



2018

# Economic Survey of Latin America and the Caribbean

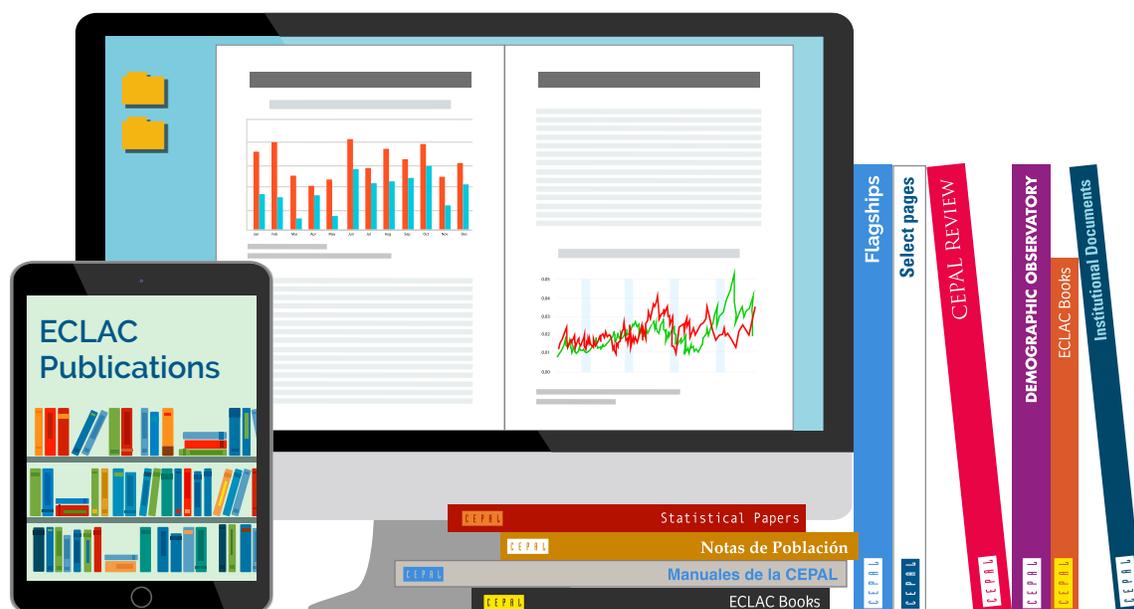
Evolution of investment in Latin America and  
the Caribbean: stylized facts, determinants  
and policy challenges



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Deputy Executive Secretary  
for Management and Programme Analysis

**Daniel Titelman**  
Chief, Economic Development Division

**Ricardo Pérez**  
Chief, Publications and Web Services Division

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Part I, entitled, "The economic situation and outlook for 2018", was prepared with input from the following experts: Alejandra Acevedo, Claudio Aravena, Claudia de Camino, Pablo Carvallo, Ivonne González, Michael Hanni, Juan Pablo Jiménez, Esteban Pérez Caldentey, Ramón Pineda, José Antonio Sánchez, Cecilia Vera and Jürgen Weller.

Part II, entitled, "Evolution of investment in Latin America and the Caribbean: stylized facts, determinants and policy challenges", was coordinated by Esteban Pérez Caldentey and Daniel Titelman and prepared with the collaboration of Claudio Aravena, Cristóbal Budnevich, Luis Díaz, Ivonne González and Luis Méndez. It included inputs prepared by the consultants Hildegart Ahumada, Daniel Aromí, Carolina Durana, Juan Carlos Moreno Brid, Camila Pérez and Leonardo Villar. Nicole Favreau Negront, Salvador Figuero, Goon Jang, Isabel Salat and Joaquin Sánchez provided research assistance.

The country notes were prepared by the following experts: Olga Lucía Acosta, Maharouf Adedayo, Dillon Alleyne, Anahí Amar, Martín Brun, Claudia de Camino, Martín Cherkasky, Marcos Chiliatto, Tomás Concha, Cameron Daneshvar, Randolph Gilbert, Sonia Gontero, Enrique González, Michael Hendrickson, Álvaro Lalanne, Jesús López, Ricardo Mayer, Sheldon McLean, Rodolfo Minzer, Carlos Mussi, Ramón Padilla, Machel Pantin, Esteban Pérez Caldentey, Ramón Pineda, Juan Carlos Ramírez, Juan Carlos Rivas, Indira Romero, José Antonio Sánchez, Jesús Santamaría, Nyasha Skerrette, Hidenobu Tokuda, Juan Guillermo Valderrama and Francisco Villarreal. Michael Hanni and Albert Klein reviewed the country notes for the Caribbean. Georgina Cipoletta assisted in the revision of the country notes for Latin America. Sonia Albornoz prepared the statistical annex.

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# Presentation and executive summary

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## Presentation

The 2018 edition of the *Economic Survey of Latin America and the Caribbean*, its seventieth issue, consists of three parts. Part I outlines the region's economic performance in 2017 and analyses trends in the early months of 2018, as well as the outlook for the rest of the year. It examines the external and domestic factors that have influenced the region's economic performance, analyses the characteristics of economic growth, prices and the labour market, and draws attention to some of the macroeconomic policy challenges of the prevailing external conditions, amid mounting uncertainty stemming mainly from political factors.

Part II of this edition, which has three chapters, analyses the dynamics of investment and its determinants, with a view to identifying the different variables on which public policy can act to influence the trajectory of investment. To this end, chapter II examines gross fixed capital formation in Latin America and the Caribbean over the period 1995–2017, finding an upward trend whereby investment has risen from 18.5% to 20.2% of GDP, albeit tailing off heavily towards the end of the period. Although construction is the dominant component in investment, the share of machinery and equipment has risen, enabling stronger embedding of technology content in investment, a positive development from the point of view of boosting productivity and growth. Chapter III analyses the cyclical behaviour of investment and its determinants at the macroeconomic and microeconomic levels, looking at economic activity, the domestic monetary policy rate, the external interest rate, commodity prices, the real exchange rate and a risk indicator. Lastly, chapter IV offers a study of investment patterns in four countries in the region: Argentina, Chile, Colombia and Mexico. It concludes that, for very open economies such as those of Latin America and the Caribbean, the performance of investment and growth is highly dependent on external conditions. This is particularly true in those economies whose production structure and investment composition are heavily concentrated in sectors exposed to the vagaries of the international economy.

Part III of this publication may be accessed on the website of the Economic Commission for Latin America and the Caribbean ([www.cepal.org](http://www.cepal.org)). It contains the notes relating to the economic performance of the countries of Latin America and the Caribbean in 2017 and the first half of 2018, together with their respective statistical annexes. The cut-off date for updating the statistical information in this publication was 30 June 2018.



## Executive summary

### A. Economic situation and outlook for 2018

The global economy is expected to grow at a rate of about 3.3% in 2018. Uncertainties about future growth dynamics have increased, however, and lower growth rates are accordingly expected for 2019 and 2020. Global growth was highly synchronized in 2017, with the upturn occurring in both developed and emerging economies, while stronger growth in low-inflation and high-liquidity conditions kept global financial market volatility low during the year.

This picture has begun to change in 2018. Global growth this year is basically a reflection of growth in the United States (2.8%), supported by a fiscal impulse which will likely taper off in 2019, and in China (6.6%), where lower growth rates are also projected for 2019. The eurozone has lowered its growth forecast to 2.2% for 2018, compared with 2.4% in 2017. In the United Kingdom, the process of negotiating the country's departure from the European Union (Brexit) is being compounded by a rising policy interest rate, and this is expected to bring growth down to 1.5% in 2018 (compared to 1.8% in 2017). Japan is suffering from certain production capacity constraints, which account for the lower growth rate expected for 2018: some 1.1%, six tenths of a percentage point down on the previous year.

To this less synchronous growth are added the risk of trade conflicts. In 2018 the Administration of President Trump in the United States has announced and implemented a number of tariff hikes, some aimed specifically at China, while others are broader. The escalation of protectionism is occurring in a context of lower global trade growth projections for 2018, at 3.1%, versus 4.6% in 2017. Although the current estimates indicate that stronger protectionism will do little damage to world growth this year, it is difficult to anticipate the effects over the medium term.

Differences in growth and inflation dynamics between the United States and the European countries and Japan have resulted in differing timetables for the dismantling of "unconventional" monetary policies. The United States Federal Reserve will continue with its policy of gradually withdrawing monetary stimulus and raising interest rates, albeit these remain below historical levels. The European Central Bank announced at its June 2017 meeting that it would maintain its quantitative easing policy until December 2018, but would halve its monthly asset purchases (to 15 billion euros) starting in September. It also announced that it would keep interest rates unchanged until mid-2019. Meanwhile, the Central Bank of Japan is expected to maintain an expansionary monetary policy stance, at least in the short run.

Commodity prices are expected to continue rising in 2018. The average oil price will rise 30% to US\$ 70 a barrel, as against an average of US\$ 53 in 2017.<sup>1</sup> In the case of metals and minerals, an average rise of 6% from the 2017 price is expected. For copper, a rise of over 10% on the previous year is forecast, compared with a drop of 1% for iron. With regard to agricultural products, the overall agricultural commodities index is expected to rise by 4% during 2018, although with diverse trends for different products.

Global financial markets began 2018 with an increase in volatility, a decline in flows to emerging markets, dollar appreciation and large falls in stock markets. Higher inflation expectations, lower growth prospects and tighter monetary policies have reduced investors' appetite for risk and increased financial uncertainty. In this context,

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<sup>1</sup> The oil price is calculated as a simple average of three spot prices: Dated Brent, West Texas Intermediate and the Dubai Fateh.

the combination of a strong dollar, rising interest rates in some developed countries and lower international liquidity globally has combined with trade and geopolitical risks to create growing uncertainties, not only about financial conditions but about the dynamics of the real economy and medium-term growth.

Prospects and expectations of returns and risks in relation to emerging economies have turned negative in 2018. Since mid-April, the dollar has appreciated by roughly 5%, while the United States 10-year Treasury yield has exceeded 3% for the first time in four years, owing to the reduction in the Federal Reserve's balance sheet. This has boosted financial outflows from emerging economies to more advanced countries, especially to the United States. According to the Institute of International Finance (IIF), in 2018, financial flows into developing economies will amount US\$ 1.2 trillion, just US\$ 7 billion more than in 2017.

As mentioned in the *Preliminary Overview of the Economies of Latin America and the Caribbean, 2017*,<sup>2</sup> the bond market will be the hardest hit by this shift in economic outlook. In 2018, foreign direct investment flows are expected to grow by US\$ 17 billion (from US\$ 506 billion in 2017 to US\$ 523 billion) and portfolio flows are likely to fall by US\$ 50 billion (from US\$ 401 billion in 2017 to US\$ 351 billion).

Meanwhile, bond market liquidity is expected to contract from US\$ 315 billion to US\$ 255 billion in the same period. Part of this reduction is expected to be offset by an increase in cross-border loans (US\$ 338 billion in 2018 compared with US\$ 297 billion in 2017). Hence, the impact of financial outflows from emerging economies will depend partly on the composition of total flows and portfolio flows.

In this global context, the current account deficit for the Latin American and Caribbean region overall is expected to widen to 1.6% of regional GDP in 2018. Although goods and current transfers will likely continue to post surpluses this year, the larger deficits projected on the income and services accounts will offset these effects. In 2018, export values are expected to grow by 9% on average in Latin America, as a result of higher prices for export goods. Volumes will rise only slightly, however, by around 2%. A modest recovery in domestic demand and an increase in oil prices are expected to keep import growth at just over 9.5% by value, which breaks down into an increase of 5.2% in volumes and 4.1% in prices.

Net financial inflows into the region fell from January to April 2018, in line with trends seen across all emerging markets, then improved slightly as of May owing to the disbursement of the first tranche of the loan extended to Argentina by the International Monetary Fund (IMF). However, in light of the trends in international financial markets, financial inflows into the region for the full year will likely be lower than in 2017.

Gross debt issues by Latin American and Caribbean countries in international markets amounted to US\$ 68.719 billion in the first six months of 2018, 7% lower than in the year-earlier period. With the exception of Mexico, where debt issues increased sharply, most other countries recorded lower debt issues in the first half of the year compared with the prior-year period, especially Argentina, where these issues were down by 37%.

Given the greater tensions in global financial markets, sovereign risk has risen across the board in the countries of the region since February 2018. At the end of June, the Emerging Markets Bond Index Global (EMBI Global) for Latin America was 98 points higher than at the end of January.

<sup>2</sup> Economic Commission for Latin America and the Caribbean (ECLAC), *Preliminary Overview of the Economies of Latin America and the Caribbean, 2017* (LC/PUB.2017/28-P), Santiago, February.

As in 2017, positive growth is projected in economic activity in 2018, driven by aggregate demand, especially particular consumption and investment. Typically for the region, however, performance varies greatly between subregions and countries. Data for the first quarter of the year show differentiation at the subregional level, with contrary trends between South America, on the one hand, and Central America and Mexico, on the other. While South America shown an upturn, Central America and Mexico have maintain a downward trajectory in the past few years, although the Central American countries continue to post higher growth rates than Mexico.

The contribution of spending to GDP growth, in both 2017 and early 2018, reflects mainly the upturn in investment and private consumption in South America; conversely, in Central America and Mexico, only private consumption is sustaining GDP growth, offset by a loss of momentum in investment.

In the labour market, after climbing by 2.4 percentage points between 2014 and 2017, the urban open unemployment rate stabilized at the start of 2018 and is expected to be about 9.2% for the year overall, as against 9.3% in 2017. This modest improvement is due to a slight rise in wage employment growth, which expanded 1.4% in the first quarter, thanks to greater demand for labour on the back of an upturn in economic growth at the start of the year. However, this increase in wage employment was not enough to absorb the rising supply of workers and, as in the previous years, own-account work (usually taken to be of lower quality than wage work) again rose more strongly (2.5%). Trends in formal employment have been mixed, but with a positive variation in the regional aggregate compared with previous years, owing to modest improvements in Argentina and Brazil and an ongoing strong upturn in registered employment in Mexico.

Expansion in the different categories of occupation led to the first year-on-year increase in the employment rate in five years, after it declined between 2014 and 2016 and stagnated in 2017. In the countries with information available, the employment rate rose on average 0.2 percentage points year on year in the first quarter of 2018, with the gains occurring mainly among women, since the employment rate for men continued to stagnate. However, labour market entry was also higher among women, so that the unemployment gap between men and women remained unchanged.

With few exceptions, real wages for formal workers continued to rise moderately; the median real wage in this category in the group of countries with information available was 1.6% higher in the first quarter of 2018 than in the same period of 2017. However, the increase was smaller than in 2017 in the countries of South America. The rise in employment levels and small real wage gains have continued to contribute to a modest upturn in household consumption.

On the fiscal front, efforts towards fiscal consolidation in Latin America have, as expected, narrowed the primary deficit, from an average of 0.8% of GDP in 2017 to 0.5% in GDP in 2018. This adjustment in the public accounts of Latin American countries has been occurring mainly through a reduction in primary spending, which is expected to decline from 18.7% of GDP in 2017 to 18.3% in 2018. In particular, capital expenditures in South America will be cut from 3.4% of GDP in 2017 to 3.3% in 2018; although primary current spending will also be reduced across the board in the region. Public revenues should remain relatively stable at around 17.8% of GDP, as the improvement in tax revenues observed in the South American countries is expected to be offset by declining public revenues in Central America.

Fiscal policy in the Caribbean continues to focus on generating primary surpluses to deal with the heavy burden of public debt. In this context, the average primary surplus is expected to rise from 1.1% of GDP in 2017 to 1.9% of GDP in 2018, with a decline of similar magnitude in the overall deficit. Some countries in the subregion are

implementing considerable fiscal adjustments, especially Trinidad and Tobago, which is aiming to reduce its primary deficit from 5.4% of GDP in 2017 to 0.0% in 2018.

Gross central government public debt in Latin America stood at 38.8% of GDP at year-end 2017, 1.4 percentage points of GDP above the 2016 level. In the second quarter of 2018 this had come down to 38.0% of GDP, a decline of 0.9 percentage points of GDP from year-end 2017, mainly owing to smaller fiscal deficits and to a negative rate differential (real interest rate paid on the debt  $r$  - real growth rate  $n$ ). However, it is still premature to speak of a substantial improvement in the region's debt levels. In the Caribbean, central government public debt remained stable at 68.6% of GDP in the second quarter of 2018, similar to year-end 2017 levels.

During the first four months of 2018, headline inflation for the region trended downward, as in 2017. Not including the Bolivarian Republic of Venezuela, annualized inflation in April 2018 was 4.9% on average, 1.3 percentage points lower than the 6.2% registered in April 2017. Measurements at April 2018 show headline inflation lower in all the subregions: by 1.5 percentage points in South America, 0.8 percentage points in the Central America and Mexico group, and 2.5 percentage points in the non-Spanish-speaking Caribbean. As in 2017, the variation of inflation in the region was associated with exchange-rate movements and energy prices. However, inflation ticked up again in May and June 2018 and year-on-year inflation for the first half-year overall was 5.9%, a rise of 0.6 percentage points on the prior-year period.

In the sphere of monetary policy, with inflation easing, the region's monetary and exchange-rate policymakers still have scope to adopt policies aimed at stimulating aggregate demand. However, heightened exchange rate volatility—which directly constrains policymaking by threatening macrofinancial stability and potentially increasing inflation—has recently limited this freedom in some economies.

Although inflation picked up in the first half of 2018, it remained broadly within the established target ranges; accordingly, the region's central banks maintained policy stances similar to those of 2017. The central banks of Brazil, Colombia and Peru cut their rates in the first six months of the year, while rates remained unchanged in Chile and Paraguay. Persistent inflation in Argentina and the depreciation of the peso since May led to large increases in the monetary policy rate. The rates rose in Costa Rica and Mexico, while the Dominican Republic, Guatemala and Honduras left their policy rates unchanged in the first half of 2018.

In the Latin American economies that use monetary aggregates as their main policy instrument, monetary base growth was generally slower in 2018, with quarterly growth rates dipping below 6%, compared with over 8% in 2017. In the non-Spanish-speaking Caribbean economies, monetary base growth in the first quarter of 2018 was higher than in 2017.

Domestic credit patterns in the first half of 2018 are similar to those in 2017, with growth in both inflation-targeting countries and in those that use aggregates, except the Bolivarian Republic of Venezuela, where it contracted by over 70% in real terms. In the non-Spanish-speaking Caribbean countries, domestic lending grew by 0.9% in the first quarter of 2018.

Exchange-rate volatility fell in 2017—inasmuch as the magnitude of fluctuation in the region's currencies declined—with exchange-rate variations smaller than in 2016. Only three economies saw exchange-rate variations above 5% in absolute terms in 2017, whereas nine had recorded changes of this order in 2016.

Exchange-rate volatility increased in the first half of 2018, with the region's currencies experiencing sharper depreciations, especially from the second quarter of the year onward. Between December 2017 and June 2018, only two currencies in the

region appreciated (the Colombian peso and the Costa Rican colon). During this period, 16 economies saw their currencies depreciate, in 5 of these cases — Argentine peso, Brazilian real, Mexican peso, Uruguayan peso and Venezuelan bolivar— by more than 5%. The Argentine peso depreciated by 45.0% and the Venezuelan bolivar by 2,320% (measured by the adjustable exchange-rate system, DICOM).

International reserves in the region continued to grow in 2018, although at a slower pace than in 2017 (1.2%, versus 3.4% in 2017). This slower growth in 2018 is attributable mainly to intervention in foreign-exchange markets by the central banks of several economies in the region, aimed at easing the exchange-rate volatility observed over the period. Overall, reserves expanded in 19 economies and contracted in 9.

GDP growth in Latin America and the Caribbean is now projected at 1.5% in 2018, seven tenths of a percentage point below the forecast published in April. The downward revision reflects both the harsher external financial conditions now prevailing and factors specific to individual countries. As in previous years, the growth dynamic will vary among countries and subregions, not only because of the differentiated impacts of international conditions on each economy, but also because of differences in the patterns of spending components —especially consumption and investment— between the economies of the north and south of the region. Economic growth in South America as a subregion will tick up from 0.8% in 2017 to 1.2% in 2018. Central America<sup>3</sup> as a subregion will maintain the growth rate seen in 2017 (3.4%), while GDP growth in the Caribbean will rise to 1.7% in 2018 after a standstill (0.0%) in 2017.

## B. Evolution of investment in Latin America and the Caribbean between 1995 and 2017: stylized facts and main determinants

The dynamics and behaviour of investment are key to understanding not only the economic cycle, but also patterns of growth over the medium and long terms, inasmuch as investment is one of the bridges between current growth (cycle) and trend growth. Part II of this year's edition of the *Economic Survey* is devoted to analysing the dynamics and determinants of investment with a view to identifying the different variables on which policymaking may act to influence the trajectory of investment.

Chapter II analyses gross fixed capital formation in Latin America and the Caribbean between 1995 and 2017, finding a positive trend whereby investment rose in relation to GDP, from 18.5% to 20.2%. Three cycles may be distinguished during the period under study, however: the first from 1995 to 2002, the second from 2003 to 2008, and the third from 2009 to 2016. The largest investment surge took place in the second cycle (2003–2008), which coincided with the commodities price boom. Investment rates grew on average by 10% in real terms between 2003 and 2008. The worst performance occurred in the latest cycle (2009–2016), when gross fixed capital formation grew on average by just 0.94%.

The investment effort in Latin America and the Caribbean in the past two decades has allowed the region to close its investment gaps with other developing regions and with developed countries, except for the past decade's fastest-growing economies, such as China and India.

Investment in Latin America and the Caribbean is predominantly private. At the regional level, private investment accounts on average for 75%–80% of total investment,

<sup>3</sup> The subregion includes Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Nicaragua and Panama.

and public investment just 20%–25%. An analysis spanning from 1980 to 2017 indicates that public investment followed a downward trend between 1980 and the beginning of the 2000s and picked up from the mid-2000s onward. In order to increase investment and improve its composition in terms of productivity and innovation, the countries need to expand production capacity and provide incentives for private investment. At the same time, the decline in public investment should not be allowed to continue over time, as this weakens governments' capacity to supply public goods, which in turn hurts growth. The analysis shows that public investment can crowd-in private investment; thus, economic policies to increase investment should aim to strengthen the links between the two.

A breakdown of investment by type of asset shows that it remained skewed towards construction —the component that has the largest weight in total gross fixed capital formation but the least impact on productivity. This stylized fact is evident not only at the aggregate level, but also at the sectoral and company levels. A positive finding, however, is that the most dynamic component of the uptrend in investment is machinery and equipment, whose share in total investment went from 22% in 1995 to 40% in 2016. This development has embedded greater technological content in investment, which has a positive impact in terms of galvanizing productivity and growth.

Another interesting stylized fact is that the pattern of investment at the macroeconomic and sectoral level is reproduced at the microeconomic level. Analysis of a sample of 2,228 stock listed companies from six countries in the region over the period 2008–2016 reveals that, at the company level, construction predominates over machinery and equipment and investment is concentrated in activities that have weak linkages with the rest of the economy.

The heavy concentration of investment is also evident at the microeconomic level. The results indicate that 1%, 5% and 10% of the sample of 2,228 stock listed companies accounted for 25%, 55% and 69%, respectively, of long-term investment expenditure.

On the basis of the stylized facts described in chapter II, chapter III examines the cyclical dynamics of investment, then analyses the determinants of investment at the macroeconomic and microeconomic levels.

Analysis of the investment cycle in Latin America and the Caribbean shows that it tends to be more volatile than the GDP cycle. The data available for 1990–2016 indicate that the average duration of the GDP cycle (defined as the sum of the duration of the expansionary and contractionary phases) tends to be twice as long as the investment cycle at regional and subregional level alike, and the fact that investment has a shorter cycle implies higher volatility. Investment also tends to contract more sharply than GDP and the other components of aggregate demand more broadly, including consumption and exports. Lastly, the data also show that cyclical downswings in investment are longer and steeper in construction than in machinery and equipment.

After examining the investment cycle, the chapter engages in an econometric analysis of the determinants of investment. The explanatory variables of investment include the economic activity index, domestic interest rates, external interest rates, commodity prices, the real exchange rate and a risk indicator (the Emerging Market Bond Index, EMBI). The significance of the determinants is determined by means of econometric analysis and a breakdown of the deviation of the investment growth rate from its mean ( $R^2$ ) to identify the relative importance of each variable.

The econometric analysis was performed for a group of countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru) and showed that the most significant variables at the macro level were economic activity, commodity prices and the risk index. Examination of these results by country revealed that the relative importance of the variables depends

on the size and structure of the respective economy. For example, economic activity is a more significant determinant of investment in larger economies, which are also the most diversified by sector and industry. By contrast, in economies that specialize in natural resources, a large share of investment is determined by commodity prices.

Lastly, the chapter examines the determinants of investment at the company level, on the basis of the balance sheets and financial statements of a sample of 2,228 stock listed companies, representing 34 economic sectors, from Argentina, Brazil, Chile, Colombia, Mexico and Peru. This section evaluates the impact of the financial statements on company investment by examining the relationship between cash flows, leverage and investment.

The application of a non-linear threshold model to a subset of the companies in the sample shows that above a leverage threshold of 0.77, the relationship between cash flows and investment expenditure turns negative. There is also a negative correlation between real international interest rates and investment. This financial aspect of investment has yet to be properly analysed for Latin America and the Caribbean; the results obtained here may go some way to explaining why the growth rate of investment declined between 2012 and 2015 in the countries in the sample.

Next, chapter IV looks at the behaviour of investment in four of the region's countries: Argentina, Chile, Colombia and Mexico, which together represent 42% of investment and 41% of GDP in the region.

As in the regional analysis, the trend in investment has risen, especially from 2000 onwards. The breakdown by asset reveals that construction accounts for a larger share of investment than machinery and equipment, which nevertheless has been the most dynamic over time. Both these stylized facts are positive for the region: higher investment means greater opportunities for growth, while stronger growth in machinery and equipment can lay the foundations for growth through innovation and productivity gains, which could offset the low —and sometimes negative— rates of growth in total factor productivity. Since machinery and equipment consists basically of imported inputs, Latin American and Caribbean economies will need to increase their financing capacity and competitiveness in order to boost productivity and innovation.

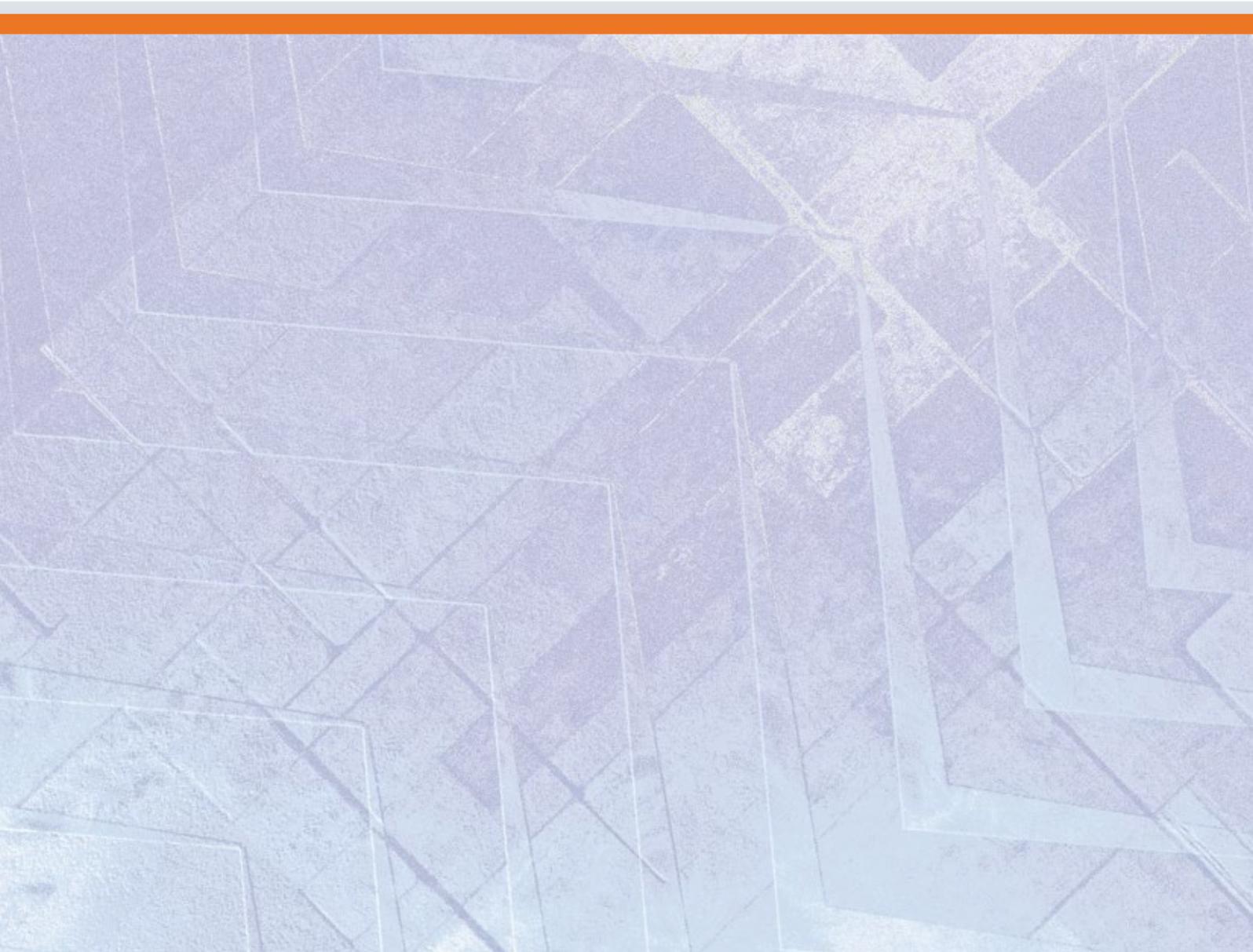
The estimation of the determinants of investment at the national level points to two-way causality between investment and GDP, insofar as investment both depends on economic growth (accelerator effect) and determines it through the channel of aggregate demand (multiplier effect). When growth quickens, firms invest more and create production capacity (accelerator effect). This two-way causality poses a significant economic policy challenge: maintaining growth and investment over time requires coordination of the use and creation of capacity.

Lastly, the case studies show the importance of external sector variables, be they international interest rates, real exchange rates, financial flows or the terms of trade. For very open economies such as those of Latin America and the Caribbean, the performance of investment and growth is thus highly dependent on external conditions. This is particularly true in those economies whose production structure and investment composition are heavily concentrated in sectors exposed to the vagaries of the international economy.



# The economic situation and outlook for 2018

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# Regional overview

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- A. The international context
  - B. The evolution of global liquidity
  - C. The external sector
  - D. Domestic performance
  - E. Macroeconomic policies
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- Bibliography



## A. The international context

The start of 2018 was marked by a turn away from the trends seen in most international variables from late 2016 through to the end of 2017. Some of the risks ECLAC discussed in earlier publications have come to pass in recent months, particularly the possible effects of tighter monetary policy in the United States and an increase in protectionist tendencies and trade tensions.

With regard to the first of these, although monetary policy in the United States has adjusted only gradually, this has triggered portfolio shifts that have affected not only financial flows into emerging markets but also, as was to be expected, exchange rates and prices in the different financial asset markets. At the same time, the increase in trade tensions in the first half of 2018 has created new uncertainties about the future of the world economy. The protectionist measures implemented recently by the United States have triggered reprisals in an escalation that, depending on how far it goes, could affect not just trade flows but the world's production dynamic through global value chains, financial and capital flows and technology flows in a globalized world.

Although the growth outlook in the different regions for the current year has not yet been systematically revised downward, there is greater uncertainty about what lies ahead in 2019 and subsequent years. Furthermore, the growth synchrony observed in 2017 is no longer in evidence. This year, it is the United States and emerging economies that are most dynamic, while other developed economies are slowing.

### 1. The world economy has maintained its dynamism in 2018, driven by the United States and emerging economies

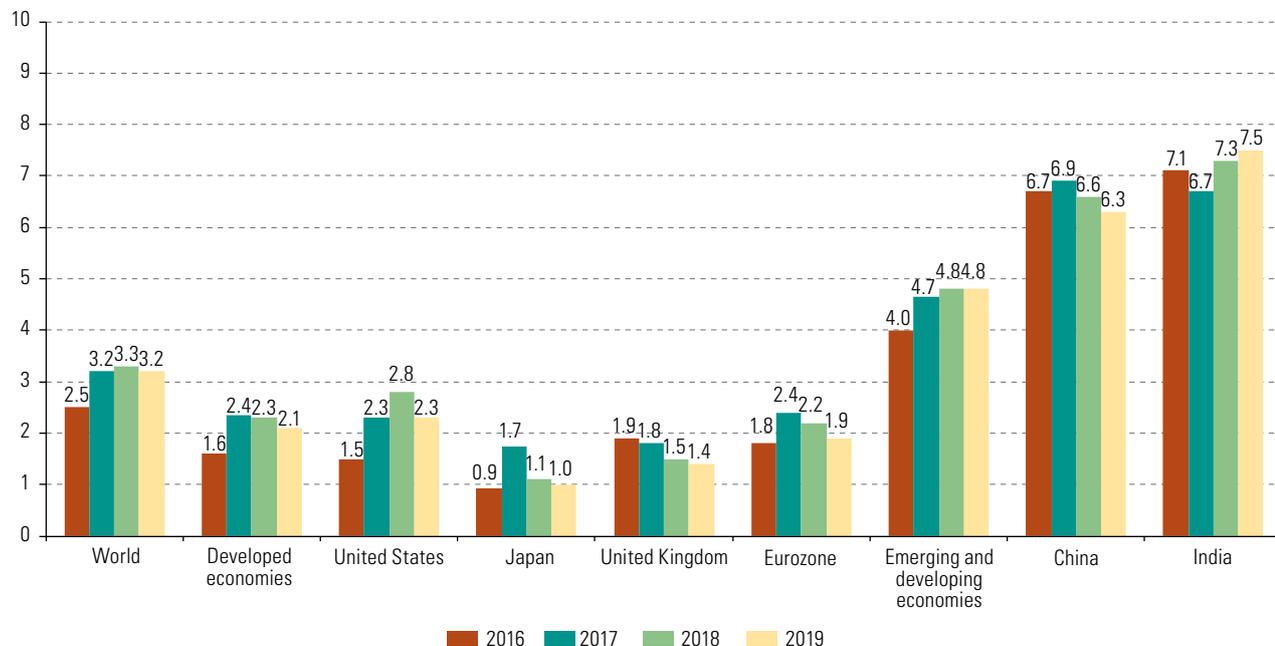
There was a synchronized increase in economic dynamism in almost all regions in 2017 (see figure I.1). The global economy is expected to maintain its dynamism in 2018, with global activity rising by 3.3%, thus slightly exceeding the 3.2% of 2017. By contrast with that year, however, the dynamism of 2018 is due to higher growth in the United States and the group of emerging economies, as the other developed economies will slow this year.

Even allowing for the expected slowdown in the Chinese economy, which is forecast to grow by 6.6% in 2018, the group of emerging countries should grow by 4.8% this year, which is slightly faster than the 4.7% rate of 2017. The fastest-growing country in this group will be India, the world's fourth-largest economy,<sup>1</sup> chiefly because of more dynamic consumption. The country's growth rate is expected to rise from 6.7% in 2017 to 7.3% this year.

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<sup>1</sup> India is the world's fourth-largest economy if the European Union is taken as a single entity.

**Figure I.1**  
Actual and projected GDP growth rates, 2016–2019<sup>a, b</sup>  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations, *World Economic Situation and Prospects, Update as of mid-2018*, New York, June 2018 and data from the International Monetary Fund (IMF), Capital Economics, European Commission and European Central Bank.

<sup>a</sup> The 2018 and 2019 figures are projections.

<sup>b</sup> The India figures are for the fiscal year beginning in April each year and ending in March the following year.

The United States stands out as the growth engine among developed economies, since its growth outlook for 2018 improved after the passing of the fiscal package last December. Although the country had a weak first quarter, it is estimated that growth there will rise from 2.3% in 2017 to 2.8% this year. Conversely, the other advanced economies are expected to be less dynamic than in 2017, and there have already been signs of this during the early months of 2018. Forecasts for the eurozone have been progressively lowered since the beginning of the year. A growth rate of 2.2% is expected provided that the effects of political uncertainty in various countries, such as Italy, remain within bounds. This rate is below the 2.4% seen in 2017. In the United Kingdom, the process of negotiating the country's departure from the European Union (Brexit) is being compounded by a rising policy interest rate, and this is expected to bring growth down to 1.5% in 2018 (as compared to 1.8% in 2017). Japan is suffering from certain production capacity constraints, which account for the lower growth rate expected for 2018: some 1.1%, six tenths of a percentage point down on the previous year.

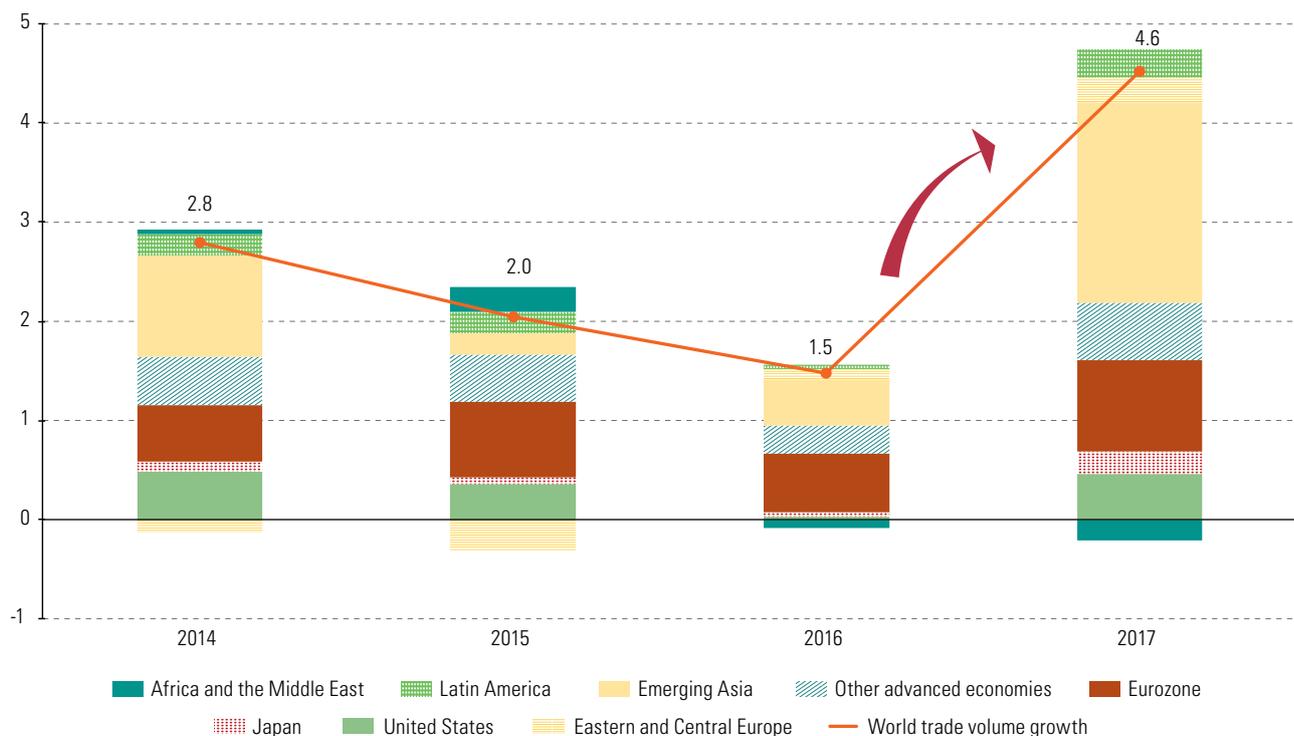
The rate of growth in the United States is expected to moderate in 2019 as the impact of the fiscal stimulus wears off and the effects of the anticipated interest rate rise work through. No clear drivers of growth can be seen in the other developed economies, but rather considerable uncertainty and downside risks. As a group, therefore, the developed economies are forecast to slow by about two tenths of a percentage point in 2019. With this, the world as a whole is expected to expand more slowly despite average growth in developing economies being potentially similar to this year's (4.8%).

## 2. The volume of world trade grew more quickly in 2017 but has begun to show signs of moderating and is subject to downside risks

International trade by volume picked up in 2017, expanding by 4.6% after growth of just 1.5% in 2016 (see figures I.2 and I.3). The emerging economies of Asia were those that contributed most to this upturn in trade (2 percentage points), followed by the eurozone, which contributed 1 percentage point (see figure I.2). Although its contribution was somewhat smaller, the United States was responsible for 0.5 percentage points of trade volume growth in 2017 after having done almost nothing to boost it in 2016. Latin America also made a greater contribution to trade growth last year.

**Figure I.2**

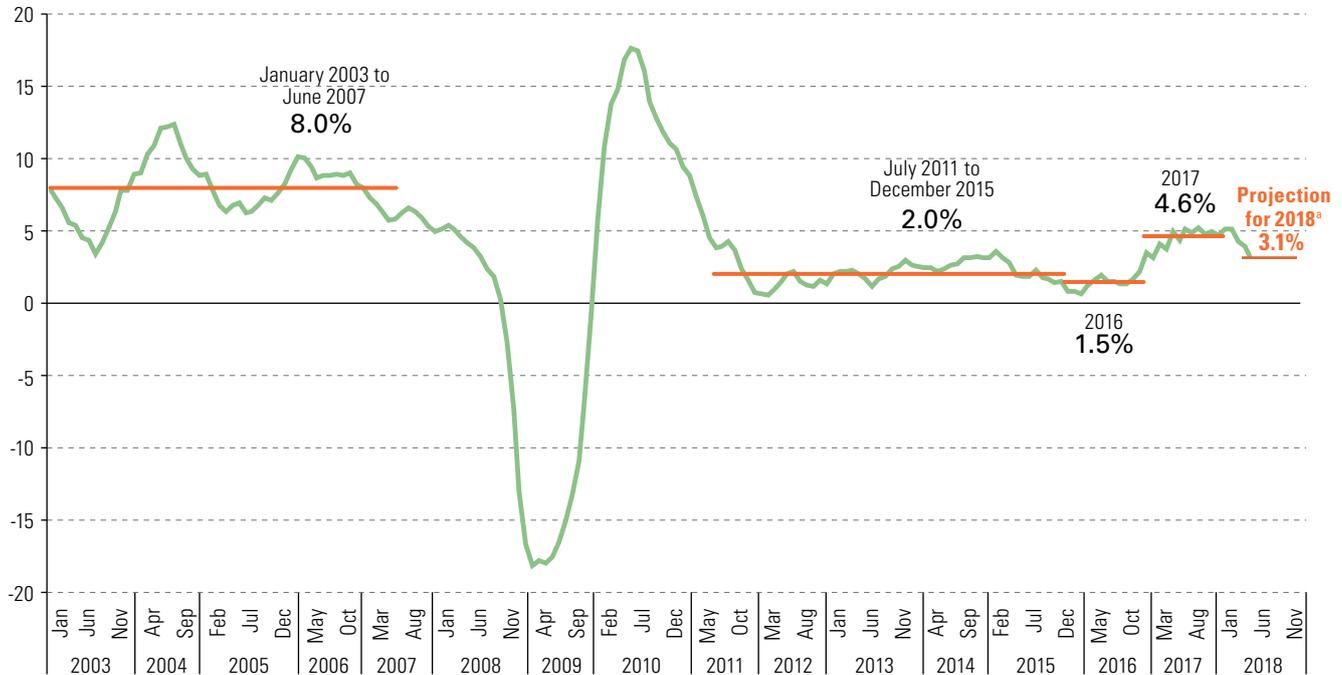
Contribution to world trade volume growth by region, 2014–2017  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Netherlands Bureau of Economic Policy Analysis (CPB).

**Figure I.3**

Year-on-year rise in the seasonally adjusted world trade volume index, January 2003–May 2018  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Netherlands Bureau of Economic Policy Analysis (CPB), World Trade Monitor, 2018 and World Trade Organization (WTO) for the 2018 projections.

<sup>a</sup> Lower bound of the WTO projection in April 2018.

Year-on-year world trade volume growth rates were of the order of 5% in the second half of 2017, but they moderated over the first five months of 2018.<sup>2</sup> In the year as a whole, the volume of world trade may grow at a lower rate than in 2017. In fact, growth is expected to be near the bottom of the range of 3.1% to 5.5% projected by the World Trade Organization (WTO, 2018), given the slowdown evinced by the latest figures in May, the level of oil prices and the uncertainties created by growing trade tensions (see figure I.3).

On a more medium-term view, what happens to the volume of international trade will depend not only on the evolution of global economic activity but also on trade tensions and their potential scale. In the last few months, the United States Government has been launching a number of tariff offensives with a view to reducing the country's trade deficit. This has led to various reactions and reprisals by the affected countries, creating a scenario of possible escalation whose impacts are difficult to forecast (see box I.1).

<sup>2</sup> According to figures from the Netherlands Bureau of Economic Analysis (CPB) World Trade Monitor.

**Box I.1**

## Trade tensions

Concern has greatly increased in the first half of 2018 following an increase in trade conflicts. “America first”, the Trump campaign slogan in the 2016 elections, is characterized by openly protectionist rhetoric centring on strict reciprocity, the reduction of trade deficits with different partners and the reshoring of industries and jobs. The practical expression of this new stance has been a marked shift from multilateralism to bilateralism and unilateralism (ECLAC, 2018a). In this context, the Trump administration has announced and adopted a number of trade-restricting measures during 2018. Some of them are specifically aimed at China, while others are general in scope. This has led to reprisal measures by a number of trade partners that, if they carry on escalating in subsequent rounds, could adversely affect the dynamism of world trade, and thence the global economy.

**Milestones of the trade conflict**

In January 2018, it was announced in the United States that higher tariffs would be applied to solar panels imported mainly from China. Then, in March, President Trump announced that there would be tariffs of 25% on steel imports and 10% on those of aluminium of all origins. Some countries, such as Argentina, Brazil and the Republic of Korea, agreed with the United States to limit their shipments of steel, aluminium or both to the country in order to avoid the new tariffs being applied to them.

In May, China and the United States began negotiations to forestall a trade war. Initially, an agreement in principle was announced whereby China undertook to substantially reduce its trade surplus with the United States, mainly by increasing purchases of agricultural and energy products. In June, however, the United States published a list of 1,333 Chinese industrial products to which a 25% tariff surcharge would apply. Imports of these products were US\$ 50 billion in 2017. This surcharge would apply from 6 July to a first group of at least 800 products, including items such as robots, vehicles, electronic equipment and various types of machinery. China reacted by announcing the application of surcharges of between 10% and 25% on US\$ 50 billion worth of imports from the United States. The surcharges were to apply from 6 July to a first group of products that included automobiles and agricultural and agroindustrial products such as mutton and pork, cheese, fresh fruit, whisky, wines and ethanol. A second group of products (including chemicals and medical equipment) would be subject to the surcharges at a date to be determined. Also in June, President Trump ordered the preparation of a second list of Chinese products with an import value of US\$ 200 billion, which would be subject to a tariff surcharge of 10% in the event that China actually applied the surcharges it had announced. In early July, the United States began to apply new tariffs of 25% to Chinese products worth US\$ 34 billion, which immediately elicited a matching response from China.

Meanwhile, in June 2018 the European Union authorized the application of a 25% surcharge to imports of 200 products from the United States (including sweetcorn, cranberries, rice, orange juice, cigarettes, cosmetics, T-shirts, boats, steel and motorcycles) in retaliation for the imposition of tariffs of 25% on imports of steel and 10% on those of aluminium of all origins. In late July the two parties announced an agreement not to impose new tariffs. Mexico also began to tax steel and some products such as pork and whisky from the United States in June, while Canada did the same in July with steel products, foods, home electrical appliances and household articles. India announced in June that it would raise duties on imports of steel and agricultural products from the United States with effect from 4 August. Japan has also announced its intention to raise its tariffs on United States products. Over 60% of United States exports go to the European Union, China, Mexico, India and Canada. There have also been corporate announcements by firms intending to leave the United States and relocate in other countries that are important markets for them.

**Possible repercussions**

Escalating protectionism would impact global trade flows and thence global economic activity. The scale of the impact depends on how large the conflicts become, how far they spread in terms of the number of countries involved and how long-lasting they are. The Netherlands Bureau of Economic Policy Analysis (CPB) has estimated that in a scenario where the measures announced up to mid-June were in force, world GDP would be 0.1% lower in real terms by 2030 than in a baseline scenario in which there were no such restrictions on trade (CPB, 2018). As for the countries participating in the conflict, the findings are not homogeneous. China, for example, would suffer most, with its GDP 1.3% lower by 2030 than under the baseline scenario of no trade conflict, while United States GDP would be just 0.3% lower.

**Box I.1 (concluded)**

Protectionist measures do not just affect trade flows between those applying them and those subject to them, but also act via indirect channels on third countries that are not directly involved in the conflicts. An example of this is the offshoring of production to third countries, the rerouting of trade flows and temporary effects on certain export prices.<sup>a</sup> Another indirect effect, via global value chains, is on countries supplying the countries affected by tariffs. For example, it has been estimated that while trade between China and the United States represents just 0.6% of global GDP, a number of Asian countries that are major suppliers of production inputs to China would be affected by United States tariff measures (Capital Economics, 2018c). This could lead to a slowing of trade flows on a greater scale than the direct reduction, with all the ensuing effects on global economic activity.

As for Latin America and the Caribbean, the outcome of negotiations on the North American Free Trade Agreement (NAFTA) and the effects on Mexico remain to be seen. In the countries of Central America, exports to the United States represent a large share of the total (45% in 2014-2017), but these countries are not targets for specific measures by the United States and are more likely to be affected indirectly. Other countries in the region might also be affected through value chains and in certain specific sectors that could be subject to United States tariff measures. The value added by Chile, Colombia and Peru within the United States import total is estimated to represent between 5% and 10% of these countries' GDP, while in the case of Argentina and Brazil the proportion is about 2% (Capital Economics, 2018a). This reflects the fact that many products exported by these Latin American countries are used as inputs in the production of final goods that third countries export to the United States. Taking just the specific case of Chinese exports to the United States, the value added by the Latin American countries is generally low. The most exposed is Chile, but even then the amount involved is less than 1% of the country's GDP.

It remains to be seen how the new announcements and negotiations between countries develop and what shape the new global trade situation is left in. Notwithstanding, it should be stressed that, besides the impact on trade flows, escalating protectionism could also have a large effect on global activity through the financial channel. An indication of this is the increase in financial uncertainty and volatility already seen in the first half of the year, partly as a result of the trade tensions. Sovereign risk levels have been affected in several countries and stock markets have lost ground because of the uncertainty weighing on investment and expected corporate results, especially in the sectors most exposed to trade conflicts. If international financial conditions do deteriorate appreciably, the impact on global activity will increase, with results that are hard to predict.

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of ECLAC, *La convergencia entre la Alianza del Pacífico y el MERCOSUR: enfrentando juntos un escenario mundial desafiante* (LC/PUB.2018/10), Santiago, 2018; Netherlands Bureau for Economic Policy Analysis (CPB), "Trade wars: economic impacts of US tariff increases and retaliations. An international perspective", *CPB Background Document*, June 2018; Capital Economics, "How will China's tariffs affect commodity markets?", 20 June 2018, "Latin American Economics Focus. Assessing Lat Am's vulnerability to US protectionism", 13 June 2018 and "Global Economic Outlook. Slowdown on the horizon", 20 April 2018; Latin American Integration Association (LAIA)/Development Bank of Latin America (CAF)/Economic Commission for Latin America and the Caribbean (ECLAC), "Boletín estadístico: América Latina - Asia-Pacífico", *Boletín Observatorio ALADI-CAF-CEPAL*, No. 12, 2017 [online] <https://drive.google.com/file/d/1Wy88xwF1jGRPyt9NmhD8oUyUrxRjv9xh/view>.

<sup>a</sup> The soybean price fell greatly in the weeks subsequent to the announcements, for example, in anticipation of the tariff measures that China might impose on the United States in retaliation for the latter's tariffs. This is because soybeans were the United States' main agricultural export to China last year. Some countries not involved in the conflict are thus strongly affected, such as Argentina, a large soybean exporter. See Capital Economics (2018a).

### 3. Commodity prices will rise again in 2018

The global economic recovery and steady growth in the Chinese economy allowed commodity prices to rise by 15% in 2017 (see table I.1). This happened mainly in the case of energy products and minerals, whose average price rose by 23%. Agricultural products performed differently, as favourable supply conditions meant that aggregate prices for these rose only very slightly in the aggregate (1%).

	2016	2017	2018 <sup>a</sup>
Agricultural products	4	1	4
Foods, tropical drinks and oilseeds	6	-1	3
Foods	9	-1	-1
Tropical drinks	1	-2	-6
Oils and oilseeds	3	0	10
Agricultural and forestry raw materials	-2	5	9
Minerals and metals	-1	23	6
Energy commodities <sup>b</sup>	-16	23	25
Crude oil	-16	23	30
<b>Total commodities</b>	<b>-4</b>	<b>15</b>	<b>11</b>
<b>Total commodities excluding energy</b>	<b>2</b>	<b>11</b>	<b>5</b>

**Table I.1**  
Rates of change in international commodity prices, 2016–2018  
(Percentages)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, International Monetary Fund (IMF), Economist Intelligence Unit and Bloomberg.

<sup>a</sup> Projections.

<sup>b</sup> Energy commodities include oil, natural gas and coal.

Geopolitical strains and the reimposition of sanctions on the Islamic Republic of Iran by the United States raised oil price projections for 2018 above what had been expected at the end of last year. Given stronger growth in the world economy and still constrained supply from the Organization of Petroleum Exporting Countries (OPEC),<sup>3</sup> the average oil price<sup>4</sup> is expected to rise by 30% in 2018 relative to the average price in 2017. In mid-April, the Brent crude price climbed over US\$ 80 a barrel, a level not seen since 2014, before beginning to moderate again. The average oil price for the year is expected to be US\$ 70 a barrel, as against an average of US\$ 53 in 2017.

In the case of metals and minerals, an average rise of 6% from the average 2017 price is expected. Divergent movements are predicted for this category. In the case of copper, an average price of US\$ 3.10 a pound is expected for 2018, representing a rise of over 10% on the previous year, whereas for iron a drop of 1% is forecast following the large rise (35%) last year.

