff calculations  
<sup>1</sup> Average for Brazil, Chile, Colombia, Mexico, and Peru.

Note: This box was prepared by Gustavo Adler.

### Box 2.2. The Outlook for Commodity Prices and the Role of China

*Demand from China plays a key role in the outlook for the prices of some of Latin America's most prominent commodity exports—this is especially true for copper and soybeans, though less so for oil.*

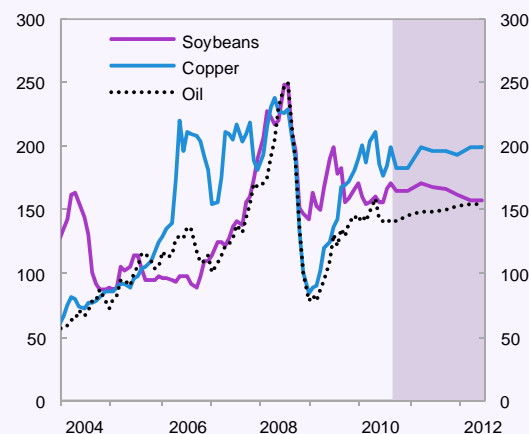
**Commodity exports are important for many countries in the region, especially in South America.** For some countries commodity exports represent the bulk of their export proceeds. While the region exports a wide range of commodities, and commodity-based processed products, the most prominent are **copper, soybeans, and oil**<sup>1</sup>

Latest IMF forecasts, based on futures market data, suggest that **prices of these three key commodities will remain broadly unchanged** at relatively high levels. A key element underlying this outlook is the positive growth momentum in emerging economies, particularly in China.

**Beyond China's faster GDP growth, differences in the intensity of use of commodities play a critical role.** China's

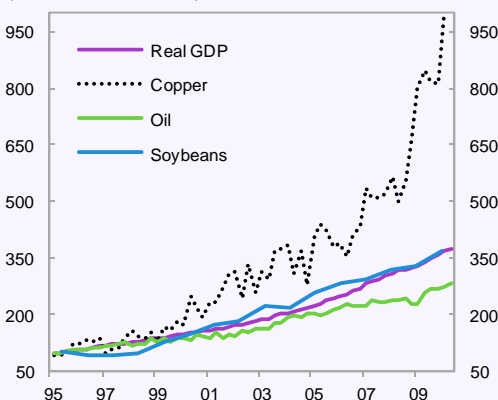
demand for metals—especially copper—has been increasing at a faster rate than its GDP. As a result, in 2009, China represented about 40 percent of the world's total demand for copper—up from only 7 percent in 1995. An important increase has been observed also in the case of soybeans, with China accounting now for more than 20 percent of the world's total demand. In contrast, China's oil demand has risen more moderately, and in the last five years by less than China's GDP. China's share of world demand for oil is only about 10 percent.

**Outlook for Key Commodity Export Prices<sup>1</sup>**  
(Index, 2005 = 100)



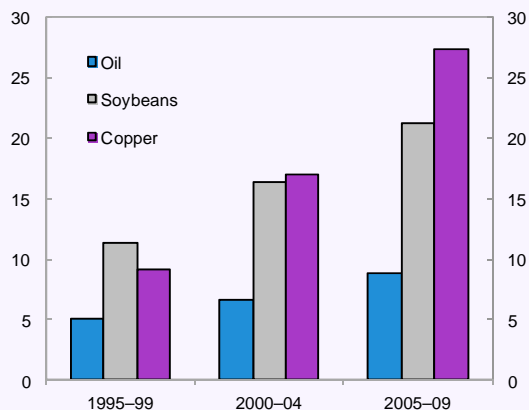
Source: IMF staff calculations.  
<sup>1</sup>Soybeans: Chicago soybean futures contract; Copper: LME spot price; and Oil: crude oil simple average of three spot prices; Dated Brent, West Texas Intermediate, and the Dubai Fateh.

**China: GDP and Commodity Demand**  
(Indices, 1995 = 100)



Source: IMF staff calculations.

**China's Share of Global Demand**  
(Percent, simple averages)



Source: IMF staff calculations.

Note: This box was prepared by Leandro Medina. For a more detailed discussion, see *World Economic Outlook* (April 2010 and October 2010).

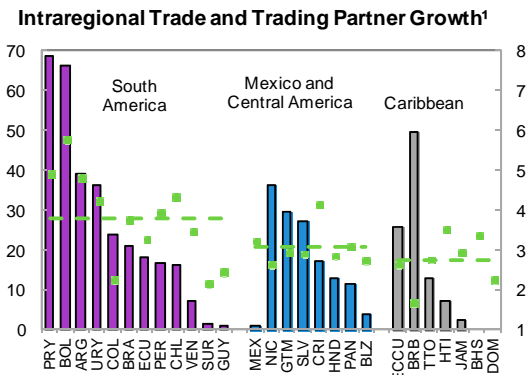
<sup>1</sup> Iron ore is meaningful particularly for Brazil and Peru; however, it is not included in this analysis.

of macroeconomic policy frameworks, as well as the importance of different external linkages, including commodity prices, financial integration and trade openness and diversification.

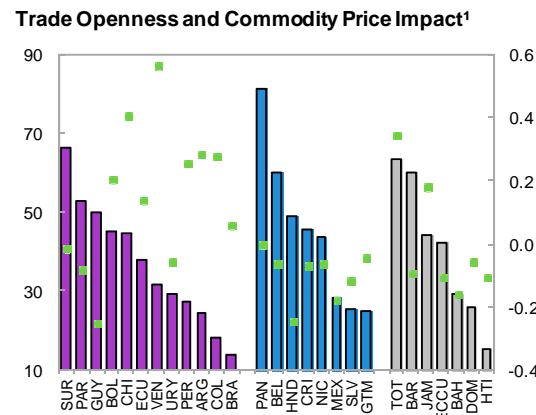
Country differences correlate with the broad geographic divisions of the LAC region. In this edition of the *Regional Economic Outlook*, we organize the discussion of developments and outlook in the region using three geographical groupings—South America, Mexico and Central America, and the Caribbean—while also emphasizing certain differences within each group (Figure 2.3).<sup>1</sup>

- The *South America subregion* as a whole is relatively less dependent on trade relationships with the United States (or other advanced economies). Commodities represent a very high share of their total exports, with a strong positive relationship between individual countries' terms of trade and a broad commodity price index. Moreover, a number of these countries have important trade linkages with each other, particularly with Brazil—a regional giant. That said, important differences exist among these countries, notably in their ability to access global financial markets at favorable terms, reflecting the varying strength of their macroeconomic policies. Policies at a microeconomic level differ as well, with implications for the supply side of the macroeconomy.
- *Mexico and Central America* are characterized by their strong real linkages to the U.S. economy (trade and remittances) and relatively high degree of openness. Moreover, unlike many of the countries of South America, Mexico and Central America do not reap large terms-of-trade gains when

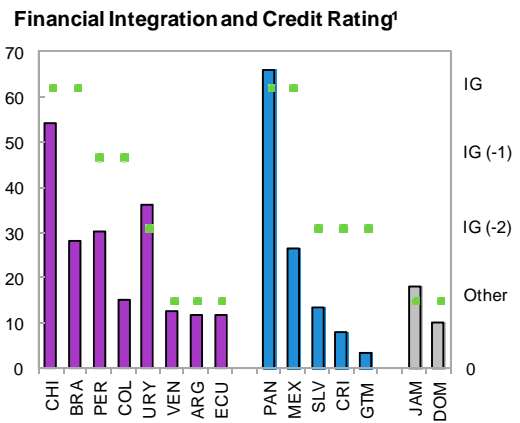
Figure 2.3. Subregions differ in key dimensions.



<sup>1</sup>Bars represent exports to subregional partners (percent of total exports); dots represent real GDP growth of trading partners in 2010 (export-weighted average, right scale); dotted line represents the simple average of trading partner growth within subregion (right scale).



<sup>1</sup>Bars indicate exports of goods and services (percent of GDP); dots indicate beta coefficient representing effect of commodity prices on terms of trade (right scale).

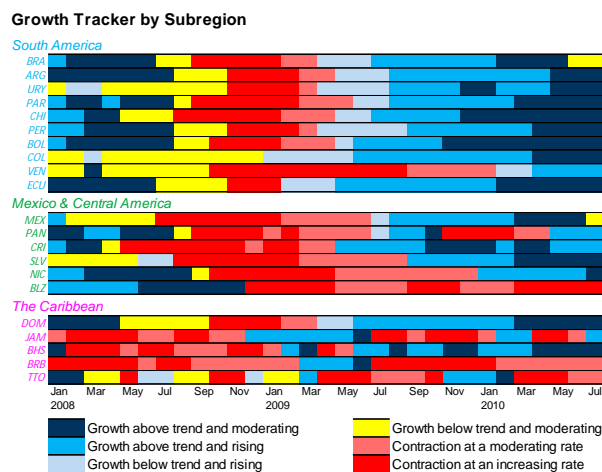


<sup>1</sup>Bars indicate foreign portfolio assets plus liabilities (percent of GDP); dots correspond to lowest credit classification among Moody's, S&P and Fitch represented by "IG", investment grade; "IG (-1)", one notch below investment grade; "IG (-2)", two notches below investment grade; and all lower ratings on the right scale.

Sources: IMF, *Direction of Trade Statistics*; IFS; Moody's; S&P; Fitch; and IMF staff calculations.

<sup>1</sup> This entails a few changes since the last edition, which emphasized the combination of commodity exposures and financial integration. In this occasion, the strength of trading partners' growth presents a distinct and highly relevant cross-sectional variation.

**Figure 2.4. Recent data suggest heightened growth heterogeneity by subregions.**

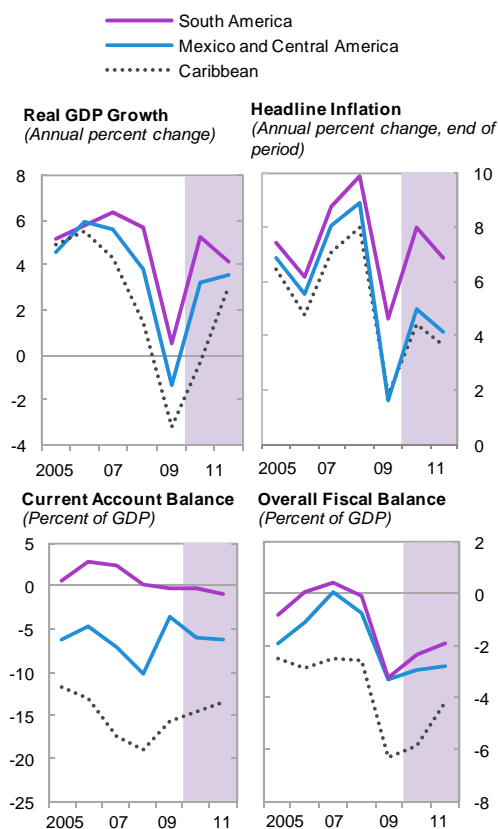


Sources: Haver; U.S. Department of Commerce; national authorities; and IMF staff calculations. Note: The growth tracker for countries with high frequency data employs a dynamic factor forecasting model that summarizes the available series and fits GDP growth. For the other countries, seven key indicators are combined into a monthly growth indicator based on their ability to explain quarterly GDP growth. The most recent estimates include forecasts, coloring based on three-month growth rates of the centered (one-quarter forward and backward looking) average indicator.

commodity prices rise (this reflects Central American countries' reliance on imported oil, and Mexico's net fuel exports being relatively small as a share of GDP). Another similarity is that most of these economies face important fiscal policy challenges, albeit for different reasons. That said, in some key dimensions, Mexico's economy and policy frameworks are more similar to those of the more financially integrated countries in South America.

- Countries in the Caribbean region are generally highly dependent on tourism from the United States and other advanced economies. Much like Central America, in most of the Caribbean, changes in commodity prices are inversely related to their terms of trade.

**LAC: Macroeconomic Outlook<sup>1</sup>**



<sup>1</sup>Simple average within groups.

Source: IMF staff calculations.

The differences in countries' exposure to the global recovery currently under way help explain part of the intraregional differences in growth (see Figures 2.4). South America's earlier and stronger recovery is to some extent due to favorable commodity prices, and weaker trade links with slow-growing advanced economies. The recovery in Mexico and Central America is dependent on U.S. import demand and remittances from migrant workers, and therefore somewhat slower. The Caribbean continues to lag reflecting tourism's link to employment growth in advanced economies, which remains sluggish.

**Diverse Policy Challenges**

In the faster-growing economies of South America, the key challenge at this juncture consists of ensuring a timely withdrawal of the policy stimulus. This would help avoid overheating pressures in the context of easy financial conditions and output gaps that are narrowing fast. Given favorable conditions for foreign borrowing and capital inflows, careful attention will need to be given to the policy mix. Consideration could be given to the adoption of complementary policies (for example, micro- and



macroprudential) to avoid pockets of exuberance such as excessive credit growth or asset price bubbles, although these should not substitute conventional macroeconomic policies.

For some countries, this juncture presents an opportunity to bring down net public debt and rebuild policy space against future shocks. Indeed, current global market conditions provide a good opportunity to reduce debt vulnerabilities through active debt management (for example, extending maturities and reducing financing).

The priority for the countries in South America with less fluid access to international financial markets, but which nonetheless benefit from favorable commodity prices and intraregional linkages, should be to quickly withdraw their policy stimulus to avoid overheating. In other countries where the outlook is weaker mainly due to supply bottlenecks (Ecuador and especially Venezuela), boosting private investment, while adopting sound macroeconomic policies remains a key challenge. In particular, fiscal frameworks in these countries require strengthening to break from past patterns of procyclicality, while efforts to improve access to financial markets should continue.

In Mexico and in Central America, where the recovery is linked to growth and employment prospects in the United States, potential GDP is also likely to have fallen in tandem with declines in potential output in the United States. This risk underscores the need to adopt policies geared at boosting long-term growth. Moreover, notwithstanding a still significant output gap, Mexico will need to continue efforts aimed at consolidating public finances given the prospects of declining oil revenues. In Central America, where the impact of the crisis was less severe than in Mexico, the key challenges lie in rebuilding the policy space used since 2008 and in strengthening the business climate to raise private investment.

In the Caribbean, pressing ahead with fiscal consolidation, strengthening competitiveness, and safeguarding financial stability remain the

overarching priorities. See Chapter 5 for a discussion of the Caribbean's medium-term challenges.

## South America—Ensuring a Soft Landing

Although the resurgence of domestic demand following the crisis was certainly a good development, a moderation of demand growth is necessary to avoid fanning inflationary pressures or widening current account deficits. The expansionary policies adopted earlier to confront the global recession now risk becoming procyclical and need timely normalization. While most countries will continue to benefit from favorable terms of trade, the more financially integrated economies will face additional challenges from easy external financing conditions. In some countries of South America, fast-growing intraregional demand will boost growth, while in other cases supply-side constraints will continue to hold back growth and maintain inflation pressures.

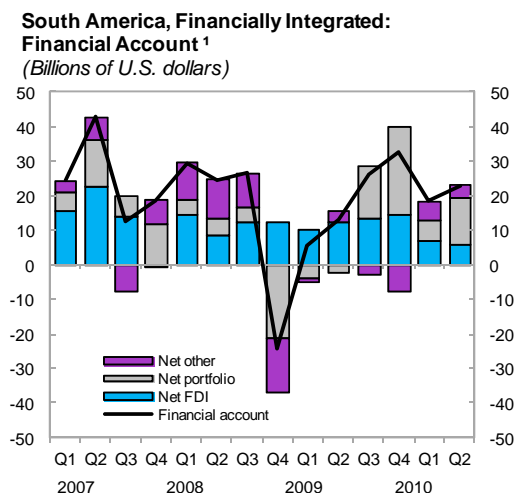
Expansionary macroeconomic policies and favorable terms of trade resulted in a rapid increase in domestic demand and GDP growth during the first half of 2010 in most of South America. More financially integrated economies (those with lower spreads and higher credit ratings) continue to benefit from capital inflows, which have picked up in recent months following a short-lived reprise earlier in the year. Some of the less financially integrated economies of South America are also benefiting from the strong expansion in Brazil, while supply constraints continue hindering growth in a few countries.

## Withdrawing Policy Stimulus Amid Ample Global Liquidity

The more financially integrated economies of South America (Brazil, Chile, Colombia, Peru, and Uruguay) grew strongly in the first half of

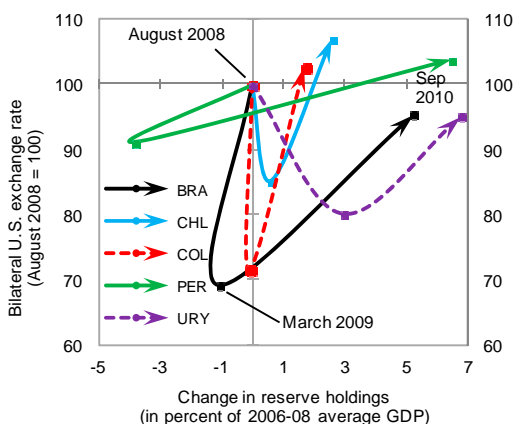


**Figure 2.5. Capital inflows are contributing to a pick-up in credit and some exchange rate appreciation.**

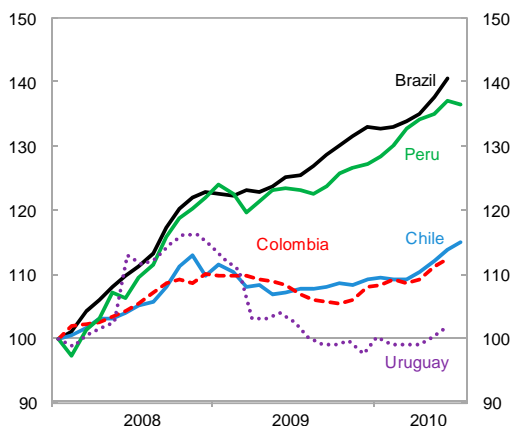


<sup>1</sup> Includes Brazil, Chile, Colombia, Peru, and Uruguay. Except in 2010:Q2 for which data were not available for Colombia and Uruguay.

**International Reserves and Exchange Rates**



**South America, Financially Integrated: Real Bank Credit**  
(January 2008=100; deflated by national CPI)



Sources: Haver Analytics; EMED; IMF, *International Financial Statistics*; and IMF staff calculations

the year, with only minor signs of moderation.<sup>2</sup> Brazil, Peru, and Uruguay, where real GDP growth is projected to exceed 7 percent in 2010, are already operating at or near full capacity, with unemployment rates at historic lows in some cases. In Chile, activity has rebounded strongly in the last four months (following a short-lived decline earlier in the year on account of the strong earthquake), whereas in Colombia the recovery is gaining momentum despite headwinds from lower trade activity with neighboring Venezuela.

So far, inflation in all countries remains near targets (or within target ranges), although core inflation and inflation expectations have been rising in some cases. The recent increase in world food prices has had only minor effects thus far. Policy rates have been appropriately raised in most countries in recent months within a gradual move to a more neutral position.

With ample global liquidity, capital continues to flow into the more financially integrated countries in the region. Portfolio flows continue to dominate, while private external borrowing appears to be reviving (mainly in Brazil). Overall, gross flows are reaching levels similar to those of the precrisis years, although accompanied by renewed accumulation of foreign assets (outflows) mainly by the private sector (Figure 2.5).

The rebound of domestic demand has pushed up imports. As a result, and despite favorable terms of trade and some recovery of export volumes, external current account balances have weakened somewhat. However, the increase in net capital flows has more than offset the deterioration in the external current account, and international reserves have continued to rise, albeit at a slower pace than in late 2009 (see Box 2.3). Reflecting these trends, exchange rates have

<sup>2</sup> In Brazil, the slowdown in the second quarter of 2010 largely reflects temporary factors (including an early Easter and slower industrial and construction activity in June during the soccer World Cup).

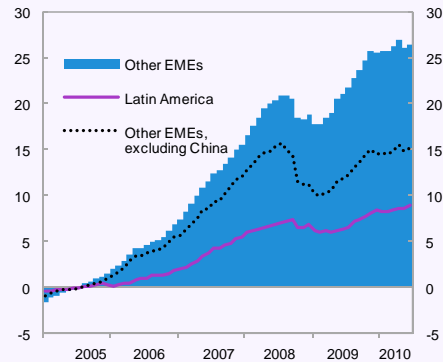
**Box 2.3. Reserve Accumulation: Building Insurance or Leaning Against Appreciation Winds?**

**Emerging Market Economies (EMEs) have returned to rapid reserve accumulation and Latin America is following the trend.** Starting in 2005 up until the collapse of Lehman, EMEs accumulated an average of 20 percentage points (pps) of their GDP in reserves (15 pps if China is excluded). The trend resumed at a rapid pace following the normalization of market conditions in early-2009, with only a temporary slowdown in the first-half of 2010 as a result of the European crisis. Reserves in EMEs are now 5 pps of GDP higher than pre-Lehman levels. Latin America broadly conforms with this trend, though accumulation has been at a much slower pace than in other regions (reaching 8 pps of GDP since 2005).

**There are, however, important differences within Latin America.** Among the more financially integrated economies, Brazil, Peru, and Uruguay have increased reserves at rates similar to those of other EMEs (except China). Chile, Colombia, and Mexico on the other hand increased reserves at a slower pace; though the initial (pre-2005) level of reserve coverage does not account for the differences.<sup>1</sup>

**Although they exceed standard thresholds, reserve buffers in the region are smaller than in other regions.** As of mid-2010, the median EME stock of reserves was equivalent to about 20 percent of GDP, 170 percent of external short-term debt and 40 percent of broad money (M2), significantly above standard thresholds (100 percent of short-term debt and 20 percent of M2). In terms of those metrics, reserve holdings in emerging Latin America also exceed standard thresholds, but the median is somewhat below those of other EMEs. These median figures, however, mask important intraregional differences. Among the more financially integrated economies, Uruguay and Peru show high coverage ratios relative to the region as well as other EMEs, possibly reflecting a perceived need for additional insurance due to a high degree of financial dollarization (and large nonresident deposits in the case of Uruguay). Chile, Colombia, and Mexico on the other hand show relatively low ratios, standing out among the lowest ratios across all EMEs in some metrics. Brazil's reserve coverage ratios are broadly in line or above the median for EMEs.

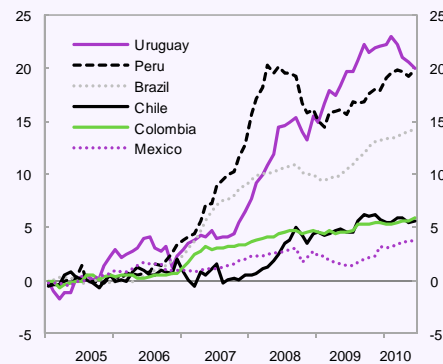
**EMEs and LA: Reserve Accumulation<sup>1</sup>**  
(Percent of GDP, cumulative since 2005)



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Weighted average for each group, using 2006–08 average GDP as weights. Shading highlights the period from the collapse of Lehman Brothers to the trough in global markets.

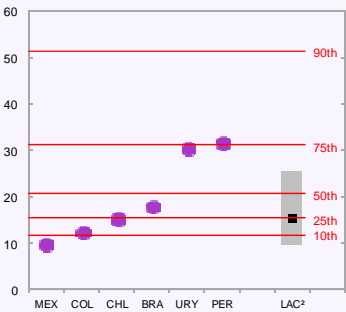
**Reserves Accumulation in Financially Integrated, Latin American Countries<sup>1</sup>**  
(Percent of GDP, cumulative since 2005)



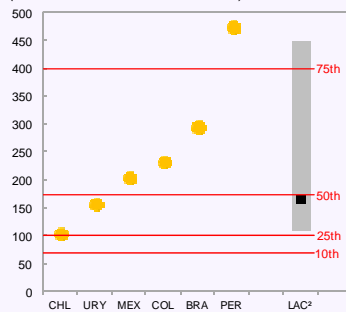
Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Shading highlights the period from the collapse of Lehman Brothers to the trough in global markets.

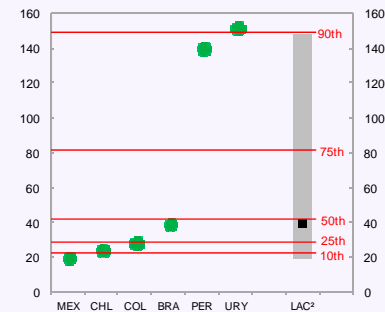
**Reserves-to-GDP<sup>1</sup>**  
(Percent of 2006–08 GDP, average)



**Reserves-to-Short Term Debt<sup>1,3</sup>**  
(Percent of short-term external debt)



**Reserves-to-M2<sup>1</sup>**  
(Percent of M2)



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Reserves as of June 2010 or latest available, including gold holdings (national valuation). The red lines present the distribution (in percentiles) of ratios across all emerging market countries.

<sup>2</sup> Gray bar shows the distribution of ratios within Latin America. It presents the range of values from the 10th to 90th percentiles; the black box marks the median of the region.

<sup>3</sup> Based on interpolation of annual values of external short term debt (residual maturity basis).

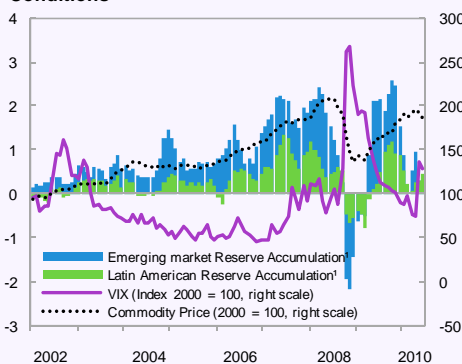
Note: This box was prepared by Gustavo Adler.

<sup>1</sup>In the case of Chile, accumulation of foreign assets outside the central bank—reflecting fiscal savings of the commodity export windfall—would add about 10 percentage points of GDP to the precrisis figures.

**Box 2.3 Reserve Accumulation (concluded)**

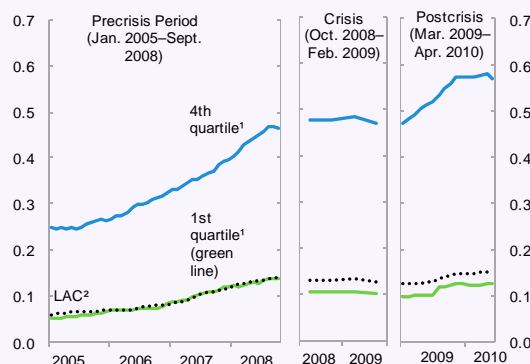
**The reserves buildup of recent years seems to be a byproduct of policies aimed at “leaning against the appreciation wind,” rather than at strengthening precautionary buffers.** Its timing has coincided with periods of easy external financing conditions and high commodity prices, which have meant for many EMEs, including in Latin America, significant exchange rate appreciation pressures. Furthermore, reserve accumulation has been faster in countries with already higher reserve coverage ratios. The absence of EMEs issuing long-term debt to boost reserve buffers more rapidly also suggests limited insurance motive.

**EME and LA: Reserve Accumulation and External Conditions**



Sources: Bloomberg; IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup> Weighted average of 3-month change in stock of reserves in percent of 2000–08 average GDP.

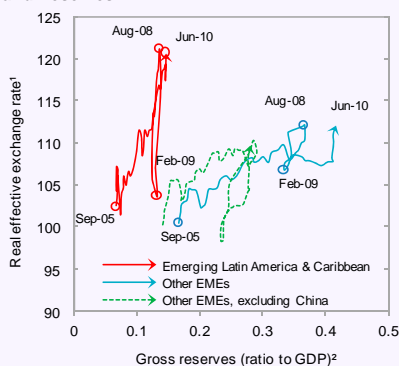
**Distribution of International Reserves in Emerging Market Economies (Share of GDP)**



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup> Average of countries found in the first quartile in the first month of the precrisis, crisis, and postcrisis periods.  
<sup>2</sup> Average of countries in Latin America and the Caribbean.

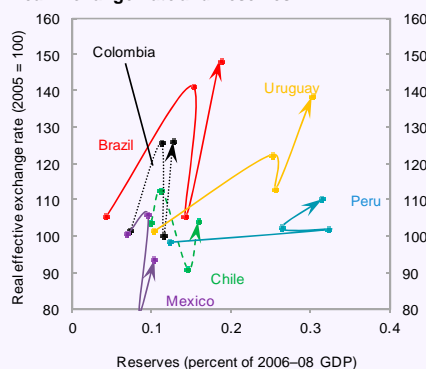
**Compared with other regions, however, Latin America has exhibited more tolerance of exchange rate volatility and appreciation in recent years.** In Latin America, an increase in reserves equivalent to 7 pp of GDP between January 2005 and August 2008 coincided with a 20 percent real appreciation, while in other EMEs, much larger reserve accumulation (19 pp of GDP) was accompanied by a smaller appreciation (14 percent). The contrast of observed appreciation is starker in (effective) nominal terms. Within Latin America, Brazil, Chile, Colombia, and Mexico have tended to react with a combination of sizable nominal appreciation and intervention while Peru and, to a lesser extent Uruguay, have relied heavily on intervention (and prudential or administrative measures).

**EMEs and LAC: Real Exchange Rate and Reserves**



Sources: IMF, *International Financial Statistics* and IMF staff calculations.  
<sup>1</sup> Index 2005=100. Weighted average.  
<sup>2</sup> Gross international reserves as a share of 2006–08 average GDP. Weighted average.

**LAC, Financially Integrated Economies: Real Exchange Rate and Reserves<sup>1</sup>**



Sources: IMF, *International Financial Statistics*, and IMF staff calculations.  
<sup>1</sup> Each path identifies 4 points time: 1) September 2005, pre-Lehman REER maximum, post-Lehman REER minimum and June 2010.

continued to strengthen to above precrisis levels (in both nominal and real effective terms), with Brazil, Colombia, and Uruguay experiencing the largest appreciation since end-2009.

The easy external financing conditions also have affected bank credit, with signs of acceleration in all countries in the group, but more pronounced in Brazil and Peru. In Brazil, the resumption of credit by private banks has offset some deceleration in lending by public banks, albeit from high rates of growth (see Chapter 3).

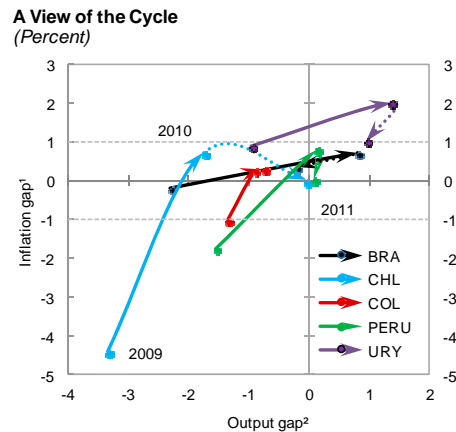
Although asset bubbles are notoriously difficult to detect, available indicators do not show clear evidence of their presence yet. Price earnings ratios remain within historical averages for most countries, and stock market valuations are only somewhat stronger than historical trends for Chile and Colombia. The information needed to assess real estate market conditions, however, is still scant.

Against this backdrop, the unwinding of policy stimulus that started in most countries will have to be firmed up in the coming months. Withdrawing policy support in a timely manner will help avoid boom-bust cycles of the past and create space for countercyclical policies in the future (Figure 2.6).

When withdrawing the stimulus, careful consideration will need to be given to the policy mix, particularly amid pressures generated by cheap foreign money. Generally, fiscal stimulus should be withdrawn ahead of the (full) withdrawal of monetary stimulus, and the exchange rate should be allowed to move to avoid creating one-sided bets that would induce further inflows. In some cases, bolder action may be required to normalize policy rates, particularly if inflation expectations are becoming entrenched or inflation remains hovering near the upper end of a target range.

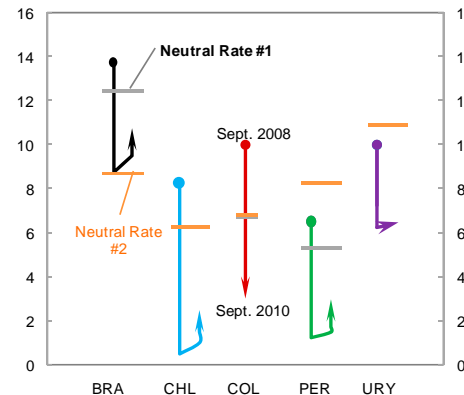
On the fiscal side, returning to a neutral stance will require a sharp slowdown in the rate

**Figure 2.6. Policies in many countries remain accommodative, despite closing output gaps.**



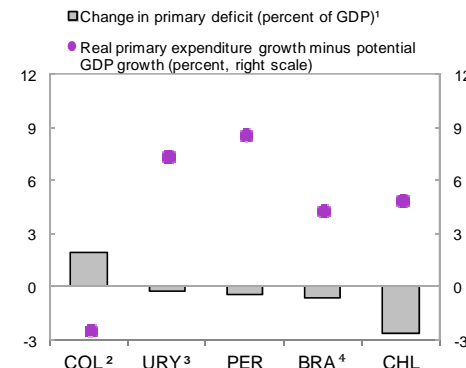
<sup>1</sup> Projected inflation at end-year minus inflation target. Bands of (+/-) percentage points apply to all countries, except Brazil (+/- 2).  
<sup>2</sup> Projected GDP minus potential GDP, in percent of potential GDP.

