

Policies to Fight the Pandemic



2020 Latin American and Caribbean Macroeconomic Report

COORDINATED BY

Victoria Nuguer | Andrew Powell



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Victoria Nuguer and Andrew Powell

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Preface

Latin America and the Caribbean, along with the rest of the whole world, is facing an unprecedented challenge to contain the spread of the novel coronavirus and minimize the loss of lives. The efforts to contain the virus have led to a complete change in the economic outlook and the policy discussion.

Here at the Research Department of the Inter-American Development Bank, we had prepared a very different report, focusing on macroeconomics and inequality. It was fully typeset and ready to go, but as this outbreak hit, we had to change course very rapidly to respond to the new situation.

This report now consists of five chapters. The first chapter provides a summary of developments in the global economy and how they may impact the region, and ideas as to how the region can respond. This is followed by three more detailed chapters on monetary policies, on the financial sector, and on fiscal policies. Each chapter considers the initial conditions, before this crisis hit, a discussion of possible policy responses and includes information on what countries are actually doing. A final chapter brings together the main policy conclusions. This report takes a regional perspective and is complemented by a set of briefs that look at these issues at the country level.

The crisis is a major challenge for the region as it is for virtually every country in the world. The region made progress in recent years regaining fiscal space and developing sound monetary and financial frameworks, but there is no such thing as perfect macroeconomic conditions when an emergency like this hits, and we are forced to manage the crisis with the resources to hand. It will be imperative to make the most use of them, so that means designing programs well but also monitoring to ensure they are doing what they are intended to do. It also means calibrating interventions in a way to preserve macroeconomic and financial stability both during the crisis and after it abates.

Crises disproportionately impact the poor and vulnerable. This means that the issues of inequality and exclusion will only grow more pertinent and challenging. We will return to these important topics, leveraging the body of work we had already produced, in the near future.

The next weeks will not be easy and policymakers will be placed under great stress with many difficult decisions to make. As always, the Inter-American Development Bank

stands ready to provide both financial and technical support to the best of our abilities. I am confident that the right policies can reduce human and economic costs for a relatively swift recovery. We hope that this report will be a useful contribution towards ensuring these results.

Eric Parrado

Chief Economist

Acknowledgments

This report was prepared by a team of economists from the Research Department, the Fiscal and Municipal Management Division of the Vice-Presidency for Sectors and Knowledge, and the Vice-Presidency of Countries. This year's report was produced under the direction of Victoria Nuguer and Andrew Powell, both at the Research Department.

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CHAPTER 1

The Coronavirus in Latin America and the Caribbean and Beyond

Growth came to a virtual standstill in 2019 for Latin America and the Caribbean. In January 2020, a recovery to 1.6% growth¹ was expected for the current year, but that picture has now radically changed as a result of the humanitarian and economic crisis brought on by the novel coronavirus.² Countries in the region are taking decisive action to prevent the spread of the virus. These containment measures amount to a partial, organized closedown of the economy and will lead to a significant loss of GDP. This is an unprecedented situation. The steep generalized declines in GDP have little in common with standard economic or business cycles, and there is considerable uncertainty as to how this crisis may progress. The first part of this chapter of an abridged Latin American and Caribbean Macroeconomic Report discusses global developments and selected scenarios for growth in the region. The second part provides an overview of potential policy responses. This is followed by three more detailed chapters on monetary developments, including a discussion of policy measures being taken by central banks, on the state of the financial sector and how it may be employed as a vehicle to provide relief to firms and to households, and a chapter on fiscal positions and potential fiscal policy measures. A final chapter brings together the main conclusions.

The Outlook and Selected Risks

In January 2019, growth for Latin America and the Caribbean was expected to be 2% for that year, but recent estimates indicate that the outturn was almost zero. The slowdown was provoked by slower world growth and a number of domestic factors. As of January 2020, only a modest recovery was expected to 1.6% for 2020 and 2.3% for 2021. These estimates have now radically altered given the novel coronavirus outbreak.

In January 2019, world output was expected to rise by 3.5% through that same year, but recent estimates put it at just 2.9% for 2019. Trade tensions and general policy

¹ IMF (2020b).

² The rest of the report simply uses the term coronavirus to refer to the novel coronavirus or the disease it causes, COVID-19.

uncertainty were cited as the leading culprits, pushing the world into a manufacturing recession. Following those developments, there were some milestones in trade, with the Phase 1 trade deal agreed between China and the United States, the trade agreement between the United States, Mexico, and Canada ratified by the United States Congress, and the United Kingdom's relatively orderly exit from the European Union (frequently referred to as Brexit).

But the coronavirus crisis has now brought very significant human and economic costs across the globe. In early April 2020, cases were continuing to grow at an increasing pace and there were already over 1,000,000 at that time.³ Modelling by the U.S. COVID-19 response team suggests that the death toll in the United States may exceed 100,000 and possibly even rise to 240,000 or more.⁴ To put this into context, some 8,100 people contracted severe acute respiratory syndrome (SARS) across the globe between November 2002 and July 2003 and 774 died.⁵ Given the highly contagious nature of the coronavirus, countries have been forced to resort to extreme measures, including quarantines, lockdowns, and widespread business closures, to slow its spread, try to prevent hospitals from becoming overwhelmed, and save lives.⁶ There will be steep declines in GDP across the globe for the first half of 2020. Much hinges on the expected duration of the crisis and the shape and speed of the recovery. Several leading investment banks are projecting negative growth for the world economy for 2020, of between -1% and -3% of GDP, but with a high degree of uncertainty attached to these numbers.

The outbreak began in Wuhan, a city of 11 million people in China's central Hubei province. There were three phases of policy responses to the outbreak in that city. In a detailed academic analysis led by Harvard's school of public health it is argued that only the third phase, a very aggressive lockdown, finally brought the outbreak under control.⁷ The Wuhan experience illustrates that forceful measures can turn the tide in large urban centers. Other countries, such as Singapore and South Korea, appear to have had some success with less intrusive measures on a national level, such as larger-scale testing, contact tracing, and quarantine policies. Arguably, these countries were also better prepared than many given their experience with the SARS outbreak in 2002.⁸

As of January 2020, the Chinese economy was expected to slow from 6.1% in 2019 to 6.0% in 2020 and 5.8% in 2021. Given the events of the past few months, it is difficult to

³ Figures taken from the Johns Hopkins Coronavirus Resource Center: <https://coronavirus.jhu.edu/map.html>.

⁴ <https://www.nytimes.com/2020/03/31/world/coronavirus-live-news-updates.html>.

⁵ <https://www.cdc.gov/sars/index.html>.

⁶ Influential reports from scientists at Imperial College modelled the outbreak on data from the United Kingdom and the United States and advocated for these strong measures to slow the spread, "flatten the curve," and reduce overall deaths. See Walker et al. (2020) and Stein (2020) for a discussion.

⁷ See <https://sites.sph.harvard.edu/china-health-partnership/event/wuhan-cases-prof-lin-xihong/> and Fang, Wang, and Yang (2020) on the role of mobility restrictions on the spread of the coronavirus.

⁸ <https://www.forbes.com/sites/kenrapoza/2020/03/26/how-singapore-and-south-korea-deal-with-coronavirus-quarantine-measures/>.

predict what China's growth rate will be, but a very large drop in the first quarter appears likely, followed by a recovery. There is much uncertainty regarding both the extent of the fall and the speed of the rebound. Leading investment banks are suggesting growth in China may be between 1% and 3% for the year, but there is uncertainty attached to this range.⁹ The good news is that there are indeed signs that a recovery is underway.

The U.S. economy entered its eleventh year of expansion in 2020 (the longest expansion on record), with unemployment at under 4%, growth expected at around 2% for the year and inflation rising slowly to the Federal Reserve's 2% target. In December 2019, the median member of the Federal Reserve's Open Market Committee (FOMC) expected the policy interest rate to remain constant for 2020 (with a minority expecting a rise) and to rise by 0.25% in 2021. However, this picture has now changed quite dramatically, and within a very short period, as the number of cases of coronavirus has risen. In an attempt to slow the spread, by the end of March 2020 the majority of U.S. states and Washington, D.C. and Puerto Rico had stay-at-home directives affecting about 85% of the population, or some 227 million people, with all non-essential businesses are closed¹⁰

This partial shutdown has already had dramatic impacts on the economy, with initial unemployment insurance claims rising by a record 3.3 million for the week ending March 21, followed by a second record of about 6.6 million for the week ending March 28. The previous record was 695,000 in October 1982.¹¹ This rapid reversal in employment erased the job gains since 2015 and ended a record decade that saw the creation of about 22 million jobs. The March unemployment rate of 4.4% is about that of 2017, but this only takes into account the first part of the month and so the worst is yet to be revealed.¹²

The S&P 500 broad stock market index fell by some 23% from the end of 2019 to April 1, 2020. The Federal Reserve cut the monetary policy rate by 0.5% on March 3, and then by 1% to close to zero on March 15, and announced a set of further extraordinary measures to support the economy. U.S. Congress passed an unprecedented US\$2.2 trillion fiscal package with a suite of relief measures and additional support for the health sector. Again, it is very difficult to predict growth rates in these circumstances. As in the case of China, most analysts expect a dramatic fall in GDP, particularly in the second quarter. There are a range of views regarding how fast and how steep the recovery might be, which are tied to opinions on how quickly the spread of the virus can be contained and how quickly new cases and deaths may start to fall. There is a large variation in the projections of leading investment banks, ranging from slightly negative growth for the year to around -3% growth, or worse.¹³

⁹ This statement is based on the Bloomberg survey of growth projections.

¹⁰ <https://www.businessinsider.com/us-map-stay-at-home-orders-lockdowns-2020-3>.

¹¹ <https://www.dol.gov/ui/data.pdf>.

¹² <https://www.nytimes.com/2020/04/03/business/economy/coronavirus-jobs-report.html>

¹³ This statement is based on the Bloomberg survey of growth projections.

As of January 2020, the Eurozone economies were also expected to grow, albeit at low rates, with growth edging upwards from 1.2% in 2019 to 1.3% and 1.4% in 2020 and 2021, respectively. Growth in the United Kingdom was likewise expected to increase marginally from 1.3% in 2019 to 1.4% in 2020 and 1.5% in 2021. But the coronavirus has again changed this outlook dramatically. Italy has suffered one of the worst outbreaks in the world, along with Spain and other countries. Leading investment banks are projecting 2020 growth rates for the Eurozone in the range of -1.5% to -5% and even worse in some cases.¹⁴

The steep drop in demand from China and then the rest of the world brought down commodity prices—see Figure 1.1. Moreover, the oil market was impacted by OPEC members failing to agree production targets. West Texas Intermediate spot crude oil prices fell from US\$61 per barrel at the end of 2019 to US\$20 per barrel by March 20, 2020. On April 1, 2020, the positive slope of the oil futures curve, which exceeded very low interest rates, indicated that the market expected prices to recover to above US\$30 per barrel by the end of the year and to around US\$35 per barrel by mid-2021. A similar pattern was evident in Brent oil futures. Subsequently, rumors of new OPEC production targets provoked price rises and volatility in the market.

The curve of implicit volatilities backed out of option prices on oil futures is also of particular interest. It suggests very substantial short-term uncertainty with extremely high expected volatility. For example, on April 1, 2020, the implicit volatility was 120% for options on the May 2020 futures contract. But for options on the December 2020 futures, the implicit volatility was around 55% and 40% for the February 2021 futures options.¹⁵ This suggests there is tremendous uncertainty in the near term, but the market is expecting that uncertainty to dissipate substantially by early 2021.

Other commodity prices have also fallen, but declines have not been nearly as dramatic as for oil. Copper prices fell from US\$2.80 per pound at the end of 2019 to US\$2.17 per pound by the end of March 2020.¹⁶ Soybean prices dropped from US\$9.45 per bushel to as low as US\$8.07 per bushel on March 17, 2020 but recovered to US\$8.71 per bushel by April 1, 2020.¹⁷ In the early days of April 2020, the futures curves for these commodities remained fairly flat.

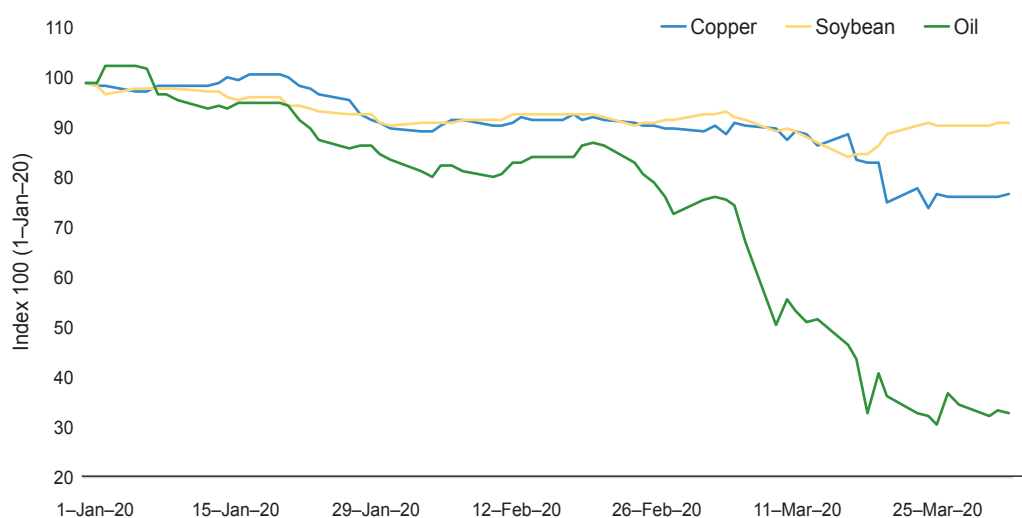
Emerging markets have also suffered considerable increases in bond spreads given an increase in risk aversion among investors and a “flight to quality” in financial markets. The Emerging Market Bond Index (EMBI) spread for Latin America and the Caribbean doubled from 346 basis points at the end of 2019 to 703 basis points by the end of

¹⁴ This statement is based on the Bloomberg survey of growth projections.

¹⁵ Prices taken from the Chicago Mercantile Exchange on April 1, 2020. Also, see the CME Group’s Volatility Term Structure Tool here: <https://www.cmegroup.com/tools-information/quikstrike/volatility-term-structure.html>.

¹⁶ New York grade 1 spot copper.

¹⁷ Chicago soybean spot prices.

Figure 1.1 Commodity Price Indices

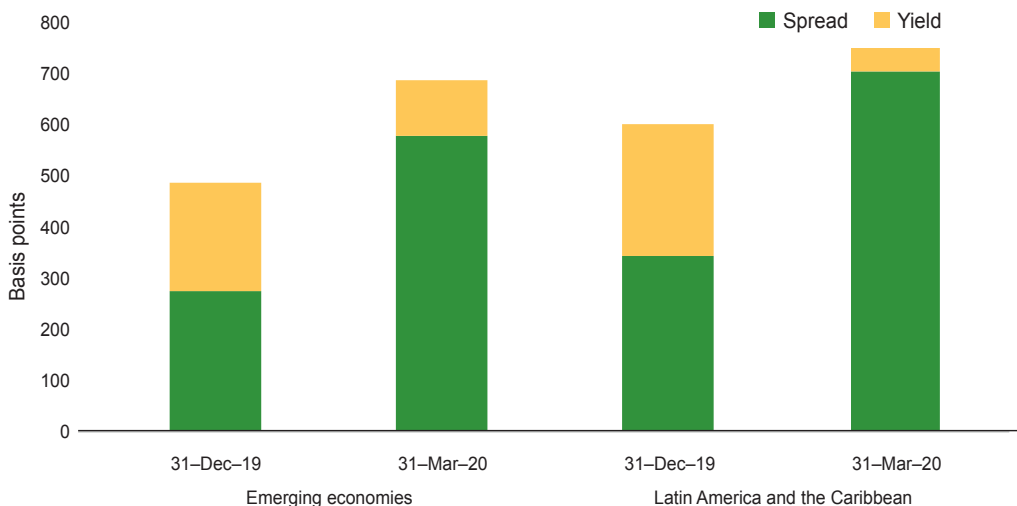
Source: IDB staff calculations based on Bloomberg data.

Note: Figure represents spot commodity prices from January 1, 2020 to April 1, 2020. Copper refers to grade 1 New York prices, Soybean refers to Chicago spot price, and Oil refers to WTI spot prices. Index is calculated such that January 1, 2020 is equal to 100.