In the case of agricultural products, raw material prices are expected to perform better as world growth rises. In the period from January to May 2018, the price of wood pulp was up by 34% on the same period the year before, while the prices of soybean flour and fishmeal rose by 22% and 11%, respectively. The remaining agricultural commodities, however, have displayed different tendencies due mainly to different supply conditions. In the case of soybeans, it is not so clear what will happen to global demand: the drought in Argentina will have a negative impact on the harvest that will be offset by increased production in Brazil. In addition, China's imposition of tariffs on United States soybeans could lead to these being redirected to other markets. Meanwhile, the glut in the sugar market is expected to double in the 2018 season, with the resultant drop in prices. Nonetheless, the overall agricultural commodities index will rise slightly (4%) during 2018.

Commodity price growth, centring on energy, will have differentiated effects on the terms of trade of the different economies of Latin America and the Caribbean, as discussed in section B.

<sup>3</sup> OPEC continues to restrict the oil supply, although it decided at its meeting of 22 June 2018 to increase its daily production quota by a million barrels to offset the decline expected in the Islamic Republic of Iran after sanctions and the fall-off in supply from the Bolivarian Republic of Venezuela. This production increase will partially reverse the 1.2 million barrel a day cut agreed on by OPEC in late 2016, which helped lift the oil price.

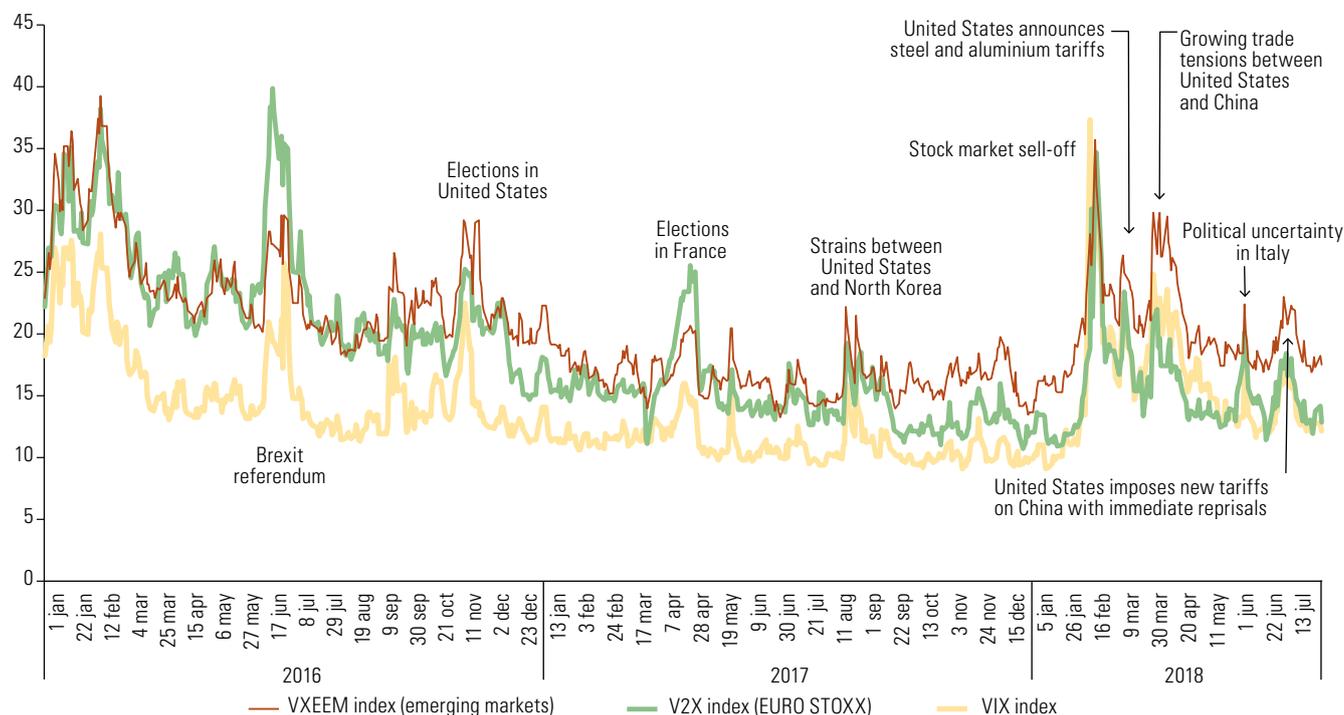
<sup>4</sup> The oil price is calculated as a simple average of three spot prices: Dated Brent, West Texas Intermediate and the Dubai Fateh.

#### 4. The financial markets began the year with a rise in volatility, a drop in flows to emerging markets, currency depreciations against the dollar and a substantial fall in share prices

After 2017 ended with historically low levels of financial volatility, comparable only to those seen in 2007 before the financial crisis, this year began with a sharp rise in the so-called “fear index” (see figure I.4). In particular, there was a general sell-off on stock markets (see figure I.5) and a sharp rise in financial volatility in early February after some economic data published in the United States encouraged the belief that the Federal Reserve might withdraw monetary stimulus earlier than expected. Later, rising trade tensions due to the announcements by the United States Government about a more protectionist policy stoked fears of potential trade wars and also led to a sharp increase in financial market volatility and further falls in stock markets.<sup>5</sup>

Consistently with this, and after rising steadily during 2017, portfolio capital flows into emerging markets showed a declining trend in the first four months of the year (see figure I.6), and this was true of both bond and share markets.

**Figure I.4**  
Financial market volatility indices, January 2016–July 2018

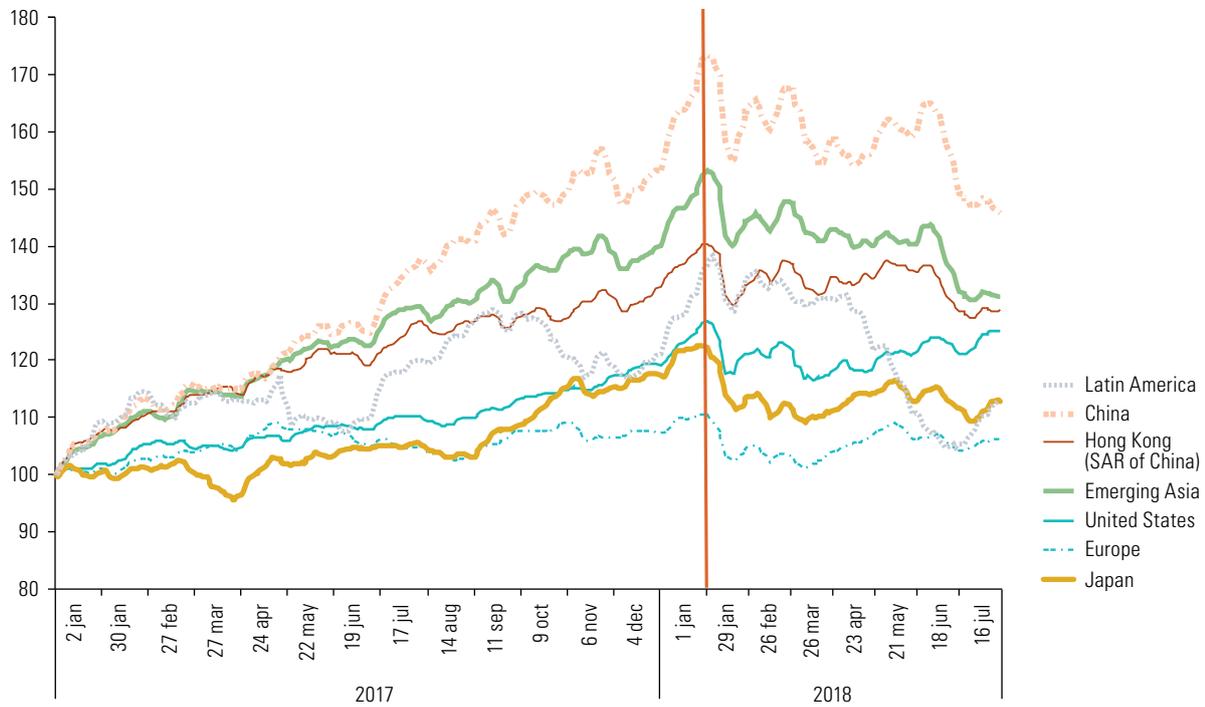


**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg.

**Note:** The VIX index is prepared by the Chicago Board of Exchange (CBOE) from S&P 500 index call and put option prices, and measures expected volatility over the next 30 days. Along similar lines, CBOE also produces the VXEEM index, which measures volatility in emerging markets, while Deutsche Börse and Goldman Sachs produce the V2X index, which measures eurozone volatility.

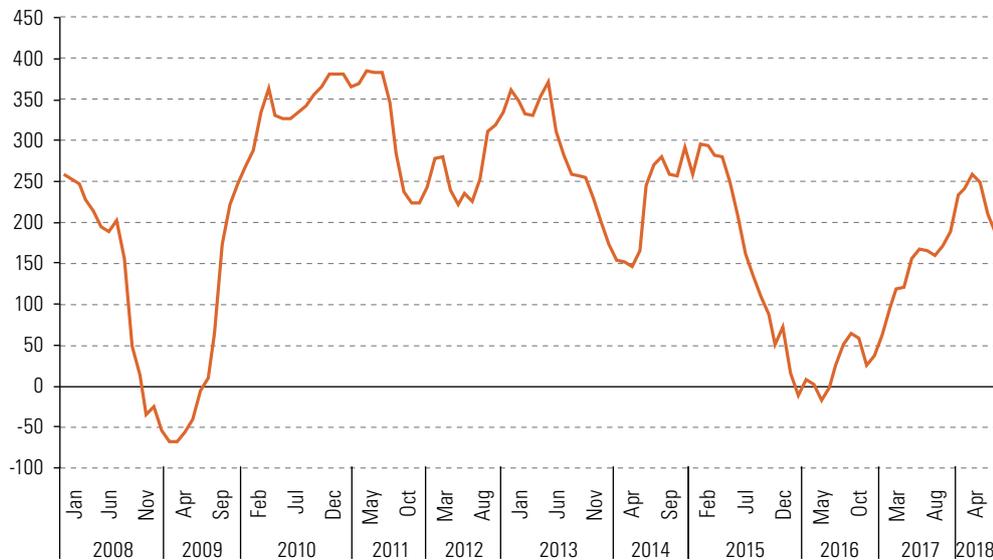
<sup>5</sup> The stock market decline has been led by export-linked sectors.

**Figure I.5**  
 Stock market price indices, January 2017–July 2018  
 (MSCI index, base 1 January 2017=100)



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

**Figure I.6**  
 Portfolio capital flows into emerging markets, cumulative 12-month totals, January 2008–April 2018<sup>a</sup>  
 (Billions of dollars)



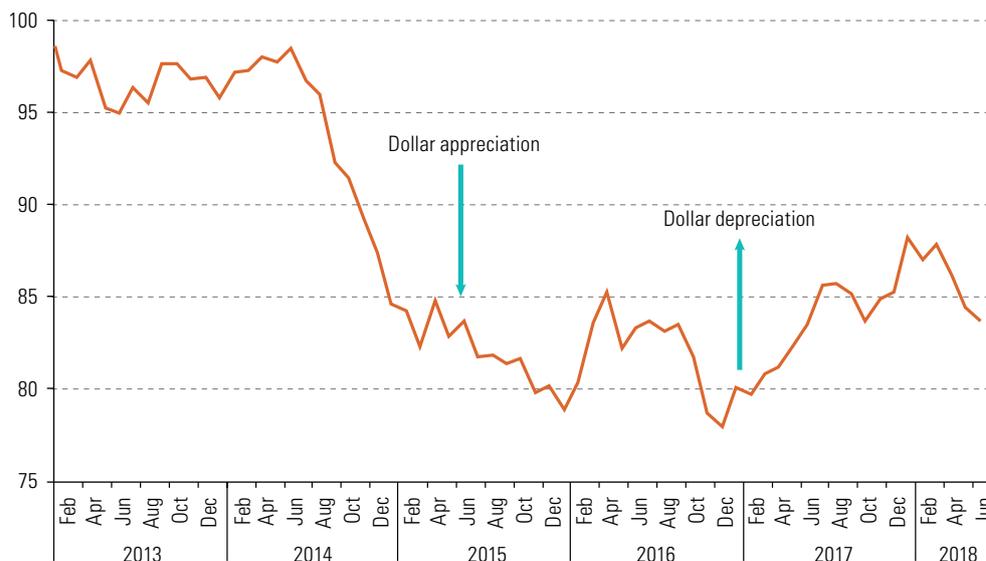
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg and Central Bank of Chile, *Informe de Estabilidad Financiera de Chile, primer semestre de 2018*, Santiago [online] <http://www.bcentral.cl/web/guest/informe-de-estabilidad-financiera-ief->.

<sup>a</sup> Includes bonds and shares.

Last March, the United States Federal Reserve added a rise in interest rates to the mix described above. In April, the combination of an expansionary fiscal policy and a contractionary monetary policy in the country led to interest rates on 10-year Treasury bonds exceeding 3% for the first time in four years. This was reflected in a general portfolio reallocation internationally and in dollar appreciation against most currencies (see figure I.7).

**Figure I.7**

Nominal exchange rate of the dollar against major world currencies, February 2013–June 2018 (DXY index, base January 2013=100)



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

**Note:** The Bloomberg DXY dollar spot index tracks the performance of a basket of 10 leading currencies against the dollar. The currencies in the basket and their weighting in it are determined annually from their share of international trade and their liquidity in the currency market. The chart shows the inverse of the index published by Bloomberg, so that a rise in the index indicates dollar depreciation and a fall in the index dollar appreciation against the other currencies.

The yuan depreciated by 8% between early April and late June, while the pound sterling and euro depreciated by 7% and 5%, respectively. Conversely, the yen appreciated by 3.5% in that period, as it provided a haven against trade and geopolitical tensions. A number of emerging economies also experienced an increase in the costs of financing on international markets and sometimes substantial depreciation of their currencies against the dollar.<sup>6</sup>

## 5. The Federal Reserve is expected to raise the policy interest rate twice more in the second half of the year and three times more in 2019

The United States Federal Reserve continued its policy of gradually withdrawing monetary stimulus and increased the policy interest rate last March and June. The rate was increased by 25 points on each occasion, leaving it in a range of between 1.75% and 2%. According to the estimates of the Federal Reserve rate made by the Federal Open Market Committee, there should be two further increases in the second half of the year and another three in 2019, with the median estimate being for a rate of 3.1% towards the end of next year.

On the other hand, the monetary policy of the Central Bank of Japan is expected to remain on an expansionary path. This is because there is no expectation of inflationary pressures forcing the monetary authority to revise its policy, at least in the short run. The European Central Bank announced in its meeting last June that it would continue with its

<sup>6</sup> See section I.E.2, "Monetary and exchange-rate policy", which analyses the evolution of the Latin American countries' currencies.

policy of asset purchases (quantitative easing) until next December, although it would halve its monthly purchases to 15 billion euros from September. As regards interest rates, the European Central Bank announced that these would be kept unchanged until mid-2019.

As mentioned, the increase in the United States Federal Reserve policy rate and parallel rise in the yield on United States Treasury bonds led to changes in portfolio structures involving outflows from emerging markets, particularly bond markets. The expectation for the future is of a gradual cycle of rising policy rates in the United States, undoubtedly entailing an increase in the costs of the financial flows available for emerging economies. If this were accompanied by a rise in risk aversion, there might be constraints on the financing available for emerging markets, including those of Latin America, because of the potential for a flight to quality.

## 6. Summary

In synthesis, the global economy is expected to grow at a rate of about 3.3% in 2018. Uncertainties about future growth dynamics have increased, however, and lower growth rates are accordingly expected for 2019 and 2020. Growth rates have varied more from economy to economy in 2018 than they did in 2017. Economic expansion in 2018 essentially reflects growth in the United States, underpinned by a fiscal boost that should show signs of running its course in 2019, and China, where lower growth rates are likewise projected for 2019. The eurozone countries and Japan have been revising their growth forecasts for 2018 and 2019 downward.

World trade has been slackening and will grow by about one and a half percentage points less than in 2017. Apart from this slowdown, it faces major risks from growing trade tensions.

Commodity prices are expected to increase more moderately in 2018 than in 2017. However, energy products, chiefly oil, will rise strongly in 2018 because of supply constraints in some producer countries and geopolitical factors.

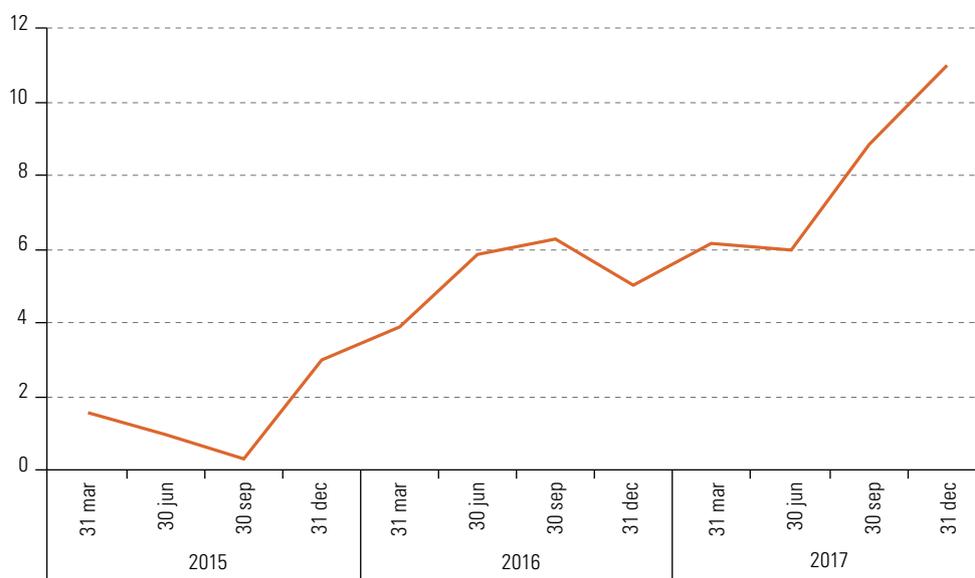
Global financial markets began 2018 with an increase in volatility, a decline in flows to emerging markets, dollar appreciation and large falls in stock markets. Higher inflation expectations, lower growth prospects and more restrictive monetary policies have resulted in a more prudent attitude towards risk and in increased financial uncertainty. In this context, the combination of a strong dollar, rising interest rates in some developed countries and lower international liquidity globally has combined with trade and geopolitical risks to create growing uncertainties not only about financial conditions but about the dynamics of the real economy and medium-term growth. At the same time, differences in growth and inflation dynamics between the United States and the European countries and Japan have resulted in differing timetables for the dismantling of “unconventional” monetary policies. The United States Federal Reserve will continue with its policy of gradually withdrawing monetary stimulus and raising interest rates, while the European Central Bank, although it will maintain its quantitative easing policy until the end of 2018, has announced a reduction in asset purchases from the last quarter of the year. The Japanese central bank is expected to continue on an expansionary path, at least in the short term.

## B. The evolution of global liquidity

### 1. In 2017, global liquidity growth picked up thanks to a strong international bond market and an upturn in cross-border lending

In 2017, global liquidity growth maintained the upward trend seen since 2015, averaging 8%, more than the rate posted in 2016 (5%) and well above the average seen over the past decade (see figure I.8).

**Figure I.8**  
Global liquidity growth,  
March 2015–  
December 2017<sup>a</sup>  
(Percentages)



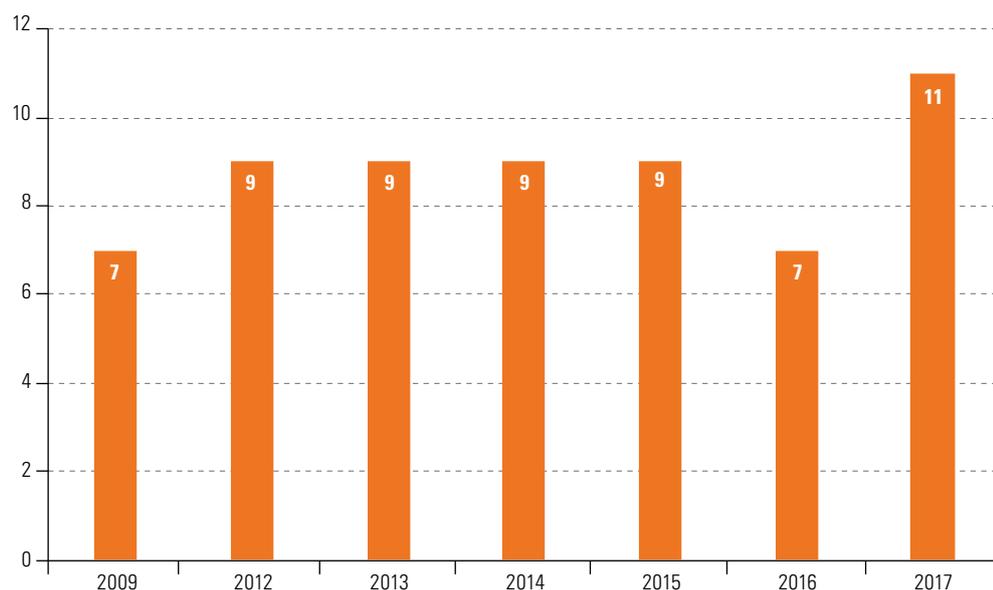
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Bank for International Settlements (BIS), "BIS global liquidity indicators at end-December 2017", 2018 [online] <https://www.bis.org/statistics/gli1804.htm>.

**Note:** Liquidity comprises total cross-border lending by the banking systems of Europe, Japan and the United States, and outstanding debt issues on international markets there.

<sup>a</sup> Quarterly data.

Global liquidity was boosted by stronger momentum in lending through the international bond market and, to a lesser extent, by international loans. In 2017, debt grew by 11%, faster than cross-border loans (7.2%). However, cross-border lending is clearly trending upward, and in 2017, recorded the strongest growth since the start of the global financial crisis. Global banks are looking stronger and have recovered, at least partially, from the effects of the global financial crisis, with recapitalization and cost profile improvements (ECLAC, 2018c). Between 2007 and 2017, global banks increased their Tier 1 common capital by 200%. Profitability, measured by the return on equity (ROE), also rose, from 7% in 2009, to 9% between 2012 and 2015 and 11% in 2017 (see figure I.9).

It is widely believed that an increase in central bank interest rates will solve the problems of weak income growth in the banking industry by boosting interest income, but this may be only a temporary solution. Some estimates indicate that after the three Federal Reserve rate hikes in 2017 and the three additional increases expected in 2018, net interest income for the largest banks in the United States could climb by 5% in 2018 and 2019. In addition, the most recent European Central Bank stress test indicated that an increase of 200 basis points in interest rates would boost net interest income by 10.5% in 2019. All else being equal, this is expected to increase ROE by 6.4 and 3.1 percentage points for United States and European banks, respectively.



**Figure I.9**  
Average return on equity of the top 200 global banks, 2009–2017 (Percentages)

**Source:** Ernst & Young (EY), Global Banking Outlook 2018: Pivoting toward an innovation-led strategy [online] [https://www.ey.com/Publication/vwLUAssets/ey-global-banking-outlook-2018/\\$File/ey-global-banking-outlook-2018.pdf](https://www.ey.com/Publication/vwLUAssets/ey-global-banking-outlook-2018/$File/ey-global-banking-outlook-2018.pdf).

**Note:** The variable used was return on average equity (ROAE).

## 2. Liquidity inflows into emerging economies recorded one of the strongest increases since the start of the 2000s

Liquidity inflows into emerging economies (including cross-border loans and bonds) recorded average growth of 11.4%, much higher than the level seen in 2009 (3.3%) and in 2010–2015 (5.7%) and slightly above the 2016 figure (11.0%). Specifically, growth in credit from the United States to emerging economies stood at 20.6% and was the highest level seen in the past 10 years (see table I.2).

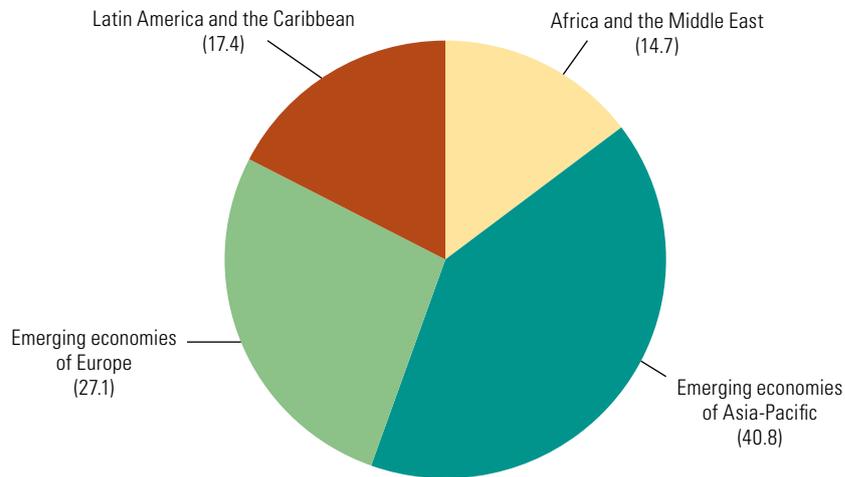
	2014	2015	2016	2017
Global liquidity	6.0	7.1	4.4	8.2
Loans	4.5	4.9	0.9	7.2
Loans to emerging economies	5.8	1.6	1.1	6.8
Debt	9.9	10.3	9.8	11.1
Credit to emerging economies	11.8	10.2	11.9	14.8
Credit from the United States to emerging economies	10.4	8.2	10.1	20.6

**Table I.2**  
Growth in global liquidity and its various components, 2014–2017 (Percentages)

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Bank for International Settlements (BIS), “BIS global liquidity indicators at end-December 2017”, 2018 [online] <https://www.bis.org/statistics/gli1804.htm>.

The breakdown by region shows that in 2017, advanced and emerging economies represented 81.2% and 18.8%, respectively, of global credit. Meanwhile, the breakdown by subregion shows that Asia-Pacific is the main recipient of global credit (40.8%), followed by the emerging economies of Europe (27.1%) and Latin America and the Caribbean (17.4%) (see figure I.10).

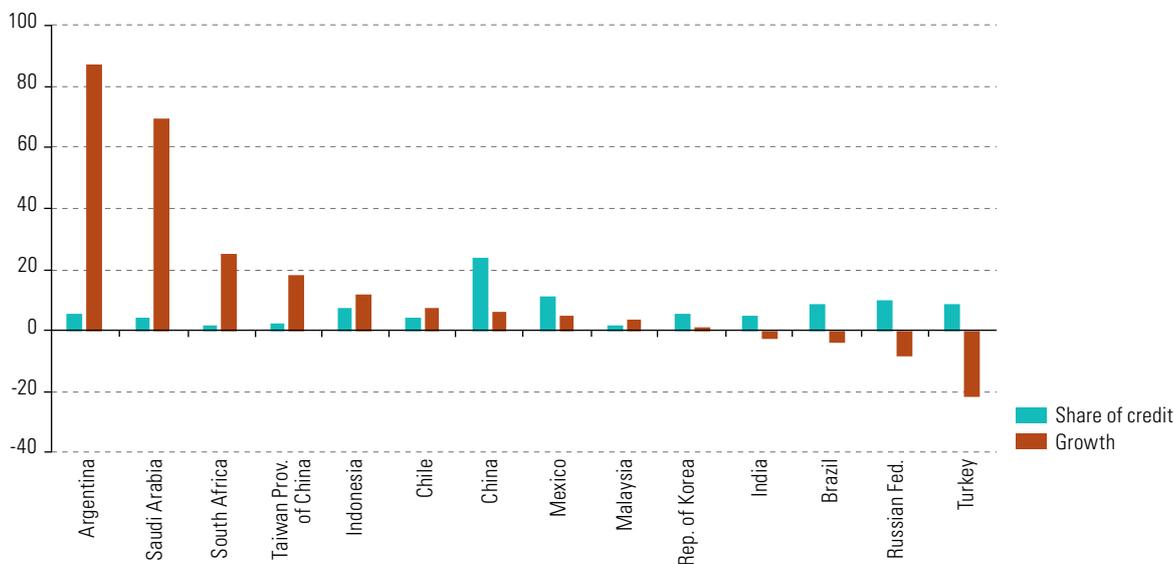
**Figure I.10**  
Share of total credit, by developing region, 2017  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Bank for International Settlements (BIS), "BIS global liquidity indicators at end-December 2017", 2018 [online] <https://www.bis.org/statistics/gli1804.htm>.

By country, the bulk of global liquidity inflows into developing economies (more than 80%) went to China (24.1%), Mexico (11.5%), the Russian Federation (10.0%), Turkey (8.7%), Brazil (8.5%), Indonesia (7.1%), Argentina (5.7%) and the Republic of Korea (5.3%). The economies that have made the greatest use of global credit include Argentina (87.4%), Saudi Arabia (69.1%) and South Africa (25.2%) (see figure I.11).

**Figure I.11**  
Selected emerging economies: share of credit and growth, 2017  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Bank for International Settlements (BIS), "BIS global liquidity indicators at end-December 2017", 2018 [online] <https://www.bis.org/statistics/gli1804.htm>.

### 3. Global liquidity trends have contributed to higher borrowing across all institutional sectors

Between 2016 and 2017, global debt corresponding to central government rose from 78.5% to 81% of global GDP, while that of households climbed from 58.9% to 62.1% and that of the non-financial corporate sector increased from 91.6% to 96.2% (see table I.3). In the Latin American and Caribbean economies for which data are available (Argentina, Brazil, Chile, Colombia and Mexico) the government sector accounted for the highest debt levels, except in Chile.

**Table I.3**

Debt as a percentage of GDP, by institutional sector, 2015–2017  
(Percentages)

Country or group of countries	Credit to central government			Credit to households			Credit to non-financial private sector		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Argentina	55.5	55.9	55.4	6.4	6.0	7.0	12.4	12.2	14.3
Brazil	71.7	77.6	83.1	27.6	25.7	24.7	49.2	45.8	43.9
Chile	19.7	23.3	24.9	41.0	42.4	43.7	104.6	101.5	94.8
Colombia	44.5	48.1	49.2	25.3	26.5	26.3	40.8	38.5	38.3
Mexico	35.0	37.1	35.5	15.2	16.0	16.1	24.7	27.1	26.8
Emerging economies	41.5	45.6	49.0	32.4	35.8	39.8	99.0	101.7	104.6
Advanced economies	98.3	97.8	100.9	73.4	72.5	76.1	86.7	86.3	91.6
G20	79.6	81.1	83.6	57.2	58.0	61.2	91.0	91.6	96.2
United States	96.9	98.7	97.0	78.5	78.8	78.7	70.3	72.2	73.5
Eurozone	90.0	89.0	86.7	58.8	58.3	58.0	105.0	104.5	101.6
World	77.1	78.5	81.0	58.1	58.9	62.1	91.0	91.6	96.2

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from the Bank for International Settlements (BIS), "BIS global liquidity indicators at end-December 2017", 2018 [online] <https://www.bis.org/statistics/gli1804.htm>.

### 4. Stronger momentum in global liquidity in 2017 driven by expectations of more robust returns

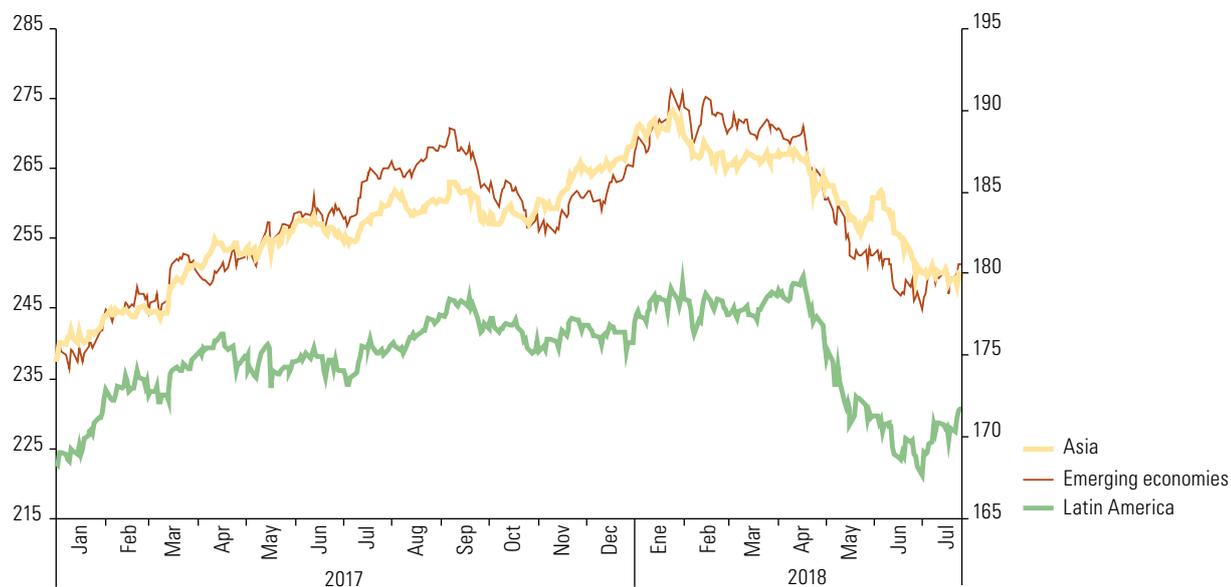
Credit to emerging economies stemmed first and foremost from international investors seeking returns, owing partly to low international rates during the year. As shown in figure I.12, currency carry trade indices of emerging economies, particularly in Asia and to a lesser extent in Latin America, rose in 2017, reflecting earnings potential thanks to interest rate differentials and to the appreciation of the dollar over the course of the year.

There has also been a reduction in global volatility and in the risk involved in investing in emerging economies, as reflected in the decline in the emerging markets bond index (EMBI) at the global level (see figure I.13).

Another reflection of strong liquidity in emerging economies, including in Latin America, is the Morgan Stanley Capital International (MSCI) Emerging Markets Index, which has a free float-adjusted capitalization weighting and represents the performance of large- and mid-cap securities in emerging markets. The index, which covers approximately 85% of market capitalization in each country, rose sharply in 2017, reflecting the stronger appetite for investment in emerging markets (see figure I.14).

**Figure I.12**

Emerging economies, Asia and Latin America: carry trade indices



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg, 2018.

**Note:** The Asia carry trade index measures the cumulative total return of a buy-and-hold carry trade position that is long on Asian currencies (Indian rupee, Indonesian rupiah, Philippine peso and Thai baht) and is fully funded with short positions on the United States dollar. It is assumed that investment is made in three-month money market instruments, assigning the same weight in the currency basket to each of the four Asian currencies. The Latin America carry trade index measures the cumulative total return of a buy-and-hold carry trade position that is long on six Latin American currencies (Argentine peso, Brazilian real, Chilean peso, Colombian peso, Mexican peso and Peruvian sol) and is fully funded with short positions on the United States dollar. It is assumed that investment is made in three-month money market instruments, assigning the same weight in the currency basket to each currency. The EM-8 Carry Trade Index measures the cumulative total return of a buy-and-hold carry trade position that is long on eight emerging market currencies (Indian rupee, Indonesian rupiah, Brazilian real, South African rand, Turkish lira, Hungarian forint and Polish zloty) and is fully funded with short positions on the United States dollar. It is assumed that investment is made in three-month money market instruments, assigning the same weight in the currency basket to each currency.

**Figure I.13**

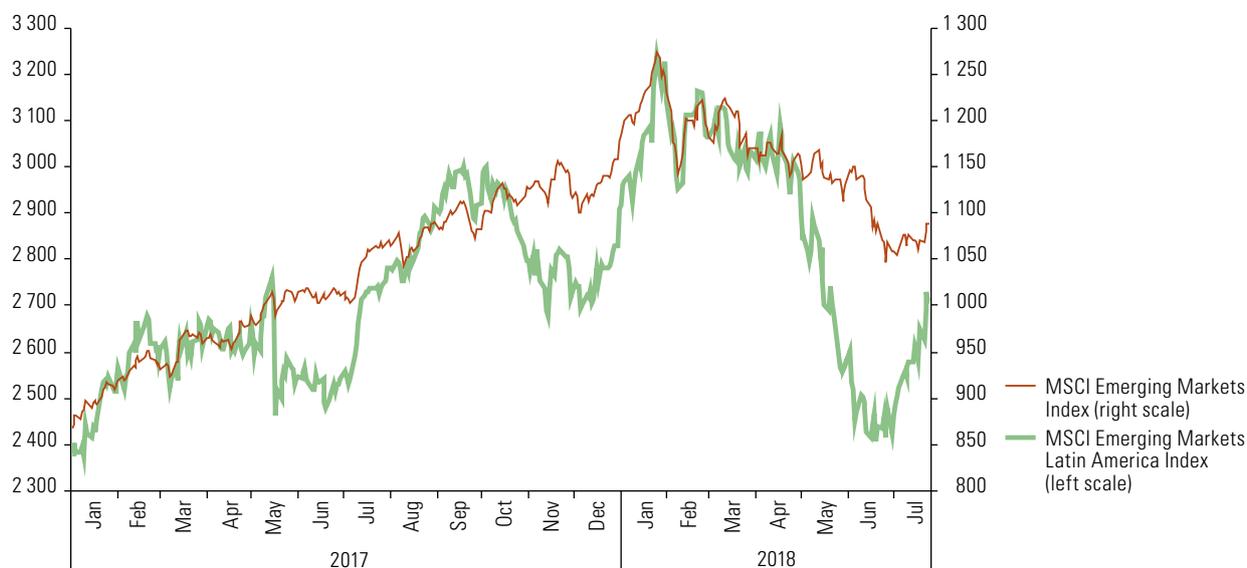
Emerging Markets Bond Index Global (EMBI Global), 3 January 2017–27 July 2018



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg, 2018.

**Figure I.14**

MSCI Emerging Markets Index and MSCI Emerging Markets Latin American Index, 3 January 2017–27 July 2018  
(31 December 1987=100)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Bloomberg, 2018.

## 5. Global liquidity is expected to decrease in 2018, especially in emerging economies

As shown in figures I.12, I.13 and I.14, prospects and expectations of returns and risks in relation to emerging economies have turned negative in 2018. Since mid-April, the dollar has appreciated by roughly 5%, while the United States 10-year Treasury yield has exceeded 3% for the first time in four years, owing to the reduction in the Federal Reserve's balance sheet. This has boosted financial outflows from emerging economies to more advanced countries, especially to the United States. According to the Institute of International Finance (IIF), in 2018, financial flows into developing economies will amount to US\$ 1.2 trillion, just US\$ 7 billion more than in 2017. The most recent empirical evidence shows that in May, outflows from emerging economies amounted to US\$ 12.3 billion, representing the largest capital outflows since November 2016.

As mentioned in the *Preliminary Overview of the Economies of Latin America and the Caribbean, 2017* (ECLAC, 2018c), the bond market will be the hardest hit by this shift in economic outlook. In 2018, foreign direct investment flows are expected to grow by US\$ 17 billion (from US\$ 506 billion in 2017 to US\$ 523 billion) and portfolio flows are likely to fall by US\$ 50 billion (from US\$ 401 billion in 2017 to US\$ 351 billion).

Meanwhile, bond market liquidity is expected to contract from US\$ 315 billion to US\$ 255 billion in the same period.<sup>7</sup> Part of the reduction in international bond market liquidity is expected to be offset by an increase in cross-border loans (US\$ 338 billion in 2018 compared with US\$ 297 billion in 2017). According to a recent study by the Bank for International Settlements (BIS) (2017), a 25-basis-point rise in the federal funds rate would slice 57 basis points off of growth in cross-border lending, while growth in international bond issues would drop by 125 basis points. Hence, the impact of financial outflows from emerging economies will depend partly on the composition of total flows and portfolio flows.

<sup>7</sup> See IIF (2018) and ABM-AMRO (2018).

## C. The external sector

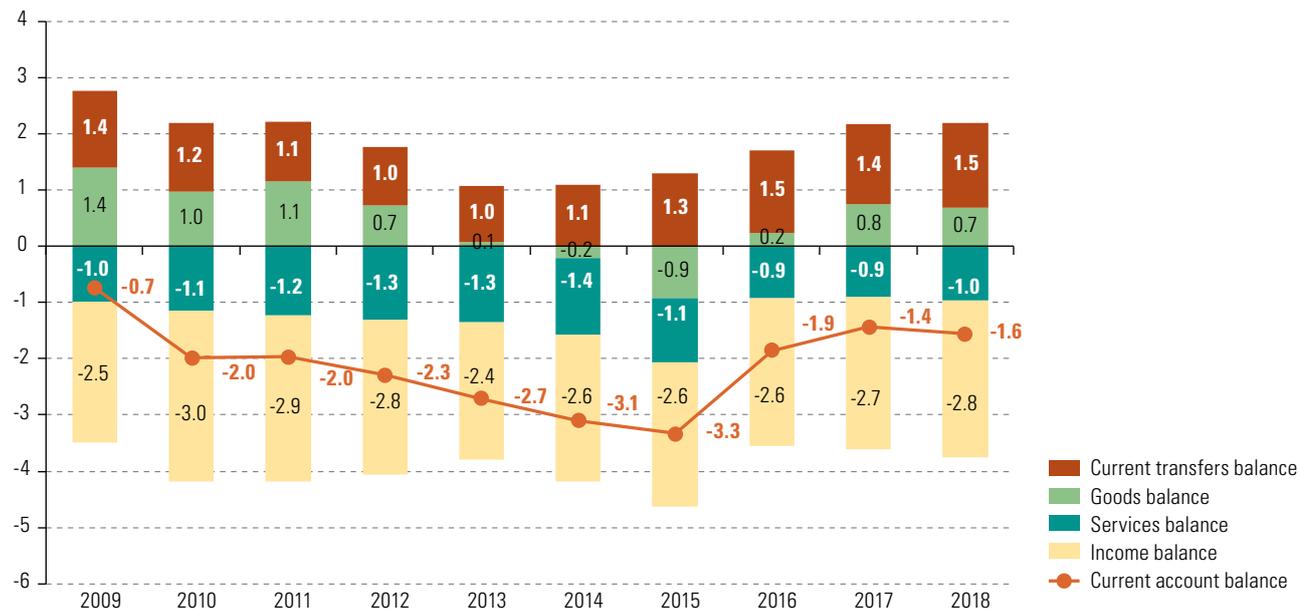
### 1. The balance-of-payments current account deficit is expected to widen in 2018 owing to a larger services account deficit, stronger repatriation of foreign investment income and higher interest payments for external debt

In 2017, the improvement in the terms of trade boosted the trade surplus, which, along with stronger family remittances, more than offset higher outflows on the income account. As a result, the current account deficit narrowed, from 1.9% of GDP in 2016 to 1.4%. However, this reduction in the region's current account deficit stemmed largely from the decline in deficit in Brazil, from 1.3% in 2016 to just 0.5% of GDP in 2017.

For 2018, the current account deficit is expected to increase to 1.6% of GDP. Although goods and current transfers are expected to continue to post surpluses this year, projected bigger deficits in the income and services accounts will likely offset these effects (see figure I.15).

**Figure I.15**

Latin America (19 countries): balance-of-payments current account, by component, 2009–2018<sup>a</sup>  
(Percentages of GDP)



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

<sup>a</sup> The figures for 2018 are projections.

## 2. Another goods surplus is expected in 2018, although it is projected to be smaller than in 2017 owing to stronger growth in imports than in exports

The better terms of trade in 2017 helped to maintain the trade surplus, which stood at 0.8% of GDP. A surplus had already been recorded in 2016 after imports contracted more than exports.

In 2017, higher energy and mineral prices boosted the terms of trade in Latin America by 4% on average, after five years of sustained declines that resulted in a cumulative reduction of 19%.

For 2018, higher prices for energy products and, to a lesser extent, for mining and agricultural products, point to further strengthening of the terms of trade for the region as a whole, by 2% compared with the previous year.

However, given the highly diverse structure of foreign trade in Latin American and Caribbean countries, commodity export prices have a different impact on the terms of trade of each one. It is a stylized fact that South America benefits from global commodity price hikes, as these products account for a large share of its export basket. Meanwhile, Central America benefits from declines in energy prices—given that it is a net energy importer—and the same is true for the Caribbean (excluding Trinidad and Tobago), which is favoured by low prices for energy products and, generally, for food (see box I.2).

### Box I.2

Latin America and the Caribbean: foreign trade structure, commodity prices and terms of trade

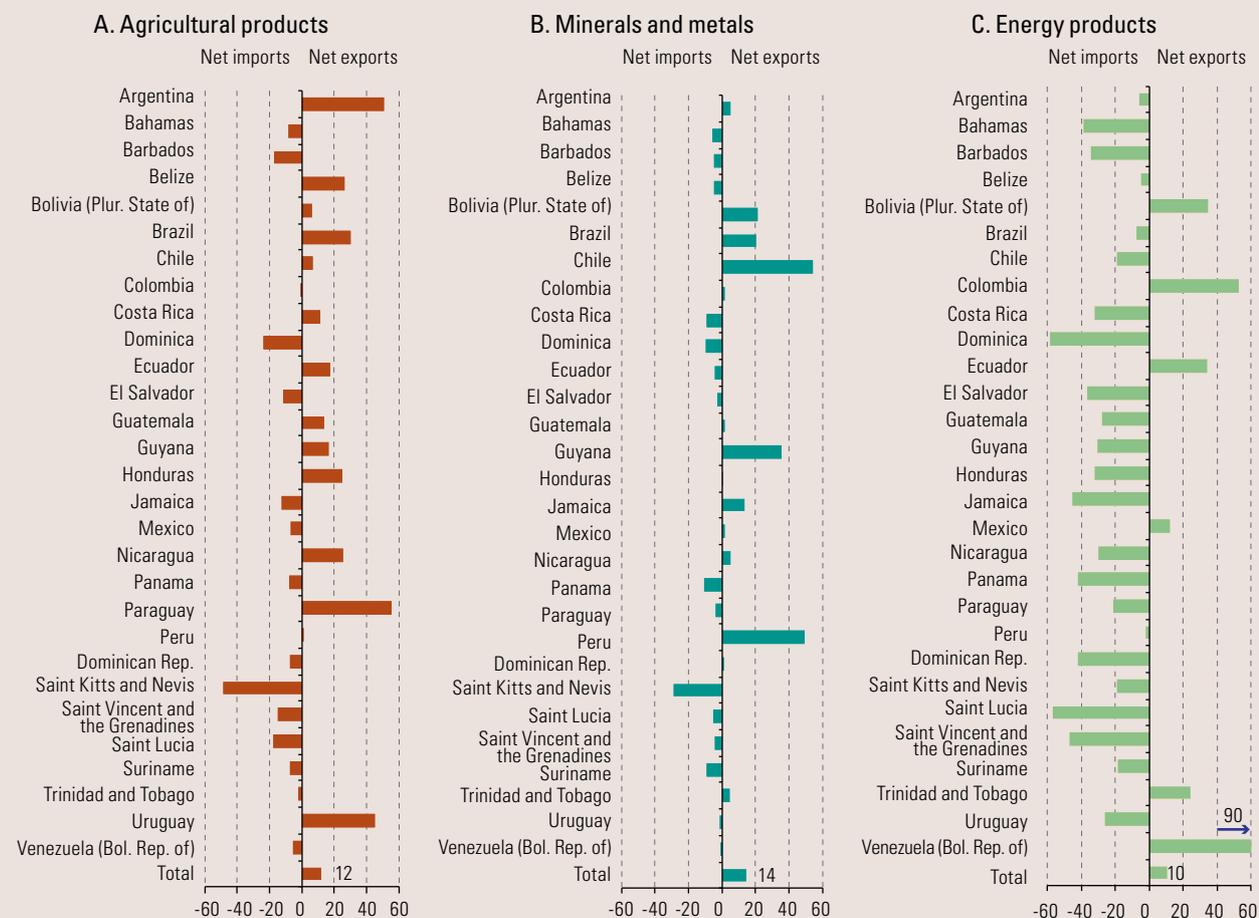
A country's foreign trade structure determines the impact of commodity prices on its terms of trade. To create a graphic representation of this, net trade flows were calculated for each country of the region, by broad category of commodities on the basis of data available in the United Nations Commodity Trade Statistics Database (COMTRADE).<sup>a</sup> For each group  $i$  of commodities, the difference was calculated between the value of exports and the value of imports ( $X_i - M_i$ ), to identify which countries are net exporters or importers of each one.<sup>b</sup> The figure shows, for each country, the structure of net foreign trade by broad category of commodities: agricultural products, minerals and metals, and energy products. A negative value means that the country is a net importer in that category, while a positive value signifies that it is a net exporter.

On the basis of these structures, countries can be grouped by the category of products in which they stand out as net importers or exporters. This has given rise to the following groups, which correspond to the categories of analysis shown in the figure:

- Exporters of energy products: Bolivarian Republic of Venezuela, Colombia, Ecuador, Plurinational State of Bolivia and Trinidad and Tobago. These countries account for the largest net exports of energy products as a percentage of their total commodities trade (63% on average).
- Exporters of minerals and metals: Chile and Peru, which stand out because of their solid net exports of this group of products (52% of their total commodities trade, on average).<sup>c</sup>
- Exporters of agricultural products: Argentina, Paraguay and Uruguay. These countries generate the largest net exports of agricultural products as a percentage of their total commodities trade (50% on average).
- The Caribbean (excluding Trinidad and Tobago): Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Suriname. These countries stand out because of their robust net imports of energy products (almost 40% of their total commodities trade) and in general, they are also net importers of food.
- Central America, the Dominican Republic and Haiti: this group stands out because of its status as a net importer of energy products.

## Box I.2 (concluded)

Latin America and the Caribbean (30 countries): net trade flows by group of commodities, 2010–2013 average  
(Percentages of total commodities trade for each country, on the basis of the average structure of trade over the period)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the United Nations Commodity Trade Statistics Database (COMTRADE).  
**Note:** A negative value means that the country is a net importer in that category, while a positive value signifies that it is a net exporter.

Brazil and Mexico were excluded from these groups as the size of their economies justifies individual analysis, and a large percentage of their net exports corresponds to more highly processed goods.

This exercise helps to portray how variations in commodity prices have different impacts on countries' terms of trade.

A caveat is that this exercise only includes the commodity basket, while the total impact on the terms of trade also depends on trends in manufactured product prices. Nevertheless, the prices of manufactures, as a group, are considerably more stable than commodity prices, and thus do not have a significant impact on the perceptions resulting from this analysis.

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

<sup>a</sup> Based on an average for 2010–2013, for which information was available for most Latin American and Caribbean countries, and which, furthermore, did not reflect the declines in commodity prices from 2014 onward.

<sup>b</sup> These values were later normalized by building a quotient using total commodity trade  $(Xi-Mi)/(X+M)_{\text{total commodities}}$ , so that the ratios for each country were comparable for different categories.

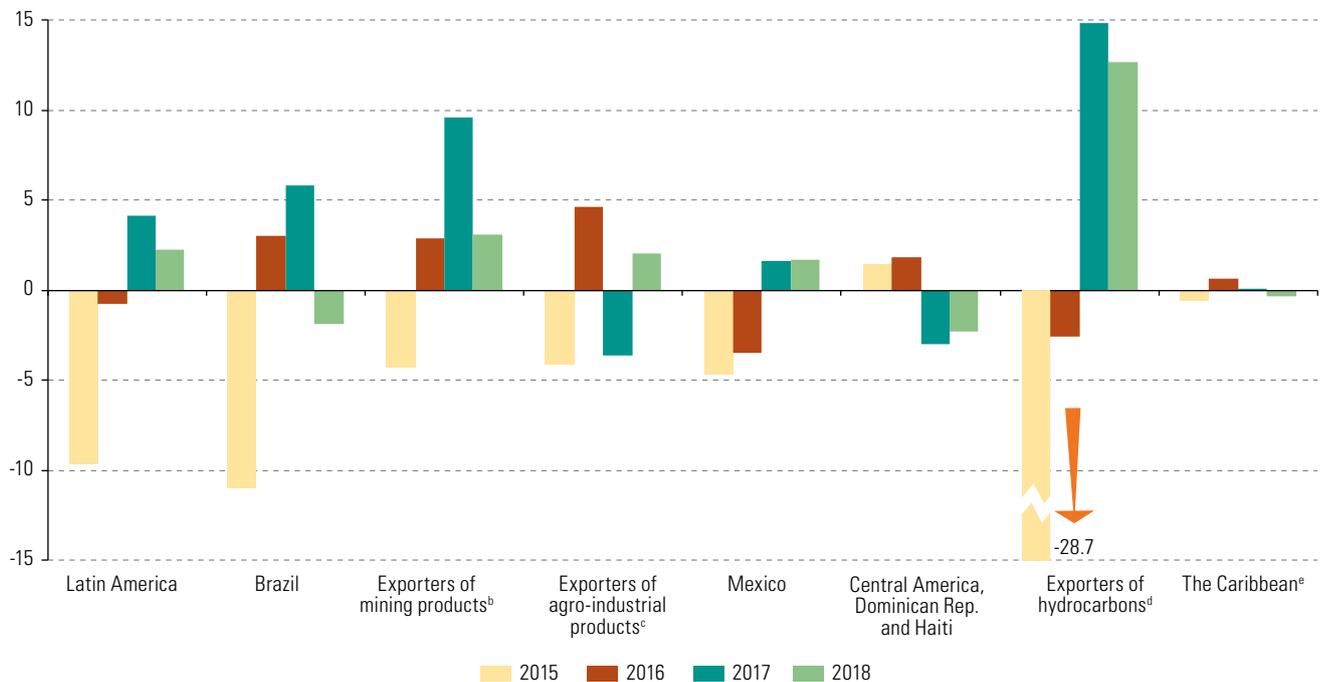
<sup>c</sup> Strictly speaking, Guyana could be included in this group, but was included instead in the Caribbean as it is also a large net importer of energy products, like the other members of that group.

In light of the hike in oil prices in the first half of 2018, hydrocarbon-exporting countries will benefit the most this year, with their terms of trade boosted by 13%. Meanwhile, countries that export minerals and agricultural products will see their terms of trade improve slightly, by roughly 3% and 2%, respectively.

However, Central American and Caribbean countries (excluding Trinidad and Tobago), which are large net importers of energy (and, in some cases, of food), are expected to see a deterioration in their terms of trade in 2018, by 2.0% and 0.3%, respectively (see figure I.16).

**Figure I.16**

Latin America and the Caribbean (selected countries and country groupings): variation in the terms of trade, 2015–2018<sup>a</sup> (Percentages)



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

<sup>a</sup> The figures for 2018 are projections.

<sup>b</sup> Chile and Peru.

<sup>c</sup> Argentina, Paraguay and Uruguay.