**Monetary Policy Rate<sup>1</sup> (Percent)**



<sup>1</sup> Policy rate from September 2008 to September 2010. Neutral policy rate #1 based on Global Projection Model (see Chapter 3, October 2008 *Regional Economic Outlook: Western Hemisphere*) and neutral policy rate #2 estimated as potential growth plus inflation target.

**Change in Primary Deficit and Primary Expenditure Growth, 2010**



<sup>1</sup> Positive (negative) values indicate deterioration (improvement) in primary fiscal balances.  
<sup>2</sup> Primary spending excludes spending by state-owned oil company.  
<sup>3</sup> Primary expenditure growth based on actual data through mid-2010 (2010:H1 vs. 2009:H1).  
<sup>4</sup> Primary spending excludes quasi-fiscal operations of public banks.

Sources: Haver Analytics; and IMF staff calculations.

of growth of real primary spending that, through mid-2010, has been much higher than trend output growth in most countries. In the case of Brazil, spending restraint will have to be accompanied by a decline in quasi-fiscal operations of public banks (which in turn would help address distortions in the credit channel that constrain the effectiveness of monetary policy).<sup>3</sup>

In countries with somewhat larger output gaps and stronger fiscal positions (Chile and to a lesser extent Colombia), consolidation can proceed more gradually. In Chile, significant earthquake reconstruction spending needs will tend to shift the task of restraining demand to monetary policy over the near term, with exchange rate flexibility providing the space for avoiding excessive pressure on domestic resources. In Colombia, a modest fiscal stimulus in 2010 is being accompanied by increased capital spending by a mostly state-owned petroleum company to boost petroleum production over the medium term.

If the domestic demand momentum does not react sufficiently fast to tighter macroeconomic policies or there are signs of exuberance, including on the exchange rate, macroprudential policies may prove helpful to avoid undesirable credit dynamics and influencing risks perceptions. This could include increasing reserve requirements on deposits (as done in Brazil and Peru), raising provisioning charges on higher loan-to-value ratios, and limiting the net foreign exchange position of banks. In addition, prudential measures could help to normalize monetary conditions in countries with a high degree of dollarization and weak monetary transmission mechanisms (see Chapter 4 and Box 2.4 for a fuller discussion of these issues). Administrative measures to discourage inflows could also be considered, but they should be

<sup>3</sup> Quasi-fiscal stimulus through the National Development Bank BNDES reached 2.3 percentage points of GDP in 2009, yet a 0.5 percentage point withdrawal is projected in 2010.

broad-based and accompanied by an appropriate infrastructure to ensure some degree of effectiveness.<sup>4</sup> These tools may complement, and not substitute for a further tightening of macroeconomic policies.

From a longer-term perspective, the relatively favorable external conditions provide an opportunity to further strengthen policy frameworks and balance sheets, and increase the effectiveness of complementary policy instruments.

On the fiscal front, efforts should focus on acquiring fiscal space that may be used in the future. For this, increased resolve to moderate the growth in primary government spending (particularly current spending), which over the past decade has grown well above trend growth, will be necessary. Most countries would benefit from moving policy toward targeting cyclically adjusted balances rather than nominal fiscal balance targets that allow procyclical expenditure responses to revenue developments.<sup>5</sup> In Chile, the government intends to reduce the structural deficit, to 1 percent of GDP in 2014, mainly by restraining the growth rate of expenditure below that of GDP.

Strengthening balance sheets further by reducing dollarization and improving debt structures would enhance the usefulness of the exchange rate as a shock absorber, without creating destabilizing effects. For this reason, countries should redouble efforts to extend the maturity of public debt as well as to increase the share denominated in local currency, while continuing to let the exchange rate adjust freely (see Box 2.5).

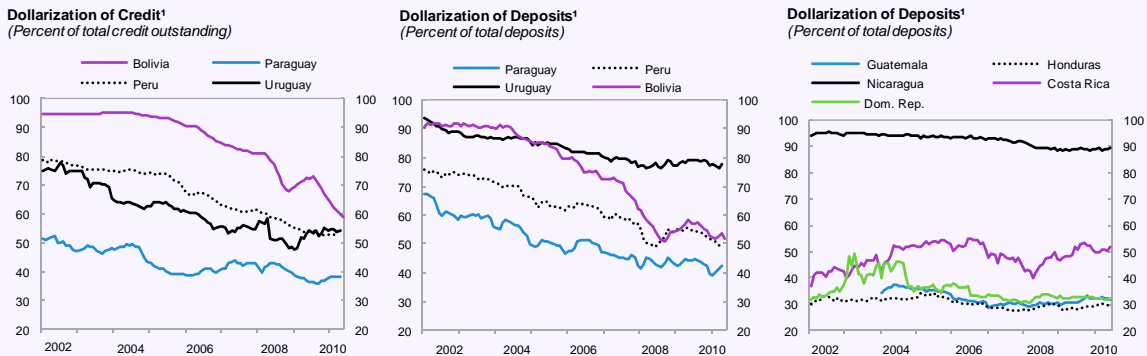
<sup>4</sup> Brazil reintroduced a tax on capital short-term inflows in late 2009. More recently, Peru introduced a 4 percent fee on non-bank holdings of central bank paper and imposed daily and weekly limits to pension funds' foreign exchange operations. It also increased reserve requirements on domestic-currency deposits of foreign financial institutions.

<sup>5</sup> In Colombia, a draft Fiscal Responsibility Law (focused on the primary structural balance of the central government) was recently submitted to Congress.

### Box 2.4. What Is Driving Financial Dedollarization in Latin America?

**Dollarization has been a distinguishing feature of banking systems of many Latin American countries.** Although it was largely a consequence of past episodes of severe economic crises and high inflation, financial dollarization has remained stubbornly high even after a prolonged period of economic stability and low inflation.

**Since the early 2000s, some Latin American countries (Bolivia, Paraguay, Peru, and to a lesser extent Uruguay) have recorded a gradual yet sustained decline in financial dollarization.** On average, the share of foreign currency deposits in total deposits in these four countries fell by about 30 percentage points since 2002, with somewhat smaller declines (25 percentage points) in the case of bank credit. Declines in dollarization are similar across all types of deposits and loans. In Central America, where real linkages to the United States are strong, dollarization ratios have remained broadly unchanged over the past decade (although for most countries with a national currency dollarization, ratios remain lower than in South America). Mexico, which also had high dollarization ratios in the 1980s and 1990s, lowered them significantly in the 2000s.



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup>Foreign currency credit and deposits valued at constant exchange rates.

**Drivers of dedollarization.** A great deal of work exists on the causes of financial dollarization, yet the empirical literature on dedollarization is scant, amid the relatively few episodes of successful market-based dedollarization. Kokenyne and others (2010) and Erasmus and others (2009) find that successful dedollarization has required a strong track record of macroeconomic stability with other policies to enhance the attractiveness of the local currency, including some degree of exchange rate volatility. Garcia-Escribano (2010) finds that in Peru, dedollarization has been driven not only by macroeconomic stability, but also by the introduction of prudential measures to better reflect currency risk and by the development of the capital market in local currency (which facilitated bank funding and pricing of long-term loans in domestic currency).

- **Currency appreciation and exchange rate volatility.** In Bolivia, Paraguay, Peru, and Uruguay the recent decline in dollarization ratios has taken place in a context of macroeconomic stability and increased tolerance of currency appreciation. In addition, allowing some degree of exchange rate volatility (within an appreciation trend) seems to have been important for the dedollarization of credit (for example, in Peru).

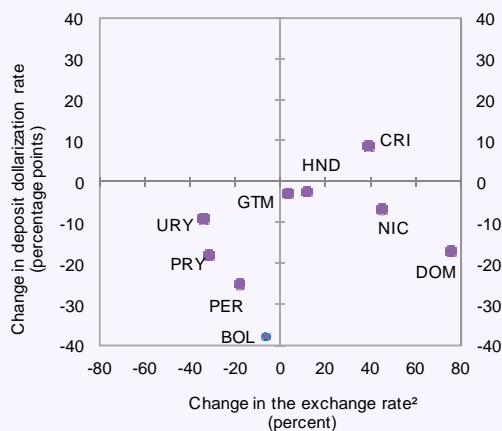
Note: This box was prepared by Mercedes García-Escribano and Sebastián Sosa.

**Box 2.4 (concluded)**

- Prudential measures.** Active management of reserve requirements (in particular, increases in the differential between reserve requirement ratios on foreign and local currency deposits) appears to have been important in lowering dollarization ratios, by increasing the costs for banks of shifting liquidity balances among currencies. Increasing required provisions on foreign currency loans (Bolivia and Peru), introducing differentiated capital risk weights on foreign currency loans (Uruguay), and tightening of capital requirements against open foreign exchange positions (all four countries) may have also played a role in discouraging lending in foreign currency to unhedged borrowers.
- Development of local capital market.** Bolivia, Peru, and Uruguay have recently issued public bonds in domestic currency with maturities exceeding 10 years for the first time in decades. These issuances were part of an attempt to develop domestic capital markets, improve the structure of debt, and extend the domestic yield curve (up to 30 years in Bolivia and Peru). The creation of a benchmark for long-term domestic currency debt has facilitated pricing of private instruments in local currency at longer maturities and contributed to lower dollarization.

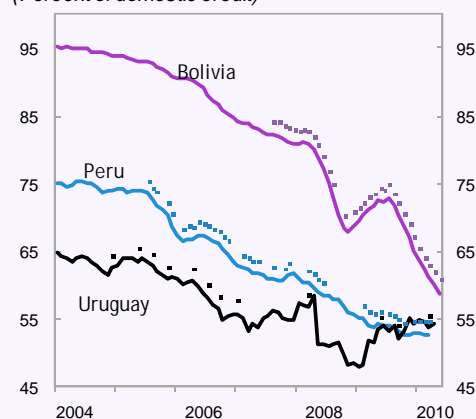
**Challenges.** Experience shows that market-based dollarization is a long-term process. While the steady decline in financial dollarization in recent years observed in Bolivia, Paraguay, Peru, and Uruguay has been remarkable, dollarization levels remain high, and efforts to lower them should continue. Policies that combine some degree of exchange rate volatility (in the context of macroeconomic stability) with low and predictable inflation will be critical, including by allowing agents to internalize exchange rate risks. Additional prudential measures may help to curb the risks of lending in foreign currency, while the development of capital markets in domestic currency should facilitate long-term lending in local currency.

**Exchange Rate Appreciation and Dollarization<sup>1</sup>**



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup> Monthly data for Jan-2003 through Jun-2010. Data for Uruguay starts in 2004.  
<sup>2</sup> Local currency per U.S. dollar exchange rate such that increases denote depreciation.

**Credit Dollarization and Debt Issuance<sup>1</sup>**  
(Percent of domestic credit)



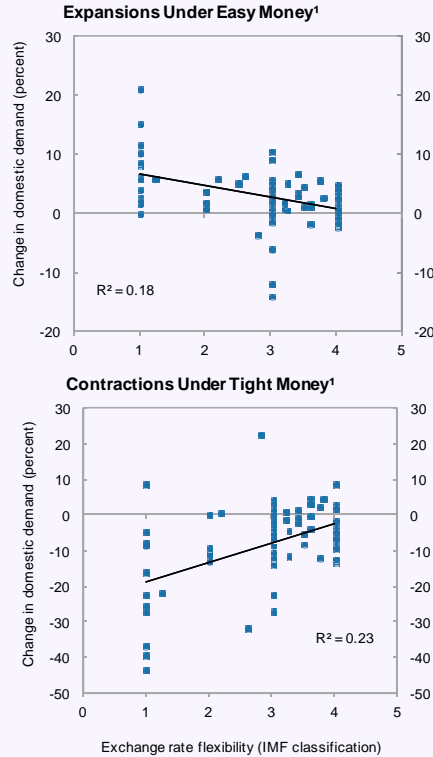
Sources: Dealogic; IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup> Lines represent credit in foreign currency in percent of total domestic credit. Dots represent moment of issuance of debt in domestic currency with maturity of more than 10 years.



**Box 2.5. Domestic Demand Growth under Easy and Tight External Financial Conditions: The Role of Exchange Rate Flexibility**

**Exchange rate flexibility helps insulate countries from external financial developments in good and bad times.** Episodes of easy global money have contributed to faster domestic demand growth in many emerging and small developed markets. But exchange rate regimes have made a difference. The pickup of domestic demand generally has been smaller in countries with more flexible exchange rate regimes during periods of easy global money. Conversely, the fall in domestic demand growth has been milder in more flexible regimes during periods of tight external liquidity.

**Domestic demand growth tends to be less volatile in more flexible exchange rate regimes.** Analysis based on multivariate pooled regressions for 42 emerging and advanced economies shows that domestic demand rises when (i) global risk aversion (VIX) falls; (ii) terms of trade improve; and (iii) world growth increases. The effects of external variables, however, are often milder in more flexible exchange rate regimes. Pooled regressions for other domestic demand components suggest that external variables affect investment more heavily than consumption. They also suggest that consumption and investment are less affected in more flexible exchange rate regimes. External financial conditions and world growth also affect GDP, while the terms of trade seem to affect mostly the current account. Countries that rely less on flexible exchange rates need to rely more on other demand management policies (for example, fiscal or prudential) to offset the effect of external conditions.



Sources: IMF, *International Financial Statistics* and IMF staff calculations.  
 1 In a sample of 42 advanced and emerging market countries. Periods of "easy money" include 1991–96 and 2004–07; periods of tight money include 1997–98 and 2009.

**Pool Regressions: Effect of External Variables on Domestic Demand, GDP, and Current Account Balances 1**

	Domestic Demand	Consumption			Investment	GDP	Current Account
		Total	Private	Government			
VIX * flexible dummy 2	-0.11 ***	-0.06 *	-0.07 *	-0.02	-0.25 **	-0.06 ***	0.00
Terms of trade * flexible dummy	0.00	0.02	0.03	0.01	0.21 **	-0.02	0.08 ***
World growth * flexible dummy	0.79 ***	0.40 **	0.54 ***	-0.24	2.09 ***	0.74 ***	0.07
VIX * (1 - flexible dummy)	-0.16 ***	-0.10 **	-0.15 ***	0.01	-0.49 ***	-0.08 ***	-0.04
Terms of trade (1 - flexible dummy)	0.16 ***	0.12 ***	0.12 ***	0.12 ***	0.30 **	0.05 ***	0.10 ***
World growth * (1 - flexible dummy)	1.42 ***	0.87 ***	1.12 ***	0.14	3.82 ***	1.14 ***	-0.25
Adjusted R squared	0.11	0.08	0.07	0.01	0.23	0.24	0.56
Observations	915	905	915	919	471	1,083	1,086

Wald test of equal coefficients across regimes

VIX			*		**		
Terms of trade	***	***	**	**		***	
World growth	***	**	**		***	***	

Sources: Chicago Board of Options Exchange; Haver Analytics; and IMF staff calculations.

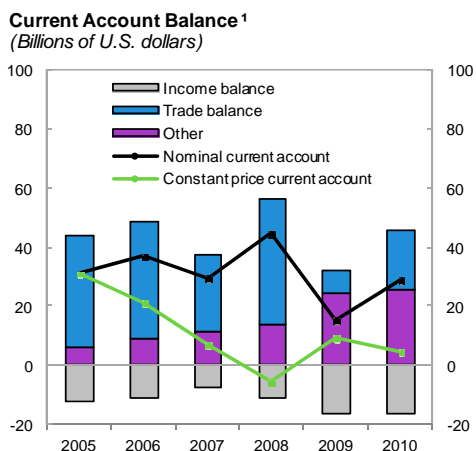
1 The sample includes Argentina, Australia, Bolivia, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Guatemala, Honduras, India, Indonesia, Israel, Korea, Latvia, Lithuania, Malaysia, Mexico, New Zealand, Nicaragua, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Russia, South Africa, Thailand, Tunisia, Turkey, Ukraine, Uruguay, and Venezuela. Data are monthly observations for the period 1990–2009.

2 The flexible dummy takes a value of 1 for the more flexible exchange regimes under the IMF classification, defined as crawling pegs and above.

Note: This box was prepared by Jorge Iván Canales-Kriljenko.

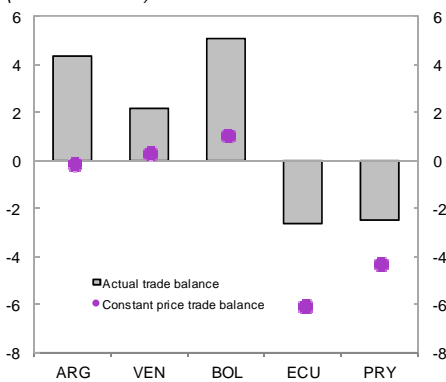


**Figure 2.7. In the less financially integrated countries of South America, favorable commodity prices remain key, although capital outflows continue.**



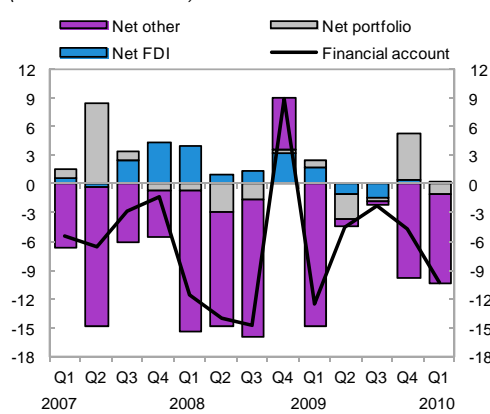
<sup>1</sup> Sum of Argentina, Bolivia, Ecuador, Paraguay, and Venezuela. Current account at constant prices is estimated using 2005 export and import prices.

**Trade Balance 2010, Actual vs. Constant Price<sup>1</sup> (Percent of GDP)**



<sup>1</sup> Constant price trade balance is estimated using 2005 export and import prices.

**Financial Account<sup>1</sup> (Billions of US dollars)**



<sup>1</sup>Includes Argentina, Bolivia, Ecuador, Paraguay, and Venezuela.

Sources: EMED; Haver Analytics; IMF, *International Financial Statistics*; and IMF staff calculations.

### Favorable Terms of Trade Continue to Offset Limited Market Access

Unlike the more financially integrated countries of South America, where demand is boosted by easy external financing conditions, growth in the rest of the subregion is being underpinned primarily by favorable terms of trade. However, differences within this group are large, reflecting varying degrees of supply constraints, reliance on commodity-related revenues, trade linkages with Brazil, and policy responses.

In Argentina and Paraguay, for example, strong growth is being supported by close intraregional trade ties with Brazil (see Box 2.6), a rebound in agriculture following the drought of 2009, and highly stimulative policies. In countries such as Ecuador and Venezuela, however, the recovery is much weaker, largely reflecting supply constraints and weak policy fundamentals. Despite large trade surpluses, uncertain business environments have resulted in sizeable capital flight and depressed private investment. This is seen most clearly in Venezuela, where output is contracting again this year, amid tighter exchange rate restrictions.<sup>6</sup>

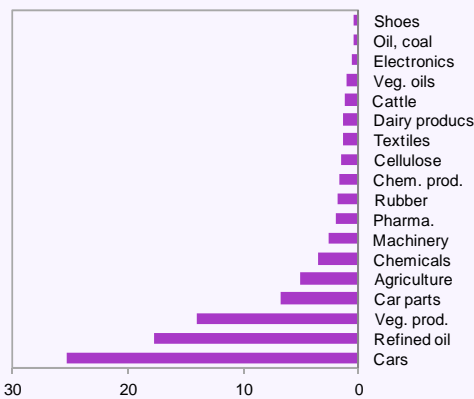
In most countries of this group, fiscal and monetary policy stimulus are pushing demand up and contributing to a rise in inflation. Monetary aggregates are growing by an annual average of more than 20 percent thus far this year, while primary spending is accelerating to levels above trend output growth in many countries (Argentina, Ecuador, Paraguay, and Venezuela). The group is still projected to record an overall external current account surplus although favorable terms of trade mask a significant underlying deterioration (Figures 2.7 and 2.8).

<sup>6</sup> In Venezuela, real GDP fell by 3½ percent during the first half of 2010 relative to the same period in 2009, owing in part to severe energy shortfalls. New foreign exchange regulations were adopted in June, establishing stricter limits for participating in the official market.

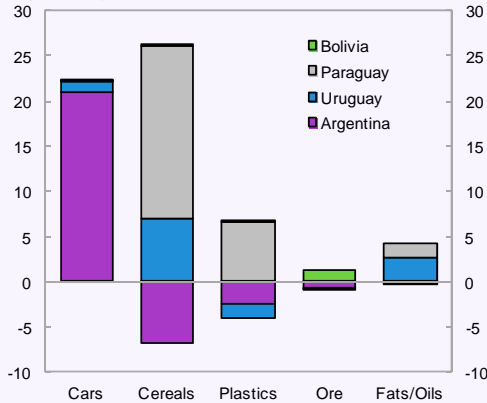
**Box 2.6. Real Spillovers from Brazil to Neighboring Countries**

**Although Brazil's imports from other Mercosur countries (Argentina, Paraguay, and Uruguay) represent only 10–12 percent of its total imports, Brazil is a key export destination for Mercosur countries, representing 25 percent of their total exports.** In addition to being an important source of tourism and investment flows to Mercosur countries, Brazil imports from Mercosur mainly capital and intermediate goods, which have important backward linkages to the real economy. Following a decline of nearly 25 percent in the first half of 2009, (seasonally adjusted) imports from Mercosur grew by more than 10 percent year-over-year in the second half of 2009, and were up close to 20 percent in the first half of 2010. Imports of Argentine automobiles and auto parts were up close to 65 percent (y/y) in the first half of 2010, representing about 45 percent of total Argentine exports to Brazil (compared with 20 percent precrisis). Cereal imports from Paraguay and Uruguay increased by similar magnitudes.

**Brazil: Imports from Mercosur by Sector**  
(Percent of total imports from Mercosur)



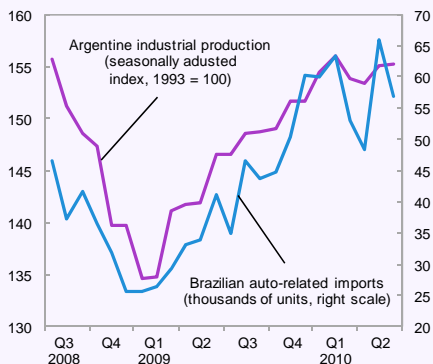
**Change in Share of Exports to Brazil<sup>1</sup>**  
(Percent)



Sources: National authorities; Brazilian General Trade Statistics; and IMF staff calculations.  
<sup>1</sup> Change in export share to Brazil by product is calculated as the difference in export shares for the period March 2009 through February 2010 against the period January 2001 through February 2008.

**In addition to the direct effect of trade, GDP growth in Mercosur countries is strongly influenced by domestic demand in Brazil.** Econometric estimates suggest that a 10 percent increase in Brazil's GDP growth would increase Argentina's growth by about 3 percent, whereas a 10 percent increase in capital goods imports by Brazil is estimated to pull up growth in Argentina by nearly 1 percentage point on an annualized basis, after controlling for other factors (that is, exports to China, U.S. growth, commodity prices, global interest rates). Similar effects are also found for Paraguay and Uruguay. These results are consistent with the large upward revisions in consensus forecasts for GDP growth in Brazil and its Mercosur partners since late 2009.

**Brazilian Imports and Argentine Industrial Production**



Sources: Haver Analytics; and IMF staff calculations.

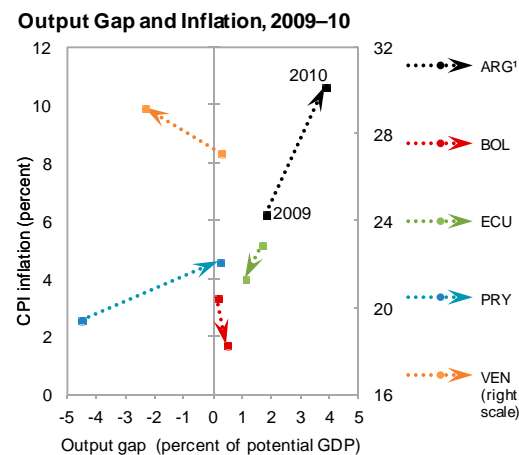
**Impact of Exports to Brazil on Real GDP Growth**

	$\Delta GDP_t$ (export type)	$\Delta X_{BRA}(t)$	$\Delta X_{BRA}(t-1)$	$R^2$	P(F-stat.)
ARG	Auto-related	0.02**	0.01*	0.78	0.00
	Capital	0.01*	...	0.68	0.00
URY	NonDurable	0.04***	...	0.54	0.00
PAR	Intermediate	0.001	0.01***	0.52	0.01

Sources: General Trade Statistics; and IMF staff estimates.  
<sup>1</sup> Real GDP regressed against volume of specified exports to Brazil, controlling for GDP growth in Brazil, the United States, Argentina, and lagged country GDP, commodity prices, Labor, U.S. interest rate spreads, Brazil export prices, Chinese imports from the region, and lags of these (not shown). Quarterly, 1995/98–2010, least squares, AR(1).

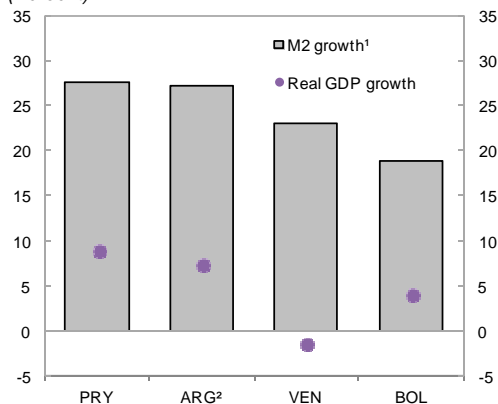
Note: This box was prepared by Rafael Romeu.

**Figure 2.8. In this group, policies remain largely procyclical.**



<sup>1</sup> Based on official inflation and GDP data.

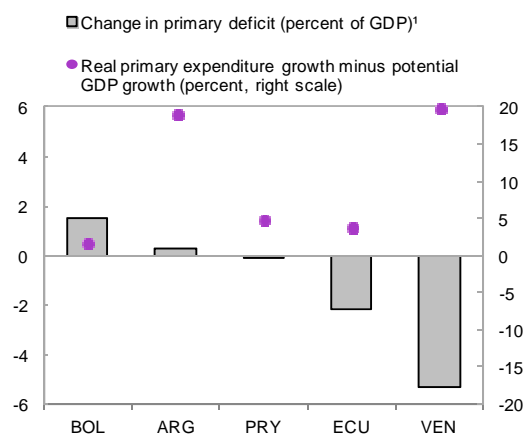
**Growth in Monetary Aggregates and Real GDP, 2010**  
(Percent)



<sup>1</sup> 12-month percent change through July 2010 or latest available.

<sup>2</sup> Based on official data.

**Change in Primary Deficit and Primary Expenditure Growth, 2010**



<sup>1</sup> Positive (negative) values indicate deterioration (improvement) in primary fiscal balances.

Sources: Haver Analytics, IMF, *International Financial Statistics*, and IMF staff calculations.

These countries would benefit from more prudent macroeconomic policies and from the establishment of institutions that help them put an end to procyclical fiscal policies and insulate their economies from swings in commodity prices. In that regard, the example of Bolivia is instructive as it has shown that careful management of energy receipts is consistent with well-targeted social spending, and has large payoffs to stability.

Strengthening the business climate remains critical. Interventionist policies are constraining the growth potential of these economies, and exposing them to increased fiscal and financial fragilities. In the case of Argentina, for example, improving access to international markets will require further efforts to regularize relations with creditors.<sup>7</sup> Blanket foreign exchange restrictions (such as those implemented in Venezuela) should be avoided, as they prove largely ineffective at stemming outflows and often prove to be counterproductive.

## Mexico and Central America—Recovery Gathers Strength Despite Headwinds from the United States

*In Mexico and Central America the recovery is strengthening, and policies should aim at consolidating the fiscal position. Mexico needs to compensate for declining oil revenues, while Central American countries need to recover the fiscal policy space used during the crisis and to deepen reforms that improve the business climate. In this group, strong linkages to the United States magnify downside risks from weaker growth in advanced economies.*

### Mexico: Fiscal Consolidation Amid Weak Trading Partner Outlook

Mexico is staging a stronger-than-anticipated recovery in 2010 led by a pickup in domestic demand in the second quarter. Strong

<sup>7</sup> Argentina launched a debt restructuring process with holdout creditors in May/June 2010; 70 percent of holders of defaulted bonds participated in the exchange (increasing the total participation of holders of defaulted bonds in the 2005 exchange to 91 percent).

automobile exports to the United States, on account of a turnaround in the inventory cycle of U.S. automakers, and favorable oil prices have further supported domestic demand and helped contain the current account deficit. Reserves have increased on the back of the policy of retaining oil export earnings coupled with rules-based intervention. The latter has been facilitated also by portfolio-dominated capital inflows. Domestic credit is slowly starting to recover, after remaining stagnant since early 2008.

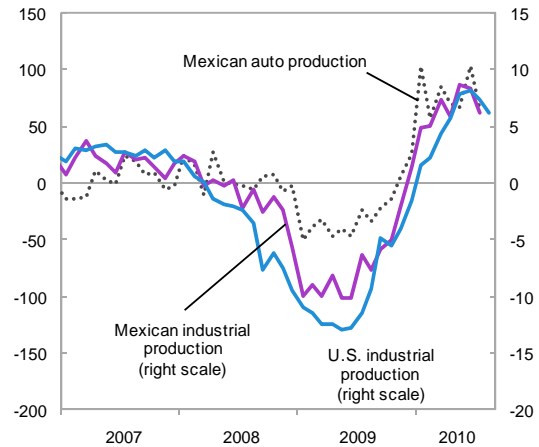
Growth for 2010 is projected to exceed 5 percent, even with a slowdown during the second half of the year in line with the projected cooling of the U.S. economy and unwinding of temporary factors that led to a surge in U.S. imports during the first semester. The output gap remains large and is projected to close gradually, in the face of limits to demand-led policies (Figure 2.9).

Fiscal policy is constrained by the clear need to consolidate public finances given medium term risks for budget revenues from uncertainties over future oil production. In this context, monetary policy can take up the slack and remain supportive for a longer period.

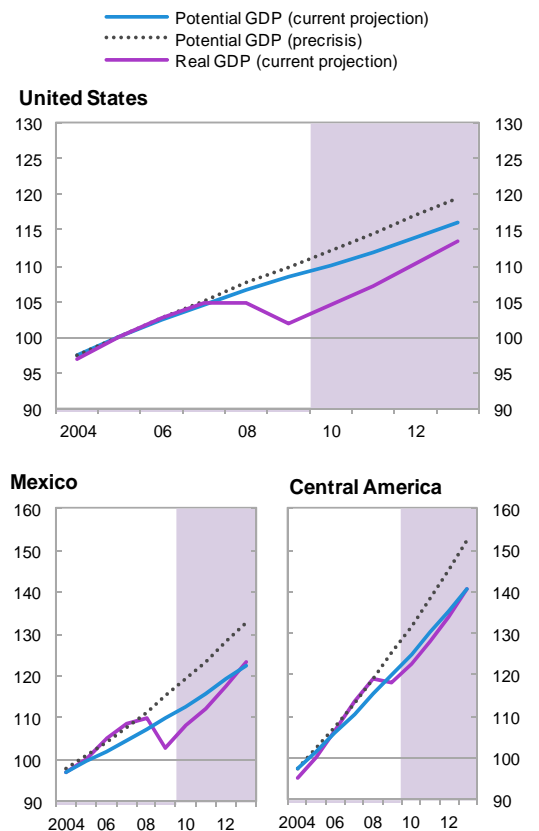
Risks to the outlook remain tilted to the downside. Deterioration in U.S. consumer confidence resulting from weaker housing and employment could affect Mexico's recovery; in the other direction, easy external financing conditions could help to stimulate private demand. Moreover, with more than 80 percent of domestic banking system assets owned by systemic global banks, higher capital charges arising from the global financial sector regulatory reform could have knock-on effects on credit in Mexico. Potential spillovers, however, are limited given global banks' use of subsidiaries (with own capital and healthy balance sheets) and their reliance on local deposits as their main source for their funding.