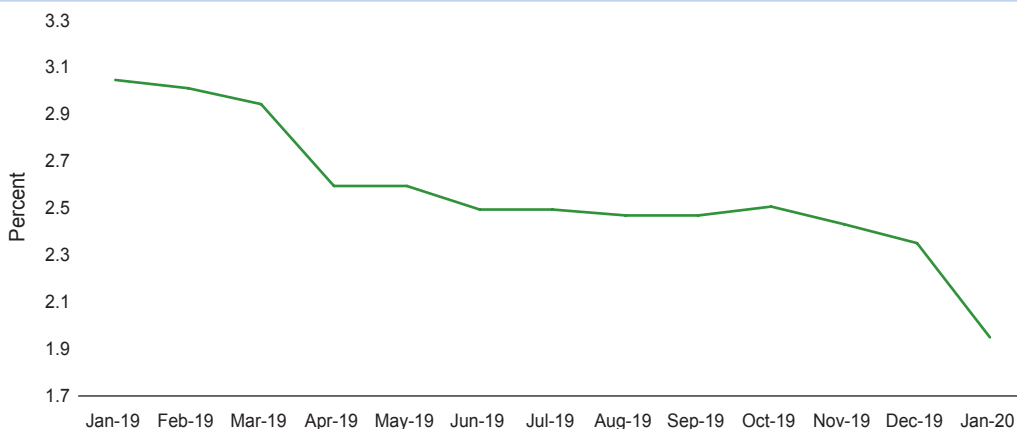
March 2020. Still, U.S. interest rates fell over that same period. EMBI yields still rose, from 6.03% to 7.53% (a rise of 150 basis points) over the same period indicating a higher cost of financing. But these averages hide considerable variation, with very steep rises in yields for Argentina and Ecuador and more moderate increases in yields for Chile, Guatemala, Paraguay, and Peru. Figure 1.2 illustrates the increase in spreads and yields for emerging economies and Latin America and the Caribbean averages. The overall increase in bond spreads and yields and sharp fall in equity prices has been accompanied by withdrawals from emerging market equity and bond funds and a sharp fall in capital inflows. This may be a particularly concerning development for countries with significant current account deficits. These issues are discussed further in Chapter 2.

The dramatic developments in China, Europe, and the United States will have considerable impact on Latin America and the Caribbean. Moreover, they come at a time when growth in Latin America and the Caribbean had fallen significantly, from 1.1% in 2018 to 0.1% in 2019, or from 1.8% to 0.8% if Venezuela is excluded in the aggregate.¹⁸ Much of the slowdown in the region stemmed from more idiosyncratic factors, particularly in the larger economies, such as Argentina, Brazil, and Mexico. In addition, growth forecasts in Bolivia, Chile, Colombia, and Ecuador had declined, in part as a result of social protests that heightened uncertainty. The average reduction in 2020 growth expectations from

¹⁸ See IMF (2020b).

Figure 1.2 Emerging Market EMBI Bond Yields and Spreads

Source: IDB staff calculations based on Bloomberg data.

Figure 1.3 Protests and the Decline in 2020 Growth Expectations

Source: IDB staff calculations, based on surveys of private analysts conducted by central banks and published in the IDB's Revela and Bloomberg surveys.

Note: The graph shows simple average 2020 growth expectations for Bolivia, Ecuador, Chile, and Colombia.

May 2019 to December 2019 for these four countries was some 0.25 percentage points of GDP, and from January 2019 to January 2020, over 1 percentage point (see Figure 1.3). Still, considering the region as a whole, as of January 2020, before the coronavirus crisis erupted, economic performance for 2020 had been expected to improve compared to 2019, due in large part to expected recoveries in Argentina, Brazil, and Mexico.

Risks to Growth in Latin America and the Caribbean

The coronavirus crisis is dominating the news and has dramatically affected the economic outlook for the region. At the end of January 2020, expected growth for the year was approximately 1.5% for a group of 14 larger economies included in a statistical model of the world economy. Given the developments across the world reviewed above, this model can be employed to consider how they might impact Latin America and the Caribbean.¹⁹ This particular exercise is based on the assumption that the shock is external and does not take into account any additional impacts that may come from the range of measures being taken by countries to control the spread of the coronavirus.

Four shock scenarios were developed and labelled as moderate, strong, severe, and extreme, although it should be noted that even the moderate shock scenario corresponds to a major change in the outlook. Each shock includes losses of GDP in China and the U.S., mostly in the first and second quarters of 2020, and then a recovery towards the end of 2020, and in some cases into 2021. An asset price shock is also included to simulate the dislocation in financial markets and the impact on capital flows. The model contains three commodity prices as endogenous variables: oil, a metal index, and an index of agricultural products. If the low levels of oil prices persist, they may have serious negative impacts for oil exporters including Colombia, Ecuador, Mexico, and Venezuela, as well as for Bolivia, which exports natural gas using contracts linked to oil prices, and Trinidad and Tobago, which exports both. Low oil prices will, however, benefit oil importers, especially in Central America and other Caribbean countries, and compensate, to some extent, the fall in tourist revenues and remittances. Lower oil prices may also benefit agricultural producers such as Argentina and Brazil. However, agricultural prices have also fallen and both countries also export oil products, which will surely result in an overall negative effect on exports. Low metal prices will impact Chile and Peru. Oil and metal prices tend to impact output, investment, and public sector revenues, but have less impact on employment and private consumption. Agricultural prices tend to impact employment, output, and consumption as well as public revenues due to export taxes, especially for Argentina. These features are not modeled explicitly, but the estimated statistical relations incorporate such factors implicitly.

The model is estimated on historical data and two features stand out. The first is that the region often takes time to recover from large shocks even if the rest of the world recovers relatively quickly. In other words, there is some persistence in the model. The second is that while there may be some rebound in China or in advanced economies and growth rates may exceed the previous trend for some quarters, this does not occur in any of the scenarios for Latin America and the Caribbean. Again, the model depicts what

¹⁹ The model is a Global Vector Auto-Regression or G-VAR. The model includes 14 countries in the region as well as the large economic blocks, such as the United States, China, and European countries. For details, please refer to Powell (2012) and Cesa-Bianchi et al. (2012).

Table 1.1 Impact of Negative Global Economic Shocks

Shocks through 2020 and the Impact on Latin America and the Caribbean		Moderate	Strong	Severe	Extreme
Shock to US GDP		–1.9%	–2.7%	–3.2%	–4.4%
Shock to China GDP		–1.5%	–1.5%	–1.5%	–2.0%
Shock to Global Asset Prices		–10.0%	–15.0%	–18.0%	–20.0%
2020 Growth in Latin America and the Caribbean		–1.8%	–3.0%	–3.9%	–5.5%
Regions/ Country	Baseline growth (31-Jan-2020)	Estimated annual loss in GDP relative to the baseline (Average 2020–22)			
	Average (2020–22)	Moderate	Strong	Severe	Extreme
Latin America and the Caribbean	2.1%	–2.1%	–3.2%	–4.1%	–4.8%
Southern Cone except Brazil	1.4%	–3.1%	–4.5%	–5.5%	–6.7%
Andean Region	3.1%	–1.7%	–2.6%	–3.3%	–3.9%
Central America and the Caribbean	2.0%	–0.6%	–0.8%	–1.1%	–1.3%
Brazil	2.4%	–1.9%	–2.9%	–3.7%	–4.4%
Mexico	1.6%	–2.3%	–3.4%	–4.5%	–5.3%

Source: IDB staff calculations.

Note: The results stem from a G-VAR model. See Powell (2012), Cesa-Bianchi et al. (2012), and Dees et al. (2007).

might be thought of as average economic behavior given the history of shocks. It may not capture all the very particular features of this unprecedented situation.

Table 1.1 details the shocks and impacts on the growth rates for the region in each shock scenario, along with lost GDP. Another way to think about the growth shocks is to consider the growth rates for China and the United States through 2020, which are essentially exogenous. For the four shocks, China would grow 3.4%, 2.8%, 2.2% or 1.2% in 2020 as the shock scenarios worsen. The United States would grow 0.1%, –0.7%, –1.3% or –2.1% in 2020 across the four shocks. These figures were chosen taking into account analysts' projections, although it should be noted that most analysts also highlight the uncertainty and the difficulty in making any such estimates. The asset price shock was modeled as a fall in prices through 2020. It is estimated that in all but the extreme shock, asset prices recover as the uncertainty dissipates towards the end of the year. Even the extreme scenario contemplates a recovery in the U.S. and continuing in China, although mostly in the first quarter of 2021. It is assumed here that asset prices remain close to current low values to the end of 2020.

As noted in Table 1.1, the resulting 2020 growth rate for the region is then placed in a range between –1.8% and –5.5%, with the inner range being –3.0% to –3.9%, depending on the scenario. The growth rates for the region are illustrated in Figure 1.4. Table 1.1 also

details that the region may lose between 6.3% and 14.4% of GDP over the following three years relative to the baseline projections. These figures are three times the annual average figures in the table for the moderate and extreme scenarios.

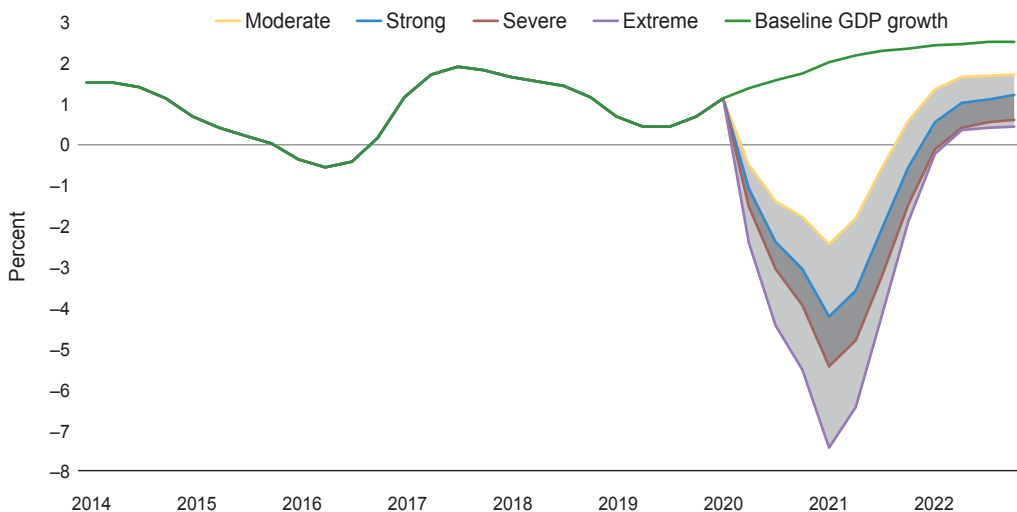
Countries will be affected through the various channels discussed. The Southern Cone will be impacted through commodity prices, and the current dislocation in financial markets and the fall in capital inflows may be particularly important as countries tend to be financially integrated. Table 1.1 indicates that this subregion excluding Brazil will be hard hit in terms of lost GDP. Brazil being a larger and more diversified and closed economy with less dependence on external financing, at least for the public sector, is impacted somewhat less than the average. The Andean Region is also hit somewhat less, although it includes a number of different cases. Ecuador as an oil exporter will suffer from low oil prices and its relatively high financing needs, and it cannot use the exchange rate as a shock-absorber because of its dollarized economy. Colombia as an oil exporter will be impacted and normally attracts considerable foreign investment to finance a current account deficit. Peru will be impacted through copper prices but has relatively low debt and good access to capital markets to help smooth the effects.

For Mexico, Table 1.1 shows a severe impact given its close association with the United States and relatively strong integration into global value chains. Low oil prices will also impact Mexico's consolidated fiscal position and the country has seen relatively steep rises in bond yields. Central America will be impacted mainly through association with the United States, although less through the trade of goods and more through tourism and remittances. In the case of the non-commodity exporting Caribbean countries, these channels will also be important. To some extent low oil prices may compensate for lost inflows. And finally, Guyana, Trinidad and Tobago, and Suriname will all be impacted through lower commodity prices.

It is difficult for any overall model to capture all of these different channels and impacts. These analyses also only consider external shocks and do not contemplate the supply shocks due to quarantine, lockdowns, and business closures to slow the spread of the virus within the region. The size of the demand shock, the fall in commodity prices and the rise in financing costs would likely provoke a greater underutilization of resources in the region. Nevertheless, there will surely be additional impacts from these measures. A set of country briefs to be released in coordination with this report discuss each country case in more detail.

Macroeconomic Impacts and Policies in the Age of the Coronavirus

The novel coronavirus has taken a severe human and economic toll around the world. Numbers are growing in Latin America and the Caribbean, and if there is a lesson from other countries, it is that prompt action is crucial to stop the spread of the virus. Economic

Figure 1.4 Growth in Latin America and the Caribbean in Alternative Shock Scenarios

Source: IDB staff calculations. The baseline is drawn from Bloomberg surveys and IMF (2019).

costs might be contained in some countries that are able to trace and quarantine cases and contacts and conduct ample testing. But in most countries, lockdowns, widespread business closures, travel restrictions, and other measures have been considered necessary, and the economic costs will undoubtedly be much greater. For each day without action the eventual economic and human costs will rise, health systems will more likely be overwhelmed, and there will be a greater death toll as the virus spreads.²⁰ As of March 27, 13 borrowing member countries of the IDB had imposed a partial and 12 had imposed a full lockdown.²¹

Such policies slow down the spread of the virus and save lives but may impose significant economic costs. More aggressive measures may provoke higher costs in the short term, but they will save more lives and reduce the chance that health systems may be overwhelmed. Countries may be able to transition to alternative measures as cases abate and the ability to test, trace contacts and quarantine improves.²²

Still, the region will likely have negative growth this year, as discussed previously. But this should not be thought of as a regular recession. There is virtually no relation to a

²⁰ Eichenbaum, Rebelo, and Trabandt (2020) consider the timing of different types of interventions and the resulting economic costs. Hevia and Neumeyer (2020) also discuss the link between different interventions to slow the spread of the virus and potential economic costs.

²¹ <https://blogs.iadb.org/efectividad-desarrollo/en/the-coronavirus-impact-dashboard-measuring-the-effects-of-social-distancing-on-mobility-in-latin-america-and-the-caribbean/>.

²² See Hevia and Neumeyer (2020) on this point.

standard recession or “business cycles,” when countries impose an organized closedown of much economic activity.

Typical countercyclical demand management, both fiscal and monetary, is then inconducive. Indeed, if stimulating demand reduces social distance it will be counterproductive to health. Rather the policy goal should be to complement the shutdown, to allow those who lose their source of income to buy food and other essentials, and to minimize the number of firms that shed workers and are forced into liquidation. In short, policies should aim to provide relief (not stimulus) and prevent an amplification of the economic costs. A stimulus might then become relevant in the recovery phase.

Countries will need to invest in health to ensure hospitals are not overwhelmed, by ensuring there are enough health workers with the right equipment. Such spending will likely have to be financed through greater efficiency, by forsaking other expenditures, through greater borrowing if possible, or through exceptional temporary financing mechanisms. Well-targeted transfers to families who lose their income should also be considered, whether they are in the formal sector or not. Such programs should come with sunset clauses to ensure they are temporary in nature. The 2019 Latin American and Macroeconomic Report²³ included an analysis of the fiscal adjustment in the region, which in large part was due to an inappropriate boost in permanent government consumption following the global financial crisis. Further details on the fiscal measures for the current coronavirus crisis is provided in Chapter 4 below.

Relief to firms can be provided in various forms including delays in tax payments and subsidized credit, which might be forgiven if fiscal space is available and firms can show that they did not shed workers. Again, instruments should capture both the formal and the informal sector with an aim to minimize costly liquidations of firms and prevent as few workers as possible from losing their jobs to reduce an amplification of the costs. State-owned banks can be useful conduits for such programs, but again, all measures should be calibrated carefully so as not to build up large losses.

Central banks also have an important role to play, as they can reduce interest rates especially where there is good transmission of such policies to interest rates on loans to households and firms. For those countries that have high reserve or liquidity requirements, this may well be the time to use them. And many central banks have other tools at their disposal to provide liquidity to markets and to the financial sector if required. Chapter 2 reviews in more detail what central banks can do to provide relief and prevent an amplification of the shock.

Banking supervisors will wish to monitor bank liquidity and solvency positions very carefully. There may be greater demand for liquidity and non-performing loans may rise. At the end of 2019, banks in the region were in good shape, but, if the real economy

²³ Cavallo and Powell (2019).

suffers, so will bank balance sheets. It is best to spot potential issues early on. Chapter 3 provides a discussion of financial sectors and the role banks can play to ease problems in the real economy.

The international community also has an important role to play. The IMF, the World Bank, and the IDB Group have all announced additional funding for borrowing countries. The IDB Group recently announced an additional US\$3.3 billion of available resources for sovereign lending this year, bringing the total lending program for 2020 to some US\$12 billion, with an additional US\$5 billion from IDB Invest available for support to the private sector.

Macroeconomic policies during this emergency should focus on four main areas: (i) reduce the potential of higher costs due to the forced partial closedown of the economy; (ii) support banks so they can continue to function and help the economy; (iii) assist firms so they keep workers on their payroll and escape liquidation; and (iv) compensate households that lose income, especially the poor and vulnerable.

If economic and financial stability can be assured and the core productive capacity of the economy remains intact, the recovery from this crisis could be swift. In 2009, the region fell into a recession of -2.0%, but the following year growth shot up to 6.1%. China is already recovering, and, at the time of this writing, both Italy and Spain are starting to see falls in the number of new cases as a result of their lockdown measures. If advanced economies start to rebound in the second half of 2020 and into 2021 and the region can overcome this emergency maintaining economic stability while keeping firms linked to their employees and maintaining capital stock, a similar rebound should occur. Of course, there are many risks and there may be many setbacks along the way. But there are also risks to the upside as work continues to find therapeutic drugs to treat patients and trials on potential vaccines have already commenced. In the meantime, the right policies, along with good communication regarding the goals and objectives of the different measures, can bring down economic costs.

The region has weathered many crises. Unfortunately, it is frequently the poorer and more vulnerable that suffer most. The 2020 Latin American and Caribbean Macroeconomic Report was initially conceived to consider, among other issues, the persistent problem of high inequality, lack of trust, and the nexus between environmental concerns and poverty. After this crisis abates, the policy recommendations in those areas will be even more relevant so the region can improve outcomes for the more disadvantaged and boost inclusion.