<sup>d</sup> Bolivarian Republic of Venezuela, Colombia, Ecuador, Plurinational State of Bolivia and Trinidad and Tobago.

<sup>e</sup> Excluding Trinidad and Tobago.

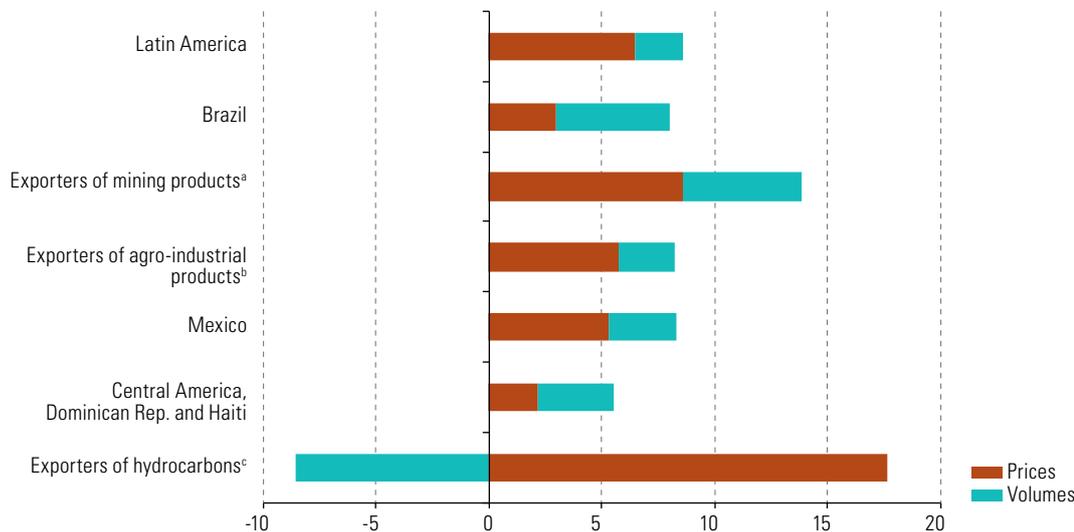
In 2017 the value of regional exports grew by 12% compared with the previous year, owing to an 8% increase in export prices and a 4% increase in volumes. In line with higher energy, mineral and metal prices, exports from countries exporting hydrocarbons and mining products increased by 15% and 17%, respectively, while those from countries exporting agricultural products rose by just 3%. By subregion, South American exports climbed by 14% compared with the previous year. The strong export performance was seen across the subregion, led by Peru and Brazil, which posted 21% and 18% growth in exports, respectively, while Chile, Colombia, Ecuador and the Plurinational State of Bolivia saw their exports grow by between 11% and

16%, compared with 2016. The exception was Argentina, where exports rose by just 1%. Central American exports increased by 6% on average, although the figure exceeded this average in most of the countries: Costa Rica (7%), El Salvador (8%), Honduras (9%), Nicaragua (10%) and Panama (7%). Meanwhile, exports from Mexico climbed by 9%, with a particularly strong performance in automobile exports (which rose by 12%).<sup>8</sup>

In 2018, export values are expected to grow by 9% on average in Latin America. Higher prices for oil and, to a lesser extent, for minerals and some agricultural commodities are projected to fuel a 6% increase in prices. In terms of volumes, although the region is expected to see higher external demand this year—owing to stronger growth for its trading partners—some countries have limited capacity to increase export volumes in some key sectors, such as oil. Also, Brazil's export volumes reflected weaker momentum in the first half of the year, owing to declines in categories such as iron ore, sugar, coffee and automobiles. The transport sector strike was also partly to blame for the loss of momentum in several sectors. As a result, the region's export volumes are expected to grow by 2% on average in 2018 (see figure I.17).

**Figure I.17**

Latin America and the Caribbean (selected countries and groupings): projected variation in goods exports, by volume and price, 2018  
(Percentages)



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

<sup>a</sup> Chile and Peru.

<sup>b</sup> Argentina, Paraguay and Uruguay.

<sup>c</sup> Bolivarian Republic of Venezuela, Colombia, Ecuador, Plurinational State of Bolivia and Trinidad and Tobago.

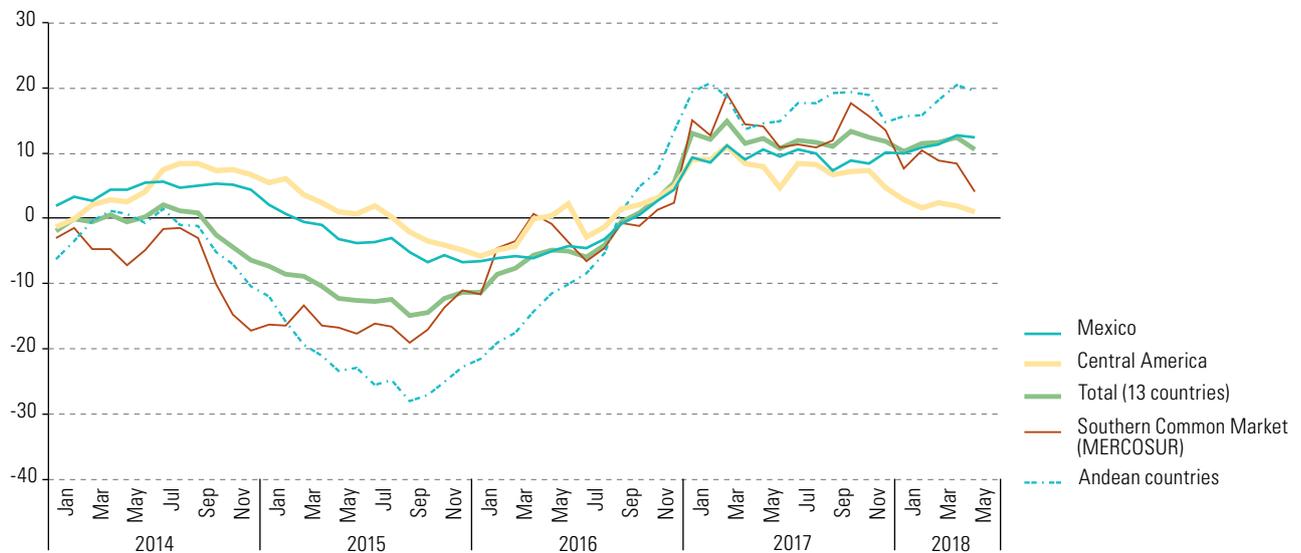
In the first five months of 2018, the region's exports rose by 10.8% over the year-earlier period. In particular, Andean countries posted an increase of 19%, deriving from higher oil prices (up 29% in the same period) and increases in the prices of minerals such as copper (20%), zinc (22%) and nickel (37%), along with an undemanding comparison base for export volumes in the first quarter of 2017 in countries such as Chile and the Plurinational State of Bolivia.<sup>9</sup> Growth is expected to be more moderate in the second half of the year. Mexican exports continued to perform well between January and May 2018, up by 12%, supported by 14% growth in automobile exports and higher oil prices (see figure I.18).

<sup>8</sup> Exports from the automobile industry represented 30% of total Mexican exports in 2017, according to figures from the National Institute of Statistics and Geography (INEGI).

<sup>9</sup> Owing to stronger hydropower generation, the volume of natural gas imported by Brazil from the Plurinational State of Bolivia dropped by more than 25% in the first half of 2017. Also, Chile's copper exports were affected by the strike at the Escondida mine between February and March 2017.

**Figure I.18**

Latin America (13 countries)<sup>a</sup>: year-on-year variation in goods exports, quarterly moving average, January 2014–May 2018  
(Percentages)



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

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

In 2017, the value of the region's imports rose by 10% on average. The improvement in economic activity stemming from stronger consumption and the pick-up in investment contributed to the 5% increase in import volumes, while higher commodity prices, especially of energy, resulted in a 4% increase in import prices. The lifting of some restrictions on imports resulted in their climbing by 22% and 20% in Ecuador and Argentina, respectively. In Paraguay, stronger capital goods imports were largely responsible for the 18% jump in total imports. By subregion, South American imports climbed by 9%, in line with the economic recovery of the countries in this subregion and particularly of Brazil, whose imports grew by 10% after contracting for two consecutive years.<sup>10</sup> Mexican imports grew by 9%, owing mainly to stronger purchases of inputs, which also rose by 9%. In Central America, the value of imports grew by 6%, mainly as a result of higher energy prices, as volumes rose by just 1%.

In 2018, the better performance of the Latin American economy and the increase in oil prices are expected to result in import growth of slightly more than 9.5%, which breaks down into an increase of 5.2% in volumes and 4.1% in prices (see figure I.19).

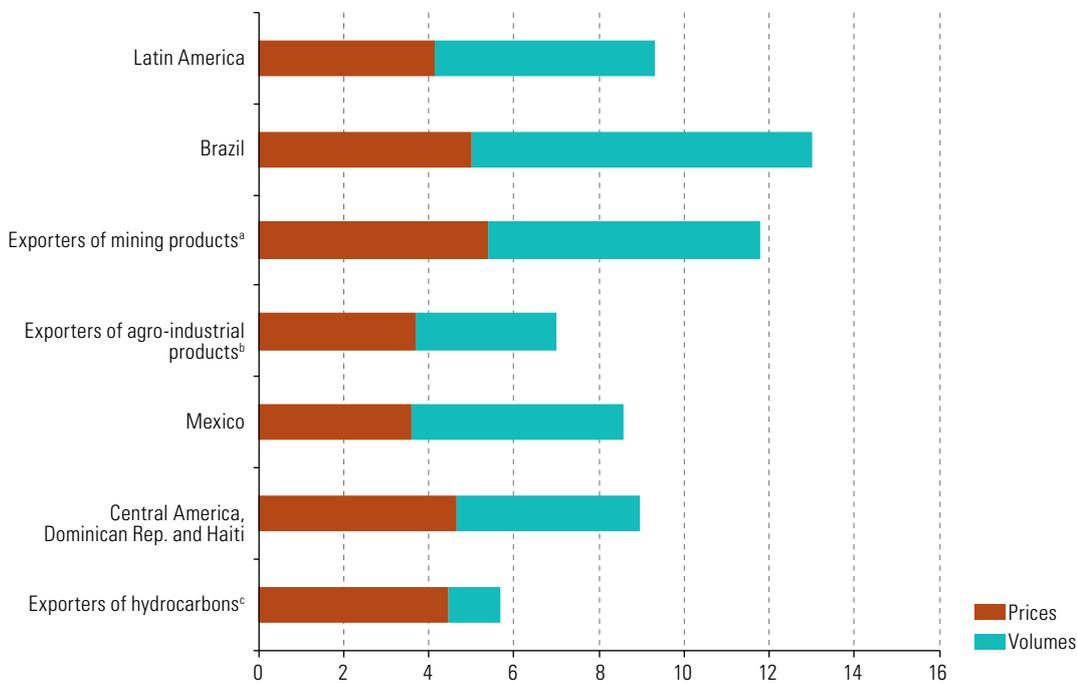
In the first five months of 2018, regional imports expanded by close to 13% compared with the year-earlier period (see figure I.20). The strongest import growth continued to be posted by Ecuador (23%), Brazil and Paraguay (both 19%). Given its weight in regional aggregates, Mexico's import growth of 12% is significant. For the second half of the year, import expansion is expected to slow, not just because of factors linked to economic activity, which is losing momentum in some countries, but also owing to competitiveness, associated with the depreciation of several currencies of the region since April (see part 2 of section E, which addresses exchange-rate policy).

On the basis of these arguments, the region is expected to maintain a trade surplus in 2018.

<sup>10</sup> In 2017, Brazilian imports were 34% lower than in 2014, before the economic recession.

**Figure I.19**

Latin America and the Caribbean (selected countries and groupings): projected variation in goods imports, by volume and price, 2018  
(Percentages)



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

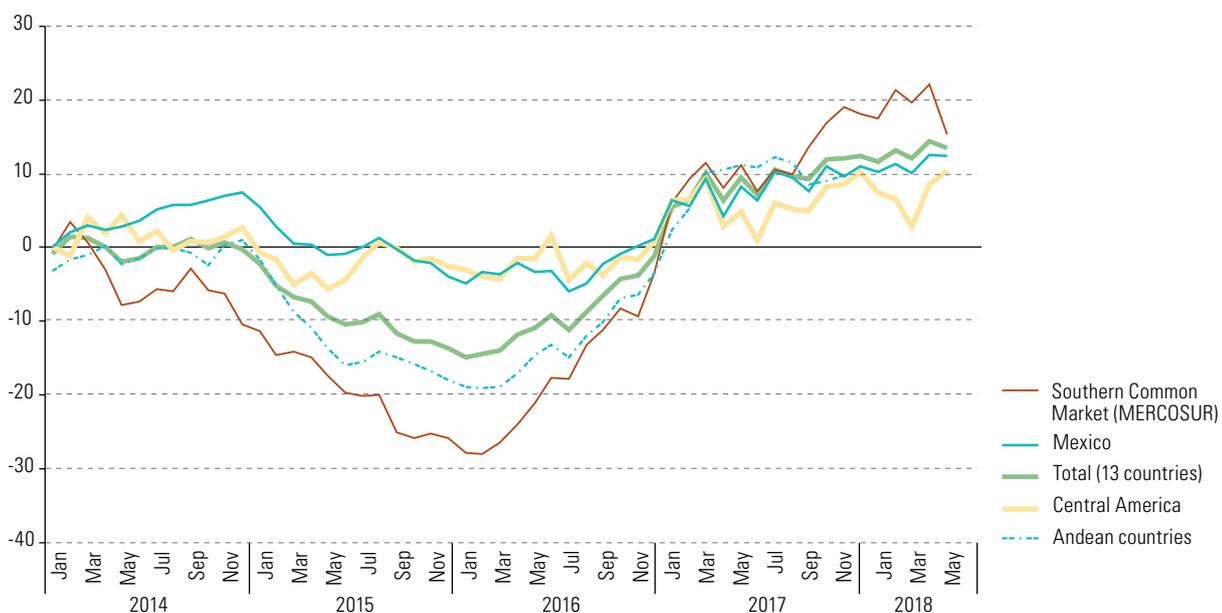
<sup>a</sup> Chile and Peru.

<sup>b</sup> Argentina, Paraguay and Uruguay.

<sup>c</sup> Bolivarian Republic of Venezuela, Colombia, Ecuador, Plurinational State of Bolivia and Trinidad and Tobago.

**Figure I.20**

Latin America (13 countries)<sup>a</sup>: year-on-year variation in goods imports, quarterly moving average, January 2014–May 2018  
(Percentages)



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

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

### 3. The income deficit is expected to grow in 2018

In 2017, the income balance continued to deteriorate (13% in nominal terms) and the deficit widened from 2.6% of GDP in 2016 to 2.7% of GDP. This stemmed from the fact that the increase in commodity prices (15%) boosted the income of foreign companies operating in the region, especially commodity-exporters. This was apparent in the fact that the deficit widened the most in the groups of countries that export mining products (up 36% in absolute terms) and hydrocarbons (34%). Payments relating to other investment income (mainly interest on external debt) also rose, given the widespread increase in debt issues in the region (including in Argentina and Mexico).

In 2018, the income balance is expected to continue deteriorating and reflect a deficit of 5% in nominal terms, which means an increase from 2.7% of GDP in 2017 to 2.8% in 2018, driven by the same factors: higher commodity prices (expected to rise by around 11% in 2018), which will result in a larger deficit in countries most exposed to foreign investment, and higher interest payments, owing to increasing external debt issues in recent years.

### 4. In 2018 the services deficit is expected to increase, while the current transfers surplus is projected to widen thanks to robust remittance inflows into the region

In 2017, the services deficit increased by 5%<sup>11</sup> in absolute terms, although it remained stable at 0.9% relative to GDP. Services imports grew by 7.0%. Stronger economic momentum boosted goods imports, which in turn fuelled all components of services imports: transport (7%), travel (9%) and other services (9%). The improvement in outbound tourism from Brazil (31%) thanks to the economic recovery had a big impact on the travel category. The other two categories gained momentum thanks to the improvement in the region's economic activity.

Services exports grew by 6.9% and also reflected growth in all components: transport (9%), travel (8%) and other services (6%). Transport services grew sharply in Panama (15.5%) as a result of the widening of the canal and the acceleration in global trade. In the travel category, tourist arrivals in the region rose (UNWTO, 2018) and reflected strong increases in South America (8%) and Mexico (12%), a healthy trend in Central America (5%) and a mixed performance in the Caribbean (3%) owing to the strong hurricanes that affected some islands during the year.

In 2018, the services deficit relative to GDP is expected to widen to around 1.0%. Economic activity in the region is projected to continue fuelling imports for transport, insurance, construction and other business services, resulting in services import growth of 5.7%. Among services exports (which are also expected to grow, by 5.6%), the travel category will likely benefit from the depreciation of currencies in the region relative to the dollar over the course of the year (in large economies, such as Argentina and Brazil), which could encourage foreign tourist arrivals and dampen outbound tourism, compared with the previous year.

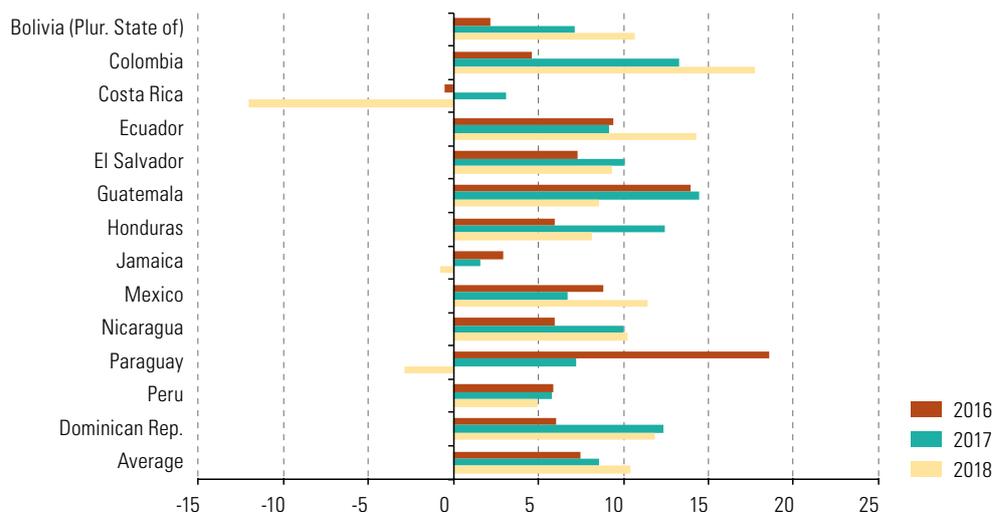
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<sup>11</sup> Does not include the Bolivarian Republic of Venezuela, owing to lack of official information.

The transfers surplus increased in 2017 (by 6.6%) and represented 1.4% of regional GDP. The strongest increases in the main component, remittance flows, were recorded in Central America (12%), owing partly to economic upturns in originating countries (mainly the United States and Spain). In Mexico, the largest recipient in the region accounting for more than one third of inflows, remittances grew by 6.7% in 2017. The strongest growth in remittances in 2017 was recorded in Guatemala (14.4%), Colombia (13.3%), Honduras (12.5%), the Dominican Republic (12.4%), El Salvador (10.1%) and Nicaragua (10.0%).

In 2018 the transfers surplus is expected to continue increasing in nominal terms (7.7%) and to rise from 1.4% to 1.5% of regional GDP, thanks to continued momentum in remittance inflows into the region, which in the early months of the year were already up by 10.4% on the year-earlier period (see figure I.21). Along with the goods surplus, the transfers surplus, which is a structural feature of the region, is expected to help offset (albeit only partly) the deficits in the services and income accounts.

**Figure I.21**  
Latin America and the Caribbean (selected countries): year-on-year variation in income from migrant remittances, 2016–2018<sup>a</sup>  
(Percentages)



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

<sup>a</sup> Figures for 2018 refer to January–June for El Salvador, Guatemala and Honduras; to January–May for Colombia, Mexico, Nicaragua and Paraguay; to January–March for Jamaica, Peru and the Plurinational State of Bolivia; and to January and February for the Dominican Republic. No data were available for 2018 for Costa Rica and Ecuador at the time of writing.

## 5. In line with the trend seen in all emerging markets, financial inflows into the region declined in the first four months of 2018 and improved thereafter

In 2017, capital and financial inflows into the region contracted by 9% on average, owing mainly to portfolio and other investment outflows from Brazil.<sup>12</sup>

In 2017, as usual, net direct investment represented the largest share of financial inflows into the region as a whole, and amounted to US\$ 134.130 billion, representing growth of 4% compared with the previous year.

<sup>12</sup> These data do not include figures for the Bolivarian Republic of Venezuela.

In contrast, the other components of the financial account posted net outflows that almost doubled the level seen in 2016, mainly reflecting the performance in Brazil, which recorded large net outflows in all components except direct investment in 2017.

A proxy indicator was developed to estimate capital flows in the first months of 2018, as data on flows recorded in balance-of-payments statistics (capital and financial account) are produced quarterly and published with a significant lag (see box I.3)

According to this indicator, net financial inflows into the region fell from the beginning of the year until April, in line with trends seen across all emerging markets (see figure I.22), then improved slightly in May and will likely do so again in June, given the disbursement of the first tranche of the loan granted to Argentina by the International Monetary Fund (amounting to US\$ 15 billion).

### Box I.3

#### Building a proxy indicator for capital flows

The proxy indicator for capital flows was developed in line with that used by Calvo, Izquierdo and Mejía (2004 and 2008), taking the monthly variation in the stock of international reserves and subtracting the trade balance. The rationale is that given the identity of the balance of payments whereby:

- Capital and financial account balance + current account balance + errors and omissions = variation in international reserves
- Then:

- Capital and financial account balance + goods balance + services balance + income balance + current transfers balance + errors and omissions = variation in international reserves

Therefore:

- Capital and financial account balance = variation in international reserves – goods balance – services balance – income balance – current transfers balance – errors and omissions
- Given that all countries publish monthly figures for the trade balance and stock of international reserves, the following can be calculated:
- **Proxy for net capital flows = variation of international reserves – goods balance**

This approach means that the proxy for financial flows includes not just the errors and omissions category of the balance of payments, but also three categories that correspond to the current account: services balance, income balance and current transfers balance.

The analysis of capital flows often groups errors and omissions with the capital and financial account, as they reflect much of the capital flight that occurs in crisis periods. Thus, the inclusion of errors and omissions in the proxy is not problematic.

The income account is structurally negative in the region and includes mainly net interest payments on external debt and the net repatriation of earnings by foreign investment companies. The current transfers balance in Latin America is structurally positive and comprises mainly remittances from migrants to their countries of origin in the region. Although these two accounts —income and current transfers— are significant for some of the region's countries, they may be assumed to remain largely stable over time and, thus, should not introduce spurious volatility in the proxy (Calvo, Izquierdo and Mejía, 2008). Lastly, the services balance in Latin America has been fairly stable in the past few years (see, for example, ECLAC, 2017 and 2018c).

As a result, this proxy indicator could reflect —sometimes quite large— differences from real levels of capital flows, but the trend will be very similar.

To verify this, the (quarterly) series of proxy indicators was compared with the actual quarterly series of aggregate balance-of-payments capital flows for 14 countries in Latin America. As expected, the two series reflected very similar trends, although the proxy indicator was, on average, 35% lower than the real series of balance-of-payments capital flows (see figure).

## Box I.3 (concluded)

Latin America (14 countries): proxy indicator of capital flows and of the capital and financial account, cumulative figures over the last four quarters, March 2011–March 2018

(Millions of dollars)



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

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of G. Calvo, A. Izquierdo and L. Mejía, “Systemic sudden stops: the relevance of balance-sheet effects and financial integration”, *NBER Working Paper*, No. 14026, National Bureau of Economic Research (NBER), May 2008 and “On the empirics of sudden stops: the relevance of balance-sheet effects”, *NBER Working Paper*, No. 10520, National Bureau of Economic Research (NBER), May 2004; ECLAC, *Preliminary Overview of the Economies of Latin America and the Caribbean, 2017* (LC/PUB.2017/28-P), Santiago, February 2018 and *Economic Survey of Latin America and the Caribbean, 2017* (LC/PUB.2017/17-P), Santiago, September 2017.

## Figure I.22

Latin America (14 countries): proxy indicator of capital inflows into the region, 12-month running totals, January 2016–May 2018 (Index: January 2016=100)



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

In light of the trends seen in the first few months of 2018 and the uncertainty and volatility prevailing in international financial markets (see section C on the external context) financial inflows into the region for the full year are likely to be around 6% lower than in 2017.

## 6. The downtrend in the region's sovereign risk since 2016 was reversed as of February 2018

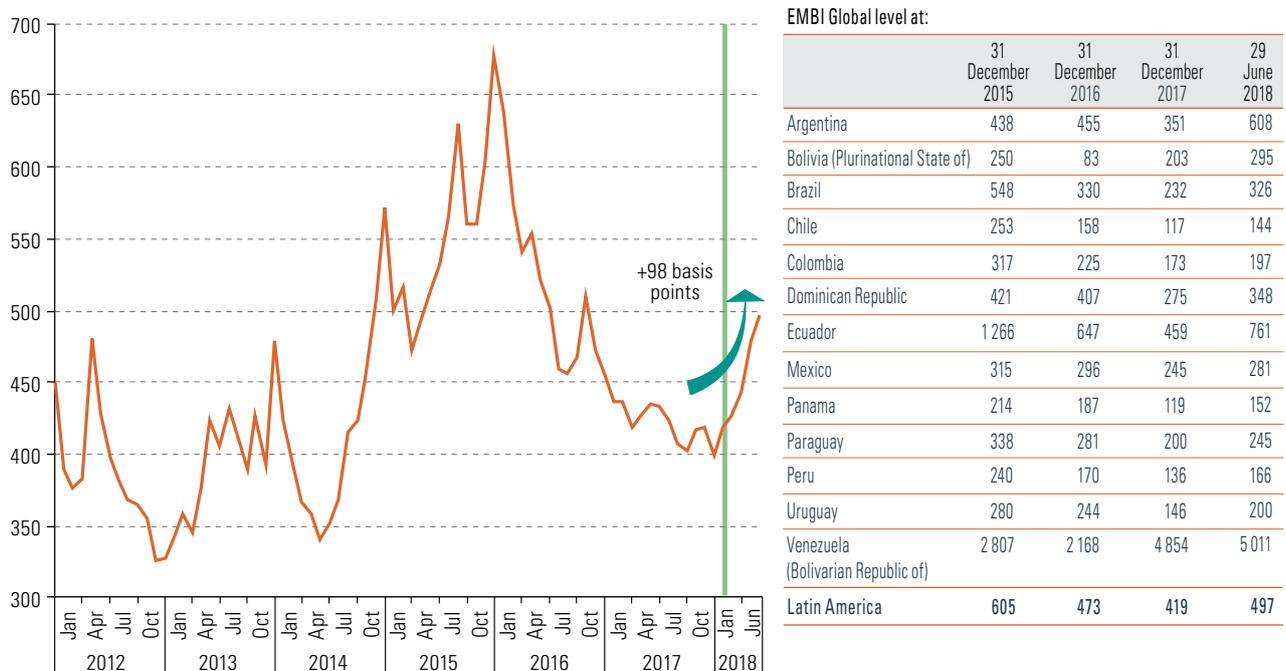
Given the greater tensions in global financial markets, there has been a general increase in sovereign risk in the countries of the region since February 2018. At the end of June, the Emerging Markets Bond Index Global (EMBI Global) recorded a regional average of 497 basis points, which was 98 points higher than at the end of January.

In addition to the international factors behind this increase, there were other factors more specific to certain countries. One example is Argentina, where tensions in currency markets in the past few months pushed the index up to 608 basis points at the end of June, almost 260 points above the level seen in December 2017 (see figure I.23).

**Figure I.23**

Latin America (13 countries): sovereign risk according to the Emerging Markets Bond Index Global (EMBI Global), January 2012–June 2018

(Basis points)



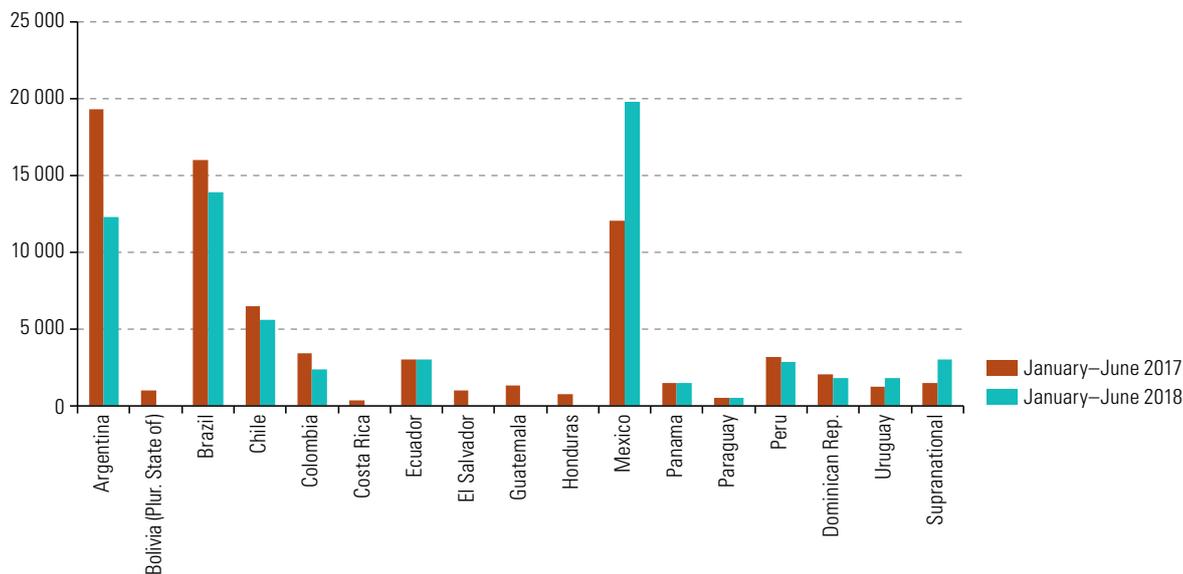
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of figures from JP Morgan.

## 7. Debt issues by the countries of the region in international markets declined by 7% in the first half of the year compared with the year-earlier period

The effects of higher levels of risk and more limited financing for emerging markets are beginning to be felt. Gross debt issues by Latin American and Caribbean countries in international markets amounted to US\$ 68.719 billion in the first six months of 2018, 7% lower than in the year-earlier period. With the exception of Mexico, where debt issues increased sharply, most other countries recorded lower debt issues in the first half of the year compared with the year-earlier period, especially Argentina, which posted a decline of 37%. Moreover, several countries that had issued debt in the first months of 2017 did not do so in early 2018 (for example Costa Rica, El Salvador, Guatemala, Honduras and the Plurinational State of Bolivia) (see figure I.24).

**Figure I.24**

Latin America (16 countries): debt issues in international markets, January–June 2017 and January–June 2018 (Millions of dollars)



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

At the sectoral level, of total debt issues for the first six months of 2018 compared with the year-earlier period, the largest increase was seen in supranational issues (104%), although these represented a small percentage of total issues (just 7%). In contrast, sovereign debt issues, which represented roughly one third of total issues, fell by 13%, while quasi-sovereign issues, which represented 31% of total issues, declined by 23%.

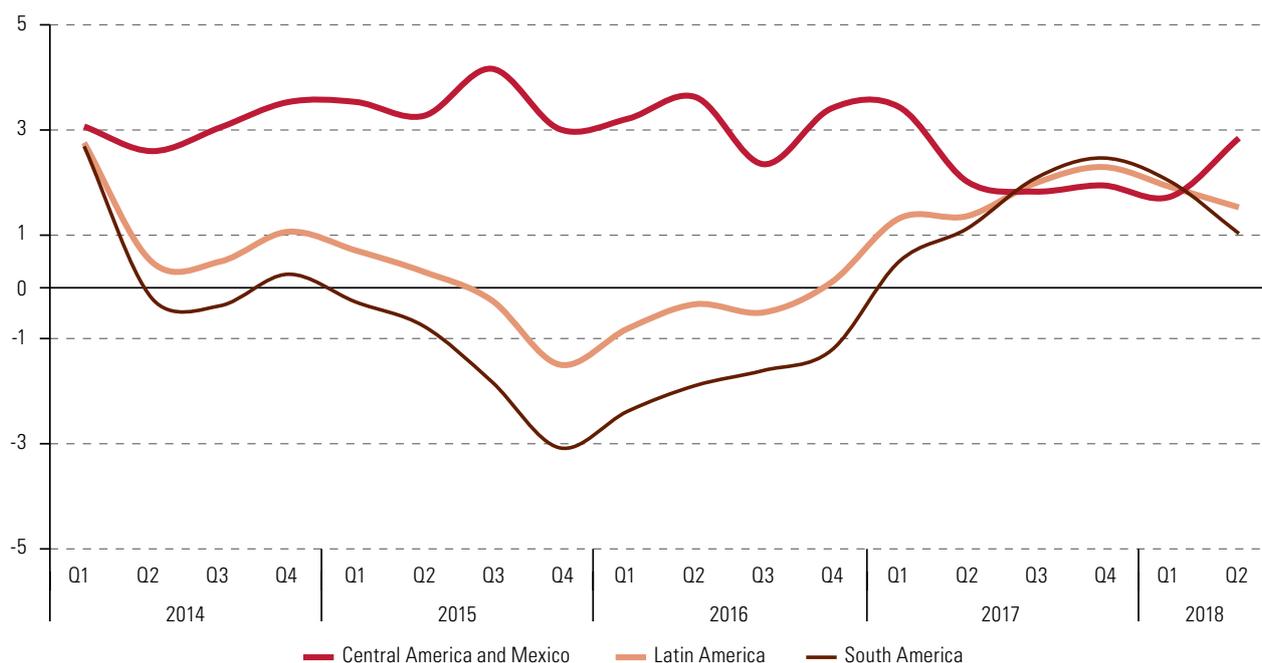
## D. Domestic performance

### 1. Latin America and the Caribbean continue a slow pace of growth in 2018

The gross domestic product (GDP) of Latin America and Caribbean region grew by 1.5% in the second quarter of 2018, slowing slightly with respect to the growth of 1.9% posted in the first quarter (see figure I.25). Economic activity was quite uneven across countries in these two quarters, however: Chile, Colombia, Mexico and Peru saw upturns in growth, while Argentina, the Bolivarian Republic of Venezuela and Brazil recorded downturns.

**Figure I.25**

Latin America: year-on-year change in quarterly GDP, first quarter of 2014–second quarter of 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



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

**Note:** Weighted averages. The data for the second quarter of 2018 are estimates.

After the upturn in the second half of 2017, GDP growth in Latin America and the Caribbean slowed in 2018. However, as mentioned above, specific performance varies quite considerably by country and subregion. In the first half of 2018, growth in the South American economies was around 0.5 percentage points below the 2.2% recorded in the previous 6-month period. However, the economies of Central America and Mexico grew by 2.3% in the first half of 2018, 0.5 points up on the second half of 2017.

## 2. Domestic demand has been boosted by the upturn in investment, while private consumption continues to be the main driver of economic growth

GDP growth was supported by domestic demand momentum, reflecting the recovery in private consumption and investment. Regional domestic demand expanded 2.5% in the first quarter of 2018 on the back of increases in private consumption (2.8%), gross fixed capital formation (4.1%) and, to a lesser extent, public consumption (0.6%), which were offset by a drop in inventories (-2.6%). This rise in domestic demand resulted from improved economic performance in 2017; after falling by 2.0% in 2016, domestic demand climbed throughout 2017, beginning with a 1.7% rise in the first quarter and closing with a jump of 2.8% in the fourth, and ending the year with an overall rise of 2.1%. Overall GDP growth in 2017 may be attributed in part to investment, but the largest positive impact on growth came from private consumption (see figure I.26A).

Private and public consumption rose by 2.2% and 0.7%, respectively, in 2017. The first was driven by the general improvement in the labour market, while the more moderate growth rate of the second reflects the fiscal adjustments that the region's governments have been implementing since 2015.

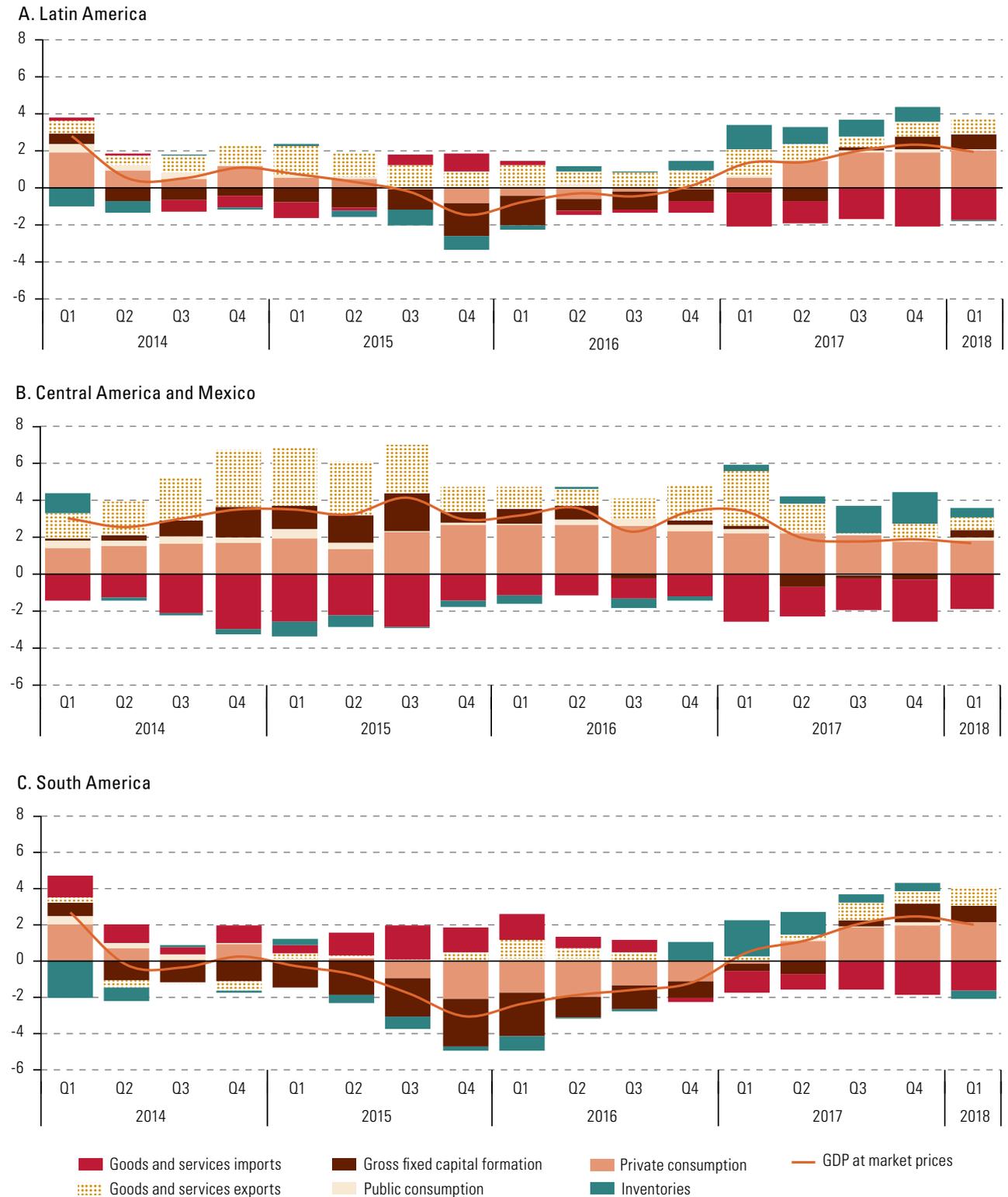
After falling for three consecutive years at an average annual rate of 4.7%, investment in the region rose by 2.8% in 2017. This was owed mainly to rising investment in machinery and equipment and in inventories, rather than investment in construction. At the subregional level, data from national accounts in 2017 showed that, while investment growth in South America reflected stronger gross fixed capital formation and inventories, in Central America and Mexico it was attributable solely to the rise in inventories as—in keeping with the downward trajectory that began in 2016—gross fixed capital formation in these economies contracted in the last three quarters of the year (see figure I.26B and I.26C).

As regards foreign trade in goods and services, despite the half-percentage-point increase in the volume exported over the previous year (3.6%), the external sector's contribution to GDP was negative in 2017 owing to the sharp increase in the volume of imported goods and services (6.0%). This shows, on the one hand, the strengthening performance of domestic demand and, on the other, the slower improvement in the international context.

Data as at first quarter of 2018 show that expenditure components made differing contributions to GDP growth in 2017: in South America, investment and private consumption were the main contributors, while in Central America and Mexico, GDP growth was mostly supported by private consumption, which offset the weak performance of investment (see figures I.26B and I.26C).

**Figure I.26**

Latin America: GDP growth rates and contribution by expenditure components to growth, first quarter of 2014–first quarter of 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



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

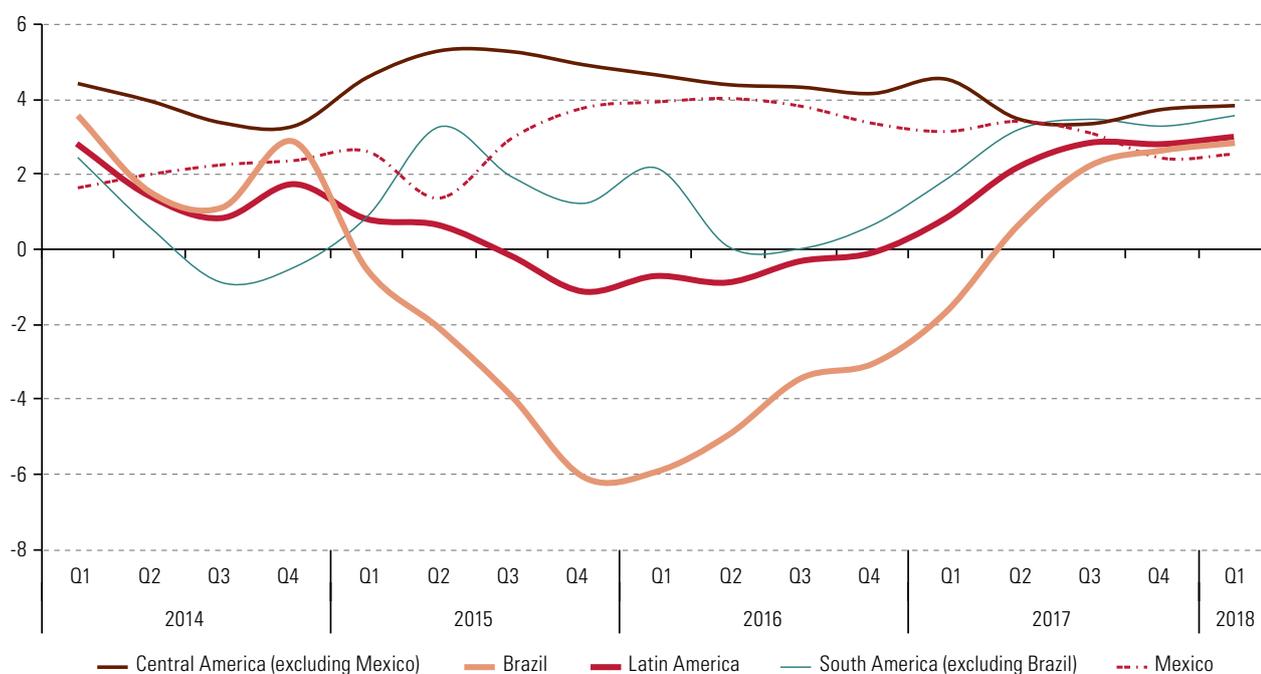
### 3. Private consumption has increased across the board in Latin America

Private consumption rose across Latin America in 2017 and was the main driver of domestic demand. It grew at a rapid pace in the second half of the year, mainly on account of the expansion in Brazil, and had already been trending upwards in the rest of the region since the fourth quarter of 2016.

Private consumption behaved in tune with its main drivers. Real wages picked up in South American countries in 2017, unlike in Central American countries, where they slowed, and in Mexico, where they fell, while gross national disposable income in South America grew hand-in-hand with private consumption. These dynamics were reflected in the subregional growth rates of private consumption (see figure I.27). Employment picked up from the second half of 2017 onward.

**Figure I.27**

Latin America: year-on-year change in private consumption, first quarter of 2014–first quarter of 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



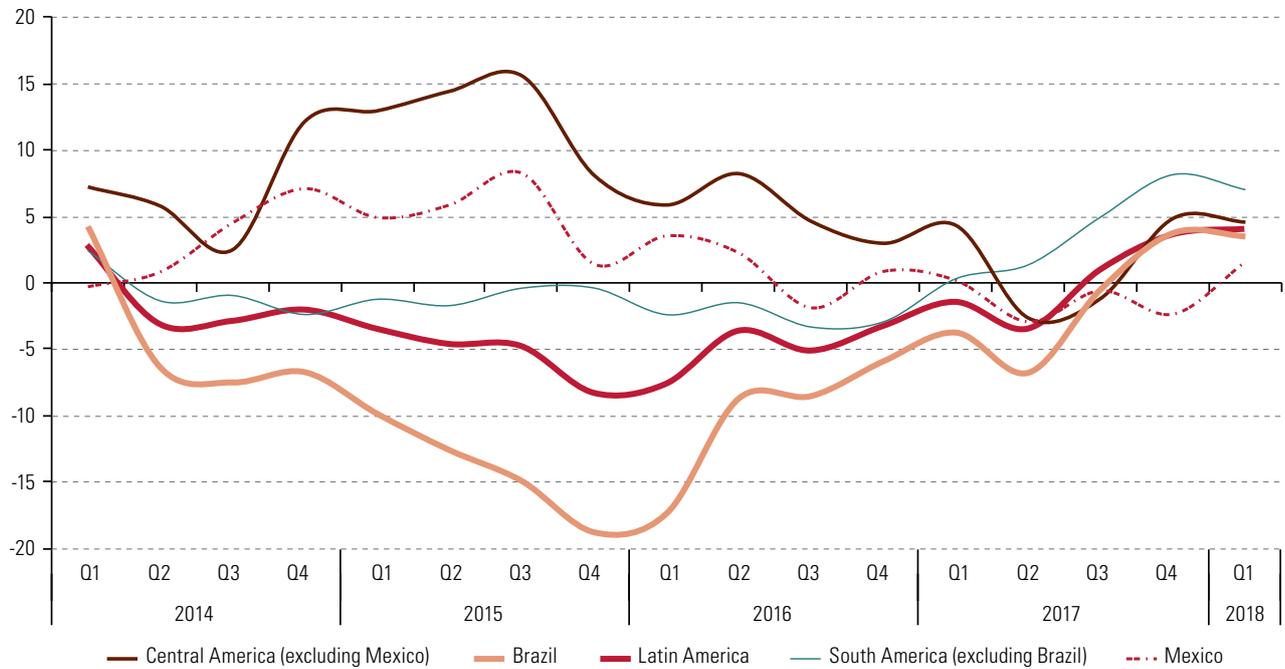
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

### 4. Gross fixed capital formation continued growing in Latin America in the first quarter of 2018

After falling for 13 consecutive quarters, gross fixed capital formation in the region has grown by 2.3% since the second half of 2017, despite falling in Central America and Mexico in some quarters during that period. In the first quarter of 2018, this variable rose in all the subregions, as well as in Brazil and Mexico, resulting in overall growth of 4.1% for the region (see figure I.28).

**Figure I.28**

Latin America: year-on-year change in gross fixed capital formation, first quarter of 2014–first quarter of 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



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

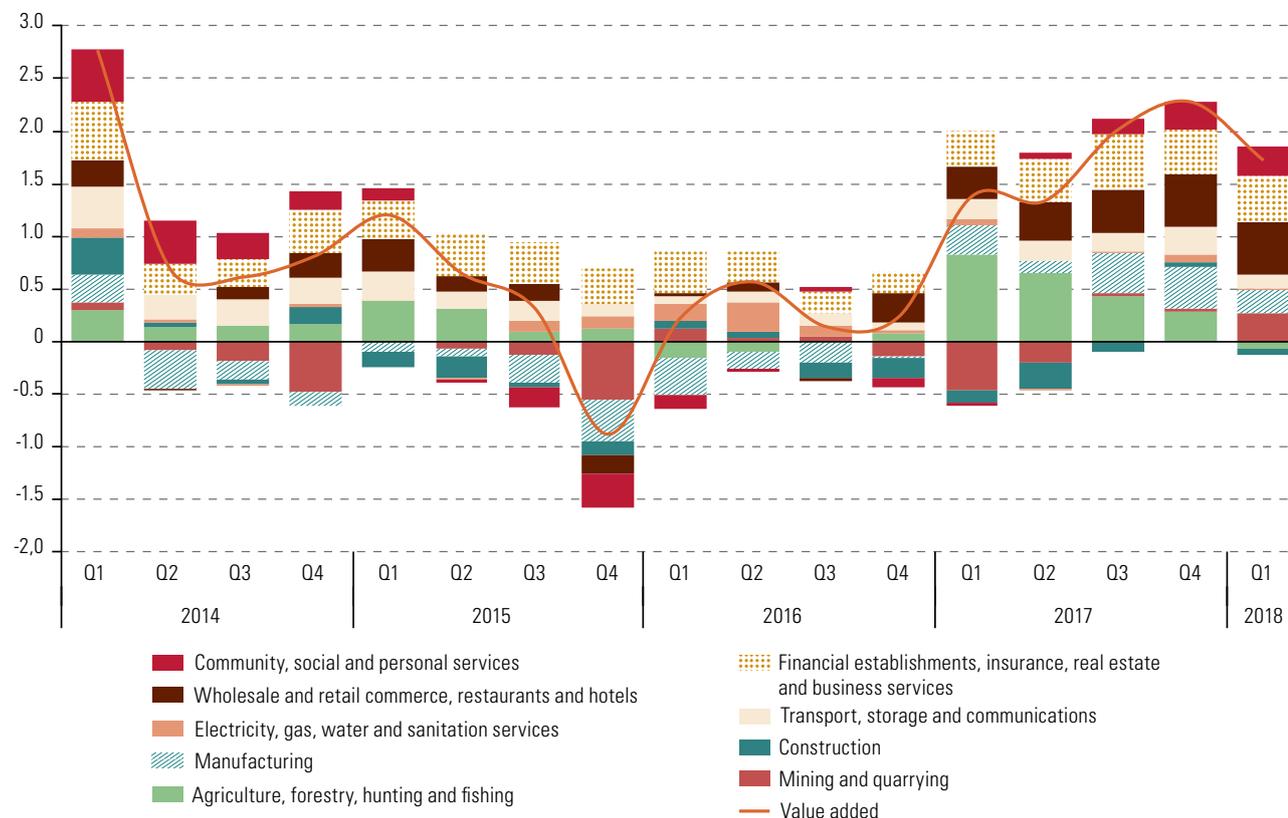
## 5. Services and, to a lesser extent, manufacturing are the main drivers of economic growth

Upturns were posted by both commerce (2.7%) and financial and business services (2.2%) in 2017. Commerce was up thanks to the positive momentum in private consumption—which has been growing since the first quarter of 2017—while the financial and business services sectors benefited from the trend in investment. Similarly, stronger goods and services exports and imports, coupled with more robust domestic demand, drove growth in transport and communications (2.1%) and manufacturing (2.0%). Agriculture was the fastest-growing sector in the regional figures (7.3%), mainly on account of its rapid growth in Brazil (12.1%).

By contrast, construction activity—which reflects investment dynamics—has been contributing negatively to growth since 2015 and posted a downturn of 1.6% in 2017. The contraction of mining and quarrying also weighed on GDP and made the sector the largest detractor of GDP growth (see figure I.29). However, data in the first quarter of 2018 point to a 0.5% upturn in mining and quarrying activities.

**Figure I.29**

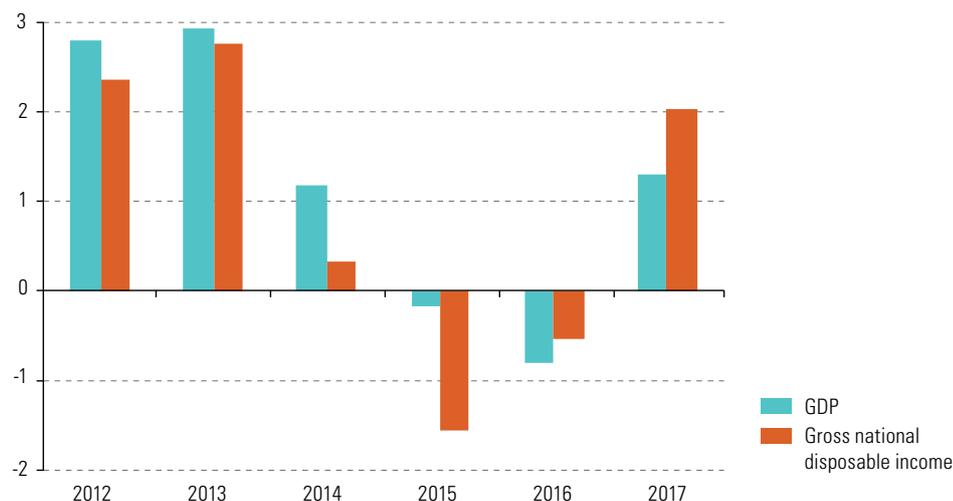
Latin America: value added growth rates and contribution by economic sectors, 2014–first quarter of 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



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

## 6. Improving terms of trade have boosted consumption and investment

Improved terms of trade in 2017, combined with rising incoming transfers, more than offset the increase in net payments abroad (linked to the rise in commodity prices and higher interest payments abroad). As a result, gross national disposable income has risen faster than GDP, thus boosting consumption and investment thanks to rising disposable domestic savings resulting from higher domestic income (see figure I.30). National savings in Latin America have grown over 2016 levels as a percentage of GDP. In current dollars, average gross national savings in 2017 amounted to 17% of GDP (versus 16.8% and 16.7% of GDP in 2016 and 2015, respectively).



**Figure I.30**  
Latin America: variation in gross national disposable income and GDP, 2012–2017  
(Percentages, on the basis of dollars at constant 2010 prices)

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

## 7. In 2017 regional inflation continued the slowdown begun in the latter half of 2016, then picked up in the first half of 2018, especially in South America

In a context marked by the contraction of GDP in 2016, the slow recovery in aggregate demand since then and falling food prices in international markets, inflation eased again in Latin America and the Caribbean in 2017. Regional inflation for 2017 stood at 5.7%, down 1.6 percentage points compared with the end of 2016 (see table I.4). The trend continued until April, when the regional average dropped again before picking up in May and June. The figure to June 2018 shows the regional average up by 0.6 percentage points compared with the prior-year period, reaching 5.9%.