**Figure 2.9. Ties with the United States dominate the outlook for Mexico and Central America.**

**United States and Mexico: Industrial and Auto Production (12-month percent change)**



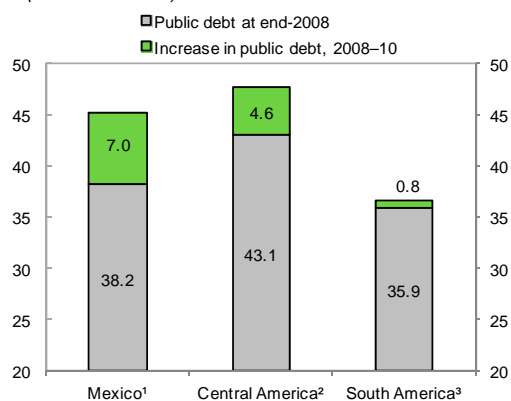
**Actual and Potential GDP Paths (Indices, 2005=100)**



Sources: Haver Analytics; and IMF staff calculations.

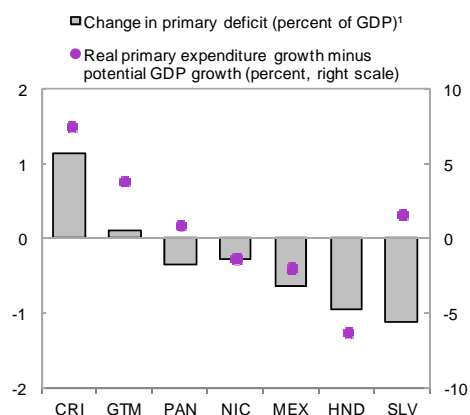
**Figure 2.10. Fiscal buffers require rebuilding in some countries and spending composition has ample room to improve.**

**Gross Public Debt, 2010**  
(Percent of GDP)



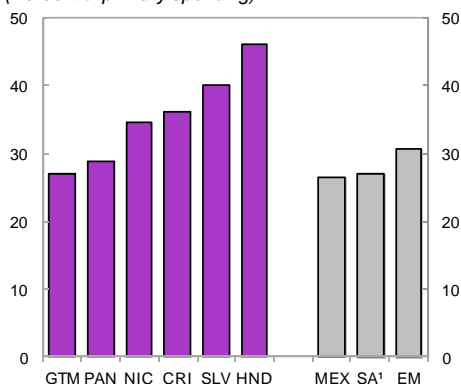
<sup>1</sup> Mexico compares end-2007 with end-2010.  
<sup>2</sup> Simple average for region, excluding Nicaragua.  
<sup>3</sup> Simple average for South America.

**Change in Primary Deficit and Primary Expenditure Growth, 2010**



<sup>1</sup> Positive (negative) values indicate deterioration (improvement) in primary fiscal balances.

**Public Sector Wages, 2008-09**  
(Percent of primary spending)



<sup>1</sup> Simple average for Brazil, Chile, Colombia, and Peru.

Sources: Fiscal Monitor, 2010; and IMF staff calculations.

**Central America: Rebuilding Policy Buffers**

The countries in Central America are recovering gradually, led by a rebound in domestic demand (following its sharp contraction in 2009), which has partly spilled over into imports. Pickups in exports and more recently remittances have been further positive developments. Foreign direct investment (FDI) has been fairly resilient throughout the downturn and continues to finance the bulk of the region's current account deficit.

The recovery has been faster in Panama and Costa Rica, where stronger policy frameworks were able to accommodate a larger policy stimulus.<sup>8</sup> The recent slowdown in activity in the United States has thus far not affected the region's recovery, although this may reflect transmission lags.

For 2010, output in the Central American region as a whole is projected to expand by about 3 percent, somewhat below potential. Output gaps are relatively small (the downturn in 2009 was not too severe, and potential output growth slowed), so room and desirability for active demand policies is very limited. Growth will remain dependent on the path of U.S. imports, which given the permanent output loss in the United States, would imply lower income levels for the region than those projected prior to the crisis.

The fiscal stimulus is being gradually withdrawn in most countries, though growth in real primary spending in 2010 in some countries remains well above trend growth. Monetary policy remains constrained in many cases by fixed exchange rate regimes and high levels of

<sup>8</sup> Panama has also benefited from works related to the canal expansion, while Costa Rica has stronger trade links with Asia.

dollarization, as well as a low degree of financial intermediation.<sup>9</sup>

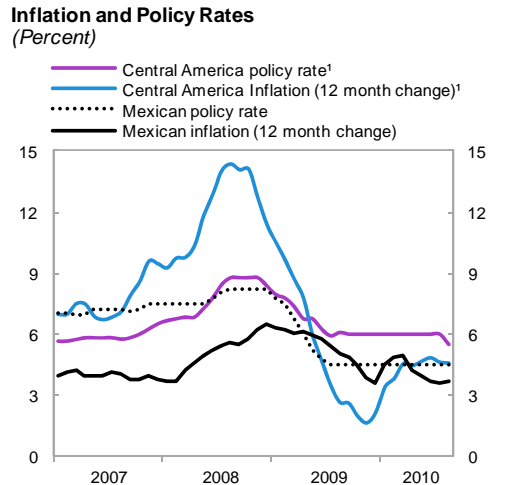
Looking forward, Central American countries should focus on restoring the fiscal policy space used during the crisis to give them more scope to conduct countercyclical policies in the future. Public debt in the Central American region is projected to average slightly more than 40 percent of GDP by end-2010 (4½ percentage points higher than in 2008), and debt ratios continue to be highly sensitive to growth and interest rate shocks.

Over the near term, fiscal consolidation should focus on slowing the growth in current spending, particularly on wages (Honduras, Nicaragua), and generalized energy subsidies (El Salvador). Efforts should also be made over the medium term in mobilizing revenues (Guatemala) and making public pension systems more viable (Honduras and Nicaragua), including to make space for much needed social and infrastructure spending (Figure 2.10).<sup>10</sup> If downside risks to growth were to materialize, those countries with low public debt levels could make the pace of consolidation more gradual.

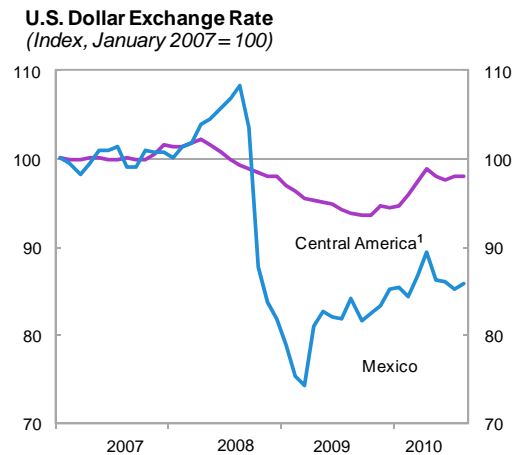
Countries with scope to conduct monetary policy (Costa Rica and Guatemala) should continue strengthening their monetary frameworks, including by allowing greater exchange rate flexibility (Figure 2.11). In dollarized economies (El Salvador) or those with pegs (Honduras and Nicaragua), priority needs to be placed on keeping central bank credit in check and continuing to develop interbank markets, while embarking on reforms that reduce nominal price and wage rigidities.

Emphasis will also need to be placed in improving the business climate in Central

**Figure 2.11. In Central America, limited exchange rate flexibility and high levels of dollarization constrain monetary policy.**

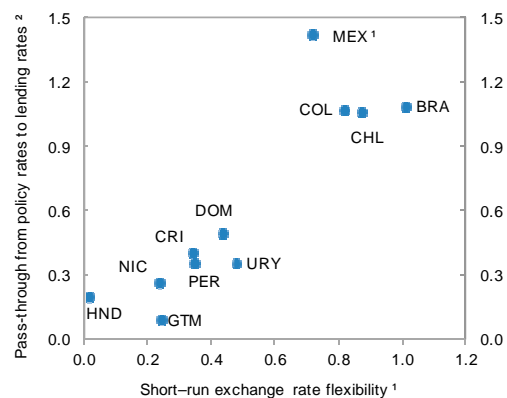


<sup>1</sup> Simple average of Costa Rica, Guatemala, and Honduras.



<sup>1</sup> Simple average of Costa Rica, Guatemala and Honduras.

**Monetary Transmission and Exchange Rate Flexibility**



<sup>1</sup> Monthly data for 2005–09, except for Mexico (2008–09). Exchange rate flexibility is calculated as the standard deviation of weekly log differences in local currency per U.S. dollar times 100.

<sup>2</sup> Pass-through represents coefficient of OLS regression where change in bank lending rate is regressed against one month lag of policy rate.

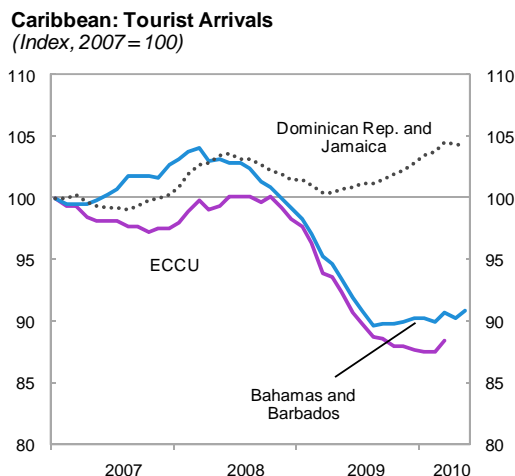
Sources: Bloomberg; Central American Monetary Council Secretariat; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>9</sup> Despite opening output gaps and a sharp drop in inflation following the crisis, policy rates were reduced only very modestly in 2009, likely reflecting concerns over currency depreciation.

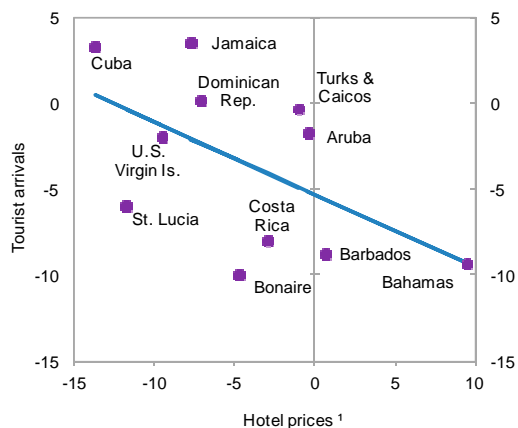
<sup>10</sup> Nicaragua enacted a revenue-raising tax reform in 2010, and Panama adopted two far-reaching tax reforms during 2009–10.



**Figure 2.12. Tourist arrivals are starting to recover, with help from hotel price cuts.**



**Tourist Arrivals and Hotel Prices, 2009 (Percent change)**



<sup>1</sup> Percent change in the average reported hotel price in U.S. dollars in each destination against the change in the number of arriving tourists.

Sources: Caribbean Tourism Organization; WTO; Hotels.com; and IMF staff calculations.

America (which ranks low by international standards) and increasing the diversification of exports.<sup>11</sup>

<sup>11</sup> Earlier this year, an association agreement was signed with the European Union.

## The Caribbean—Turning the Corner Amid Vast Challenges

The Caribbean region is gradually recovering from last year's severe recession. Tourism appears to have turned the corner, yet headwinds from weak labor markets in advanced economies constrain tourism growth prospects. The key challenge lies in consolidating public finances while strengthening competitiveness. Prospects are somewhat more favorable in countries with lower debt burdens and lower dependence on tourism.

### Securing Growth

After declining by more than 3 percent in 2009, real GDP for the Caribbean as a whole is projected to post only marginal gains in 2010 (growing by an average of about 1 percent, after relatively low debt ratios and is benefiting from ongoing reconstruction efforts in Haiti).

In Haiti, the reconstruction that followed the devastating earthquake in January 2010 is supporting a fragile recovery. Large external assistance in the years ahead is expected to boost growth, while the impact on inflation is expected to be contained given very large output gaps and the high import component of aid (see Box 5.1 for a more detailed discussion). The prospects would be much different, however, if the pledged assistance failed to materialize on time.

The tourism sector in the Caribbean is expanding very slowly, in line with the tepid recovery in employment conditions in advanced economies. During the first half of 2010, tourist arrivals in the Caribbean increased by an average of 3½ percent compared with the same period last year. This was led by increased arrivals from the United States and Canada, against continued declines from Europe.<sup>12</sup>

The recovery of tourism, however, has been uneven. Smaller islands in the region have experienced a sharper and more prolonged

<sup>12</sup> IMF staff estimates suggest that a 1 percent point increase in advanced-economy unemployment leads to roughly a 5 percent decline in arrivals. See Romeu and Wolfe (2010).

decline in tourist arrivals than some of the larger islands. A closer look at the data suggests that destinations that significantly reduced hotel prices following the crisis experienced milder declines in arrivals. Though many factors are likely at play, downward price rigidities could help explain these intraregional differences. For example, hotels in the Dominican Republic and Jamaica lowered prices more than other countries and did not experience a decline in the number of tourist arrivals. In contrast, hotels in the Bahamas and Barbados were more reluctant to reduce prices and their tourist arrivals fell (Figure 2.12).

Boosting competitiveness and growth over the medium term remains a key policy challenge. For the whole region, improving productivity will require sustained structural reforms, including enhancing the role of the tourism sector. Labor markets will need to be more flexible (especially important given fixed exchange rate systems) to allow the region to better react to external shocks and to increased competition for tourists from inside and outside the region (including Cuba, Box 5.2).

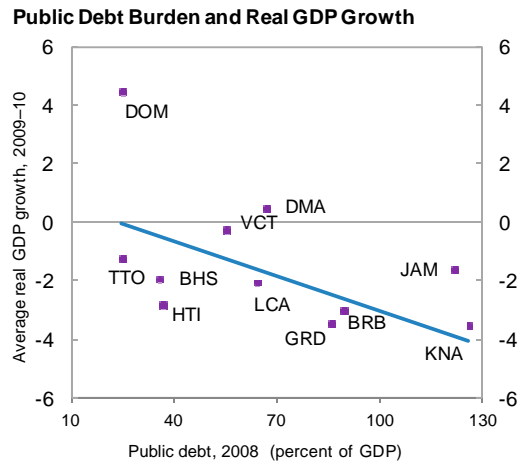
Risks to the region are on the downside. In addition to the risks of policy slippages, the region is highly exposed to advanced country labor conditions, which could falter. With no space to adopt countercyclical policies, the region would have to adjust to a more negative scenario by focusing any expenditure on protecting the poorest households.

### Reducing High Debt Burdens

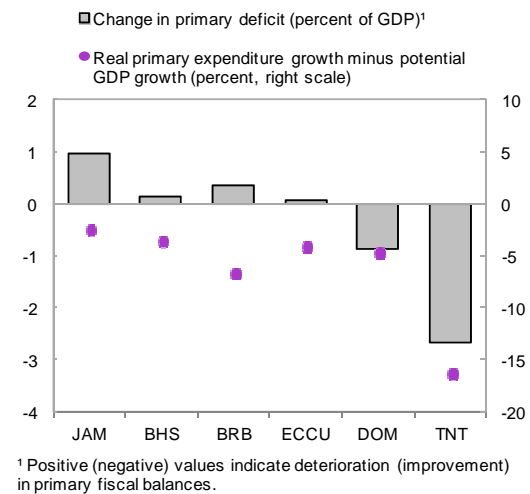
In most countries in the region, efforts are under way to consolidate public finances and reduce heavy public debt burdens, but weak growth and low revenues make progress difficult. Despite a contraction in real primary spending, public debt is projected to increase by an average of 15 percentage points of GDP between 2008 and 2010, for the region as a whole.

To finance their large fiscal imbalances,

**Figure 2.13. High debt hindered growth and room to implement countercyclical policies.**



**Change in Primary Deficit and Primary Expenditure Growth, 2010**



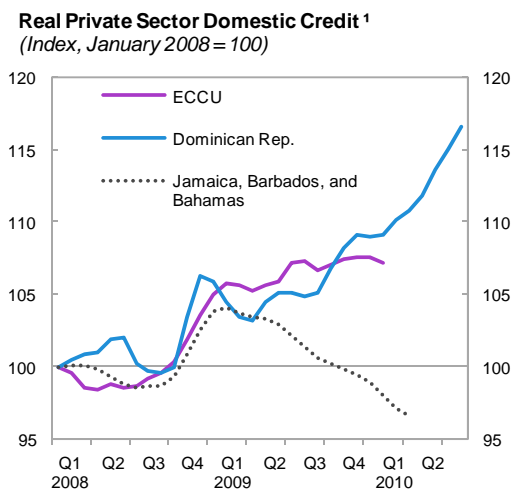
Sources: Country authorities; and IMF staff calculations.

governments in the region have turned to local pension funds and banks, as well as International Financial Institutions to finance the large fiscal imbalances. Concessional financing from Venezuela’s PetroCaribe has also played an important role, though doubts persist over the sustainability of this assistance, given economic conditions in Venezuela.

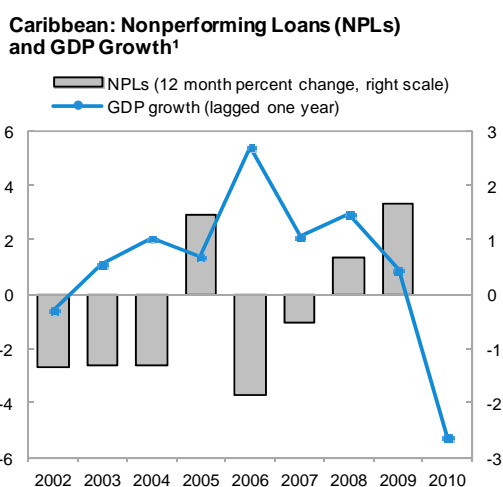
As noted in previous editions of the *Regional Economic Outlook: Western Hemisphere* and



**Figure 2.14. Credit recovery is uneven, and vulnerabilities are building from knock-on effects of the downturn.**



<sup>1</sup> Credit to the private sector deflated by CPI, two-month average.



<sup>1</sup> NPL measured as impaired loans to gross loans for each country. Country-specific NPLs based on average of available data for all reporting banks in each country. Caribbean average includes Bahamas, Barbados, Grenada, Jamaica, and St. Kitts and Nevis.

Sources: Bankscope; and IMF staff calculations.

analyzed further in Chapter 5, placing and maintaining public debt on a firmly declining path is critical to breaking from the current low-growth, high-debt trap (Figure 2.13). Achieving the required large improvement in the primary balance will require strong resolve in containing primary spending, particularly public sector wages. This would also help improve competitiveness, given their spillovers on private compensation. In

addition, measures aimed at broadening the tax base (including through the elimination of generous tax incentives) will be necessary to boost revenues over the medium term.

### Strengthening the Financial Sector

Credit in the Caribbean region has been slow to recover (much like Central America), due to weak credit demand, though in some cases damaged bank balance sheets have been a factor.<sup>13</sup> In addition, in some countries large government financing needs may be crowding out credit to the private sector (The Bahamas, Barbados, and Jamaica). Moreover, some increase in non-performing loans resulting from the downturn, coupled with weak oversight and low provisioning ratios could pose additional risks to the system (Figure 2.14). Supervisory authorities need to keep close oversight and stand ready to intervene if needed.

Financial systems remain vulnerable to contagion shocks by cross-border financial conglomerates. Contingent liabilities associated with the collapse of the Trinidad and Tobago-based CL Financial Group<sup>14</sup> remain a key fiscal risk, particularly for the ECCU, where insurance claims amount to 17 percent of regional GDP. Legislative proposals to strengthen and harmonize supervision and regulation across regional partners must be adopted immediately to improve oversight and mitigate fiscal risks. Consideration should be given to the establishment of a single regulatory umbrella that brings all nonbank financial institutions under one domain as well as to greater cross-border regional supervisory cooperation.

<sup>13</sup> Private credit has rebounded in the Dominican Republic, likely reflecting low leverage ratios and improved growth prospects.

<sup>14</sup> Trinidad and Tobago spent in 2009 about 4 percent of GDP in bailing out the group's insurance subsidiaries: the Colonial Life Insurance Company (CLICO) and the British American Insurance Company (BAICO). The bailout is limited to CLICO operations in Trinidad, and the issue has yet to be resolved in other islands.

### 3. Looking at the Last Credit Cycle to Better Manage the Next One

*The main financial challenge in Latin America is to increase financial depth safely, without exacerbating economic cycles. In recent years, firms and households increased their access to bank credit, in part as governments found in domestic bond markets an alternative source of funding. The bank credit cycle since 2005 shows that credit growth continues to be procyclical, but this cycle avoided the collapses in credit seen in the past. This was possible because banks funded credit mostly from a stable domestic base. Also bank liabilities to nonresidents—the most volatile source of funding—were relatively small. In terms of the role of bank ownership, foreign banks tended to amplify this time the cycle, while public banks played a countercyclical role. Although banks have successfully passed the recent “real live stress test,” this should not give room for complacency, especially as a new credit cycle begins.*

This chapter examines selected aspects of domestic financing in Latin American economies over the most recent credit cycle, with an emphasis on the events surrounding the global crisis. The focus is on bank credit and, to a lesser extent, on bond financing. The main goal is to derive lessons from the region's experience during the last financial cycle to better manage the next one.

The chapter starts with a brief overview of the main structural features of the banking system, while highlighting some relevant financing trends in Latin America. It then examines the behavior of banks and bond markets during the 2005–09 cycle and the incipient current recovery. Finally, policy implications for managing the new financial cycle are drawn from the analysis.

---

Note: This chapter was prepared by Jorge Ivan Canales-Kriljenko and Camilo E. Tovar.

#### An Overview of the Financial System

The global financial crisis has highlighted the need to improve the understanding of credit dynamics to build safer and more stable banking systems. To do so, it is useful to understand the market structure and balance sheet composition of the banking system.

Bank credit continues to be the main source of funding in Latin America, in particular for the private sector (Figure 3.1). However, the depth of domestic bank financing continues to be relatively shallow in the region, as is evident when compared with other emerging markets. The average size of total bank credit has barely exceeded 40 percent of GDP over the past decade, half as large as in Asia and smaller than in emerging Europe (Figure 3.1). Exceptions include Brazil and Chile, where total bank credit to GDP exceeds 75 percent.

The credit market in Latin America is dominated by private, domestically owned banks (Figure 3.2). However, foreign-owned banks and crossborder flows do play an important role in many countries (Box 3.1). The provision of credit by public banks had been declining across the region before the Lehman events, but has since played a significant role in some economies such as Brazil, Chile, and Costa Rica.

A closer look at bank credit in Latin America reveals that most domestic bank credit is funded from resident sources. These mainly took the form of relatively stable deposits, as opposed to wholesale funding (Figure 3.3). In recent years, however, funding has increasingly relied on the issuance of securities (for example, bonds,

**Box 3.1. Structure of Private Sector Credit Market: Role of Foreign Banks**

**Latin American firms and households get bank credit from domestic and foreign institutions.** For the average country, domestic and foreign banks that report to the Bank of International Settlements (BIS) provided about 30 percent of GDP in credit to the nonfinancial private sector by end-2009. About 90 percent came from banks with a physical presence in the country, whether domestic banks or foreign branches and subsidiaries. The local presence of foreign banks in domestic credit is very large in some countries, but for the median country in the region, it accounts for about 20 percent of domestic bank credit. Crossborder bank credit amounts to about 3 percent of GDP.

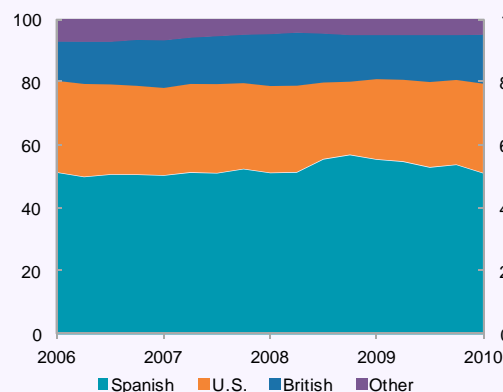
**The extent of direct involvement of foreign banks varies considerably across countries.** Crossborder bank financing is particularly large in Chile (about 10 percent of GDP) and about 4 percent of GDP in Brazil and Mexico. Foreign bank branches and subsidiaries of BIS reporting banks provide credit up to 25 percent of GDP in Chile, 19 percent of GDP in El Salvador, and about 15 percent of GDP in Mexico. In Brazil, this share has increased significantly over the last few years, but is still relatively small at about 6 percent of GDP.

**Spanish banks play a dominant role.** They account for about 50 percent of the total claims of global banks on Latin America. In turn, U.S. banks account for close to 30 percent, and British banks for close to 20 percent. Canadian, Dutch, and German banks account for less than 5 percent each. Nevertheless, the importance of global banks from individual advanced countries varies across countries in Latin America. The Spanish Banco Santander and Banco BBVA have an important presence in the two largest countries in the region, with Santander playing a large role in Brazil and Banco BBVA focusing its operations in Mexico.

**The share of Brazil, however, has been increasing since late 2005, at the expense of that of Mexico's.** Because of their size, Brazil and Mexico receive the bulk of global bank claims on Latin America. The portfolio shift favoring Brazil may have reflected the view that economic conditions in Mexico might deteriorate more than in Brazil from the stress in the U.S. economy since 2007, given its close connection to U.S. manufacturing. The shares of Brazil and Mexico, however, appear to have stabilized since late 2009, probably reflecting the favorable impact of the U.S. recovery on Mexico.<sup>1</sup> Chile has received a relatively large and stable share of global bank financing over the last five years.

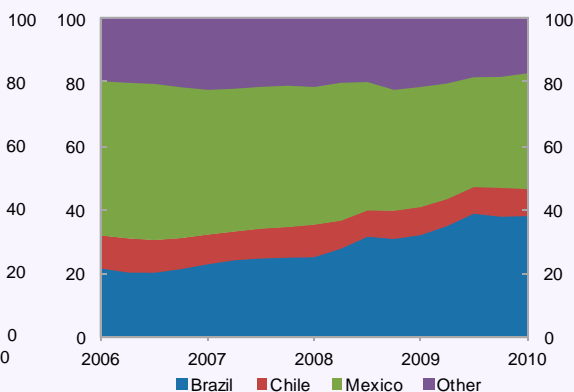
**Share of Banks in Advanced Countries on Latin America**

(Percent of total claims from advanced countries)<sup>1</sup>



**Country Share in Foreign Claims from Selected Advanced Countries**

(Percent of total claims from advanced countries)<sup>1</sup>



Source: Bank for International Settlements.

<sup>1</sup> The share is with respect to total consolidated claims from British, Canadian, Dutch, German, Spanish, and U.S. banks on Latin America on an immediate borrower basis.

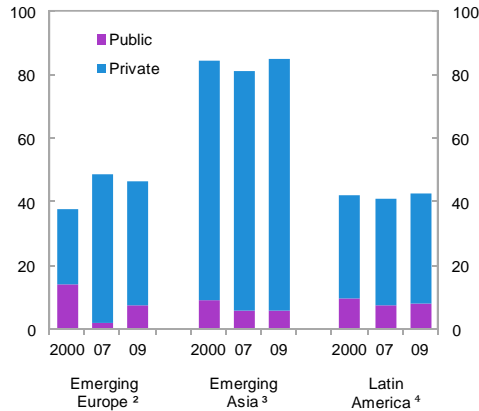
Note: This box was prepared by Jorge Iván Canales-Kriljenko.

<sup>1</sup> Global bank presence in Brazil is much smaller than in Mexico, but Brazil's financial sector is much larger than that of Mexico.

**Figure 3.1. The financing structure in Latin America is dominated by banks, but bond markets have expanded.**

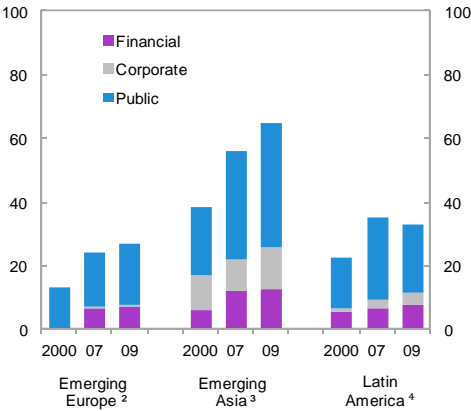
**Size of Bank Credit Markets<sup>1</sup>**

(Value outstanding, simple average of GDP shares)



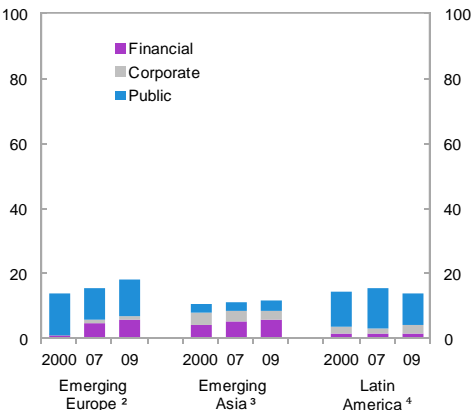
**Size of Domestic Bond Markets**

(Value outstanding, simple average of GDP shares)



**Size of International Bond Markets**

(Value outstanding, simple average of GDP shares)



Sources: Bank for International Settlements; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Stock of credit, net of deposits.

<sup>2</sup> Includes Hungary, Poland, and Russia.

<sup>3</sup> Includes China, India, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan Province of China, and Thailand.

<sup>4</sup> Includes Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela.

including subordinated debt, and short-term instruments).

Credit to the private sector is the main asset on banks' balance sheets. Banks also hold a large share of government and central bank assets (Figure 3.4). Foreign assets average about 10 percent of assets, although a few of the more dollarized banking systems also hold a nontrivial share (10–20 percent) of their assets abroad.<sup>1</sup>

Against this background, the financing landscape has witnessed an important transformation in the main economies of the region: the expansion of domestic bond markets, from a very limited base in 2004. This is especially significant for the government and financial sectors (Box 3.2), while corporate bond markets have remained largely underdeveloped (Figure 3.1). As a result of this transformation, the public sector has been able to diminish its funding from banks, crowding in funds now available for the private sector.

## Learning from the Last Financial Cycle

### How Big Was the Recent Cycle?

Looking over the last 15 years, credit growth has been procyclical in Latin America, a common pattern in other emerging markets (Figure 3.5).<sup>2</sup> The amplitude of the cycle typically exceeds—by far—that of domestic demand or GDP. Thus, credit-to-GDP ratios tend to increase notably in upswings and decline during recessions.

<sup>1</sup> There is no evidence that banks in the region held the “toxic assets” associated with the global financial crisis, at least not in significant amounts.

<sup>2</sup> The causal relationship between economic activity and credit probably goes both ways, although this is ultimately an empirical issue that is difficult to disentangle precisely. In this chapter, we assume that expansions and contractions of credit have a causal effect on economic activity, at least to some extent. This does not preclude the existence of a reverse effect, from activity to credit.

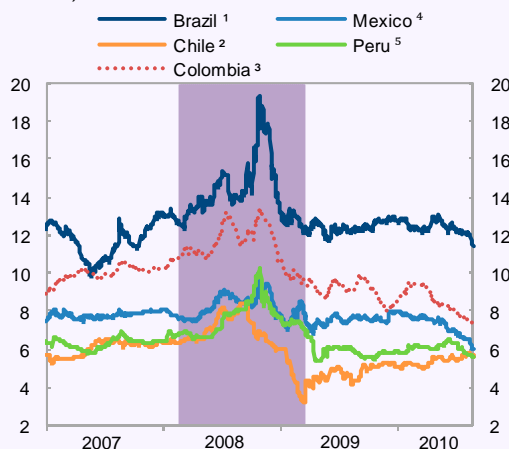
### Box 3.2. Government Bond Markets in Latin America

**A key financing transformation before the global crisis in the largest economies of the region (Brazil, Chile, Colombia, Mexico, and Peru) was the expansion of markets for domestic government bonds in local currency (Figure 3.1).** Fostered by improvements in debt management practices, macroeconomic policies, and favorable external conditions, the process was similar to that seen in Asia.<sup>1</sup> The size of liquid domestic government debt in the region increased from 29 percent to 36 percent of GDP (US\$450 billion to US\$1.1 trillion). This expansion led to a fall of vulnerabilities associated with exchange rate and rollover risks. Exchange rate-linked debt was phased out, and fixed-rate instruments in local currency expanded rapidly. The average maturity of marketable debt also lengthened from 3 to more than 5 years. By early 2008, most governments in the region had built up relatively liquid bond markets with yield curves in local currency that spanned in some cases up to 15 years and in others up to 30 years or more (for example, Mexico and Peru), providing with it important pricing information for the economy. This transformation was supported by domestic agents (for example, banks and pension funds) and to a much lesser degree by foreign investors, who had a limited participation—the main exception was Mexico (CGFS, 2008).