CHAPTER 2

Mitigating the Crisis through Monetary Policy

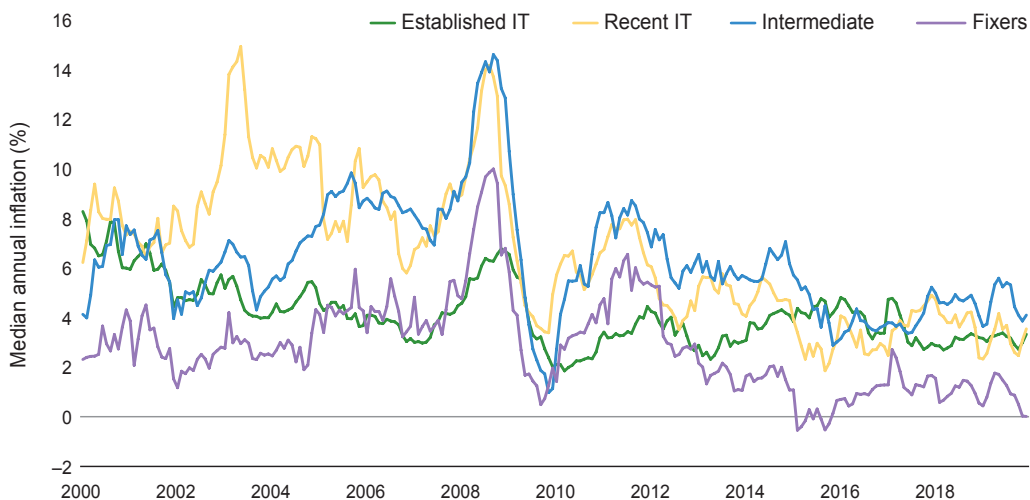
The coronavirus crisis will bring new challenges for the central banks in the region. Monetary authorities have many tools at their disposal, including interest rate policies, direct intervention in markets by purchasing assets, and supplying liquidity to banks and even, in some cases, to non-financial firms depending on local legislation.

As this crisis erupted, the region by and large had achieved low and stable inflation. That environment allowed firms and households to plan more effectively and make decisions that did not need to be continually revised. Efficient production, investment, and employment choices all depend on current and expected prices. If overall inflation is low and stable, decisions on these key variables will be better and productivity and household well-being will be higher. Moreover, poor households tend to rely more on wages than returns on investments and they consume a larger share of that income. Low inflation, thus, tends to benefit lower-income households, as it prevents significant declines in the purchasing power of poorer hand-to-mouth consumers, when wage increases do not keep pace with prices.

However, the situation brought on by the coronavirus outbreak is rightly provoking central banks to dig deep into their toolkits to provide relief to firms, helping them avoid costly separation from their employees, and to families at risk of losing jobs, income and good health. Given the size of the demand and supply shocks, central banks must be aggressive in the use of these tools and they are rightly stepping up to these challenges. At the same time, monetary authorities will wish to ensure that as this crisis abates, they do not lose the hard-won credibility that has guaranteed valuable price stability. This chapter presents the latest developments in inflation in the region and discusses updates on the output and inflation gaps of inflation targeters. These factors in turn define the space that monetary authorities have to reduce interest rates to mitigate the effects of the coronavirus crisis. The second part of the chapter reviews the various tools central banks have at their disposal to provide relief to households and firms during this emergency, along with the policies that are being pursued.

Recent Developments in Inflation

Inflation continued to decline in Latin America and the Caribbean. Putting exceptional cases aside, both the level and volatility of inflation reached new ten-year lows, regardless

Figure 2.1 Inflation Rates across Monetary Regimes

Source: IDB staff calculations based on Latin Macro Watch data and Haver Analytics.

Note: This figure depicts median inflation rates for different exchange regimes. Established IT: Brazil, Chile, Colombia, Mexico, and Peru; Recent IT: Costa Rica, Dominican Republic, Guatemala, Jamaica, Paraguay, and Uruguay; Intermediate: Argentina, Bolivia, Haiti, Honduras, Nicaragua, and Trinidad and Tobago; Fixers: The Bahamas, Barbados, Belize, Ecuador, El Salvador, Guyana, Panama, and Suriname. Monthly data.

of the monetary policy regime in place (see Figure 2.1). Median inflation for the region as a whole was just 2.9% in the second half of 2019.

Two exceptions to this trend are Argentina and Venezuela. In the case of Argentina, despite implementing a monetary program backed by an IMF Standby Arrangement in 2018, the country was unable to reduce inflation (average inflation increased from 34% in 2018 to 54% in 2019) and GDP fell in both 2018 and 2019. Venezuela remains in a deep economic crisis and while inflation has dipped somewhat, it remains extremely high; the yearly inflation rate for December 2019 was over 9,000%.¹

By December 2019, 11 countries in the region have, or are in the process of implementing, inflation targeting. Inflation rates of recent adopters (recent IT in Figure 2.1) have converged rapidly to those of the more established inflation targeters (established IT). Inflation has also been low in those countries whose monetary policy regime lies somewhere between inflation targeting and a fixed exchange rate (intermediate). The countries that are either fully dollarized or adopted a hard peg to the United States' currency (fixers) have the lowest inflation rates. Inflation has fallen in part due to lower commodity prices and the relatively strong U.S. dollar.

These initial conditions are highly relevant as they may dictate the types of policies central banks should employ and the space they may have to pursue those policies. On the

¹ Source: Central Bank of Venezuela.

one hand, the low levels of inflation achieved in the last decade, together with increased credibility, yields greater space for central banks to reduce interest rates to give much needed relief to firms and households in view of the coronavirus crisis. On the other hand, lower interest rates imply central banks are closer to the zero lower bound and it is hard to think of negative policy interest rates in the region. Moreover, sharp currency depreciation may limit the efficacy of reducing policy rates given pass-through to inflation and the transmission mechanism of policy rates to market rates may be relatively weak in some countries. These latter considerations suggest that direct tools, frequently referred to as unconventional monetary policy, will likely also play a central role.

Output and Inflation Gaps among Inflation Targeters

As of October 2019, inflation targeters had experienced an average of five years of output growth below their potential and were expected to remain in that situation at least until 2021, according to IMF estimates (see Figure 2.2, Panel A).²

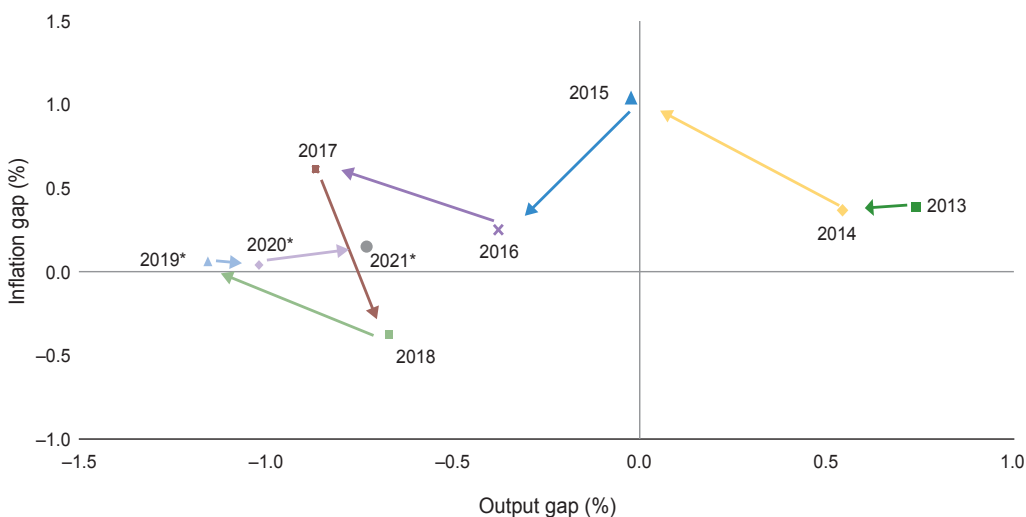
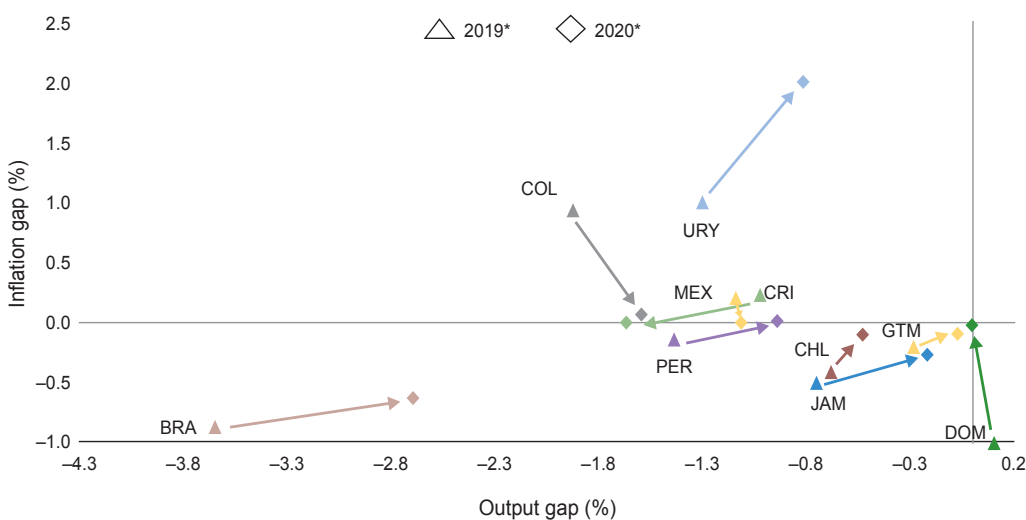
By October 2019, of ten countries with good data, eight were expected to partially close their output and inflation gaps in 2020 (Figure 2.2, Panel B). The Dominican Republic was the only country among the inflation targeters that was expected to grow above potential in 2019. Costa Rica and Uruguay were expected to either have lower output growth or higher inflation in 2020 compared to 2019.

In very few cases, inflation is above the relevant target, and in each of those cases it was forecasted to be below target for 2020 before the coronavirus shock hit. While the prime objective of central banks should be to provide relief to firms and households, where there has been a sharp depreciation of the currency, central banks will have to carefully calibrate the use of policy interest rates. It is even possible that at some point policy interest rates may have to be raised to limit a rise in inflation that would hurt the poor, while central banks also provide liquidity to ensure markets function smoothly. As argued in previous Latin American and Caribbean Macroeconomic Reports, this should not be referred to as procyclical monetary policy as the sharp currency depreciation may imply a strong countercyclical stance. Moreover, this example illustrates that central banks may need to think about how different objectives can be pursued with different tools.

What Can Central Banks Do to Mitigate the Effects of the Coronavirus Crisis?

As shown in Chapter 1, there are unprecedented conditions created by the spread of the coronavirus; consequently, there is a need for exceptional policy responses from the regional

² The output growth forecast is expected to be revised downward given the coronavirus crisis, see Chapter 1 for more details. The forecast on inflation is unclear; the decrease in the oil prices brings a lower inflation, but the lack of supply of goods might bring inflation up.

Figure 2.2 Inflation and Output Gaps**A. Simple mean across inflation targeters****B. Country estimates**

Source: IDB staff calculations based on IMF (2019).

monetary authorities. Besides traditional tools such as interest rate reductions, central banks should pursue unconventional measures to avoid permanent consequences from a transitory, but potentially severe, negative shock. Since the 2008 global financial crisis, central banks have developed new tools that they can deploy to help firms and households weather the storm. Not only do central banks find themselves in a different situation than before the 2008 financial crisis, the shock they are facing is also of a different nature.

In the last decade, central banks in the region have gained credibility maintaining low levels of inflation. Largely due to anchored inflation expectations, policy interest rates are lower relative to the period 2003–2008. However, and as a response to the global financial crisis, central banks' balance sheets have grown already. Many countries in the region also have some degree of exchange rate flexibility. However, in the 12 months prior to mid-February 2020, Argentina, Brazil, Colombia, Chile, Mexico, and Peru experienced a depreciation of 24%, while the year previous to the collapse of Lehman Brothers they had actually appreciated 3%. This presents already a different starting point from the 2008 financial crisis. Additionally, while international reserve positions have risen, they do not match the increase in estimated optimal reserves given greater risks and the lower opportunity costs of holding more reserves. While risks have gone up, a key driver of this result were lower spreads that made holding larger reserves less costly in recent times (see Cavallo and Powell, 2019). During 2003–2008, international reserves represented 13% of GDP, while for the 2014–2019 period, international reserves were 16% of GDP.³ Given the recent rise in spreads, the cost of holding reserves has now risen substantially. Therefore, the initial conditions are not necessarily better than in the previous crisis (see also Cavallo, 2020 for a more general comparison).

Given that this shock is as much a shock to supply as to demand, the traditional notion of counter-cyclical demand management through monetary policy is less relevant. But firms and households will likely come under serious financial stress. Lowering the policy interest rate may then still be a useful tool in countries where such actions may translate to a lower cost of financing for firms and lower loan repayments for households. Central banks are in different positions concerning the space they have to reduce rates and the likely benefits of such policies. The space depends not only on the level of the policy rate but also on the degree to which inflation expectations are anchored. Many central banks have already reacted by reducing rates. Table 2.1 presents more details regarding this and other monetary policies carried out by central banks in Latin America and the Caribbean. Given that the coronavirus outbreak will lower both supply and demand, the impact on prices is not clear.

Households with wage earners in the informal market may be the most affected, not only because they could lose their source of income, but also because they would not receive unemployment benefits and likely lack health insurance. Small and medium-sized businesses (SMEs) that depend on the day-to-day sales and have little to no cash reserves may also be placed under severe financial stress and may have to shed workers. Such firms are connected to others of the same size, as well as to larger firms through supply chains. While many SMEs may not obtain credit directly, lower interest rates may help the

³ Data comes from Latin Macro Watch, annual data on international reserves as a percentage of GDP. Averages corresponds to the 26 borrowing member countries of the IDB.

Table 2.1 Monetary Policy Actions Taken by Central Banks

	Reduction in policy interest rate	Intervention in the foreign exchange market	Provide liquidity in dollars through swap lines	Purchase of public or private securities
Argentina		X		
The Bahamas				X
Barbados	X			
Bolivia				X
Brazil	X	X	X	
Chile	X	X	X	X
Colombia	X	X	X	X
Costa Rica	X			
Dominican Republic	X	X		
Guatemala	X			
Haiti	X			
Honduras	X			
Jamaica	X	X	X	X
Mexico	X		X	
Paraguay	X	X		
Peru	X	X	X	
Trinidad and Tobago	X			
Uruguay		X		

Source: IDB staff based on IDB (2020) and Central Banks.

larger firms they are connected to through supply chains, keeping firms in business that otherwise may have to close.

Similar to the global financial crisis, unconventional monetary policy (or direct monetary policy actions) may also help to counter the negative shock, especially where the transmission of interest rate policy (a more indirect mechanism) is weak. Central banks have different instruments and legal mandates, and they may face hurdles in extending liquidity to different types of agents or in purchasing different types of assets. Central banks may need to consider carefully how such tools can be used and whether it is appropriate to make adjustments to legal frameworks to gain greater flexibility. As an example, the central bank of Colombia has already started purchasing government and private-sector bonds on secondary markets, while others are evaluating changing the law to be able to do it.

Many monetary authorities in the region maintain systems of reserve or liquidity requirements, and these can be lowered to give banks greater liquidity. These measures and others are discussed further in Chapter 3. Some central banks may also be able to

extend liquidity directly to non-financial firms. In some circumstances it may even make sense to consider a stay on certain debt payments although the impact on banks' balance sheets should be carefully assessed.

Countries will face extraordinary budget pressures, as explained in Chapter 4, and may face funding problems both for the public and the private sector, which can rapidly translate to problems in financing current account deficits and balance-of-payments problems. For cases where the macroeconomic starting conditions were not very strong, serious consideration should be given to a stand-by or other type of lending agreement with the IMF. An IMF agreement may also open up greater access to financing from other multilaterals and possibly even bilateral sources.

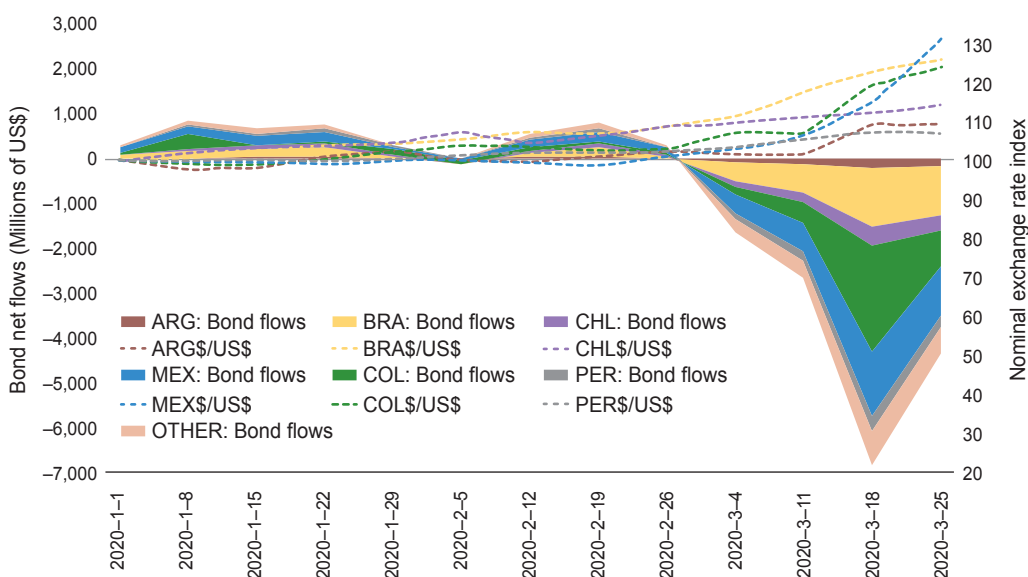
On March 19, the Federal Reserve Board established U.S. dollar liquidity arrangements with several central banks, including with those in Brazil and in Mexico for up to US\$60 billion for at least six months. These lines, which were deployed successfully during the global financial crisis, aim to mitigate the effects on the international supply of credit to banks and to firms that participate in international markets and have knock-on effects to credit more generally.