**Table I.4**

Latin America and the Caribbean:<sup>a</sup> 12-month variation in the consumer price index (CPI), December 2015–June 2018 (Percentages)

	To December 2015	To December 2016	To December 2017	To June 2016	To June 2017	To June 2018
<b>Latin America and the Caribbean<sup>b</sup></b>	<b>7.9</b>	<b>7.3</b>	<b>5.7</b>	<b>8.9</b>	<b>5.3</b>	<b>5.9</b>
<b>South America<sup>b</sup></b>	<b>10.6</b>	<b>9.1</b>	<b>5.3</b>	<b>11.8</b>	<b>5.0</b>	<b>6.5</b>
Argentina	27.5	38.5	25.0	45.6	21.9	29.5
Bolivia (Plurinational State of)	3.0	4.0	2.7	4.2	1.8	3.2
Brazil	10.7	6.3	2.9	8.8	3.0	4.4
Chile	4.4	2.7	2.3	4.2	2.7	2.5
Colombia	6.8	5.7	4.1	8.6	4.0	3.2
Ecuador	3.4	1.1	-0.2	1.6	0.2	-0.7
Paraguay	3.1	3.9	4.5	4.7	2.9	4.4
Peru	4.4	3.2	1.4	3.3	2.7	1.4
Uruguay	9.4	8.1	6.6	10.9	5.3	8.1

Table I.4 (concluded)

	To December 2015	To December 2016	To December 2017	To June 2016	To June 2017	To June 2018
<b>Central America and Mexico</b>	<b>2.7</b>	<b>3.7</b>	<b>6.4</b>	<b>3.1</b>	<b>5.9</b>	<b>4.8</b>
Costa Rica	-0.8	0.8	2.6	-0.9	1.8	2.1
Cuba	2.4	-3.0	-3.0	2.1	-2.0	-0.1
Dominican Republic	2.3	1.7	4.2	1.9	2.6	4.6
El Salvador	1.0	-0.9	2.0	0.9	0.9	0.9
Guatemala	3.1	4.2	5.7	4.4	4.4	3.8
Haiti	12.5	14.3	13.3	13.9	15.8	13.0
Honduras	2.4	3.3	4.7	2.4	3.7	4.2
Mexico	2.1	3.4	6.8	2.5	6.3	4.7
Nicaragua	2.9	3.1	5.8	3.5	3.2	5.6
Panama	0.3	1.5	0.5	0.1	0.7	1.2
<b>The Caribbean</b>	<b>3.3</b>	<b>5.4</b>	<b>3.7</b>	<b>6.1</b>	<b>4.0</b>	<b>2.8</b>
Antigua and Barbuda <sup>c</sup>	0.9	-1.1	2.4	-0.5	2.9	0.3
Bahamas <sup>c</sup>	2.0	0.8	1.8	-0.3	1.2	0.5
Barbados <sup>d</sup>	-2.3	3.8	6.6	0.7	2.8	6.2
Belize <sup>e</sup>	-0.6	1.1	1.0	0.1	2.2	-0.6
Dominica <sup>d</sup>	-0.5	0.6	0.6	-0.3	0.4	0.7
Grenada <sup>d</sup>	1.1	0.9	0.5	2.9	0.4	0.4
Guyana <sup>e</sup>	-1.8	1.4	1.5	1.0	1.5	0.6
Jamaica	3.7	1.7	5.2	2.5	4.4	3.9
Saint Kitts and Nevis <sup>d</sup>	-2.4	0.0	1.4	-0.6	0.4	-0.1
Saint Lucia <sup>d</sup>	-2.6	-2.8	-0.9	-4.2	1.0	1.9
Saint Vincent and the Grenadines <sup>d</sup>	-2.1	1.0	3.0	0.9	1.5	3.1
Suriname <sup>d</sup>	25.2	49.2	9.3	57.5	19.8	8.7
Trinidad and Tobago <sup>e</sup>	1.5	3.1	1.3	3.4	1.5	0.8

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

<sup>a</sup> Regional and subregional averages are population-weighted.

<sup>b</sup> Excludes the Bolivarian Republic of Venezuela owing to the lack of official monthly information from December 2015 to January 2017.

<sup>c</sup> Data to March 2018.

<sup>d</sup> Data to April 2018.

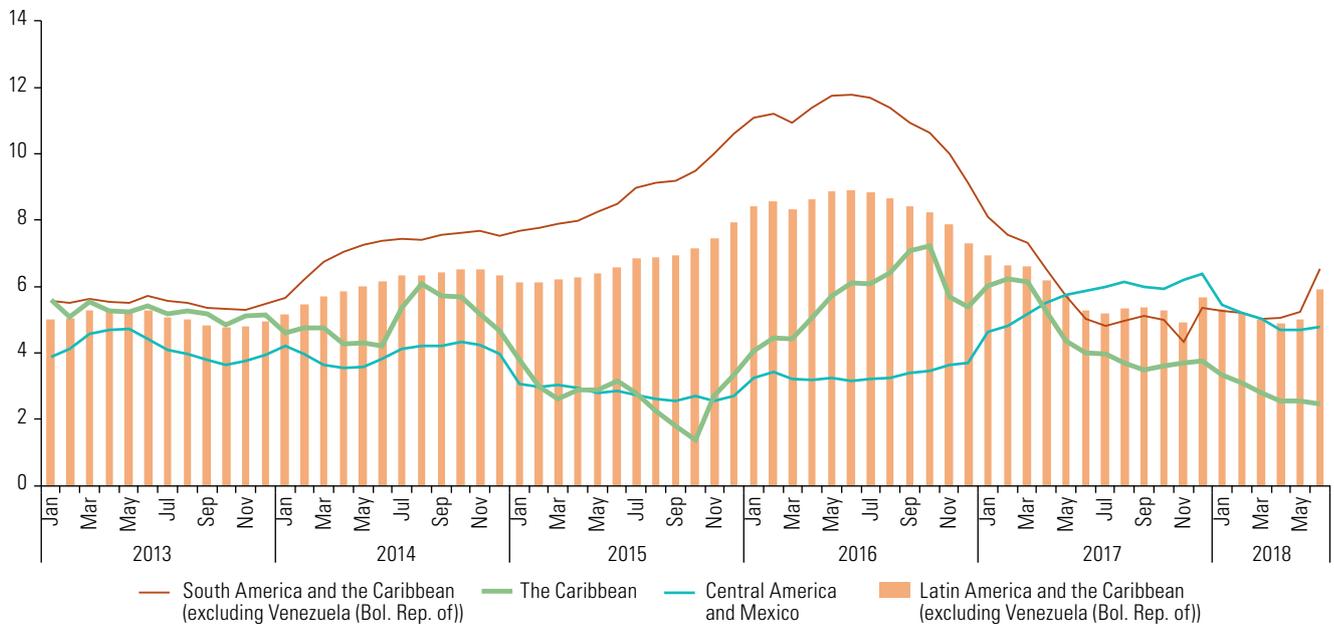
<sup>e</sup> Data to May 2018.

Figure I.31 shows the significant disinflation recorded since mid-2016, as well as the very different behaviour of inflation between the first and the second half of 2017. Inflation in the region as a whole continued to fall rapidly in the first half of the year, from 7.3% in December 2016 to 5.3% in June 2017. It then stabilized in the second half, fluctuating around 5.3% and peaking at 5.7% in December. The figure also shows that in June 2018, year-on-year inflation was 0.9 percentage points higher than the previous month.

Figure I.31 illustrates that in 2017, inflation slowed in the economies of South America and the non-Spanish-speaking Caribbean, but accelerated in the economies of Central America and Mexico. These dissimilar inflation patterns no doubt reflect the differences in exchange-rate movements in these subregions in the second half of 2016 and first half of 2017.

**Figure I.31**

Latin America and the Caribbean: consumer price index (CPI), weighted average 12-month rates of variation, January 2013–June 2018  
(Percentages)



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

In 2017 inflation slowed in 15 countries; the largest disinflations occurred in Suriname (39.9 percentage points), Argentina (13.5 percentage points) and Brazil (3.3 percentage points). Conversely, it quickened in 15 countries, with the steepest rises in Antigua and Barbuda and Jamaica (3.5 percentage points) and Mexico (3.4 percentage points). As mentioned above, such disparate trends in inflation primarily reflect different exchange-rate dynamics. For some countries, exchange-rate appreciation in 2017 helped to lower inflation (Brazil, Chile, Colombia, Peru and Suriname, among others); in others, currency depreciation pushed up inflation rates (Costa Rica, Dominican Republic, Honduras, Mexico and Nicaragua, among others). Similarly, dependence on oil imports resulted in greater inflation in some economies of the region, particularly in those with fixed exchange-rate regimes, as in the case of some non-Spanish-speaking countries of the Caribbean. In some economies, however, the effects of higher oil prices were offset by energy subsidies and, in some cases, exchange-rate appreciation.

In the Bolivarian Republic of Venezuela, inflation skyrocketed from the 302% observed in 2016 to 2,582% in 2017.<sup>13</sup> Since November 2017, the country's monthly inflation rate has exceeded 50%. The main factors driving the high inflation are the monetary financing of the public sector by the central bank—in 2016 and 2017 this represented more than 19% of GDP—and the consequent depreciation of both the official and parallel exchange rates, by 396% and 3,027%, respectively.

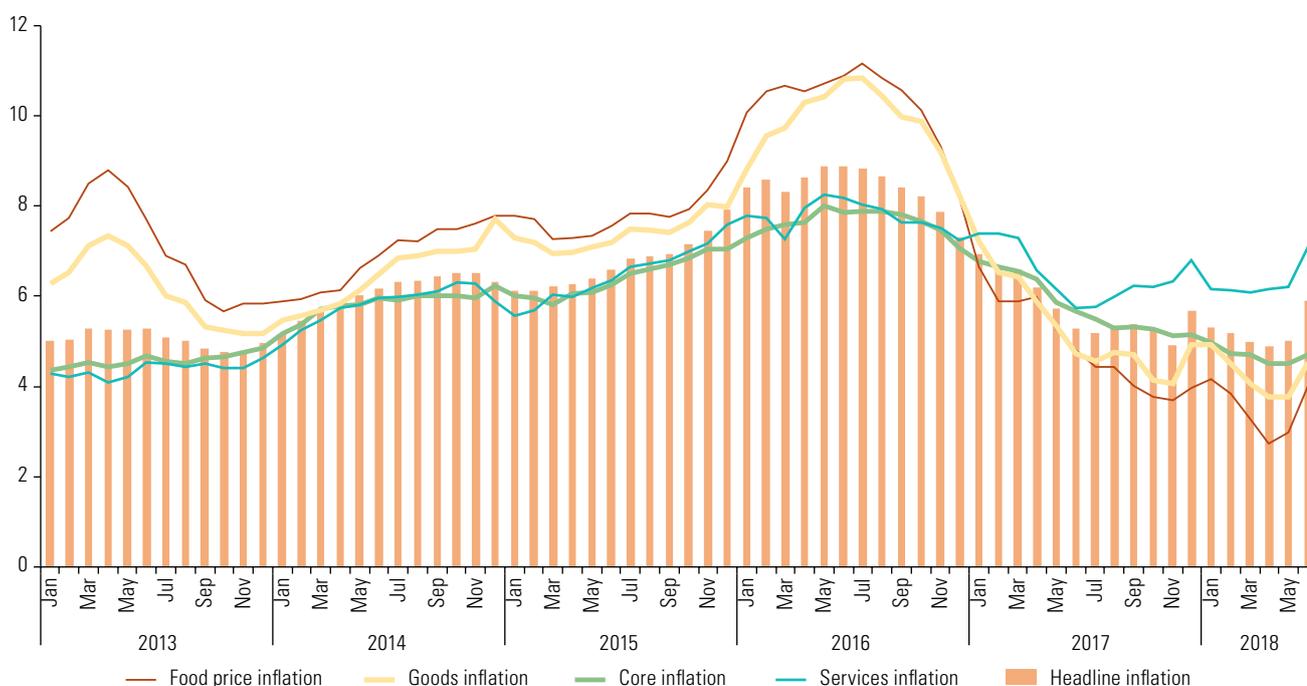
<sup>13</sup> The Central Bank of Venezuela (BCV) has not published data on inflation since December 2015, hence the absence of figures for the Bolivarian Republic of Venezuela in table I.4. Figures for inflation for 2016 are based on annual data provided by the central bank to the International Monetary Fund (IMF) and published by IMF. Beginning in January 2017, the data have been based on the monthly consumer price index released by the country's National Assembly.

## 8. Inflation in goods —especially in food prices— fell more quickly than headline inflation in 2017

In 2017, all components of inflation fell across the region, with the largest drops in prices of goods, particularly food (see figure I.32). Goods price inflation in Latin America and the Caribbean fell by 3.4 percentage points in 2017, to 4.9%, down from 8.3% in 2016. In South America, inflation in goods was down by 6.6 percentage points, while in the subregion comprising Central America and Mexico it rose by 3.0 percentage points. In the non-Spanish-speaking Caribbean, it plunged 22.7 percentage points between 2016 and 2017, driven down by the sharp slowdown in inflation in Suriname (56.9 percentage points). The largest declines in goods price inflation were in Argentina (13 percentage points), Brazil (8.5 points) and Suriname, while the largest increases were in the Dominican Republic (5.7 percentage points), Jamaica (5.3 percentage points) and Nicaragua (3.5 percentage points).

**Figure I.32**

Latin America and the Caribbean: 12-month rates of variation in the headline, core, food, goods and services consumer price indices, weighted averages, January 2013–June 2018 (Percentages)



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

Inflation in foods and non-alcoholic beverages in the region overall fell more quickly than goods inflation, registering a drop of 4.2 percentage points between 2016 and 2017. At the subregional level, there were notable declines of 8.2 percentage points in South America and of 16.9 percentage points in the non-Spanish-speaking Caribbean, which offset the 3.7 percentage point increase registered in the Central America and Mexico group. As in the case of goods inflation, the largest slowdowns were recorded in Suriname (52 percentage points), Argentina (13.1 percentage points) and Brazil (10.5 percentage points).

Core inflation also dropped, with the regional average falling from 7.1% in December 2016 to 5.1% in December 2017. By subregion, core inflation fell by 3.3 percentage points in

the South American economies and by 20.1 percentage points in the non-Spanish-speaking Caribbean but edged up by 0.8 percentage points in the Central America and Mexico group. Core inflation eased the most in Suriname, Argentina and Trinidad and Tobago; while Dominica, Antigua and Barbuda and Barbados were the countries that posted the largest increases.

## 9. The forces driving down inflation remained in place in the first four months of 2018, but greater exchange-rate volatility and hikes in the prices of energy and some services caused an upswing in inflation between May and June

During the first four months of 2018, headline inflation for the region as a whole fell by 1.3 percentage points year on year, as shown by comparisons between cumulative 12-month inflation to April 2017 (6.2%) and to April 2018 (4.9%). Headline inflation eased in all subregions, falling by 1.5 percentage points in South America, 0.8 percentage points in the Central America and Mexico group, and 2.5 percentage points in the non-Spanish-speaking Caribbean. However, between May and June 2018, inflation rebounded by 1.0 percentage point compared with the year-earlier figure, reaching 5.9% at the close of the first half of 2018.

By subregion, the largest increase in prices was seen in South America, where 12-month inflation rose from 5.0% in June 2017 to 6.5% in June 2018. In this subregion, only Colombia, Ecuador and Peru saw a decrease in inflation, while it quickened the most in Argentina, Brazil and Uruguay. In the group comprising Central America and Mexico, inflation eased in the first six months of 2018, reflecting the fall registered in Guatemala, Haiti and Mexico, which offset the increase in Costa Rica, the Dominican Republic, Honduras, Nicaragua and Panama. In the non-Spanish-speaking Caribbean, inflation was down by 1.2 percentage points, owing to lower inflation recorded in nine economies of that subregion (see figure I.32).

As in 2017, in the first half of 2018 the variation of inflation in the region has been determined by exchange-rate movements, slow economic growth, energy prices and subsidies and adjustments in public transport fares, as well as the monetary financing of fiscal deficits.

Inflation in the foods and non-alcoholic beverages category continued to fall more quickly than in others in the first four months of 2018, dropping 3.3 percentage points year-on-year from 6% in April 2017 to 2.7% in April 2018. In that same period, goods inflation fell by 2.1 percentage points, from 5.9% to 3.8%, while core inflation dipped by 1.9 percentage points, from 6.4% to 4.5%. Services inflation remained steady, with the rate registered in April 2018 down by a mere 0.4 percentage points on the 6.6% observed in April 2017 (see figure I.33). However, depreciations observed in several countries, especially Argentina, Brazil and Uruguay; tariff adjustments in Argentina; and the direct and indirect effects of the transportation strike in Brazil are some of the factors that pushed up regional inflation between April and June 2018. By component of headline inflation, year-on-year inflation rose in food (1.32 percentage points), services (0.9 percentage points) and tradable goods (0.8 percentage points) during that period, resulting in 12-month inflation of 4.0%, 7.1% and 4.5%, respectively, at June 2018. In this context of quickening inflation, core inflation rose 0.2 percentage points between April and June 2018, reaching a cumulative 12-month rate of 4.7% in June.

## 10. A moderately improving trend in the performance of the regional labour market can be identified for the first quarter of 2018

The region's urban open unemployment rate stopped rising in the first quarter of 2018 for the first time since the second quarter of 2014, reaching 10.2% for a group of countries on which information is available, whereas in the same period the previous year it was 10.3%.<sup>14</sup> This strengthened the tendency towards a gradual reversal of the sharp deterioration in labour market conditions that the region overall suffered during the growth slowdown which culminated in negative output growth in 2015 and 2016.

This gradual reversal meant small improvements in some variables and slower deterioration in others. Not only did the unemployment rate improve, but there was a year-on-year increase of 0.2 percentage points in the employment rate, while wage employment growth picked up slightly. As against this, some indicators of employment quality displayed a continuing if more moderate deterioration, as own-account work carried on expanding by more than wage work, which is generally of higher quality. At the same time, real wages continued to edge upward, although in the countries of South America the increases were smaller than the previous year.

## 11. Regional unemployment rose again in 2017, although by less than the year before, and there were signs of a change in trend

The evolution of the regional labour market during 2017 reflected the modest recovery in economic growth in Latin America and the Caribbean after two years of declining output. The overall employment situation continued to worsen, but by less than in the previous years and with signs of improvement towards the end of the year. Notably, the urban employment rate stabilized on average in 2017 after contracting by 1.4 percentage points between 2013 and 2016, with a small year-on-year increase in the second half of the year. Underlying this evolution in the level of employment was stronger wage employment growth of about 0.3%, reflecting stronger demand for labour following a contraction of 0.4% in 2016. However, this increase in wage employment was not enough to absorb the rising supply of workers and, as in the previous years, own-account work (usually taken to be of lower quality than wage work) again rose more strongly, by 1.8%. At the same time, inadequate job creation contributed to the third consecutive increase in the region's urban open unemployment rate, which rose from 8.9% to 9.3%, although this was a significantly smaller increase than the rise of 1.6 percentage points in 2016.

At the same time, median formal wages in the countries for which information is available rose by 1.6%, specifically in South American countries benefiting from a decline in inflation. All in all, a slightly better employment performance than in the previous years and growing real wages helped to strengthen household consumption, which played an important role in swelling domestic demand and thence facilitating the incipient economic recovery seen in 2017.

<sup>14</sup> This includes information on Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Jamaica, Mexico, Peru and Uruguay.

## 12. Employment and unemployment rates improved slightly in the first quarter of 2018

The small year-on-year drop in the unemployment rate intensified the trend seen since the fourth quarter of 2016, which was one of continuing but ever-smaller rises. Persistent year-on-year increases of some 0.2 percentage points in the employment rate from the third quarter of 2017 onward were the main factor in declining unemployment. Consequently, as seen in figure I.33, the employment rate for the 11 countries mentioned rose slowly year on year from the second half of 2017, reaching 57.1% in the twelve-month period from the second quarter of 2017 to the first of 2018.

A. Four-quarter moving averages

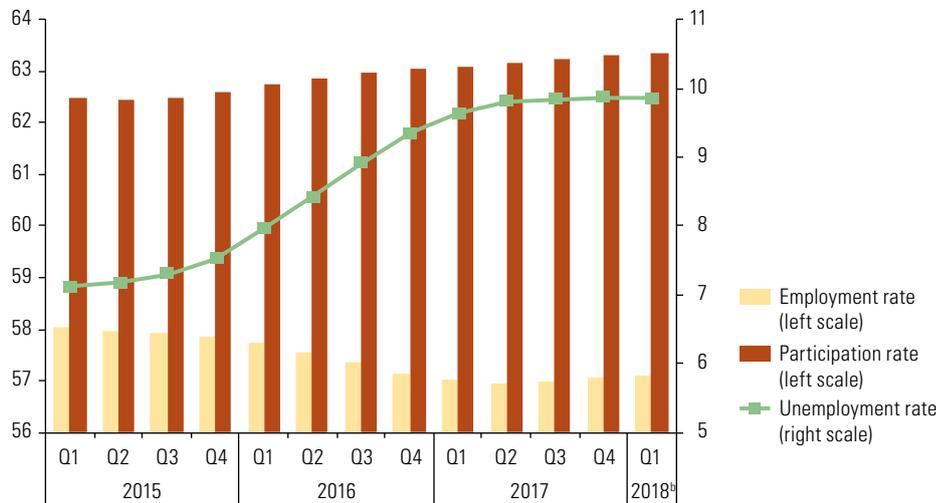
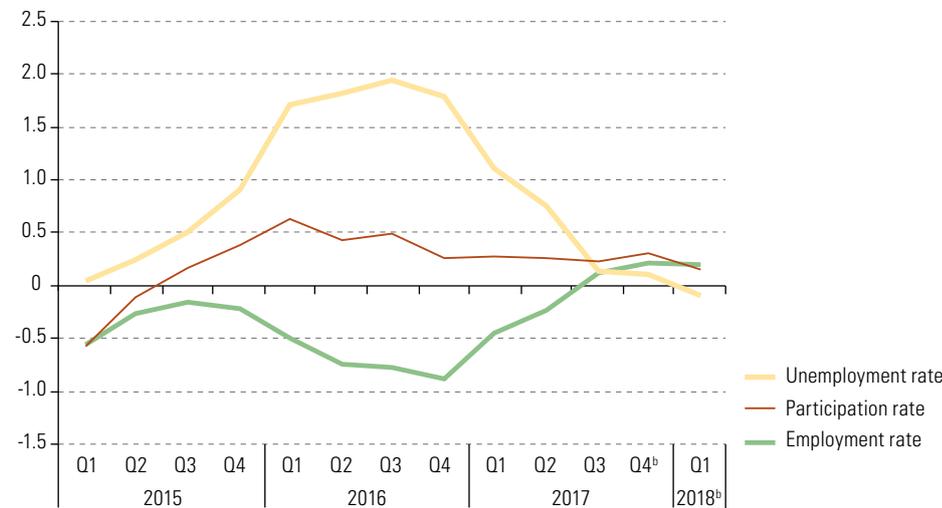


Figure I.33

Latin America and the Caribbean (11 countries<sup>a</sup>): employment, participation and unemployment rates and year-on-year changes, first quarter of 2015 to first quarter of 2018 (Percentages and percentage points)

B. Year-on-year rates of change



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

<sup>a</sup> The countries are Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Jamaica, Mexico, Peru and Uruguay.

<sup>b</sup> Preliminary figures.

The impact of the rising employment rate on unemployment was somewhat stronger than in previous quarters, as there were fewer new entrants into the labour market. Indeed, the participation rate, although it continued rising, did so more moderately than at any time since late 2015.

Thus, as already highlighted, after 13 consecutive months of year-on-year rises in these 11 countries overall, the unemployment rate fell very slightly from 10.3% in the first quarter of 2017 to 10.2% in the same period of 2018, although this improvement has yet to show up in the 12-month measurement (see figure I.33).

That there has as yet been no substantial reversal of the earlier deterioration in the labour market is confirmed by the fact that of the 11 countries for which year-on-year information is available, the urban unemployment rate rose in five (Chile, Colombia, Costa Rica, Ecuador and Uruguay) and held steady in one (Argentina), while in most of the five countries that succeeded in reducing unemployment (Brazil, the Dominican Republic, Jamaica, Mexico and Peru), the rate declined only slightly (see table A.23 in the statistical annex). Nonetheless, this second group of countries includes the two largest economies in Latin America, which helped to improve the regional average.

A sex-differentiated analysis of the evolution of participation, employment and unemployment rates at the national level (instead of for urban areas) shows the following: the employment rate improved in much the same way as in urban areas, whereas the participation rate declined, albeit very slightly. Consequently, the year-on-year decline of the unemployment rate was somewhat greater at the national level than in urban areas, at 0.3 percentage points (see figure I.34).

**Figure I.34**  
Latin America and the Caribbean (10 countries<sup>a</sup>): year-on-year changes in national participation, employment and unemployment rates by sex, weighted averages, first quarter of 2018 (Percentage points)



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

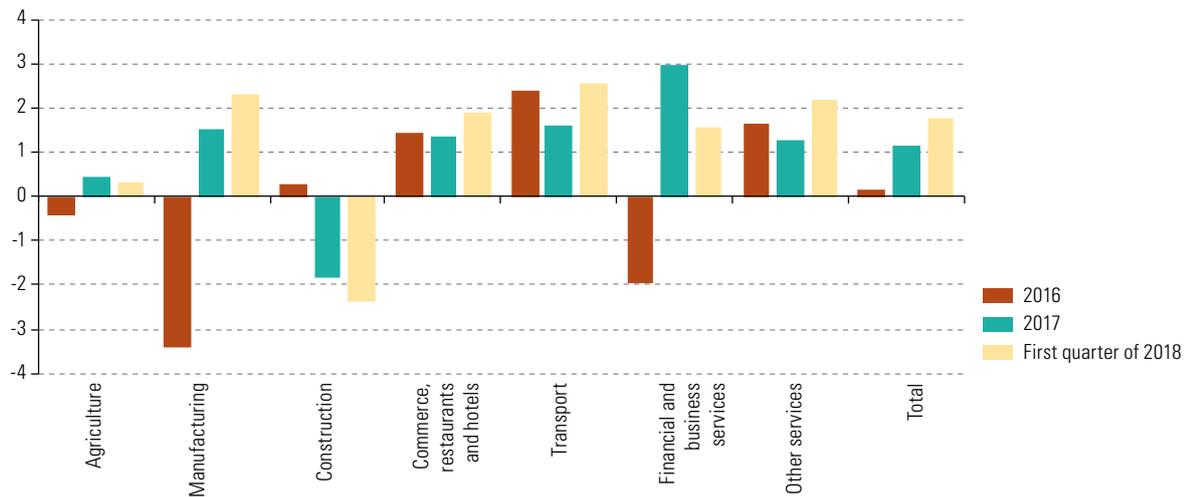
<sup>a</sup> The countries are Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Jamaica, Mexico, Peru and Uruguay.

When the evolution of these variables is differentiated by sex, the changes in participation and employment rates reveal a continuous long-term trend towards a narrowing of the gap between men and women, with the participation rate falling and the employment rate remaining virtually unchanged for men and both rates rising for women. The outcome has been that the unemployment rate has declined by a similar amount for both sexes, although this has been due to greater job creation in the case of women and a decline in the participation rate in that of men.

In sectoral terms, the most salient development has been the revival of manufacturing employment, which had contracted in 2016 before beginning to pick up again in 2017. At the same time, employment in construction continued to decline, reflecting the weakness of investment in the sector. Tertiary activities have retained a degree of dynamism, with transport, communal, social and personal services and trade, restaurants and hotels doing particularly well (see figure I.35).

**Figure I.35**

Latin America (9 countries<sup>a</sup>): year-on-year changes in employment by branch of activity, 2016 to first quarter of 2018  
(Percentages)



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

<sup>a</sup> The countries are Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Jamaica, Mexico and Peru.

### 13. Deteriorating average employment quality remains a major challenge

The rise in the employment rate is largely explained by the behaviour of wage employment, the largest category. Between 2015 and 2017, the level of this type of employment (which tends to track output closely) grew at rates of 0.3%, -0.4% and 0.3%, respectively. A preliminary estimate for the first quarter of 2018 yields a rise of 1.4%, reflecting the economic growth in that period.

While the increased dynamism of new wage employment is unquestionably good news, the demand for labour was still fairly weak, and own-account work carried on expanding at a higher rate (2.5%), indicating a further deterioration in average employment quality, since most such work in the region is done under substandard conditions. At the same time, improving or deteriorating trends in employment quality are not linked solely to the occupational categories in which the new sources of earnings arise. As pointed out in box I.4, changes in the characteristics of wage employment itself also play an important role.

**Box I.4**

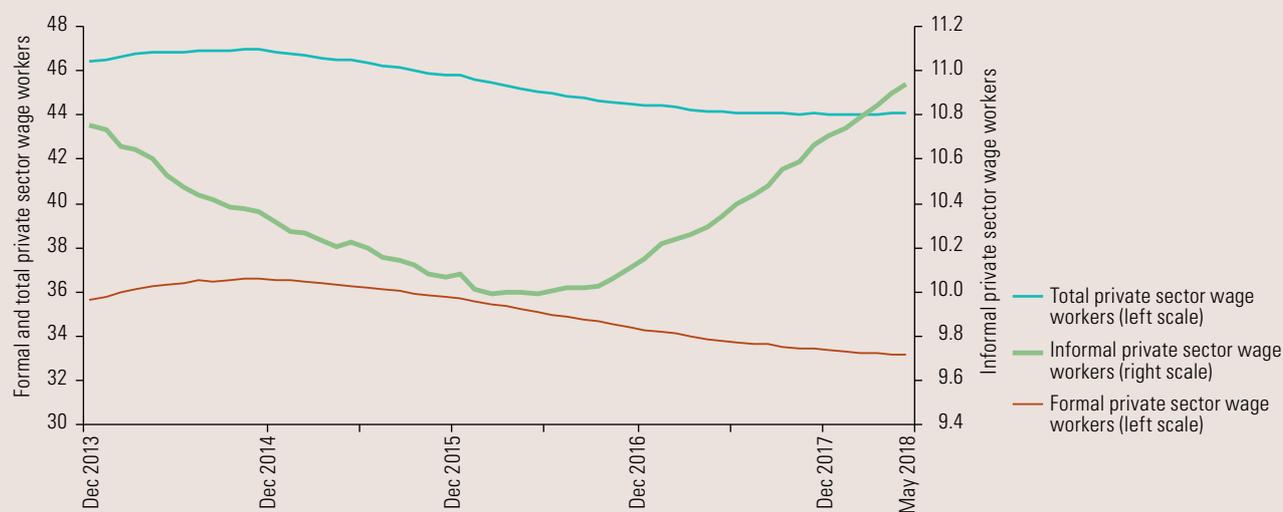
## Deteriorating employment quality in phases of low economic growth: the recomposition of wage employment

The close correlation between wage employment and economic growth in Latin America and the Caribbean is well established, with strongly expanding output reflected in large increases in the demand for labour and thence a marked increase in wage employment, whereas employment in this category grows only slowly when economic growth rates are low. By contrast, own-account work, the second-largest category in the region in terms of the numbers employed, tends to show a predominantly countercyclical evolution, mainly because the dearth of new wage employment during phases of low growth and the absence or weakness of social protection mechanisms for the unemployed forces the members of many households to generate earnings by creating their own employment.<sup>a</sup> This type of work, arising not from the demand for labour but from the needs of households, particularly low-income ones, and thus from the pressure of the labour supply, is usually informal and of low quality in terms of incomes, protection and other benefits. Consequently, average employment quality usually declines during phases of low growth, while phases of higher growth create scope for better employment conditions.

However, not only do own-account workers have poor-quality jobs, but many wage workers also lack the benefits that derive from a formal contract, instead working informally. During the years of stronger growth between the early 2000s and the beginning of the current decade, many countries in the region succeeded in improving average employment quality by increasing the proportion of formal wage employment. This took place mainly through two channels: first, the generation of new formal wage-paying jobs, and second, the formalization of existing informal jobs.

In fact, the proportion of formal wage employment, which can be taken as a proxy for good-quality employment, is determined not only by its evolution relative to non-wage employment, particularly own-account work, but also by its performance compared to informal wage work. In the case of Brazil, it can be seen that as the economy moved through different phases of the cycle over the period from 2013 to mid-2018, not only the number of wage-paying jobs created but also their composition affected changes in average employment quality. Both these factors initially played an important role in the growth of formal private sector wage employment in Brazil and its share of overall employment. As can be seen in the figure, the Continuous National Household Survey still found a rise in private sector wage employment in 2014 (from an average of 46.4 million people in 2013 to 46.8 million in 2014), and this was due to higher formal employment, which rose from 35.7 to 36.5 million people, while informal employment dropped from 10.8 million to 10.4 million.

Brazil: private sector wage employment, by formality status, twelve-month moving averages, periods from January to December 2013 and from June 2017 to May 2018  
(Millions of people)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Brazilian Geographical and Statistical Institute (IBGE), Continuous National Household Survey (PNAD-C).

**Box I.4 (concluded)**

The economic crisis of 2015, when GDP dropped by 3.5%, led to a large decline in the demand for labour, and average formal and informal wage employment in the year fell to 35.7 million and 10.1 million, respectively, an overall loss of about a million wage-paying jobs.

A third phase began in the second half of 2016, when informal wage employment began to grow while formal wage employment continued to decline. When the twelve-month average from June 2015 to May 2016 is compared with that from June 2017 to May 2018, the number of informal private sector wage workers is found to have risen by 900,000, from 10.0 to 10.9 million people. This does not seem to have reflected any revival in labour demand, since at the same time formal wage employment carried on dropping, from 35.1 million to 33.1 million people. Consequently, it may be assumed that much of the rise in informal wage employment reflects not new job creation but the informalization of existing formal jobs. This might be explained by business cost reduction strategies in a context of low economic dynamism. On the workers' side, it may be assumed that the large rise in unemployment suffered by Brazil in the period (from 6.8% in 2014 to 12.7% in 2017 nationally) and the decline in the number of formal jobs forced them to accept the substandard employment conditions characterizing informal wage-paying jobs.

This analysis confirms that in Brazil, besides the deterioration in average employment quality resulting from the shift towards a higher proportion of own-account work, the informalization of wage employment was a second factor affecting the labour market during the crisis.

As the chart shows, private sector wage employment has held steady since the twelve-month period ending in October 2017, with the ever-milder decline in formal private sector wage employment being offset by an increase in its informal counterpart. In the quarter from January to March 2018, the Continuous National Household Survey shows a year-on-year increase in the number of private sector wage workers for the first time since the September–November 2014 quarter, although the change in formal private sector employment was still negative year on year. In any event, as figure I.36 shows for the first calendar quarter of 2018, employment information reported in the company register now indicates a positive year-on-year change, suggesting that in the course of 2018 the Continuous National Household Survey data should reveal the start of a fourth phase in which both total and formal private sector wage employment rise. It remains to be seen whether this fourth phase has the same characteristics as the first (a rise in formal private sector wage employment and a drop in its informal counterpart) or whether, in the context of still moderate economic growth, informal wage employment carries on growing alongside formal employment. In the latter case, it would take longer to make good the loss of employment quality suffered by the Brazilian labour market over recent years. Also important to assess is whether the formalization and inspection policies that played an important part in improving employment quality in the country during the pre-crisis years can be successfully reactivated.

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

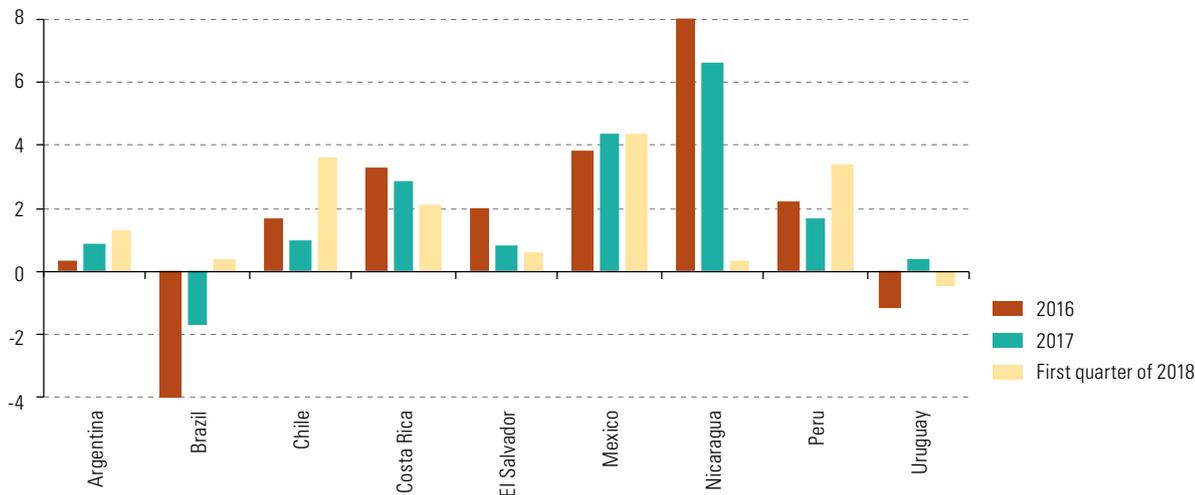
<sup>a</sup> Obviously, not all own-account work is due to this countercyclical dynamic. Such work also arises when people wish to take advantage of a good economic environment that holds out the prospect of expanding markets for certain goods and services, when people who have studied at university begin their careers as self-employed professionals or when entrepreneurs start a business that they hope to subsequently turn into an expanding formal enterprise.

The evolution of registered employment, presented as a proxy for good-quality employment, was mixed during the first quarter of 2018. There were small improvements in Argentina and Brazil, in the latter case with year-on-year increases for the first time after three consecutive years of declines, and in Chile and Peru (see figure I.36).<sup>15</sup>

<sup>15</sup> It should be recalled that the evolution of registered employment reflects not only jobs created and destroyed but the formalization or informalization of existing jobs.

**Figure I.36**

Latin America (selected countries): year-on-year changes in registered employment, 2016 to first quarter of 2018 (Percentages)



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

**Note:** The data are for wage earners contributing to social security systems, except in the case of Brazil where they are for private sector wage earners reported by firms to the General Register of the Employed and Unemployed.

In Uruguay, by contrast, the absolute number of formal workers fell back slightly after a small recovery in 2017. Of the countries in the north of the region, Mexico has maintained a fairly high rate of growth in the number of contributors to the Mexican Social Security Institute (IMSS), whereas the pace of increase in Costa Rica and El Salvador has declined slightly. A special case is Nicaragua, where the number of contributors to the Nicaraguan Social Security Institute increased by 5% or more in every year from 2004 to 2017 except 2009. This process came to a sudden halt at the start of the current year, in a context of severe social and political tensions that were in fact triggered by a proposed reform to the Institute.

In sum, there is no general pattern of improvement in the number of good-quality jobs. However, an estimate that weights rates of change in each of the countries by their economically active population does show a fairly positive result because of the moderate improvements in Argentina and Brazil and the continuing and quite strong rise in registered employment in Mexico. Whereas weighted average rates of change of 0.4% and 0.8% are estimated for 2016 and 2017, respectively, the rate rose to 1.9% in the first quarter of 2018.

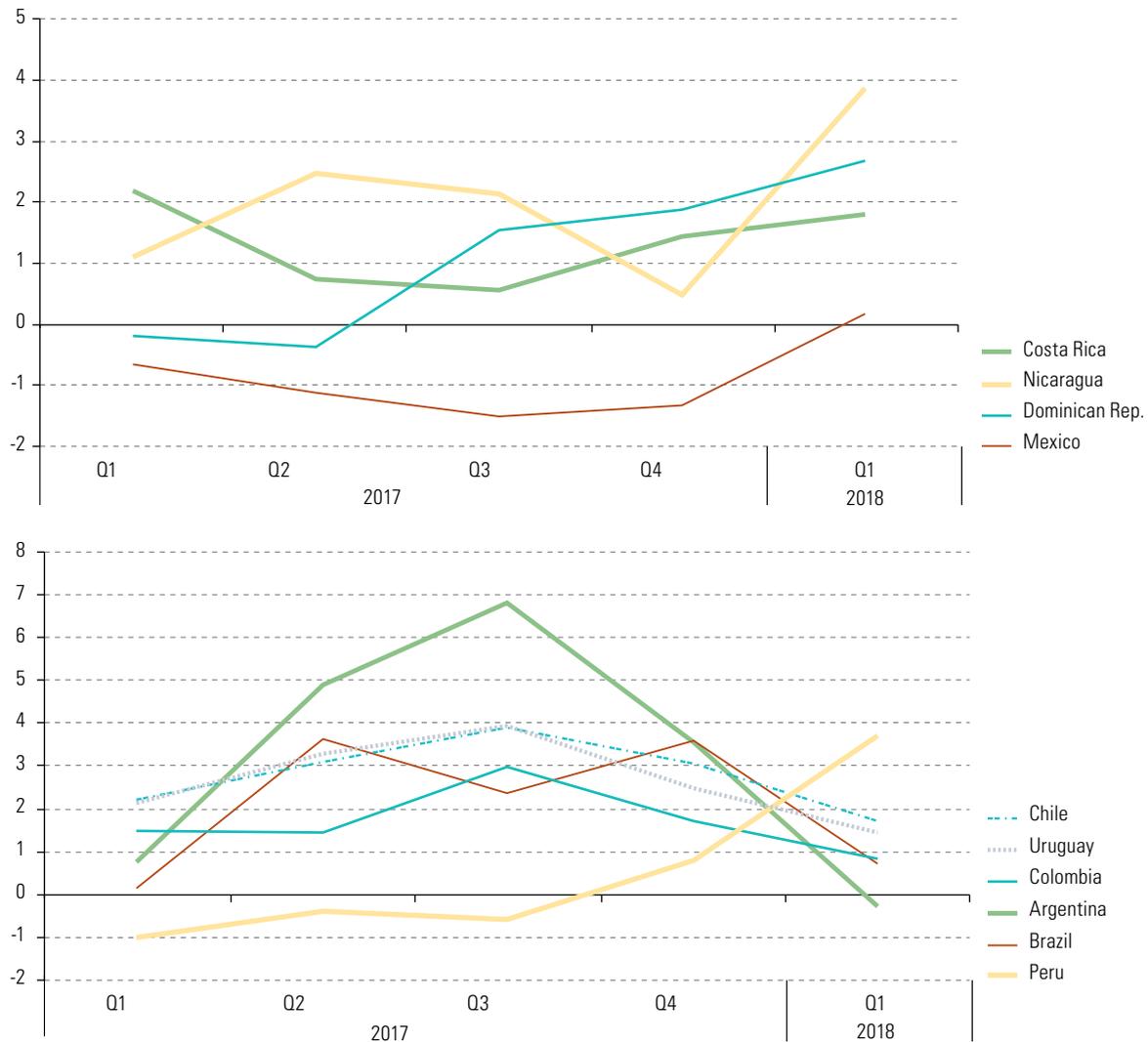
## 14. Real wages are still growing, but subregional trends differ

Real wages for formal workers picked up in 2017 in some countries of South America (Brazil, Chile, Colombia, Uruguay), mainly because of lower inflation. By contrast, rising inflation meant smaller real wage increases in the countries of the region's north and contributed to an actual decline in Mexico.

These trends were reversed to a degree in the first quarter of 2018. Specifically, wage increases slackened in the countries of South America for which information is available, in a context of still weak demand for labour and relatively stable inflation. Peru was the only South American country where wage growth picked up relative to 2017, owing to a sharp drop in inflation. In Argentina, conversely, a pick-up in inflation led to real wages falling in the registered private sector (see figure I.37).

**Figure I.37**

Latin America (selected countries): year-on-year changes in real average wages for registered employees, first quarter of 2017 to first quarter of 2018  
(Percentages)



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

In contrast, the countries of the region's north for which information is available registered a moderate revival in formal real wage growth. The median real wage for registered employees in the group of countries with information on this was 1.6% higher in the first quarter of 2018 than in the same period of 2017 (just as had happened in 2017).

Meanwhile, a change in the orientation of minimum wage policies has been observed since early 2018. The main tendency in the region over recent years has been to increase minimum wages by more than average wages with a view to stabilizing and enhancing the incomes and consumption of low-income households while at the same time achieving a redistributive impact in labour markets. Thus, the median of real annual increases in national minimum wages between 2014 and 2017 ranged from 2.7% to 3.1%. As of early 2018, the focus of wage policy in the region's countries seems to have been on stabilizing rather than raising minimum wages, so that the median real minimum wage across 20 countries was just 0.3% higher in the first quarter than in the same period of 2017.

## 15. A small drop in the unemployment rate is expected for 2018

The gradually improving performance of labour markets is expected to continue in 2018 as a whole, with differences between countries. Moderately increased output growth should give rise to greater demand for labour and a modest rise in wage employment growth. At the regional level, therefore, the employment rate should carry on expanding slightly and the unemployment rate should come down for the first time since 2014. This will be a small decline, however, and the average urban open unemployment rate for the year is expected to be about 9.2%, as against 9.3% in 2017.

Real wage increases are expected to slow, especially if exchange-rate volatility and tendencies towards depreciation contribute to a pick-up in inflation. However, the improved employment situation should mean continuing growth in total wages in the economy, enabling household consumption to carry on contributing to domestic demand growth.

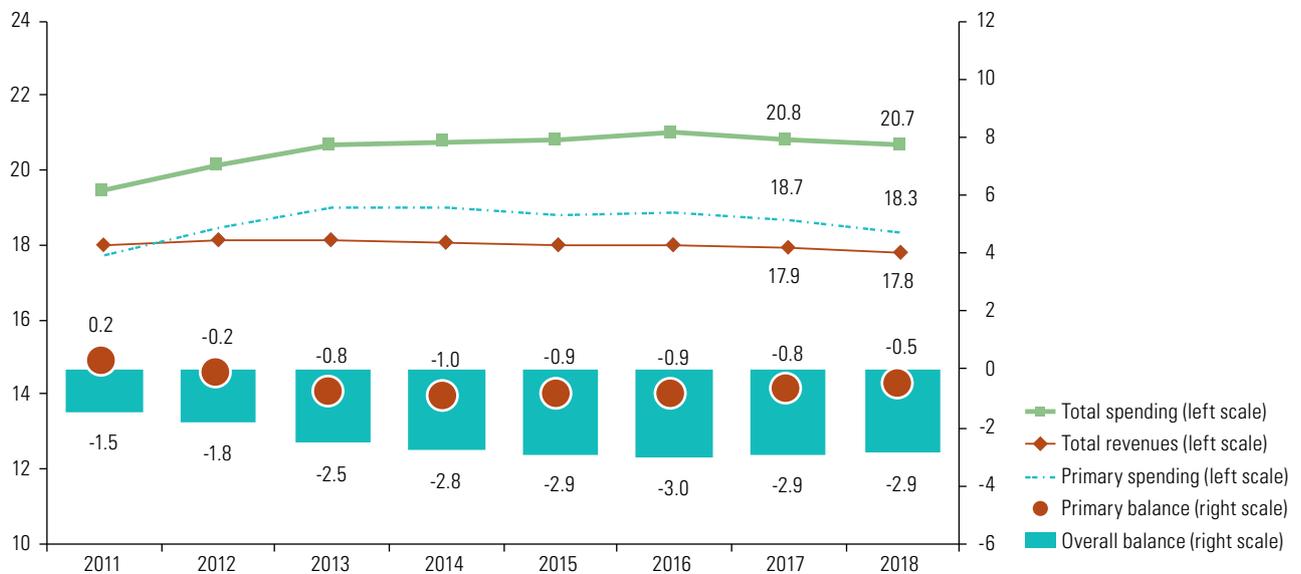
## E. Macroeconomic policies

### 1. Fiscal consolidation in the region has continued in 2018, as reflected in an improving primary balance

As already indicated in the *Fiscal Panorama of Latin America and the Caribbean 2018* (ECLAC, 2018b), efforts towards fiscal consolidation in Latin America started to bear fruit in 2017. This trend is expected to intensify in 2018, leading to a greater contraction in the primary deficit, from an average of 0.8% of GDP in 2017 to 0.5% in GDP in 2018 (see figure I.38). This adjustment in the public accounts of Latin American countries has been occurring mainly through a reduction in primary spending, which is expected to decline from 18.7% of GDP in 2017 to 18.3% of GDP in 2018. In turn, public revenues should remain relatively stable at around 17.8% of GDP, as the improvement in tax revenues observed in the South American countries is expected to be offset by declining public revenues in Central America. The overall deficit is expected to improve by less given the expected rise in interest payments, as analysed in the following section.

**Figure I.38**

Latin America (17 countries)<sup>a</sup>: central government fiscal indicators, 2011–2018<sup>b</sup>  
(Percentages of GDP)



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

**Note:** Simple averages. In Mexico and Peru, figures are for the federal public sector and general government, respectively.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru and Uruguay.

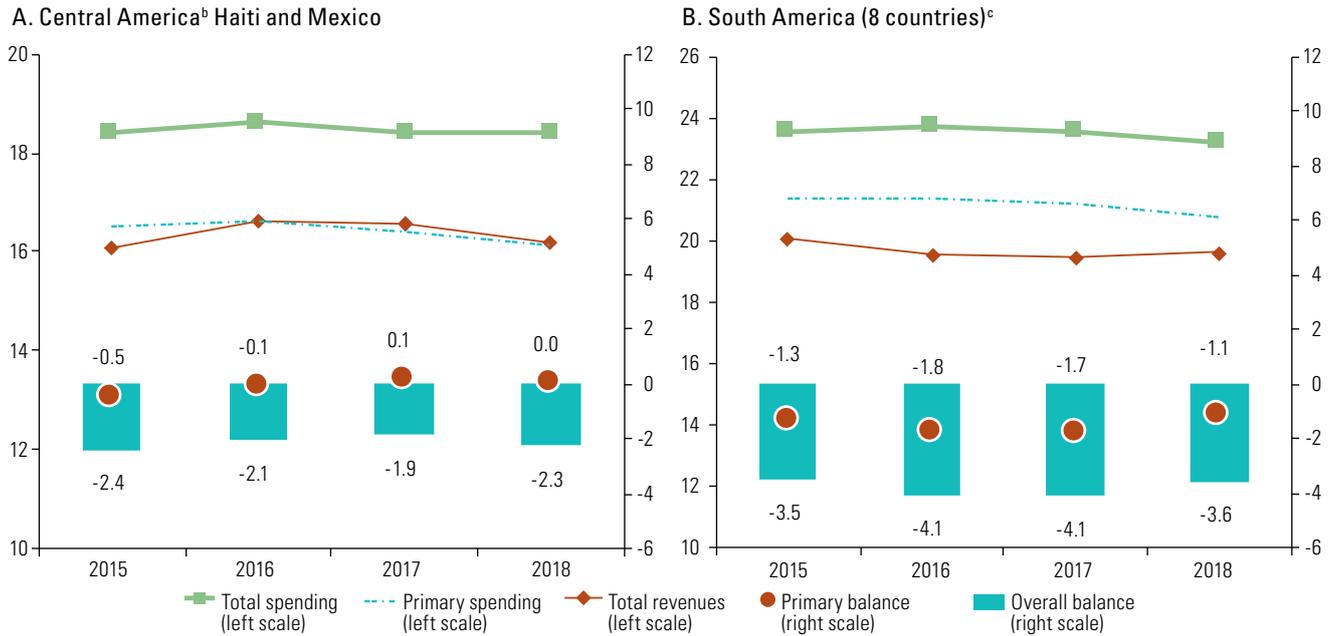
<sup>b</sup> Figures for 2018 are budget projections.

There are very significant differences in the fiscal situations of Latin American countries. For the group made up of Central America (including the Dominican Republic), Haiti and Mexico, the average primary balance in 2018 is expected to remain close to equilibrium for the third consecutive year (see figure I.39). However, this average masks a great deal of variation between the countries in this group, with Costa Rica and Panama having large primary deficits. Overall, the expected contraction in public revenues for this group (from 16.6% of GDP to 16.2% of GDP) should be partially

offset by a reduction in primary public spending from 16.4% of GDP in 2017 to 16.1% of GDP in 2018. Total spending is expected to remain relatively stable, reflecting the expected increase in interest payments, which should translate into some widening of the overall deficit (from 1.9% of GDP in 2017 to 2.3% of GDP in 2018).

**Figure I.39**

Latin America: central government fiscal indicators, by subregion, 2015–2018<sup>a</sup>  
(Percentages of GDP)



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

**Note:** Simple averages. In Mexico and Peru, figures are for the federal public sector and general government, respectively.

<sup>a</sup> Figures for 2018 are budget projections.

<sup>b</sup> Includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

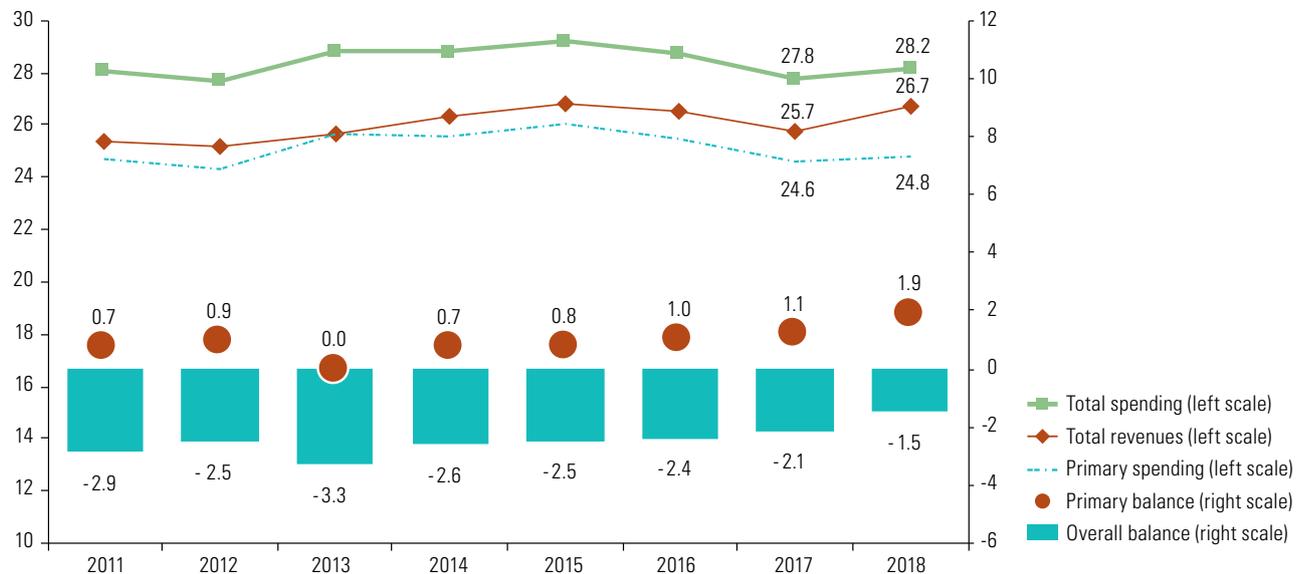
<sup>c</sup> Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Uruguay.