#### How dependable have these markets been?

Bond markets in Latin America were not immune to the jump in risk aversion and the global process of flight to dollar liquidity and quality. The Lehman Brothers' episode led to a rapid and sharp increase in government yields, especially pronounced in the long end of the curve (see figure to the right, in particular the shaded area).<sup>3</sup> However, the widening of domestic government bond yields proved to be short lived. By early 2009, yields were back down to precrisis levels. Econometric analysis indicates some decline in the sensitivity of domestic government bond yields to global risk aversion, as captured by the VIX index. Thus markets are slowly graduating into adulthood, reflecting improvements in the overall management of the economies and public finances (as also suggested by upgrades of sovereign credit ratings over the years, and by declining spreads). Still, the results confirm that these markets are not fully immune to contagion, and that they do not yet behave as mature markets (for example, Australia, Canada, New Zealand or Norway) where bouts of global risk aversion tend to lower bond yields.

**Long-term Domestic Government Bond Yields (Percent)**



Sources: Bloomberg; and LLP.

<sup>1</sup> Brazilian instrument: 10% bond due Jan. 2014; pricing data begins Aug. 2006.

<sup>2</sup> Chilean instrument: 8% note due 06/01/14; pricing data begins July 2004.

<sup>3</sup> Colombian instruments: 15% note due 01/25/12 for period 8/14/2003 to 4/8/2008; thereafter, pricing is for the 11.25% note due 10/24/18.

<sup>4</sup> Generic 10 year yield quoted by Bloomberg LLC.

<sup>5</sup> Peruvian instrument: 7.84% bond due 08/12/20; pricing data begins July 2005.

Note: This box was prepared by Camilo E. Tovar.

<sup>1</sup> For an account of the policy challenges in developing local currency bond markets, see IMF (2002), Hausmann and Eichengreen (2005), BIS (2008), CGFS (2007), and Mathieson and others (2004). See Ocampo and Tovar (2008) for a discussion of how this transformation is linked to changes in the external financing patterns of the region.

<sup>2</sup> See Borensztein and others (2008) for an overview of corporate bond markets in Latin America before the crisis.

<sup>3</sup> Chile displayed a behavior that diverged from the rest of the region, possibly suggesting that the local market is starting to mature.

**However, the evidence does suggest that there is a declining trend in the sensitivity of bond yields to risk aversion in tranquil periods.**

Indeed, Chile has displayed negative sensitivity to risk aversion over the past year (light blue bar in figure to the right). This contrasts with the positive sensitivity that characterized these markets in the tranquil period that preceded the Lehman event (dark blue bar in the figure). Even in countries where markets reacted strongly during the crisis, such as Brazil, there are signs of a declining sensitivity during the past year. These results are encouraging in that they include the recent new round of turbulence in global markets that originated in Europe earlier this year (see Box 2.1).

**Domestic bond markets saw an important decline in issuance in the fourth quarter of 2008.**

However, this partly reflects that government financing needs had already been met. Long-term improvements in government debt management and reduced fiscal deficits meant that the decline did not generate an immediate funding gap.<sup>4</sup> When needed, governments in the region were able to issue, roll over, and swap debt in domestic bond markets.

**Overall, while the evidence is not complete, bond markets did remain available as a source of funding, especially for governments.** This was also true to some extent for high tier firms, but not for small and medium-size enterprises.

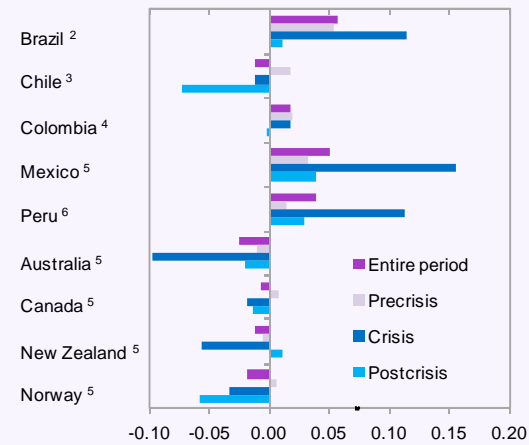
<sup>4</sup> As an example, in September 2008, Colombia had completed its Annual External Financing Plan and 96 percent of its domestic financing needs.

During the last credit cycle in Latin America, real credit growth accelerated from 2005 onward and remained high, only to fall, with economic activity, following the Lehman Brothers event. That said, there has not been a collapse of real credit levels, as banking systems this time proved relatively resilient to external shocks.

During the upswing (June 2005 and September 2008), the average ratio of private credit to GDP increased by 10 percentage

**Sensitivity of Domestic Currency Sovereign Bond Yields to the VIX<sup>1</sup>**

*(Coefficients of log changes in bond yields in percent)*



Sources: Bloomberg, L.P. and IMF staff calculations.

<sup>1</sup> Specification: log change in bond yield regressed on log change in the VIX, square of log change in the VIX and the log change in 10 year U.S. treasury yield. Coefficients presented are the sum of the coefficient on the VIX and two times the log change of the VIX squared coefficient (first derivative).

Specification was run on weekly changes in yields to maturity over the four periods: a) entire period, January 2008 to August 2010; b) pre-crisis period, January 2005 to July 2008; crisis period, August 2008 to July 2009; and the recovery period, August 2009 to August 2010. Estimates in chart evaluated at the average change in the VIX for each period.

<sup>2</sup> Brazilian instrument: 10% bond due Jan. 2014; pricing data begins Aug. 2006.

<sup>3</sup> Chilean instrument: 8% note due 06/01/14; pricing data begins July 2004.

<sup>4</sup> Colombian instruments: 15% note due 01/25/12 for period 8/14/2003 to 4/8/2008; thereafter, pricing is for the 11.25% note due 10/24/18.

<sup>5</sup> Generic 10 year yield quoted by Bloomberg LLC.

<sup>6</sup> Peruvian instrument: 7.84% bond due 08/12/20; pricing data

points.<sup>3</sup> However, there were significant differences across countries in the region. For instance, in Brazil, Chile, Costa Rica, and Honduras the total increase in bank credit exceeded 15 percentage points of GDP. Crossborder lending to firms and households

<sup>3</sup> Changes in credit-to-GDP ratios are computed from the evolution of real credit and GDP. Moreover, the real credit figure controls for real exchange rate fluctuations. Base ratios are those for December 2007.



was a key part of the picture only in few countries, mainly in Central America (Figure 3.6).<sup>4</sup>

During the slowdown, credit declined on average about 1 percentage point of GDP between the peak of the cycle reached in September 2008 and the trough, the timing varying by country. The most significant declines occurred in El Salvador, Guatemala, Honduras, and Uruguay. As of March 2010, credit in several Central American countries was still contracting. Despite their low weight in total credit, crossborder flows explain a significant part of the credit decline in these countries (Figure 3.7).

### Shifts in Funding and Asset Structure

In the upswing, banks funded their credit expansion with an increase in the domestic deposit base, but also by intermediating funds from the government and nonresidents into firms and households. By saving part of the fiscal revenue boom and having access to bond financing, central governments reduced their net credit from banks, making more funds available for bank lending to firms and households. In some countries, banks also experienced a moderate increase in liabilities to nonresidents, part of which they lent to firms and households.

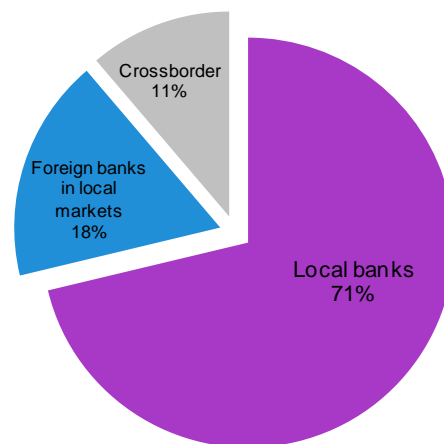
In some countries, banks also lent to firms and households funds received from other nonbank financial institutions, including pension funds (Figure 3.8).

During the slowdown, a sharp deceleration in the growth rate of bank liabilities—including to a lesser extent domestic deposits—took place. Credit to firms and households decelerated even more as balance sheet trends seen during the upswing reversed direction. In this phase, banks ended up transferring (net) funds to nonresidents (deleveraging their exposure

<sup>4</sup> The expansion did not qualify as a full “credit boom” under the methods used in the literature (Mendoza and Terrones, 2008).

**Figure 3.2. Domestic local banks dominate the private credit market.**

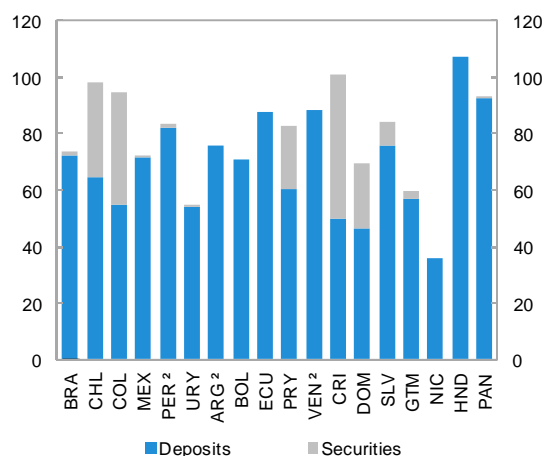
**Domestic and Foreign Bank Shares in Credit to Private Sector<sup>1</sup>**



Sources: BIS banking statistics; IMF, *International Financial Statistics*; and IMF staff calculations.  
<sup>1</sup> Average of Latin American country shares for March 2010.

**Figure 3.3. Credit is mainly funded from resident sources in the form of stable deposits.**

**Private Credit to Monetary Deposits and Securities<sup>1</sup> (Percent)**

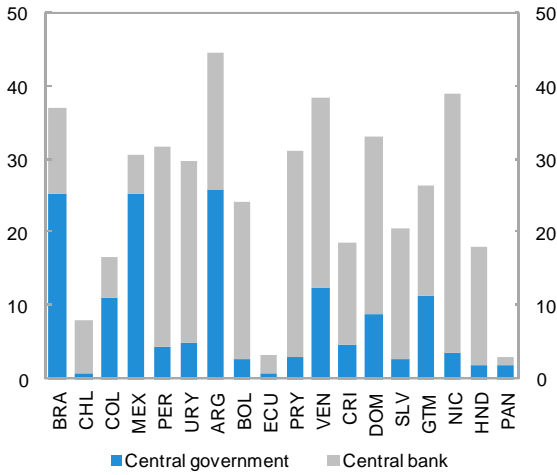


Source: Data submitted by country authorities for the preparation of IMF's, *International Financial Statistics*.

<sup>1</sup> Estimated by dividing the stock outstanding of credit to the nonfinancial private sector by the sum of monetary deposits and securities. The proportion of the total bar that is painted in grey shows the percent of securities in monetary liabilities.  
<sup>2</sup> Information on total stock of monetary securities not available.

**Figure 3.4. Government and central bank debt constitute an important share of banks' assets.**

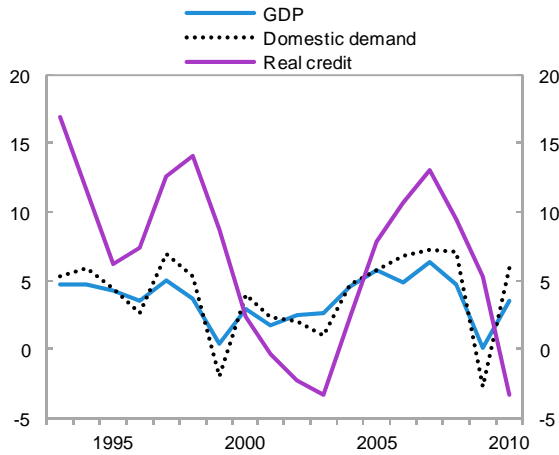
**Share of Central Bank and Central Government in Bank Assets, March 2010**



Source: Data submitted by country authorities for the preparation of IMF, *International Financial Statistics*.

**Figure 3.5. Credit growth is procyclical.**

**Cycles in Real Credit, Domestic Demand, and GDP in Latin America<sup>1</sup>**  
(Percent)



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Real credit is estimated by dividing nominal bank credit to the nonfinancial private sector (average over the last two end-of-period data points) by the implicit GDP deflator. Lines show the medians of the growth rates in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

abroad or building up foreign assets) and to the government (Figure 3.9). Ultimately, the crisis showed that domestic deposits were the most stable source of bank funding, while nonresidents were the most volatile liabilities. In general, financial institutions were not a source of instability, as bank soundness was preserved and the supply of credit did not collapse as it did in the late 1980s and early 1990s. The slowdown in credit growth, however, did affect the most leveraged firms (Box 3.3).

Part of the reduction of credit reflects a flight-to-quality asset management response by banks. This is captured by the increase in the share of the government and central bank securities in the asset side of the bank's balance sheet. The economic slowdown increased uncertainty on loan performance, which led to tighter credit standards. Thus banks shifted from riskier loan portfolios toward safer and more profitable securities (for example, government bonds).<sup>5</sup> The dry-up of liquidity in global markets led to a partial selloff of foreign investors' fixed income portfolio holdings in emerging markets, including Latin America (Figure 3.10).

In the large economies of the region, bond and other securities issuance provided banks with an alternative source of funding. This was possible because, unlike in past episodes, capital flight did not take place. On the contrary, some domestic agents such as pension funds repatriated capital. During 2009 and 2010, several banks in the region issued bonds to support their working capital and sustain credit growth (for example, BBVA Colombia, BBVA Bancomer, Banco Santander Peru, Scotia Bank Peru). Long-term bonds provided banks with a stable source of funding, unscathed by the crisis.

<sup>5</sup> In some large economies, banks acquired government bonds that foreign investors left behind.



### Box 3.3. Financial Structure and Corporate Performance during the Global Crisis: Microevidence for Latin America

**In Latin America, more leveraged firms suffered more during the global financial crisis.** This is what results from an econometric exercise based on balance sheet data for all nonfinancial publicly traded firms of Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

**Using difference-in-difference cross-sectional regression techniques, Kamil and Sengupta (forthcoming) estimate the effect on real sales between 2008:Q3 and 2009:Q2 of financial indicators of firms as they stood before the crisis.** In particular, they explore for a systematic relationship between differences in sales growth across firms and their (a) *capital structure* (share of short-term debt, share of dollar-denominated debt, and leverage); (b) dependence on bank credit; (c) cash holdings; and (d) export orientation. The study controls for other factors that may affect firms' real economic activity, such as firm size, access to international capital markets, and country and sector-specific effects.

**The study finds that higher leverage and more rapid bank credit growth were the main financial factors explaining the drop in sales following the Lehman events (see table).**<sup>1</sup> The degree of dollarization—a source of vulnerability during previous crises—did not seem to play a key role. This is consistent with the findings of previous *Regional Economic Outlooks* (REOs) that Latin American firms are now less exposed to exchange rate risk arising from currency mismatches in their balance sheets. In addition, the study finds that large cash buffers helped mute the impact of financial frictions at the peak of the crisis. Exporting firms seem to have been disproportionately hit, as might be expected given that global trade was strongly disrupted during this crisis.

#### Effect of Predetermined Financial Conditions on Firms' Postcrisis Sales Performance<sup>1,2,3</sup>

Explanatory Variables	Average Effects	Differential Effects	
		Low-Liquidity Firms	High-Liquidity Firms
Growth in share of bank debt	-0.11 **	-0.08 *	-0.14 *
Share of short-term bank debt in total bank debt	-0.04	-0.06 **	-0.04
Share of dollar debt in total debt	-0.03	-0.02	-0.01
Observations	481	321	160

Sources: Kamil and Sengupta, forthcoming.

<sup>1</sup>Based on cross-sectional estimations using firm-level data for Argentina, Brazil, Chile, Colombia, Mexico, and Peru. Predetermined refers to values as of 2007:Q4 and postcrisis refers to the time period between 2008:Q3 and 2009:Q2.

<sup>2</sup>Leverage is defined as the ratio of total liabilities to total assets. Share of bank debt is defined as ratio of total bank debt to total liabilities.

<sup>3</sup>Country and industry dummies as well as dummies controlling for firm size are included in the estimations, but not reported. \*\*\*, \*\* significant at the 1 percent and 5 percent levels respectively.

<sup>4</sup>The liquidity cut-off is a cash to asset ratio of 9.6 percent—the average across firms of all countries in the sample.

Note: This box was prepared by Herman Kamil and Rajeswari Sengupta.

<sup>1</sup> The median leverage (precrisis liability to asset ratio) across all firms in the sample is about 47 percent, with Brazil leading the group (55 percent) and Chile, Colombia, and Peru below the median.

### Differences in Bank Behavior: Foreign and Public Banks

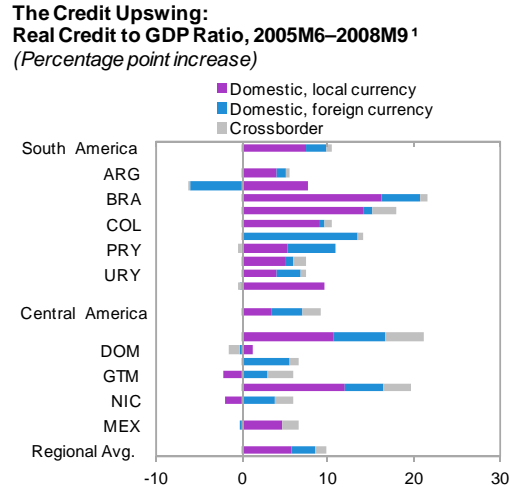
Local domestic banks proved to be a more stable source of funding, as foreign banks displayed more pronounced swings around the cycle. In particular, credit from foreign-owned banks that report to the Bank of International Settlements (BIS) declined much faster than that extended by domestic-owned banks (Figure 3.11).<sup>6</sup> Looking closer, crossborder flows contracted markedly; credit from branches and subsidiaries of foreign banks funded locally proved to be less volatile, but also slowed. Available data for Brazil, Chile, Colombia, Costa Rica, Peru, and Uruguay show that foreign branches and subsidiaries usually slowed their credit earlier, and often by more, than did domestically owned banks. This pattern is consistent with other findings that global banks are usually more sensitive to changes in worldwide financial conditions than domestic banks.<sup>7</sup> By contrast, on average, some public banks played a modest discretionary countercyclical role during the slowdown. They either expanded credit in real terms or reduced its growth rate at a much slower pace than domestic private and foreign banks. This was especially significant in Brazil, Chile, and Costa Rica (Box 3.4), but also noticeable in Argentina, El Salvador, and Mexico.<sup>8</sup> This countercyclical role was possible, in part, because these countries had fiscal space.

<sup>6</sup> Foreign banks that do not report to the BIS International Banking Statistics are important in Central America, where local banks operate in several countries in the region.

<sup>7</sup> Looking back over a 12-year period, Galindo, Izquierdo, and Rojas-Suarez (2010) find that foreign-owned banks operating in Latin America—with the notable exception of Spanish-owned banks—have tended to magnify the impact of changes in risk conditions in the international capital markets on real credit growth.

<sup>8</sup> While public banks are found in many countries of the region, only in some countries—including Argentina, Brazil, Chile, Costa Rica, Dominican Republic, Uruguay, and Venezuela—do they account for more than 10 percent of system assets.

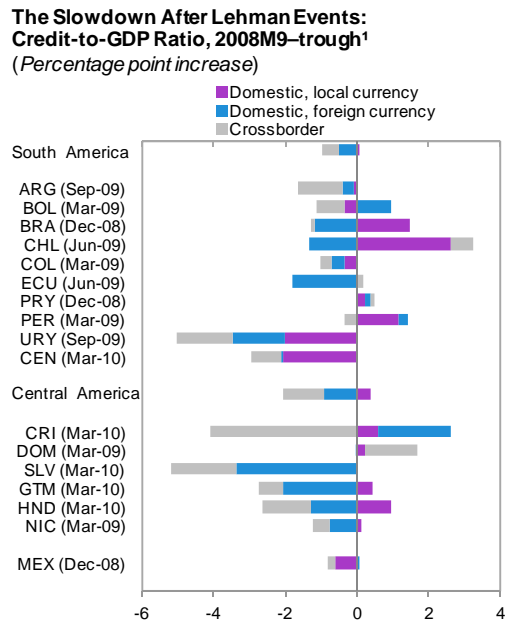
**Figure 3.6. Domestic banks provided most of the increase in private bank credit during the upswing.**



Sources: BIS banking statistics; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> The real credit-to-GDP ratio is computed by dividing real credit by real GDP at end-2007 prices. Credit in local currency is deflated by the country's consumer price index and credit in U.S. dollars by the U.S. CPI. Crossborder credit is estimated by multiplying the share of private credit in total international claims times the crossborder external loans to private and public sectors from Tables 7B and 9A from the BIS banking statistics (available online). They are adjusted as necessary with data from foreign currency credit from the domestic banking system to add to the total foreign currency (international) claims from foreign banks. The change in domestic bank figures adds up to the credit to the nonfinancial private sector from IFS. The chart shows the credit growth through the Lehman events, but in some countries credit growth peaked before then. In Ecuador and El Salvador, the U.S. dollar is the legal tender.

**Figure 3.7. During the slowdown, crossborder and foreign currency credit contracted across the board.**



Sources: BIS banking statistics; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> The trough for each country, on quarterly data, is in parenthesis. In Ecuador and El Salvador, the U.S. dollar is the legal tender.

### Box 3.4. Public Banks as a Countercyclical Tool: Experience in Brazil, Chile, and Costa Rica

**In a number of countries, including Brazil, Chile, and Costa Rica, public banks played an important role in offsetting the drop in lending from private banks (both domestic and foreign).**

The impact of the measures depended in part on the initial share of public banks in overall credit.

**In Brazil, the deceleration in real credit growth to the private sector following the Lehman event was much smaller in public financial institutions than in private and foreign ones.**

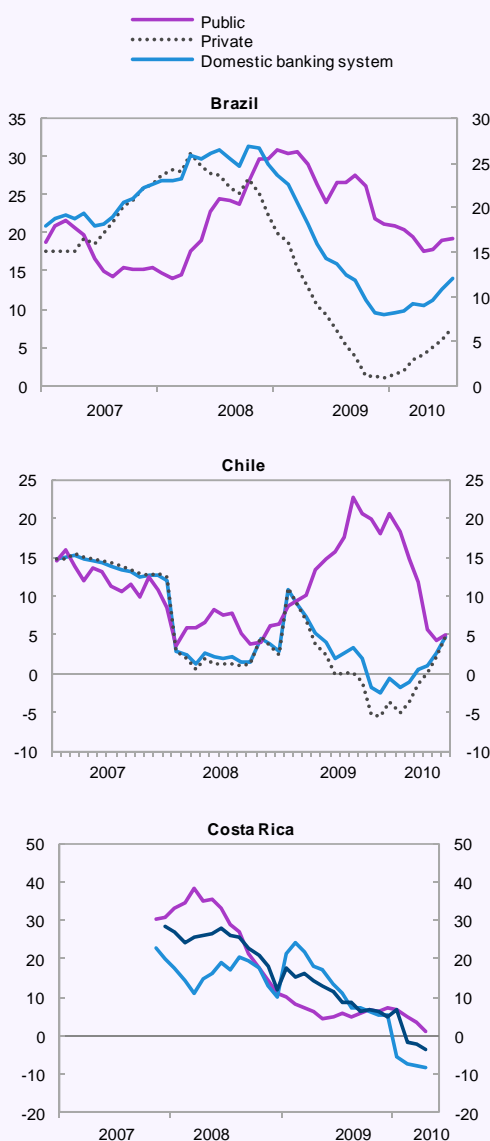
In particular, real credit growth by public institutions remained above a 20 percent rate, while foreign institutions actually contracted their real credit in 2009. This behavior was an explicit component of the countercyclical policy response in the country, heavily implemented through the state bank BNDES (Barbosa, 2010). The significant impact of the measures partly reflects that public banks are still very large in Brazil, managing about 15 percent of GDP in credit to the private sector in 2009. The share of public financial institutions in the private sector credit market had declined to 35 percent by late 2008 from 60 percent in the early 1990s. After the recent expansion, its share has increased to about 40 percent.

**In turn, Banco Estado de Chile also increased heavily its credit to the private sector following the Lehman events.** Its effect on total domestic bank credit to the private sector, however, was lower than in Brazil because its market share is lower (about 10 percent). Yet, its macroeconomic impact was not trivial because financial depth is larger in Chile than in Brazil. In 2009, Banco Estado managed about 11 percent of GDP in credit to the private sector.

**In Costa Rica, public banks played a similar role.**

Given high dollarization in private banks, real credit increased on impact in the last quarter of 2008 with the currency depreciation, an effect that tended to erode over time. The public bank kept its real credit growth stable for almost a year, while that in private banks declined rapidly. Public banks manage about 25 percent of GDP in credit to the private sector, about half the total credit to firms and households.

Growth of Real Public and Private Bank Credit  
(Percent change, deflated by national CPI)

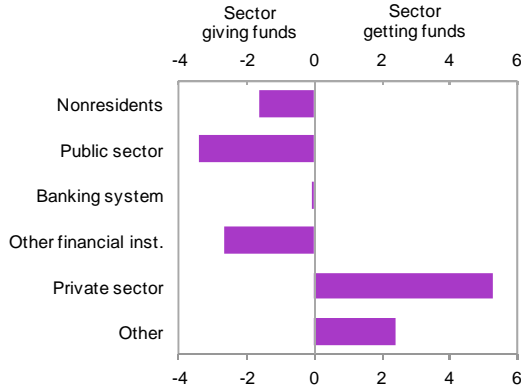


Sources: Central Bank of Brazil; Superintendency of Banks and Financial Institutions of Chile; and Central Bank of Costa Rica.

Note: This box was prepared by Jorge Iván Canales-Kriljenko.

**Figure 3.8. During the upswing, banks intermediated funds from nonresidents, the public sector, and other financial institutions to firms and households.**

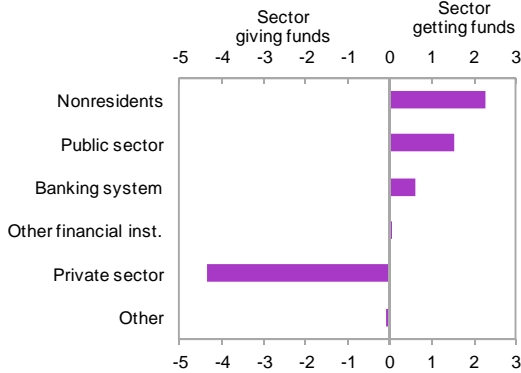
**Change in Net Sector Position within the Domestic Banking System, 2005–08M9<sup>1</sup>**  
(Percent of bank assets)



Source: Data submitted by country authorities for the preparation of IMF's *International Financial Statistics*.  
<sup>1</sup> Estimated as the average of country ratios in Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, and Uruguay. Trough varies by country.

**Figure 3.9. During the slowdown, banks paid back some of the nonresident funds and parked liquidity in public sector assets.**

**Change in Net Sector Position within the Domestic Banking System, 2008M9–trough<sup>1</sup>**  
(Percent of bank assets)



Source: Data submitted by country authorities for the preparation of IMF's *International Financial Statistics*.  
<sup>1</sup> Estimated as the average of country ratios in Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, and Uruguay. Trough varies by country.

## Asset Quality

The shock that hit the banking system during the global crisis was not as damaging for the financial system as in the past. The swings in exchange rates, commodity prices (affecting commodity exporters, benefiting commodity importers), and economic activity, in some cases significant, were short lived. Moreover, adverse effects were partly offset by the decline in international interest rates.

Standard financial indicators weakened but banks in the region remained sound. The global crisis and resulting recession moderately lowered their profitability, although not considerably (Figure 3.12). This was associated with the reduction in the loan portfolio (which typically earns higher returns than liquid assets) and the increase in nonperforming loans (which doubled from low levels), thus triggering the need for higher provisions. The slight decline in profitability is consistent with the general view that banking systems in the region did not have a meaningful exposure to the toxic assets that disrupted financial systems in advanced economies, at least in systemic amounts. Capital adequacy ratios remained high.

Market estimates of probabilities of bank default (as measured by Moody's expected default frequency—EDF—and defined as failure to make a scheduled payment) remain low but are higher than before the crisis. After the Lehman event, EDFs increased significantly, especially in Brazil. More recently, bank strength in Venezuela has continued to weaken (Figure 3.13). The EDFs often move with the VIX, which suggests that they reflect not only bank-specific developments but also changes in risk aversion over time. Another piece of evidence of the relative resilience of profitability of regional banks was the behavior of bank-market valuations. Unlike in advanced economies at the center of the crisis, bank equity prices remained stable relative to other stock prices in each country (Figure 3.14).

## A Complementary Financing Role of Bond Markets

Despite the tightening of credit conditions, major players (for example, governments and large firms), in the absence of capital flight, were able to find support in the expanding local bond markets. When needed, governments in the region were able to issue, rollover, and swap debt in domestic bond markets (for example, Brazil, Colombia, Mexico, and Peru) (Box 3.2). Certainly, it also helped that government finances were not overstretched because their financing needs had already been met, thanks to their progress over the years in debt management and reducing fiscal deficits.

Domestic corporate bond markets played some limited role. Their expansion between 2003 and 2008 had been limited and were often only accessible to top tier companies (financials or conglomerates). During the contraction in economic activity, the outstanding stock of bonds issued abroad declined, which was offset by bonds issued domestically.

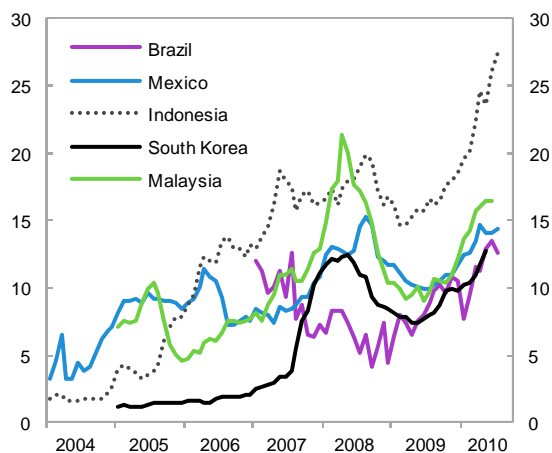
## Policy Implications for the Ongoing Cycle

As reviewed above, banking systems in the region fared the global crisis relatively well. However, having successfully passed the recent “real live stress test” should not give rise to complacency. This is particularly relevant as the new financial cycle begins.

In some countries, credit growth is already under way. The pace of recovery has varied, with strong growth in South America. Domestic bank lending in local currency has so far led the way (Figure 3.15). Taken together, the last credit cycle increased real credit to

Figure 3.10. Foreign investors sold off government debt, but rapidly came back.

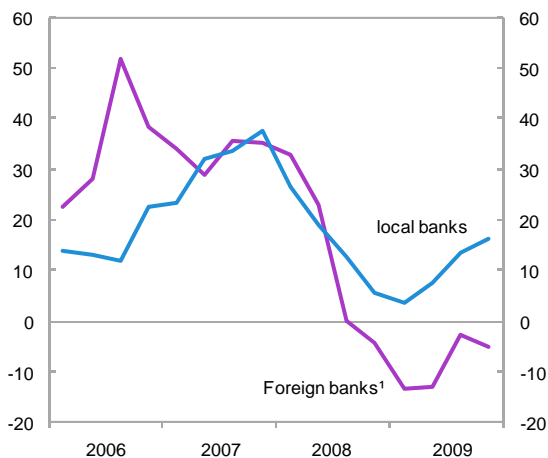
**Selected Emerging Market Countries: External Holdings of Government Debt Securities**  
(Percent of total domestic debt securities)



Sources: EMED; CEIC; and Haver Analytics.

Figure 3.11. Foreign bank credit was more volatile.

**Credit to Latin American Private Sector, by Bank Type**  
(Median percent growth on dollar amounts, last 12 months)

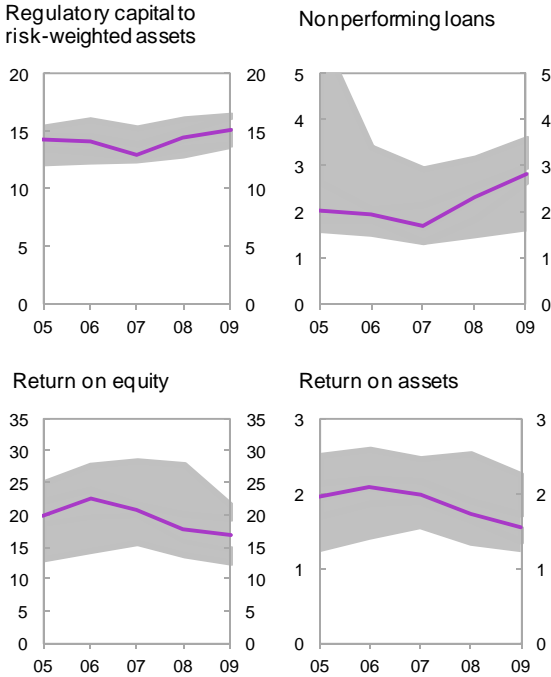


Sources: BIS Banking Statistics; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Includes consolidated foreign bank credit to the nonfinancial private sector on an ultimate risk basis as reported by the BIS in Table 9C. Local bank credit is estimated as credit to the nonfinancial private sector from domestic banks plus the estimate of crossborder flows as explained in Figure 3.2, less foreign bank credit. The series are influenced by exchange rate changes that would make credit by local banks more volatile if they have a higher local currency share.