Since the end of February, countries with flexible exchange rates in the region have faced sharp domestic currency depreciation. This might bring some pressure on inflation in the short term for countries in which the passthrough is still high, but, more importantly, it might put pressure on those corporates with large dollar debts. Not only because these firms are now facing an increase in their debt, but also because they are facing losses in dollar and domestic currency incomes. Central banks should monitor the corporate sector to understand the potential problems that might arise.

Additionally, pressure on the exchange rate has come from the rapid increase in capital outflows faced by the region. This bears the risk of a sudden stop for several countries with a current account deficit (see Cavallo, 2020). Figure 2.3 shows weekly bond outflows for selected countries in the region along with their exchange rates with the US dollar. Only in the month of March (March 1 through 25), there were at least US\$15.48 billion in outflows from bonds, equivalent to approximately 3.8% of the average monthly GDP.⁴ Exchange rates depreciated 3% less than in the four weeks that followed the collapse of Lehman Brothers.⁵ Some countries that rely heavily on tourism and remittances may suffer from lower inflows not only of income but also of foreign currency, putting more pressure on their exchange rate. In some cases, this impact may be compensated by lower oil prices, but as reviewed in Chapter 1, the oil futures curve has a pronounced positive slope indicating that the market expects oil prices to rise.

⁴ The average incorporates data from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, and Uruguay.

⁵ This corresponds to Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

Figure 2.3 Bond Net Flows and Nominal Exchange Rate

Source: IDB staff calculations based on EPFR Fund Flows and Haver Analytics datasets.

Notes: Countries included here are Argentina (ARG), Brazil (BRA), Chile (CHL), Colombia (COL), Mexico (MEX), and Peru (PER). The category "OTHER: Bond flows" corresponds to the sum of net flows for the following countries: Bolivia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Panama, Paraguay, and Uruguay. The nominal exchange rate index is normalized to 100 for the first week of January 2020 and corresponds to the ratio of domestic currency to US\$.

All these factors are reflected in the existing heterogeneity across countries that depends mainly on their fundamentals,⁶ their initial conditions, and the degree of the spread of the coronavirus. Net outflows of bonds and equity will likely continue in the coming weeks.

Given the extraordinary nature of the current situation, central banks may also wish to work with fiscal authorities to evaluate the possibility of providing liquidity to the health system, see Chapter 4. In the end, this is surely a fiscal issue, but central banks might be able to supply liquidity quickly in exchange for a government bond for some portion of the rapid liquidity injection that may be required.

Lastly, and as shown in previous periods of uncertainty, central banks should have a clear communication strategy with the general public, not only with the experts, regarding their measures and objectives. This will help reduce uncertainty at every level of society. The central bank of Chile is explicitly making this a priority by communicating the possible future trajectory of the monetary policy rate.

⁶ Among the fundamentals is the characteristic of whether a country is an exporter or an importer of oil. Given historically low oil prices, oil exporters faced larger outflows than oil importers.

Conclusions

The region has made great strides in delivering low and stable inflation across a variety of monetary regimes. This is one piece of good news when it comes to fighting the coronavirus. Given these initial conditions, there is a lower risk that the suite of interventions being considered will lead to inflationary conditions that would further hurt the poor.

Central banks have many tools at their disposal and should think carefully about combining them in a way to provide maximum relief. Interest rate policy may be most appropriate in those countries where inflation expectations are well-anchored, where the pass-through from any currency depreciation to inflation is limited and where the transmission mechanism to market interest rates is relatively strong. Countries that do not meet these conditions may wish to focus more firepower on direct tools (or unconventional monetary policy), such as lowering reserve and liquidity requirements, purchasing assets, and providing liquidity to banks and other financial entities. If conditions deteriorate and the right legal and policy framework exists, they may wish to consider extending liquidity to other entities. Moreover, these different tools may be used to seek different objectives, lowering interest rates to provide relief on loan payments and ensuring that there is adequate liquidity.

Nevertheless, great care should be taken to ensure such policies are calibrated correctly and there is appropriate oversight in place. Past experience suggests that a high degree of caution should be exercised. However, depending on how this crisis develops, central banks may need to take aggressive temporary measures in some countries to limit the potential for widespread failures of firms.

Attempting to mitigate the effects of the coronavirus shock should be the priority. In this regard, good communication is crucial. If the private sector understands the intention of each announced policy action and appreciates the consistency of any set of policies being adopted, those policies are more likely to be successful.

Central banks that have managed to gain a high level of credibility will also tend to have more space to pursue aggressive temporary interventions, without provoking capital flight, inflationary pressures or other negative reactions. A lesson from the management of previous crises is the importance of communicating clearly and gaining credibility by acting in a manner consistent with those communications and sharing a credible vision as to how the crisis will be surpassed.

Many countries in the region made great strides in establishing consistent macroeconomic frameworks. Central banks gained credibility resulting in low inflation and anchored inflation expectations. The way the current crisis is managed will determine whether the region can build on this foundation and continue to improve monetary frameworks after the crisis abates, enhancing central bank independence and deepening the separation of

monetary policy decisions from political processes. Good coordination with the fiscal and financial authorities is also required to ensure a consistent policy framework.

As discussed in Chapter 1, the coronavirus will certainly have a large impact on the region's economies. Central banks can assist in reducing the size of that shock by reducing interest rates and supplying liquidity to keep supply chains open and minimize the loss of employment and bankruptcies. These may be very difficult times that may call for extraordinary temporary measures.

CHAPTER 3

Harnessing Financial Systems to Assist Families and Firms

Financial systems are a reflection of underlying economies. The coronavirus global and regional shock may have significant impacts on local financial systems. There is likely to be a greater demand for liquidity, and firms and households may seek to borrow more or use existing credit lines to the maximum to weather the organized partial close-downs in their economies, and non-performing loans may grow. This crisis came at a time when credit growth had slowed in Latin America and the Caribbean as economic growth had dimmed. Banks had maintained relatively high and stable solvency ratios before the crisis, with a reduction in measured risk, in part reflecting increased holdings of government bonds. The evidence suggests banks behave pro-cyclically and may restrict credit or reduce risk in bad times. But the other side of that coin is that in downturns, banks act to defend their balance sheets. The first part of this chapter presents selected information regarding the financial system before the coronavirus crisis hit. The second part discusses the impact of the coronavirus crisis and what policy measures countries may wish to pursue.

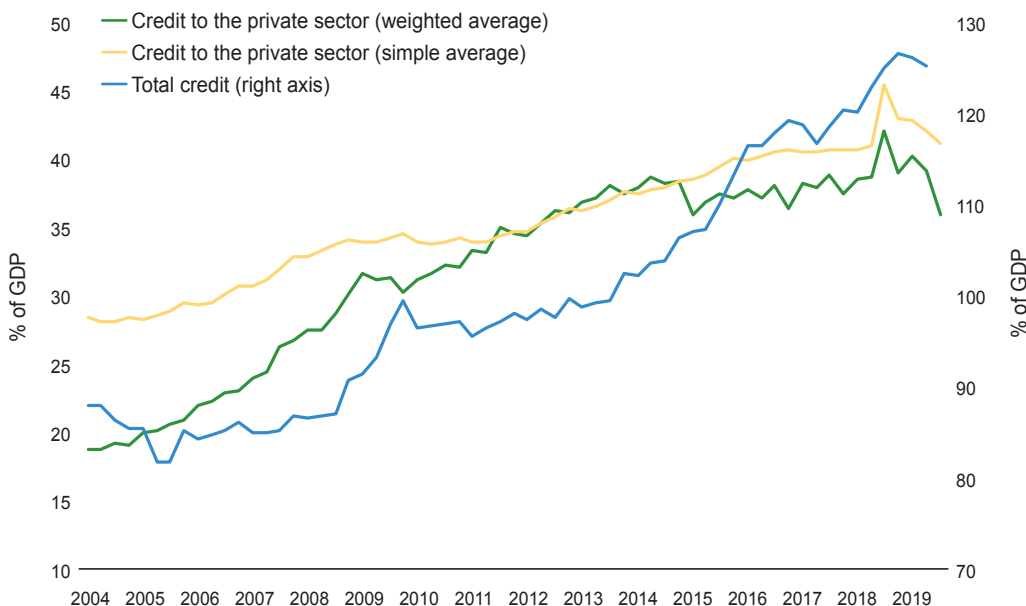
Credit Growth in the Region

During the 2000s, domestic credit to the nonfinancial private sector as a percentage of regional GDP grew strongly, but then gave way to slower and even negative growth (see Figure 3.1).¹ With domestic credit to the nonfinancial private sector stable at around 40% of GDP, the region still lacks financial depth.² The story is different considering total credit which includes bond as well as loan financing, government, and cross-border credit. Total credit is almost 130% of GDP and continued to grow at least until 2018.

Brazil is an interesting case in point where, as a percentage of GDP, credit to households and firms has remained roughly constant and yet total credit continued to grow to

¹ Slower credit growth may reflect weaker demand and tighter regulations including Basel III and anti money laundering measures that have restricted banking relations especially in smaller countries. (See Beck and Rojas-Suárez, 2019).

² Arcand, Berkes, and Panizza (2015) argues that too much finance can stifle growth but that appears not to apply to countries in Latin America and the Caribbean given their current level of financial development. Čihák and Sahay (2020) explores the relation between finance and inequality.

Figure 3.1 Credit to the Nonfinancial Private Sector

Source: IDB staff calculations based on Latin Macro Watch and Bank of International Settlements data.

Notes: Credit to the nonfinancial private sector is domestic credit extended by banks and includes all 26 borrowing members of the IDB. Total credit includes loan and bond finance to firms, households, and the government, incorporates domestic and cross border financing, and is the weighted average across five countries: Argentina, Brazil, Chile, Colombia, and Mexico.

over 150% of GDP largely due to increased financing to the public sector (see Figure 3.2). Total bank financing to the private sector, which includes domestic and cross-border bank lending, has remained roughly constant.

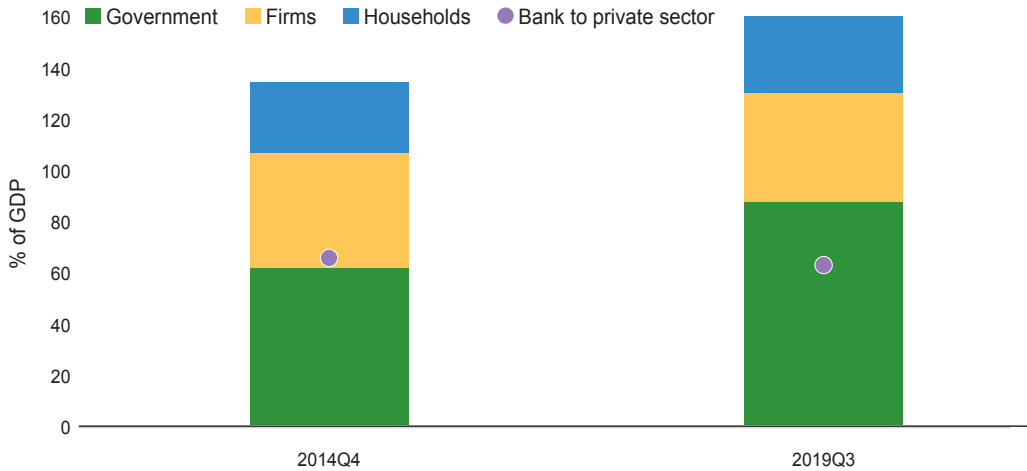
Bank Performance

While credit growth to the private sector in the region has slowed, banks remain quite profitable with the simple average return on assets across countries as high as 1.9%, and above 1.5% in most countries. In Argentina in 2018, the return on assets was as high as 5.4%. And nonperforming loans have only risen marginally in recent years to about 2.6% of total loans in the typical country.³

Banks maintain relatively stable regulatory capital ratios well in excess of minimum regulatory levels and despite sometimes volatile economic conditions.⁴ While regulatory ratios may be in excess of the stipulated minimum levels, changes in regulations may

³ Data from the IMF's Financial Soundness Indicators.

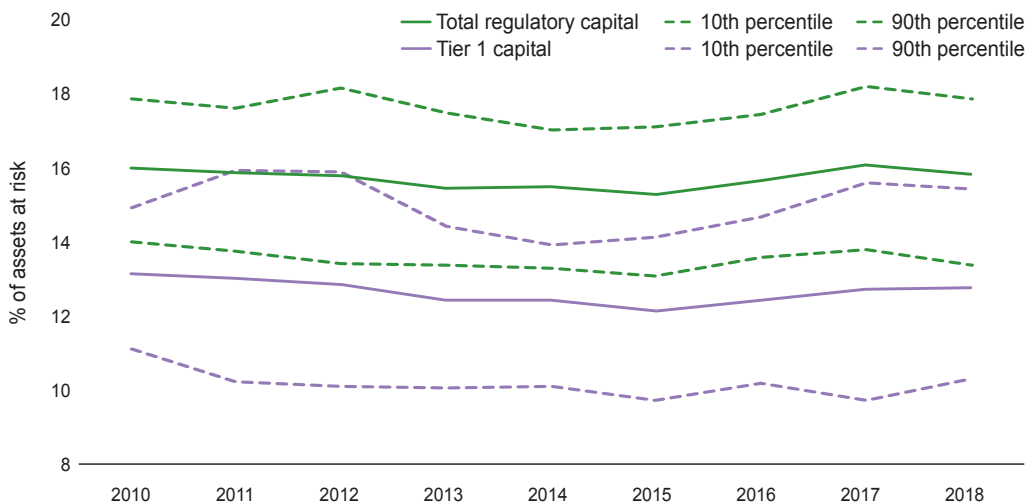
⁴ See the discussion in the 2014 Latin American and Caribbean Macroeconomic Report (Powell, 2014) and Powell (2019a).

Figure 3.2 Total Credit to the Nonfinancial Sector in Brazil

Source: IDB staff calculations based on Bank for International Settlements data.

still have impacts. If banks wish to maintain a particular capital buffer above regulatory requirements, then they may seek to increase capital levels if regulations are tightened.⁵

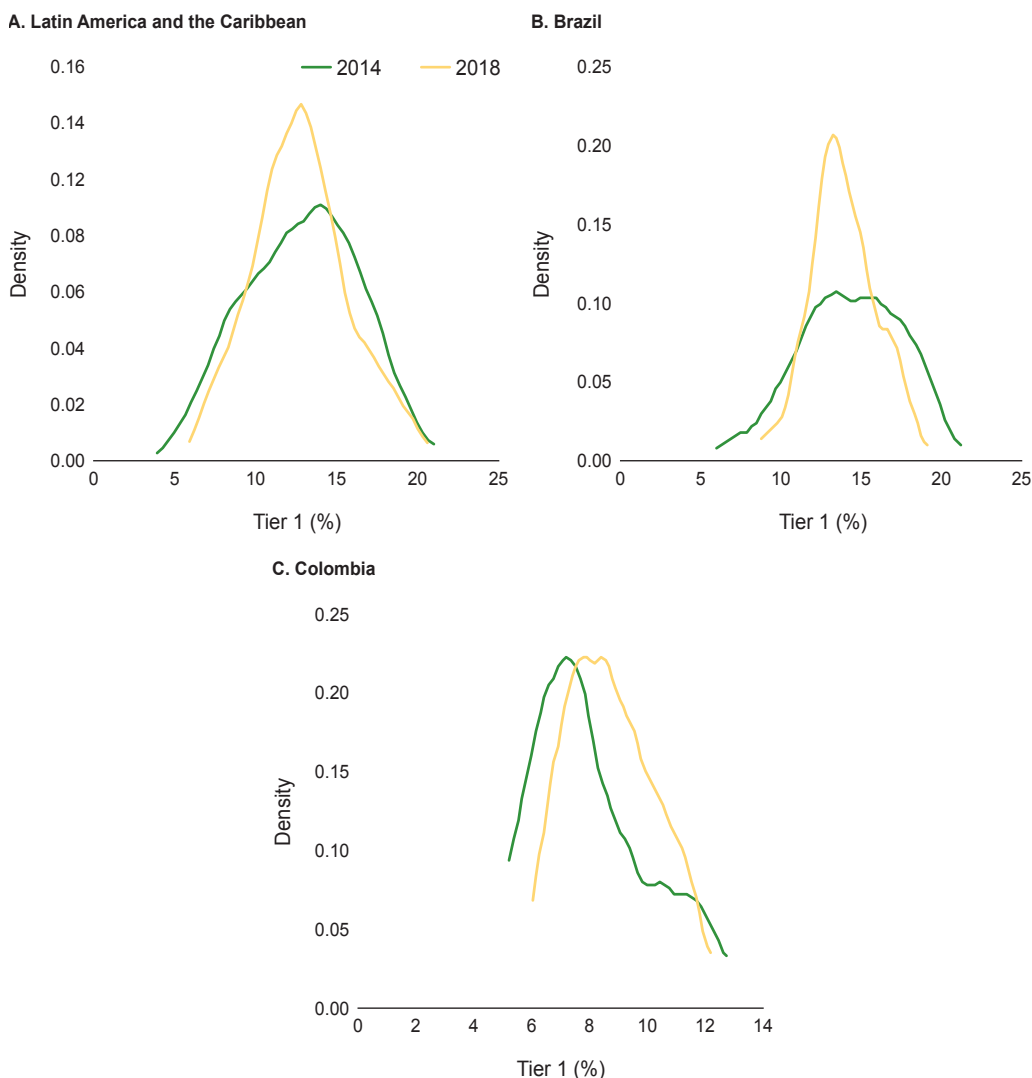
Figure 3.3 plots the average tier 1 and total regulatory capital to assets at risk ratios across countries in the region. Average total capital was almost 16% of assets at risk in 2018,

Figure 3.3 High and Relatively Stable Capital Ratios

Source: IDB staff calculations and IMF's Financial Soundness Indicators.