Expectations are that the adjustment in fiscal results that began in South America in 2017 will consolidate in 2018, with the primary deficit contracting substantially, from 1.7% of GDP in 2017 to 1.1% of GDP in 2018 (see figure I.40). These expectations are based on projections of higher revenues and lower primary spending. On the one hand, total income should rise on the back of greater revenues from non-renewable natural resources and tax revenues from reviving economic activity. On the other hand, primary expenditure should continue declining in relation to output, given efforts to contain public spending growth.

Fiscal policy in the Caribbean continues to focus on generating primary surpluses to deal with the heavy burden of public debt. As shown in figure I.40, the average primary surplus is expected to rise from 1.1% of GDP in 2017 to 1.9% of GDP in 2018, with a decline of similar magnitude in the overall deficit. Although primary expenditure is expected to increase slightly (from 24.6% of GDP in 2017 to 24.8% of GDP in 2018), this mainly reflects disbursements to meet reconstruction requirements after a series of natural disasters. Some countries in the subregion are implementing fiscal adjustments, especially Trinidad and Tobago, which is aiming to reduce its primary deficit from 5.4% of GDP in 2017 to 0.0% of GDP in 2018 through a combination of large public spending cuts and tax hikes.

**Figure I.40**

The Caribbean (12 countries)<sup>a</sup>: central government fiscal indicators, 2011–2018<sup>b</sup>  
(Percentages of GDP)



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

<sup>a</sup> Excludes Dominica.

<sup>b</sup> Simple averages. Figures for 2018 are budget projections.

## 2. Public debt has remained stable thanks to the improving fiscal position and the upturn in economic activity

Gross central government public debt in Latin America stood at 38.8% of GDP at year-end 2017, 1.4 percentage points of GDP above the 2016 level. Debt levels in the region showed signs of improving as the second quarter of 2018 went on, mainly thanks to the upturn in economic activity and the improvement in the main fiscal indicators. Thus, in the second quarter of 2018 public debt stood at 38.0% of GDP, a decline of 0.8 percentage points of GDP from year-end 2017, mainly owing to smaller fiscal deficits and to a negative rate differential ( $r-n$ ).<sup>16</sup> However, it is still premature to speak of a substantial improvement in the region's debt levels.

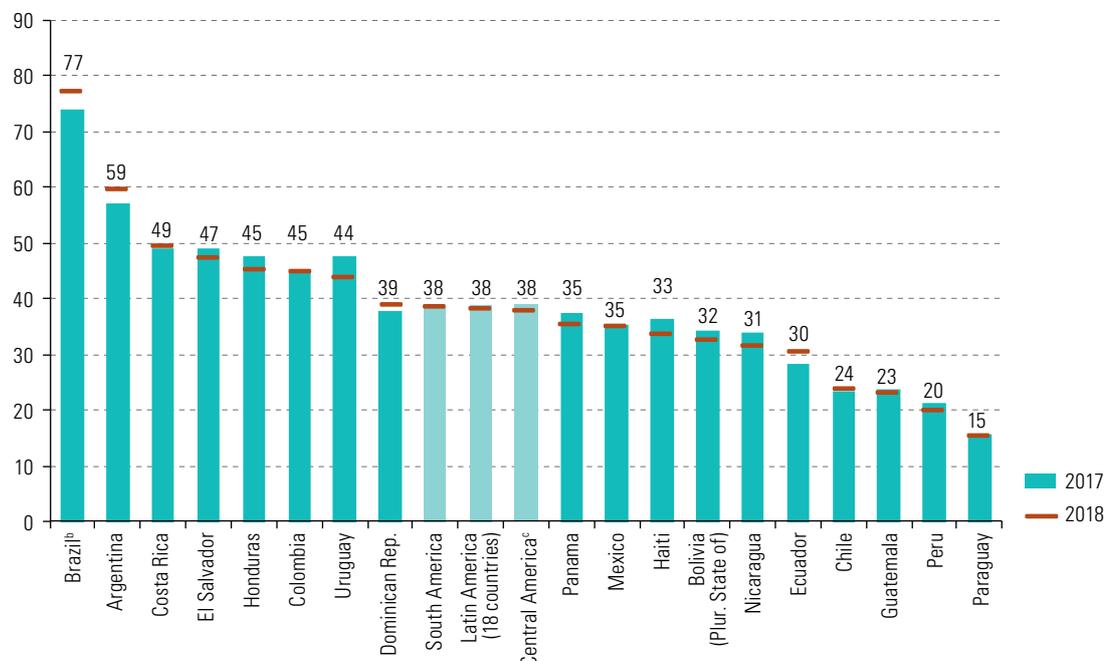
In the current situation, there are a number of internal and external factors influencing the evolution of debt levels in the region in 2018, such as each country's situation vis-à-vis the vulnerability affecting emerging economies. Additionally, continued external and fiscal imbalances in countries such as Argentina, Brazil and Costa Rica are expected to lead to even greater financing needs, which, coming on top of the existing stock of public liabilities, could have a negative impact on the region's level of debt. Lastly, the interest rate increases expected in the United States over the remainder of the year could further increase the cost of debt for the region.

Of the 18 countries with information available for the second quarter of 2018, Brazil continues to be the most indebted in the region (77.0% of GDP), followed by Argentina (59.3%) and Costa Rica (49.2%). At the other extreme is Paraguay, with the lowest level of public debt in the region (15.3% of GDP), followed by Peru (19.9%) and Guatemala (22.9%) (see figure I.41).

<sup>16</sup> Contributions to the change in public debt ( $\Delta d$ ) are disaggregated in a first term equal to the cumulative effect of the negative primary fiscal balance ( $-sp$ ) and a second term denominated snowball effect, which includes the spread of the real interest rate paid on the debt ( $r$ ) and the real growth rate ( $n$ ) of the debt in the previous period ( $dt-1$ ), in addition to an asset valuation adjustment variable ( $sf$ ). See the *Economic Survey of Latin America and the Caribbean, 2016* (ECLAC, 2016) for details.

**Figure I.41**Latin America (18 countries): gross central government public debt, 2017–2018<sup>a</sup>

(Percentages of GDP)



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

<sup>a</sup> Figures are for the second quarter of 2018.

<sup>b</sup> Coverage in Brazil is general government.

<sup>c</sup> The figure for Central America includes Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua and Panama.

By subregion, South America's gross public debt fell by 0.2 percentage points of GDP to an average of 38.4% of GDP in the second quarter of 2018, with Uruguay (4.0 percentage points) and the Plurinational State of Bolivia (2.1 points) recording the largest declines. In Central America, debt fell by 1.5 percentage points of GDP to an average of 37.6% of GDP, with Haiti (3.1 percentage points of GDP) and then Honduras and Nicaragua (2.7 points) registering the largest falls.

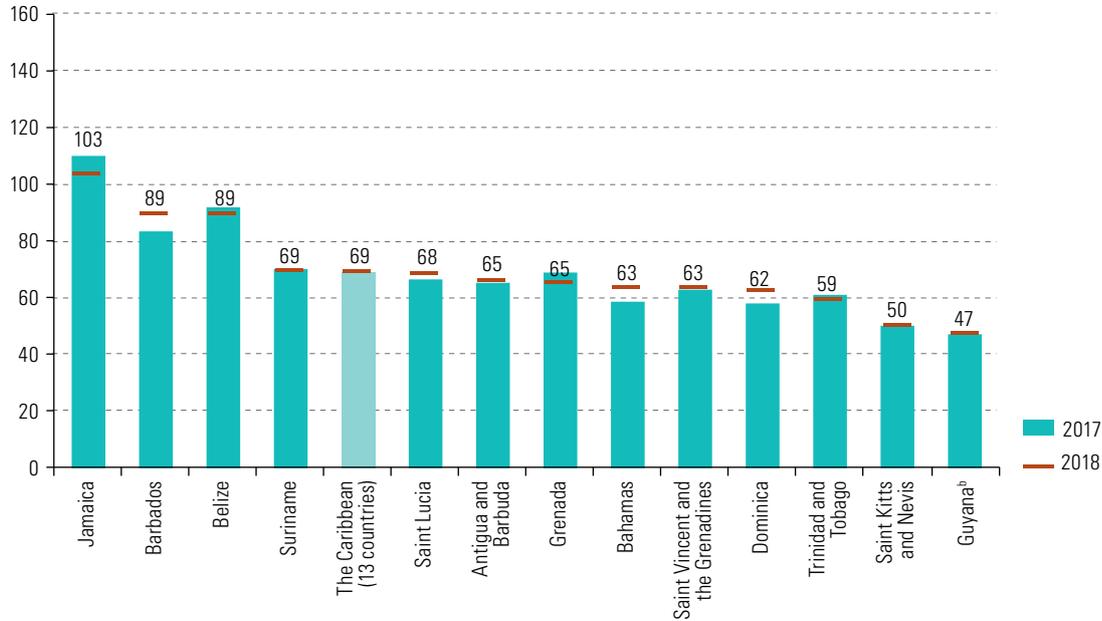
In the Caribbean, central government public debt remained stable at 68.6% of GDP in the first quarter of 2018, similar to year-end 2017 levels. Despite having the highest level of liabilities in the region, Jamaica continues to reduce its public debt year after year; the country had debt of 103.0% of GDP in the first quarter of 2018, being followed by Barbados with 89.3% of GDP. Guyana has the lowest level of public debt in the Caribbean, at 46.9% of GDP (see figure I.42).

Interest payments by the Latin American countries are expected to continue rising, as they have done since 2013, to an average of 2.3% of GDP in 2018, or some 0.2 percentage points above the 2017 figure. Furthermore, large tranches of debt fall due in 2018, and this is believed to be increasing debt service pressures on countries such as Argentina and Costa Rica.

Brazil continues to bear the highest cost of public debt in the region at 5.7% of GDP, although it is also one of only a few countries to have reduced its debt burden relative to 2017. By subregion, no changes are expected in South America compared to 2017, with interest payments expected to come in at 2.4% of GDP in 2018; in Central America, the cost of debt is expected to rise by 0.3 percentage points of GDP to 2.3% of GDP on average for 2018. Compared with 2017, this implies a faster increase than in previous years, mainly reflecting higher interest payments expected for the year in countries such as Costa Rica and the Dominican Republic, which should see their cost of debt increase by 1 percentage point of GDP (see figure I.43A).

**Figure I.42**

The Caribbean (13 countries): gross central government public debt, 2017–2018<sup>a</sup>  
(Percentages of GDP)



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

<sup>a</sup> Figures for 2018 are preliminary.

<sup>b</sup> Figures are for the public sector.

**Figure I.43**

Latin America and the Caribbean: interest payments on central government gross public debt,<sup>a</sup> 2017–2018<sup>b</sup>  
(Percentages of GDP)

#### A. Latin America (17 countries)

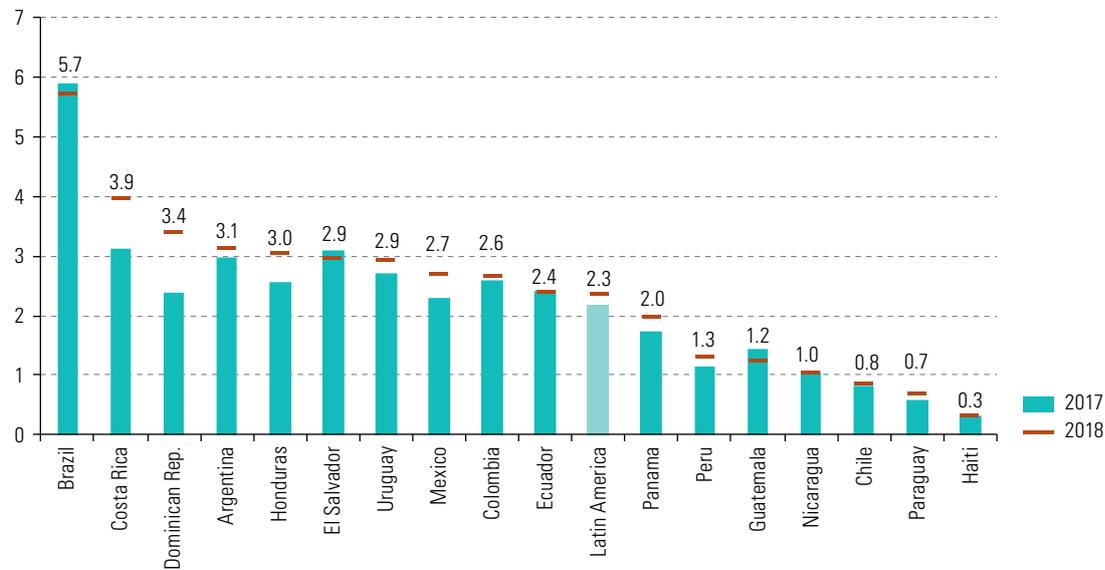
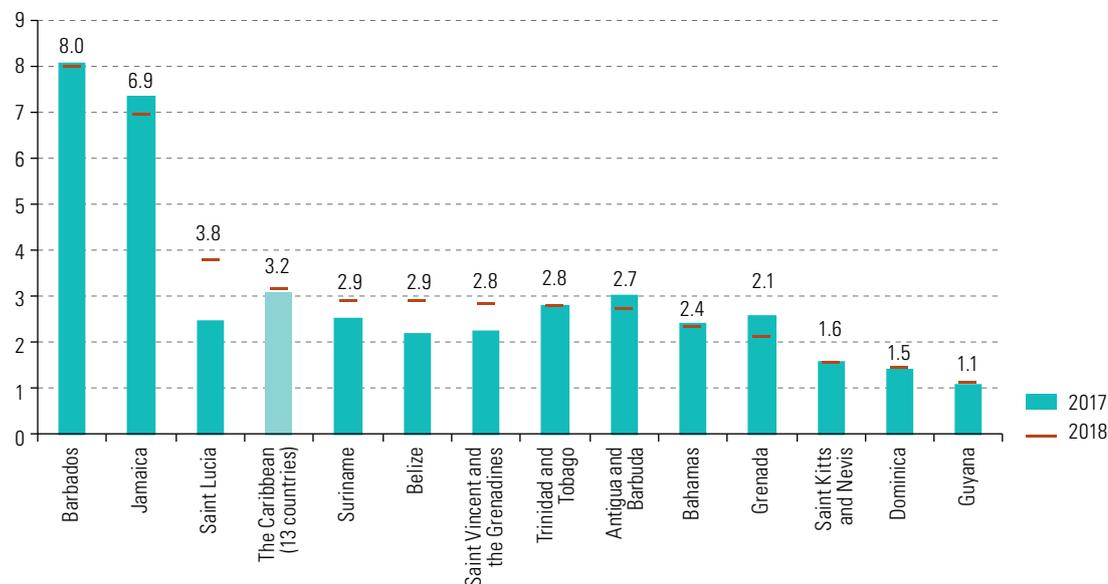


Figure I.43 (concluded)

## B. The Caribbean (13 countries)



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

<sup>a</sup> Coverage is general government for Peru, federal public sector for Mexico and non-financial public sector for Barbados.

<sup>b</sup> Preliminary figures for 2018, estimated from official budgets.

In the Caribbean, interest payments by central governments in 2018 are expected to end the year at values similar to those of 2017, of 3.2% of GDP. Of the 13 countries with available information, almost half have recorded lower interest payments in 2018, with particularly large declines in Barbados and Jamaica, both of which have public debt servicing costs of over 7% of GDP but have continued to cut debt sharply, which will translate into lower interest payments in coming years. Public debt costs for most countries in the subregion have remained under 3% of GDP, which is lower than the average for the region in 2018 (see figure I.43B).

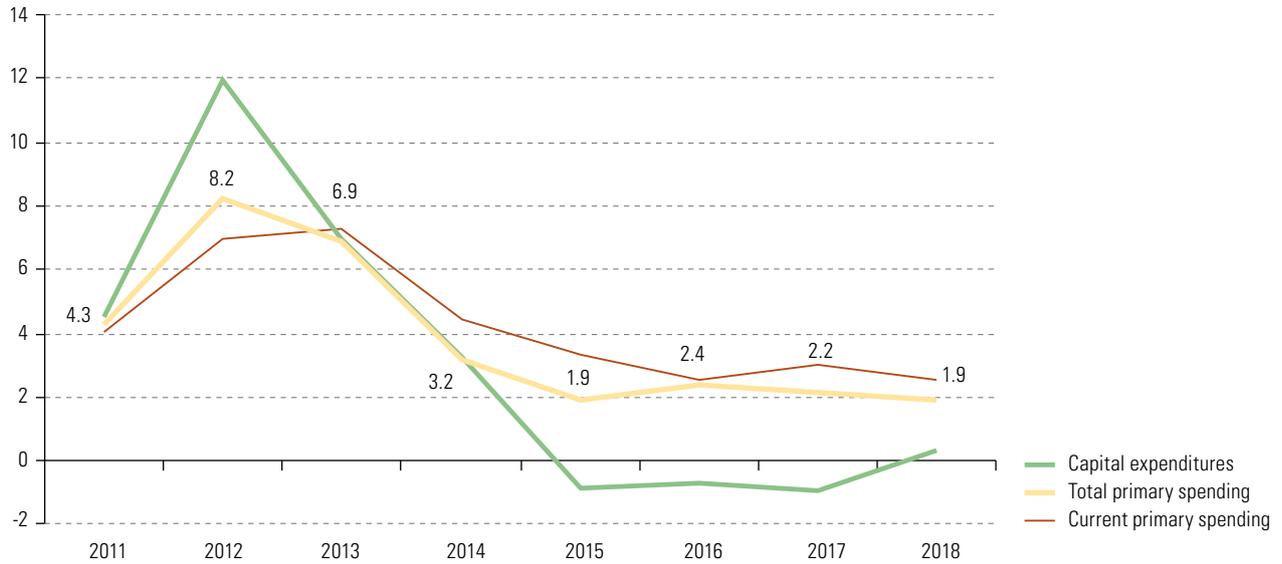
### 3. Public spending will continue to have a limited impact on economic growth in 2018

In 2018, real growth in primary public spending, excluding interest payments, is expected to remain subdued in Latin America, in line with the trend of recent years. As illustrated in figure I.44, year-on-year growth in primary public spending is expected to average some 1.9% for the 15 countries considered. However, a breakdown of primary public spending by components shows that capital expenditure could begin stabilizing in 2018 —albeit at very modest rates— after three consecutive years of decline. In contrast, current primary spending growth is expected to slow down slightly.

The limited growth of primary public spending in Latin America manifests itself differently in each country, implying large differences in the potential fiscal impetus or drag in each country. As shown in figure I.45, sizeable contractions of some 1 percentage point of GDP or more are expected in Argentina (2.1 points of GDP), the Dominican Republic (1.0), Mexico (1.0), Honduras (0.9) and Uruguay (0.9). Conversely, increases are expected in Panama (0.7 points of GDP), Peru (0.6), Ecuador (0.5) and Brazil (0.4).

**Figure I.44**

Latin America (15 countries)<sup>a</sup>: real year-on-year changes in primary public spending, 2011–2018<sup>b</sup>  
(Percentages)

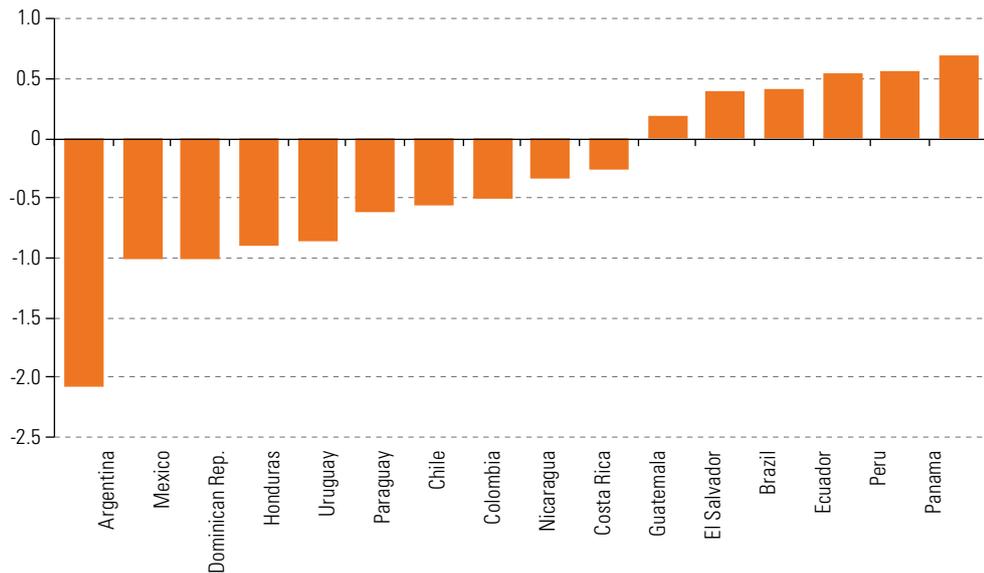


**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

**Note:** Simple averages of real changes calculated in local currency. In Mexico and Peru, figures are for the federal public sector and general government, respectively.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru.

<sup>b</sup> Figures for 2018 are budget projections.



**Figure I.45**

Latin America: year-on-year changes in primary public spending between 2017 and 2018  
(Percentage points of GDP)

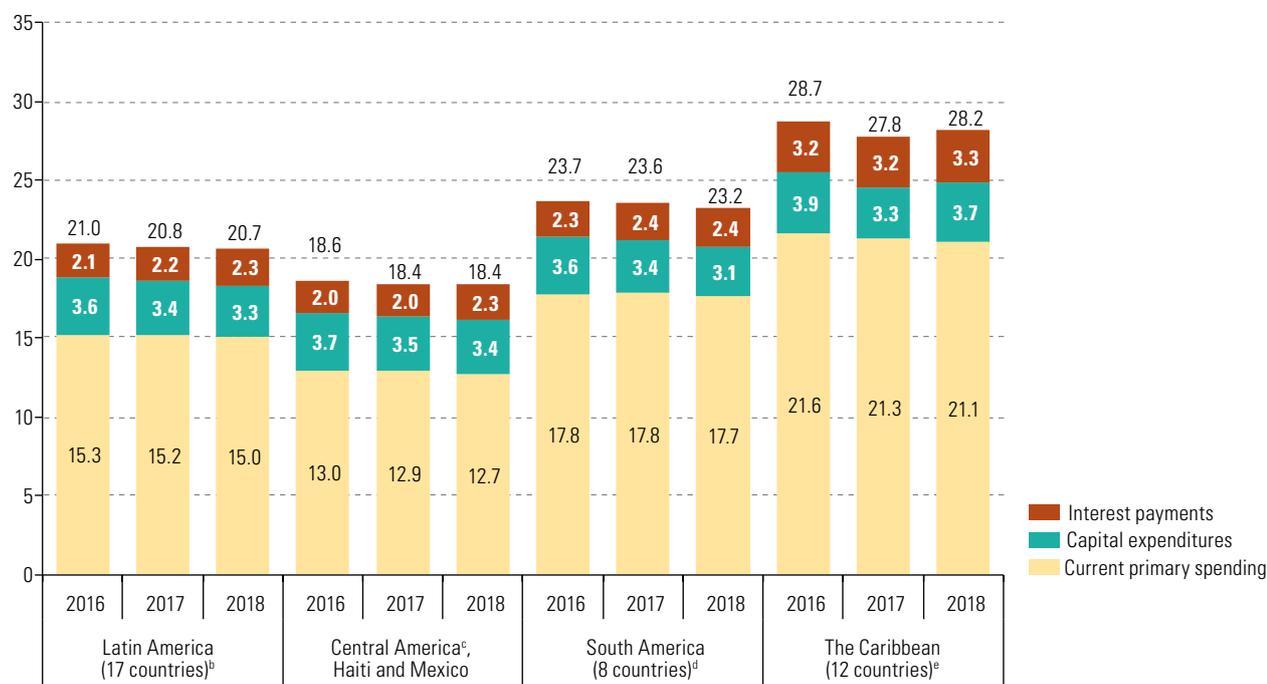
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

**Note:** Figures are for the federal public sector and general government, respectively, in Mexico and Peru.

Total public spending in Latin America is expected to remain quite stable, edging down from 20.8% of GDP in 2017 to 20.7% of GDP in 2018, although its composition will deteriorate (see figure I.46). As analysed in the previous subsection, the anticipated increase in interest payments is expected to offset the reduction in primary spending to a certain extent, especially in the group of countries comprising Central America (including the Dominican Republic), Haiti and Mexico; total spending for this group of countries will remain relatively stable at 18.4% of GDP. The effect of interest payments is less pronounced in South America, where their average share of total spending is expected to remain at roughly the same level as in 2017.

**Figure I.46**

Latin America and the Caribbean: breakdown of total central government expenditure, 2016–2018<sup>a</sup>  
(Percentages of GDP)



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

**Note:** Simple averages. In Mexico and Peru, figures are for the federal public sector and general government, respectively.

<sup>a</sup> Figures for 2018 are budget projections.

<sup>b</sup> Excludes the Bolivarian Republic of Venezuela, Cuba and the Plurinational State of Bolivia.

<sup>c</sup> Includes Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

<sup>d</sup> Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Uruguay.

<sup>e</sup> Excludes Dominica.

In general, primary spending cutbacks in Latin America in 2018 will likely focus on current primary spending, which is expected to fall from 15.2% of GDP in 2017 to 15.0% of GDP in 2018, with similar reductions for the group made up of Central America (including the Dominican Republic), Haiti and Mexico, and for South America. However, average figures mask more significant contractions in spending in some of these countries, especially Argentina (1.8 points of GDP), Honduras (1.1 points) and Nicaragua (1.0 points). In Argentina, the drop is attributable mainly to cuts in financial subsidies, particularly for energy. Honduras and Nicaragua have made efforts to improve the efficiency of public spending, while also reorienting this.

Despite the small rise in the real growth rate of capital expenditures in Latin America, these are expected to contract slightly in relation to output, dropping on average from 3.4% of GDP in 2017 to 3.3% of GDP in 2018. This decline can be mainly explained by lower capital spending in the Dominican Republic, Ecuador and Mexico. The downturn in Mexico is largely due to a drop in financial investment from the year before, when the operating surplus of the Bank of Mexico served to increase federal government assets. The decline in the Dominican Republic is due to the high base of comparison, since in 2017 the government transferred a considerable amount of resources for the construction of electricity generation plants. Conversely, capital expenditure is expected to rise in Peru (by 0.9 points of GDP), driven mainly by the reconstruction process following the damage caused by El Niño last year.

In the Caribbean, total public spending will increase in 2018 as a result of the great need for reconstruction in the subregion after several large-scale natural disasters, with increases in capital expenditures of 2.8 points of GDP in Grenada and 0.8 points in Antigua and Barbuda. However, current primary spending should continue its downward trend, owing to fiscal consolidation programmes in Trinidad and Tobago (-1.8 points of GDP), Suriname (-1.8 points), Barbados (-1.7 points) and Antigua and Barbuda (-1.0 points).

#### 4. The macroeconomic environment continues to favour an upturn in public revenues in South America

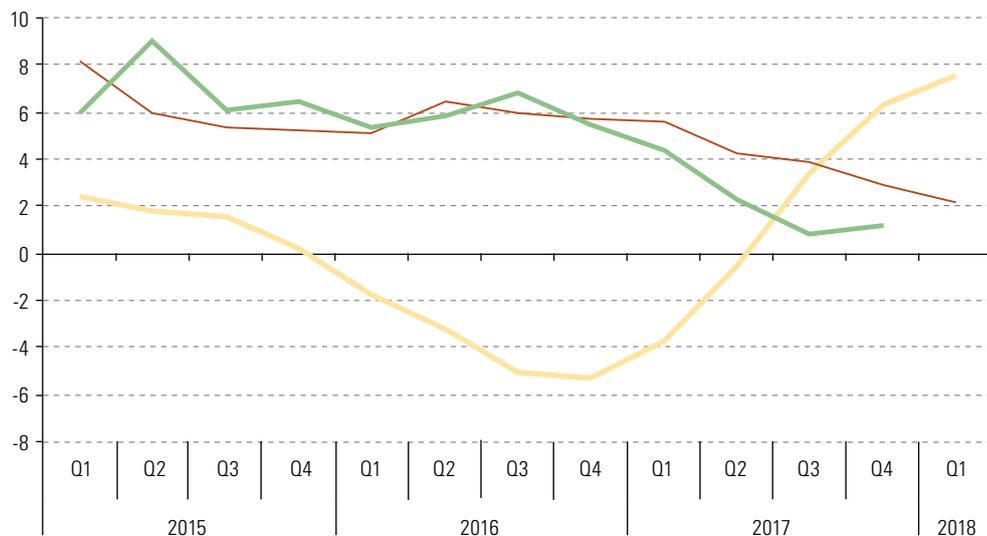
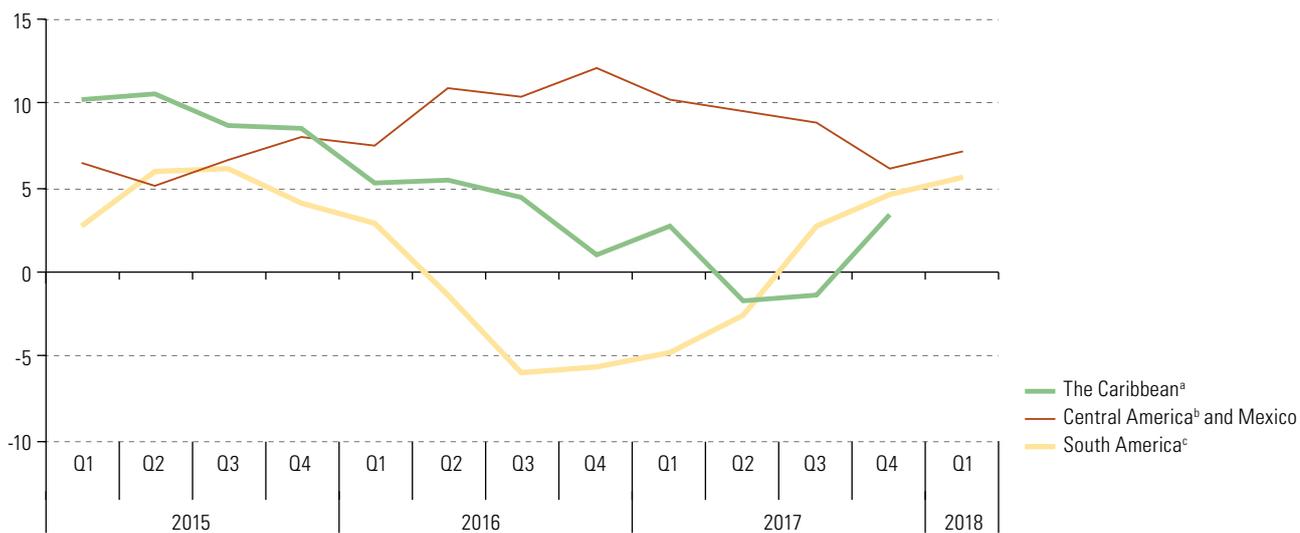
The economic recovery in South America has also been evident in the growth of revenues from the main taxes, and this is expected to continue throughout the year. As shown in figure I.47, value added tax (VAT) receipts, which are strongly linked to the dynamics of private consumption and imports, continued growing strongly in the first quarter of 2018, well above the rates recorded in recent years. Similarly, income tax revenues in South America have rebounded after contracting sharply in 2016, which was partly a result of lower receipts from companies in the extractive sector (some of which made losses that year).

Conversely, the most striking trend in the countries of Central America (including the Dominican Republic), Haiti and Mexico was the fall-off in the rate of growth in VAT receipts that began in 2017 and continued in the first quarter of 2018. This trend is quite widespread, with five of the seven countries considered experiencing a drop in receipts from this tax between the first quarter of 2017 and the same period in 2018. Income tax revenues, meanwhile, have continued to grow at high rates, but are also showing signs of a loss of momentum.

The latest available figures for the Caribbean countries show a quite weak performance in 2017, reflecting the subdued economic growth in the subregion during the year. Several countries suffered the effects of a devastating hurricane season in the second half of the year, causing the rate of growth in tax receipts to plummet. Accordingly, a recovery in tax revenues is expected in these countries for 2018.

**Figure I.47**

Latin America and the Caribbean: year-on-year changes in real value added tax (VAT) and income tax receipts, first quarter of 2015 to first quarter of 2018  
(Percentages)

**A. Value added tax (VAT)****B. Income tax**

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

**Note:** Simple averages of rates of change. VAT figures for Brazil refer to receipts from the federal government industrialized products tax (IPI) and the sales tax on merchandise and services (ICMS) operated by the states. For analytical reasons, revenues raised from income tax asset regularization programmes in Brazil and Chile are excluded. In Argentina, revenues under this programme are not accounted for as income tax receipts but as other tax revenues.

<sup>a</sup> Figures for the Caribbean refer to Antigua and Barbuda, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago.

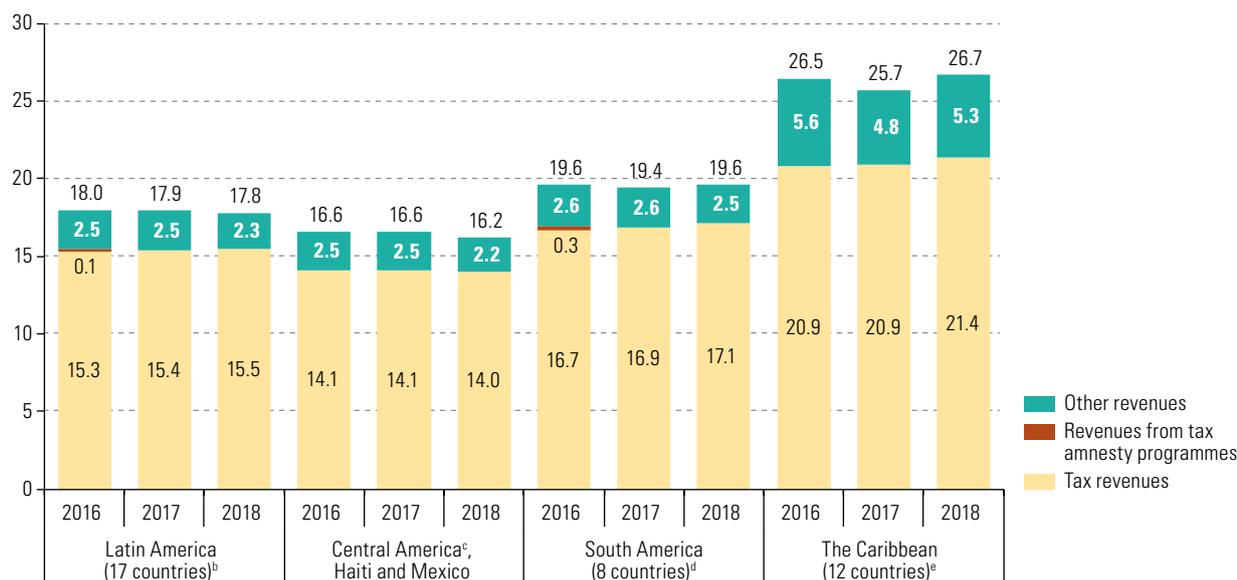
<sup>b</sup> Figures for Central America refer to Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras and Nicaragua.

<sup>c</sup> Figures for South America refer to Argentina, Brazil, Chile, Colombia, Ecuador Peru and Uruguay.

The trends in receipts of the main taxes in the region are clearly reflected in the estimates for total revenues in 2018. As shown in figure I.48, total revenues in South America are expected to rise from 19.4% of GDP in 2017 to 19.6% of GDP in 2018 on the back of increased tax pressure, which should rise from 16.9% of GDP in 2017 to 17.1% of GDP in 2018. Tax revenues are expected to rise by 0.5 points of GDP or more in Chile, Ecuador, Paraguay and Peru. This can be explained by several factors, including tax reforms and measures (especially the reform adopted by Ecuador in 2017), higher revenues from the extractive sector on account of the upturn in raw material prices, and the recovery in economic activity expected for the year. In contrast, tax revenues in Argentina are expected to fall substantially (0.9 points of GDP), partly on account of the high base of comparison because of the extraordinary revenues collected in the first quarter of 2017 from the special tax levied under the Tax Amnesty Regime (0.4 points of GDP).

**Figure I.48**

Latin America and the Caribbean: breakdown of total central government revenues, 2016–2018<sup>a</sup>  
(Percentages of GDP)



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

**Note:** Simple averages. In Mexico and Peru, figures are for the federal public sector and general government, respectively.

<sup>a</sup> Figures for 2018 are budget projections.

<sup>b</sup> Excludes the Bolivarian Republic of Venezuela, Cuba and the Plurinational State of Bolivia.

<sup>c</sup> Includes Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.

<sup>d</sup> Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru and Uruguay.

<sup>e</sup> Excludes Dominica.

Conversely, total revenues in Central America (including the Dominican Republic), Haiti and Mexico are expected to fall substantially, from 16.6% of GDP in 2017 to 16.2% of GDP in 2018. Although tax revenues have started to lose momentum, the main factor behind the fall in total receipts has been a decline in other revenues. These were higher than expected in 2017 in some countries, among them El Salvador, on account of radio spectrum licensing revenues, and Mexico, where the Bank of Mexico's unprecedentedly large operating surplus was transferred to the federal government.

The total revenues of the Caribbean countries are expected to increase substantially in 2018, from an average of 25.7% of GDP in 2017 to 26.7% of GDP. This increase is expected to come both from an upturn in other revenues, which will grow from 4.8% of GDP in 2017 to 5.3% of GDP in 2018, and from a rise in tax revenues from 20.9% to 21.4% of GDP. There have also been large increases in donations linked to public investment programmes in a number of countries such as Grenada and Saint Vincent and the Grenadines. In Trinidad and Tobago, capital revenues are expected to rise significantly owing to inflows of funds from the monetization of the financial assets of CLICO group, a financial institution rescued by the State during the global financial and economic crisis of 2008 and 2009. With regard to tax revenues, expectations are for a significant rise on the back of an upturn in receipts in the Bahamas, owing to a rise in the VAT rate from 7.5% to 12%, and in Trinidad and Tobago.

## 5. Policymakers have used the scope afforded by inflation dynamics to stimulate aggregate domestic demand, but their latitude has narrowed in some economies because of the dollar's appreciation

Since mid-2016, easing inflation has afforded the region's monetary and exchange-rate policymakers greater scope to adopt policies aimed at stimulating aggregate demand. However, heightened exchange rate volatility—which directly constrains policymaking by threatening macrofinancial stability and potentially increasing inflation—has recently limited this freedom in some economies.

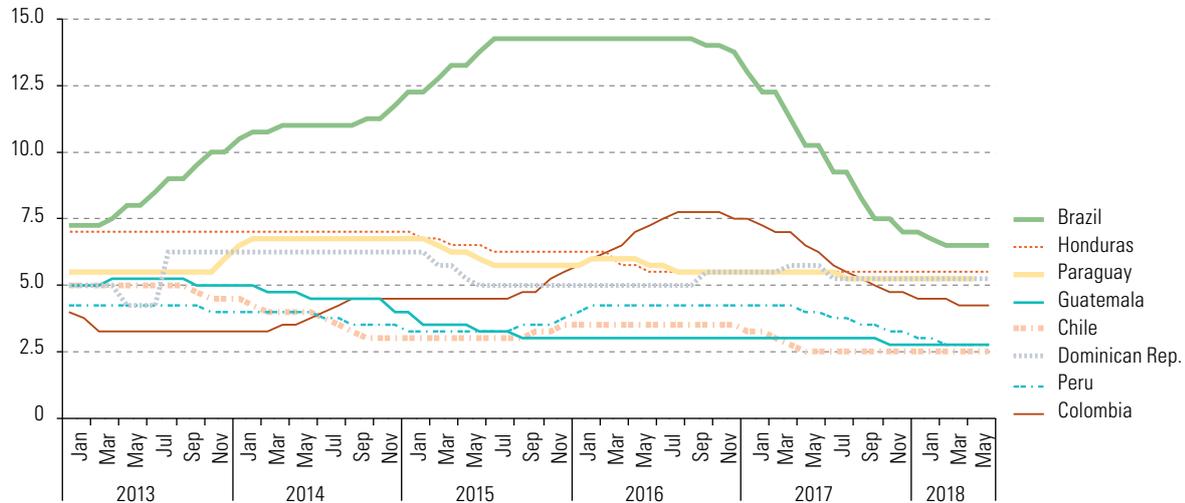
The economies in South America that use the benchmark interest rate as their main monetary policy instrument took advantage of the greater scope for action afforded by falling inflation in 2017. Thus, policy rates were cut eight times in Brazil, with a cumulative reduction of 6.75 percentage points. Chile changed its policy rate on four occasions, with a cumulative reduction of 1.0 percentage point, while Colombia lowered it nine times, with a cumulative drop of 2.75 percentage points. Paraguay cut its policy rate once (by 0.25 percentage points), while Peru did so three times, with a cumulative reduction of 1.0 percentage point (see figure I.49). Although inflation came down in Argentina in 2017, it was still high enough to prompt the central bank to raise its benchmark rate four times, with a cumulative increase of 4.0 percentage points between January and December. This was the first year in which Argentina implemented its inflation-targeting regime and despite this change in its policy framework, average growth of the monetary base was up by 3 percentage points in 2017 compared with the average in 2016.

Policy rates in the economies of Central America and Mexico followed a different trend to that of economies further south. Owing to the upturn in inflation and to the exchange-rate volatility experienced in 2017, the central banks of Costa Rica and Mexico raised their monetary policy interest rates on five occasions, with cumulative increases of 3.0 and 1.5 percentage points, respectively. The central banks of the Dominican Republic and Guatemala both cut their policy rates by 0.25 percentage points over the year—with a single cut in the case of Guatemala, and a rise of 0.25 percentage points followed by a reduction of 0.50 points in the case of Dominican Republic—while the Central Bank of Honduras left its policy rate unchanged (see figure I.49).

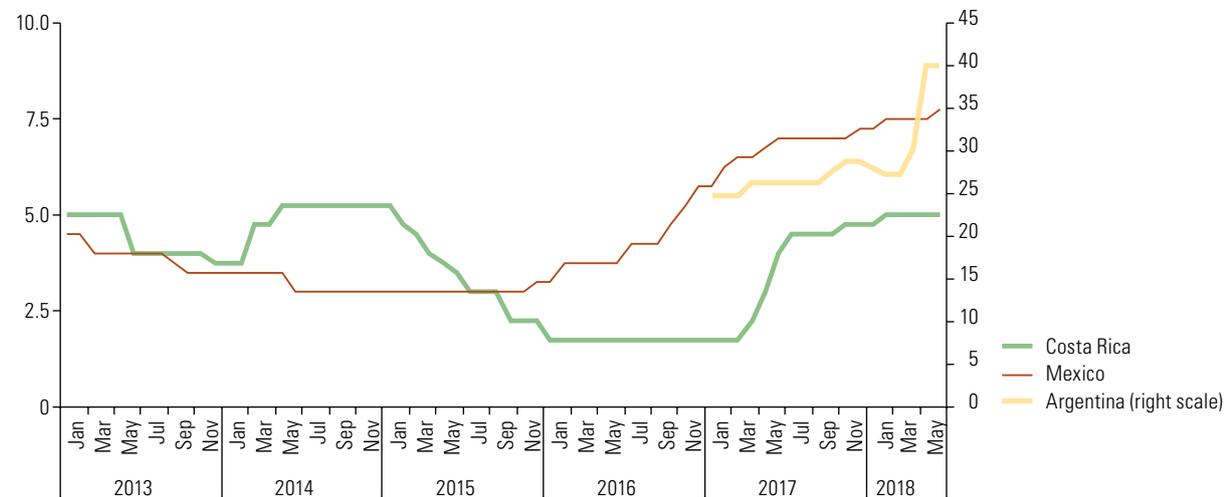
**Figure I.49**

Latin America (selected countries): monetary policy rates in countries where these are the main instrument, January 2013–June 2018 (Percentages)

**A. Countries that maintained or cut their rates**



**B. Countries that increased their rates**



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

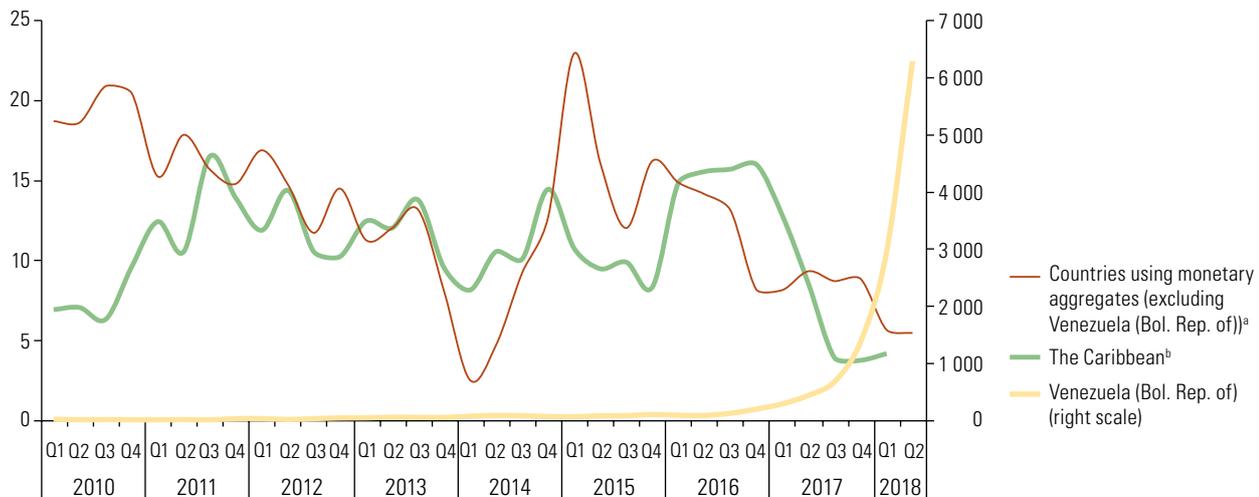
Although inflation picked up in the first half of 2018, it remained broadly within the established target ranges; accordingly, the region’s central banks maintained policy stances similar to those of 2017. The central banks of Brazil, Colombia and Peru cut their interest rates twice, each recording a cumulative reduction of 0.50 percentage points with respect to year-end 2017. The central banks of Chile and Paraguay left their rates unchanged during this period. Persistent inflation in Argentina —at above 25%— and the depreciation of the peso in May led to an interest rate hike. In fact, the cumulative increase of 11.25 percentage points in Argentina was the result of two hikes —the first in April (3 percentage points) and the second in May (9.75 percentage points)— which offset two rate cuts of 0.75 percentage points each in January and February. Costa Rica hiked its policy rate by 0.25 percentage points in February and

has left them unchanged since then. Mexico increased its monetary policy rate by 0.25 percentage points twice—in February and June—for a cumulative rise of 0.50 percentage points with respect to December 2017. The Dominican Republic, Guatemala and Honduras have so far left their policy rates unchanged in 2018.

In the economies that use monetary aggregates as their main policy instrument, monetary base growth was generally slower. In the non-Spanish-speaking economies of the Caribbean monetary base expansion slowed significantly in the first half of 2017, from around 16% to close to 4%. In the Latin American economies (excluding the Bolivarian Republic of Venezuela), monetary base growth rates increased at a steady pace throughout the year, although more slowly than in 2016 (see figure I.50).

**Figure I.50**

Latin America and the Caribbean (selected country groupings): evolution of the monetary base in countries where aggregates are the main monetary policy instrument, first quarter of 2010–second quarter of 2018 (Percentages)



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

<sup>a</sup> Ecuador, El Salvador, Haiti, Nicaragua, Panama, Plurinational State of Bolivia and Uruguay.

<sup>b</sup> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.

Monetary base growth slowed most heavily in the non-Spanish-speaking Caribbean countries, with Barbados, Belize and Dominica seeing falls of over 20 percentage points in this rate. The monetary base contracted outright in six non-Spanish-speaking Caribbean economies in 2017 as a result of the decline in foreign-currency deposits. In South America, Ecuador and Uruguay recorded the largest slowdown in monetary base growth. Both countries made changes to the management of bank reserves which led to a decline of more than 6 percentage points in monetary base growth. Other economies in the region saw base growth pick up: Panama and the Plurinational State of Bolivia in Latin America, and Saint Lucia in the non-Spanish-speaking Caribbean, all with growth rates of over 20 percentage points. The monetary base in the Bolivarian Republic of Venezuela has been growing at over 60% for more than 22 quarters and, since the third quarter of 2015, at more than three-digit rates.

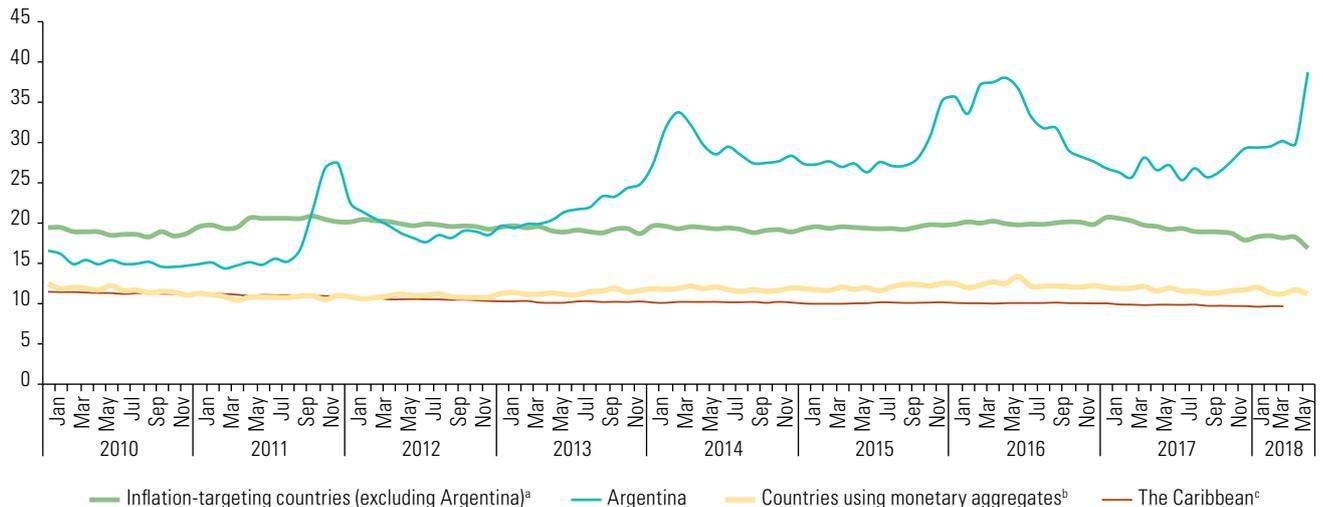
Slower monetary base growth in Latin America has carried over into 2018. Whereas quarterly growth rates topped 8% in 2017, they dipped below 6% in the first two quarters of 2018. In the non-Spanish-speaking Caribbean economies, monetary base growth in the first quarter of 2018 was higher than in 2017.

## 6. Lending interest rates fell and credit to the private sector grew more slowly

Lending rates declined throughout the region in 2017, amid falling monetary policy rates, persistent —albeit slower— growth in the monetary base and reduced inflation expectations for the year. Lending rates came down in inflation-targeting economies, in those that use monetary aggregates as their main policy instrument and in the non-Spanish-speaking economies of the Caribbean. In total, 25 countries saw lending rates fall, with Brazil, the Dominican Republic and Uruguay recording the largest movements. In turn, lending rates rose in six countries, with the largest hikes in Argentina, Costa Rica and Nicaragua. The picture remained very similar in the first five months of 2018, with rates continuing to fall, especially in inflation-targeting economies (see figure I.51).

**Figure I.51**

Latin America and the Caribbean (selected country groupings): average lending rates, January 2010–May 2018 (Percentages)



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

<sup>a</sup> Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Guatemala, Honduras, Mexico, Paraguay and Peru.

<sup>b</sup> Bolivarian Republic of Venezuela, Ecuador, El Salvador, Haiti, Nicaragua, Panama, Plurinational State of Bolivia, Uruguay.

<sup>c</sup> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.

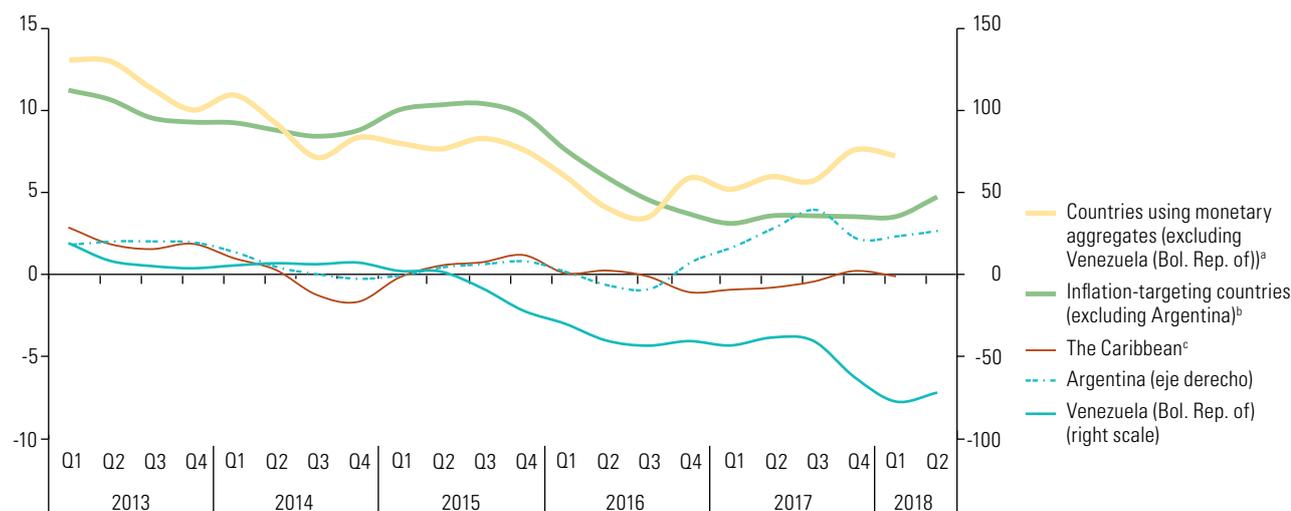
In 2017, domestic credit grew at a fairly steady rate in inflation-targeting economies, excluding Argentina. Average growth rates were close to 7% in nominal terms, and 3.5% in real terms. Despite a growth rate of more than 10% in 2017 for countries using aggregates as their main instrument (except the Bolivarian Republic of Venezuela), lending growth fell by 3.5 percentage points in nominal terms, from an average of 13.5% in 2016 to 10% in 2017. Despite the slowdown in nominal terms, the impact of inflation meant the growth rate rose by 1.2 percentage points in real terms compared with 2016 (6.1% on average, compared with 4.9% in 2016). Lending in the non-Spanish-speaking economies of the Caribbean contracted by 0.4% in real terms in 2017, by slightly more than in 2016 (down 0.2%). This pattern in real lending in the non-Spanish-speaking Caribbean economies reflected slower growth in domestic lending to the private sector in 2017 (2.8%), which was 1 percentage point lower than in 2016.