**Figure 3.12. Banks remained sound.**

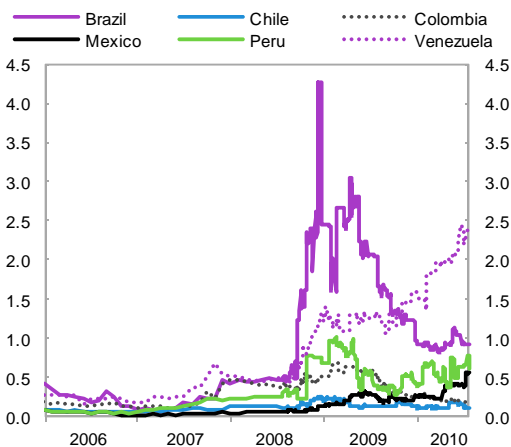
**Latin America: Financial Soundness Indicators<sup>1</sup>**



Sources: National authorities; and IMF staff calculations.  
<sup>1</sup> The official definition of soundness indicators varies by country. The solid lines indicate the median of the indicators across countries in the group, whereas the shaded area contains the second to the fourth quintiles. The countries in the sample are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

**Figure 3.13. Expected probabilities of default are low but remain above precrisis levels.**

**Expected Default Probability<sup>1</sup> (Percent)**



Source: Moody's KMV.  
<sup>1</sup> Expected default probabilities (EDFs) on the service of bank liability obligations are available for banks listed at stock exchanges. The lines represent the median EDF for a sample of banks in each country. These banks represent between 30 percent and 90 percent of banking assets in the country. Available data for Mexico were not representative.

firms and firms and households, despite a temporary and relatively small reversal (Figure 3.16).

Looking forward, with external financial conditions now again conducive to a credit expansion (low interest rates and increasing risk tolerance), the risk of excess has to be taken seriously.

What lessons does the experience with the last financial cycle leave for managing the new financial cycle?

**Using Macroprudential Regulation to Smooth out Financial Cycles**

Authorities should seek to smooth out the financial cycle by avoiding excessive cyclical swings in private credit and excessive risk taking behavior of banks. Furthermore, authorities need to take into account the complex interaction between the financial system and the economy at large to preserve financial stability. All this calls for a broader view of macroeconomic stability, complementing countercyclical macroeconomic policies with macroprudential measures. (This theme is explored in Chapter 4.)

**Keys to Financial Deepening in a Safe Manner**

The desirability of increasing financial depth cannot justify unsound credit growth. Many countries around the world have been able to increase their credit-to-GDP ratio. But doing this too quickly can put the financial sector in a vulnerable position, which increases the probability of a financial collapse. The key to success appears to hinge on a stable source of funding and a well-grounded capacity to manage bank risks on the asset side.

The most secure form of funding is likely to be the resident deposit base. Increasing financial intermediation through domestic deposit growth, however, is a longer-term



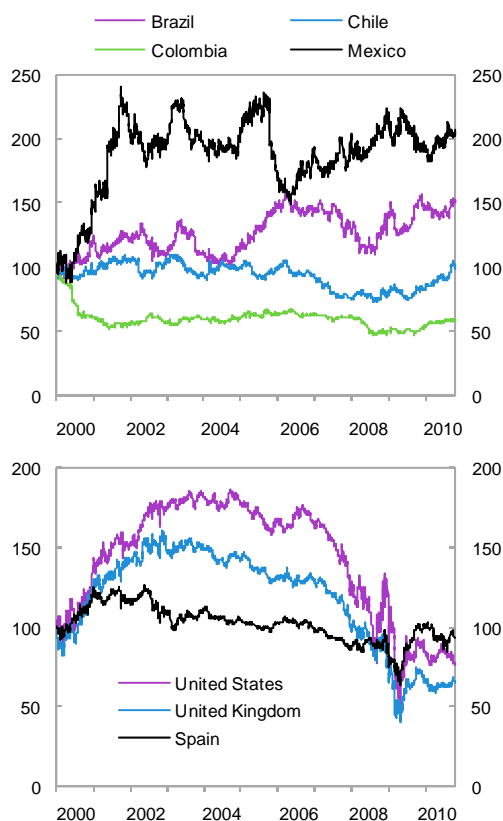
process. The level of domestic deposits critically depends on macroeconomic stability, but also on the legal, regulatory, and judicial systems. Indeed, countries perceived to have stronger respect for the rule of law usually have higher domestic deposit bases (Figure 3.17). Therefore, improvements in this area may help attract funds that Latin American residents now hold abroad, while keeping financial savings at home and fostering intermediation. For the sake of stability, policies should encourage banks to limit reliance on volatile forms of funding, including nonresident deposits, especially short-term, and wholesale deposits. Nonresident liabilities are typically small in Latin America (Figure 3.18). Authorities should also be careful that regulations or other policies do not encourage direct crossborder borrowing by firms, and have systems in place—as many countries already do—that allow authorities to monitor crossborder corporate debt. Although crossborder borrowing provides access to needed external savings, it can be a source of vulnerability because it tends to be significantly more volatile than domestic savings and feed currency mismatches.

The degree of safety of using market (that is, nondeposit) financing for bank credit to the private sector depends on its compatibility with the maturity (and currency) structure of banks' balance sheets. Reliance on short-term instruments creates clear risks; longer-term bonds can give access to institutional investors (including those from other countries) and help banks more safely finance long-term investment and housing. This can complement the long-term lending that banks may provide through their traditional "maturity transformation" role (preferably from a base of deposits that is relatively stable).

With some exceptions, domestic banks in most Latin American countries fund their

**Figure 3.14. Bank equity prices were less affected than in advanced economies.**

**Selected countries: Relative Stock Prices of Financial Firms, and Advanced Countries<sup>1</sup>**  
(Index, 2000 = 100)

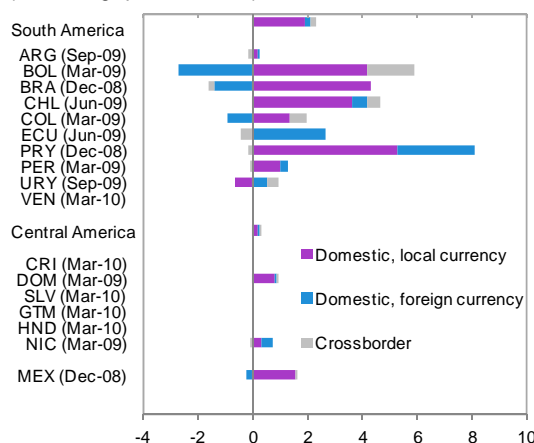


Sources: Datastream; and IMF staff calculations

<sup>1</sup> Computed as the ratio of financial to national equity indices.

**Figure 3.15. The pace of recovery has varied, but domestic lending has taken the lead.**

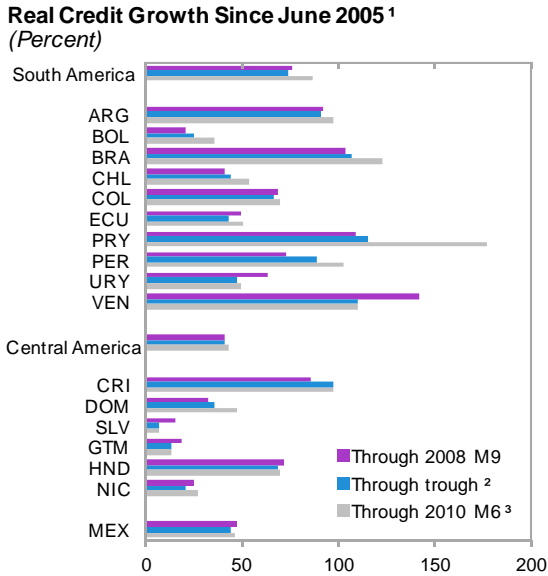
**The Recovery Through March 2010: Credit-to-GDP Ratio<sup>1</sup>**  
(Percentage point increase)



Sources: BIS Banking Statistics; IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup>The trough for each country, on quarterly data, is in parenthesis. In Ecuador and El Salvador, the U.S. dollar is the legal tender.

Figure 3.16. Most real credit gains have been preserved.



Sources: IMF, *International Financial Statistics*; and IMF staff calculations.

<sup>1</sup> Real domestic credit at constant real exchange rates.

<sup>2</sup> Country-specific trough chosen as the minimum observation of real credit since September 2008.

<sup>3</sup> Data through June 2010, except for Bolivia and Nicaragua (March).

Figure 3.17. Countries with stronger law enforcement tend to have higher deposit bases.



Sources: IMF, *International Financial Statistics*; and PRG Group, *International Country Risk Guide*.

<sup>1</sup> The sample includes Argentina, Australia, Brazil, Canada, Chile, Colombia, Ecuador, Egypt, India, Indonesia, Israel, Korea, Malaysia, Mexico, New Zealand, Pakistan, Peru, Philippines, South Africa, Thailand, Turkey, Uruguay, and Venezuela.

credit to the nonfinancial private sector out of deposits from resident firms and households. In particular, in most countries, the amount of these deposits exceeds the amount of credit granted to the private sector. The main exceptions are banks in Chile, Colombia, Costa Rica, and Paraguay, which also rely on securities (included in the IMF’s definition of broad money).<sup>9</sup> These securities appear to be forms of domestic resident savings, which should be fairly stable over time. In Chile, two-thirds of those securities are held by domestic pension funds, and the other third by households. In Colombia, Costa Rica, and Paraguay, more than 80 percent are held by firms and households. (See also Spring 2009 *Regional Economic Outlook*, and Kamil and Rai, 2010.)

Promoting safe funding has become an important prudential issue in international fora. The Basel Committee on Banking Supervision has proposed a liquidity rule for Basel III requiring that banks fund less liquid assets with a more stable financing source. In practice, the net stable funding ratio sets the minimum in stable funds that a bank should hold given the liquidity structure of its assets. Banks would need to fund fully their lending to firms and households from stable sources. The rule defines stable funding as capital, preferred stock, and liabilities with remaining maturity exceeding one year, plus a share of demand and term deposits expected to remain with the institution even under conditions of stress. The Committee, however, does not propose implementation of this rule until 2018. Latin America would be well served by incorporating as soon as possible the main elements of Basel III, especially as the new credit cycle builds momentum.

<sup>9</sup> These negotiable instruments include certificates of deposit issued by depository corporations (see [www.imf.org/external/pubs/ft/mfs/manual/index.htm](http://www.imf.org/external/pubs/ft/mfs/manual/index.htm)).



Along similar lines, New Zealand's central bank introduced in 2009 a quantitative limit on banks' short-term and offshore funding. The authorities plan to tighten this limit over the next few years. They currently envisage that the "core-funding" requirement of 65 percent of total loans and advances will increase to 75 percent by 2012. Core funds are defined to include funding that is stable because it has at least one year maturity or because it is from sources that are not likely to pull out their money quickly (in contrast to short-term offshore funding, for example). (See Hoskin and others, 2009.)

### Increasing Crowding in, where Possible

One route to increasing credit availability, even with the existing deposit base, is to reduce the share of bank credit that goes to the government and central bank. In Argentina, Brazil, and Mexico, for example, the central government accounts for about one-fourth of total bank assets. Claims on central banks, including required reserves and central bank securities, also appear prominently in banks' balance sheets in many countries in the region.<sup>10</sup> Of course, holdings of central bank and government paper do provide interest-bearing liquidity, the need for which is country-specific. (In some cases, the size of bank holdings of such paper may also be a reflection of the scarcity of safe and profitable investment opportunities.<sup>11</sup>)

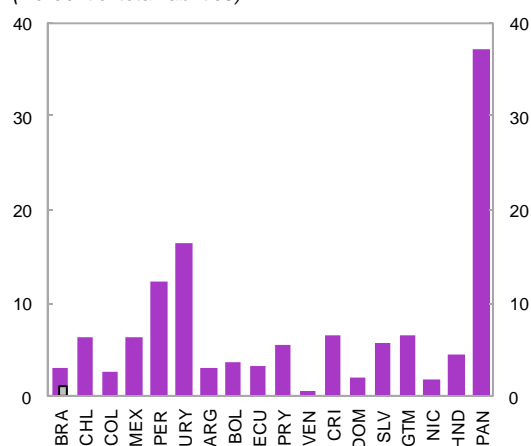
<sup>10</sup> This partly reflects a large stock of central bank debt that needs to be held by some party, arising from a history of losses in central bank operations (including on sterilized foreign exchange operations) and from bank rescue operations associated with past banking crises.

<sup>11</sup> Such scarcity may reflect deficiencies in laws and frameworks for resolving disputes that make it hard to enforce credit contracts or seize collateral. It may also reflect infrastructure shortcomings that make it difficult to assess borrower creditworthiness, for example, where credit reporting and bureaus are in their infancy.

The largest countries in the region have successfully reduced public debt and improved its composition. Significant room for improvement, however, still remains. Besides the obvious fiscal consolidation policies to further reduce public debt levels, it is also possible to reduce their share in bank balance sheets by active public debt management that secures alternative sources of credit and instruments for government financing. These alternative sources can include foreign funding, which will be macroeconomically safer if denominated in domestic currency. This may lead to the further development of instruments and markets for hedging the exchange rate risk taken by foreign investors.

**Figure 3.18. Nonresidents account for a small share of total bank liabilities.**

**Share of Nonresidents in Total Bank Liabilities, March 2010**  
(Percent of total liabilities)



Source: Data submitted by country authorities for the preparation of IMF, *International Financial Statistics*.

### Foreign and Public Banks

Besides the usual roles that foreign and public banks play in the banking system, the recent credit cycle highlighted another dimension associated with their cyclical behavior.<sup>12</sup> During the recent experience, foreign banks tended to amplify the effect of

<sup>12</sup> For an earlier discussion, see IADB (2005).

external financial conditions. On the other hand, some public banks played a seemingly useful countercyclical role. This aspect needs to be taken into account in making monetary and banking policy decisions.

Decisions about foreign bank market entry and the existence or scope of public banks should carefully consider their pros and cons, and be consistent with the country's obligations under the General Agreement on Trade in Services (GATS) or other trade arrangements. Foreign banks usually bring technology, innovation, and efficiency. The literature has also documented that foreign banks have played a stabilizing role during episodes of homegrown financial stress.

Although public banks may not be best suited for bank asset allocation, they may have a role to play in providing some social and financial services, including creating markets that would otherwise not develop.

The seemingly helpful countercyclical role of some public banks during the recent global crisis needs to be viewed in perspective. First, to operate in a truly countercyclical manner, they would have to significantly slow down (or contract) credit growth during boom episodes, something that needs to be seen. Fiscal risks of public bank lending are always present, and strong corporate governance is needed to keep them under control. Political pressure for subsidies and direct credit allocation often build up. While lending by public banks can play a useful countercyclical role in rare, extreme events originated abroad such as the global financial crisis, in general, they are not the best countercyclical tool.<sup>13</sup> During normal cyclical fluctuations, monetary policy is more flexible and cost effective.

<sup>13</sup> When the adverse shock has a fiscal origin, public banks may not have space to play countercyclical role.

## Strengthening Other Financial Markets

The global crisis has highlighted that financial markets are strongly interconnected and that failures in any one of them can have adverse effects in other markets, magnifying their macroeconomic impact. A lesson has been that the perimeter of regulation should cover any financial institution or market that could have systemic implications. Financial oversight should be comprehensive and consolidated as much as possible.

Nonbank financial markets have important benefits although their development can bring tradeoffs and new risks. For example, securities and derivative markets can increase welfare and financial stability by helping individuals in an economy better manage and share risk. They can also help channel long-term savings directly into productive ventures, while providing liquidity to investors by allowing their negotiation in the market. Financial instruments for managing and transforming risk also help attract foreign investors to domestic currency assets by allowing them to hedge the currency risk. These features can result in deeper and more stable markets that help reduce currency and maturity mismatches, improving the capacity of the economies to absorb large and sustained capital inflows. This is possible by helping channel capital inflows into long-term domestic currency assets, rather than into short-term domestic foreign-currency ones.

Yet such markets can also be a source of new risk. More sophisticated and complex securities and derivative markets often make it harder to identify who is bearing the ultimate risk, which under certain circumstances can amplify stress and increase the challenges involved in policy decision making. As the global crisis has shown, this can be a serious problem if the bearers of risk are systemic financial institutions or nonresidents who leave the market in a hurry. Thus, the quality of securities and derivatives

that make it into banks' balance sheets or create off-balance sheet exposures need to be closely monitored and understood by supervisory authorities.

During the recent global crisis, Latin America did not experience major macroeconomic stress arising from disruptions in these markets. The region entered the global financial crisis with securities and derivative markets present in only a handful of countries. Most of the existing domestic bond markets financed mainly the public sector, while the corporate bond market was small and mainly limited to large rated companies. Derivative markets and asset securitization were at their infancy.<sup>14</sup> Although Latin America did not experience major banking problems originated in these markets, the misuse of foreign exchange derivatives transactions in the corporate sector created some stress in Mexico and Brazil after Lehman's events.<sup>15</sup>

Based on the experience in advanced countries, authorities in Latin America should carefully oversee developments in nonbank financial markets to get a comprehensive view of financial stability. The challenge is to encourage their development while containing their risks. For this, authorities need to assess the degree of interconnectedness between financial institutions and other financial markets, with a view that more complex structures are usually riskier, or at least that they are more difficult to monitor, and so require more attention.

## Final Remarks

Latin America made significant progress in strengthening its financial sector over the last decade. The broad challenge for the region is to continue increasing its financial depth in a safe manner, avoiding excessively rapid credit expansions that may end up in a financial crash. For this, macroeconomic stability needs to be preserved, prudential regulations enforced, and financial supervision further strengthened. Legal, regulatory, and judicial changes that improve creditor rights can increase the security of domestic deposits and bonds. Ultimately, these will expand credit opportunities in the economy. If properly managed and supervised, domestic securities and derivative markets can help deepen domestic financial intermediation and strengthen financial stability by allowing financial institutions and firms to better manage risk. In doing so they improve the capacity to absorb large and sustained capital flows. However, financial authorities need to closely oversee and supervise these markets because they may also be a source of risks. Supervisors need to understand how they affect the risk exposures taken by systemic financial institutions and to detect early when firms or financial institutions are using these markets to increase, rather than decrease, their risk profiles. In the immediate future, the regulatory challenge is to improve the set of prudential tools that would help better manage the incipient credit cycle.

<sup>14</sup> For an overview of securitization in Latin America before the crisis, see Scatigna and Tovar (2007).

<sup>15</sup> Nonlinear bets on the volatility of the exchange rate by a number of companies led to large losses when the exchange rate depreciated in October 2008. The existence of these positions had been generally unknown to creditors and shareholders, and perhaps even to some senior company management. (See May 2009 *Regional Economic Outlook*, Box 2.2, and Jara and others, 2009.)

## 4. Macroprudential Tools in Latin America: A Primer

*The global crisis has highlighted the need to attach greater importance to systemic risk in policy analysis and incorporate a macroprudential perspective in policymaking. This need is especially relevant under external financing conditions conducive to financial and economic excess (asset price bubbles, credit exuberance, and demand booms). Latin American countries already have been using prudential tools for macroprudential purposes and authorities are actively engaged in analyzing systemic risks and deciding on policies incorporating a macroprudential perspective. Despite the emerging agreement on the need to adopt a macroprudential approach, thinking on policy design is still evolving and its implementation will be challenging. This chapter reviews the Latin American experience with macroprudential policies and discusses some general considerations to help guide their use and integration into existing policy frameworks.*

The global crisis has highlighted the potential force of financial and real sector interactions. This calls for attaching greater importance to systemic risk in policy analysis and incorporating a macroprudential perspective in policymaking. Current macroeconomic and microprudential frameworks have limitations in identifying and managing systemic risk.<sup>1</sup> They may fail to identify or appropriately handle financial excesses or adverse shocks that pose a risk to the financial system and the economy as a whole (for example, excessive risk taking, overly abundant capital inflows). In this regard, tackling systemic risk represents a new priority for policymakers, with the Lehman collapse as a clear reminder of its potentially non-self-evident nature.

---

Note: This chapter was prepared by Camilo E. Tovar and Mercedes Vera Martin.

<sup>1</sup> Microprudential frameworks can be thought of as those policies limiting the failure of an individual institution by limiting idiosyncratic risks (see discussion below and Crocket, 2000).

Furthermore, the traditional policy toolkit may be too blunt or lead to difficult policy trade-offs.<sup>2</sup> For instance, very high policy interest rates may prick a bubble, but in the process create a sharp recession or, in some cases, even exacerbate the source of the imbalance (e.g., capital inflows). In this regard, macroprudential instruments may allow a targeted policy intervention, offering finer alternatives to the use of traditional macroeconomic policies, which are more akin to “broad spectrum antibiotics.” Because of this, authorities in Latin America have resorted to complementing the usual policy toolkit with other instruments.<sup>3</sup> Looking ahead, the challenge will be how to set in place a broader framework that assesses and manages systemic risk and its potential amplifying effects in the financial sector, to help smooth the financial and economic cycle.<sup>4</sup>

Embedding a macroprudential perspective in the policy framework has particular importance under external financing conditions conducive to financial and economic excess (asset price bubbles, credit exuberance, and demand booms). The financial systems in the region weathered the recent global financial crisis better than in the past. This was partly the result of improved prudential policies, which were well adapted to country circumstances, including the stage of financial development, and enhanced in light of lessons learned from past

---

<sup>2</sup> For a discussion of the role of macroeconomic policies after the global financial crisis, see Blanchard, Dell’Ariccia, and Mauro (2010).

<sup>3</sup> Some of these measures affect financial transactions between residents and nonresidents. The distinction between capital controls and prudential measures could be sometimes blurred, because, in some instances, prudential measures are imposed only on nonresidents, and therefore considered capital controls. This chapter does not enter into such distinction and considers measures aiming at financial stability as prudential or macroprudential.

<sup>4</sup> For a broader discussion on redesigning the contours of the future financial system, see Kodres and Narain (2010).

financial crises. But improved macroeconomic policies in the region and resilient terms of trade were also important factors; mitigating the severity of the shock to financial systems.<sup>5</sup> Hence, future financial resilience cannot be taken for granted on the basis of the recent experience.

The current economic cycle in the LA region, South America in particular, may prove challenging given the strong economic rebound that may be increasingly accompanied by large capital inflows (see Chapter 2). More specifically, excesses could arise not only through the banking sector (the core of the financial system in the region), but also through other developing markets (e.g., bond or derivatives markets) that may not be under full oversight (see Chapter 3). Therefore, it will be important to incorporate to the extent possible analysis of systemic risk in policymaking to ensure financial and macro stability. International discussions are still evolving about the design of an eventual macroprudential framework, including its perimeter.

This chapter briefly reviews the ongoing international debate on macroprudential policies, including the concept of systemic risk and objectives of these policies. It gives some examples about the international experience with these measures, particularly in Latin America, and concludes with a discussion of the challenges ahead from a Latin American perspective.

## Systemic Risk and Macroprudential Policy—An Ongoing International Debate

*What is systemic risk?* Systemic risk can be defined as “the risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have

<sup>5</sup> Greater exchange rate flexibility helped temper the incentives for capital inflows; less procyclical fiscal policies helped moderate the cyclical exuberance; the financial system was not exposed to toxic assets, thanks in part to improved profit opportunities across sectors; and, despite the depth of the global crisis, commodity export prices did not collapse as in the past.

serious negative consequences for the real economy.”<sup>6</sup> It comprises two dimensions: a cross-sectional and a time dimension.<sup>7</sup> The first takes into account the distribution of risk across the financial and economic system and therefore accounts for externalities across the system (for example, common exposures, interconnectedness). In this regard, information asymmetries about counterparty exposures are at the core of contagion during periods of financial stress, as the recent financial crisis clearly demonstrated.<sup>8</sup> The second dimension considers how system-wide risk evolves and is accumulated over time, along with the two-way links between the financial system and the real business cycle. It accounts for the usual procyclicality of the financial system.<sup>9,10</sup>

From a Latin American perspective, addressing procyclicality is a major policy priority given the prospect of large capital inflows,<sup>11</sup> but attention should also be paid to the lessons of the crisis in advanced economies, particularly on how to assess and tackle common exposures and interconnectedness in the financial system. Moreover, supervision of currency and liquidity mismatches, including those in the corporate sector, remain crucial for the management of systemic risk.

<sup>6</sup> See Financial Stability Forum, International Monetary Fund, and Bank for International Settlements (2009) report for the G-20.

<sup>7</sup> This characterization is from the Bank for International Settlements (BIS). For details, see BIS (2009), Borio (2010, 2009), and Persaud (2009). Earlier references include Borio and others (2001) and Crocket (2000). Similarly, the Bank of England (2009) uses the terms network and aggregate risks, respectively, for the cross-sectional and time dimensions of systemic risks.

<sup>8</sup> Although the collapse of Lehman would not have been identified ex ante as a potential macroeconomic shock, it had systemic financial implications because of the uncertainty regarding exposures (“who holds the losses?”) in a highly interconnected financial system.

<sup>9</sup> For a detailed discussion on policies to deal with procyclicality, see Andritzky and others (2010).

<sup>10</sup> For example, excessive leverage was at the core of financial imbalances in the wake of the global financial crisis, as risk illusion and excessive liquidity led to underpricing of risks.

<sup>11</sup> See IMF (2010e) for a general discussion about global liquidity expansion and the policy response options for “receiving” economies.

*What is macroprudential policy?* Macroprudential policy helps promote financial and macroeconomic stability by reducing systemic risks. For the cyclical dimension, one could think of it as a combination of a set of rule-based tools and limited discretion that helps manage the role of the financial system as a source of shocks and amplifier of economic cycles. It aims to reduce the cyclicity of financial services by leaning against the buildup of risk in the economic upswing and against deleveraging during the downswing to support economic activity. Buffers would act as economic and financial stabilizers. For the cross-sectional dimension, it aims to reduce spillovers generated within a closely interconnected financial network. This requires addressing not only the “too-big-to-fail” problem, but also identifying systemic institutions (from a financial substitutability perspective). In this case, the calibration of prudential tools is institution-specific and requires assessing the systemic significance of individual institutions (i.e., their contribution to overall risk).

*How to measure systemic risk?* A macroprudential approach requires measuring and identifying the source and extent of systemic risk. The task is far more complex than in other policy areas, where a specific indicator can serve as a target. In particular, it is unlikely that a summary indicator will be able to say whether systemic risk is too high or too low, or whether imbalances will arise or not down the road.<sup>12</sup> Therefore, authorities have to rely on a broad set of indicators that examine the different dimensions of the problem and combine them with doses of judgment to assess the vulnerability of the system.<sup>13</sup> Identifying systemic risk will also require

<sup>12</sup> For example, during the global financial crisis, capital indicators gave a sense of security, but could not capture the liquidity risk, which was not well captured due to accounting practices (mark-to-market) which fueled the self-reinforcing cycle during the crisis (Financial Services Authority, 2009).

<sup>13</sup> New methodologies are being developed. For instance, to identify systemic institutions, new approaches are being put in place, such as network analysis, Co-risk analysis, multivariate distress dependence matrix, or “bottom-up” univariate contingent claims to deal with systemic risk (Financial Stability Forum, IMF, and BIS, 2009; and IMFb, 2009).

enhanced transparency and greater information disclosure, to limit contagion in times of stress.<sup>14</sup> However, one must keep in mind that this indicators-based approach is imperfect and can fail to take into account key vulnerabilities. A concern is that such a set of indicators may give a positive assessment of the health of the financial system precisely when the system is most vulnerable.

*What is the relationship between macroprudential and microprudential policies?* The distinction between the micro- and macroprudential dimension of financial stability is best drawn in terms of the objectives (Borio, 2009; Persaud, 2009; and Crocket, 2000). Microprudential policy aims to reduce the probability of default of individual institutions, taking systemic risk as given, whereas macroprudential policy aims at containing risks for the financial system as a whole, to prevent the economic and social costs of systemic financial distress, considering the feedback effects that the behavior of individual institutions have on each other, and on the whole economy. What could be enough to safeguard a particular institution from a narrow perspective (say, by limiting its credit to improve its capital adequacy ratio) might not be enough (or excessive, depending on circumstances) once spillovers to the economy and other players are considered. The distinction between macro- and microprudential policies has less to do with the type of instruments involved. However, the granularity of the former need not be as much as that of the latter (see below).

*Proposed instruments.* Ongoing international discussions have identified a set of potential tools that could be used to deal with systemic risk. In July 2010, the Group of Governors and Heads of

<sup>14</sup> The Data Gaps Initiative (under an interagency group involving the Bank for International Settlements, European Central Bank, Eurostat, International Monetary Fund, Organization for Economic Development and Cooperation (OECD), World Bank, and United Nations) aims at improving official statistics for financial surveillance in light of the crisis, mainly in the areas of interlinkages within the financial sector, exposures of the nonbank financial sector to vulnerabilities; and cross-border exposures of nonfinancial firms.



Supervision have reached broad agreement on the Basel Committee capital and liquidity reform package.<sup>15,16</sup> Although Basel III, to a large extent has focused on microprudential concerns, some proposals address macroprudential issues. For instance, in dealing with procyclicality, the proposed tool is a countercyclical capital buffer to be imposed when excess aggregate credit growth is judged to be associated with a buildup of system-wide risk. On forward-looking provisioning, the International Standards Accounting Board (2009) published its proposals for replacing the current incurred loss impairment methodology with an expected loss (or cash-flow) approach. To address cross-sectional risk, discussions have focused on strengthening capital requirements for counterparty credit risk exposures (for example, from derivatives, repos, securities financing). The BCBS also continues to review specific proposals to address the risks of systemic banking institutions, which include a “guided discretion” approach for a systemic capital surcharge in combination with other mitigating regulatory and supervisory measures.<sup>17</sup> On liquidity, the main proposals are (i) a net stable long-term funding ratio to address liquidity mismatches and provide incentives for banks to seek stable sources of funding over a one-year horizon; and (ii) a short-term liquidity coverage ratio that promotes resilience to potential liquidity disruptions.

*What are the benefits and costs of macroprudential policies?* Benefits are associated with reduction in the probability of financial crises and broader economic dislocations, and reduction in the amplitude of the financial and economic cycle during noncrisis episodes (BCBS, 2010). Costs arise due to

<sup>15</sup> The agreement was endorsed in September 2010. For details, see Basel Committee on Banking and Supervision (BCBS) (2009, 2010a), and BCBS press release and Annex (2010c).

<sup>16</sup> Extracting the benefits of better regulation will also require better supervision. This may involve not only the *ability* to supervise, but also the *will* to act in a more intrusive, skeptical, proactive, comprehensive, adaptive, and conclusive manner (Viñals and Fletcher, 2010).

<sup>17</sup> The IMF, the FSB, and the BIS produced a set of principles to identify systemically important institutions, markets, and instruments. See FSB, IMF, and BIS (2009).

distortions that can affect aggregate credit (for example, lower lending volumes and higher spreads) and economic activity during the transition when banks adjust their capital and liquidity to the new standards, as well as in the long term. An illustration is offered by evidence gathered for the microprudential proposals currently being discussed. The general assessment recently reported by the Financial Stability Board (FSB) and BCBS (2010) is that net benefits of adopting tighter capital and liquidity ratios remain positive for a wide range of capital and liquidity ratios.<sup>18</sup> In the end, for macroprudential purposes, the precise outcome is uncertain, in part because of lack of an adequate analytical framework to assess the benefits of reducing macroeconomic volatility.

## Recent Country Experiences with Macroprudential Tools

Country experience with macroprudential measures suggests that policymakers have used a broad range of instruments and applied those to deposit-taking institutions on a discretionary basis. They have used macroprudential instruments mainly to limit financial exuberance and the fallout from the global financial crisis. Countries have taken a pragmatic approach, targeting measures to specific markets or financial channels that were a cause of concern for financial stability. In a survey of macroprudential instruments and frameworks prepared by the Committee on the Global Financial

<sup>18</sup> Estimates suggest that banks' lending volumes would decline between 1 percent and 1.4 percent for each percentage point increase in target capital ratios over a four-year horizon, while lending spreads would rise by about 16 basis points over the same horizon. Costs of higher liquidity standards are about 50 percent higher for lending volumes, but similar for spreads. The FSB-BCBS's Macroeconomic Assessment Group (MAG) and Long-term Economic Impact (LEI) reports estimate substantial declines in the probability of crisis and that each percentage point increase in required capital would subtract about 0.05 percentage points from annual growth during the assumed implementation period of four years. However, these assessments contrast with studies published by the banks, with estimates sometimes as much as ten times higher. See BCBS (2010b), FSB and BCBS (2010), and Bank of Canada (2010).