Note: Simple average of total regulatory capital and tier 1 capital as a percentage of assets at risk across countries in Latin America and the Caribbean. The figure also illustrates the 10th and 90th percentile of the distribution across countries.

⁵ See Aliaga-Díaz, Olivero, and Powell (2018) for a discussion.

Figure 3.4 Tier 1 Capital Ratios across Individual Banks

Source: IDB staff calculations based on SNL Financial (S&P Global Market Intelligence).

around double the recommended Basel II minimum, and the average tier 1 ratio is almost 13%—in excess of Basel III recommended levels. These average ratios have remained relatively stable, although they did fall from 2010 to 2015, increasing somewhat after that date.

Still, such averages may hide lower ratios for individual institutions. Figure 3.4, Panel A plots tier 1 capital ratios for individual banks. The region is in the process of adopting Basel III and it is notable how tier 1 ratios have increased over recent years. The distributions for Brazil (Figure 3.4, Panel B) and Colombia (Figure 3.4, Panel C) indicate that there are fewer institutions with lower tier 1 ratios in 2018 compared to 2014.

An important role for banking oversight (including both supervisory and market discipline) is to ensure that banks that suffer shocks, resulting in lower capital ratios, take action to improve solvency rather than increase risk and “gamble for resurrection.” Bank solvency ratios may be hit by shocks to loan performance (such as higher nonperforming loans), changes in the market valuation of securities and unexpected changes in loan demand—higher lending reduces capital ratios. If a shock reduces bank solvency, an institution may respond by issuing more capital, paying less in dividends, curtailing credit growth, or switching from higher to lower risk assets (including holding more government bonds) to boost the capital ratio.⁶

In an econometric analysis of bank capital ratios, there is strong evidence that capital ratios are stationary and that banks take steps to revert those ratios back to a long-term average value. In those banks where capital ratios dip close to stipulated regulatory minimum levels, the speed of adjustment back to that longer-term level (which in general is well in excess of the regulatory minimum value) appears to be faster still. These results are suggestive that bank oversight is indeed instilling discipline on banks in the region (see Box 3.1).

How do Banks Maintain Stable Capital Ratios?

Bank capital ratios, in relation to assets at risk, have remained remarkably stable. How has this been achieved? In times of strong economic growth, assets are likely to grow, and risk may increase but banks may also boost capital (with higher retained earnings and less need for provisioning) to maintain relatively stable capital ratios. Given an economic downturn, capital ratios may fall, due to lower retained earnings and the need to provision more against nonperforming loans. Banks may also issue more capital but that may be difficult or expensive in a downturn. Thus, banks may reduce assets or reduce risk to defend their capital ratios. From the perspective of financial stability, this might be seen as banks behaving responsibly to maintain solvency levels. However, it implies that banks may be exacerbating the cycle.

A decomposition of the changes in capital to asset-at-risk ratios is useful to reveal how banks are actually maintaining stable capital ratios (see Figure 3.5). In 2014 and 2015, in the wake of the fall in commodity prices, while banking assets grew, banks decreased risk and hence maintained relatively stable capital ratios. In 2016, capital fell, as did risk and assets. Banks were able to increase capital ratios. Asset retrenchment and risk reduction continued in 2017 and bank capital ratios rose. There was better news in 2018 in the sense that credit started to grow and risk-taking increased slightly. Banks were able to boost capital with the result that capital ratios only fell modestly. Over this five-year

⁶ The Basel recommendations on minimum capital levels for banks have traditionally included zero required capital for bonds held in a nontrading account and issued by the government of the country concerned in domestic currency (see Beck and Rojas-Suárez, 2019 and Powell, 2019a for discussion).

BOX 3.1**Bank Capital Ratio Behavior as an Indicator of Discipline**

There has been considerable interest in the banking literature as to whether market or supervisory discipline is effective. One view is that if bank capital dips, then with less “skin in the game” (and especially if supported by safety-net policies) banks may increase risk “gambling for resurrection.” The alternative perspective is that with lower capital, banks may face a higher cost of funds and the possibility of a run from creditors. Moreover, the supervisor may impose restrictions on dividend payments, or order the bank to reduce assets or suspend operations. This “discipline” may push banks to reduce risks in the face of negative shocks.^a

A panel regression analysis of how bank capital ratios behave over time may shed light on this discussion. Specifically, in this analysis the change in the capital ratio (either tier 1 or the total capital ratio) is regressed on lags of that variable and a second term, which measures the distance between the level of the capital ratio in the previous period and the minimum regulatory requirement in the country concerned. Table 3.1.1 details the results.

The different columns of Table 3.1.1 represent different specifications for this regression using either the tier 1 or the total regulatory capital ratio (both divided by assets at risk) and slightly different specifications for the dependent variable.^b An advantage of using panel data is that bank

Table 3.1.1 Analyzing how Capital Ratios Revert Back to Longer Term Values

Variables	Tier 1 Ratio		Total Capital Ratio	
	(1) Log Change	(2) Percent Change	(3) Log Change	(4) Percent Change
Lag of the tier 1 capital ratio (T1)	−0.0286*** (0.011)	−0.0270** (0.012)		
Lag of the total capital ratio (TC)			−0.0283*** (0.008)	−0.0222*** (0.008)
Log difference between the capital ratio (T1 or TC) and the regulatory minimum capital ratio in the relevant country	−0.1758** (0.068)	−0.1822** (0.074)	−0.0800** (0.038)	−0.1022** (0.042)
Observations	203	203	318	318
R-squared	0.442	0.423	0.484	0.464
Bank FE	Yes	Yes	Yes	Yes
Number of banks	29	29	44	44
Number of countries	3	3	5	5
Average ratio	11.92	11.92	13.95	13.95
Regulatory ratio for capital (min./max.)	4/6	4/6	8/11	8/11

*** indicates significant at the 1% level and ** indicates significant at the 5% level. Standard errors are in the parentheses below coefficient values.

Source: IDB staff calculations based on SNL Financial (S&P Global Market Intelligence) and World Bank Regulation and Supervision Survey, The World Bank (various editions).

Note: Tier 1 ratio is Tier 1 capital divided by assets at risk, total capital ratio is total regulatory capital divided by assets at risk. The regressions include banks that represent 95% of the financial systems of Brazil, Chile, Colombia, Mexico, and Peru.

(continued on next page)

BOX 3.1 (continued)

fixed effects can be added to control for variables that do not vary over time and that may not be observable.

First, note that the coefficient on the lag of the relevant capital ratio is negative and significant.^c The second variable is the natural log of the distance between the actual capital ratio and the regulatory minimum ratio in the country concerned.^d As the natural log is employed this means that the variable is negative when the distance drops below one. As the coefficient is always negative and significant, this indicates that as the distance gets closer to zero the capital ratio in the next period tends to increase at a faster rate. If the natural log is equal to -1 such that the distance is 0.4, then the capital ratio increases an additional 16% in the case of the tier 1 ratios and an additional 7% to 10% in the case of the total capital ratios.

These results suggest that if capital ratios drop, banks act to restore those ratios back to longer-term (stationary) values. Moreover, if those ratios fall to be close to stipulated regulatory minimum values then banks act more forcefully to restore capital levels. As with any analysis some caveats are in order. In particular, the underlying assumption is that capital divided by assets at risk is a meaningful indicator of solvency. Secondly, the regression summarizes average results across banks. This does not mean that each and every bank behaves in this fashion. Still, the results suggest that on average for a set of larger banks in the countries considered, banks do not take on more risk when they have less “skin in the game” and that supervisory or market oversight is working such that banks act to reduce risks after negative shocks to capital ratios.

^a There is a wide literature on discipline in relation to banks. On emerging economies see in particular Calomiris and Powell (2001) on the complementary role of supervisory and market discipline and Martínez-Peria and Schmukler (2002) on market discipline.

^b The data come from Standard and Poor’s SNL database. Only included are countries with a minimum number of banks.

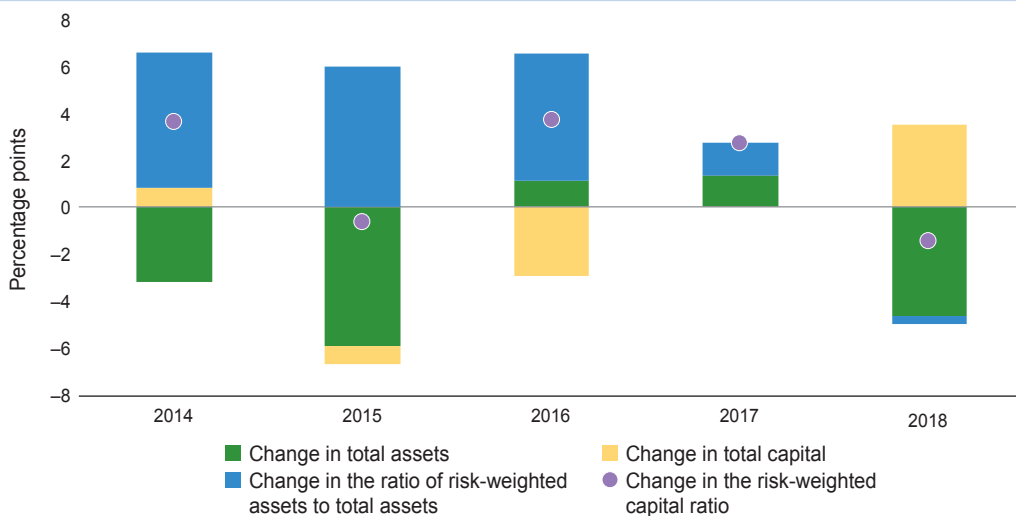
^c This is akin to a Dickey Fuller test for stationarity and in separate regressions stationarity cannot be rejected.

^d This distance is always positive. The data on minimum regulatory capital requirements are taken from the World Bank’s regulatory survey.

period of low growth for the region, assets hardly changed, capital fell somewhat, and risk decreased significantly, as banks held greater amounts of government securities with the overall result that capital ratios remained stable. The important result from this analysis for the current situation is that banks in the region have significant capital buffers and tend to behave conservatively to maintain stable regulatory capital ratios. It is likely that some banks will need to dip into these buffers before the coronavirus crisis abates.

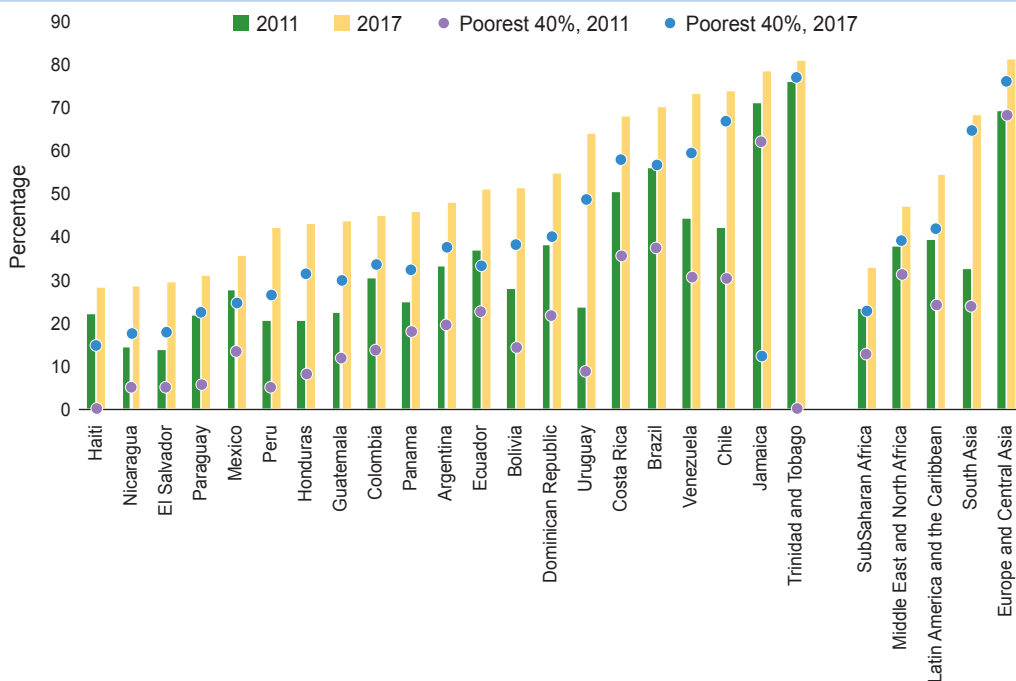
Financial Inclusion in the Time of Coronavirus

The financial system can play an important role as the vehicle for many policies to provide relief to households and firms for the coronavirus shock, but its effectiveness depends on who can be reached by such efforts. In Latin America and the Caribbean, half of the population above the age of 15 do not have a bank account, compared to 20 percent in Europe and Central Asia (see Figure 3.6). Insufficient funds and high costs are the most

Figure 3.5 Decomposition of the Changes in Bank Capital Ratios

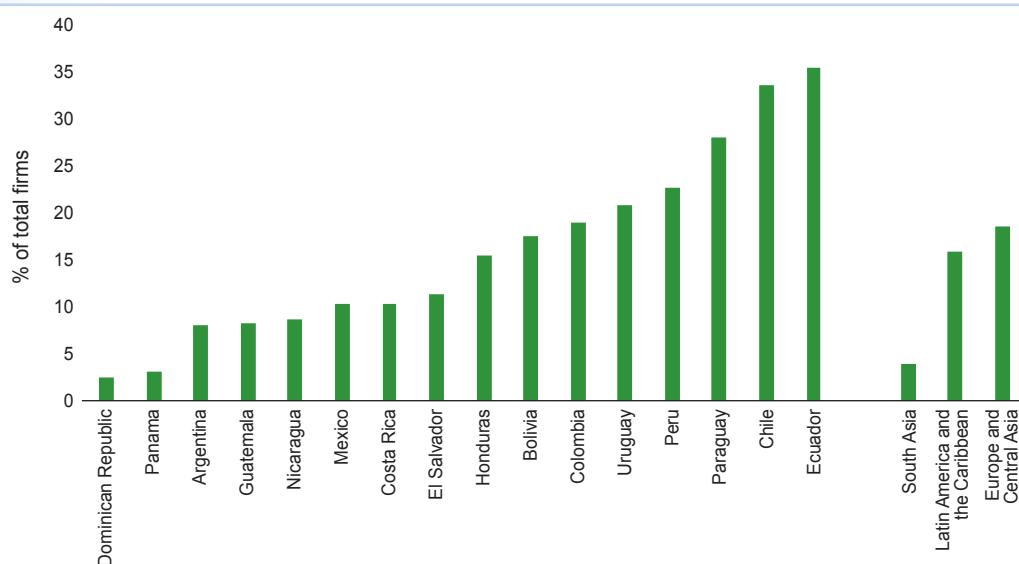
Source: IDB staff calculations based on SNL Financial (S&P Global Market Intelligence).

Note: All variables are weighted by the US\$ assets of banks from each country. The countries included are: Brazil, Chile, Colombia, Mexico, and Peru.

Figure 3.6 Percentage of the Population above 15 Years with an Account in a Financial Institution

Source: IDB staff calculations based on data from Findex.

Note: For Jamaica, the value of 2017 is the value from 2014. Poorest 40% refers to the two lowest quintiles of the household income distribution.

Figure 3.7 Share of Firms with a Credit Line

Source: IDB staff calculations based on World Bank Enterprise Survey.

Note: The data correspond to the last year with information for each country. South Asia is the average of Bangladesh, India, and Nepal. Europe and Central Asia is the average of Albania, Armenia, Poland, Russia, Serbia, and Turkey.

commonly cited motives for not having an account.⁷ Financial systems in Latin America and the Caribbean are relatively small, concentrated, and margins are high, suggesting a lack of both scale and competition.⁸ Despite technological advances and efforts to boost financial inclusion, low take-up and usage rates of modern banking services persist. The region has the lowest usage of online payments and the highest use of cash payments for utilities of any region in the world.