In Argentina, growth in domestic lending to the private sector picked up in 2017. The average quarterly growth rate stood at 26.6% in real terms, owing to falling inflation and nominal lending growth, which averaged 41.6%. Hyperinflation in the Bolivarian Republic of Venezuela has led to average quarterly declines of over 50% in domestic lending in real terms and to a contraction of lending spanning 10 consecutive quarters.

Patterns in 2018 are very similar to those in 2017. In inflation-targeting countries, excluding Argentina, real growth stood at 3.4%, while in countries using aggregates—excluding the Bolivarian Republic of Venezuela—it came in at 6.3%. In the non-Spanish-speaking Caribbean countries, domestic lending grew by 0.9% in the first quarter of 2018. In Argentina, lending grew by 23.3% in real terms in the first quarter of 2018, while in the Bolivarian Republic of Venezuela, it contracted by more than 70% (see figure I.52).

**Figure I.52**

Latin America and the Caribbean (selected country groupings): average annualized rates of domestic lending to the private sector, in real terms, first quarter of 2013–second quarter of 2018 (Percentages)



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

<sup>a</sup> Ecuador, El Salvador, Haiti, Nicaragua, Panama, Plurinational State of Bolivia and Uruguay.

<sup>b</sup> Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Guatemala, Honduras, Mexico, Paraguay and Peru.

<sup>c</sup> Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.

## 7. Volatility has increased in 2018 after declining in 2017, while the dollar has strengthened

Exchange-rate volatility fell in 2017—inasmuch as the magnitude of fluctuation in the region's currencies declined—with exchange-rate variations smaller than in 2016. In absolute terms, the median variation of exchange rates in the region was only 0.5% in 2017, compared with 3.0% in 2016. Only three economies saw exchange-rate variations above 5% in absolute terms in 2017, while nine had recorded changes of this order in 2016.

Another feature of the region's foreign-exchange market in 2017 was the increasing number of economies seeing currency depreciation, very much in line with patterns in the international financial markets. In the first quarter of 2017, 6 currencies in the region depreciated, while 11 appreciated. In the fourth quarter, 10 currencies depreciated and 7 appreciated. At year-end 2017, 9 economies in the region had experienced currency appreciation with

respect to year-end 2016. Average appreciation was 3.6%, with Chile recording the highest level (8.2%), followed by Mexico (5.1%). The rise in copper prices, in the case of Chile, and the easing of the uncertainty that had affected the dollar after the elections in the United States, in the case of Mexico, as well as improved growth perspectives for both countries (see table I.5), contributed to the appreciation of these currencies.

**Table I.5**

Latin America and the Caribbean (selected countries): quarterly variation in nominal exchange rates against the dollar, first quarter of 2016–June 2018  
(Percentages)

	2016				2017				2018		2015–2016	2016–2017	December 2017 to 14 June 2018
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2			
Argentina	13.71	2.32	1.74	3.74	-3.10	8.06	4.15	7.54	8.15	34.03	23.16	17.27	44.95
Brazil	-9.36	-10.58	1.52	-0.35	-3.93	5.92	-4.38	4.62	-0.07	12.31	-17.91	1.80	12.24
Chile	-5.66	-0.67	-0.90	2.03	-1.56	0.54	-3.73	-3.69	-1.88	4.86	-5.86	-8.24	2.89
Colombia	-5.43	-2.72	-1.34	4.14	-4.22	5.88	-3.43	1.63	-6.42	1.86	-5.42	-0.46	-4.68
Costa Rica	0.19	1.94	0.91	-0.10	1.63	1.94	-0.14	-0.49	-0.64	0.34	2.97	2.95	-0.30
Dominican Republic	0.69	0.23	0.28	1.27	1.39	0.20	0.39	1.38	2.34	0.12	2.50	3.39	2.46
Guatemala	1.02	-0.95	-1.49	-0.02	-2.47	-0.03	0.12	0.01	0.74	1.14	-1.44	-2.38	1.89
Haiti	10.11	1.46	4.01	2.19	1.92	-8.09	0.67	0.79	1.10	2.59	18.79	-4.95	3.72
Honduras	1.20	0.68	1.06	2.00	0.06	-0.26	-0.22	0.83	0.22	1.69	4.98	0.41	1.92
Jamaica	1.32	4.11	0.81	1.00	-0.56	0.16	0.94	-3.84	1.32	3.15	7.40	-3.32	4.51
Mexico	0.42	5.80	6.04	6.92	-9.66	-3.23	0.74	7.69	-7.52	13.86	20.46	-5.15	5.30
Nicaragua	0.97	1.60	0.38	1.96	0.63	1.83	1.22	1.22	1.42	0.96	4.12	4.99	2.39
Paraguay	-2.65	-0.71	-0.60	3.28	-1.73	-1.47	2.03	-1.40	-0.71	2.24	-0.34	-2.61	1.51
Peru	-2.96	-0.83	2.98	-0.81	-3.20	-0.11	0.63	-0.86	-0.23	1.11	-1.58	-3.53	0.87
Trinidad and Tobago	2.76	0.66	1.03	0.51	-0.15	0.30	0.23	-0.12	0.38	2.03	5.08	0.26	2.42
Suriname	27.67	38.55	8.93	-3.80	1.54	-0.42	-0.87	0.34	0.53	0.17	85.30	0.58	0.70
Uruguay	6.32	-3.97	-7.00	3.16	-2.53	0.02	1.63	-1.00	-1.27	11.08	-2.02	-1.92	9.67

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

Eight of the region's economies experienced an average depreciation of 3.96% in 2017, compared with year-end 2016. Of the economies shown in the table, Argentina recorded the largest depreciation (17.3%), followed by Nicaragua (5.0%) and the Dominican Republic (3.4%). The loss of value of these currencies was driven by rising inflation expectations, asset replacement in favour of those denominated in foreign currency and uncertainty about the sustainability of public finances.

In the Bolivarian Republic of Venezuela, after the parallel exchange rate depreciated by almost 300% in 2016, the government and the central bank announced changes to expand the supply of dollars at the official rate by allowing foreign-exchange purchases through an adjustable exchange-rate system (DICOM) (a supplementary exchange rate for non-essential priority imports). Growing demand, together with supply constraints, led to the currency depreciating by 396% in 2017. Despite the new system, the parallel exchange rate depreciated by 3,027% at year-end 2017.

Exchange-rate volatility increased in the first half of 2018, with the region's currencies experiencing sharper depreciations, especially from the second quarter of the year onward. Between December 2017 and June 2018, only two currencies in the region have appreciated (the Colombian peso and the Costa Rican colon), but in neither case did the variation exceed 5%. During this period, 16 economies saw their currencies depreciate, in 5 of these cases —Argentine peso, Brazilian real, Mexican peso, the Uruguayan peso and the Venezuelan bolívar— by more than 5%.

The Argentine peso depreciated by 45.0% after the large jump in the exchange rate as from March. This led the authorities to intervene in the foreign-exchange market and to the subsequent announcement of an agreement with IMF, granting Argentina access to credit facilities totalling US\$ 50.0 billion. In the Bolivarian Republic of Venezuela, the authorities eliminated the DIPRO exchange rate (a protected exchange rate for priority activities), which traded at 10 bolivars per dollar, opting instead to use the DICOM rate (3,545 bolivars per dollar). The Government of Venezuela also announced it would be issuing a cryptocurrency, backed by the country's oil and mining reserves, to attract foreign exchange by allowing transactions normally settled in traditional currency—payments of oil exports, labour obligations and tourism expenditures—to be paid in the virtual currency. Despite these announcements, between December 2017 and June 2018 the official exchange rate depreciated by 2,320% (using the DICOM rate as a benchmark) and by 2,015% (using the parallel rate). Notwithstanding the differences in magnitude, in both Argentina and Venezuela, the monetary financing of fiscal deficits has led to sustained currency depreciation over time, while also feeding greater inflation expectations and, thus, stimulating demand for external assets.

The combination of declining inflation rates and local currency depreciation resulted in real currency depreciation in most of the region's economies (16) in 2017, in 10 of them at rates of over 5%. Six currencies had appreciated in real terms in 2016, the Mexican peso the most sharply (8.2%). Despite these corrections in 2017, five countries had exchange-rate lags of more than 30% with respect to their historical averages at the end of the year, including Argentina, the Bolivarian Republic of Venezuela and Trinidad and Tobago. With the nominal exchange rate adjustments in the first six months of 2018, both Argentina and the Bolivarian Republic of Venezuela have reduced these lags.

## 8. International reserves continue growing, despite falling as a percentage of GDP

International reserves in the region grew at a faster pace, from 2.4% in 2016 to 3.4% (by US\$ 28 billion) in 2017. The accumulation of reserves was positive in 18 of the region's countries, 3 fewer than in 2016, with the largest percentage hikes recorded in Argentina (42%), the Bahamas (56.1%) and Guatemala (28.5%). The absolute variations recorded in Argentina (US\$ 16.283 billion) and Brazil (US\$ 8.956 billion) represented close to 90% of the variation in the region's total cumulative reserves. Reserves declined in 11 economies in 2017, with Ecuador (42.4%), Barbados (37.6%) and Panama (21.7%) recording the largest percentage drops. In absolute terms, the sharpest falls were recorded in Mexico (US\$ 2.575 billion), Ecuador (US\$ 1.808 billion) and Chile (US\$ 1.50 billion).

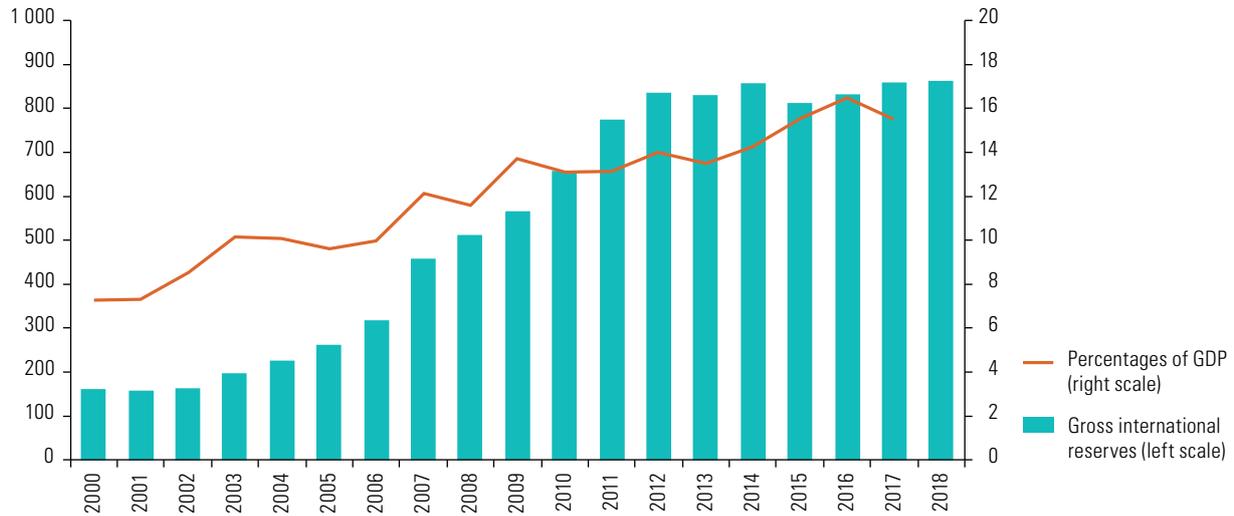
In Argentina, the central bank adopted a policy that allowed it to make foreign-exchange purchases to strengthen its international reserves position and increase its monetary and exchange-rate policy space. In Brazil, the settlement of repurchase agreements (repos)—which sought to stabilize the exchange rate—and higher returns yielded by reserve assets boosted international reserves.

International reserves fell in GDP terms in 2017—to 15.5% of GDP, from 16.5% in 2016—owing to the region's higher output growth, exchange-rate fluctuations and falling inflation. The highest reserves-to-GDP ratios were posted by Dominica (39%), Trinidad and Tobago (37.8%) and Saint Kitts and Nevis (37.5%), while Ecuador (2.4%), the Bolivarian Republic of Venezuela (3.8%) and Barbados (4.2%), had the lowest reserves-to-GDP ratio.

Reserves in the region continue growing in 2018, although at a slower pace than in 2017, mainly on account of the decline of US\$ 3.620 billion in Peru’s international reserves after foreign-exchange interventions by the central bank. Argentina’s reserves grew by more than US\$ 11.0 billion between May and June 2018 —after the country reached an agreement with IMF— offsetting the decline of almost US\$ 5.0 billion recorded between December 2017 and May 2018.

**Figure I.53**

Latin America and the Caribbean: international reserves, 2000–2018  
(Billions of dollars and percentages of GDP)



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

## F. Risks in the international scenario and projections for Latin America and the Caribbean for 2018

### 1. Economic activity projections for Latin America and the Caribbean in an international context that has changed from 2017

Some of the risks identified by ECLAC in previous publications materialized in the first half of 2018, in particular those related to the potential effects of tighter monetary policy and tax reform in the United States, and to heightened protectionist trends and international trade tensions.

Although it has occurred gradually, the tightening of monetary policy in the United States has nonetheless led to portfolio adjustments, adversely affecting financial flows to emerging markets and leading to widespread depreciation of these currencies against the dollar. Expectations continue pointing to a cycle of gradual policy rate hikes in the United States, which will impact on portfolio decisions regarding financial flows into emerging economies. If these trends are accompanied by heightened risk aversion, available financing could be further limited and emerging market currencies, including those of Latin America, could depreciate even more. The consequences of such a turn of events for the region's countries will depend partly on the composition of financial inflows and the weight of components most sensitive to changes in international interest rates. Countries with a greater share of dollar-denominated debt will also be more exposed, as will those with higher proportions of short-term debt needing to be rolled over at a higher cost. In addition, the prolonged period of low volatility and relaxed financial conditions until the end of 2017 induced significant rises in borrowing in some countries —accompanied in some cases by greater risk-taking— which has left them more vulnerable to deteriorating international financial conditions.

International financial flows are affected by investors' risk propensity. The prevailing financial volatility has not only changed the perceptions of risk and uncertainty but has also heightened investors' sensitivity to shifts and increased the chances of systemic contagion.

On the trade front, tensions have risen sharply in the first half of 2018. The protectionist measures put in place by the United States have led to an escalation of reprisals which, depending on their magnitude, will affect not only trade flows, but also global production dynamics through global value chains and financial, capital and technological flows. Although growth expectations for this year have not been revised downward across the various regions, uncertainty about economic performance in 2019 and beyond has increased. Escalating protectionism could also have a substantial impact on global activity through the financial channel. Greater financial uncertainty and volatility during the first half of 2018 was fuelled not only by monetary policy

in the United States, but also by rising trade tensions. These tensions were also evident in the increased volatility in commodity markets—especially in the prices of goods subject to the tariffs that had already been announced—and in new reversals in equity markets. The burden of uncertainty that weighed on investment and on business earnings expectations, especially of those sectors most exposed to trade conflicts, led to stock market corrections throughout the world. Should international financial conditions worsen substantially, their impact on global economic activity would certainly increase, with repercussions that are hard to predict.

In addition, the concerns of recent years over the strength of China's economy remain. Although the downturn that had been projected year after year still did not materialize in 2017, China's economic growth in 2018 is expected to slow, albeit moderately. The Chinese authorities have been taking steps to contain the risks associated with the country's high levels of indebtedness and shadow banking system. However, any perceived problems in these processes or a greater-than-expected slowdown could lead to sizeable impacts on commodity prices, which could spill over to other global financial assets.

Lastly, geopolitical risks are ever present, compounded by uncertainties surrounding Brexit—and the shape of future trade relations between the United Kingdom and the European Union—and other political processes, such as recent events in Italy, which could lead to new waves of market volatility. These processes reflect difficulties at the global level in reconciling national goals and policies with multilateral agreements; against this backdrop, tensions have emerged on various fronts, mainly in trade and migration.

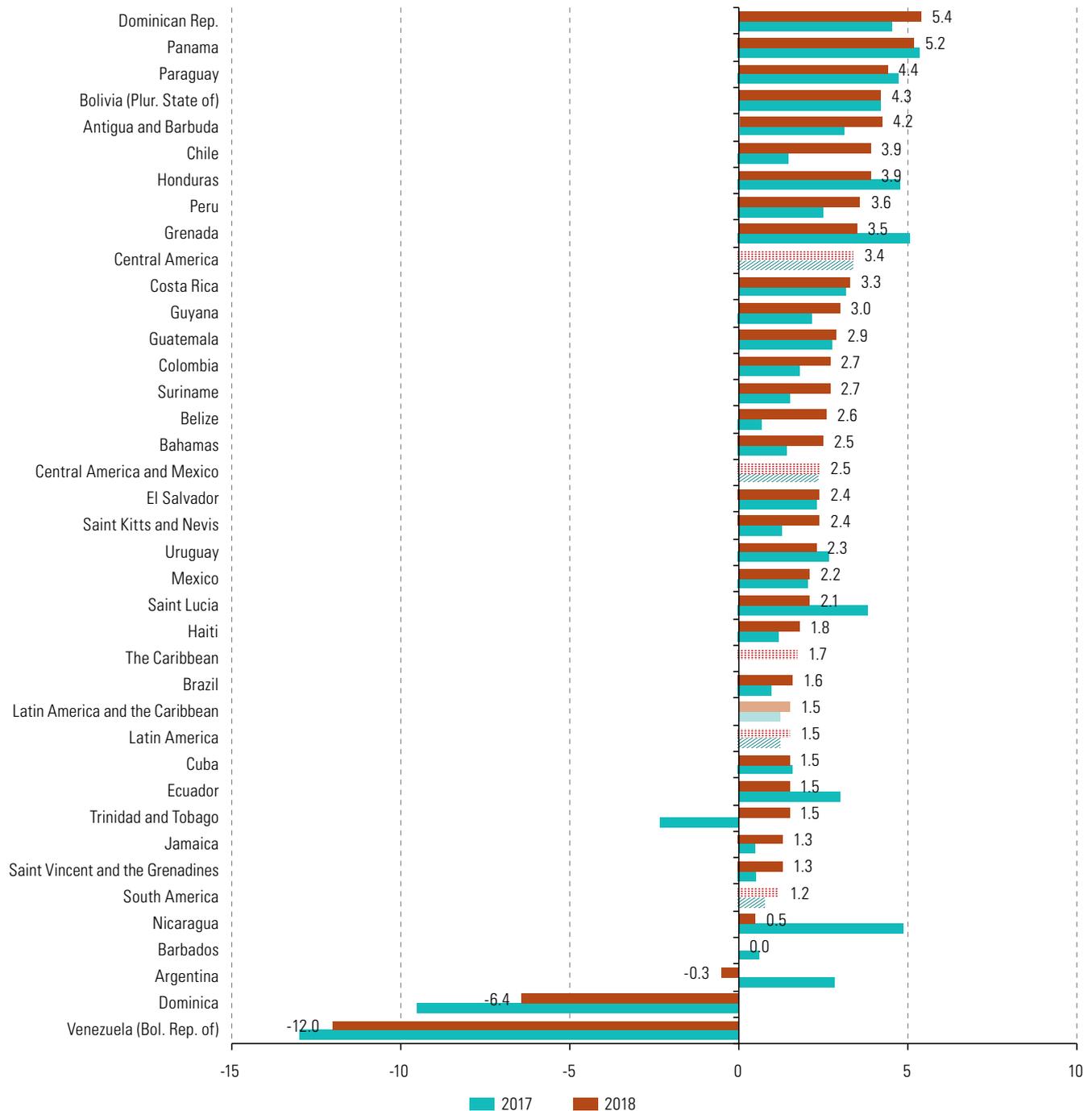
## 2. The growth projection for Latin America and the Caribbean has been revised down to 1.5%, owing to the harsher external financial conditions now prevailing and specific factors in some economies

Latin America and Caribbean is expected to post GDP growth of 1.5% in 2018 (see figure I.54), down 0.7 percentage points with respect to projections in April, as a result of downward revisions for large economies such as Argentina, the Bolivarian Republic of Venezuela and Brazil. However, a closer look at the rest of the region reveals a broad spectrum of situations; the projections for Chile, Colombia, Paraguay, Peru and the Plurinational State of Bolivia have been revised upward—mainly on account of their improved terms of trade—whereas growth projections in other cases remain unchanged or have been reduced slightly.

Despite the region's loss of economic momentum over the first two quarters, it is expected to post a higher growth rate than the 1.2% recorded in 2017. As in previous years, projected growth rates vary between countries and subregions, depending not only on the differentiated impacts of international conditions on each economy, but also on the different trends in spending components—mainly consumption and investment—in the economies of the north and south of the region.

Figure I.54

Latin America and the Caribbean: GDP growth projections, 2018  
(Percentages, on the basis of dollars at constant 2010 prices)



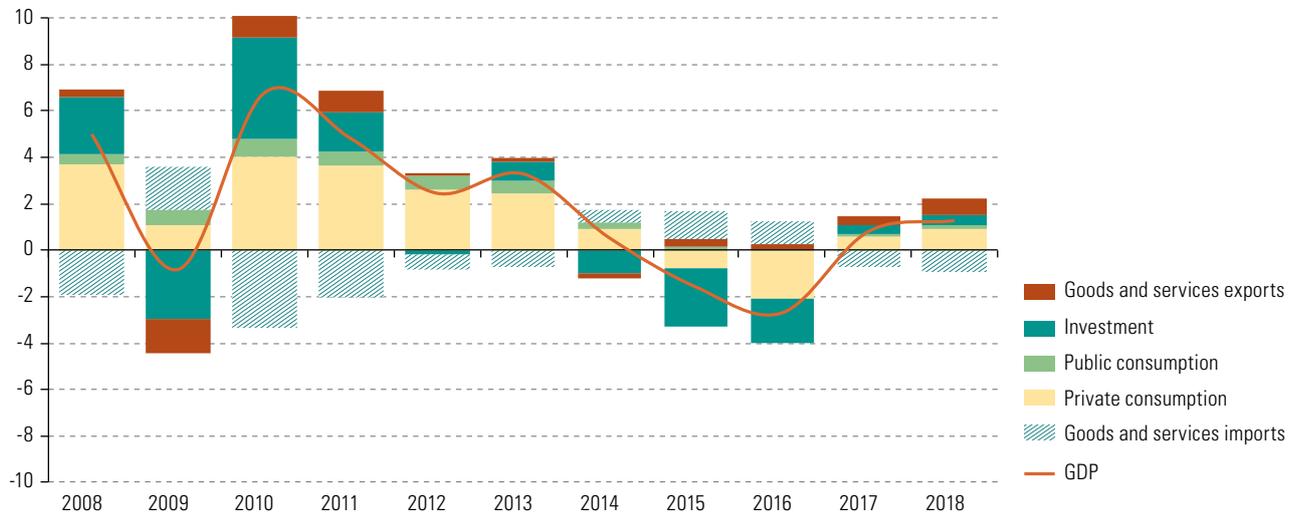
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

In South America as a subregion, growth is expected to rise from 0.8% in 2017 to 1.2% in 2018. On the spending side, domestic demand will rise by 1.5% in 2018 on the back of stronger consumption and investment, with consumption making the larger GDP contribution of the two (see figure I.55). Regarding international trade in goods and services, imports in 2018 are expected to grow by about 5%, thanks to the upturn in domestic demand, while exports are slated to rise only 2% by volume, in tune with slack external demand.

Central America<sup>17</sup> as a subregion, is expected to grow at a pace similar to the 3.4% it recorded in 2017, with the slowdown forecast in Honduras, Nicaragua and, to a lesser extent, Panama, to be offset by faster growth in the Dominican Republic. Growth in Mexico is expected to edge up by two tenths of a percentage point from 2.0% in 2017 to 2.2% in 2018. A shift is expected in the aggregate demand components driving growth in Mexico and Central America: although private consumption will remain the largest contributor—growing at a healthy 3.3%—in 2018, investment will make a zero contribution, while goods and services exports will play a larger role (see figure 1.56). Finally, the English- and Dutch-speaking economies of the Caribbean are expected to post growth of 1.7% in 2018, after registering zero growth (0.0%) in 2017.

**Figure 1.55**

South America: GDP growth rates and contribution of spending components to growth, 2008–2018<sup>a</sup> (Percentages)

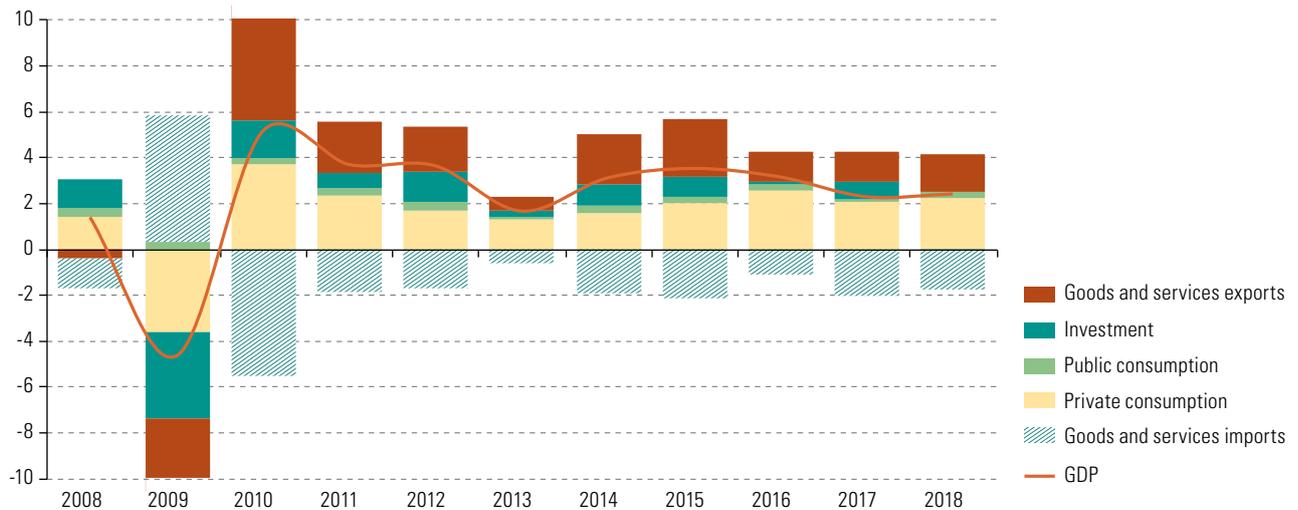


**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

<sup>a</sup> Figures for 2018 are projections.

**Figure 1.56**

Central America<sup>a</sup> and Mexico: GDP growth rates and contribution of aggregate demand components to growth, 2008–2018<sup>b</sup> (Percentages)



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

<sup>a</sup> Includes Costa Rica, the Dominican Republic, Guatemala, Honduras, Mexico and Nicaragua.

<sup>b</sup> Figures for 2018 are projections.

<sup>17</sup> The subregion includes Costa Rica, Cuba, the Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Nicaragua and Panama.

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# Evolution of investment in Latin America and the Caribbean: stylized facts, determinants and policy challenges

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## Introduction

Part II of the *Economic Survey*, which has three chapters, is devoted to analysing foreign investment in Latin America and the Caribbean. The first chapter, “Stylized facts of gross fixed capital formation in Latin America and the Caribbean, 1995–2017”, looks at the behaviour of investment at the aggregate level, then examines the components of investment by asset and sector, as well as at the company level.

The analysis shows that investment has been rising since the 1990s. The breakdown by component reveals that construction accounts for a larger share of investment than machinery and equipment, which nevertheless has been the most dynamic over time. Both these stylized facts are positive for the region: higher investment means greater opportunities for growth, while stronger growth in machinery and equipment can lay the foundations for growth through innovation and productivity gains. By sector, it is found that private investment traditionally predominates over public investment, which has been falling since the 1980s and especially since the 1990s. Sector-level analysis of a sample of four countries (Brazil, Chile, Colombia and Mexico) reveals that investment is concentrated in housing ownership and that it is not necessarily undertaken by the sectors that have the greatest linkages with the rest of the economy. Lastly, investment is found to be highly concentrated in a small group of firms.

The second chapter in part II, “An empirical analysis of the determinants of investment” reviews the most salient features of the investment cycle, then examines the determinants of investment at the macroeconomic and microeconomic levels.

The chapter explains that the increase in investment in the 1990s and, especially, in the first decade of the 2000s was partly attributable to the nature of the cycle. In Latin America and the Caribbean, the investment cycle is shorter than the GDP cycle. Investment also tends to contract more sharply than GDP and other components of aggregate demand. Analysis of the composition of investment finds that construction is the component showing the heaviest and longest contractions, except during the global financial crisis. Thus, shifting investment towards machinery and equipment could not only help to increase productivity, but could also contribute to easing the volatility of investment over time.

The econometric analysis also backs the finding that, in the region’s larger and more diversified economies, the acceleration principle plays an important role in determining the behaviour of investment. Conversely, in medium-size economies, although the accelerator is still important, other factors —mainly associated with the external sector in conjunction with domestic monetary policies— have stronger explanatory power.

This chapter also argues that investment not only depends on macroeconomic variables, but is also determined by microeconomic variables and the particular situation of a firm or group of firms in a given sector and context, which can be assessed by means of their balance sheets and financial statements. This serves not only to examine the microeconomic dimension of investment, but also to show that financial conditions are fundamental in explaining the behaviour of investment over time. This point is illustrated by demonstrating that, beyond a given level of leverage (debt to equity), a negative relation is found between cash flow and investment expenditures, indicating that firms use liquidity as a margin of safety rather than as a vehicle for investment. It may thus be argued that better financing conditions do not necessarily lead to higher investment. It all depends on the state and particular features of firms’ balance sheets and financial statements. Such an analysis should serve to further explore the effects of monetary policy and the financial system on investment and the channels by which these are transmitted to the real economy.

The third chapter in part II, “Stylized facts and main determinants of investment: an analysis of selected Latin American and Caribbean countries”, focuses on the cases of Argentina, Colombia and Mexico. These national cases provide further evidence for the conclusions of the regional analyses, including the rise in the trend of investment over time and the greater magnitude of investment in construction than in machinery and equipment. The latter component also grew more strongly in the first decade of the 2000s, coinciding with the commodity price supercycle.

By sector, private investment outweighs public investment, which has been falling since the 1980s. Econometric analysis points to two-way causality between investment and GDP, insofar as investment both depends on economic growth (accelerator effect) and determines it through the channel of aggregate demand (multiplier effect). Lastly, the case studies show the importance of external sector variables, be they international interest rates, real exchange rates, financial flows or the terms of trade. For very open economies such as those of Latin America and the Caribbean, the performance of investment and growth is thus highly dependent on external conditions. This is particularly true in those economies whose production structure and investment composition are heavily concentrated in sectors exposed to the vagaries of the international economy.

# Stylized facts of gross fixed capital formation in Latin America and the Caribbean, 1995–2017

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## Introduction

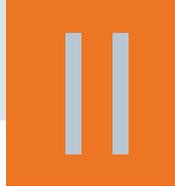
- A. Investment overall followed an upward trajectory over 1995–2017
- B. The upward trend in investment is attributable to the performance of the machinery and equipment component, the most dynamic component
- C. The rise in machinery and equipment investment has been insufficient to offset the weight of construction as the main investment component at the aggregate and sectoral levels
- D. Sectors with the largest share of investment tend to have weaker linkages with the rest of the economy
- E. Country-by-country analysis: investment at the company level follows a similar pattern to that at the aggregate and sectoral levels, and is highly concentrated

## F. Conclusions

## Bibliography

## Annex II.A1





## Introduction

Gross fixed capital formation in Latin America and the Caribbean has followed an upward trajectory since the mid-1990s. Overall, investment spending by the region has surpassed the levels in other regions, thus allowing it to bridge investment gaps, measured as a percentage of GDP, with the rest of the world.

Despite this progress, investment composition is far from ideal as it remains skewed towards construction, which is the largest component in total gross fixed capital formation but has the smallest impact on productivity. This stylized fact is evident not only at the aggregate level, but also at the sectoral and company levels.

A sectoral analysis of four countries in the region —Brazil, Chile, Colombia and Mexico— shows that in 1995–2014 the lion's share of investment in gross fixed capital formation went to construction. In sectors which account for a high share of gross fixed capital formation, including community and personal services, mining, transport and water and electricity, investment efforts were also skewed towards construction.

A second outcome of the analysis of investment levels by sector is that some of the sectors that account for the largest share tend to have weaker linkages with the other production sectors. The natural resources sectors —which dominate investment in some countries— are a clear example of this.

A third finding is that the trends followed by investment at the macroeconomic and sectoral levels are reproduced in the microeconomic sphere. A more detailed analysis covering a sample of 2,228 companies from Argentina, Brazil, Chile, Colombia, Mexico and Peru spanning from 2008 to 2016 reached the same conclusions: the construction component is larger than the machinery and equipment component, and investment tends to be concentrated in activities that are weakly linked with the rest of the economy.

Aside from these three stylized facts, investment is also highly concentrated. Results suggest that 1%, 5% and 10% of companies, on average, account for 25%, 55% and 69%, respectively, of long-term investment expenditure of stock listed companies.

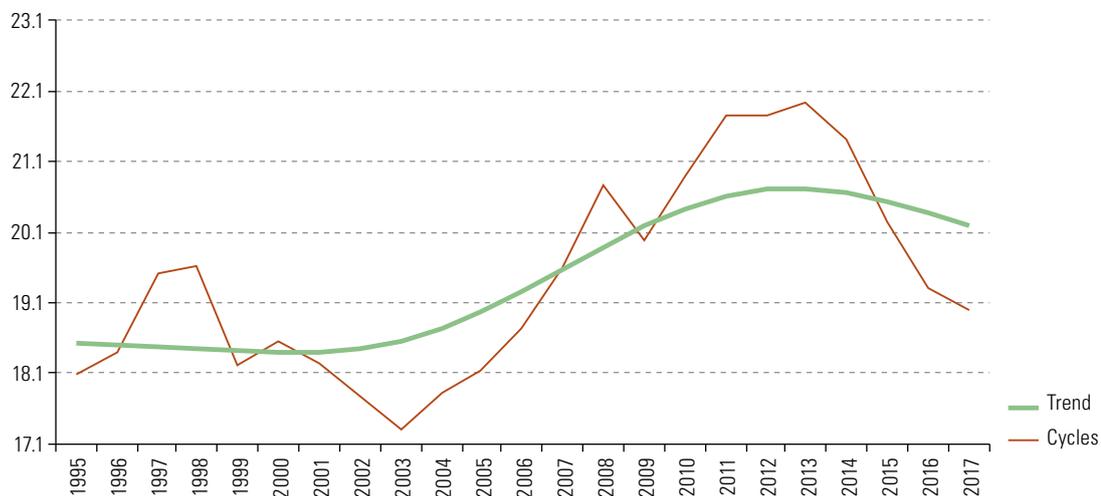
This chapter has six sections. The first describes investment trends at the aggregate level between 1995 and 2017. The second breaks down investment by asset type (construction, and machinery and equipment). The third section examines investment at the aggregate and sectoral levels. The fourth delves deeper into this analysis by considering countries, sectors and a breakdown by machinery and equipment. The fifth part presents an even more detailed analysis of investment at the company level, on the basis of a sample of 2,228 production units. Lastly, the sixth section summarizes the chapter's main conclusions.

### A. Investment overall followed an upward trajectory over 1995–2017

An analysis of gross fixed capital formation shows that investment efforts in Latin America and the Caribbean have followed an upward trend over the 1995–2017 period, as gross fixed capital formation, as a percentage of GDP, grew from 18.5% to 20.2% (see figure II.1). This upturn reflects the nature of the economic cycles spanning these years.

**Figure II.1**

Latin America and the Caribbean: trend and cycles of gross fixed capital formation, 1995–2017  
(Percentages of GDP)



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

**Note:** Investment trends and cycles were obtained using the Hodrick-Prescott filter.

On the basis of empirical data, three cycles may be distinguished during the period under study. The first stretches from 1995 to 2002, the second from 2003 to 2008 and the third from 2009 to 2016. A comparison of the three shows that the largest investment surge took place in the second cycle (2003–2008), which coincided with the commodities price boom. Investment rates grew on average by 10% in real terms between 2003 and 2008.

The worst performance occurred in the latest cycle (2009–2016), when gross fixed capital formation grew on average by just 0.94%. This was attributed to the impact of the global financial crisis—which was felt throughout the region in 2009 and led to investment contracting by 7.5% that year—and to the drop in commodity prices between 2011 and 2015, which resulted in a 4.3% decline in investment growth rates between 2014 and 2015.

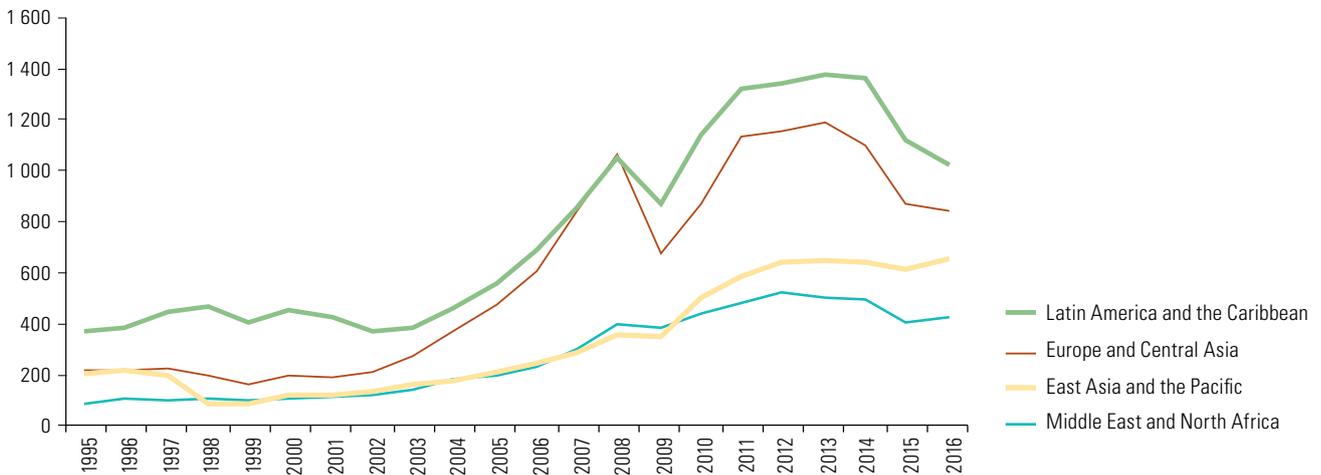
The upturn in investment in Latin America and the Caribbean in the past two decades compares favourably to other developing regions. A comparative analysis for 1995–2016 shows that gross fixed capital formation in Latin America and the Caribbean, measured in real terms, has been systematically higher than in other developing regions, including Europe and Central Asia, the Middle East and North Africa, and East Asia and the Pacific, excluding China (see figure II.2).

Gross fixed capital formation in Latin America and the Caribbean totalled US\$ 369.0 billion in 1995 and began growing rapidly from 2003 onward, reaching US\$ 1.0 trillion in 2016. Investment measured in 1995 and 2016 was lower in other regions, totalling US\$ 219.0 billion and US\$ 843.0 billion in Europe and Central Asia, US\$ 202.0 billion and US\$ 658.0 billion in East Asia and the Pacific, and US\$ 85.0 billion and US\$ 423.0 billion in the Middle East and North Africa, respectively.

This performance has allowed Latin America and the Caribbean to close its investment gaps with other developing regions and with developed countries, except for the past decade's fastest-growing economies, such as China and India (see figure II.3).

**Figure II.2**

Latin America and other developing regions: gross fixed capital formation, 1995–2016  
(Billions of dollars at constant prices)

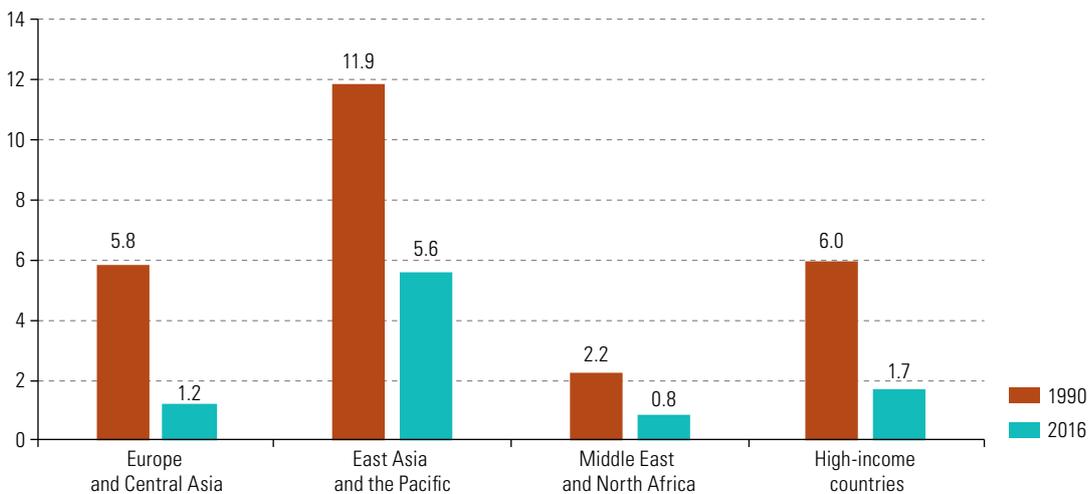


**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, World Development Indicators [online database] <http://data.worldbank.org/products/wdi>.

**Note:** The comparison includes only low- and middle-income countries and excludes China from the East Asia and Pacific region.

**Figure II.3**

Gaps between gross fixed capital formation in Latin America and the Caribbean and other regions, 1990–2016  
(Percentages of GDP)



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

**Note:** Investment gaps are obtained by subtracting gross fixed capital formation in Latin America and the Caribbean, as a percentage of GDP, from that of other regions.

Between 1990 and 2016, the Latin American and Caribbean region's investment gap fell by 6.3 percentage points of GDP vis-à-vis East Asia and the Pacific, 4.6 points vis-à-vis Europe and Central Asia, 1.4 points relative to the Middle East and North Africa, and 2.4 points relative to the high-income countries.

Investment in Latin America and the Caribbean is predominantly private. At the regional level, private investment accounts for approximately 75% of total investment, and the rest is public investment. An analysis spanning from 1980 to 2017 indicates that public investment followed a downward trend between 1980 and the beginning of the 2000s and bounced back from the mid-2000s onward.

During the 1980s, public investment played a leading role in gross fixed capital formation in Latin America, peaking at close to 7% of GDP at the beginning of the decade (see figure II.4). After the debt crisis, the region was forced to make significant adjustments to its public accounts, leading to procyclical cuts in capital expenditures. This produced a paradigm shift in the region's fiscal policy; the State began withdrawing from many sectors of the economy, State companies were privatized and a sharp decline in public investment ensued, especially during the 1990s. This slowdown in investment had a negative impact on the growth of economies and welfare during those years. The retrenchment lasted until the start of the commodities boom, when substantial improvements in the region's fiscal indicators allowed capital spending to resume an upward trajectory, which peaked in 2013.

**Figure II.4**

Public investment by the general government, 1980–2017  
(Percentages of GDP)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank, DataBank [online database] <http://databank.worldbank.org/data/home.aspx>.

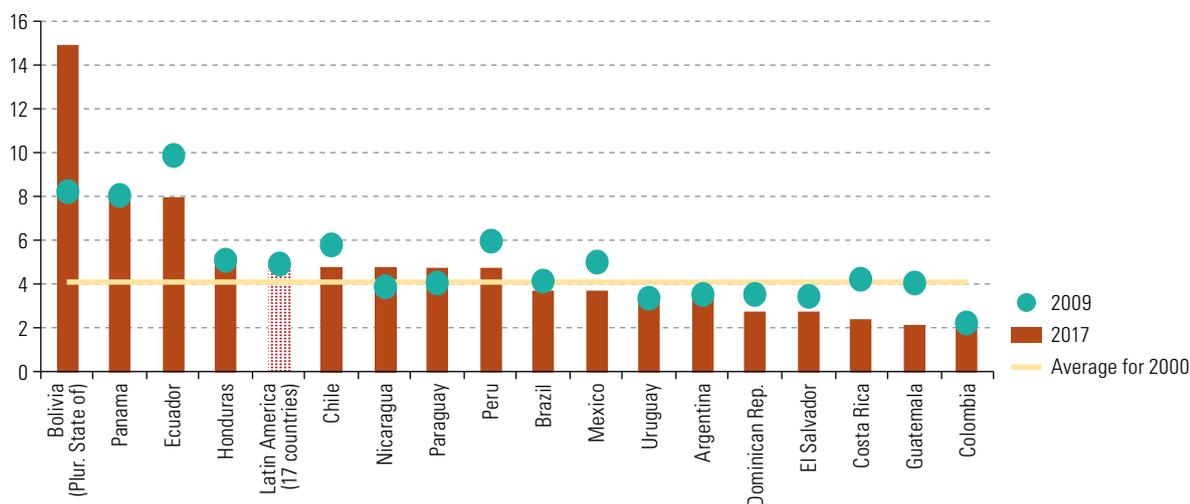
Investment has risen in recent years, although it remains far below the levels needed in the region. The simple average of public capital spending in 17 countries—including State-owned companies in countries where these are significant—rose from 4.0 to 4.8 points of GDP between 2000 and 2017 (see figure II.5). The low starting point helps to explain the positive relative performance of investment; a solid upturn from the levels recorded in 2000 is evident in the cases of Argentina, Brazil, Ecuador, Mexico, Panama, Paraguay and the Plurinational State of Bolivia. However, other countries, such as Chile, Costa Rica, the Dominican Republic, El Salvador, Guatemala and Nicaragua have yet to regain the investment levels of activity of the year 2000.

An analysis of public investment after the 2008–2009 crisis shows a sharp upturn in capital expenditures, especially public investment in infrastructure—which had been deteriorating heavily since the 1990s.<sup>1</sup> This upward momentum continued for most of the countries until 2013–2014, but the trend changed abruptly in 2015, owing to the deterioration in fiscal accounts. The pressure on fiscal resources led to the stagnation and subsequent contraction of public investment, although the magnitude of these reversals remains quite muted in many countries in the region.

<sup>1</sup> See ECLAC (2018), chapter III.

**Figure II.5**

Latin America (17 countries): public sector social spending by country, 2000, 2009 and 2017<sup>a</sup>  
(Percentages of GDP)



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

<sup>a</sup> Public investment is defined as public sector capital spending net of intergovernmental transfers.

This situation remained unchanged in some countries in 2017. Investment fell in 11 of the 17 countries for which there is available information compared with 2009 levels. However, the regional average in 2017 came in at 4.8% of GDP, mainly thanks to the high level of public investment in the Plurinational State of Bolivia (15%), Panama (8.2%), Ecuador (8%) and Honduras (5.4%).

The analysis shows how public investment levels differ among the region's countries. On the basis of the data available for the past decade and a half, the countries may be grouped into three categories by investment levels: those with public investment rates lower than 5% of GDP (Argentina, Brazil, Mexico and Uruguay); those with rates between 5% and 7% (Chile, Costa Rica, the Dominican Republic and Peru); and those with rates between 8% and 10% of GDP (Ecuador, Panama and the Plurinational State of Bolivia).

## B. The upward trend in investment is attributable to the performance of the machinery and equipment component, the most dynamic component

A breakdown of gross fixed capital formation by construction asset (including residential and non-residential construction) and by machinery and equipment assets, shows that although the first component accounts for a larger share of investment and a higher percentage of GDP (see table II.1), the second component is growing faster. Between 1993 and 2016, construction accounted on average for 67.5% of total investment (12% of GDP), split almost equally between residential and non-residential construction (30.9% and 36.6% over 1995–2015, respectively). Machinery and equipment, meanwhile, accounted for 32.4%.

**Table II.1**  
Latin America and the United States: components of gross fixed capital formation, 1995–2016  
(Percentages of GDP, percentages of total investment and growth rates)

	1995–2003	2004–2009	2010–2016	1995–2016
<b>Latin America</b>				
<b>Percentages of GDP</b>				
Non-residential construction	7.5	6.4	7.2	7.1
Residential construction	6.2	6.1	5.7	6.0
Total construction	13.7	12.5	12.9	13.1
Machinery and equipment	4.7	6.7	8.1	6.3
<b>Percentages of total investment</b>				
Non-residential construction	40.8	33.3	34.3	36.6
Residential construction	33.7	31.8	27.1	30.9
Total construction	74.5	65.1	61.4	67.5
Machinery and equipment	25.5	34.9	38.6	32.5
<b>Growth rates</b>				
Non-residential construction	-0.4	6.5	0.7	1.9
Residential construction	1.5	3.9	0.5	1.8
Total construction	0.4	5.2	0.5	1.8
Machinery and equipment	7.7	8.1	4.3	6.7
<b>United States</b>				
<b>Percentages of total investment</b>				
Non-residential construction	15.8	17.7	17.9	17.2
Residential construction	26.5	28.1	20.1	24.6
Total construction	42.3	45.8	38.0	41.7
Machinery and equipment	57.7	54.2	62.0	58.3

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

**Note:** Non-residential investment comprises non-residential structures and infrastructure, while machinery and equipment comprises transport, computing and communications equipment, as well as agriculture and forestry products, and other machinery and equipment.

Although construction is the largest component of investment, machinery and equipment is the fastest-growing component. Between the first and the last period studied (1995–2003 and 2010–2016), machinery and equipment went from 4.7% of GDP to 8.1% of GDP. In turn, the weight of construction in GDP trended downwards, from 13.7% to 12.9% in the same period. Taking a longer view, machinery and equipment grew at a much faster rate than construction in 1995–2016: growth rates for machinery and equipment came in at 7.7%, 8.1% and 4.3%, in 1995–2003, 2004–2009 and 2010–2016, respectively, compared with 0.4%, 5.2% and 0.5% for construction in the same periods.

Faster growth in machinery and equipment investment has increased this component's weight in GDP, with respect to construction. The share of investment in machinery and equipment thus went from 22% of the total in 1995 to 40% in 2016.

The machinery and equipment investment coefficient in Latin America is lower than in other regions or countries; data from developed countries, such as the United States, indicate that the share of investment in machinery and equipment roughly doubles that of the region (see table II.1).<sup>2</sup>

<sup>2</sup> These calculations are from the United States Bureau of Economic Analysis. Available data from the Organization for Economic Cooperation and Development (OECD) show a similar pattern. See OECD (2018).

The greater share of machinery and equipment investment is a positive stylized fact for the region inasmuch as this component embeds greater technological content. New machinery and equipment tends to be more productive than existing versions. Investment in this segment is also more productive than other types of investment, such as gross fixed capital formation in construction (Di Bella and Cerisola, 2009). Thus, machinery and equipment investment is the sort that can contribute most to economic growth.

## C. The rise in machinery and equipment investment has been insufficient to offset the weight of construction as the main investment component at the aggregate and sectoral levels

A closer examination of the sectoral breakdown of gross fixed capital formation by country and asset component shows that the bulk of investment is concentrated in construction-related sectors. Table II.2 presents the analysis for four Latin American countries—Brazil, Chile, Colombia and Mexico— between 1995 and 2004, on the basis of the LA-KLEMS database.<sup>3</sup>

By sector, home ownership is the main source of investment in these countries; according to the available data for 1995–2014, this sector accounts, on average, for 33% of total investment (construction plus machinery and equipment) in Brazil, 25% in Chile and in Colombia, and 31% in Mexico.

By asset, as at the regional aggregate level, investment in construction also weighs more than investment in machinery and equipment. On average, investment in construction represented 13.5%, 13.2%, 9.7% and 12.4% of GDP in Brazil, Chile, Colombia and Mexico, respectively. In turn, investment in machinery and equipment as a percentage of GDP was 5.2%, 6.3%, 10.0% and 7.0%, respectively, in these countries.

Aside from home ownership, the community, social and business services sector also accounted for a substantial share of total investment. Between 1975 and 2014, this sector represented 19%, 15%, 13% and 14% of total investment in Brazil, Chile, Colombia and Mexico, respectively. Measured by asset, investment in this sector is also dominated by construction over machinery and equipment in Brazil, Chile and Mexico (85%, 81% and 85% of total investment, by asset, respectively).

<sup>3</sup> The LA-KLEMS database project was led initially by ECLAC and, subsequently, by the Inter-American Development Bank (IDB). Based on a methodology known as KLEMS—capital (K), labour (L), energy (E), materials (M) and services (S)—it has become a key tool in the theoretical analysis of the determinants of economic growth, focusing on how supply and productivity evolve over time. The methodology is part of the WORLD KLEMS initiative led by Dale W. Jorgenson (see Jorgenson, Fukao and Timmer, 2016). Statistics platforms are used to measure the contribution of production factors and of total factor productivity to economic growth both in aggregate (several economies) and in disaggregated terms (split into 67 groups of subsectors) (Hofman and others, 2017). A key aspect of the project is the use of common methodologies—by central banks and national statistics institutes—across countries so as to ensure the coherence and uniformity of concepts and thus, comparable growth accounting at the international level. The development of the LA-KLEMS database ([www.laklems.net](http://www.laklems.net)) has become increasingly important in a context characterized by the structural changes in Latin America's economic growth over the past two decades. It has opened the possibility of exploring the weight of different drivers in the divergence or convergence of productivity and economic growth momentum in Latin America with respect to economies in other regions which also employ the KLEMS methodology for growth accounting (EU KLEMS, LA-KLEMS and Asia KLEMS). KLEMS databases allow measurement of the total productivity of each factor and their respective contribution to economic growth.