**Table 4.1: Selected Examples of Macroprudential Tools**

Tool	Definition	Country	Procyclicality			Inter-connectedness
			Credit Risk (Assets)	Funding Cost (Liabilities)	Liquidity	
Bank-specific caps on credit growth	Limits on the quantity of credit taking into account the balance sheet profile of the financial institution.	Brazil, Kuwait, United Kingdom	✓			✓?
Credit ceilings	Limits on the quantity of credit.	Bulgaria, Croatia	✓			
Loan-to-deposit limits	Bank funding target to secure that loans are funded with stable sources. In this case deposits rather than, say, wholesale funding.	Hong Kong, SAR, Indonesia, Kuwait	✓			
Tightening/loosening along the cycle of:						
Loan-to-value ratio caps	Limits imposed on the percentage of the total appraised value of an asset to the loan provided by a financial institution, or time-varying LTV that is adjusted over the cycle.	China, Hong Kong, SAR, Hungary, Korea	✓	✓		
Debt to income ratio caps	Limits imposed on lending through the percentage of consumer's monthly gross income that goes toward paying debts.	Korea	✓	✓		
Capital requirements	Capital requirement changes depending on the credit or/and economic cycle.	Brazil, Bulgaria, Saudi Arabia		✓		
Foreign exchange lending limits	Limits imposed on lending in foreign exchange taking into account FX mismatches of the financial institution.	Hungary		✓	✓	
Leverage ratio caps	Limits on the leverage of a financial institution.	Canada		✓	✓	
Limits to foreign investment by domestic pension funds		Chile, Colombia, Mexico, Peru	✓	✓		✓?
Limits on the foreign exchange position	Limits on the amount of securities (eg. Derivatives) owned or owed by the financial agent.	Brazil, Colombia, Mexico, Peru		✓	✓	
Dynamic provisioning	Bank loan-loss provisioning based on future expected losses rather than past incurred losses. In some cases, bank-specific.	Bolivia, Colombia, Peru, Spain, Uruguay		✓		✓?
Limits on net non-core funding dependence ratio	Restrictions on the degree to which the bank is funding longer-term assets (loans, securities that mature in more than one year, etc.) with non-core funding.			✓	✓	
Minimum core funding ratios	Measures imposing restriction on the structure of funding for financial institutions to ensure they hold sufficient retail and long-dated wholesale funding.	New Zealand		✓	✓	
Minimum liquidity mismatch ratio	Rules ensuring adequate liquidity for financial institutions over a short-term period, in case of funding risks materialize.	New Zealand		✓	✓	
Reserve requirements	The reserve requirements (or cash reserve ratio) is a bank regulation that sets the minimum reserves each bank must hold to customer deposits and notes. It would normally be in the form of fiat currency stored in a bank vault (vault cash), or with a central bank.	Bulgaria, Colombia, Indonesia, Peru, Romania		✓	✓	
Limits on interbank exposures	Limits based on linkages among financial institutions.	European Union				✓

Sources: IMF Staff Review Note (June 2010) and authors' compilation, based on national sources.



System (CGFS, 2010), central bankers viewed these measures as those aimed at reducing system-wide financial risks, including traditional microprudential instruments applied to the system as a whole; fiscal measures such as financial transaction taxes; and central bank tools used for system liquidity management (for example, reserve requirements).<sup>19</sup> These measures are usually seen as complements to monetary policy.<sup>20</sup> Table 4.1 lists instruments that have been used recently for macroprudential purposes as well as their main channels of operation (e.g., whether they operate on the asset side or liability side of financial intermediaries).

In the run-up to the global crisis, countries in the region used prudential tools for macroprudential purposes, and recently have started to redeploy them. Latin America authorities have relied not only on traditional prudential tools (for example, leverage ratios, limits on currency and maturity mismatches, limits on credit growth to specific sectors), but also have put in place dynamic loan-loss provisioning systems (see Box 4.1), actively managed marginal reserve requirements (see Box 4.2), and have imposed capital controls or limits on the net foreign exchange position of banks.<sup>21</sup>

Many countries in the region are proactively thinking about ways to analyze interconnectedness, evaluate systemic importance of financial institutions, adjust capital requirements, and implement countercyclical capital buffers in line with the international discussions.<sup>22</sup> Furthermore, authorities in the region already recognize the complexity of macroprudential objectives, including the matter of shared responsibility among different

authorities. Several countries already have taken steps on the institutional front to bring together different authorities through the creation of bodies responsible for macroprudential policy (e.g., Mexico's Consejo de Estabilidad del Sistema Financiero), or establishing agreements to improve the exchange of information across regulatory institutions.<sup>23</sup>

To address similar concerns, countries in Asia and emerging Europe also have implemented measures with macroprudential objectives.<sup>24</sup> To manage procyclicality, central banks in the region have used countercyclical provisioning, loan-to-value ratios, loan-to-deposit requirements, and direct controls on lending to specific sectors. The authorities have been addressing cross-sectional risks through capital surcharges for systemically important financial institutions, liquidity requirements/funding ratios, and limits on currency mismatches. More recently, measures relating to property lending markets (for example, mortgage lending limits, tightened loan-to-value ratios, or down payment requirements), have been used to temper the surge in asset prices and/or sales in several countries and ease risks of asset bubbles or sharp market corrections in the event of capital outflows. These instruments were calibrated from existing microprudential settings taking into account macroeconomic conditions.<sup>25</sup> Moreover, in line with the Latin American experience, the authorities have also used macroprudential measures to reduce the inflows and associated volatility from speculation in very specific asset markets (for example, limits on banks' currency derivatives positions and on short-term external loans denominated in foreign currencies).

<sup>19</sup> It is important to keep in mind that reserve requirements are also a monetary policy tool. However, its use had been phased out in advanced economies as direct instruments of monetary policy were replaced by indirect (i.e., market-based) instruments, such as interest rates.

<sup>20</sup> See BIS (2010) for a Latin American perspective on how monetary policy and financial stability interact.

<sup>21</sup> In the past, countries also relied on reserve requirements on short-term borrowing of banks (e.g., Argentina in the 1990s, and Peru in more recent times).

<sup>22</sup> For a discussion on the implications of the global financial regulatory reform for the LAC region, see Rennhack (2009).

<sup>23</sup> These agreements aim at strengthening the safety net of the financial system and improving confidence of the public in the system (e.g., Colombia's formal agreements for the exchange of information between the Central Bank and the Supervisory Authority).

<sup>24</sup> See IMF(2010b, 2010c) for details.

<sup>25</sup> See CGFS paper No. 38 for details on experience with measures relating to property lending markets. For instance, an 80 percent loan-to-value maximum is widely interpreted as a norm for residential real estate loans from a microprudential point of view, and tightening of this instrument has taken the form of 10-20 percentage point reductions, some of which were later reversed when conditions in the targeted markets were seen to have normalized.

### Box 4.1. Dynamic Provisioning in Latin America

**Dynamic loan-loss provisions are a countercyclical tool that requires the buildup of cushions against expected losses in good times and releases them in bad times.**<sup>1</sup> The calibration uses a statistical method to allow for losses that are inherent within the portfolio but which have not yet materialized (Financial Services Authority, 2009). In the economic downswing, some losses are met from the accumulated buffer.

**In the region, Bolivia (2008), Colombia (2007), Peru (2008), and Uruguay (2001) have in place systems of dynamic provisioning (Table).**<sup>2</sup> In Uruguay, the formula offsets loan delinquencies with provisions—as in Spain—whereas in Peru the system is a GDP-based dynamic loan-loss provisioning rule that is applied equally to all banks. In Bolivia, the system prescribes a general provision on prime quality loans, which can be drawn upon fully during a downswing.

#### Dynamic Provisioning: Cross-Country Comparison

Country	Year of introduction	Forms of provisioning	Trigger of rule	Applicability	Form of provisioning
Uruguay	2001	(i) Individual provisioning; and (ii) dynamic provisioning, which reflects the difference between monthly statistical losses on loans and the realized loan loss in that month.	Depends on individual NPLs.	Depends on individual bank's portfolio.	Cumulative funds gradually build over time.
Spain <sup>1</sup>	2005	(i) The specific provision covers incurred losses individually identified in specific loans; and (ii) the general provision, to cover incurred losses, not yet individually identified, in homogeneous loan portfolios classified as normal and calculated using statistical procedures.	Depends on individual NPLs.	Depends on individual bank's portfolio.	Cumulative funds gradually build over time.
Colombia	2007 <sup>2</sup>	(i) Individual provisioning depends on the characteristic of the borrower; (ii) countercyclical provisioning reflects changes in borrower's credit risk due to economic cycle; and (iii) generic provisioning of at least 1 percent of total loan portfolio.	Regulator decides, based on default probabilities, but has also some discretion. Recent revisions will make decision more rule based.	Systemic, but is moving to individual banks.	Cumulative funds gradually build over time.
Bolivia	2008	(i) Specific provisioning; (ii) generic provisioning; and (iii) countercyclical provisioning, with rates ranging from 1.5 percent to 5.5 percent depending on the type of loan. During a contraction, banks can use these provisions to offset up to half of the additional specific provisions required.	Six consecutive months of deterioration in loan quality (provided that the dynamic provisioning has been phased in fully, and there is no objection by the regulator).	Loan quality is computed for individual banks. However, the regulator takes into account the macroeconomic and sectorial conditions to issue the "no objection" statement required to trigger the rule.	Cumulative funds gradually build over time.
Peru	2008	(i) Generic provision depends on credit; and (ii) procyclical rate, dependent on GDP growth.	GDP-based.	Systemic.	Procyclical provisioning is discrete, and only implemented once trigger set in place.

Source: Various regulators.

<sup>1</sup> From 2000–04, the provisioning system was slightly different (there were three types of provisions instead of the current two and there were also some differences in the value of the parameters provided by the central bank's model).

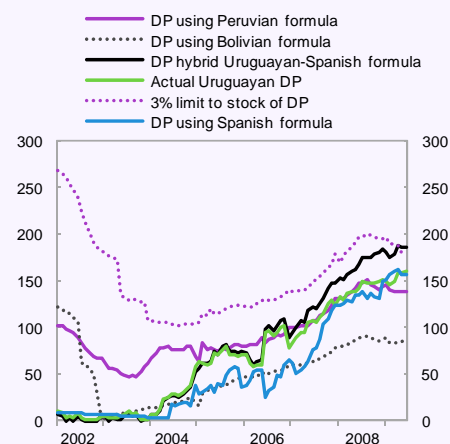
<sup>2</sup> Starting in April 2010 dynamic provision is bank-specific.

<sup>1</sup> By contrast, capital adequacy ratios (CARs) protect a financial institution against unexpected losses. Although CARs also can be employed to deal with both expected and unexpected losses, provisions lessen fluctuations in recorded bank profitability at business cycle frequencies independently of the solvency of the bank (Borio and others, 2001).

<sup>2</sup> The Bank of Spain first introduced a dynamic and forward-looking provisioning system in 2000 to cope with credit risk (Fernández de Lis and others, 2001). The system was intended to account for "latent" risks of homogeneous categories of assets that could lead to expected levels of losses over the business cycle. Provisions were tied to the growth of assets and accumulated in a fund, which could be used to cover loan losses.

**Box 4.1. (concluded)**

**Stock of Uruguayan Dynamic Provisions under Different Formulas**  
(Millions of U.S. dollars)



Source: Wezel, 2010.

**Dynamic provisioning helps lean against the wind.**

A recent IMF study compared the Bolivian, Spanish, Peruvian, and Uruguayan provisioning systems using the actual Uruguayan cycle (Wezel, 2010). Each system induces a different path for provisioning (see the figure). For example, the Bolivian and Peruvian formulas yield a smoother path than the Spanish or Uruguayan systems. The comparison leaves open the question of whether the level of provisions is adequate or optimal.

## Macprudential Policy Challenges in the Current Latin American Context

Amid lax global financing conditions (ample liquidity driven by low international interest rates and high risk tolerance) that will likely prove protracted, Latin American countries are currently facing capital inflow pressures that may be conducive to financial excess, including credit booms, asset price bubbles, and domestic demand exuberance, all of which increase systemic risk. Emerging market economies can be especially prone to credit booms and/or asset price bubbles. Lack of exchange rate flexibility and credit constraints can make domestic demand particularly sensitive to external financial conditions.<sup>26</sup> Macprudential policy would add an additional set of instruments to the policy toolkit, particularly when traditional

macroeconomic policies may not be adequate, and would allow addressing financial excess in specific sectors.<sup>27</sup>

Despite the emerging agreement on the need to adopt a macroprudential policy perspective, its implementation may prove challenging. These policies cannot be seen in isolation and considered a “silver bullet” to prevent the buildup of systemic risk and achieve financial and macroeconomic stability. Macprudential policies need to be coordinated with macroeconomic policies. Moreover, many issues are still under discussion, which include how to track systemic risk, the level of granularity of the approach (that is, general versus sector-specific tools), the balance between rules and discretion, the perimeter of regulation, institutional arrangements and mandates, coordination and cooperation in

<sup>26</sup> Beyond Dutch disease concerns, exchange rate flexibility in some countries may be limited for other reasons, including dollarization and risks of balance sheet effects. In this instance, macroprudential measures could play a bigger role in macroeconomic stability.

<sup>27</sup> With large and protracted capital inflows being the potential destabilizing source, capital controls may also play a useful role. See Ostry and others (2010) for details.

### Box 4.2. Reserve Requirements as a Macroprudential Tool in Latin America

**The use of reserve requirements as a macroprudential tool has gained prominence, especially in emerging economies.** The reason is threefold. First, increasing reserve requirements can help contain the pace of credit growth during an upswing, thus operating as a speed limit. Second, increasing reserve requirement in the upswing builds a buffer, that is, a cushion of reserves that can be deployed during the downswing to contain liquidity risks. Finally, they can complement monetary policy at times when the credit cycle is at odds with its goals. For instance, raising interest rates to contain demand pressures in the context of large capital inflows can be self-defeating if exchange rate flexibility is overly limited. Under such circumstances, increasing reserve requirements may substitute for an increase in interest rates. However, these benefits have to be weighed against its potential costs. Reserve requirements are difficult to calibrate and are costly taxes on intermediation. Therefore, their use seems more appropriate when standard and less costly policy instruments are insufficient to achieve financial or price stability (see Vargas and others, 2010).

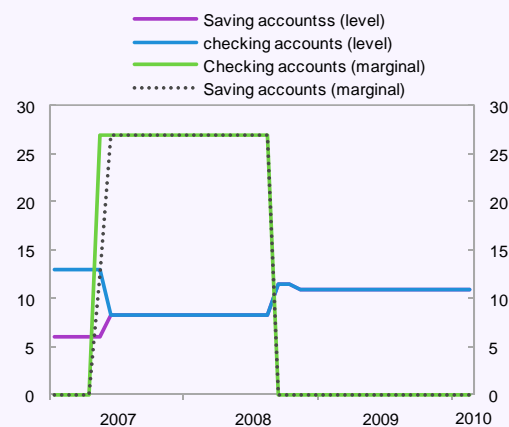
**In Latin America, the central banks of Colombia and Peru have used marginal reserve requirements as a macroprudential tool in the recent past.<sup>1,2</sup>** They acted as a speed limit on credit growth during the upswing, as a countercyclical tool to manage capital flows and the credit cycle, and as a liquidity buffer that was built in good times and released in bad times. The central bank of Brazil also used reserve requirements as a device to pump up liquidity to the financial system during the crisis.

**In Colombia, rapid demand growth was threatening to overheat the economy by 2006.** Credit in some segments (e.g., consumption) was expanding at an annual rate of 50 percent in a context of a highly indebted private sector.

Thus in early 2007, to contain the expansion of credit amid increasing capital flow pressures, the central bank imposed marginal reserve requirements on savings, checking, and CD deposits (see the figure). These measures were complemented with the use of price-based capital controls (unremunerated reserve requirements on capital inflows), and limits to derivatives exposures of the banking sector. In September 2008, the central bank removed the marginal reserve requirements in an effort to counteract adverse external conditions and support liquidity needs in the domestic financial system. Colombia did not experience major

liquidity problems, and the countercyclical use of reserve requirements gave the central bank additional degrees of freedom to manage the external shock.<sup>3</sup>

**Colombia: Average and Marginal Reserve Requirements**  
(Percent of deposits)



Source: Central Bank of Colombia.

<sup>1</sup> By marginal, it is meant that reserves are required on each additional deposit made at a bank from the date on which the regulation is made.

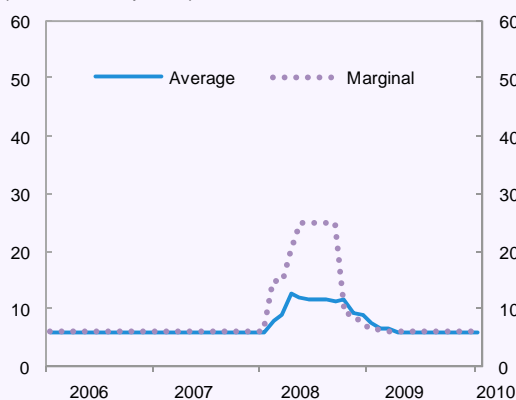
<sup>2</sup> Reserve requirements have also been used countercyclically in other emerging market economies (EMEs), including China and India. For a discussion of the use of reserve requirements in EMEs and some historical data, see Mohanty and Turner (2008).

<sup>3</sup> For a detailed account of the developments and reasons surrounding the policy measures adopted in Colombia prior to the collapse of Lehman Brothers, see Uribe (2009). An analysis of the effects of reserve requirements in Colombia on the interest rate and interest rate pass-through is discussed in Vargas and others (2010).

**Box 4.2 (concluded)**

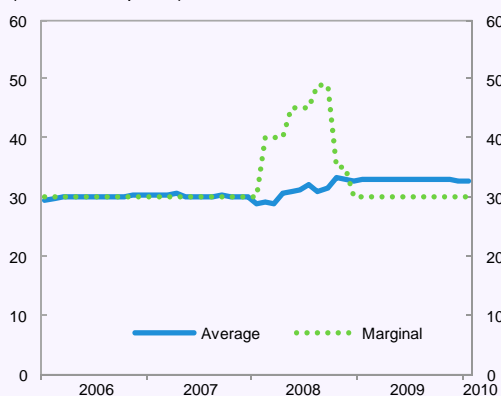
**In Peru, the central bank has been active in using reserve requirements, in the upswing (prior to the global crisis), during the crisis, and more recently as the new cycle begins (see figures below on Peru).** However, its goals may have differed at moments in time. In the upswing and prior to the crisis, the use of reserve requirements was motivated by large speculative capital inflows, which prompted the central bank to intervene in the market to limit exchange rate volatility.<sup>4</sup> Such interventions were sterilized by issuing CDs, part of which were bought by foreign investors. This forced the central bank to switch instruments, specifically long-term deposits that could not be sold to foreign investors, and to impose reserve requirements on local and foreign currency deposits. The aim was to reduce liquidity in the market. At the time the central bank estimated that these measures were effective in reducing the amount of speculative inflows and equivalent to a 50 basis point increase in the reference rate.

**Peru: Average and Marginal Reserve Requirements on Foreign Currency Deposits**  
(Percent of deposits)



Source: Central Reserve Bank of Peru.

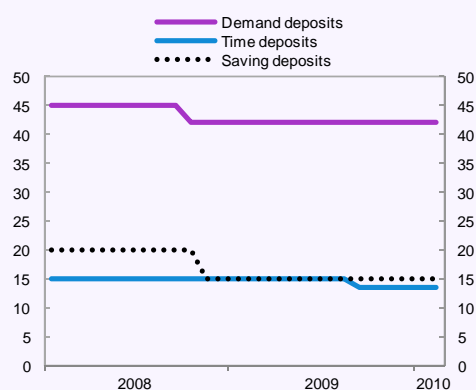
**Peru: Average and Marginal Reserve Requirements on Foreign Currency Deposits**  
(Percent of deposits)



Source: Central Reserve Bank of Peru.

**The case of Brazil has featured high levels of reserve requirements, allowing the central bank to lower reserve requirements for macroprudential purposes following the Lehman Brothers episode.** In particular, to confront liquidity problems in the interbank market, the central bank reduced reserve requirements to support lending from large liquid banks to small illiquid banks (see figure at right). By introducing this liquidity provision mechanism during the crisis, the central bank was able to avoid financial stability problems in the system.

**Brazil: Average Reserve Requirements**  
(Percent of deposits)



Source: Central Bank of Brazil.

<sup>4</sup> For details on this specific episode of capital inflows to Peru, see Jara and Tovar (2008).

supervision at the national and international levels, and data requirements.<sup>28</sup>

For now, a number of general considerations may help guide the use of prudential tools for macroprudential purposes and help eventually integrate those tools into policy decision making in Latin America.

*Interaction with monetary and fiscal policies.*

Macroprudential policies should not be a substitute for fiscal and monetary policies playing a primary countercyclical role. However in a context of external financing distortions contributing to overexuberant conditions, over-reliance on monetary and fiscal policies may be suboptimal and/or inadequate to contain the macroeconomic impact. For instance, interest rate policy could exacerbate capital inflows under conditions limiting exchange rate flexibility, or the fiscal effort required to counter the private sector exuberance could introduce other significant distortions or not be feasible. In such contexts, the use of prudential instruments for macroprudential purposes could effectively add to the macroeconomic policy toolkit. Yet such policies should not substitute for an appropriate degree of exchange rate flexibility, the first and critical line of defense amid capital inflows.

*Broad-range oversight.* Conditions of excess leverage can occur in any segment of the financial system (regulated or shadow) with material externalities to

the rest of the system and the overall economy. Macroprudential oversight therefore should encompass the entire financial spectrum and may also require monitoring the balance sheet of the corporate sector.

*Targeted intervention.* To avoid distorting markets or segments not affected by overexuberant conditions, prudential measures should aim to “lean against the wind” in the specific sectors concerned at a particular juncture. Given the new nature of using prudential instruments for macroprudential purposes, constrained experimentation may be needed to explore effectiveness while taking into account potential negative side effects on the financial sector.<sup>29</sup>

*Embedding macroprudential policies in an institutional setup.* Given that there is an overlap of responsibilities and instruments in the conduct of macroprudential policies, it would be important to adopt an institutional mechanism with clear mandates, transparency, and principles for coordination and accountability. Because a macroprudential framework cannot only be rule based—it would be impossible to calibrate the appropriate tools for all circumstances—the approach would require some degree of judgment, with checks and balances among the different institutions in charge of stability.

<sup>28</sup> See Bank of England (2009), Borio (2009), Brunnermeier and others (2009), Caruana (2008, 2010a), IMF (2009b), and IMF (2010) for discussions of these issues.

<sup>29</sup> To evaluate the suitability of different macroprudential tools, an important challenge is how to incorporate the financial sector in macroeconomic modeling. See Tovar (2009) for a general discussion and Beneš, Otker-Robe, and Vávra (2009) and N'Diaye (2009) for more concrete applications to emerging market economies.





## 5. A Cross-Country Perspective on Growth in the Caribbean: The Role of Tourism and Debt

*After earlier success, growth performance in most Caribbean countries has been disappointing since the early 1990s. Growth has slowed, in many cases to less than that of relevant comparator countries. Income, rather than converging toward advanced country levels, has fallen further behind. This chapter analyzes the growth experience of the Caribbean countries from an international perspective. Two findings stand out. First, tourism has been a significant contributor to growth and in many countries there remains scope for further expansion of this sector. Second, a major increase in debt has hampered growth considerably. The implications are that policies that facilitate further development of tourism can pay dividends at the level of the macroeconomy. Perhaps the most promising role of policies lies in fiscal consolidation to support long-term growth.*

### Growth Performance in the Last 40 Years

On average, growth has been low in the Caribbean countries over the last four decades: 2.2 percent based on PPP weights (3.4 percent based on a simple average). However, there is substantial heterogeneity across countries (Table 5.1 and Figure 5.1).<sup>1</sup> We divide the region into three broad analytical groups—the six Eastern Caribbean Currency Union countries (ECCU), which form a currency union and have a common central bank, three “commodity-exporting Caribbean countries” (CECC), and four “other

**Table 5.1. On average, growth and volatility in the Caribbean has been lower than its comparators.**

GDP Growth and Volatility (Based on real GDP growth rates (PPP) 1971–2009)				
Countries	Countries	Average Growth	Average Std. Dev.	Frequency of Growth Crashes <sup>1</sup>
Caribbean (simple average)	13	3.4	4.7	4.5
Caribbean	13	2.2	4.7	4.5
ECCU	6	4.3	4.2	3.0
Non-ECCU Caribbean	7	2.1	5.0	5.9
Commodity exporters	3	2.6	5.5	9.4
Other Caribbean	4	1.7	4.7	3.2
Tourism-intensive Caribbean <sup>2</sup>	6	2.7	4.3	3.8
Non-Caribbean emerging and developing economies	136	5.1	6.8	6.2
Latin America	17	3.4	4.5	4.5
Non-Caribbean small islands	18	4.3	5.6	4.2
Countries with comparable income in 1970 <sup>3</sup>	31	3.7	5.0	5.0

Sources: *World Economic Outlook*; and IMF staff calculations.

<sup>1</sup> Share of years (in percent) with growth lower than -5.1 percent (which corresponds to the 5th percentile of all country/years growth).

<sup>2</sup> Antigua and Barbuda, Bahamas, Barbados, Grenada, St. Kitts and Nevis, St. Lucia.

<sup>3</sup> Countries that are within  $\pm$  half of a standard deviation of the average real GDP per capita of the Caribbean countries in 1970. They include Albania, Algeria, Angola, Bolivia, Brazil, Bulgaria, Chile, China, P.R., Hong Kong SAR, Colombia, Costa Rica, Cyprus, Ecuador, El Salvador, Guatemala, Hungary, Iran, I.R. of, Malta, Mexico, Nicaragua, Panama, Peru, Poland, Portugal, Romania, Seychelles, Singapore, South Africa, Taiwan Province of China, Turkey, Uruguay, and Vanuatu.

Note: Figures for country groups are PPP-weighted averages.

Caribbean countries” (OCC).<sup>2</sup> The countries in each group share common features and have different comparator groups.

Following strong growth in the 1970s and 1980s, growth has subsequently slowed down considerably in the ECCU.<sup>3</sup> At an average growth of about 6 percent in the 1970s and 1980s, the ECCU outperformed emerging and developing

Note: This chapter was prepared by Nita Thacker and Sebastian Acevedo with contributions from Roberto Perrelli, Joong Shik Kang, and Melesse Tashu.

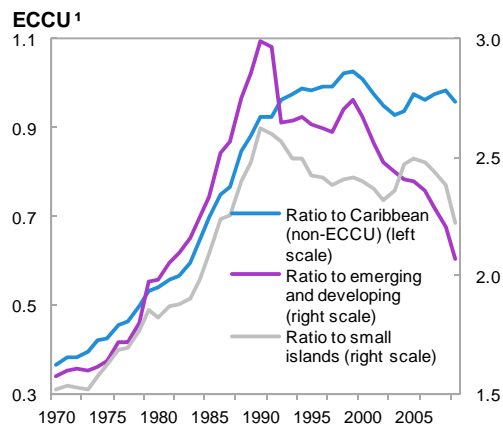
<sup>1</sup> The focus of this chapter is on the independent CARICOM countries, with the exception of Haiti, which is excluded because unlike the rest of CARICOM it has been characterized by significant political instability that has affected growth (see Box 5.1).

<sup>2</sup> The ECCU includes Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. The CECC includes Guyana, Suriname, and Trinidad and Tobago. OCC includes the Bahamas, Barbados, Belize, and Jamaica.

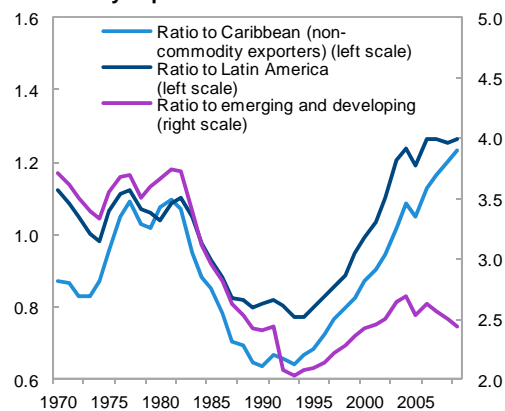
<sup>3</sup> The “convergence hypothesis” suggests that poor countries should grow faster than rich ones because poor countries have lower capital per capita and therefore there are increasing returns to capital. Among the three regions, the ECCU was the poorest in terms of per capita GDP in 1970.

**Figure 5.1 Caribbean countries are losing ground to their peers and the fast-growing emerging and developing countries.**

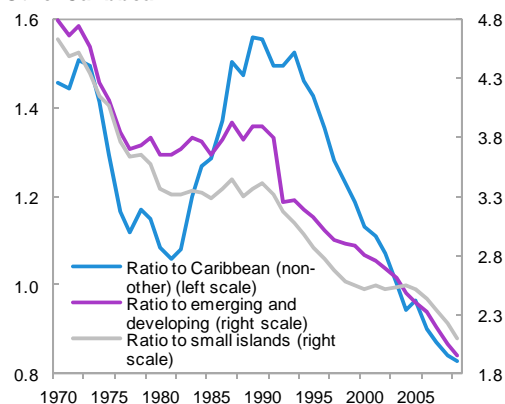
**Caribbean: Per capita GDP (PPP) Relative to Relevant Comparators, 1970–2009**



**Commodity Exporters²**



**Other Caribbean³**



Source: IMF staff calculations.

<sup>1</sup> Includes Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.

<sup>2</sup> Includes Guyana, Suriname, and Trinidad & Tobago.

<sup>3</sup> Includes the Bahamas, Barbados, Belize, and Jamaica.

countries and other small islands (SIs) alike (Figure 5.1).<sup>4</sup> This strong performance was driven by an expansion of agricultural exports (mainly bananas and sugar) under preferential trade arrangements with Europe, large aid inflows that followed independence from Britain, and an initial spurt from tourism. But growth halved in the next two decades as agricultural exports collapsed owing to the erosion of trade preferences, aid flows declined, and prices of commodity imports increased. Reflecting this overall growth, per capita GDP in the ECCU was rising faster than that of the rest of the world until the 1980s, but the trend has reversed since, and the ECCU has lost ground vis-à-vis other comparator countries, including the SIs.

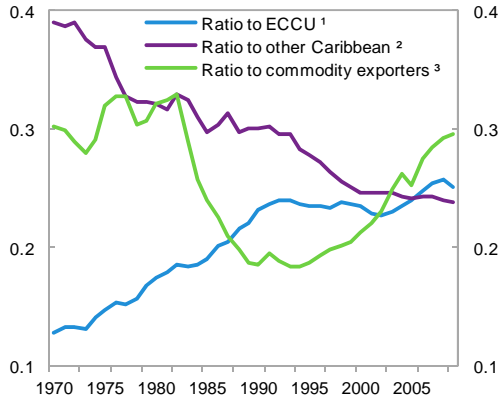
The OCC group, which includes some of the larger and more tourism-intensive economies in the region, has underperformed vis-à-vis competitors in practically all the four decades. This reflects a combination of factors—declining agricultural exports (mainly sugar), higher commodity import prices, and an increase in debt. As a result, the region has fallen behind relative to other countries in Latin America and the emerging and developing countries, and per capita GDP has diverged significantly from the United States (Figure 5.2).

On the other hand, CECC countries have made a dramatic recovery since the late 1980s, reflecting increased production of minerals and fossil fuels as well as higher commodity export prices. This is particularly true for Trinidad and Tobago which is highly dependent on oil and gas production (this sector contributes about 40 percent to GDP). That said, despite the uptrend in the CECC per

<sup>4</sup> For the purpose of this paper, SI economies comprise 23 small islands other than those included in our study of the Caribbean. These are Bermuda, Cape Verde, Comoros, Cuba, Cyprus, Dominican Republic, Fiji, Haiti, Kiribati, Maldives, Malta, Marshall Islands, Mauritius, Federated States of Micronesia, Palau, Papua New Guinea, Samoa, São Tomé and Príncipe, Seychelles, Solomon Islands, Sri Lanka, Tonga, and Vanuatu.

Figure 5.2. Caribbean countries still have a lot of catching up to do.

Caribbean: Per capita GDP (PPP) Relative to the United States, 1970–2009



Source: IMF staff calculations.  
<sup>1</sup> Includes Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.  
<sup>2</sup> Includes The Bahamas, Barbados, Belize, and Jamaica.  
<sup>3</sup> Includes Guyana, Suriname, and Trinidad & Tobago.