Countries vary widely across the region in terms of firms' access to credit (see Figure 3.7). In some countries less than 5 percent of firms (formal and informal) have access to credit, while in some countries access exceeds 30 percent. Considering the average, the region is not that different from Central Europe and East Asia. An important role of financial systems is to direct credit to the most productive firms so they can grow and restrict credit to firms that are likely to fail. Having good information on firms to assess credit risk is vital. While unrestricted access to credit for all firms is surely not

⁷ The World Bank's Global Findex database is a worldwide representative survey for financial indicators, covering households. The data are available for 2011, 2014, and 2017 for over 140 economies (Demirgüç-Kunt et al., 2018).

⁸ Most studies find considerable economies of scale in banking, so small financial systems may translate to high costs. Having said that financial systems in the region are also concentrated, some institutions may attain scale, but margins are high and competition is weak; see Cavallo and Serebrisky (2016) for a general discussion and Hansen and Urbina (2018), Cañón, Cortés, and Guerrero (2019), Gómez-González, Tamayo, and Valencia (2019) and Ornelas, da Silva, and Van Doornik (2020) on margins and competition issues.

optimal, many studies suggest that credit access may be too restricted. There may be a trade-off between individual banks protecting their balance sheets and what is best for the economy as a whole.

When Coronavirus Infects the Financial Sector

The coronavirus may have a serious impact on economic activity, firms and households. Inevitably there will be knock-on effects for financial systems. As this crisis erupts, financial systems are generally in good shape with high solvency and liquidity indicators. Still, rising demand for liquidity, higher payments on any outstanding foreign currency debts given currency depreciations and higher non-performing loans could place some financial institutions in a position of stress. Central banks and banking supervisors will wish to monitor very carefully how the crisis develops and take appropriate actions if required.

As the coronavirus crisis is both a shock to supply and to demand and may threaten firms' and families' liquidity and solvency positions, the impacts on credit supply and demand are not clear cut. Some firms may seek additional credit or use existing lines to the maximum to maintain operations during the shock. In the health sector or for other critical supplies where imports are substituted for domestic supply, credit demand may rise. Other firms, facing falling activity or even closing down, may demand less credit. Some households may seek new loans due to a medical emergency or to supplement reduced income levels, but demand for consumer durables and mortgages will likely fall. Good communications with banks and other financial institutions and firms, as well as real-time data, will be at a premium, understanding the dynamics in credit will be important to guide policy.

Stopping the spread of the virus is rightly the top priority when it comes to the overall policy stance, and that implies economic activity will fall. The aim of policy in the financial sector should be to prevent any amplification of this necessary outcome and to try to assist firms and households during this shock. In such circumstances maintaining liquidity in credit markets and being able to satisfy any increased demand for liquidity and credit is key. As reviewed in this chapter, banks will have a natural tendency to defend solvency and liquidity ratios and may restrict credit, but by acting in this fashion, each of them individually may accentuate the crisis.

Banks have significant capital and liquidity buffers to be used in case of an emergency. Some countries have developed larger buffers as they have been implementing Basel III. Depending on the situation in each country and within each market for credit (working capital for firms, consumer lending, etc.), banking supervisors may wish to communicate to banks that they should not cut credit lines and supervisors may wish to consider being somewhat more lenient on regulatory standards on a temporary basis. Regarding loans for consumers and small business owners, banks should try to work with clients who are

facing a temporary loss of income. Some type of relief such as maturity extensions can be beneficial to both parties, to avoid arrears and costly defaults. In countries that anticipate a more serious issue of loan delinquency, the authorities may wish to consider a coordinated approach, such as a temporary moratorium on some loan repayments, to provide relief, especially for loans to poorer households or smaller businesses. Table 3.1 lists countries in the region that have implemented these and other measures. The authorities in these countries will wish to monitor the likely hit to bank balance sheets or to fiscal accounts if banks are compensated.

Irrespective of the measures taken, supervisors should continue to collect information that is comparable over time, and possibly at a higher frequency than during normal times. This implies no relaxation of reporting standards even if some regulatory standards are made more flexible. In this fashion, supervisors can continue to monitor financial institutions closely to estimate the dynamics of banks' buffers and to ensure financial stability is maintained.

Table 3.1 Policy Actions Taken by Countries to Enhance Credit and Liquidity

	Temporary moratorium on loans	Increased liquidity/ credit to SMEs	Liquidity or reserve requirements
Argentina	X	X	X
The Bahamas	X	X	
Barbados	X	X	X
Belize	X	X	X
Bolivia	X	X	X
Brazil	X	X	X
Chile	X	X	X
Colombia	X	X	X
Costa Rica	X	X	
Dominican Republic	X	X	X
El Salvador	X	X	X
Guatemala	X	X	
Haiti	X		X
Honduras	X	X	X
Jamaica		X	X
Mexico	X	X	X
Paraguay	X	X	X
Peru	X	X	X
Trinidad and Tobago	X	X	X
Uruguay	X	X	X

Source: IDB Staff based on Connectivity, Markets, and Finance Division, IDB, (2020).

In addition, central banks, fiscal authorities and public banks may wish to work together to develop additional credit lines to supply further liquidity to firms and households. The architecture of each country's economic institutions will dictate the most convenient way to develop such products. Many countries have the experience of developing such lines during the global financial crisis, some have similar products to promote the growth of usually small or medium-sized businesses. Public banks can be very useful conduits for such products for both loans to households and businesses. Some countries have already announced such plans. Private banks can also be used as vehicles for such programs. In both cases, good information and appropriate monitoring of how the funds are deployed will be important, both from the standpoint of due diligence but also to understand the challenges firms are facing.

Such additional lines might be focused on strategic sectors, firms that supply critical intermediate goods in supply chains and may be directed more to small and medium-sized enterprises that typically do not have significant cash reserves. However, as more firms appear to be under financial stress, relaxing very tight restrictions will likely make sense to keep firms open and workers employed. Firms that take such credit, particularly if it is subsidized, may be asked to provide evidence that they are not shedding labor, and to refrain from paying or even increasing dividends, buying back shares, or taking money out of the firm by other means. In the United States, one scheme included in the fiscal relief package allows loans to be forgiven if firms can demonstrate they did not shed labor during a specified time period. Again, such schemes should be carefully calibrated given the likely fiscal costs. In some countries where credit markets are well developed a system of loan guarantees extended to private banks could replace actual credit lines, or systems of factoring or collateralized lending at low interest rates could be employed. Additional lines could also be made available for households facing medical emergencies or temporary income losses. For poorer households receiving conditional or other types of cash transfers, public banks or other financial institutions might offer credit based on future transfers and under stipulated conditions – interest rates and amounts. Governments may consider guaranteeing such small-sized loans.

If the crisis deepens and private banks become stressed, the volume of such lines may have to be large. It will be important to develop such products in a way that minimizes potential losses for the amount of credit extended. Repayments of lines could be met with some type of other assistance to enhance repayment incentives, and firms that are contracting credit for the first time and repay according to the terms might be able to use that payment history to obtain commercial credit in the future.

International financial institutions including both the private and sovereign lending side of multilateral development banks can assist countries in the design and the financing of such lines. The Inter-American Development Bank (IDB) extended loans to sovereigns and central banks to finance liquidity support to the productive sector during the global

financial crisis and has an instrument known as the *global credit program*, that normally uses second-tier banks as vehicles, to extend loans and guarantees, normally aimed at small and medium-sized enterprises. The private-sector arms of multilateral development banks, such as IDB Group's IDB Invest and the World Bank Group's International Finance Corporation, lend on a regular basis directly to the private sector including private banks. The IDB Group recently announced an additional US\$3.3 billion of available resources for sovereign lending, bringing the total lending program for 2020 to some US\$12 billion with an additional US\$5 billion from IDB Invest available for support to the private sector.

Conclusions

Financial systems in the region are dominated by banks that enjoyed stable and high liquidity and capital buffers as the coronavirus crisis erupted. The negative shock to the region's economies will no doubt impact bank balance sheets, and central banks and bank supervisors will wish to monitor developments very carefully. Demand for liquidity and non-performing loans will likely rise. While some banks may have to use their buffers, maintaining financial stability should be a primary goal. If financial stability is put at serious risk, the crisis will be amplified, and the recovery may be delayed.

At the same time, public and private banks may be useful vehicles to provide relief to households and firms. A number of policies will be able to provide liquidity mainly to formal firms rather than informal ones, and to middle-class households rather than poorer ones, given the persistently low levels of financial inclusion in the region. Innovations in Fintech are changing this picture (see IDB/Finnovista 2018) and may be harnessed to increase financial inclusion and provide relief in the context of this crisis. Still, policies should aim to keep firms alive and their workers paid even if those firms are currently closed for business. If firms hold on to their employees and maintain their capital, they can continue where they left off producing goods or providing services to satisfy pent up demand once the storm has passed.

CHAPTER 4

Fiscal Policy in the Time of Coronavirus

The region has been undergoing a fiscal adjustment given high deficits and rising debt. Previous Latin American and Caribbean Macroeconomic reports have detailed how the adjustment process, which commenced with the sharp decline in commodity prices around 2013, followed a significant increase in government consumption after the global financial crisis. While growth during that crisis followed a “V” trajectory and was temporary in nature, the fiscal policy response in several countries included a large boost in wages and transfers of a more permanent nature.

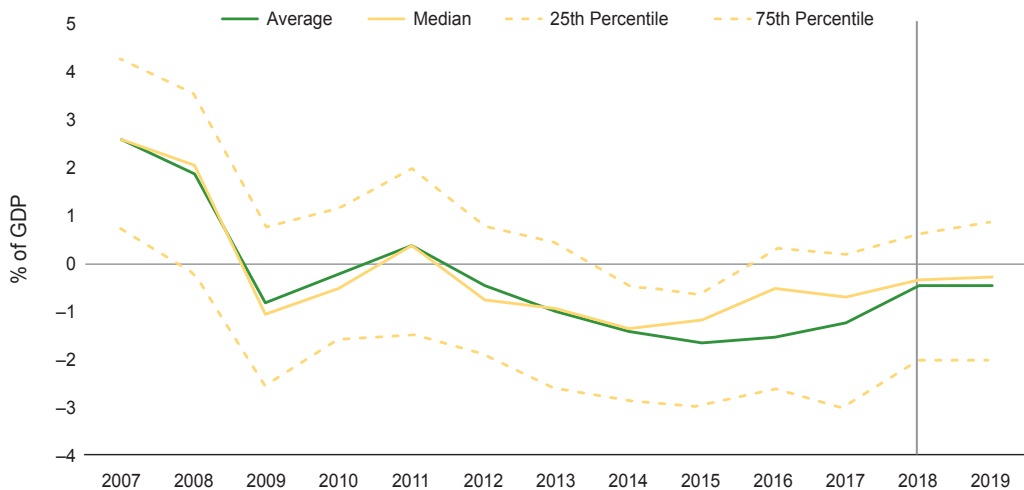
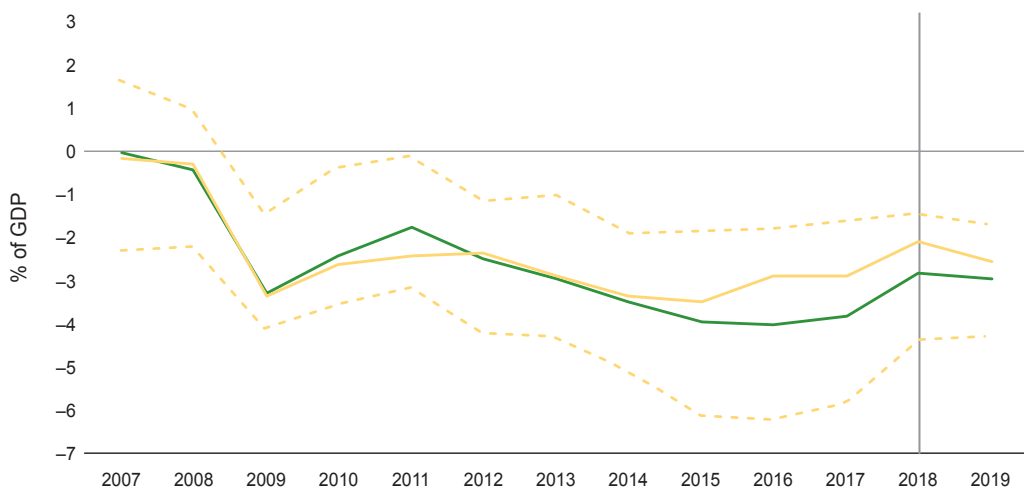
The coronavirus will have significant impacts on fiscal balances going forward and countries are adopting a range of fiscal policies to provide relief to firms and households. The first two parts of this chapter analyze the trends in fiscal balances and debt to date, while the third part considers further measures of fiscal space and proposes a wide set of policies to provide relief from the effects of the coronavirus. While there is uncertainty regarding the duration of this crisis and fiscal authorities are rightly attempting to support firms and households during this emergency, they will wish to ensure that interventions are conceived as temporary and do not undermine longer term macroeconomic stability.

Fiscal Policy Amidst Rising Public Debt

The fiscal consolidation process in Latin America and the Caribbean slowed in 2019. The average primary deficit decreased from 0.47% of GDP in 2018 to 0.44% of GDP in 2019, while the overall deficit increased marginally from 2.9% to 3% of GDP. These results contrast with previous years, when annual adjustments were significantly more pronounced (see Figure 4.1).

Although countries increased fiscal revenues by an average of 0.2 percentage points of GDP in 2019, the expansion was offset by a similar increase in current spending. Moreover, in half of the countries in the region, fiscal revenues actually fell during 2019, despite measures to boost fiscal revenues in several countries. For the typical country, capital expenditure was stable compared to previous years (see Figure 4.2).

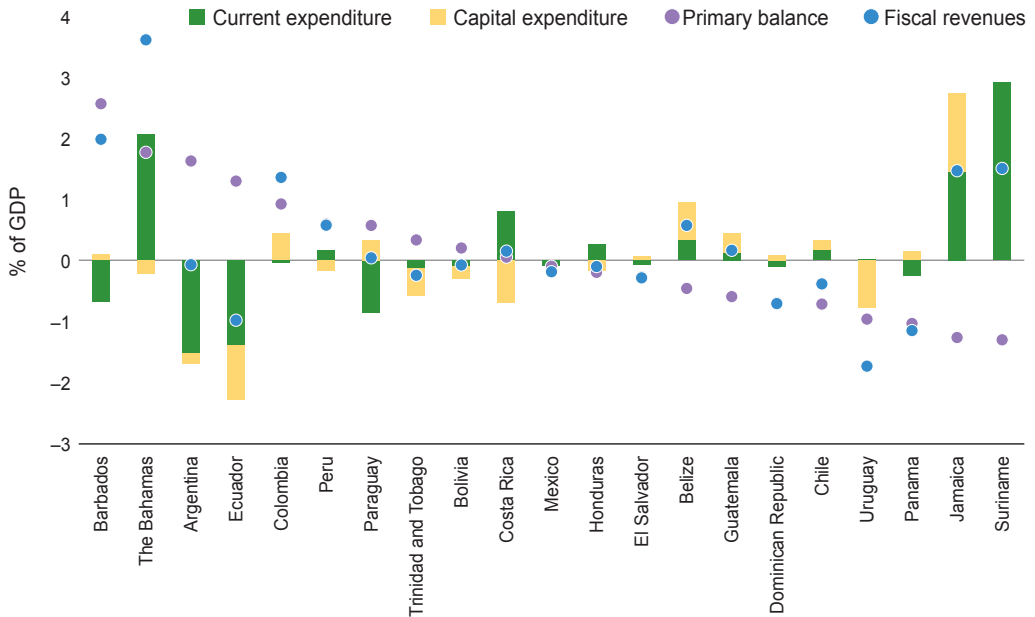
Fiscal deficits that averaged 3% of GDP and exchange rate depreciation contributed to the increase in the debt-to-GDP ratio (see Figure 4.3). Relatively high fiscal deficits also

Figure 4.1 Milder Fiscal Adjustments**A: Primary fiscal balance****B. Overall balance**

Source: IDB staff calculations based on national sources and IMF (2019).

contributed to the increase in the debt. Moreover, although the region's average primary balance improved by 0.04 percentage points of GDP, compared to 2018, the debt-to-GDP ratio declined in only four countries: The Bahamas, Barbados, Belize, and Jamaica. In other countries in the region, debt rose by some 2.4 percentage points of GDP. In addition, the balance sheet effect¹ of exchange rate depreciation represented about 1.9% of GDP.

¹ An exchange rate depreciation increases the value of debt issued in dollars when valued in local currency; hence, exchange rate depreciations increase debt ratios in countries with significant dollar debt.