**Table II.2**  
Brazil, Chile, Colombia and Mexico: breakdown of gross fixed capital formation, by sector and asset, 1995 and 2014  
(Percentages of GDP)

Economic sector	Brazil						Chile					
	Construction	Machinery and equipment	Total	Share of construction in the total	Share of machinery and equipment in the total		Construction	Machinery and equipment	Total	Share of construction in the total	Share of machinery and equipment in the total	
Agriculture, forestry and fishing	0.00	1.43	1.43	0.00	100.00		0.38	0.19	0.57	66.46	33.54	
Mining	0.08	0.36	0.45	18.22	81.78		2.32	0.83	3.15	73.78	26.22	
Manufacturing	1.80	1.93	3.73	48.18	51.82		0.42	1.19	1.61	26.00	74.00	
Food, beverages and tobacco	0.46	0.54	1.01	46.05	53.95							
Textiles, clothing and leather products	0.08	0.14	0.22	37.67	62.33							
Woods and furniture	0.04	0.01	0.05	83.03	16.97							
Paper and printing	0.12	0.13	0.25	48.48	51.52							
Chemicals, petroleum, rubber and plastic	0.35	0.53	0.88	39.92	60.08							
Non-metal mineral production and primary metals	0.25	0.09	0.34	72.94	27.06							
Metal products, machinery and equipment and others	0.49	0.49	0.98	49.89	50.11							
Electricity, gas and water	1.37	0.05	1.42	96.54	3.46		0.95	0.43	1.38	68.66	31.34	
Construction	0.17	0.46	0.63	26.68	73.32		0.05	0.59	0.64	7.33	92.67	
Commerce, restaurants and hotels	0.73	0.13	0.86	84.83	15.17		0.57	0.25	0.82	69.24	30.76	
Transport	0.06	0.05	0.11	53.99	46.01		0.93	1.62	2.54	36.44	63.56	
Communications	0.01	0.16	0.17	5.41	94.59							
Financial and business services	0.08	0.14	0.21	36.07	63.93		0.39	0.58	0.97	39.97	60.03	
Home ownership	6.24	0.00	6.24	100.00	0.00		4.79	0.00	4.79	100.00	0.00	
Community, social and personal services	2.99	0.53	3.52	85.04	14.96		2.37	0.56	2.94	80.80	19.20	
Total	13.52	5.24	18.76	72.06	27.94		13.16	6.25	19.41	67.80	32.20	

Table II.2 (concluded)

Economic sector	Colombia					Mexico				
	Construction	Machinery and equipment	Total	Share of construction in the total	Share of machinery and equipment in the total	Construction	Machinery and equipment	Total	Share of construction in the total	Share of machinery and equipment in the total
Agriculture, forestry and fishing	0.13	0.71	0.84	15.03	84.97	0.46	0.16	0.63	73.83	26.17
Mining	1.06	1.17	2.23	47.49	52.51	0.96	1.08	2.04	47.02	52.98
Manufacturing	0.67	1.73	2.39	27.87	72.13	1.06	2.86	3.91	26.97	73.03
Food, beverages and tobacco	0.22	0.62	0.83	25.94	74.06	0.20	0.27	0.47	42.13	57.87
Textiles, clothing and leather products	0.07	0.17	0.24	30.63	69.37	0.03	0.05	0.08	36.53	63.47
Woods and furniture	0.02	0.04	0.07	36.04	63.96	0.01	0.02	0.03	35.24	64.76
Paper and printing	0.03	0.06	0.09	33.20	66.80	0.03	0.07	0.10	31.38	68.62
Chemicals, petroleum, rubber and plastic	0.09	0.29	0.38	23.34	76.66	0.37	0.38	0.75	48.93	51.07
Non-metal mineral production and primary metals	0.07	0.25	0.32	20.49	79.51	0.06	0.14	0.19	29.70	70.30
Metal products, machinery and equipment and others	0.17	0.29	0.46	36.42	63.58	0.36	1.93	2.29	15.77	84.23
Electricity, gas and water	1.30	0.23	1.53	84.67	15.33	0.44	0.06	0.50	88.10	11.90
Construction	0.06	0.22	0.29	22.36	77.64	0.03	0.18	0.21	16.39	83.61
Commerce, restaurants and hotels	0.10	1.09	1.20	8.72	91.28	1.00	1.06	2.06	48.51	51.49
Transport	0.07	1.67	1.74	3.96	96.04	0.34	0.58	0.93	37.08	62.92
Communications	0.12	1.52	1.65	7.57	92.43	0.11	0.25	0.35	30.03	69.97
Financial and business services	0.07	0.16	0.24	31.51	68.49	0.49	0.32	0.81	60.07	39.93
Home ownership	4.90	0.00	4.90	100.00	0.00	6.34	0.00	6.34	100.00	0.00
Community, social and personal services	1.16	1.50	2.67	43.60	56.40	2.37	0.41	2.78	85.29	14.71
Total	9.65	10.02	19.67	49.07	50.93	13.59	6.96	20.55	66.14	33.86

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of A. Hofman and others, "Economic growth and productivity in Latin America: LA-KLEMS", El Trimestre Económico, vol. LXXXIV (2), No. 334, April–June 2017.

A closer analysis by country shows that, in Chile and Colombia, construction-related sectors attracted the largest share of total investment. In Chile, available data for 2014 and 1975–2015 indicate that the mining sector, on average, accounted for 25% and 16%, respectively, of total investment. In Colombia, manufacturing and mining (9.0% and 8.5%, respectively) attracted the largest share of investment. This pattern is also evident in other sectors which attracted significant levels of investment, including electricity, gas and water (Colombia, Brazil and Chile), transport (Chile) and commerce (Chile and Mexico).

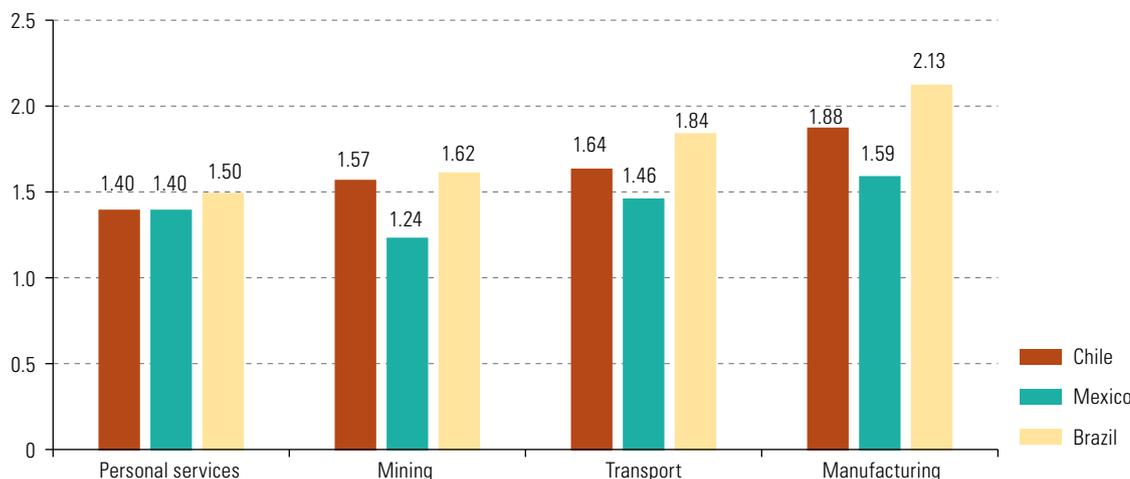
The manufacturing industry —where the machinery and equipment component weighs more than construction— attracted a large share of investment only in Brazil and Mexico, where it accounted for approximately 20% of the total (3.9% of GDP). As at the aggregate level, investment in manufacturing in these countries tends to be concentrated more in machinery and equipment than in construction, with the first attracting 52% and 73% of total manufacturing investment in Brazil and Mexico, respectively.

## D. Sectors with the largest share of investment tend to have weaker linkages with the rest of the economy

An analysis of the linkage potential by sector using direct and indirect coefficients of the Leontief matrix shows that sectors attracting the most investment are not necessarily the ones that with the greatest impact in terms of linkages with other production sectors (see figure II.6 and an explanation on Leontief coefficients in annex II.A1).

**Figure II.6**

Brazil, Chile and Mexico: linkage coefficients derived from the Leontief matrix



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

For Brazil, linkage coefficients for personal services, mining, transport and manufacturing were 1.5, 1.62, 1.84 and 2.13, respectively. In other words, a 1% increase in investment spending in the mining sector generates a rise of 1.62% in that sector's output. For manufacturing, a rise of 1% in investment would translate into a 2.13% rise in total output.

In the case of Chile, linkage coefficients for personal services, mining, transport and manufacturing—which have a significant weight in gross fixed capital formation— were 1.4, 1.57, 1.64, and 1.88, respectively. Thus, a 1% increase in investment expenditure in

personal services would generate a 1.4% rise in that sector's output. For manufacturing, an upturn of 1% would translate into a 1.88% increase in that sector's total output.

Mexico follows a similar pattern. Linkage coefficients for personal services, mining, transport and manufacturing were 1.4, 1.24, 1.46 and 1.59, respectively. In other words, a 1% increase in investment expenditure in transport produces a 1.46% upturn in that sector's output. For a 1% increase in investment in manufacturing would generate a 1.59% rise in total output.

## E. Country-by-country analysis: investment at the company level follows a similar pattern to that at the aggregate and sectoral levels, and is highly concentrated

Analysis of gross fixed capital formation at the sector level was complemented with an analysis at the company level, based on a sample of 2,228 stock listed companies from six countries in the region (Argentina, Brazil, Chile, Colombia, Mexico and Peru) taken from the Bloomberg database (see box II.1). This group is made up of listed firms which, owing to their size and importance, can explain a significant part of gross fixed capital formation in the countries included in the analysis.

### Box II.1

Description of the sample of companies and the database

The database includes information from 2,228 companies from six countries in the region: 153 from Argentina, 1,274 from Brazil, 279 from Chile, 92 from Colombia, 227 from Mexico and 203 from Peru. Data were obtained from Bloomberg and are based on the companies' financial statements at the end of each year. Thus, it only includes information from listed companies whose annual statements are made public.

The database is built in a panel format, i.e. it presents data on the same companies for the years between 2008 and 2016. It includes information on the share issuer, the name of the company, the country, the ticker (its Bloomberg code), and the sector and subsector in which the company operates according to the Industry Classification Benchmark (ICB). Variables provided in the database include: return on equity (ROE), earnings before interest, tax, depreciation and amortization (EBITDA), total assets, total debt, tangible assets, cash and cash equivalents, and others.

For the purposes of this study, tangible fixed assets is the main variable of interest and represents the long-term investments made by a company in a given year. This variable can be broken down into two components: net fixed assets (or property, plant and equipment) and long-term investments and other loans.

On the basis of the information from Bloomberg, net fixed assets are defined as gross fixed assets minus cumulative depreciation. They include the assets of a permanent nature required for the normal operations of a company and that do not tend to be converted into cash during the reporting period. They may include investment properties —if the company breaks them down into net fixed assets— and intangible fixed assets, such as easements and property rights.

Bloomberg defines long-term investments as investments held at cost or at market value and solely for investment purposes. This includes the cash redemption value of life insurance policies, long-term loan investments, accounts receivable from long-term transactions and long-term interest-bearing accounts receivable, instruments available for sale held until maturity and classified as long-term, interest-bearing instruments (with a maturity greater than one year) of related companies, investments in non-consolidated subsidiaries, or related or associated investments valued at cost.

In the case of non-real estate companies, investment properties are included in long-term investments, unless the company classifies them as net fixed assets. As regards real estate companies, investment properties are included in net fixed assets. Club and exchanges memberships are excluded.

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

The results show that, at the company level, long-term investment expenditure is concentrated in sectors related to natural resources (mining and energy), electricity, communications, construction and materials, and food production. The natural resources sectors account on average for 42% of total investment executed by the overall sample of companies in the six countries. Electricity, communications, construction and manufacturing represented 14%, 7%, 7% and 5%, respectively, of the total. By country, data indicate that in 2010–2016, 71.2% of long-term investment in Argentina was concentrated in the gas and petroleum, electricity and food sectors. In Brazil, gas and petroleum, industrial metals and telecommunications represented 54.2% of total investment. In Chile, electricity, industrial metals, forestry and paper accounted for 49.9% of the total, while in Colombia, gas and petroleum, electricity and construction and materials accounted for 82% of total investment. In Mexico, the largest share of investment (48.7% of the total) went to electricity, telecommunications and industrial metals and mining. Lastly, in Peru, industrial metals and mining, electricity and food accounted for 53.8% of total investment (see table II.3).

**Table II.3**

Argentina, Brazil, Chile, Colombia, Mexico and Peru: long-term investment expenditure by sector, 2008–2016<sup>a</sup>  
(Percentages)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average 2010–2016
<b>Argentina</b>										
Gas and petroleum producers	43.5	41.7	41.4	51.8	49.1	54.4	58.6	62.4	54.7	53.2
Electricity	13.1	13.3	12.9	11.3	11.3	+10.3	10.2	10.0	11.2	11.0
Food producers	3.6	6.2	6.3	7.0	7.7	6.8	5.8	5.0	15.0	7.6
Mobile telecommunications	8.3	8.6	8.6	6.8	8.2	7.7	7.0	6.2	5.5	7.1
Industrial metals and mining	8.2	8.0	7.5	5.5	5.5	4.8	3.8	3.3	2.5	4.7
Others	23.3	22.2	23.2	17.7	18.1	15.9	14.6	13.2	11.1	16.2
<b>Brazil</b>										
Gas and petroleum producers	18.4	20.2	20.5	21.5	23.7	27.5	28.2	26.1	26.3	24.8
Industrial metals and mining	17.0	16.4	19.9	19.1	19.5	19.8	19.4	17.9	17.2	19.0
Landline telecommunications	8.1	8.5	10.2	9.6	9.3	9.8	10.2	12.0	11.6	10.4
Electricity	23.7	16.4	14.0	13.2	9.5	9.3	8.2	7.2	7.8	9.9
Food producers	4.1	5.8	6.4	6.7	6.0	5.5	5.7	6.2	6.3	6.1
Industrial transport	3.0	3.1	3.3	3.5	3.5	4.1	3.8	4.6	4.7	3.9
Chemicals	3.0	2.8	3.2	3.2	2.9	3.1	2.9	3.2	3.1	3.1
Others	22.8	26.7	22.4	23.3	25.5	20.9	21.6	22.8	23.0	22.8
<b>Chile</b>										
Electricity	27.5	27.7	27.2	24.9	24.1	23.2	24.4	23.7	23.2	24.4
Industrial metals and mining	12.2	11.5	11.3	11.9	12.5	14.6	15.3	16.3	16.1	14.0
Forestry and paper	8.8	11.5	10.3	10.4	11.1	11.5	12.1	12.7	12.1	11.5
Gas and petroleum producers	8.4	7.7	7.2	7.5	7.3	7.1	7.0	7.1	7.2	7.2
Gas, water and other utilities	5.2	5.2	5.1	6.3	6.1	6.2	5.7	5.0	5.6	5.7
Food and medicine retailers	5.3	5.0	5.2	5.8	6.2	5.6	5.0	4.4	4.4	5.2
Others	32.6	31.4	33.7	33.1	32.7	31.9	30.4	30.7	31.5	32.0
<b>Colombia</b>										
Gas and petroleum producers	28.7	28.1	33.1	40.8	40.3	39.2	38.1	30.5	26.3	35.5
Electricity	42.8	41.2	29.4	24.0	27.0	30.7	29.2	29.5	34.2	29.1
Construction and materials	9.7	9.3	17.5	19.6	15.7	14.5	19.0	18.9	19.7	17.8
Food and medicine retailers	4.2	4.4	3.9	4.1	3.3	3.0	1.5	6.3	5.8	4.0
Landline telecommunications	0.9	0.7	4.7	4.6	3.2	3.0	2.7	2.9	2.5	3.4
Others	13.8	16.2	11.5	6.9	10.4	9.6	9.6	12.0	11.5	10.2

Table II.3 (concluded)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average 2010–2016
<b>Mexico</b>										
Electricity	18.9	19.1	20.0	21.1	21.4	23.9	23.1	22.7	22.1	22.0
Mobile telecommunications	12.0	16.9	16.5	16.7	17.0	16.2	18.2	16.9	16.8	16.9
Industrial metals and mining	9.4	9.4	9.4	8.9	9.0	9.6	10.3	10.9	10.8	9.8
Construction and materials	13.8	11.8	10.9	9.8	9.3	8.7	8.5	8.3	7.8	9.1
Minoristas generales	8.2	7.9	8.7	8.5	8.6	9.1	8.8	8.3	8.1	8.6
Landline telecommunications	11.8	11.8	11.2	10.9	9.9	7.5	5.3	5.6	6.8	8.2
Others	26.0	23.2	23.3	24.3	24.7	25.0	25.7	27.3	27.7	25.4
<b>Peru</b>										
Industrial metals and mining	35.3	31.9	29.6	27.6	26.1	29.5	31.6	34.2	34.3	30.4
Electricity	21.2	18.9	17.5	16.7	14.6	13.6	12.6	11.7	12.4	14.1
Food producers	10.4	9.8	10.8	10.3	9.6	9.5	8.9	8.8	7.5	9.3
Gas and petroleum producers	1.2	6.4	6.5	3.2	11.0	10.1	9.6	10.3	10.8	8.8
Construction and materials	4.6	5.5	6.7	9.3	8.3	8.5	8.5	8.1	7.9	8.2
Landline telecommunications	8.5	7.7	7.1	6.5	5.3	4.9	4.5	4.2	4.2	5.2
Others	18.8	19.8	21.9	26.4	25.2	23.9	24.5	22.7	22.9	23.7

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

<sup>a</sup> According to the sector classification of the Industry Classification Benchmark (ICB).

The data—aside from indicating a concentration of investment in construction and in sectors with lower intensity in machinery and equipment and, for some sectors, weak economic linkages—also point to heavily concentrated investment at the company level. To further illustrate this point, the sample of stock listed companies is divided into 100 groups, at similar intervals and ordered by investment expenditures, for which long-term investment percentages are then estimated. Results show that much of investment is concentrated in the first three groups (the first, second and third percentile). As an example, for the 205 companies in Peru, 2, 10 and 21 companies are found in the first, second and third percentile, respectively.

Table II.4

Argentina, Brazil, Chile, Colombia, Mexico and Peru: average concentration in long-term investment at the company level, 2008–2016

(Number of companies)

Country	Total companies (number)	Companies in the first percentile (1%)	Companies in the second percentile (5%)	Companies in the third percentile (10%)
Argentina	156	2	8	16
Brazil	1 281	13	64	128
Chile	279	3	14	28
Colombia	92	1	5	9
Mexico	228	2	11	23
Peru	205	2	10	21
Total	2 241	22	112	224

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

Results for the group of countries included, from 2008 to 2016, show that companies in the first, second and third percentiles on average accounted for 27.2%, 56.7% and 71.2% of long-term investment expenditure. The highest values for each percentile were 34.2%, 61.1% and 74.2%, respectively, of total investment (see table II.5). The results do not vary significantly by country (see figure II.7).

**Table II.5**

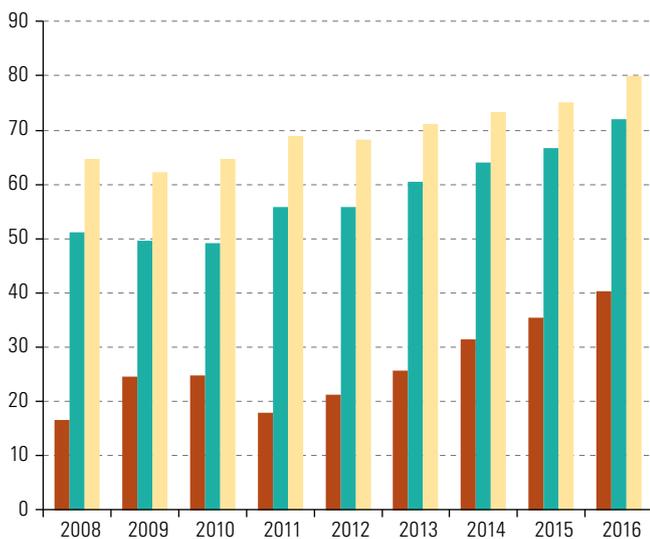
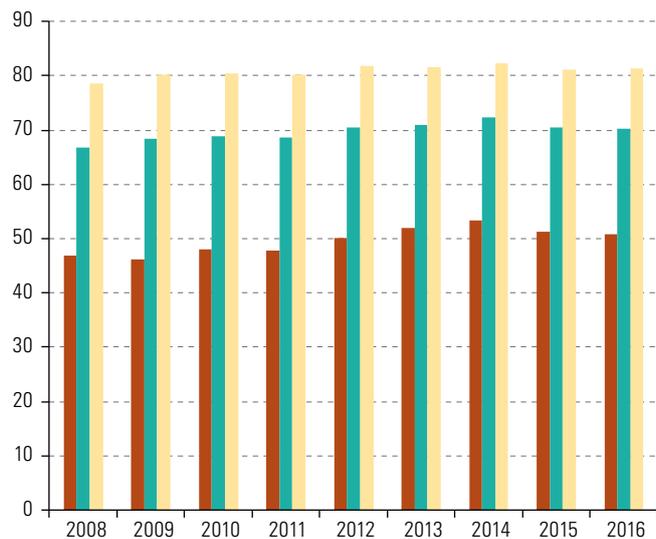
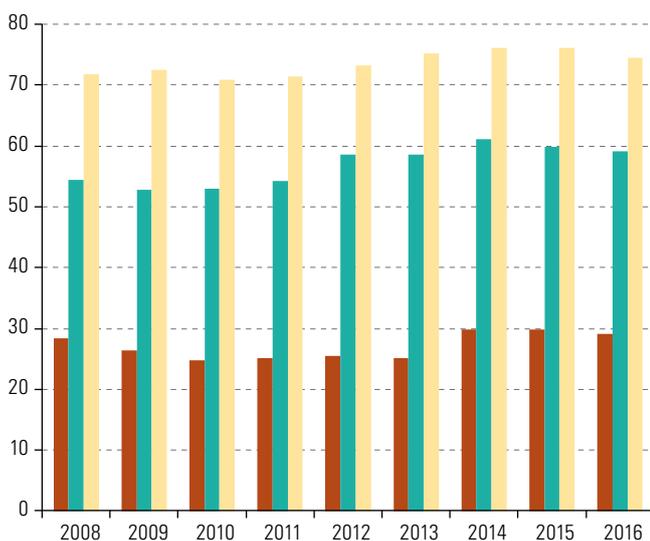
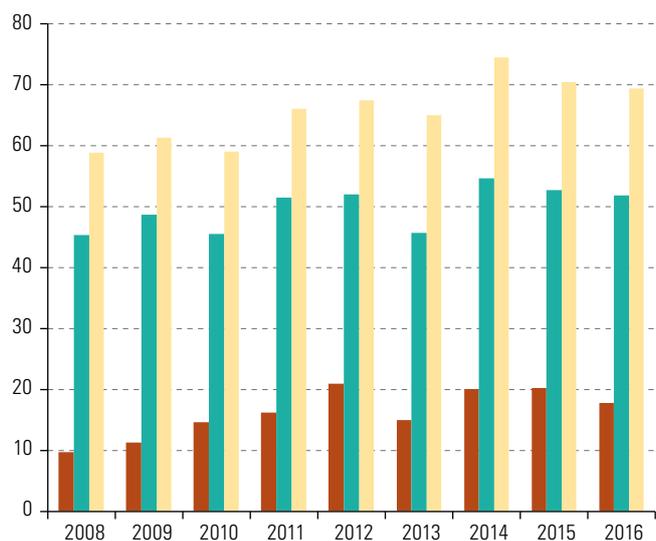
Argentina, Brazil, Chile, Colombia, Mexico and Peru: average long-term investment concentration at the company level, classified by percentile, 2008–2016  
(Percentages)

Percentile	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
First (1%)	25.8	25.5	24.8	22.7	23.4	25.5	30.6	32.7	34.2	27.2
Second (5%)	52.9	51.1	51.0	55.1	57.3	59.5	62.0	61.1	60.0	56.7
Third (10%)	68.3	68.3	67.9	70.2	70.7	72.6	74.2	74.3	73.9	71.2

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

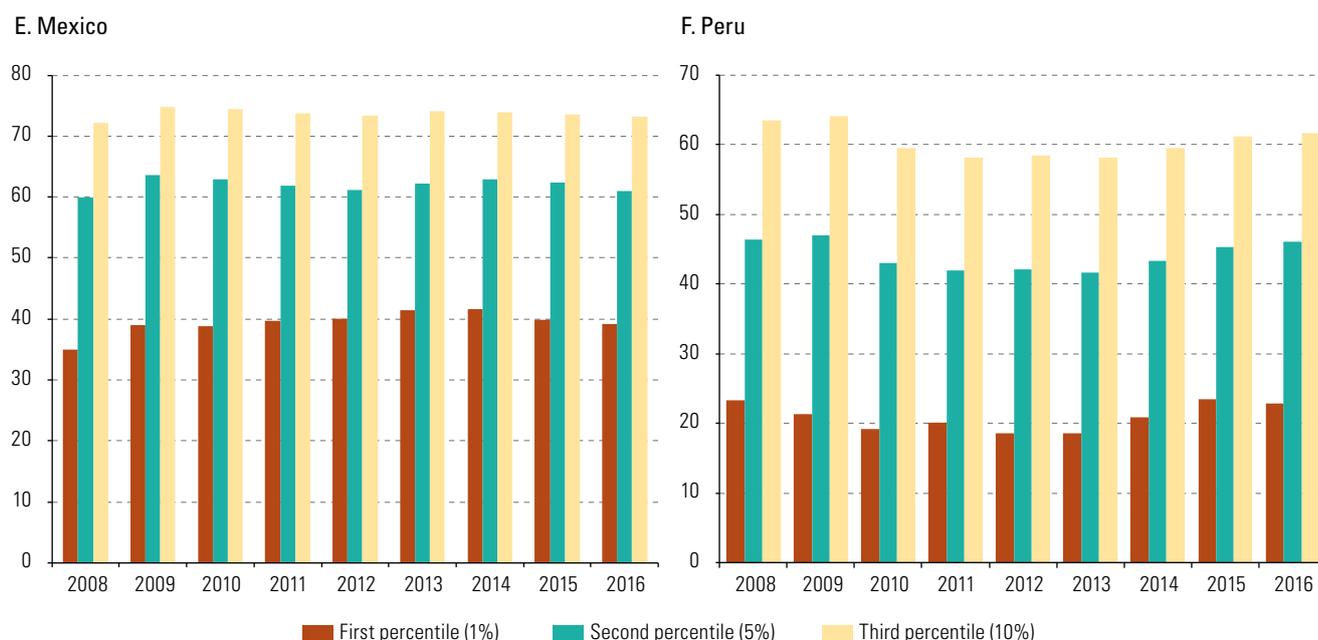
**Figure II.7**

Argentina, Brazil, Chile, Colombia, Mexico and Peru: expenditure on long-term investment at the company level, classified by percentile, 2008–2016  
(Average percentages)

**A. Argentina****B. Brazil****C. Chile****D. Colombia**

■ First percentile (1%) ■ Second percentile (5%) ■ Third percentile (10%)

Figure II.7 (concluded)



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

## F. Conclusions

Gross fixed capital formation in Latin America and the Caribbean has followed an upward trajectory in the past two decades. This investment momentum, which was especially visible during the commodities supercycle (2003–2008), began to slow as from 2011 in part because of a less favourable context with lower commodity prices, greater uncertainty and, more recently, tougher financing conditions. This has led to lower growth rates for the region as a whole. Thus, one of the region's main economic policy challenges is to galvanize investment with a view to boosting economic growth.

Meeting this challenge will require a shift in the composition of gross fixed capital formation; the analysis at the aggregate level shows that it tends to be concentrated in construction, to the detriment of machinery and equipment, which has a higher technological content and, thus, offers greater potential to raise productivity and boost economic growth. The conclusions reached at the aggregate level also apply at the level of each economic sector and the microeconomic/company level.

An analysis by sector of a sample of four countries in the region (Brazil, Chile, Colombia and Mexico) —which represent close to 80% of investment in Latin America and the Caribbean as a whole— shows that investment is concentrated in home ownership. In other sectors which also account for a significant share of gross fixed capital formation —mining, transport, electricity, gas and water, and personal services— the dominance of construction over machinery and equipment is also evident.

Data also reveal the low multiplier effect of some of these sectors for the rest of the economy. This suggests that resuming an upward growth trajectory requires not only shifting investment more towards machinery and equipment, but also channelling it towards sectors and activities that have denser linkages with the rest of the economy.

A third stylized fact that emerges from the study is the heavy concentration of investment in a small number of companies. In a sample of 2,228 listed companies from six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru), 10% account for 71.2% of total long-term investment expenditure. This suggests that investment behaviour and policies respond not only to macroeconomic variables, but also to microeconomic factors. Both approaches are necessary to identify the determinants and causal variables of investment.

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## Annex II.A1

### An analysis of investment and growth based on input-output tables: a brief introduction to the basic methodology

An input-output table can be expressed as follows:

$$x = \begin{matrix} x_1 \\ x_2 \\ \vdots \\ x_i \\ \vdots \\ x_n \end{matrix}, Z = \begin{matrix} Z_{11} & Z_{12} & \dots & Z_{1j} & \dots & Z_{1n} \\ Z_{21} & Z_{22} & \dots & Z_{2j} & \dots & Z_{2n} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ Z_{i1} & Z_{i2} & \dots & Z_{ij} & \dots & Z_{in} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ Z_{n1} & Z_{n2} & \dots & Z_{nj} & \dots & Z_{nn} \end{matrix}, f = \begin{matrix} f_1 \\ f_2 \\ \vdots \\ f_i \\ \vdots \\ f_n \end{matrix} \quad (1)$$

where  $x$  is the output vector,  $Z$  is the interindustry transactions matrix and  $f$  is the final demand vector.

Each element of  $x$  is produced by a combination of  $Z_{i,j}$ , such that

$$a_{ij} = \frac{Z_{ij}}{x_j} = Zx^{-1} \quad (2)$$

where  $a_{ij}$  represents the technical coefficients or inputs required to produce  $x$ . Overall, for each  $x$ , the result is a matrix of technical coefficients  $A$ , such that, in matrix form, the input-output table can be expressed as follows:

$$x = Ax + f \quad (3)$$

Solving equation (3) to obtain the final demand:

$$f = x - Ax \quad (4)$$

Then factoring:

$$f = x(1 - A) \quad (5)$$

Thus,  $x$  can now be expressed as:

$$x = (I - A)^{-1}f \quad (6)$$

which is the basic equation of the input-output table. The component  $(I - A)^{-1}$  in this equation is known as the Leontieff inverse matrix, the content of which corresponds to the backward linkages.

Similarly, the distribution coefficients can be obtained from matrix  $Z$  on the basis of the distribution of input production:

$$b_{ij} = x^{-1}Z \quad (7)$$

From equation (7), distribution matrix  $B$  can be obtained the derivative of which is:

$$x' = VA'(I - B)^{-1} \quad (8)$$

where  $VA(I - B)^{-1}$  is the Ghosh matrix, the content of which corresponds to forward linkages.



# An empirical analysis of the determinants of investment

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## Introduction

- A. The investment cycle and its characteristics
- B. Macroeconomic analysis of the determinants of investment in Latin America
- C. Results of the estimation of the investment equation
- D. An analysis of the relative importance of investment determinants
- E. The determinants of investment: a microeconomic analysis at the company level
- F. Conclusions

## Bibliography

## Annex III.A1





## Introduction

As discussed in chapter II, “Stylized facts of gross fixed capital formation in Latin America and the Caribbean, 1995-2017”, investment trends in the region partly reflect the nature of economic cycles. It also shows that investment should be analysed not only from a macroeconomic perspective, but also from a microeconomic one and, in particular, on the basis of firms’ investment decisions.

This chapter builds on the previous analysis, focusing on both issues. It reviews the most important features of the investment cycle and then examines the determinants of investment at macroeconomic and microeconomic levels.

The investment cycle is shorter than the GDP cycle in Latin America and the Caribbean and its subregions and is thus more volatile. Downturns also tend to be sharper in investment than in GDP and the other components of aggregate demand more broadly, including consumption and exports. Lastly, evidence shows that the downswings in the investment cycle are longer and steeper in construction than in machinery and equipment.

Once the characteristics of the investment cycle have been identified, an analysis can be performed of the determinants of investment, including the index of economic activity, the domestic monetary policy rate, the external interest rate, commodity prices, the real exchange rate and a risk indicator (the Emerging Market Bond Index, EMBI). The significance of the determinants is established by means of econometric analysis and an exercise to identify the relative importance of each variable.

Econometric estimates conducted for a group of countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru) show, at the aggregate level, that those variables display the expected signs, with the level of activity, commodity prices and the risk index being the most significant. These results are qualified by examination of investment determinants by country, which shows that economic activity is a more significant determinant of investment in larger economies, which are also the most diversified in terms of sectors and industries. By contrast, in economies that specialize in natural resources, a large share of investment is determined by commodity prices. There are also number of country-specific and context-specific factors.

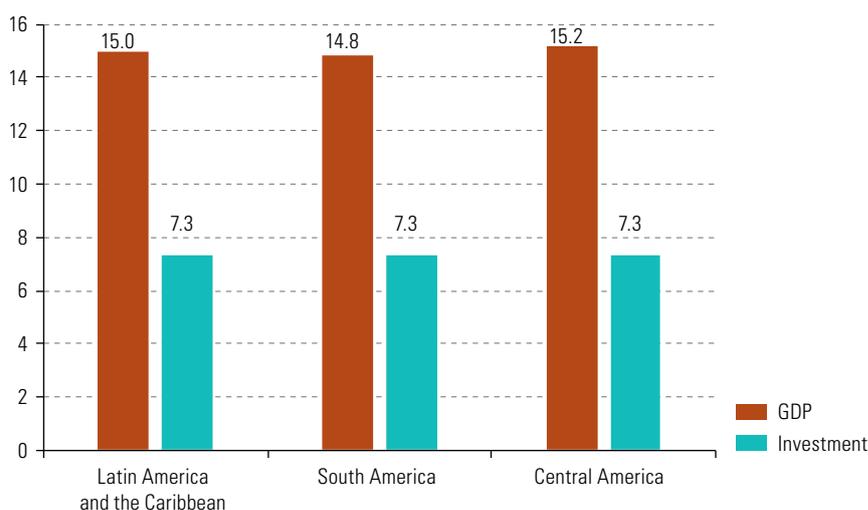
Lastly, the chapter delves into the determinants of investment, focusing on investment decisions at the microeconomic level, on the basis of indicators derived from the balance sheets and financial statements of a sample of 2,228 stock listed companies, representing 34 economic sectors, from Argentina, Brazil, Chile, Colombia, Mexico and Peru for the period from 2009 to 2016. This section illustrates how financial variables have an impact on investment at the company level and examines the relationship between cash flows, leverage and investment.

The application of a non-linear threshold model shows that above a leverage threshold of 0.77, the relationship between cash flows and investment expenditure turns negative. The results of the model also point to a negative correlation between real international interest rates and investment.

## A. The investment cycle and its characteristics

The cycle of investment in the region has four characteristics. First, it tends to be shorter, and thus more volatile, than the GDP cycle. The evidence available for the period 1990–2016 shows that the median duration of the GDP cycle (defined as the sum of the duration of the expansionary and contractionary phases) tends to be twice as long as the investment cycle at regional and subregional level alike (see figure III.1).

**Figure III.1**  
Latin America and the Caribbean, South America and Central America: median duration of GDP and investment cycles, first quarter of 1990–fourth quarter of 2016 (Quarters)



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

A second characteristic is that investment tends to contract more sharply than GDP. Investment cycle downswings are also steeper than upswings. This is evident at regional level as well as in the subregions (South America and Central America).

Tables III.1 to III.3 show the amplitude of investment cycle downswings and upswings in relation to the size of the variation in GDP over three cycles over the period under review. The first cycle runs from 1990 to 2001, the second from 2002 to 2008 and the third from 2009 to 2016.

**Table III.1**

Latin America and the Caribbean: ratio of the amplitude (percentage change) and cumulative effect of contraction and expansion on aggregate demand components to GDP, first quarter of 1990–fourth quarter of 2016

Variables	First quarter of 1990–fourth quarter of 2001		First quarter of 2002–fourth quarter of 2008		First quarter of 2009–fourth quarter of 2016	
	Amplitude	Cumulative effect	Amplitude	Cumulative effect	Amplitude	Cumulative effect
<b>Contraction</b>						
Consumption	1.28	0.85	0.94	0.94	1.33	1.33
Investment	<b>5.01</b>	<b>6.68</b>	<b>4.81</b>	<b>4.81</b>	<b>5.00</b>	<b>5.00</b>
Public spending	1.70	1.13	1.13	1.13	1.46	1.46
Exports	2.35	1.57	2.37	2.37	2.53	2.53
Imports	3.99	4.66	3.74	3.74	2.92	2.92
<b>Expansion</b>						
Consumption	1.20	1.12	1.14	1.11	0.96	0.72
Investment	<b>3.25</b>	<b>1.86</b>	<b>1.12</b>	<b>0.24</b>	<b>0.84</b>	<b>0.17</b>
Public spending	1.19	0.68	0.38	0.10	0.50	0.20
Exports	2.03	1.16	0.73	0.16	0.53	0.13
Imports	2.45	1.05	1.07	0.35	0.60	0.12

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

**Table III.2**

South America: ratio of the amplitude (percentage change) and cumulative effect of contraction and expansion on aggregate demand components to GDP, first quarter of 1990–fourth quarter of 2016

Variables	First quarter of 1990– fourth quarter of 2001		First quarter of 2002– fourth quarter of 2008		First quarter of 2009– fourth quarter of 2016	
	Amplitude	Cumulative effect	Amplitude	Cumulative effect	Amplitude	Cumulative effect
<b>Contraction</b>						
Consumption	1.19	1.19	0.89	0.89	0.80	0.64
Investment	4.30	5.74	5.13	5.13	3.15	3.78
Public spending	1.34	1.12	1.07	1.07	0.77	0.61
Exports	1.83	1.22	2.12	2.12	1.52	1.21
Imports	3.17	4.23	3.88	3.88	2.01	2.01
<b>Expansion</b>						
Consumption	1.20	1.03	0.97	0.97	1.45	1.88
Investment	3.28	1.88	1.12	0.22	1.61	0.81
Public spending	1.21	0.69	0.29	0.06	0.82	0.66
Exports	1.97	1.12	0.67	0.13	0.71	0.32
Imports	2.46	1.40	0.99	0.30	0.79	0.40

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

**Table III.3**

Central America: ratio of the amplitude (percentage change) and cumulative effect of contraction and expansion on aggregate demand components to GDP, first quarter of 1990–fourth quarter of 2016

Variables	First quarter of 1990– fourth quarter of 2001		First quarter of 2002– fourth quarter of 2008		First quarter of 2009– fourth quarter of 2016	
	Amplitude	Cumulative effect	Amplitude	Cumulative effect	Amplitude	Cumulative effect
<b>Contraction</b>						
Consumption	0.82	0.62	0.73	0.73	1.33	1.33
Investment	7.54	7.54	4.88	4.88	8.09	10.79
Public spending	3.45	3.45	1.61	1.61	2.82	3.75
Exports	3.28	3.28	4.28	4.28	4.13	5.51
Imports	5.32	7.99	3.03	3.03	3.36	6.73
<b>Expansion</b>						
Consumption	1.21	1.52	1.91	5.25	0.85	0.83
Investment	3.95	2.31	2.59	2.27	0.58	0.08
Public spending	1.54	0.90	1.48	2.59	0.35	0.09
Exports	2.22	1.11	1.74	2.61	0.57	0.11
Imports	1.97	0.66	2.11	3.17	0.45	0.06

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

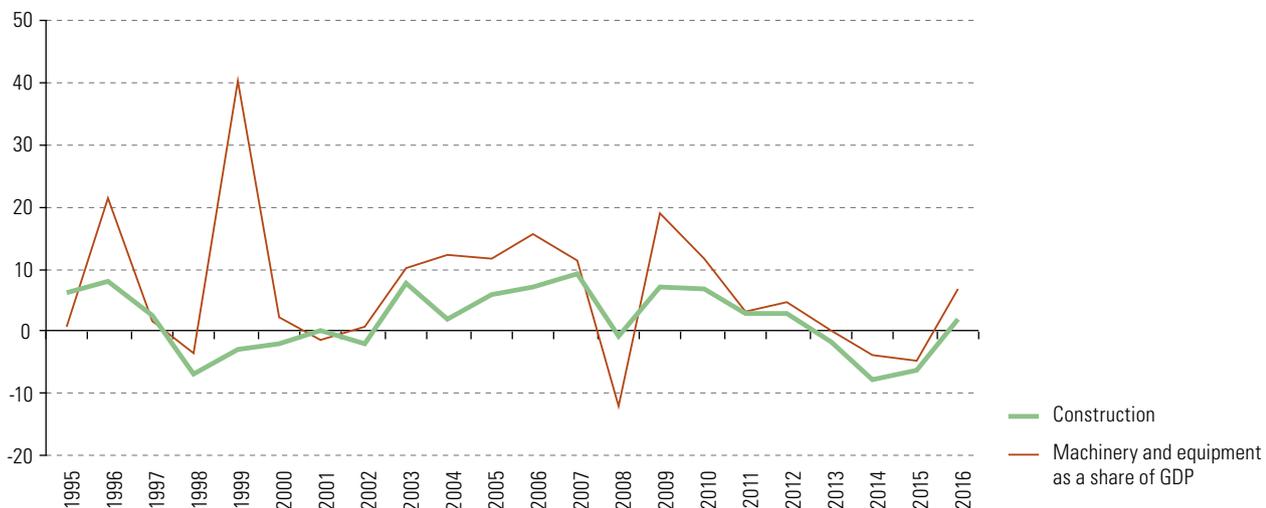
In Latin America and the Caribbean, investment contracts by five times as much as GDP in downturns over the three cycles. By contrast, in the respective expansion phase, investment rose by three times as much as GDP during the first cycle (1990–2001), similarly to GDP in the second cycle (2002–2008) and less than GDP during the last cycle (2009–2016). The pattern is similar for South America as a subregion. In Central America, the investment downturn was greater than GDP downturns in the first and third cycle (1991–2001 and 2009–2016).

Third, the evidence shows that the investment downswing was longer and sharper in construction than in machinery and equipment. The available information for 1995–2016 shows that the construction component registered eight contractions, while machinery and equipment recorded only five.

In two subperiods (1998–2000 and 2013–2015) investment in construction contracted for three straight years. Investment in machinery, however, saw successive contraction only in 2014 and 2015. In terms of intensity, investment fell more sharply in construction than in machinery and equipment, except in 2009 when the effects of global financial crisis were felt (see figure III.2).

**Figure III.2**

Latin America: variation in investment in machinery and equipment and construction, 1995–2016  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from LA-KLEMS.

The intensity of the contraction in investment relative to GDP is reflected in fact that the cumulative loss of investment (estimated as the product of size and duration) during the downturn is greater than the gain accumulated in the upturn. In the region as a whole, the cumulative loss during the contraction phase was almost twice the cumulative gain in the expansion phase. The same pattern is seen at the subregional level, with slight variations. The greatest and smallest cumulative losses were in Central America and the Caribbean, respectively. In South America, the cumulative loss in the contraction phase was 56% greater than the cumulative gain in the expansion phase.

## B. Macroeconomic analysis of the determinants of investment in Latin America

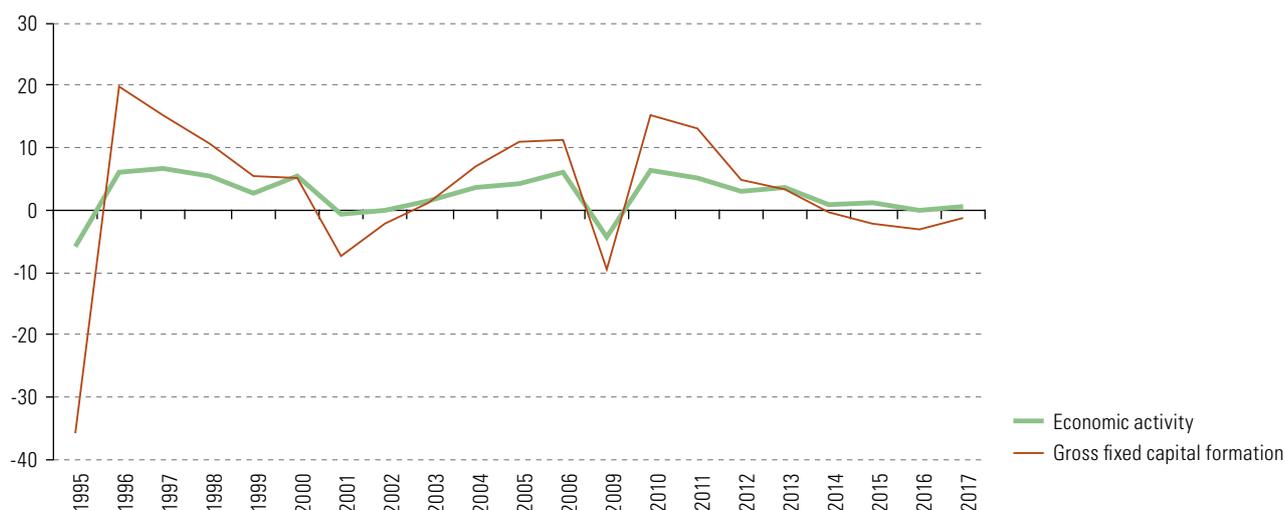
Six variables were taken into account for the analysis of the determinants of investment, on the basis of a review of literature on investment, in particular on Latin America and the Caribbean (see annex III.A1).<sup>1</sup> These include both real and monetary/financial variables: economic activity; domestic interest rates and external interest rates, both in real terms; the commodity price index; an indicator of access to external credit; and the real exchange rate.

### 1. Economic activity

There is a close statistical link between economic activity and investment. Empirical evidence from annual data for the period 1994–2017 shows that the correlation coefficient between the variation in gross fixed capital formation and economic activity (measured by the index of economic activity) is positive (0.93) and statistically significant at the 1% level (see figure III.3)

**Figure III.3**

Latin America (selected countries<sup>a</sup>): rates of variation in economic activity and gross fixed capital formation, annual data, 1995–2017  
(Percentages)



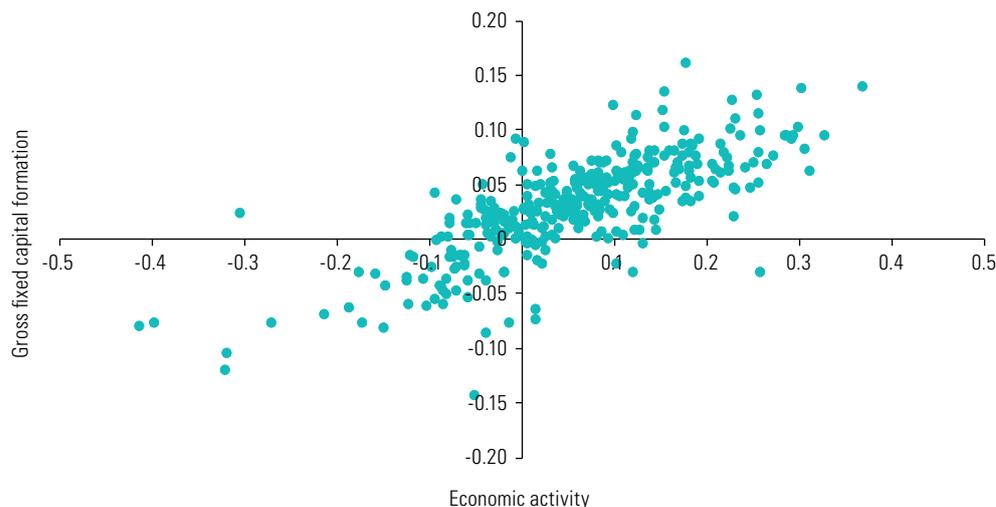
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

<sup>1</sup> The database used for statistical analysis contains quarterly data for the period 1995–2016 for Argentina, Brazil, Chile, Colombia, Mexico and Peru. It was built by cross-referencing data produced by ECLAC, the World Bank, Bloomberg and Datahub. For the graphic analysis of trends, however, data come from the World Bank annual figures for 1980–2016.

This statistical relationship remains the same when the analysis is undertaken at the country level and when the period of the datasets is shifted. When quarterly data are used, the correlation coefficient obtained (0.76) remains positive and statistically significant (see figure III. 4). An analysis of the correlation based on periods similar to the cycles used in this section corroborates the conclusions of the analysis. For the periods 1994–2001, 2002–2008 and 2010–2017, the correlation coefficients are positive and statistically significant (0.86, 0.68 and 0.60 respectively).

**Figure III.4**  
Latin America (selected countries<sup>a</sup>): scatter plot of gross fixed capital formation and investment, 1994–2017



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

The same relationship is observed at country level, as shown in figure III.5. The correlation coefficients between the rate of variation in economic activity and gross fixed capital formation for the period 1994–2017, obtained from quarterly data, are 0.90 in Argentina, 0.91 in Brazil, 0.84 in Chile, 0.48 in Colombia, 0.82 in Mexico and 0.79 in Peru.

The relationship between investment and output is established by two mechanisms, the multiplier and the accelerator. The basic formula of the multiplier model for the real GDP growth rate in a given period is expressed as:

$$(Y_t - Y_{t-1} / Y_{t-1}) = \alpha [ (\Delta I_t / I_{t-1}) (I_{t-1} / Y_{t-1}) + (\Delta X_t / X_{t-1}) (X_{t-1} / Y_{t-1}) ] \quad (1)$$

$$\alpha = 1 / (m + s) \quad (2)$$

The parenthesis on the left side of equation (1) corresponds to the real GDP growth rate in period  $t$ . The two additions within the square brackets on the right side correspond to the contribution of investment and exports to GDP growth. Each element, by construction, is defined as the product of its growth rate in the period concerned multiplied by its share in the GDP of year 1. The letter alpha ( $\alpha$ ) on the right-hand side is the traditional “multiplier”, given, as indicated in equation (2), by the coefficient of savings ( $s$ ) and import penetration ( $m$ ).

The accelerator is based on an optimal underlying relationship between output and capital stock. If the output or growth rate increase, the capital stock must also increase. The basic expression of this formula is:

$$K_t^d = vY_t \quad (3)$$

where  $K_t^d$  = planned capital stock at time  $t$

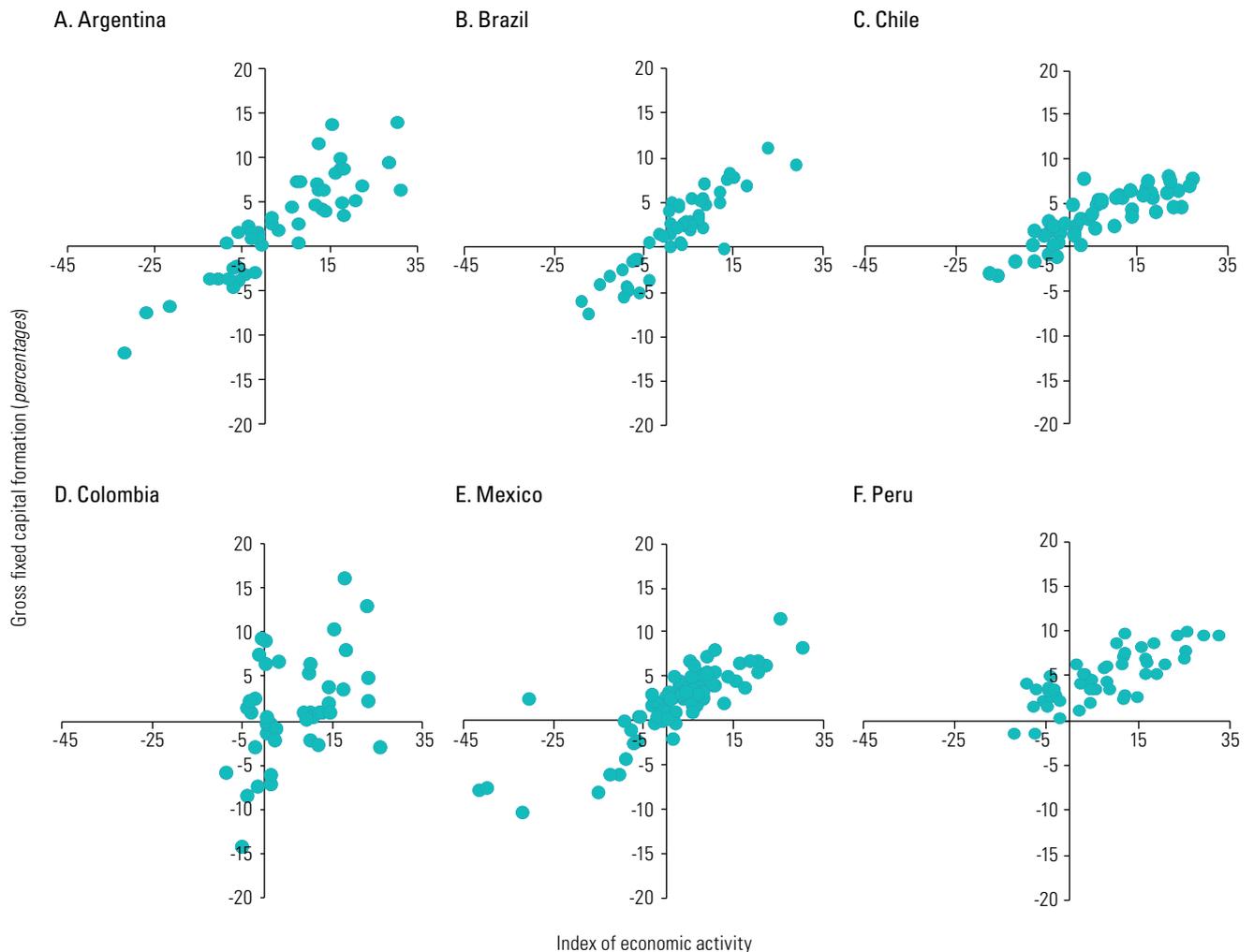
$Y_t$  = output at time  $t$

$v$  = capital/output ratio

Assuming that the capital stock is optimal in an initial period  $t$ , an increase in the planned output implies an increase in planned capital stock. A simple substitution thus gives rise to equation (4)  $K_{t+1}^d - K_t^d = v\Delta Y_t$ , whereby output must grow for net investment to be positive. In this equation,  $v$  is the accelerator (Junankar, 2008). The accelerator effect explains why the investment cycle tends to be more volatile than the output cycle.