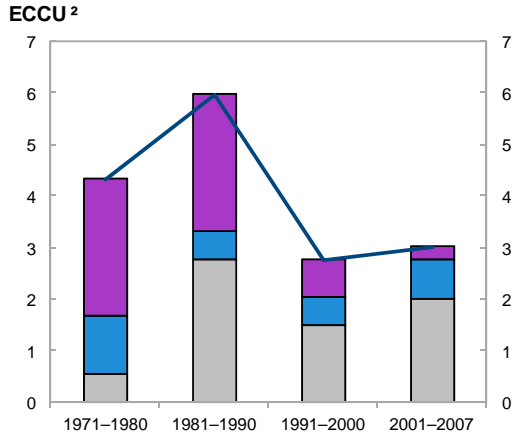
capita GDP in the last twenty years, it is still well below U.S. per capita GDP (Figure 5.2).

Perhaps surprisingly, despite the openness of their economies and exposure to natural disasters, the volatility of output growth in both the ECCU and OCC has been considerably smaller than for the comparator group of other small island nations and for emerging and developing countries (Table 5.1). The same picture holds whether volatility is measured as the standard deviation of GDP growth, or is based on the frequency of growth crashes (events of large drops in activity). On the contrary, output volatility is much higher for the CECC although this reflects the volatility of commodity prices in general rather than any country- or region-specific factors.

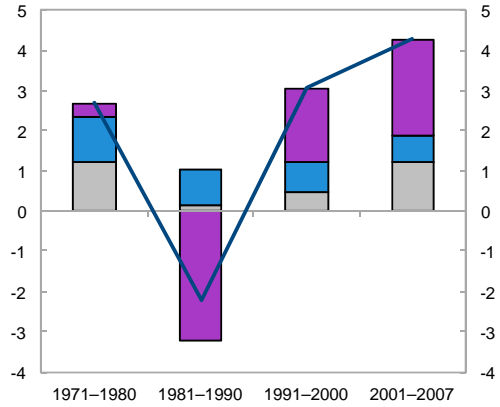
With these stylized facts in mind, we analyze in the rest of the chapter the role of productivity and factor accumulation in the growth performance of the region, whether tourism is an activity that has traction for growth, and the implications of high indebtedness for growth.

Figure 5.3. Growth is driven by changes in TFP for much of the Caribbean region.

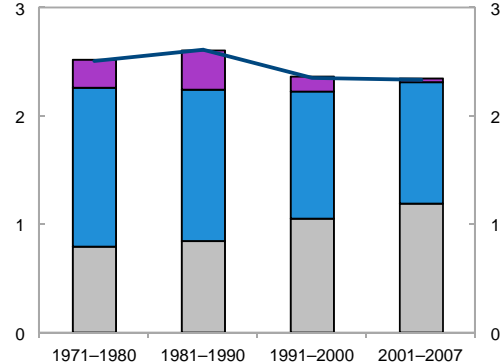
Caribbean: Contributions to Growth, 1970–2009<sup>1</sup> (Percent)



Commodity Exporters<sup>3</sup>



Other Caribbean<sup>4</sup>



Legend:  
 Capital accumulation (grey), Labor force (blue), Productivity (purple), Output (line).  
 Sources: Heston, Summers, and Aten (2009); Emergency Disaster Database (EM-DAT), CRED (2010); and IMF staff calculations.

<sup>1</sup> Data adjusted for the effect of hurricanes on capital.  
<sup>2</sup> Includes Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.  
<sup>3</sup> Includes Guyana, Suriname, and Trinidad & Tobago.  
<sup>4</sup> Includes the Bahamas, Barbados, Belize, and Jamaica.

### Box 5.1. Haiti's Growth Performance and Challenges

**Haiti's growth performance has been persistently weak, with per capita GDP growth highly volatile and declining since the 1980s.** Per capita GDP has diverged increasingly from the Caribbean countries, the Dominican Republic, and other small islands in the rest of the world. As a result, the poverty rate is now the highest in the Western Hemisphere, with 72 percent of Haitians living on less than US\$2 a day compared, for example, with 16 percent for the Dominican Republic.

**Aside from exogenous shocks, much of Haiti's growth divergence is explained by political instability and long-standing structural obstacles to growth.** Haiti's growth was at its strongest in the 1970s, owing to dynamic

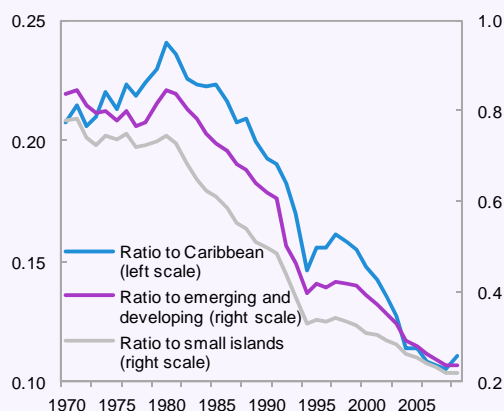
investment and structural reforms aimed at enhancing trade openness, education, and credit to the private sector. Growth started to decline in the 1980s as a result of political turmoil and decelerated further during the 1990s. In addition, private sector development and investment have been limited by dilapidated infrastructures, difficulty in enforcing property rights, and a challenging business environment. Results from standard growth accounting analysis show that negative total factor productivity and low capital accumulation explain most of Haiti's weak growth performance.

**Nonetheless, economic performance had started to improve before the earthquake in 2009.**

Following successful macroeconomic stabilization and the steady implementation of institutional and structural reforms in the context of successive IMF programs since 2004, real GDP growth picked up, averaging 2.3 percent a year between 2006 and 2009, compared with a decline of 0.5 percent per year during 2000–05. Recognizing the government's efforts and the needs of the country, donors agreed to cancel US\$1.2 billion of eligible debt in June 2009 in the context of the Heavily Indebted Poor Countries/Multilateral Debt Relief Initiative.

**Medium-term growth challenges are daunting, and hinge importantly on successful post-earthquake reconstruction efforts.** The earthquake caused damages and losses amounting to 120 percent of GDP, and affected a third of the population, making it one of the most devastating natural disasters in recent history (aside from tropical storm Ivan, which destroyed 250 percent of Grenada's GDP and affected about 60 percent of its population). Total donor pledges amount to US\$10.2 billion over 10 years, which could triple annual aid inflows to Haiti from about 5 percent of GDP in 2004–09 to about 15 percent in 2010–14. The authorities' plan aims at raising medium-term growth to about 6 percent, mainly through (i) the creation of regional growth poles focusing on tourism, agriculture and agribusiness, and textile manufacturing; and (ii) enhancements in the transport and communication infrastructure (roads, ports, airports, and energy supply). The success of this strategy will depend crucially on the timely delivery of the promised international assistance and on the capacity of the government to work in partnership with the private sector and attract foreign direct investment.

Haiti: Per capita GDP (PPP) Relative to Relevant Comparators, 1970–2009<sup>1</sup>



Source: IMF staff calculations.

<sup>1</sup>Small islands and emerging and developing economies do not include Haiti in this case.

Note: This box was prepared by Aminata Touré.

## A First Pass: Growth Accounting

The standard growth accounting framework decomposes observed output growth into contributions of capital and labor and a residual that is associated with total factor productivity (TFP).<sup>5</sup>

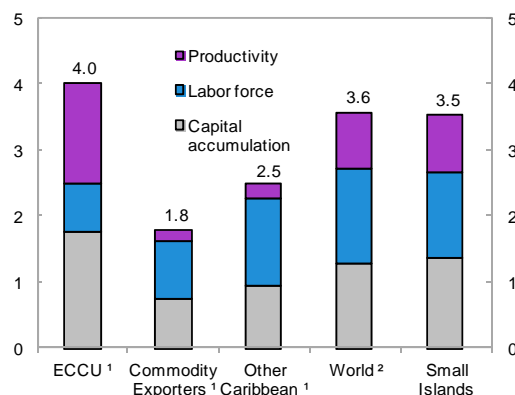
TFP explains the bulk of the variation in economic growth in the ECCU and CECC (Figure 5.3). A pickup in investment in the 1980s in the ECCU countries, much of it driven by tourism development, was accompanied by strong productivity growth and a pickup in GDP growth.

However, in subsequent decades, productivity growth declined noticeably, perhaps reflecting inadequate infrastructure and absence of complementary skill factors to capital (a problem common in developing countries). This lower productivity growth has led to a marked decline in output growth despite investment remaining relatively robust, as suggested by the large contribution of capital accumulation. This also suggests that instead of the amount invested, the type (and productivity) of investment should be at the forefront. In the CECC, modest increases in investment have been accompanied by a jump in productivity, helping the region to generate higher growth. In the OCC, the contribution of TFP has been much more marginal, both on average and in explaining growth swings, although TFP growth has slowed. In this group of countries, the contribution of capital formation also seems modest, particularly when compared with world averages (Figure 5.4).

<sup>5</sup> Growth accounting has some important limitations. First, it is based on two strong assumptions, complete markets and constant returns to scale. Second, the TFP component is measured as an unexplained residual and therefore picks up measurement errors in the data (for our sample of countries this could be quite significant). Also a failure to account for improvements in the quality and composition of the physical capital and the differences in human capital of the labor force will lead to an overestimation of TFP growth. Fourth, it does not provide any insight into why TFP changes from one period to another.

**Figure 5.4. Productivity growth in the region has been historically low compared with peers.**

**World: Average Contributions to Growth, 1970–2007 (Percent)**



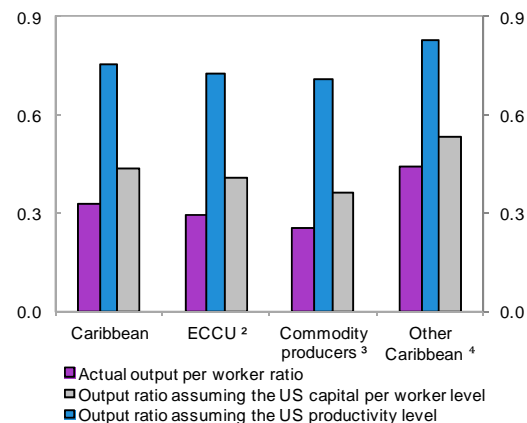
Sources: Emergency Disaster Database (EM-DAT), CRED (2010); Heston, Summers, and Aten (2009); and IMF staff calculations.

<sup>1</sup> Adjusted for the effect of hurricanes on capital.

<sup>2</sup> World includes data from 188 countries from the PWT 6.3.

**Figure 5.5. There is significant scope for boosting growth by raising productivity.**

**Caribbean: Output per Worker and Its Components, 2001–07<sup>1</sup>**  
(Ratios to the United States)



Sources: Emergency Disaster Database (EM-DAT), CRED (2010); and Heston, Summers, and Aten (2009); IMF staff calculations.

<sup>1</sup> Data adjusted for the effect of hurricanes on capital.

<sup>2</sup> Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.

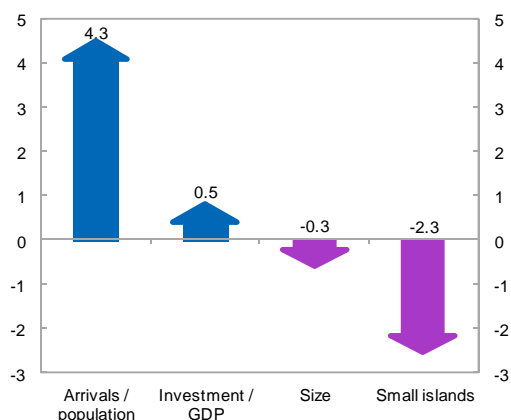
<sup>3</sup> Guyana, Suriname, and Trinidad & Tobago.

<sup>4</sup> The Bahamas, Barbados, Belize, and Jamaica.

To further illustrate the importance of productivity, we calculate what output per worker would be assuming the Caribbean region achieves U.S. productivity level (Figure 5.5) or its capital

**Figure 5.6. Tourism has a positive effect on growth that more than compensates for being a small island.**

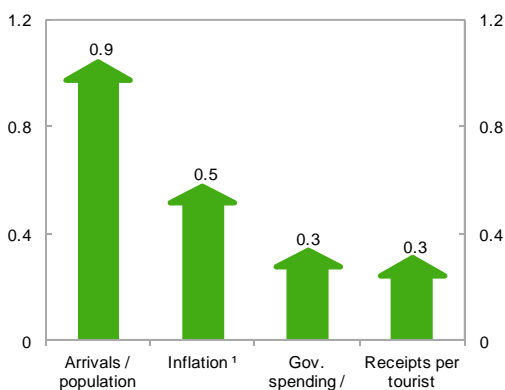
**Caribbean: Factors Contributing to Growth vis-à-vis the World**  
(Percent)



Source: IMF staff calculations.

**Figure 5.7. There is further scope to boost growth through tourism.**

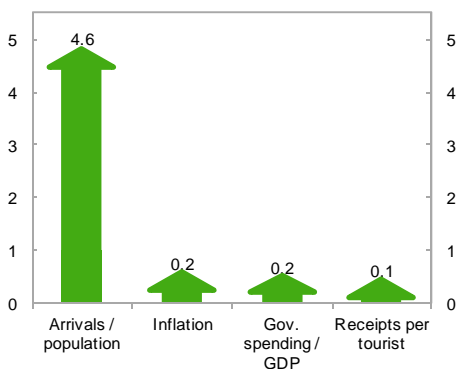
**Caribbean: Effect on Growth of Having the 90th Percentile of the World Levels**  
(Percent)



Source: IMF staff calculations.

<sup>1</sup> Variables calculated at the 10th percentile of the world level.

**Caribbean: Effect on Growth of Having the Bahamas Levels**  
(Percent)



Source: IMF staff calculations.

per worker level.<sup>6</sup> Output could be doubled if the region manages to raise productivity to U.S. levels, with the ECCU and the CECC benefiting somewhat more than the OCC. Output would also increase if capital per worker were to reach U.S. levels, although the gain would be far less spectacular. This suggests that although a further boost in investment could enhance output, the main effort should be focused toward raising productivity.

## Does Tourism Help Growth?

Most Caribbean countries went through a transformation of their economies in the 1960s and 1970s, moving from dependence on agriculture to dependence on tourism. Today, tourism is by far the largest sector in several Caribbean countries and the largest private sector employer. However, the consequences of such strong specialization in tourism for long-term growth are not obvious. In theory, an expansion of the tourism sector, or more generally the service sector, could have either a positive or negative impact on long-term growth. On the positive side, the initial move to specialization according to this apparent comparative advantage could raise income levels initially, and thereafter the tourism sector could be a locus of ongoing growth, like any other.

On the negative side, specialization in services could mean lower productivity growth in the future—on the critical assumption that sectors such as manufacturing are special in terms of stimulating more productivity growth (see the May 2010 *Regional Economic Outlook* for a summary of such arguments).

In practice, the historical and cross-country evidence suggests that tourism so far has led to an

<sup>6</sup> To investigate this question, we use the level accounting methodology of Hall and Jones (1999) which decomposes the difference in output per worker between two countries as the difference between their capital-to-labor ratios and the TFP ratios (see Appendix Table 5.2).



**Box 5.2. Outlook for Tourism in the Caribbean—Is Cuba a New Competitor?**

**The Caribbean economies analyzed in this chapter are accustomed to competition from Cuba, as it already draws significant tourist arrivals, particularly from Canada and Europe.**

However, competition for the largest source of tourists to the Caribbean—the United States—is constrained by existing travel restrictions. Studies by Romeu (2008) and Romeu and Wolfe (2010) analyze how these restrictions have shaped, and helped, tourism to other Caribbean economies, likening these to the effects of preferential trade policies. Other things constant, U.S. restrictions on visits to Cuba have likely allowed higher prices for Caribbean tourism providers, and thus better terms of trade and higher real wages in Caribbean economies as a whole, than would otherwise have been the case.

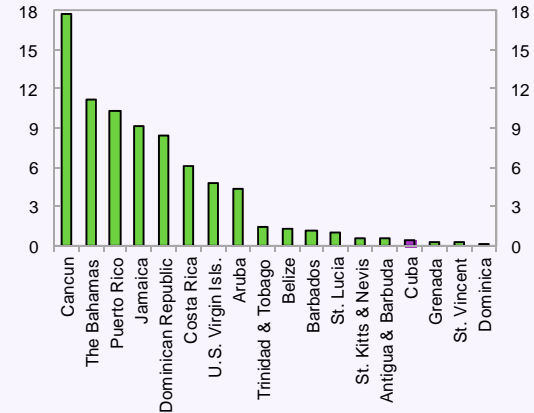
**Current U.S. policy does allow some travel to Cuba, and the extent of restrictions on such visits has changed over the years.**

A tightening of restrictions for travel to Cuba by (mainly) its expatriates under U.S. jurisdiction was imposed in 2004 and reversed in 2009. Romeu and Wolfe (2010) analyze the effects of these changes and find a significant impact of easing restrictions on travel to Cuba, suggesting that existing restrictions are significantly constraining broader U.S. travel to Cuba.

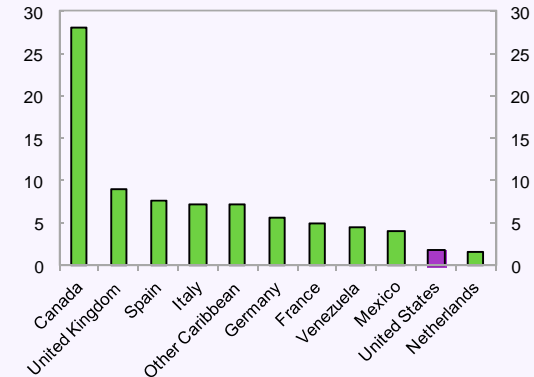
**More generally, under a hypothetical liberalization of current restrictions, the tourism market would need to find a new equilibrium as the cost for U.S. households' travel to Cuba fell precipitously.** The two best predictors of tourism flows are the bilateral distance and economic size of trading partners. Holding other factors constant, large countries trade more with each other, as do countries that are geographically close. The United States is by far the largest consumer of tourism services in the region; under liberalization, U.S. demand for the first time in fifty years would meet with Cuba, the region's largest potential provider of tourism services—located closer to the United States than any other Caribbean destination except the Bahamas. As the rest of the Caribbean adjusts to losing the implicit trade subsidy provided by current travel restrictions, new tourism consumption patterns would emerge across all destination and visitor source countries.

**Such a hypothetical liberalization, however, would not immediately have a negative effect on tourism in other Caribbean countries—and for a time the effects would likely be positive.** Amid capacity constraints in Cuba, particularly in terms of adequate hotel supply, a surge in demand from U.S. residents would likely “crowd out” visitors from other countries, likely sending many, for example, Canadians, to other islands. Long-term competition from Cuba would depend in part on whether Cuban policies fostered expansion of the tourism industry, including reducing the high travel costs now associated with tourism in Cuba.

**U.S. Travel to the Caribbean**  
(Average 2004–07, share)



**Arrivals in Cuba by Source**  
(Average 2004–07, share)



Sources: WTO; country authorities; and IMF staff estimates.

Note: This box was prepared by Rafael Romeu.

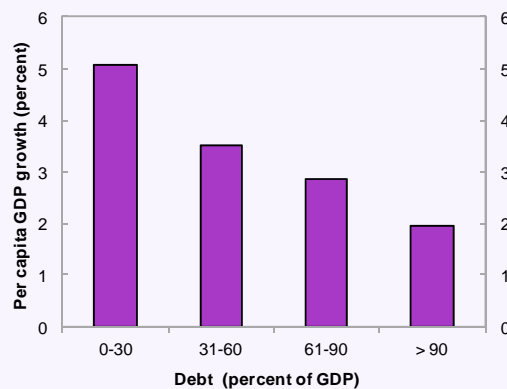


### Box 5.3. Debt and Growth

**Most studies that have looked at the relation between debt and growth conclude that high levels of public debt undermine economic performance by crowding out private investment and acting as a tax on future investment projects that also reduce investment.**

Rising debt levels also cause uncertainty and loss of confidence in the government's ability to manage macroeconomic balance, deterring investment and hence growth. Results from the *Fiscal Monitor* (IMF, 2010b) suggest that on average a 10 percent increase in initial debt reduces real per capita GDP growth by 0.2 percent per year. In a recent study on 44 advanced and emerging economies covering a period of almost 200 years, Reinhart and Rogoff (2010) find that above a threshold of debt-to-GDP ratio of 90 percent, median growth rates fall 1 percent while average growth falls even more. They also find that emerging markets have a lower threshold of external debt (60 percent) above which growth rates decrease by 2 percent or more.

**World: Debt and Real per Capita GDP Growth, 2000–07 (Percent)**



Sources: Heston, Summers, and Aten (2009); and IMF staff calculations.

increase in GDP in the Caribbean. The results from a panel regression using the standard growth model, augmented to include tourism, show a significant positive association between tourism and growth (Appendix Table 5.3).<sup>7</sup> A 10 percent increase in tourist arrivals per capita raises economic growth by about 0.2 percent. In addition, not only the volume of tourism but also the quality and value added of tourism (as proxied by receipts per tourist) matter for growth. Furthermore, there appear to be no negative implications from attracting too many tourists, suggesting that a further expansion of this sector is likely to be beneficial for growth.<sup>8</sup>

<sup>7</sup> The panel uses cross-country data for 154 countries and covers a period of 29 years.

<sup>8</sup> When the quadratic term of "arrivals/population" is included in the regression, it has a positive and significant relation to growth, implying that there are no diminishing returns to more tourist arrivals. However, this abstracts from  
(continued)

Interestingly, the positive contribution from specializing in tourism has helped to more than offset the negative impacts of geography and "being small." In Figure 5.6, the blue arrows represent effects of variables that contributed positively to long-term growth and the purple arrows indicate effects of variables that have negatively affected long-term growth in the Caribbean. Tourist arrivals to the Caribbean countries have been higher than the world average; it has added 4.3 percentage points to growth in the region. At the same time, growth has been lower by 2.3 and 0.3 percentage points less per year on average given the island geographical nature of the Caribbean and the

the limitations that could arise from lack of infrastructure (roads, airports, sanitation) that some of the islands may witness if tourist arrivals were to increase.

(related) small absolute size of their economies, respectively. This suggests that specialization in tourism has been advantageous and indeed has offset some of the limitations that come from being a small island economy (for example, remoteness, higher transportation costs, diseconomies of scale).

There is scope for further growth by enhancing the role of the tourism sector (Figure 5.7), through both the number of arrivals and how much each tourist spends. Assuming that tourist arrivals were to equal the 90th percentile of the world level, this would increase GDP growth in the region by about 1 percentage point, with some countries losing out given that tourist arrivals are now above that 90th percentile level in some countries. However, growth jumps by 4 percentage points if tourist arrivals per capita in all the Caribbean countries (as included in this study) were to match the level of tourist arrivals in the Bahamas.

In terms of the average receipts per tourist, there is also some scope for additional growth, although this room is modest when the Bahamas is considered as the benchmark. Nonetheless, developing a niche and providing services that will attract high-end tourists could prove beneficial.

Dependency on tourism has not increased the volatility of growth. Using the standard deviation of growth as the dependent variable in our panel regression suggests that tourism not only raises per capita GDP growth but also helps to *reduce* its volatility.<sup>9</sup> This is in line with the finding that volatility in the Caribbean has not been unusually high relative to other regions, as noted earlier.

One important caveat with the policy implications of all this analysis is the challenge that the Caribbean countries face from new competition if, as is speculated, the United States were to eliminate all restrictions on travel to Cuba (see Box 5.2).

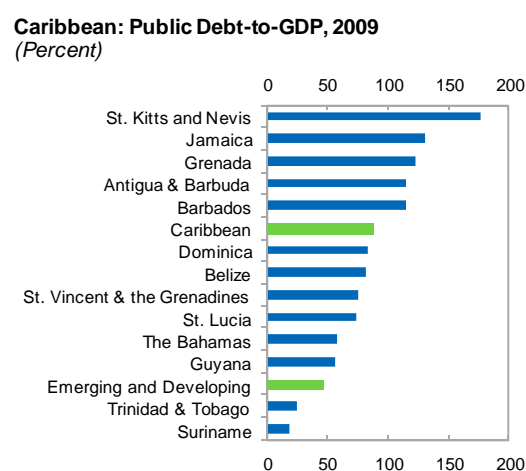
<sup>9</sup> Detailed results are available in the forthcoming IMF Working Paper: Growth in the Caribbean in Cross Country Perspective: The Role of Tourism and Debt.

## The Drag from Debt

The Caribbean countries are among the most highly indebted countries in the world (Figure 5.8). Five of the thirteen Caribbean countries have public debt-to-GDP ratios of more than 100 percent, and an additional four have debt levels above 70 percent.

Most of the public debt accumulation has occurred since the mid-1990s. In the ECCU, this reflects a worsening of the primary balance and increased off-budget spending and, to a lesser extent, the rise in interest costs relative to GDP growth. Although some ECCU countries have access to concessional resources from international financial institutions (IFIs), reliance on domestic debt is high in some countries, with commercial banks significant providers of debt. In these instances, interest costs have also been high. In the non-ECCU countries, many of which have access to international markets, the main reason for debt accumulation has been the rise in the interest bill relative to GDP growth, while

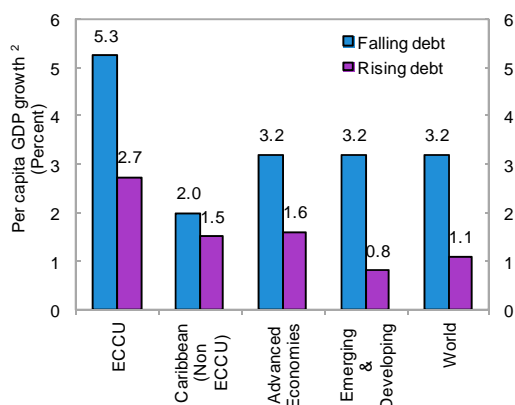
**Figure 5.8. Caribbean countries are among the most highly indebted countries in the world.**



Source: IMF staff calculations.

**Figure 5.9. Reducing debt from high levels helps growth.**

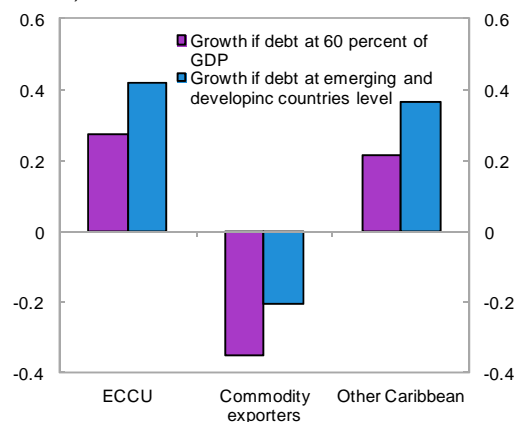
**World: Real per Capita GDP Growth During Periods of Rising and Falling Debt, 1970–2007<sup>1</sup>**



Sources: Heston, Summers, and Aten (2009); and IMF staff calculations. Based on the *Fiscal Monitor* (IMF 2010b), p. 63.  
<sup>1</sup> Initial debt > 60 percent of GDP. ECCU includes Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines.  
 Non-ECCU Caribbean includes the Bahamas, Barbados, Belize, Guyana, Jamaica, Suriname, and Trinidad & Tobago.  
<sup>2</sup> Average for subsequent 5 years.

**Figure 5.10. Reducing debt has a positive impact on growth, and the inverse is also true.**

**Caribbean: Effect of Debt on Growth<sup>1</sup> (Percent)**



Source: IMF staff calculations.  
<sup>1</sup> Based on regression (6) in Appendix Table 5.3, assuming 2009 debt-to-GDP levels drop (or increase) to 60 percent or 44.9 percent of GDP.

primary deficits have remained modest. In these countries, the realization of various types of contingent liabilities has also added to public sector debt.

Debt has negatively and significantly affected growth in the Caribbean, if one considers the cross-country experience as a guide (Box 5.3).<sup>10</sup> The evidence shows that for debt-to-GDP ratios above 30 percent, debt reduces growth. The negative impact of debt increases when the debt-to-GDP ratio crosses the 60 percent threshold.<sup>11</sup> Moreover, once debt is considered, investment no longer appears to have a positive impact on growth, suggesting that government spending is crowding out private investment (Appendix Table 5.3).

Although tightening fiscal policy might slow growth in the short term, it appears that lowering the debt-to-GDP ratio, when it is above 60 percent, tends to improve the economic performance of a country over the medium term (Figure 5.9).<sup>12</sup> A reduction in public debt encourages private investment through its effect on long-term interest rates. It also reduces the fear of tax hikes in the future. Thus, declining debt levels are associated with higher growth. For example, in the ECCU growth halved in periods of rising debt levels, relative to periods in which debt was falling, although the impact for the other two groups is more modest.

<sup>10</sup> To investigate this, we consider the panel regressions using the standard growth equation, augmented by tourism (as in the last section) and including debt. More detailed discussion of the results will be available in the forthcoming IMF Working Paper: Growth in the Caribbean in Cross Country Perspective: The Role of Tourism and Debt.

<sup>11</sup> Following Kumar and Woo (2010) and Patillo, Poirson, and Ricci (2002), the approach explores the nonlinearities of the growth-debt relationship by introducing interactions terms between debt and dummies for three ranges of debt-to-GDP: 0 to 30 percent, 30 to 60 percent, and 60 percent and above, and by including a quadratic specification for the debt variable.

<sup>12</sup> See also Chapter 3 of the October 2010 *World Economic Outlook*.

To illustrate further the inverse relationship between debt levels and GDP growth (Figure 5.10), we calculate by how much growth would increase if the region were to reduce the debt-to-GDP ratio to 60 percent (for the CECC countries this actually implies raising debt levels). Not surprisingly, the biggest positive impact would be for the ECCU countries, where three of the six countries have debt levels well above 100 percent of GDP. Thus, a reduction in debt in the ECCU to 60 percent would add about a quarter percentage point to growth. If the ECCU were to further reduce debt to the average level for emerging and developing countries (about 45 percent), growth could increase by about half a percentage point. On the other hand, CECC countries should continue to keep their debt levels low because an increase in debt would lower growth.

## Conclusions

Although the Caribbean countries' per capita GDP increased significantly in the 1970s, in the last twenty years they have lost ground to their small island peer countries and the fast-growing emerging and developing countries. That said, growth performance has been quite heterogeneous, with the ECCU countries recording the best performance overall, and the CECC making up the ground they lost in the 1980s. However, all three groups need to do a great deal of catching up before they can reach the U.S. per capita GDP level.

Improvement of TFP has been the single most important driver of growth for much of the

region. The decline in TFP growth despite high levels of capital accumulation accounts for the relatively poor performance of the ECCU countries in recent years. On the other hand, improvements in TFP combined with increased investment as a result of higher commodity prices since the late 1980s has helped the region's commodity-exporting countries (CECC) to gain lost ground. Although it is difficult to pinpoint the factors behind the large decline in TFP given that it could represent anything from lack of complementary factors and lack of innovation to simple measurement errors, efforts to improve TFP, through stronger institutions and adoption of new technology, are bound to help boost growth in the region.

Tourism has been an important contributor to growth, and there is significant scope in many countries to boost growth by enhancing the performance of this sector. However, to improve growth prospects a key issue that needs to be addressed is the rising debt level in the region. To the extent that governments are proactive in reducing debt, growth will improve not just by reducing budgetary interest costs and creating fiscal space but, more importantly, through their effect on reducing long-term interest rates and building confidence and increasing private sector investment.

The future of the Caribbean lies in its efforts to improve productivity and competitiveness in the tourism industry and the willingness of governments to reduce the high levels of debt that would create the necessary fiscal space to address future shocks to their economies.

## Appendix

**Table 5.2. Caribbean: Output Growth and Its Components; Ratio to United States Values, 1990–2007**

*(Percent, adjusted for the effect of hurricanes on capital)*

Country	Year	Output per worker	Capital per worker	Productivity
Antigua and Barbuda	1990			
	2000	0.41	0.32	0.62
	2007	0.47	0.40	0.66
The Bahamas	1990	0.85	0.70	0.96
	2000	0.70	0.83	0.75
	2007	0.64	0.92	0.66
Barbados	1990	0.73	1.25	0.67
	2000	0.59	0.92	0.61
	2007	0.59	0.77	0.65
Belize	1990	0.30	0.38	0.42
	2000	0.28	0.29	0.43
	2007	0.29	0.25	0.47
Dominica	1990	0.17	0.18	0.31
	2000	0.14	0.15	0.28
	2007	0.12	0.15	0.24
Grenada	1990	0.41	0.77	0.45
	2000	0.46	1.02	0.45
	2007	0.40	0.90	0.42
Guyana	1990	0.06	0.29	0.09
	2000	0.07	0.22	0.12
	2007	0.06	0.17	0.12
Jamaica	1990	0.31	0.47	0.40
	2000	0.24	0.41	0.33
	2007	0.23	0.35	0.33
St. Kitts & Nevis	1990	0.26	0.35	0.38
	2000	0.30	0.28	0.47
	2007	0.38	0.49	0.48
St. Lucia	1990	0.38	0.27	0.59
	2000	0.32	0.38	0.44
	2007	0.32	0.35	0.46
St. Vincent & the Grenadines	1990	0.14	0.15	0.28
	2000	0.13	0.17	0.24
	2007	0.16	0.18	0.29
Suriname	1990	0.35	0.41	0.48
	2000	0.22	0.38	0.30
	2007	0.26	0.52	0.33
Trinidad & Tobago	1990	0.36	0.80	0.39
	2000	0.41	0.54	0.51
	2007	0.60	0.48	0.78

Sources: Emergency Disaster Database (EM-DAT), CRED (2010); and Heston, Summers, and Aten (2009); IMF staff calculations.