Figure 4.2 Change in the Primary Balances, Revenues, and Expenditures 2018–19

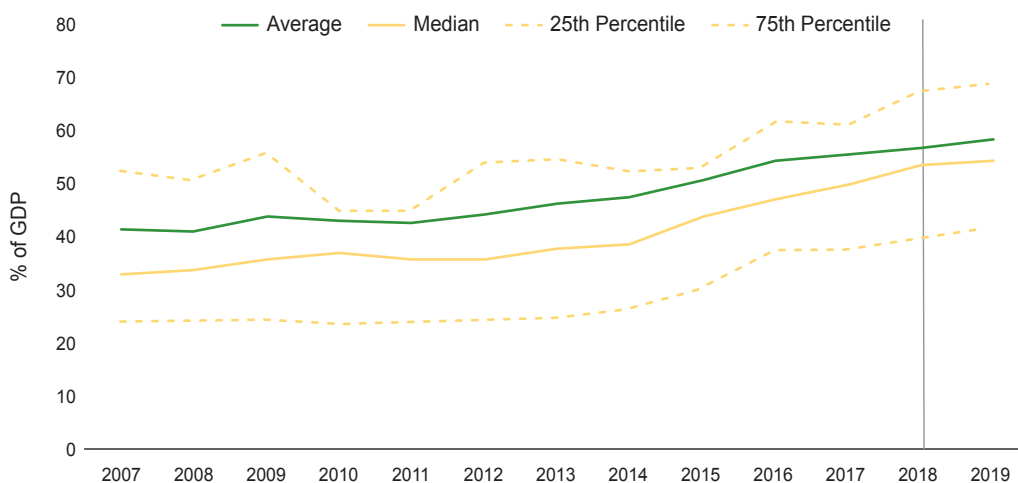
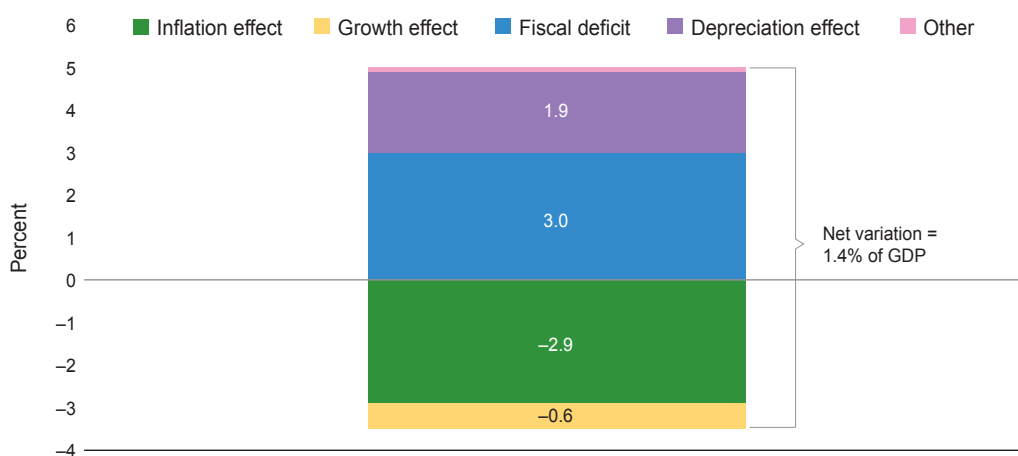
Source: IDB staff calculations based on national sources and IMF (2019).

These effects were partially offset by moderate growth and inflation rates, which led to an increase in nominal GDP. Therefore, the public debt-to-GDP ratio for the region as a whole increased by 1.4 percentage points of GDP between 2018 and 2019, even though debt affordability remained close to the levels of the previous year, at 12% of fiscal revenues (see Figure 4.3, Panel B).²

Fiscal Adjustment and Debt Sustainability

For a selection of countries, the average required fiscal adjustment to maintain a constant debt-to-GDP ratio (of about 57%) was some 1.6% of GDP. However, this estimate varies widely across countries, as shown in Figure 4.4. A first group of countries with debt levels below 40% of GDP (Chile, Guatemala, Paraguay, and Peru) have had average primary deficits in the past two years on the order of 0.5% of GDP. For this group, the fiscal adjustment required to stabilize the debt-to-GDP ratio is just 0.7% of GDP. A second group includes Bolivia, Costa Rica, Ecuador, Guyana, Nicaragua, and Trinidad and Tobago; despite moderate debt levels, they require a higher fiscal adjustment of around 2.5% of

² Debt affordability is defined as the ratio of debt service to total fiscal revenues.

Figure 4.3 Drivers of the Change in Gross Debt**A. Gross debt to GDP****B. Average changes in gross debt to GDP 2018–19**

Source: IDB staff calculations based on IMF (2019).

GDP on average. Colombia and Mexico do not need to adjust further to maintain stable debt levels.³ Finally, Barbados and Jamaica are running considerable fiscal surpluses to bring down higher levels of debt.

These estimates do not consider the additional fiscal spending that countries are embarking on in response to the partial closedown of economies, due to the coronavirus

³ Given the fiscal rule in place in Colombia, debt should stabilize and then begin to fall as fiscal adjustment continues.

Figure 4.4 Estimated Required Fiscal Adjustment and Debt Level

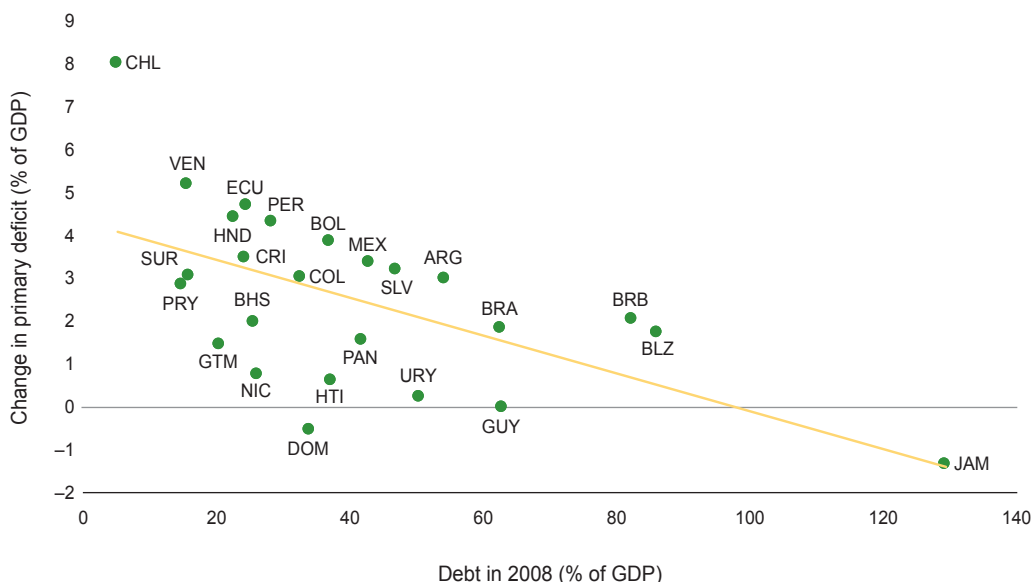
Source: IDB staff calculations based on IMF (2019).

emergency. However, the statistics do provide valuable information regarding the fiscal space to boost spending as this crisis erupts. Those countries with high required fiscal adjustments have less space than those with no required adjustment and will likely find it more expensive to issue debt to finance additional spending or make up for lost revenues. Those countries with high debts and large primary surpluses to bring debt ratios down may consider a slower pace of adjustment to accommodate extraordinary measures. The following sections provide further details on fiscal space comparing the situation today to that at the time of the global financial crisis.

Fiscal Policy under Financial Constraints

The coronavirus crisis has dealt Latin America and the Caribbean a heavy blow on multiple fronts, as explained in Chapter 1. What should fiscal policy look like in this context? Governments should think carefully before they act given the weaker fiscal positions. Given that health measures include a partial closure of economies and social distancing, this is not the time for typical countercyclical fiscal policy, and financing options for many countries may be limited.

A first step is to compare fiscal positions with the 2008–2009 global financial crisis as a benchmark. By 2008, the average primary balance in the region was 1.9% of GDP, compared to -0.4% in 2019, a 2.3% difference. A similar picture presents itself in the average

Figure 4.5 Starting Debt Levels and Fiscal Expansion in 2009

Source: IDB staff calculations based on IMF (2019) and national sources.

overall balance, which was -0.4% of GDP in 2008 and -3% in 2019. Moreover, government debt levels are starting from a different position. In 2008, average public debt was around 40% of GDP. That number has grown substantially to 62% of GDP. Fiscal accounts have clearly deteriorated, as previously discussed.

During the 2009 recession, most countries in the region were advised to increase government expenditure or reduce taxes to sustain aggregate demand. The region responded swiftly because of solid fiscal positions and relatively low debt levels. While the size of the fiscal stimulus (proxied here as the deterioration of the primary balance between 2008 and 2009) averaged 3% of GDP, it was not the same for all countries and largely depended on starting indebtedness levels. Countries with low levels of debt at the start of the crisis were able to implement substantial fiscal expansions, whereas those with very high debt levels had to contract.⁴ This is clearly visible in Figure 4.5, which shows a negative relationship between prevailing debt levels and the fiscal expansion carried out in 2009, proxied as the change in the primary deficit between 2008 and 2009.

Since debt levels are much higher now, the room for expansionary policies is smaller. Considering the numbers from the 2008–2009 period, and using the ratio between debt levels and fiscal expansion shown in Figure 4.5, the average country today will be able

⁴ See Ardanaz and Izquierdo (2020) for further information on this comparison and further analysis of fiscal policies at this time.

to boost deficits only roughly half as much due to current debt levels. However, there is a fair amount of heterogeneity within the region which should be taken into account when deciding on the size of fiscal packages. Chile and Peru are two countries that built a fiscal arsenal in the past and have lower debt levels. As a result, they will have more room for spending than Argentina and Ecuador, for example. Moreover, this volume of relief will only be possible if markets remain open for emerging markets, which did happen in 2009.

Yet another key lesson from the fiscal expansion of 2009 is that the quality of expenditure allocation in the stimulus package is key in determining fiscal sustainability in the future. Pursuing truly countercyclical or exceptional fiscal policies would imply only temporary expenditures such as infrastructure spending or temporary transfers with clear sunset clauses. Past experience in this respect is not very encouraging. In the 2009 fiscal expansion, almost two-thirds of the stimulus was devoted to salaries and transfers. The region went into fiscal deficit positions once the boom was over because inflexible expenditures adopted during the fiscal expansion meant that the region could not reduce spending afterwards, leading to greater indebtedness.⁵

At present governments face two constraints to providing greater relief through fiscal policy. First, the size of fiscal packages may need to be smaller, unless countries are willing to substantially reallocate resources within current budgets or run additional macroeconomic risks. Izquierdo, Pessino, and Vuletin (2018) find that there are substantial technical inefficiencies in public expenditure that amount to 4.4% of regional GDP. However, it is not clear that these inefficiencies can be dealt with swiftly. One possible strategy is to allow for fiscal expansion in health spending and other expenditures needed right away while concurrently implementing policies to reduce inefficiencies that will yield results later on, ensuring sustainability.

The second constraint is the ability to tap financial markets. EMBI spreads have doubled in the past three months, and while US interest rates have fallen, secondary market yields have risen by around 150 basis points, so countries will find it more expensive to issue debt if markets are open. A simple look at current EMBI spreads shows that countries are in quite different positions in this regard. Brazil, Chile, Colombia, Panama, Peru, and Uruguay have spreads below 400 basis points and will have more room for financing than other countries that pay between 400 and 900 basis points, including Costa Rica, Dominican Republic, El Salvador, Guatemala, Jamaica, Mexico, and Trinidad and Tobago. Other countries, such as Argentina, Belize, Ecuador, and Venezuela, have been priced out of credit markets. Capital outflows since late January are an order of magnitude larger than in “regular” stress episodes, as discussed in Chapter 2. For countries priced out of the credit market additional finance from external private creditors may not be available

⁵ This topic is covered in detail in Izquierdo, Loo-Kung, and Navajas (2013) and Powell (2015).

or may be prohibitively expensive, and they are advised to seek multilateral support as soon as possible.

With these two constraints in mind, what can the governments of the region do to fight the challenges brought on by the coronavirus? The first line of attack should be containment and mitigation of the coronavirus by revamping health expenditure for effective prevention, detection, treatment, and containment.⁶ The main challenge is to avoid a health infrastructure collapse. The time for growth will come later. Given existing budget constraints, standard macroeconomic stimulus policies should not be prioritized, particularly because many of them may not be effective given the nature of the coronavirus crisis. If at all, infrastructure investment should be strictly targeted at the health sector.

Given that public health services are provided largely by local governments, it will be important to swiftly provide resources to them. Since institutions and implementation capacity is lower at this level of government, additional resources should be accompanied by technical help from federal governments for these resources to be effective.

Additionally, many people will lose their income while under lockdown at home. This makes it imperative to design subsidy programs that are well targeted to vulnerable groups, particularly the poor and informal workers. Given past experience, it is key that these programs be designed as temporary, with separate accounts from other structural transfer programs, including sunset clauses. Transparency in the administration of this policy is also essential.

Other possible measures for governments with big enough shoulders include tax relief policies for regions, people, and firms more fiercely struck by the shock. Deferral of labor taxes and social security contributions should also be considered. Social security systems that have provided loans to pensioners could temporarily defer payments coming due. In all cases, it is key that these measures be implemented as deferrals rather than permanent subsidies so as not to jeopardize fiscal sustainability. These policies should be considered as liquidity alleviation measures, but they should not turn into a liability for governments. Making policies as sustainable as possible is key if governments want to have a strong recovery once the worst part of the coronavirus crisis is over. The more sustainable they emerge, the better their chances of obtaining financing for growth later on.

Finally, governments with enough fiscal space should help sustain proper functioning of credit markets. With increased uncertainty, several firms are finding it difficult to refinance even short-term loans, and there is a risk of massive layoffs if liquidity issues turn into solvency issues for otherwise sound firms. Governments can step in either directly through bond purchase programs or indirectly by backing asset purchase programs

⁶ For more on this see Gaspar and Mauro (2020).

implemented by central banks. Governments can also provide working capital through loans or partial financing of wages to prevent massive layoffs, usually tied to restrictions on firing workers. A key concern here is that several formal firms with the most productive employees may go bankrupt. It may take a long time later on to recover formal, productive jobs, which are crucial for the region.⁷ Again, it is important that this help be provided as liquidity support, not as permanent subsidies. These policies are being carried out in the developed world, where resources are plentiful and allow for the implementation of huge packages which, if successful, can ultimately lead to low fiscal costs. The challenge for emerging markets is to do this in large enough amounts that will make these policies successful, and in a transparent manner that is reflected in fiscal accounts, with clearly targeted and prioritized programs. If these policies are not carried out properly, much of the liquidity support runs the risk of turning into grants, something the region cannot afford.

Several countries in the region have moved swiftly in this direction, with measures such as transfers to households, credit lines to firms, salary compensation to workers whose firms have seen declines in revenue, and reductions or deferrals of labor taxes and other social security contributions. Time will tell whether these measures will have worked as liquidity support—with a lower burden on sustainability—or as subsidies—with substantially more pressure on already strained fiscal accounts. Table 4.1 provides a summary of measured implemented at the country level.⁸

Given the current context and the large list of needs, Latin America and the Caribbean needs to move decisively in search for funding to finance a very tight set of policies in coordination with monetary and financial policies, as explained in Chapters 2 and 3. If available, tapping credit markets is the first option, but loans from multilaterals should also be pursued. Larger, systemic countries have obtained swap lines from the U.S. Federal Reserve. Smaller countries have a greater chance of getting loans from multilaterals that will be useful in terms of size. This will be more challenging for larger countries given the multilaterals' limited resources.

Conclusions

The region had been pursuing a significant fiscal adjustment, but in the past year that effort stalled, and debt rose further. Additionally, debt levels will likely worsen under the current coronavirus outbreak. Eleven countries with adjustment plans were planning to improve primary balances by an average of 0.8% of GDP in the coming years, falling a little short (0.3% of GDP) of that required to keep debt constant. The focus in the region, however,

⁷ See Levy (2020).

⁸ This information is based on Blackman et al. (2020).

Table 4.1 Fiscal Policy Actions Taken by Countries

	Transfers to households	Reduction/deferral of labor taxes and social security contributions	Reduction/deferral of other taxes	Credit lines for firms	Debt service deferrals	Salary compensation to workers
Argentina	X	X		X	X	X
The Bahamas		X	X	X	X	X
Barbados	X	X		X	X	X
Belize		X		X	X	X
Bolivia	X		X	X	X	
Brazil	X	X	X	X	X	X
Chile	X	X	X			X
Colombia	X		X		X	
Costa Rica	X	X	X		X	
Dominican Republic	X		X	X		X
Ecuador	X	X	X		X	
El Salvador	X		X		X	
Guatemala	X	X	X	X		
Haiti	X		X		X	X
Honduras	X		X		X	
Jamaica	X		X	X		X
Mexico			X		X	
Panama	X		X			
Paraguay	X		X	X	X	
Peru	X		X	X	X	
Trinidad and Tobago	X			X	X	X
Uruguay	X	X	X	X	X	X
Venezuela	X			X		

Source: Blackman et al. (2020).

has changed from demands for a greater focus on reducing poverty and inequality to fighting the coronavirus crisis. The exceptional fiscal programs to provide relief will put further pressure on fiscal balances.

Under this new scenario, improving efficiency in the expenditure by targeting that spending more accurately to benefit the poor, informal workers, and those in need during this crisis is key. Subsidy programs and transfers are needed in these circumstances, but sunset clauses or other techniques to ensure such exceptional financing is temporary are required to ensure there is no repetition of the mistakes of the past. When providing help to private firms while safeguarding labor markets, governments should consider implementing measures that work as liquidity support, including those reviewed in Chapter 3,

rather than transfers. The health crisis and forced partial closedowns of economies requires such policies today, but policymakers should also consider how to exit such policies as the crisis abates. These policies should be designed to assist primarily the poor and most vulnerable and hence reduce the impact of the crisis on poverty and inequality for each dollar spent. Still, there is little doubt that poverty and inequality will rise. The region faces tremendous challenges today but will be left with the persistent challenge of how to reduce inequality and improve inclusion in the future.

CHAPTER 5

Conclusions

The novel coronavirus is taking a huge toll on human life. At the time of this writing, the virus was continuing to spread at an increasing pace, and, as of early April 2020, there had been over 1,000,000 known cases and over 50,000 deaths reported across the world. Virtually all countries are having to deal with this emergency. A recent report from Imperial College London estimates that without policies to suppress the spread of the virus, there would be as many as 3.2 million deaths in Latin America and the Caribbean.¹ But countries are taking strong measures to suppress the spread of the virus. It is hoped that this report will provide guidance to policymakers as they navigate the resulting unexplored macroeconomic territory.

Latin America and the Caribbean fared relatively well through the global financial crisis, avoiding banking crises in the larger economies and achieving a swift recovery. Several countries responded to that temporary shock with a more permanent fiscal expansion driving higher debt levels as the commodity boom ended. Many countries in the region subsequently pursued a significant adjustment to regain fiscal space. Most countries in the region have also established sound monetary arrangements with low inflation and relatively low interest rates. Eleven countries have established (or are in the process of adopting) inflation targeting regimes with exchange rate flexibility, banking sectors in general are strong, and most countries have built up reserve levels. Buffers and sound monetary, financial, and fiscal frameworks will be extremely important to weather the current crisis.

Still, the coronavirus will have major impacts on fiscal balances and place stress on currencies and other monetary and financial indicators. Most countries in the region are relatively small and open both in terms of trade and finance. China, the United States, and Europe will all suffer large losses in GDP, and this will undoubtedly impact our region. China now appears to be in the recovery phase, but for the United States and Europe the war is yet to be won. Aggressive social distancing measures are now in place across many countries, and, as of early April 2020, there were some positive signs that the number of cases was starting to decline in some European countries.

Still, solely considering the likely external shock to demand, the fall in commodity prices, and the shock to financial markets, the region will suffer a significant recession

¹ Walker et al. (2020).

this year which is likely to exceed that recorded in 2009 (around 2% of GDP). The most extreme scenario considered in this report would result in a recession of more than 5% of GDP.

While there is uncertainty regarding how the health crisis will develop, it is important to consider policy priorities and appropriate sequencing. The first priority should be to stop the spread of the virus, prevent the health sector becoming overwhelmed, ensure it has adequate resources, and save lives. A second focus should be to provide relief to those more vulnerable households that have lost their sources of income as a result of social distancing and other measures. And a third should be to support firms to minimize the rise in unemployment, to try to avoid the separation between firms and their employees and costly bankruptcies and liquidations. Closely monitoring the financial sector should be an additional priority to ensure financial stability and allow commercial banks to assist firms and households. In each area, most policies should be designed and communicated as temporary and extraordinary measures. There should be close monitoring to ensure interventions actually reach their intended beneficiaries, and policymakers should consider *ex ante* how such policies will be phased out such that sound fiscal, monetary and financial frameworks established before the crisis can be maintained. A set of more detailed country briefs will be released in coordination with this report with a description of countries' starting positions and the policy measures countries are taking.

In the health sector, the spread of the coronavirus itself will dictate the appropriate policy response. Countries have been pursuing lockdowns and closures of all essential businesses. While swift aggressive policies today may have significant short-term costs, the evidence suggests that they can curb the spread of the virus and save lives. As the number of cases subsides, and as testing and contact tracing resources are built up and quarantine arrangements can be enforced, more sophisticated, and less intrusive and economically costly, strategies may also be contemplated.

Advanced economies with historically low interest rates can support their economies for a prolonged period of time with very large fiscal programs and without significant threats to economic stability. Many emerging economies may not be in such a privileged position. As such, it will be extremely important to prioritize measures and ensure that the greatest bang is obtained for each peso of support. The total volume of fiscal packages will depend on available financing. First, efficiencies in both revenue and spending can be identified. Second, resources can be saved in some areas and transferred to priority needs. Third, some countries can access markets and can borrow more without sacrificing sustainability, although they will likely face higher financing costs. Countries in the region are in a range of different positions regarding the fiscal space available to them given these different funding sources. Countries can also seek additional resources from multi-lateral and bilateral institutions. Recent reports indicate a large number of countries are talking to the IMF to obtain rapid financing and deeper lending programs, and multilateral

development banks including the Inter-American Development Bank have already announced larger lending programs.² Some countries have access to swap lines and other bilateral financing arrangements. The Federal Reserve has extended swap lines to provide dollar liquidity to some larger emerging economies including Brazil and Mexico and some countries have swap or credit lines with other countries including China.

Central bank balance sheets can also be harnessed. Here, once again, emerging economies tend to be at a disadvantage compared to many advanced economies where a more stable demand for money, lower volatility, and higher credibility may allow larger liquidity injections without fueling capital flight, sharp currency depreciation, potential balance sheet problems, and inflation. While central banks in some emerging economies have room to pursue significant temporary and extraordinary financing and liquidity operations, these should be calibrated carefully to preserve economic stability. Commercial banks can also be part of the solution. Most banks in the region have substantial capital and liquidity buffers precisely to withstand large negative shocks. If they can maintain credit lines, and, with support from fiscal or monetary authorities, extend liquidity to firms while maintaining adequate prudential norms, the costs of the spread of the coronavirus can be minimized. If the health crisis, however, morphs into a widespread macroeconomic crisis, that will lead to even greater human and economic costs, highlighting the need to design interventions in a way that also protects financial stability.

China has already started to recover, and while there have been steep losses in GDP, manufacturing output has started to rise and consumption growth should follow. It is to be hoped that European and other advanced countries will also start to see declines in cases in the coming weeks and then be able to restart their economies. There will also be large losses of GDP, but the massive fiscal programs and unprecedented central bank support will help to promote recovery. These developments would be positive for global demand, commodity prices and financial markets.

In Latin America and the Caribbean, countries are also pursuing aggressive social-distancing policies that should bear fruit in helping to contain the virus. During this period, economic policies should be aimed at ensuring that financial systems remain strong so that they can act as a vehicle to support firms. They should also further assist companies and provide incentives for them to retain labor and help poorer and more vulnerable families in the formal and informal sector that stand to lose their sources of income. Financing sources may be restricted so using resources efficiently is essential. Maintaining economic and financial stability will be critical to avoid greater costs. Extraordinary programs should be set up to be strictly temporary in nature. If the core of the economy can be preserved, firm-worker links maintained, and company liquidations kept low, minimizing the destruction of capital, then recovery should come as the health crisis abates.

² <https://www.ft.com/content/756d85fa-6fad-412f-9aaf-c3f476415ae1>.

This report has reviewed the possible consequences of the coronavirus for the region, along with potential policy responses. But much remains unknown. There is still imperfect information on the nature of the virus itself and how its spread can be best contained. Further work is also required to discern the best set of economic policies and their sequencing to accompany the efforts supporting the economy during the pandemic. As the governments of Latin America and the Caribbean seek answers to these issues, the Inter-American Development Bank is pursuing a wide research agenda to assist and support those efforts.

References

- Aliaga-Díaz, R., M. P. Olivero, and A. Powell. 2018. "Monetary Policy and Anti-Cyclical Bank Capital Regulation." *Economic Inquiry* 56(2) April: 837–58.
- Arcand, J.-L., E. Berkes, and U. Panizza. 2015. "Too Much Finance?" *Journal of Economic Growth* 20(2) June: 105–48.
- Ardanaz, M., and A. Izquierdo. 2017. "Current Expenditure Upswings in Good Times and Capital Expenditure Downswings in Bad Times? New Evidence from Developing Countries." IDB Working Paper no. 838. Inter-American Development Bank, Washington, DC.
- . 2020. "Fiscal Policy in Latin America and the Caribbean in the Time of Coronavirus: What We Did, What We Can Do, and What We Can't." *Ideas Matter* (blog), Inter-American Development Bank, March 31. Available at <https://blogs.iadb.org/ideas-matter/en/fiscal-policy-in-the-time-of-coronavirus-constraints-and-policy-options-for-latin-american-and-caribbean-countries/>. Accessed April 2020.
- Beck, T., and L. Rojas-Suárez. 2019. "Making Basel III Work for Emerging Markets and Developing Economies: A CGD Task Force Report." Report. Center for Global Development, Washington, DC.
- Blackman, A., A. M. Ibáñez, A. Izquierdo, P. Keefer, M. Mesquita Moreira, N. Schady, and T. Serebrisky. Forthcoming. "Fiscal Policy Facing Covid-19: Recommendations for Latin America and the Caribbean." Inter-American Development Bank, Washington, DC.
- Calomiris, C. W., and A. Powell. 2001. "Can Emerging Market Bank Regulators Establish Credible Discipline? The Case of Argentina, 1992–99." In F. S. Mishkin, ed., *Prudential Supervision: What Works and What Doesn't*. Chicago, IL: University of Chicago Press.
- Cañón, C., E. Cortés, and R. Guerrero. 2019. "Bank Competition and the Price of credit: Evidence Using Mexican Loan Level Data." Paper presented at the 24th LACEA Annual Meeting, November 7–9, Puebla, Mexico.
- Cavallo, Eduardo. 2020. "Latin America Has Experienced Sudden Stops in the Past. The Coronavirus Takes the Challenge to a New Level." *Ideas Matter* (blog), Inter-American Development Bank, March 24. Available at <https://blogs.iadb.org/ideas-matter/en/latin-america-has-experienced-sudden-stops-in-capital-flows-in-the-past-the-coronavirus-takes-the-challenge-to-a-new-level/>. Accessed April 2020.
- Cavallo, E., and A. Powell, coords. 2019. *Building Opportunities for Growth in a Challenging World*. 2019 Latin American and Caribbean Macroeconomic Report. Washington, DC: Inter-American Development Bank.

- Cavallo, E., and T. Serebrisky, eds. 2016. *Saving for Development: How Latin America and the Caribbean Can Save More and Better*. Development in the Americas series. Washington, DC: Inter-American Development Bank; and New York, NY: Palgrave Macmillan.
- Cesa-Bianchi, A., M. H. Pesaran, A. Rebucci, and T. Xu. 2012. "China's Emergence in the World Economy and Business Cycles in Latin America." *Economía* 12(2) Spring: 1-75.
- Čihák, M., and R. Sahay (with A. Barajas, S. Chen, A. Fouejieu, and P. Xie). 2020. "Finance and Inequality." IMF Staff Discussion Note no. 20/01. International Monetary Fund, Washington, DC.
- Datt, G., and M. Ravallion. 1992. "Growth and Redistribution Components of Changes in Poverty Measures: A Decomposition with Applications to Brazil and India in the 1980s." *Journal of Development Economics* 38(2) April: 275-95.
- Dees, S., F. Di Mauro, M. H. Pesaran, and L. V. Smith. 2007. "Exploring the International Linkages of the Euro Area: A Global VAR Analysis." *Journal of Applied Econometrics* 22: 1-38.
- Demirgüç-Kunt, A., L. Klapper, D. Singer, S. Ansar, and J. Hess. 2018. *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. Washington, DC: World Bank.
- Eichenbaum, M. S., S. Rebelo, and M. Trabandt. 2020. "The Macroeconomics of Epidemics". NBER Working Paper no. 26882. National Bureau of Economic Research, Cambridge, MA. Available at: <https://www.nber.org/papers/w26882>. Accessed April 2020.
- Fang, H., L. Wang, and Y. Yang. 2020. „Human Mobility Restrictions and the Spread of the Novel Coronavirus (2019-nCoV) in China.“ NBER Working Paper no. 26906. National Bureau of Economic Research, Cambridge, MA. Available at: <https://www.nber.org/papers/w26906>. Accessed April 2020.
- Gaspar, V., and P. Mauro. 2020. "Fiscal Policies to Protect People during the Coronavirus Outbreak." *IMFBlog*, International Monetary Fund, March 5. Available at <https://blogs.imf.org/2020/03/05/fiscal-policies-to-protect-people-during-the-coronavirus-outbreak/>. Accessed March 2020.
- Gómez-González, J. E., C. E. Tamayo, and Ó. M. Valencia. 2019. "Bank Market Power and Firm Finance: Evidence from Bank and Loan Level Data." Working Paper no. 19-11. Centro de Investigaciones Económicas y Financieras, Universidad EAFIT, Medellín, Antioquia, Colombia.
- Hansen, E., and M. A. Urbina. 2018. "Banking Competition and the Cost of Credit for Firms: Evidence from Loan-Level Data in Chile." Paper presented at the Fourth Conference on Banking Development, Stability, and Sustainability, November 16, Santiago.
- Hevia, C., and A. Neumeyer. 2020. "A Conceptual Framework for Analyzing the Economic Impact of COVID-19 and its Policy Implication." UNDP LAC C19 PDS No. 1, March. Available at: https://www.latinamerica.undp.org/content/rblac/en/home/library/crisis_prevention_and_recovery/a-conceptual-framework-for-analyzing-the-economic-impact-of-covi.html. Accessed April 2020.

- IDB (Inter-American Development Bank). 2020. "Summary of the Main Economic, Monetary and Financial Policy Measures Taken in the Face of the Global Pandemic COVID-19." Inter-American Development Bank, Washington, DC. Unpublished.
- IMF (International Monetary Fund). 2019. *World Economic Outlook: Global Manufacturing Downturn, Rising Trade Barriers*. October. Washington, DC: IMF.
- . 2020a. "Outlook for Latin America and the Caribbean: New Challenges to Growth." IMF, Washington, DC. Available at <https://blogs.imf.org/2020/01/29/outlook-for-latin-america-and-the-caribbean-new-challenges-to-growth/>. Accessed February 2020.
- . 2020b. "World Economic Outlook Update: Tentative Stabilization, Sluggish Recovery?" January 20. Available at <https://www.imf.org/en/Publications/WEO/Issues/2020/01/20/weo-update-january2020>. Accessed February 2020.
- Izquierdo, A., R. Lama, J. P. Medina, J. Puig, D. Riera-Crichton, C. Végh, and G. Vuletin. 2019. "Is the Public Investment Multiplier Higher in Developing Countries? An Empirical Exploration." IMF Working Paper no. 19/289. International Monetary Fund, Washington, DC.
- Izquierdo, A., R. Loo-Kung, and F. Navajas, coords. 2013. *Resistiendo el canto de las sirenas financieras en Centroamérica: una ruta hacia un gasto eficiente con más crecimiento*. Washington, DC: Inter-American Development Bank.
- Izquierdo, A., C. Pessino, and G. Vuletin, eds. 2018. *Better Spending for Better Lives: How Latin America and the Caribbean Can Do More with Less*. Development in the Americas series. Washington, DC: Inter-American Development Bank.
- Levy, Santiago. 2020. "Suggestions for the Emergency." UNDP LAC C19 PDS No. 2, March. Available at: https://www.latinamerica.undp.org/content/rblac/en/home/library/crisis_prevention_and_recovery/suggestions-for-the-emergency.html. Accessed April 2020.
- Martínez-Peria, M. S., and S. L. Schmukler. 2002. "Do Depositors Punish Banks for Bad Behavior? Market Discipline, Deposit Insurance, and Banking Crises." In L. Hernández and K. Schmidt-Hebbel, eds., *Banking, Financial Integration, and International Crises*. Volume 3. Santiago: Central Bank of Chile.
- Ornelas, J. R.H., M. S. da Silva, and B. F. N. Van Doornik. 2020. "Informational Switching Costs, Bank Competition and the Cost of Finance." Working Paper no. 512. Central Bank of Brazil, Brasília.
- Powell, A., coord. 2012. *The World of Forking Paths: Latin America and the Caribbean Facing Global Economic Risks*. 2012 Latin American and Caribbean Macroeconomic Report. Washington, DC: Inter-American Development Bank.
- , coord. 2014. *Global Recovery and Monetary Normalization: Escaping a Chronicle Foretold?* 2014 Latin American and Caribbean Macroeconomic Report. Washington, DC: Inter-American Development Bank.
- , coord. 2015. *The Labyrinth: How Can Latin America and the Caribbean Navigate the Global Economy*. 2015 Latin American and Caribbean Macroeconomic Report. Washington, DC: Inter-American Development Bank.

- . 2019a. “Basel III and Financial Reforms: What Should Emerging Economies Do?” *Ideas Matter* (blog), Inter-American Development Bank, July 15. Available at <https://blogs.iadb.org/ideas-matter/en/basel-iii-and-financial-reforms-what-should-emerging-economies-do/>. Accessed February 2020.
- . 2019b. “Towards Inclusive Growth in Latin America and the Caribbean.” *Ideas Matter* (blog), Inter-American Development Bank, December 18. Available at <https://blogs.iadb.org/ideas-matter/en/towards-inclusive-growth-in-latin-america-and-the-caribbean/>. Accessed February 2020.
- Stein, Ernesto. 2020. “How to Save Lives and Keep the Hospital System from Collapsing? A Prescription for Fighting the Coronavirus from the UK.” *Ideas Matter* (blog), Inter-American Development Bank, March 20. Available at <https://blogs.iadb.org/ideas-matter/en/how-to-save-lives-and-keep-the-hospital-system-from-collapsing-a-prescription-for-fighting-the-coronavirus-from-the-uk/>. Accessed April 2020.
- Walker, P., C. Whittaker, O. Watson et al. 2020. The Global Impact of COVID-19 and Strategies for Mitigation and Suppression. Imperial College London. Available at: <https://doi.org/10.25561/77735>. Accessed April 2020.