Note: More detailed data (since 1970) available in the forthcoming Working Paper: Growth in the Caribbean in Cross Country Perspective: The Role of Tourism and Debt.

**Table 5.3. Tourism, Debt, and Growth**

Variables	GDP Growth							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Convergence	-2.055*** (0.324)	-3.582*** (0.406)	-3.692*** (0.407)	-4.019*** (0.426)	-3.888*** (0.421)	-2.343*** (0.613)	-2.424*** (0.620)	-2.421*** (0.621)
Government / GDP	-1.000** (0.455)	-0.926* (0.476)	-0.773 (0.470)	-0.551 (0.486)	-0.722 (0.477)	-1.014 (0.657)	-1.036 (0.661)	-1.016 (0.662)
Primary education	1.985*** (0.730)	1.270* (0.743)	1.201 (0.737)	0.805 (0.766)	1.510** (0.760)	0.404 (1.352)	0.245 (1.353)	0.220 (1.367)
Openness	1.354*** (0.377)	0.182 (0.414)	0.251 (0.407)	0.036 (0.420)	0.160 (0.415)	0.693 (0.592)	0.621 (0.594)	0.619 (0.594)
Inflation	-0.522*** (0.134)	-0.534*** (0.126)	-0.518*** (0.126)	-0.497*** (0.129)	-0.506*** (0.126)	-0.468** (0.184)	-0.498*** (0.186)	-0.498*** (0.186)
Terms of trade	0.043** (0.020)	0.081*** (0.019)	0.080*** (0.019)	0.086*** (0.019)	0.082*** (0.019)	0.111*** (0.030)	0.110*** (0.030)	0.110*** (0.030)
Life expectancy	7.272*** (2.390)	5.097** (2.272)	5.083** (2.267)	3.874* (2.243)	5.476** (2.283)	-3.337 (3.806)	-3.542 (3.784)	-3.499 (3.808)
Investment / GDP	2.824*** (0.473)	1.221*** (0.455)	1.311*** (0.456)	0.897** (0.451)	1.364*** (0.457)	1.005 (0.761)	0.933 (0.767)	0.967 (0.766)
Size	0.000* (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000** (0.000)
Arrivals / population		1.795*** (0.265)	1.915*** (0.271)	2.159*** (0.271)	2.516*** (0.440)	1.763*** (0.405)	1.833*** (0.404)	1.830*** (0.404)
Small islands			-2.991*** (0.906)	-3.099*** (0.971)	-3.339*** (0.949)	-2.595** (1.263)	-2.575** (1.278)	-2.608** (1.275)
Receipts per tourist				0.426** (0.212)				
(Arrivals / population) <sup>2</sup>					0.096* (0.057)			
Debt / GDP						-0.509** (0.230)		
(Debt / GDP)*Dummy 0–30							-0.270 (0.335)	-0.269 (0.330)
(Debt / GDP)*Dummy 30–60							-0.418 (0.268)	
(Debt / GDP)*Dummy >60							-0.444* (0.241)	
(Debt / GDP)*Dummy 30–90								-0.422* (0.256)
(Debt / GDP)*Dummy >90								-0.453* (0.240)
(Debt / GDP) <sup>2</sup>							0.026 (0.047)	
Constant	-29.730*** (8.740)	9.310 (9.917)	10.390 (9.919)	25.345** (10.648)	9.665 (9.943)	38.936** (16.455)	38.183** (16.585)	41.364** (16.272)
Observations	791	760	760	749	760	467	467	467
Number of countries	154	152	152	151	152	136	136	136

Note: \*\*\* p-value <0.01; \*\* p-value <0.05; \* p-value <0.1. Standard errors in parentheses.

The estimation used data from 154 countries covering a period of 29 years from 1979 to 2007, which we divide into five 5-year intervals and one 4-year interval. The dependent variable is the average real per capita GDP growth rate. The variable convergence is the log of per capita GDP at the beginning of the period, while the rest of independent variables are 5-year averages and are expressed as logarithms (except for Size). The procedure used in the estimation was the Hausman-Taylor estimator, which allows the use of a random effects model (to include time-invariant variables such as size and small islands) while correcting for the correlation of investment / GDP and the tourism variables with the individual effects  $u_i$  of each country.







## References

- Andritzky, Jochen, John Kiff, Laura Kodres, Pamela Madrid, Andrea Maechler, Aditya Narain, Noel Sacasa, and Jodi Scarlata, 2009, "Policies to Mitigate Procyclicality," IMF Staff Position Note 09/09 (Washington: International Monetary Fund).
- Bank of Canada, 2010, "Strengthening International Capital and Liquidity Standards: A Macroeconomic Impact Assessment for Canada," Bank of Canada report (Ottawa, August).
- Bank for International Settlements, 2008, "New Financing Trends in Latin America: A Bumpy Road Towards Stability," BIS Papers 36 (Basel, February).
- , 2009, *Annual Report 2008/2009* (Basel).
- , 2010, "Perspectives on Inflation Targeting, Financial Stability and the Global Crisis," BIS Papers 51 (Basel, March).
- Bank of England, 2009, "The Role of Macroprudential Policy: A Discussion Paper" (London, November).
- Barbosa, Nelson, 2010, "Latin America: Counter-Cyclical Policy in Brazil: 2008–09," *Journal of Globalization and Development*, Vol. 1, Issue 1, Article 13.
- Basel Committee on Banking Supervision, 2009, "Strengthening the Resilience of the Banking Sector," Consultative Document, December.
- , 2010a, "Broad Agreement on Basel Committee Capital and Liquidity Reform Package," Press Release, July.
- , 2010b, "An Assessment of the Long-term Economic Impact of Stronger Capital and Liquidity Requirements," August.
- , 2010c, "Announcement of Higher Global Minimum Capital Standards," Press Release, September.
- Batini, N., M. Estevão, and G. Keim, 2010, "Production and Jobs: Can We Have One Without the Other?" IMF Country Report No. 10/248 (Washington: International Monetary Fund).
- Beneš, Jaromír, Ľuboš Otáček-Robe, and David Vávra, 2009, "Modeling with Macro-Financial Linkages: Credit and Policy Shocks in Emerging Markets," Working Paper 09/123 (Washington: International Monetary Fund).
- Blanchard, Olivier, Giovanni Dell'Ariccia, and Paulo Mauro, 2010, "Rethinking Macroeconomic Policy," IMF Staff Position Note 10/03 (Washington: International Monetary Fund).
- Borensztein, Eduardo, Kevin Cowan, Barry Eichengreen, and Ugo Panizza, 2008, *Bond Markets in Latin America: On the Verge of a Big Bang?* (Cambridge, Massachusetts: MIT Press).
- Borio, Claudio, Craig Furfire, and Philip Lowe, 2001, "Procyclicality of the Financial System and Financial Stability: Issues and Policy Options," BIS Papers 1 (Basel: Bank of International Settlements).
- , 2009, "Implementing the Macroprudential Approach to Financial Regulation and Supervision," *Financial Stability Review: The Future of Financial Regulation*, Banque de France, September.
- , 2010, "Implementing a Macroprudential Framework: Blending Boldness and Realism," paper presented at the BIS-HKMA Conference on Financial Stability: Towards a Macroprudential Approach, Hong Kong, SAR, July 5–6.
- Brunnermeier, Markus, Andrew Crockett, Charles Goodhart, Avi Persaud, and Hyun Shin, 2009, *The Fundamental Principles of Regulation*, *Geneva Reports on the World Economy*, Vol. 11 (Geneva: International Centre for Monetary and Banking Studies and Centre for Economic Policy Research).
- Caruana, Jaime, 2010, "Macroprudential Policy: What Have We Learned and Where Are We Going?" paper presented at the Second Financial Stability Conference of the *International Journal of Central Banking*, Madrid, Spain, June 17.

- Celasun, O., 2009, "Spillovers from U.S. Federal Debt Issuance: The Case of Emerging Market Sovereign Borrowing," IMF Country Report No. 09/229 (Washington: International Monetary Fund).
- , and M. Sommer, 2010, "The Financing of U.S. Federal Budget Deficits," IMF Country Report No. 10/248 (Washington: International Monetary Fund).
- Center for Research on the Epidemiology of Disasters (CRED), 2010, Emergency Disaster Database (EM-DAT).
- Committee on the Global Financial System, 2007, "Financial Stability and Local Currency Bond Markets," CGFS Publications, No. 28, June.
- , 2010, "Macroprudential Instruments and Frameworks: A Stocktaking of Issues and Experiences," CGFS Papers No. 38, May.
- Crocket, Andrew, 2000, "Marrying the Micro and Macroprudential Dimensions of Financial Stability" (Basel: Bank for International Settlements).
- De Nicolò, Gianni, Giovanni Dell'Ariccia, Luc Laeven, and Fabian Valencia, "Monetary Policy and Bank Risk Taking," IMF Staff Position Note 10/09 (Washington: International Monetary Fund). [www.imf.org/external/pubs/ft/spn/2010/spn1009.pdf](http://www.imf.org/external/pubs/ft/spn/2010/spn1009.pdf).
- Denison, Edward, 1962, "Sources of Growth in the United States and the Alternative Before Us," Supplement Paper 13 (New York: Committee for Economic Development).
- , Zvi Griliches, and Dale Jorgenson, 1972, "The Measurement of Productivity," *Survey of Current Business*, Vol. 52 (May, part 2), pp. 3–111 (special issue).
- Erasmus, L., J. Leichter, and J. Menkulasi, 2009, "Dedollarization in Liberia—Lessons from Cross-Country Experience," Working Paper 09/37 (Washington: International Monetary Fund).
- Estevão, M., and E. Tsounta, forthcoming, "Is U.S. Structural Unemployment on the Rise?" Working Paper (Washington: International Monetary Fund).
- Fernández de Lis, Santiago, Jorge Martínez, and Jesús Saurina, 2001, "Credit Growth, Problem Loans and Credit Risk Provisioning in Spain," BIS Papers 1 (Basel: Bank of International Settlements).
- Ferreira, F., J. Gyourko, and J. Tracy, 2010, "Housing Busts and Household Mobility," *Journal of Urban Economics*, Vol. 68, pp. 34–45.
- Financial Services Authority, 2009, *The Turner Review: A Regulatory Response to the Global Crisis* (London).
- Financial Stability Board, International Monetary Fund, and Bank for International Settlements, 2009, *Guidance to Assess the Systemic Importance of Financial Institutions and Instruments: Initial Considerations*, Report to the G-20 Finance Ministers and Central Bank Governors, October.
- Financial Stability Board and Basel Committee on Banking Supervision, 2010, *Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements*. Interim Report, August.
- García-Escribano, M., 2010, "Peru: Drivers of De-dollarization," Working Paper Series No. 2010-11 (Lima: Central Reserve Bank of Peru).
- , 2010, "Peru: Drivers of De-dollarization," Working Paper 10/169 (Washington: International Monetary Fund).
- , and S. Sosa, forthcoming, "De-dollarization in Latin America: Facts and Factors," Working Paper (Washington: International Monetary Fund).
- Hall, Robert, and Charles Jones, 1999, "Why Do Some Countries Produce so Much More Output per Worker than Others?" *Quarterly Journal of Economics*, Vol. 114, pp. 83–116.
- Hausmann, Ricardo, and Barry Eichengreen, 2005, *Other People's Money: Debt Denomination and Financial Instability in Emerging Market Economies* (Chicago: University of Chicago Press).
- Heston, Alan, Robert Summers, and Bettina Aten, 2009, "Penn World Table v. 6.3," Center for International Comparisons of Production, Income and Prices (Philadelphia: University of Pennsylvania).

- Hoskin, Kevin, Ian Nield, and Jeremy Richardson, 2009, "The Reserve Bank's New Liquidity Policy For Banks," *Reserve Bank Bulletin*, Vol. 72, No. 4, December (Reserve Bank of New Zealand).
- Inter-American Development Bank, 2004, "Unlocking Credit: The Quest for Deep and Stable Bank Lending," *Economic and Social Progress in Latin America 2005 Report* (Washington: October)
- International Monetary Fund, 2008–2010, *World Economic Outlook* (Washington, various issues).
- , 2009a, "Initial Lessons of the Crisis," paper prepared by the Research, Monetary and Capital Markets, and Strategy, Policy, and Review Departments. February.
- , 2009b, *Global Financial Stability Report: Responding to the Global Crisis* (Washington, April).
- , 2010a, *International Financial Statistics* (Washington).
- , 2010b, *Fiscal Monitor* (Washington, May).
- , 2010c, "Prudential-Regulatory Reform: Current Global Initiatives and Fund Advice," Staff Policy Review Note, June.
- , 2010d, *Regional Economic Outlook: Asia and Pacific—Leading the Global Recovery; Rebalancing for the Medium Term* (Washington, April).
- , 2010e, *Regional Economic Outlook: Europe—Fostering Sustainability* (Washington, May).
- Jara, Alejandro, and Camilo E. Tovar, 2008, "Monetary and Financial Stability Implication of Capital Flows in Latin American and Caribbean Economies," BIS Papers 43 (Basel, Bank for International Settlements).
- Jaromír Beneš, Ľanci Ötker-Robe, and David Vávra, 2009, "Modeling with Macro-Financial Linkages: Credit and Policy Shocks in Emerging Markets," Working Paper 09/123 (Washington, International Monetary Fund).
- Jorgenson, Dale, and Zvi Griliches, 1967, "The Explanation of Productivity Change," *Review of Economic Studies*, Vol. 34, pp. 249–80.
- Kamil, Herman, and Rajeswari Sengupta, forthcoming, "Financial Structure and Corporate Performance during the Global Crisis: Microeconomic Evidence for Latin America," Working Paper (Washington: International Monetary Fund).
- Kodres, Laura, and Aditya Narain, 2010, "Redesigning the Contours of the Future Financial System," IMF Staff Position Note 10/10 (Washington: International Monetary Fund).  
[www.imf.org/external/pubs/ft/spn/2010/spn1010.pdf](http://www.imf.org/external/pubs/ft/spn/2010/spn1010.pdf).
- Kokenyne, A., J. Ley, and R. Veyrune, 2010, "Dedollarization," Working Paper 10/188 (Washington: International Monetary Fund).
- Kumar, Manmohan, and Jaejoon Woo, 2010, "Public Debt and Growth," Working Paper 10/174 (Washington: International Monetary Fund).
- Laubach, T., 2009, "New Evidence on the Interest Rate Effects of Budget Deficits and Debt," *Journal of the European Economic Association*, Vol. 7, pp. 858–85.
- Lee, Jong-Wha, 2005, "Human Capital and Productivity for Korea's Sustained Economic Growth," *Journal of Asian Economics*, Vol. 16, pp. 663–87.
- Loayza, Norman, Pablo Fajnzylber, and Cesar Calderon, 2004, *Economic Growth in Latin America and the Caribbean: Stylized Facts, Explanations, and Forecasts* (Washington: World Bank).
- Lo, Andrew, 2009, "The Feasibility of Systemic Risk Measurements: Written Testimony for the House Financial Services Committee on Systematic Risk Regulation," October.
- Matthieson, Donald, Jorge Roldos, Ramana Ramaswamy, and Anna Ilyina, 2004, "Emerging Local Securities and Derivatives Markets" (Washington: International Monetary Fund).
- Mendoza, Enrique G., and Marco E. Terrones, 2008, "An Anatomy of Credit Booms: Evidence from Macro Aggregates and Micro Data," NBER Working Papers No. 14049 (Cambridge, Massachusetts: National Bureau of Economic Research).

- Mohanty, M., and P. Turner, 2008, "Monetary Policy Transmission in Emerging Market Economies: What Is New?" BIS Papers, No. 35 (Basel: Bank for International Settlements).
- N'Diaye, Papa, 2009, "Countercyclical Macro Prudential Policies in a Supporting Role to Monetary Policy," Working Paper 09/257 (Washington: International Monetary Fund).
- Ocampo, Jose A., and Camilo E. Tovar, 2008, "External and Domestic Financing in Latin America: Developments, Sustainability and Financial Stability Implications," paper presented at the United Nations Workshop on Debt, Finance and Emerging Issues in Financial Integration, April, New York.
- Ostry, Jonathan D., Atish R. Ghosh, Karl Habermeier, Marcos Chamon, Mahvash S. Qureshi, and Dennis B.S. Reinhardt, 2010, "Capital Inflows: The Role of Controls," IMF Staff Position Note 10/04 (Washington: International Monetary Fund). <http://www.imf.org/external/pubs/ft/spn/2010/spn1004.pdf>.
- Pattillo, Catherine, Helene Poirson, and Luca Ricci, 2002, "External Debt and Growth," Working Paper 02/69 (Washington: International Monetary Fund).
- Persaud, Avinash, 2009, "Macro-prudential Regulation: Fixing Fundamental Market (and Regulatory) Failures," The World Bank, Financial and Private Sector Vice-Presidency, Note Number 6, July. <http://rru.worldbank.org/publicpolicyjournal>.
- Reinhart, Carmen, and Kenneth Rogoff, 2010, "Growth in a Time of Debt," *American Economic Review*, Vol. 100, pp. 537–78.
- Rennack, Robert, 2009, "Global Financial Regulatory Reform: Implications for Latin America and the Caribbean (LAC)," IMF Staff Position Note 09/19 (Washington: International Monetary Fund).
- Romeu, Rafael, and Andrew Wolfe, forthcoming, "Recession and Policy Transmission to International Tourism: Does Expanded Travel to Cuba Offset Crisis Spillovers?" Working Paper (Washington: International Monetary Fund).
- Romeu, Rafael, 2008, "Vacation Over: Implications for the Caribbean of Opening U.S.-Cuba Tourism," Working Paper 08/162 (Washington: International Monetary Fund).
- Scatigna, Michela, and Camilo E. Tovar, 2007, "Securitization in Latin America," *BIS Quarterly Review*, pp. 71–8.
- Shinasi, Garry, 2004, "Defining Financial Stability," Working Paper 04/187 (Washington: International Monetary Fund).
- Solow, Robert, 1957, "Technical Change and the Aggregate Production Function," *Review of Economics and Statistics*, Vol. 39, pp. 312–20.
- Tovar, Camilo, 2009, "DSGE Models and Central Banks. Economics," *The Open-Access, Open-Assessment E-Journal*, Vol. 3, 2009-16. [www.economics-ejournal.org/economics/journalarticles/2009-16](http://www.economics-ejournal.org/economics/journalarticles/2009-16).
- Uribe, J., 2009, "Política Monetaria y Estabilidad Financiera" (Bogotá: Banco de la República). [www.banrep.gov.co/documentos/presentaciones-discursos/Uribe/2009/Simposio\\_capitales.pdf](http://www.banrep.gov.co/documentos/presentaciones-discursos/Uribe/2009/Simposio_capitales.pdf)
- Vargas, Hernando, Yanneth Betancourt, Carlos Varela, and Norberto Rodríguez, 2010, "Effects of Reserve Requirements in an Inflation Targeting Regime: The Case of Colombia," *Borradores de Economía*, No. 587 (Bogotá: Banco de la República).
- Viñals, José, and Jonathan Fietchter, 2010, "The Making of Good Supervision: Learning to Say 'No,'" IMF Staff Position Note 10/08 (Washington: International Monetary Fund).
- Wexel, Torsten, 2010, "Dynamic Loan Loss Provisions in Uruguay: Properties, Shock Absorption Capacity and Simulation Using Alternative Formulas," Working Paper 10/125 (Washington: International Monetary Fund).
- World Bank, 2010, *World Development Indicators* (Washington, April).
- World Tourism Organization, 1980–2009, *Yearbook of Tourism Statistics* (Madrid).

## **New Publications from the Western Hemisphere Department, July 2009 – September 2010**

### **1. IMF Working Papers**

**WP/10/192** – The Dynamic Effects of Commodity Prices on Fiscal Performance in Latin America, by Leandro Medina.

**WP/10/169** – Peru: Drivers of De-dollarization, by Mercedes Garcia-Escribano.

**WP/10/168** – Does Procyclical Fiscal Policy Reinforce Incentives to Dollarize Sovereign Debt?, by Anastasia Guscina, Anna Ilyina, and Herman Kamil.

**WP/10/117** – Determinants of Investment Grade Status in Emerging Markets, by Laura Jaramillo.

**WP/10/108** – The Global Financial Crisis and its Impact on the Chilean Banking System, by Jorge A. Chan-Lau.

**WP/10/107** – Balance Sheet Network Analysis of Too-Connected-to-Fail Risk in Global and Domestic Banking Systems, by Jorge A. Chan-Lau.

**WP/10/102** – The Global Credit Crunch and Foreign Banks' Lending to Emerging Markets: Why Did Latin America Fare Better?, by Herman Kamil and Kulwant Rai.

**WP/10/98** – Regulatory Capital Charges for Too-Connected-to-Fail Institutions: A Practical Proposal, by Jorge A. Chan-Lau.

**WP/10/86** – The Embodiment of Intangible Investment Goods: a Q-Theory Approach, by Nazim Belhocine.

**WP/10/62** – The U.S. Federal Debt Outlook: Reading the Tea Leaves, by Oya Celasun and Geoffrey Keim.

**WP/10/60** – The Influence of "Big Brothers": How Important Are Regional Factors for Uruguay?, by Sebastián Sosa.

**WP/10/59** – Caribbean Bananas: The Macroeconomic Impact of Trade Preference Erosion, by Paul Cashin, Cleary Haines, and Montfort Mlachila.

**WP/10/54** – Precautionary Reserves: An Application to Bolivia, by Fabian Valencia.

**WP/10/43** – Current Account Balance Estimates for Emerging Market Economies, by Leandro Medina, Jordi Prat, and Alun Thomas.

**WP/10/42** – Informal Labour and Credit Markets: A Survey, by Nicoletta Batini, Young-Bae Kim, Paul Levine, and Emanuela Lotti.

**WP/10/35** – Spillovers to Central America in Light of the Crisis: What a Difference a Year Makes, by Andrew Swiston.

**WP/10/23** – Financial Shocks and TFP Growth, by Marcello Estevão and Tiago Severo.

**WP/10/13** – Canada's Potential Growth: Another Victim of the Crisis?, by Marcello Estevão and Evridiki Tsounta.

**WP/10/5** – The Impact of the Global Crisis on Canada: What Do Macro-Financial Linkages Tell Us?, by Rupa Duttagupta and Natalia Barrera.

**WP/10/3** – Investment by Large Firms in Argentina, by Alvaro Piris.

**WP/10/2** – Public Debt Sustainability and Management in a Compound Option Framework, by Jorge A Chan-Lau and Andre Santos.

**WP/10/1** – Post-Crisis Bank Behavior: Lessons from Mercosur, by Sarah Sanya and Montfort Mlachila.

**WP/09/280** – The Global Financial Crisis: Explaining Cross-Country Differences in the Output Impact, by Pelin Berkmen, Gaston Gelos, Robert Rennhack, and James P. Walsh.

**WP/09/272** – Who Disciplines Bank Managers?, by Martin Cihák, Andrea Maechler, Klaus Schaeck, and Stéphanie Stolz.

**WP/09/266** – How Does Public External Debt Affect Corporate Borrowing Costs in Emerging Markets?, by Senay Agca and Oya Celasun.

**WP/09/264** – Investment-Specific Productivity Growth: Chile in a Global Perspective, by Gabriel Di Bella and Martin Cerisola.

**WP/09/259** – From Lombard Street to Avenida Paulista: Foreign Exchange Liquidity Easing in Brazil in Response to the Global Shock of 2008-09, by Mark R. Stone, W. Christopher Walker, and Yosuke Yasui.

**WP/09/250** – The Stock of Intangible Capital in Canada: Evidence from the Aggregate Value of Securities, by Nazim Belhocine.

**WP/09/240** – Treating Intangible Inputs as Investment Goods: The Impact on Canadian GDP, by Nazim Belhocine.

**WP/09/235** – Is the Canadian Housing Market Overvalued? A Post-Crisis Assessment, by Evridiki Tsounta.

**WP/09/199** – Modernizing Bank Regulation in Support of Financial Deepening: The Case of Uruguay, by Gustavo Adler, Mario Mansilla, and Torsten Wezel.

**WP/09/198** – The Real Effects of Financial Sector Risk, by Alexander F. Tieman and Andrea Maechler.

**WP/09/162** – Recent Advances in Credit Risk Modeling, by Christian Capuano, Jorge Chan-Lau, Giancarlo Gasha, Carlos Medeiros, Andre Santos, and Marcos Souto.

**WP/09/152** – Why Are Canadian Banks More Resilient?, by Rocco Huang and Lev Ratnovski.



## 2. Selected Issues Papers

### Bolivia

- *Hydrocarbon Revenue Sharing Arrangements*, by Fabian Bornhorst.
- *Precautionary Reserves: An Application to Bolivia*, by Fabian Valencia.

### Canada

- *Canadian Banks and the Credit Turmoil*, by Lev Ratnovski and Rocco Huang.
- *Canadian Residential Mortgage Markets: Boring But Effective?*, by John Kiff.
- *How Do Commodity Prices Affect Economic Slumps in Commodity Exporters?*, by Rupa Duttagupta.
- *Is the Canadian Housing Market Overvalued? A Tale of Two Regions*, by Evridiki Tsounta.
- *The Impact of Global Shocks on Canada—What do Macro-Financial Linkages Tell Us?*, by Rupa Duttagupta and Natalia Barrera.

### Caribbean

- *Growth in the ECCU: What Went Wrong and Can It Be Fixed?*, by Nita Thacker, Sebastian Acevedo, Joong Shik Kang, Roberto Perrelli, and Melesse Tashu.
- *Public debt in ECCU Countries*, by Arnold McIntyre and Sumiko Ogawa.
- *Rationalizing Public Expenditure in the ECCU*, by Shamsuddin Tareq, Alejandro Simone, Koffie Nassar, and Arina Viseth.
- *Insurance Against Natural Disasters in the Caribbean*, by Yu Ching Wong, Anthony Lemus, and Nancy Wagner.
- *Risk Analysis of Public Debt in the Caribbean: A "Fan-Chart" Approach*, by Koffie Nassar and Catherine Pattillo.

### Chile

- *Strengthening Chile's Rule-based Fiscal Framework*, by Teresa Dabán.
- *Too-Connected-to-Fail Risk in the Chilean Banking System: A Balance Sheet Network Analysis*, by Jorge A. Chan-Lau.
- *A Note on Terms of Trade Shocks and the Wage Gap*, by Nicolas Magud.
- *Revisiting the Estimation of the Chilean Output Gap*, by Nicolas Magud and Leandro Medina.
- *A Longer-Term Approach to Fiscal Policy in Chile*, by Borja Gracia, Gabriel Di Bella, and Martin Cerisola.
- *Investment-Specific Productivity Growth: Chile in a Global Perspective*, by Gabriel Di Bella and Martin Cerisola.

- *The Global Financial Turmoil and Its Impact on Chilean Banks*, by Jorge Chan-Lau.

## Colombia

- *An Assessment of Financial Sector Indicators for the Colombian Corporate Sector*, by Mercedes Vera-Martin.
- *Are Capital Controls Effective in the 21st Century? The Recent Experience of Colombia*, by Benedict J. Clements and Herman Kamil.
- *Determinants of Investment Grade Status and Implications for Colombia's Public Debt*, by Laura Jaramillo.
- *Does Financial Soundness Affect Credit Growth?*, by Iva Petrova and Enrique Flores.
- *Monetary and Fiscal Policy Options for Dealing with External Shocks: Insights from the GIMF for Colombia*, by Benedict J. Clements, Enrique Flores, and Daniel Leigh.
- *The Colombian Banking Sector—A Contingent Claims Analysis*, by Marcos Souto and Lisandro Abrego.

## Guyana

- *The Impact of the Global Crisis and Policy Response*, by Magda Kandil.
- *The Impact of the EU Sugar Trade Preferences and their Erosion*, by Felix Eschenbach.
- *Assessing the Fiscal Structural Stance*, by Carla Macario.

## Mexico

- *Estimating Default Frequencies and Macrofinancial Linkages in the Mexican Banking System*, by Rodolphe Blavy and Marcos Souto.
- *Exchange Rate Exposure of the Mexican Corporate Sector: Progress and Remaining Vulnerabilities*, by Herman Kamil and W. Christopher Walker.
- *Expanding the Regulatory Perimeter: The Case of Sofoles and Sofomes*, by Jose Giancarlo Gasha.
- *Labor Market Informality and Macroeconomic Performance*, by Kristin Magnusson Bernard.
- *Reforming the Fiscal Framework: Budget Rules and Fiscal Risks*, by Geremia Palomba.
- *The Global Crisis and Potential Growth in Mexico*, by Kornelia Krajnyak.

## Panama

- *Benefits From Attaining Investment Grade Status and Implications for Panama*, by Mario Dehesa, Laura Jaramillo, and Michelle Tejada
- *Macro-Financial Linkages in Panama*, by Juliana Araujo and Kristin Magnusson.

## Paraguay

- *Assessing the Appropriateness of Monetary and Fiscal Policies in an Adverse External Environment*, by Montfort Mlachila and Briec Monfort.
- *Financial Sector Issues: Advances in the Implementation of the Financial Sector Assessment Program Recommendations*, by Sylwia Nowak.
- *Paraguay's Tax System in a Regional Perspective*, by Ernesto Crivelli.
- *Post-Crisis Behavior of Banks in Mercosur*, by Sarah O. Sanya and Montfort Mlachila.
- *Sustainable Management of Revenues from Itaipu*, by Teresa Dabán-Sánchez and Walter Zarate.
- *The Monetary Policy Transmission Mechanism in Paraguay*, by Santiago Acosta-Ormaechea and Teresa Dabán-Sánchez.

## Peru

- *Balance Sheet Vulnerabilities in a Dollarized Economy*, by Maria Gonzalez.
- *Credit Growth: Anatomy and Policy Responses*, by Luis Breuer, Jose Gasha, Giancarlo Peschiera, and Juan Alonso Perez-Salmon.
- *Disentangling the Motives for Foreign Exchange Intervention in Peru*, by Maria Gonzalez.
- *Drivers of De-Dollarization*, by Mercedes Garcia-Escribano.
- *Macroeconomic Stability and the Role of Fiscal Policy*, by Daniel Leigh.
- *Performance of Alternative Fiscal Rules: An Application to Peru*, by Isabel Rial.
- *Potential Growth and Output Gap in Peru*, by Leandro Medina.
- *Progress in Strengthening Peru's Prudential Framework*, by Patrick Amir Imam and Jose Giancarlo Gasha.
- *Regional Disparities and Public Transfers*, by Mercedes Garcia-Escribano.
- *What to Expect when you are Expecting...Large Capital Inflows? Lessons from Cross-Country Experiences*, by Mercedes Vera Martin.

## Uruguay

- *Commodity Prices, Growth and the Fiscal Position in Uruguay*, by Rita Babihuga.
- *Dynamic Loan Loss Provisioning in Uruguay*, by Torsten Wezel.
- *Exchange Rate and Competitiveness Assessment*, by Felipe Zanna.
- *How Important Are Regional Factors for Uruguay?*, by Sebastian Sosa.

## United States

- *The Great Recession and Structural Unemployment*, by Thomas Dowling, Marcello Estevão, and Evridiki Tsounta.
- *Prospects for the U.S. Household Saving Rate*, by Martin Sommer.
- *Production and Jobs: Can We Have One Without the Other?*, by Nicoletta Batini, Marcello Estevão, and Geoff Keim.
- *The Financing of U.S. Federal Budget Deficits*, by Oya Celasun and Martin Sommer.
- *The U.S. Government's Role in Reaching the American Dream*, by Evridiki Tsounta.
- *The U.S. Fiscal Gap: Who Will Pay and How?*, by Nicoletta Batini, Giovanni Callegari, and Julia Guerreiro.
- *Spillovers from U.S. Federal Debt Issuance: The Case of Emerging Market Sovereign Borrowing*, by Oya Celasun.
- *Strategic Priorities for the Reform of U.S. Financial Regulation*, by Ashok Bhatia, Andrea Maechler, and Paul Mills.
- *The U.S. Federal Debt Outlook: A Stochastic Simulation Approach*, by Oya Celasun and Geoffrey Keim.
- *U.S. Potential Growth in the Aftermath of the Crisis*, by Natalia Barrera, Marcello Estevao, and Geoffrey Keim.