**Figure III.5**

Latin America (selected countries<sup>a</sup>): scatter plot of gross fixed capital formation and the index of economic activity, 1994–2017



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

## 2. Domestic interest rate

A second variable included in most empirical studies on investment is the domestic interest rate. For the purposes of this chapter, the domestic interest rate is assumed to be the monetary policy rate set by central banks.

The traditional approach treats the domestic interest rate as the main channel of monetary policy transmission. Accordingly, by adjusting the monetary policy rate, central banks control the rate at which banks and financial intermediaries borrow money. Given the existence of nominal rigidities, a change in the monetary policy rate alters the interest rate in real terms.

This channel of transmission also shows that short-term interest rates affect long-term rates through expectations, arbitrage and portfolio rebalancing mechanisms. The effect of the short-term rate on long-term rates—which are the basis for investment decisions—obviously depends on a number of other considerations, including the structure of financial markets and external conditions.

One of the main mechanisms by which the real interest rate affects investment is the cost of capital, which is one of the determinants of investment in durable goods.<sup>2</sup> A lower interest rate translates into a decrease in the cost of capital in relation to the return on investment, which is an incentive to step up investment.

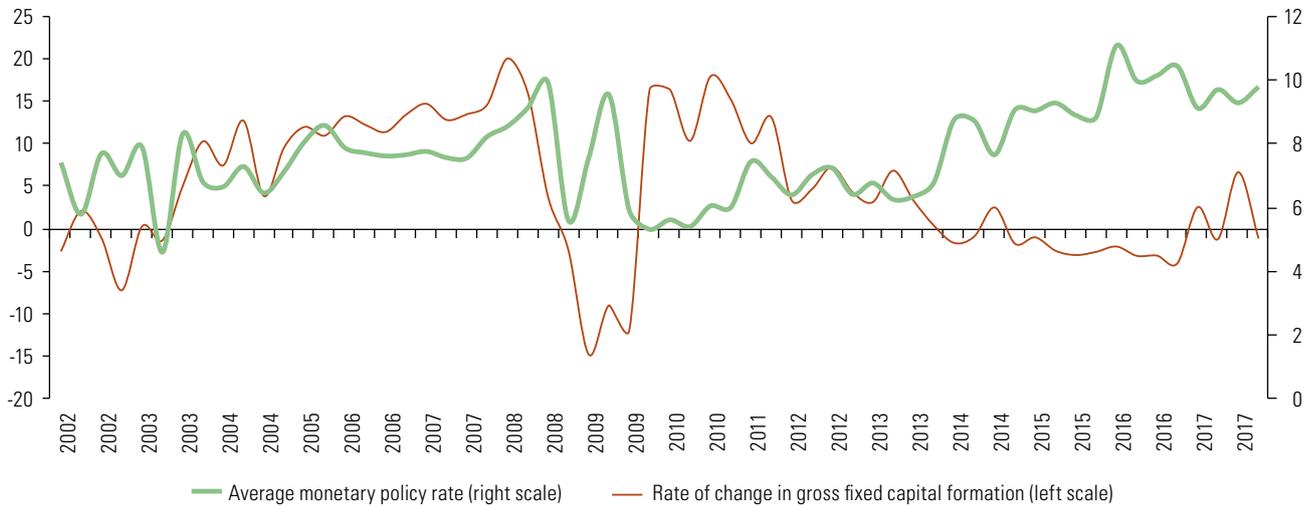
According to Claessens and Kose (2018), a number of studies show that monetary policy rates have a weak impact on investment. This is attributed to the fact that the effects of interest rates are relayed through both the assets and the liabilities of companies. As a result, the final impact of interest rates depends on companies' balance sheets, including asset and liability maturities.

The information available for 2002–2017 for the group of countries covered in this chapter shows that the relationship between monetary policy rate and changes in gross fixed capital formation has the expected negative sign only after 2009. Between 2002 and 2009, the correlation coefficient between the two variables is positive and statistically significant (0.49). Between 2009 and 2017, the relationship between the variables turns negative, with a correlation coefficient of -0.79 (see figure III.6).

<sup>2</sup> The model that demonstrates this is known as Tobin's  $q$  ratio, where ' $q$ ' is the ratio of the marginal productivity of assets to their replacement cost ( $R$ ) and the total asset value ( $r_k$ ), represented formally as  $q = \frac{R}{r_k}$ . As noted by Tobin (1971), "if investors are content with a low rate of return on equity in real capital, relative to its marginal productivity, their bids for existing capital will cause its valuation to exceed its replacement cost; [...] an incentive to expand production of capital goods. [...] The course of economic activity, then, depends on [...] the two rates of return. One is the marginal productivity of capital, determined by technology, factor supplies and expectations about the economy. This cannot be controlled by the managers of money[...]" However, Brainard and Tobin (1968) recognize that the marginal efficiency of capital (marginal productivity of capital) is the "result of events exogenous to the financial sector. But an increase in  $q$  may also occur as a consequence of financial events that reduce  $r_k$ , the yield that investors require in order to hold equity capital. Indeed, this is the sole linkage in the model through which financial events, including monetary policies, affect the real economy." Other investment theories, such as the theory posited by Minsky, argue that the interest rate influences investment by its effect on the bid price for a capital good. For Minsky, a firm's decision to invest depends on the relationship between the demand and supply prices of capital goods. The offer price ( $P_o$ ) corresponds to the replacement cost of a capital good. In a context of "imperfect" markets, this can be expressed as  $P_o = \frac{W}{P_{me}} (1 + \mu)$ , where  $W$  = nominal wage,  $P_{me}$  = average labour productivity; and  $\mu$  = profit margin on costs. The demand price ( $P_D$ ) is defined as the present value of the expected future returns or rather, the amount of expected future returns capitalized by a factor  $K$ . In other words,  $P_D = \sum_i^n Q_i^e * K$ , where  $Q_i^e$  = expected future returns and  $K$  = capital good. When the demand price of capital good exceeds its supply price, this can generate profits and, consequently, incentives to increase the capital stock (i.e. to invest). The opposite occurs when the demand price is lower than the supply price. The level of investment will remain constant if the demand price of a capital good is equal to its supply price.

**Figure III.6**

Latin America (selected countries<sup>a</sup>): rate of change in gross fixed capital formation and monetary policy rate, quarterly averages, 2002–2017  
(Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

Quarterly averages can mask the heterogeneity of the dynamics between the monetary policy rate and gross fixed capital formation. The regional patterns observed are not always replicated at country level. This is borne out by the strong positive correlation observed in Chile (0.25), versus a negative correlation in Argentina, Brazil and Mexico, with values of -0.37, -0.17 and -0.28 respectively (see table III.4).

Country	Correlation	Period
Argentina	-0.37	2005–2017
Brazil	-0.17	2004–2017
Chile	0.25	2004–2017
Colombia	-0.02	2006–2017
Mexico	-0.28	1994–2017
Peru	0.17	2004–2017

**Table III.4**

Latin America (selected countries): correlation coefficient between the monetary policy rate and the rate of change in the gross fixed capital formation, quarterly data, 2005–2017

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

### 3. The external interest rate and the Emerging Market Bond Index (EMBI)

The external interest rate and Emerging Market Bond Index variables reflect the conditions of access to external financing. For the first variable, the interest rate on long-term United States Treasury bonds (10-year bonds) was used.

This variable was selected because it captures two effects. First, it reflects the monetary policy stance of the United States and, particularly, its use of the federal funds rate as the main monetary policy instrument. Because it affects the relative returns on investment, the federal funds rate has an impact on international liquidity conditions. Portfolio rebalancing is one of the main channels through which monetary policy is transmitted to global liquidity.

Portfolio rebalancing refers to a decrease in an asset's risk premium (the difference between its expected yield and the risk-free interest rate) caused by changes in its net supply. In the case of treasury bonds, the risk premium is accounted for mainly by the maturity, i.e. by the extra return that investors require to offset the interest rate risk inherent in holding bonds for a longer period as opposed to short-term holdings. Accordingly, long-term bond prices are more sensitive to interest rate variations than short-term bond prices. The fall in the maturity premium is reflected in lower long-term yields on treasury bonds and, perhaps, on other assets, which pushes up their prices.

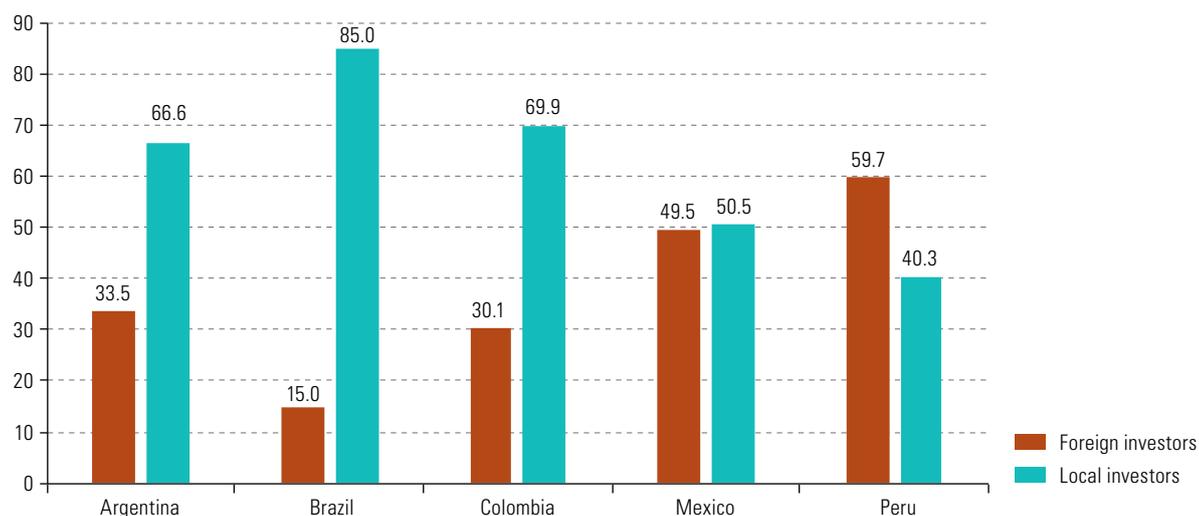
Thus, a cut in the federal funds rate would lower interest rates on a broad array of assets (including corporate bonds and stocks) through the effect of portfolio rebalancing, leading to more flexible financial conditions in the economy and increasing aggregate spending through increased long-term borrowing and positive wealth and balance sheet effects (Beckworth and Hendrickson, 2010; Bernanke, 2013).

In the case of long-term assets such as treasury bonds (or fixed-rate securities), the portfolio rebalancing effect may be triggered by creating a scarcity of "local supply" of a particular maturity, as the market for long-term securities clears at a lower equilibrium quantity and a higher price, that is, a lower yield (D'Amico and others, 2012). At the same time, the resultant shift in relative rates of return creates an incentive for investors to replace low-yielding assets with higher-yielding ones (Gagnon and others, 2010). The results of several studies show a negative relationship between large-scale asset purchases and the maturity premium for treasury securities, and a positive relationship between large-scale asset purchases and return on other assets such as bonds in general and corporate bonds. The available information indicates that large-scale asset purchases as a means of quantitative easing boosted the international bond market, resulting in a significant source of financing for developing economies, including those of Latin America and the Caribbean.

Second, long-term rates also affect the global benchmark yield and appetite for risk, two variables which jointly determine the price of emerging markets bonds issued in local and international markets. In addition, given the strong presence of foreign investors in the local markets of emerging economies, including in Latin America (see figure III.7), variations in long-term interest rates affect yield curves (Mohanty, 2014).

**Figure III.7**

Latin America (selected countries): share of foreign and local investors in sovereign debt issuance, 2013  
(Percentages)



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

In addition to the external interest rate, another variable that reflects external financing conditions is the Emerging Market Bond Index, the main risk indicator for emerging economies; this index is defined as the difference between the interest rate countries pay for dollar-denominated bonds issued by those economies and United States Treasury bonds, considered risk-free.<sup>3</sup> However, as will be seen below, the Emerging Market Bond Index has less of an impact on access to financing and on investment than external interest rates.

## 4. Commodity prices

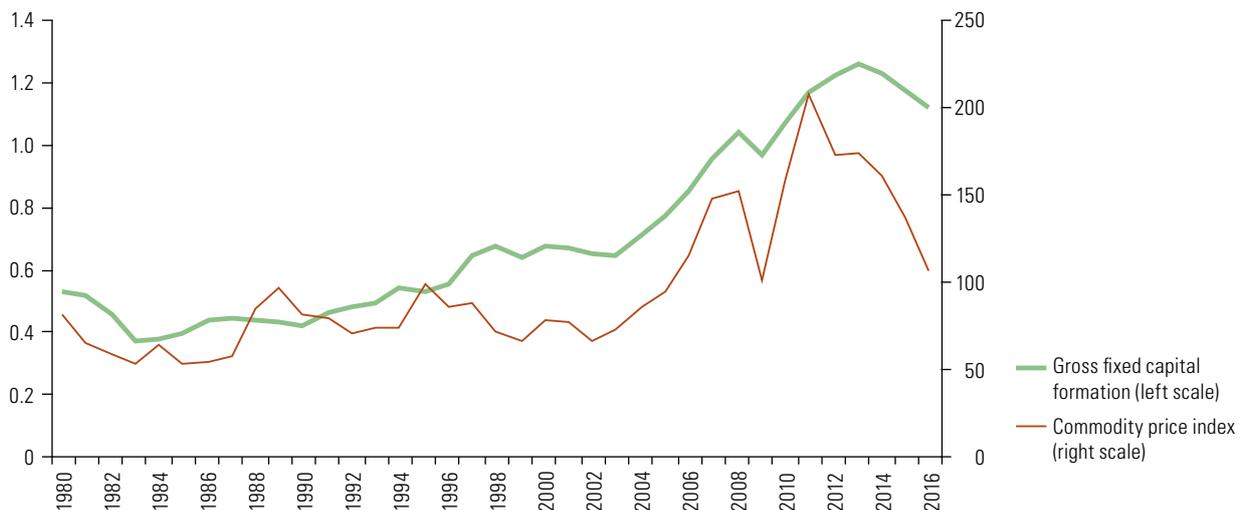
A fourth variable that has gained importance as a determinant of investment is commodity price trends. Natural resources and natural-resource-based sectors represent a significant part of real activity in a number of countries of the region, primarily in South America. An expenditure-side analysis of GDP shows that natural resources can account in large measure for the behaviour of two of the most dynamic GDP components: exports and investment. The natural resources industry is also one of the main determinants of long-term external flows, such as foreign direct investment (FDI). In addition to contributing to the expansion of production capacity, FDI flows help to maintain stability in the balance of payments and are a major source of liquidity for the economy.

As seen in figure III. 8, gross fixed capital formation, measured in real terms, and commodity prices move together over the cycle, with a correlation coefficient of 0.89 for the period for which data are available, which runs from 1980 to 2016.

**Figure III.8**

Latin America (selected countries<sup>a</sup>): gross fixed capital formation and the commodity price index, 1980–2016

(Gross fixed capital formation in trillions of dollars in real terms)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

<sup>3</sup> The Emerging Market Bond Index is based on the behaviour of the external debt issued by each country. The less certain a country is to meet its obligations, the higher its EMBI will be, and vice versa. The lowest rate an investor would require to invest in a particular country would be the United States Treasury Bond rate plus the country's EMBI. The index has existed since 2008 in all the countries of the region for which the analysis is conducted.

Business cycle correlations show changes in the dynamics of gross fixed capital formation relative to movements in the commodity price index. In particular, a point of inflection, or change in relationship, was observed in 2002, with a shift from a negative correlation of -0.11 in the 1990–2001 cycle to a positive one of 0.99 in the 2002–2008 cycle. In the last cycle considered (2010–2016), the relationship is positive and statistically significant (0.38), but less so than in the previous cycle (see table III.5).

**Table III.5**

Latin America (selected countries<sup>a</sup>): correlation between changes in commodity prices and in gross fixed capital formation, by cycle, 1990–2016

Period	Correlation
1990–2001	-0.1146
2002–2008	0.9890
2010–2016	0.3795

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

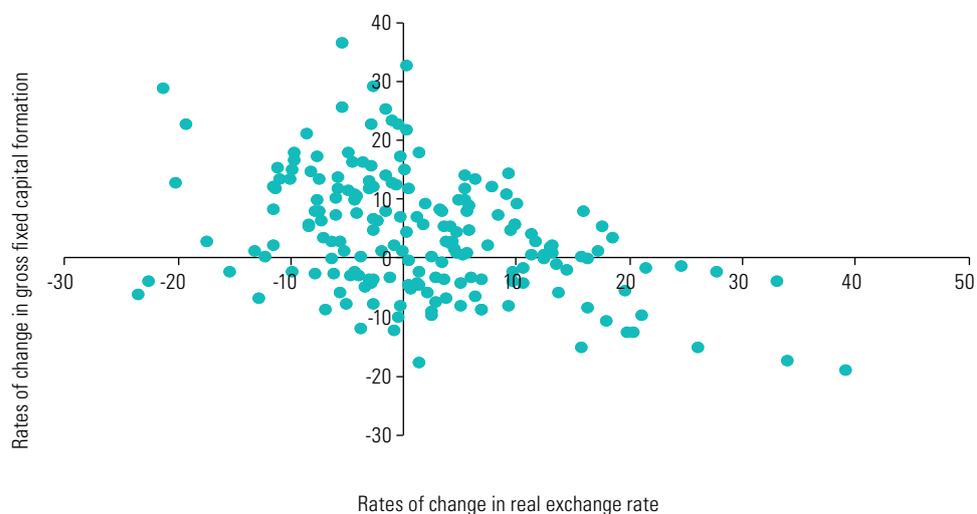
## 5. The real exchange rate

The real exchange rate is directly linked to investment through its impact on exports and imports. A real exchange rate that is conducive to exports can translate into greater aggregate demand and boost investment through the accelerator mechanism. A real exchange rate that is favourable to imports can also boost investment since, as seen in chapter IV and in ECLAC (2017), capital goods and imported machinery and equipment are an important component of imports.

As figure III.9 shows, there is a negative relationship between the rate of variation in the real exchange rate and that of gross fixed capital formation (the correlation coefficient is -0.41), which indicates that the effect on imports is greater than the effect on exports. In other words, an appreciation of the real exchange rate is associated with an increase in gross fixed capital formation.

**Figure III.9**

Latin America (selected countries<sup>a</sup>): rates of variation in the real exchange rate and gross fixed capital formation, 1995–2017 (Percentages)



**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the World Bank, Bloomberg and Datahub.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

However, this channel may not be so significant since interventions in the currency market tend to occur more in periods of exchange-rate appreciation than depreciation. The data for Chile, Colombia, Mexico and Peru between the end of the 1990s and 2011 show that, in three of these (Chile, Colombia and Peru), the proportion of interventions during appreciations far exceeds the proportion of those carried out in depreciations (see table III.6).<sup>4</sup>

**Table III.6**

Chile, Colombia, Mexico and Peru: foreign-exchange market interventions and proportion of interventions carried out during exchange-rate appreciations and depreciations, 1996–2011 (Percentages)

Country	Start period	End period	Proportion of interventions in relation to working days	Proportion of interventions in depreciations	Proportion of interventions in appreciations
Chile	01/01/2004	15/06/2011	21	41	59
Colombia	03/01/2000	30/06/2011	19	7	93
Mexico	31/07/1996	06/06/2011	42	89	11
Peru	01/02/2000	03/06/2011	61	34	66

**Source:** C. Broto, "The effectiveness of forex interventions in four Latin American countries", *Working Papers*, No. 1226, Banco de España, 2012.

## C. Results of the estimation of the investment equation

On the basis of the previous analysis, an econometric model was developed to estimate how each of the determinants of investment examined affects the growth rate of gross fixed capital formation (see table III.7).

**Table III.7**

Latin America (selected countries<sup>a</sup>): variables used in the estimation of the investment equation, 1995–2017

Variables	Number of observations	Mean	Standard deviation	Minimum	Cap
Rate of change in gross fixed capital formation (percentages)	363	5.54	11.51	-41.42	36.70
Monetary policy rate in real terms	363	9.18	8.17	0.50	74.75
Commodity price index	352	132.16	45.13	43.38	220.03
Rate of variation in index of economic activity (percentages)	363	3.13	4.45	-14.27	16.20
Long-term rate (percentage)	363	1.67	2.03	0.07	6.54
Emerging Market Bond Index (EMBI)	238	3.07	2.60	1.08	17.86

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

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

<sup>4</sup> It is obvious that in small and open economies such as those of Latin America and the Caribbean, the nominal exchange rate and the real exchange rate (insofar as the real exchange rate is determined by the nominal exchange rate) are among the key mechanisms for transmitting external forces, including monetary policy, liquidity, volatility and risk perceptions. The movement observed in exchange rates may depend on the degree of exchange-rate flexibility and the extent of currency market interventions. In sum, currency market interventions that seek to stabilize the nominal and real exchange rate tend to offset the impact of exchange-rate movements on investment. Furthermore, the fact that the exchange rate behaves like a financial asset tends to make its impact on investment more complex. In a context of financial openness and globalization, the nominal exchange rate is a price that responds to the expected returns (whether potential gains or losses) in futures markets. In this sense, the exchange rate behaves like an asset price. Formally, the present value of any asset (including the exchange rate) ( $VP_t$ ) can be expressed as the sum of the future expected returns  $\Sigma R^e$  discounted at the interest rate ( $i$ ) plus the cost of storage ( $c$ ),  $c$ ).  $VP_t = \frac{R^e}{i+c}$ . The current value of the exchange rate should be adjusted to align the flow of expected returns with the interest rate (that is,  $i = (\frac{R^e}{VP_t}) - c$ ). However, because the exchange rate is set in futures markets, its level will depend on knowledge of future conditions.

The variables are entered as panel data on a quarterly basis. The number of observations is 352, if the macroeconomic uncertainty variable (EMBI) is excluded from the sample. With that variable included, the number of observations is 238. The number of observations varies by country; for Argentina, the data correspond to the period 2005–2017; for Brazil, 2004–2017; for Chile, 2004–2017; for Colombia, 2006–2017; for Mexico, 1994–2017; and for Peru, 2004–2017.

The model used is the following:

$$I_{it} = C + B_1IA + B_2TPM + B_3IPCM + B_4TLP + B_5TCR + B_6EMBI + B_7\gamma_i + \mu_t + e_{it} \quad (4)$$

Where:

$I$ : growth rate of gross fixed capital formation in time  $t$  in country  $i$

$IA$ : rate of variation in index of economic activity in time  $t$  in country  $i$

$TPM$ : monetary policy rate in time  $t$  in country  $i$

$IPCM$ : commodity price index in time  $t$  in country  $i$

$TLP$ : external interest rate in time  $t$  in country  $i$

$TCR$ =rate of variation in the real exchange rate in time  $t$  in country  $i$

$\gamma$  country fixed effect  $i$

$\mu_t$ : time fixed effect

Three models were estimated for the group of countries covered. The results are reported in table III.8.

**Table III.8**

Latin America (selected countries<sup>a</sup>): results of the econometric estimation of the investment equation, 1995–2017

Variables	Model 1	Model 2	Model 3
Rate of variation in index of economic activity (IA)	1.703*** (0.152)	1.04*** (0.25)	0.96*** (0.25)
Monetary policy rate (TPM)	-0.243** (0.112)	-2.24*** (0.56)	-1.50*** (0.41)
Commodity price index (IPCM)	0.0384*** (0.0109)	0.073** (0.031)	0.053* (0.032)
External interest rate (TLP)	0.0990 (0.288)	-1.96 (7.27)	
Rate of variation in the real exchange rate (TCR)		-0.15 (0.097)	-0.92 (9.08)
EMBI		6.19** (2.28)	
Constant	1.087*** (240.1)	-77.13*** (98.36)	
Observations	352	188	282
R-squared	0.643	0.78	86.5

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

**Note:** Robust standard errors shown in parentheses.

\*\*\* p<0,01; \*\* p<0,05, and \* p<0.

<sup>a</sup> Argentina, Brazil, Chile, Colombia, Mexico and Peru.

The first model includes the rate of variation in the index of economic activity (IA), the monetary policy rate (TPM), the commodity price index (CPMI) and the external interest rate (TLP). In this model, all the estimated parameters have the expected sign. The model explains 64% of the deviation of investment variation from its mean.

The most significant variables include the rate of variation in the index of economic activity and the monetary policy rate. According to this model, a 1% acceleration in the

growth rate of the index of economic activity results in a 1.7% increase in investment growth rates. This result is consistent with the possible range of values for the accelerator, as illustrated by the cases of Argentina and Mexico presented in chapter IV. By contrast, an increase of 1.0 percentage point in the monetary policy rate leads to 0.24% slowdown in the rate of growth in gross fixed capital formation. The commodity price index is also significant, albeit to a lesser extent: if it rises by 1.0 point, the investment growth rate edges up by 3.84%. Models 2 and 3 also include the real exchange rate and find a greater impact by the monetary policy rate and commodity prices.

## D. An analysis of the relative importance of investment determinants

Relative importance refers to the weighting of a regressor in a linear regression and it is given by the contribution of the regressor to  $R^2$ , for which different statistical models have been developed.<sup>5</sup> The merit in establishing the relative importance lies in the fact that a regressor that has a small coefficient could have a greater weight in explaining the variance in the dependent variable (see an explanation of the methodology in box III.1).

The statistical methodology used in this analysis is the one developed by Ulrike Grömping in 2006, which uses six different metrics to estimate the relative importance of regressors. If the linear model is written as:

$$y = B_0 + B_1x_1 + B_2x_2 + B_3x_3 + B_4x_4 + B_5x_5 + e_{it}$$

Then

$$R^2 = \frac{\sum_{i=1}^5 (\hat{y}_i - \bar{y})}{\sum_{i=1}^5 (y_{it} - \bar{y})}$$

$R^2$  measures the proportion of variance of  $y$ , which is explained by the five regressors in the model used in the previous equation. Different statistical methods take this formula as a basis for estimating relative importance. One such method was that developed by Lindeman, Merenda and Gold in 1980 (cited in Grömping, 2006). The algorithm consists of making  $p$  permutations (number of independent variables) and observing the change in  $R^2$  when the regressor is added to or removed from the model, in other words:

$$reducion\_var = var(Y|x_j, j \in P) - var(Y|x_k, k \in M \cap S)$$

Where  $P$  is the set of all permutations of  $p$  regressors and  $M$  is the set of variables to add to the model in the permutation  $j$ .

The other statistical methods are based on similar algorithms (see Grömping, 2006).

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of U. Grömping, "Relative importance for linear regression in R: the package relaimpo", *Journal of Statistical Software*, vol. 17, No. 1, 2006.

### Box III.1

Methodology for the analysis of the relative importance of investment determinants

The results for the variables included in the econometric regression are presented for Argentina, Brazil, Colombia, Mexico and Peru. They show that the level of activity and, consequently, the accelerator effect is higher in economies that have a significant manufacturing sector —Argentina, Brazil and Mexico, which are also the largest economies. In these economies, the proportion of the deviation of investment variation from its mean that can be explained by the economic activity variable (i.e.  $R^2$ ) is 67.8% in Argentina, 53.9% in Brazil and 69.7% in Mexico.

<sup>5</sup> R-squared is a statistical measurement of the proportion of the variance in the dependent variable that can be explained by one or a group of independent variables.

In the cases of Colombia and Peru, which produce and export natural resources, the commodity price variable is important in determining  $R^2$ . The domestic monetary policy rate and the long-term interest rate explain only 4.5% and 4.6% of  $R^2$ , respectively, in Colombia and 3.3% and 12.0% of  $R^2$ , respectively, in Peru. The Emerging Market Bond Index has significant explanatory power in Argentina (21.2% of the deviation of investment variation from its mean). Lastly, the real exchange rate is important in the case of Brazil (where it explains 19.8% of the deviation from the mean) (see table III.9).

Table III.9

Latin America (selected countries): results of the estimation of the relative importance of investment determinants, with and without index of economic activity, 1995–2017

Country	$R^2$	Rate of variation in index of economic activity (IA)	Commodity price index (IPCM)	External interest rate (TLP)	Emerging Market Bond Index (EMBI)	Monetary policy rate (TPM)	Rate of variation in the real exchange rate (TCR)
<b>With index of economic activity</b>							
Argentina	90.7	67.8	2.2	2.7	21.2	6.0	...
Brazil	90.5	53.9	9.5	2.2	5.2	9.4	19.8
Colombia	55.4	12.5	66.2	4.6	7.6	4.5	4.6
Mexico	77.8	69.7	10.5	10.7	5.9	1.3	1.8
Peru	87.1	46.5	22.5	12.0	3.1	3.3	12.7
Average	80.3	50.1	22.2	6.5	8.6	4.9	9.7
<b>Without index of economic activity</b>							
Argentina	64.0		5.4	4.0	65.8	24.8	...
Brazil	70.4		4.1	11.1	9.3	2.8	72.7
Chile	38.4		29.0	4.6	4.3	16.9	45.1
Colombia	53.4		69.9	8.6	10.3	...	4.7
Mexico	37.2		28.2	36.2	20.3	11.8	3.6
Peru	69.8		46.4	30.2	2.5	2.4	18.6
Average	53.8		35.5	18.1	9.3	8.5	28.9

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of U. Grömping, "Relative importance for linear regression in R: the package relaimpo", *Journal of Statistical Software*, vol. 17, No. 1, 2006.

Given the close links between gross fixed capital formation and economic activity, the table also shows the results of the estimation of the relative importance of investment determinants for the group of countries considered, excluding the rate of variation in the economic activity index. Here, the other variables take on greater importance. For Argentina, the most important variables are the Emerging Market Bond Index and the monetary policy rate, which explain the bulk (more than 75%) of the deviation of investment growth from its mean. For Brazil, the variation in the real exchange rate is the variable with the most weight (72.7% of  $R^2$ ), followed by the external interest rate and the Emerging Market Bond Index (which explain 11.1% and 9.3% of  $R^2$ , respectively). For Chile, the important variables are the variation in the real exchange rate, the commodity price index and the monetary policy rate (which explain 45.1%, 29.0% and 16.9% of  $R^2$ , respectively). In the case of Colombia, the commodity price index explains almost 70% of the deviation of variation in investment from its mean. In the case of Mexico, the most important variables are the external interest rate, followed by the commodity price index and the Emerging Market Bond Index (85% of  $R^2$ ). Lastly, in the case of Peru, the commodity price index and the external interest rate stand out as the two most important variables (76.6% of  $R^2$ ).

## E. The determinants of investment: a microeconomic analysis at the company level

The analysis contained in chapter II, “Stylized facts of gross fixed capital formation in Latin America and the Caribbean, 1995–2017”, shows that investment is highly concentrated in a small number of companies and, accordingly, its evolution does not depend only on macroeconomic variables—whether external or domestic—affecting economies as a whole (i.e. at the macroeconomic level), such as international interest rates, exchange rates or output growth. It also depends on microeconomic variables and on the particular situation of a company or group of companies in a given sector and a given context. The particular situation of a company or group of companies in a given sector at a given time is determined on the basis of their balance sheets and financial statements.

To this end, the following section analyses and evaluates the financial situation of the financial and non-financial corporate sector in Argentina, Brazil, Chile, Colombia, Mexico and Peru, by estimating indicators that reflect the liquidity, solvency and profitability of a sample of 2,228 companies from these countries, which have published their balance sheets and financial statements over the period 2009–2016. The indicator employed to measure liquidity is the quick ratio (QR). The solvency indicators used are the interest coverage ratio, the short-term to total debt ratio, and the asset structure of companies (current assets to total assets ratio). Lastly, the profitability metrics used were return on equity ( $ROE = \frac{\text{net income}}{\text{capital}}$ ) and the net profit margin.

On the basis of this calculation results are presented at the aggregate level in three ways for each year in the period under consideration: (i) in terms of the median values of all the companies; (ii) in terms of the percentage of companies that differ from the median of all companies for each indicator, and (iii) in terms of the percentage of companies that differ from an established criterion or standard for each indicator based on the relevant literature or on available empirical studies. Reported deviations reflect the percentage of companies in a more precarious financial situation than that defined in the established criterion or standard (see table III.10).

Liquidity indicators, such as the quick ratio, reflect a company’s ability to meet its short-term obligations. The quick ratio, also known as the acid test ratio, considers only the most liquid assets (assets minus inventories) as a measure of a company’s ability to meet its short-term obligations. Traditionally, companies whose liquidity ratios are equal to or greater than 1 are considered to be capable of meeting their short-term obligations, whereas those whose liquidity ratios are lower than 1 are not.

Solvency indicators, such as the debt-to-equity ratio (i.e. leverage), measure a company’s ability to meet its long-term liabilities. These indicators show the extent to which a company depends on borrowing to finance its production activities. Indebtedness is compared with assets and capital.

There is no absolute threshold for leverage ratios, which can vary within a wide range depending on the phase of the economic cycle, the size and development of the country and the company’s type of activity (leverage ratios tend to be higher in manufacturing than in services). Empirical information for Europe shows that leverage measured by the ratio of debt to total assets stood at 36.2% in 1999, peaked at 46.2% in 2009 (during the global financial crisis) and fell to 43.0% in 2011 (ECB, 2012). A recent study spanning from 2005 to 2014, which included a sample of 618,000 companies operating in Slovenia, Spain, Greece, Italy and Portugal, found that leverage (measured

as debt to financial assets) averaged 0.48 (with a median of 0.45), with a standard deviation of 0.3 (Gebauer, Setzer and Westphal, 2017). This study sets the threshold for overleverage (defined as a situation in which debt has a statistically significant impact on investment) in a range between 0.80 and 0.85. Pérez Caldentey, Favreau-Negront and Méndez (2018) used the same methodology for 279 companies in Argentina, Brazil, Chile, Mexico and Peru, and set the threshold for excess leverage at 0.81.

**Table III.10**

Latin America (selected countries<sup>a</sup>): financial indicators of companies reporting balance sheets and financial statements, 2010–2016

Financial indicators	2010	2011	2012	2013	2014	2015	2016
<b>Liquidity</b>	<b>Quick ratio (QR)</b>						
Median	1.0	1.1	1.1	1.0	1.6	1.0	1.0
Percentage of companies with a quick ratio lower than 1.0	32.2	39.9	41.3	45.9	39.5	39.7	39.7
Percentage of companies with a quick ratio below the median value	49.7	47.9	45.2	47.1	46.8	48.1	50.2
<b>Solvency</b>	<b>Interest coverage ratio (ICR)</b>						
Median	4.8	3.8	3.2	3.4	3.5	3.1	3.3
Percentage of companies with an interest coverage ratio lower than 1.0	37.8	27.7	28.4	27.9	30.9	33.8	31.1
Percentage of companies with an interest coverage ratio below the median value	36.0	40.1	41.0	39.0	39	39.0	39.0
	<b>Debt to equity ratio</b>						
Median	48.4	49.2	56.2	58.8	55.7	57.1	58.0
Percentage of companies with a debt-to-equity ratio higher than 0.80	29.1	32.6	34.6	31.4	32.3	37.1	38.0
Percentage of companies with a debt-to-equity ratio above the median value	45.8	46.5	46.8	47.3	48.4	49.0	49.6
	<b>Short-term to total debt ratio</b>						
Median	0.56	0.57	0.45	0.49	0.49	0.48	0.47
Percentage of companies with a short-term to total debt ratio higher than 0.50	29.2	35.3	36.7	38.8	42.9	43.0	41.7
Percentage of companies with a short-term to total debt ratio above the median value	41.9	47.1	48.7	48.5	48.4	48.2	48.1
<b>Profitability</b>	<b>Return on equity (ROE)</b>						
Median	9.7	11.6	8.0	7.5	6.7	5.4	7.8
Percentage of companies whose return on equity (ROE) declined	47.7				61.2		
Percentage of companies with a return on equity (ROE) below the median value	50.0	49.7	50.0	49.7	49.3	48.6	50.0
	<b>Net profit margin</b>						
Median	9.4	7.2	5.8	6.6	6.5	6.2	7.4
Percentage of companies whose net profit margin declined	43.8				54.2		
Percentage of companies with a net profit margin below the median value	50.0	50.0	50.0	50.3	50.0	50.0	50.0

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

Also used is the interest coverage ratio (earnings before interest and taxes divided by the interest rate), an indicator measuring a company's ability to service its debts and the extent to which it depends on short-term debt to pay its liabilities. As with leverage, there is no absolute threshold for the interest coverage ratio. However, as in the case of the quick asset ratio, it seems useful to use the value of 1 as a benchmark. Thus, values below 1 could reflect a weaker financial position.

As regards the short-term to total debt ratio, the threshold is set at 0.5. Lastly, no specific criteria are used for profitability; rather, a determination of whether both return on equity (ROE) and net profit margins rise or fall in the periods spanning 2009–2010 and 2011–2016.

In general, information for the group of companies at the aggregate level —based on the evolution of financial indicators with the exception of the short-term to total debt ratio— indicates a deterioration for the period under consideration.

On average, the quick asset ratio came in above the established threshold of 1.0 and did not change for the period. However, between 2010 and 2016, the percentage of companies with readings below this threshold increased from 32.2% to 39.7%, and the number of companies below the median rose from 49.7% to 50.2%.

Solvency indicators, except the short-term to total debt ratio, also indicate a deterioration in the financial position of the corporate sector. The median of the interest coverage ratio fell from 4.8 to 3.3 between 2010 and 2016, while the percentage of companies below the median increased from 36.0% to 39.0% for that same period.

Similarly, the average leverage ratio increased, from 48.4 in 2010 to 58.0 in 2016, as did the percentage of companies that sit above the 0.80 threshold (from 29.1% to 38.0%) and the percentage of companies with values above the median (from 45.8% to 49.6%) for those same years. By contrast with the evolution of these indicators, the median of the short-term to total debt ratio fell (from 0.56 in 2010 to 0.47 in 2016). However, the percentage of companies whose readings for this ratio came in below the 0.50 threshold increased from 29.1% in 2010 to 41.7% in 2016.

To illustrate how the state of a company's balance sheet can affect its investment decisions, this study takes a stylized fact —developed among others by ECLAC (2015 and 2016)— as starting a point of analysis: companies finance their investments in both working and fixed capital with internal (retained earnings) or external funds. To the extent that companies resort to external financing sources, debt and leverage should rise together with greater levels of capital expenditure and financing. In the absence of external financing constraints, there should be no relationship between firms' cash flow, liquidity holdings (determined in part by retained earnings) and investment.<sup>6</sup>

However, above a certain debt threshold, companies may feel more economically restricted and, as a result, may increase their retained earnings and cash reserves to guard against illiquidity and, ultimately, insolvency. Accordingly, beyond a certain leverage threshold, the relationship between cash flow and investment must be negative.

Changes in international interest rates can also have an impact on investment plans. When these rise —increasing the spread with respect to domestic rates— local monetary authorities may be tempted, and could in fact be forced, to increase the cost of loans to companies that mainly use local financing.

Companies that borrow on international capital markets (i.e. those that issue bonds) can also be subject to external financing constraints. Given the inverse relationship between interest rates and the value of bonds, an increase in interest rates leads to a drop in the price of bonds. Accordingly, any expectation of an interest rate hike will lead companies to avoid using bonds so as to avoid loss of capital, thus leading to a drop in financing through bond markets. Both transmission mechanisms may be at work to reduce firms' expenditures on long-term fixed assets and capital investment.

Hansen's panel threshold regression model (1999) is used to capture the different relationships between cash flow (for different threshold levels), international interest rates and investment. The regression postulates a non-linear relationship between cash flow and investment, and a linear relationship between international interest rates and investment. The resulting equation is:

<sup>6</sup> See Fazzari, Hubbard and Petersen (1988).

$$I_{it} = C + B_1 CF_{it-1} I_{(D_{it-1} < \gamma)} + B_2 CF_{it-1} I_{(\gamma < D_{it-1})} + \varphi z_{it-1} + e_{it} \quad (5)$$

Where:

$C$  = constant

$I_{it}$  = investment (growth rate of tangible assets) for company  $i$  at time  $t$

$CF_{it-1}$  = cash flow for company  $i$  at time  $t-1$

$D_{it-1}$  = total debt-to-equity ratio

$\gamma$  = leverage threshold

$CF_{it-1} I_{(D_{it-1} < \gamma)}$  = cash flow from assets, for company  $i$  at time  $t-1$  below the leverage threshold

$CF_{it-1} I_{(\gamma < D_{it-1})}$  = cash flow from assets, for company  $i$  at time  $t-1$  above the leverage threshold

$r_{t-1}^{ext}$  = international interest rates at time  $t-1$

$CATA_{t-1}$  = current assets to total assets ratio in time  $t-1$

$CLTL_{t-1}$  = current liabilities to total liabilities ratio in time  $t-1$

$Size_{t-1}$  = logarithm of assets in time  $t-1$

According to this method, the average leverage threshold is 0.77. The results in table III.11 show that above this threshold there is a negative relationship between changes in the cash flow from assets and changes in investment. In other words, a one-percentage-point increase in a company's cash flow from assets results in a 0.75% drop in the growth rate of tangible assets. This result is statistically significant, at a confidence level of 95%.

Conversely, a one-percentage-point expansion in the ratio of current assets to total assets ( $CATA$ ) has a negative impact of -0.47% on investment, and a one-percentage-point increase in current assets in relation to total assets has a negative impact of -0.43% in investment: both results significant at 1%. The impact of international interest rates and the structure of liabilities is negative, which makes sense, despite the fact that these ratios are not statistically significant.

**Table III.11**

Latin America (selected countries<sup>a</sup>): results of the econometric estimation of the investment equation, 2006–2016

Independent variables	Ratio	Robust standard errors
$C$	10.3***	1.33
$CF_{it-1} I_{(D_{it-1} < \gamma)}$	-0.14	0.15
$CF_{it-1} I_{(\gamma < D_{it-1})}$	-0.75**	0.29
$r_{t-1}^{ext}$	-0.007	0.007
$CATA_{t-1}$	-0.43***	0.15
$CLTL_{t-1}$	-0.14	0.09
$Size_{t-1}$	-0.47***	0.06
Number of observations	1.827	
$R^2$	0.17	

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), a Argentina, Brazil, Chile, Colombia, Mexico and Peru.

**Note:** \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ , and \*  $p < 0.1$ .

## F. Conclusions

The surge in investment in the 1990s and, especially, in the 2000s can be explained in part by the characteristics of the cycle. The investment cycle tends to be shorter than the GDP cycle in Latin America and the Caribbean. Investment also tends to contract more sharply than GDP and the other components of aggregate demand. In terms of the composition of investment by assets, construction tends to see the heaviest and longest-lasting contractions, with the exception of the episode spanning the global financial crisis. Thus, skewing the composition of investment in favour of machinery and equipment could to a certain extent reduce investment volatility over time.

An analysis of investment determinants at the regional level and by country shows the close relationship between investment and economic activity levels, which may be attributed in part to the multiplier effect of investment as an autonomous component (together with exports) of aggregate demand. The multiplier effect, by boosting expenditure, increases utilization of installed capacity.

The second factor explaining the close relationship between economic activity levels and investment is the accelerator effect. This refers to the extent to which capital and investment respond to the rise of output and spending. The accelerator coefficient is therefore linked to the expansion of production capacity. A high accelerator coefficient allows for substantial capital and production capacity expansion. Thus, productivity can be boosted by skewing investment and capital toward machinery and equipment. It is also possible that a high accelerator coefficient may increase the volatility of the investment cycle.

In this sense, articulating capacity utilization, through spending, with the expansion of capacity, through the degree to which investment responds to economic activity levels, is a significant challenge for economic policy.

In the larger and more diversified economies of the region, the accelerator effect plays a key role in determining investment trends. This could suggest that the multiplier effect tends to have a relatively less important, and perhaps ancillary, role than the accelerator effect. Indeed, the analysis shows that of all the explanatory variables considered in the literature—such as domestic interest rates, access to external financing, risk, real exchange rates and commodity prices—the economic activity index is the pivotal variable in determining the evolution of investment. Thus, a deeper analysis of accelerator transmission mechanisms is needed. In medium-sized economies, although the accelerator continues to be important, other factors—mostly associated with the external sector and domestic monetary policies—have greater explanatory power.

The way investment behaves is determined not only by macroeconomic factors, but also by microeconomic considerations. This is especially true for Latin American and Caribbean economies, which tend to be highly concentrated by sector and by company in terms of contribution to production and investment efforts.

The analysis in this chapter shows that a microeconomic approach to investment can be conducted by analysing the balance sheets and financial statements of companies. This not only allows a focus not only on the microeconomic dimension of investment, but also demonstrates that financial conditions are key to explaining the behaviour of investment over time.

This point is illustrated by analysing the relationship between cash flows, leverage levels and investment, and poses another challenge for economic policy, namely, that the relationship between these variables is not linear. Thus, beyond certain threshold levels, financial conditions can be such that they lead to a drop in investment. Ultimately, better financing conditions do not necessarily mean higher investment levels. It all depends on the particular conditions and characteristics of companies' balance sheets and statements of financial situation. This analysis should lead to a deeper examination of how the effects and transmission channels of monetary policy and the financial system influence investment.

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## Annex III.A1

## Review of literature on the determinants of investment (gross fixed capital formation)

Country or group of countries	Author and year	Relevant variables	Methodology and other antecedents
Mexico	Porras and Allier (2009)	<ul style="list-style-type: none"> <li>– Production efforts: gross value added/total assets</li> <li>– Profitability</li> <li>– Installed capacity: gross fixed capital formation/total assets</li> <li>– Availability of credit</li> <li>– Trade (financial) openness</li> </ul>	Rajan and Zingales' quantile regression methodology (1995). Analysis of the investment behavior (in terms of debt capacity) of non-financial corporations resident in Mexico and investment is affected by macroeconomic and financial variables.
	Moreno-Brid and others (2016)	<ul style="list-style-type: none"> <li>– Gross fixed capital formation</li> <li>– Public investment</li> <li>– Investment coefficient</li> <li>– Structural change indicator</li> </ul>	Analysis of the breakdown of aggregate demand. Multiplier.
Venezuela (Bolivarian Republic of)	Hernández Gutiérrez and Labarca (2003)	<ul style="list-style-type: none"> <li>– Real gross fixed capital formation, private sector</li> <li>– Real gross fixed capital formation, public sector</li> <li>– Real GDP and real lending rate</li> <li>– Variation in the consumer price index (inflation rate)</li> <li>– Square of the inflation rate and nominal exchange rate</li> <li>– Coefficient between the implicit deflator for capital investment and the implicit deflator for real GDP</li> <li>– The amount of real domestic credit available in the Venezuelan financial system</li> </ul>	Engle and Granger's methodology (1987). The main conclusions from the analysis of the results are that private investment in the long term is explained positively by its inherent lags, public investment and economic output, and negatively by the cost of capital. In the short term, private investment is explained positively by its inherent lags, and negatively by the cost of capital, inflation and the interest rate. The error correction mechanism was statistically significant, which made it possible to reconcile the imbalances present in the short term with long-term values.
Bolivia (Plurinational State of)	Díaz Quevedo (2011)	<ul style="list-style-type: none"> <li>– Access to financing for short-term decisions</li> <li>– GDP as substitute variable (proxy) of demand expectations explains long-term private investment</li> <li>– Irreversibility of investment</li> </ul>	Analysis on how variables affect short- and long-term investment using an error correction model.
Argentina, Brazil, Chile, Colombia, Mexico and Venezuela (Bolivarian Republic of)	Hofman (1992)	<ul style="list-style-type: none"> <li>Gross increment to capital stock of asset <math>i</math></li> <li>Gross domestic product in <math>t</math></li> <li>Gross initial capital stock of asset <math>i</math></li> <li>Ratio of total gross fixed investment of asset <math>i</math> to GDP at constant prices in <math>t</math></li> </ul>	Two methodologies are used, each with its variations, to estimate the capital stock: (i) direct measurement of the capital stock for a reference year, through various types of surveys, including on physical assets, insured values or book values of the company or direct estimate based on stock values; (ii) establishment of a historical series of past investments to determine which assets have been discarded, canceled or destroyed by war. The second method is widely known as the "perpetual inventory method", developed by Raymond Goldsmith (1951).
Latin America and the Caribbean	Titelman (2017)	<p>Figures:</p> <ul style="list-style-type: none"> <li>– History of gross fixed capital formation in Latin America and the Caribbean</li> <li>– Comparative view of gross fixed capital formation in selected regions</li> <li>– Gross fixed capital formation as a share of GDP</li> <li>– Gross fixed capital formation by component</li> </ul>	Long-term general characteristics of investment in Latin America. The investment rate of Latin America has historically been lower than that of other regions with emerging economies.
Centroamérica y República Dominicana	Iraheta, Blanco and Medina (2007)	<ul style="list-style-type: none"> <li>– PIB regional a precios constantes</li> <li>– Gross fixed capital formation in the region at constant prices</li> <li>– Household consumption at constant prices</li> <li>– Exports/imports at constant prices</li> <li>– Regional consumer price indexes</li> </ul>	The methodology involves cointegration and error correction mechanisms with estimation of functions that show the correction of conjunctural imbalances and the return to long-term equilibrium in GDP, household consumption, gross fixed capital formation, exports, imports and prices.
Nicaragua	Campo (2004)	<ul style="list-style-type: none"> <li>– Net cash flow in period "s"</li> <li>– Price of capital</li> <li>– Price of consumer goods</li> <li>– Nominal interest rate</li> <li>– Share of capital stock</li> <li>– Corporate income tax rates</li> </ul>	Neoclassical model developed by Jorgenson (1963) and Hall and Jorgenson (1967). The neoclassical model of investment was used as a frame of reference for the return on and cost of capital. It was found that the expected return variable has a strong effect on investment decisions.
Ecuador	Gancino (2015)	<ul style="list-style-type: none"> <li>– Economic growth expectations</li> <li>– Lending to the private sector</li> <li>– Inflation (caused by dollarization of the economy)</li> </ul>	Ordinary least squares (OLS) with stationarity tests of series, which are constructed with macroeconomic variables.
Chile	Magendzo (2004)	<ul style="list-style-type: none"> <li>– Cost of capital (statistically significant)</li> <li>– Tobin's Q: Bravo and Restrepo (2002) find a positive and significant effect on aggregate investment. Medina and Valdés (1998) do not find a significant relationship between Tobin's Q and investment decisions. In addition to the expected return, investment decisions depend on the internal liquidity of the firms, which is supported by Hsieh and Parker (2002).</li> <li>– Hsieh and Parker (2002) find that tax policy has a high impact on investment decisions. Bustos, Engel and Galetovic (2000) show that the variation in taxes on retained earnings has a minor effect on the cost of capital.</li> </ul>	Descriptive analysis of the evolution of investment in Chile and review of other studies relevant to the country.

Country or group of countries	Author and year	Relevant variables	Methodology and other antecedents
Latin America and the Caribbean	Aravena, Escobar and Hofman (2015)	<ul style="list-style-type: none"> <li>– Labour productivity growth</li> <li>– Capital/work ratio</li> <li>– Ratio of capital spent on information and communications technologies (ICT)/work</li> <li>– Ratio of capital not spent on ICT/work</li> <li>– Total factor productivity</li> </ul>	<ul style="list-style-type: none"> <li>– A “traditional” method using readily available data on hours worked and capital stock (inputs) to calculate a measure of efficiency: total factor productivity.</li> <li>– An “improved” method in which work is separated into hours worked and a measure of the quality of work and capital is calculated no longer as stock but as a flow of services.</li> <li>– A method based on the World KLEMS initiative, called LA-KLEMS for the region, which allows for a more accurate disaggregation and measurement of inputs that can help to explain the growth of the economy as a whole and by sectors, with a total of up to nine sectors.</li> <li>– A variation of the previous method allows us to explore labour productivity relations according to how different types of capital are used (e.g. spending on ICT and spending other than on ICT) and total factor productivity.</li> </ul>
Ecuador	Central Bank of Ecuador (2018)	<p>Tables:</p> <ul style="list-style-type: none"> <li>– Gross fixed capital formation (2000-2016)</li> <li>– Structure of gross fixed capital formation</li> </ul> <p>Figures:</p> <ul style="list-style-type: none"> <li>– Public and private gross fixed capital formation</li> <li>– Gross fixed capital formation by product</li> </ul>	Tables and figures on gross fixed capital formation provided by Central Bank of Ecuador.
Mexico	Góngora Pérez (2012)	A low ratio between gross fixed capital formation and GDP translates into low growth compared with other countries. Also, a weak financial system hinders investment and access to financing by firms. On the positive side, machinery and equipment occupy a greater share in gross fixed capital formation, but at the same time, there has been a decline in the percentage of internally produced machinery and equipment and imports have increased.	Descriptive analysis, using graphs, of the components of gross fixed capital formation and the evolution of the relationship between gross fixed capital formation and GDP in other countries as a means of comparing growth gaps.
Chile	Carrasco, Johnson and Núñez (2005)	<p>The main variables that determine investment at corporate level are:</p> <ul style="list-style-type: none"> <li>- asset size</li> <li>- operating profit or loss</li> <li>- liquidity ratio</li> <li>- Tobin's Q</li> </ul> <p>At the macroeconomic level, the important variables are interest rates and GDP.</p>	Panel data (dynamic) for 35 companies listed on the Santiago stock exchange in the period 1992–2003. The model was also developed using the ordinary least squares (OLS) method and generalized method of moments (GMM) estimates.
Costa Rica, Dominican Republic, El Salvador, Guatemala and Honduras	Sánchez-Fung (2009)	For the long term, cointegrated investment functions have gained prominence, while for the short term, GDP growth is significant. Neither government spending or uncertainty were significant, except in the case of the Dominican Republic.	Annual series of the last four decades are used to study the determinants of aggregate investment based on the methodology devised by Krolzig and Hendry (2001), which uses multiple model selection strategies that are more robust than traditional methods based on Monte Carlo simulation.
United Kingdom	Tori and Onaran (2018)	<ul style="list-style-type: none"> <li>– Gross addition to fixed assets</li> <li>– Net capital</li> <li>– Operating income</li> <li>– Net sales cash dividends</li> <li>– Sum of interest and dividends received by non-financial companies</li> <li>– Sum of expenditure on debt interest and dividends of non-financial companies</li> </ul>	Estimation methodology: generalized method of moments (GMM) estimates using panel data extracted from the Worldscope database. The results show the adverse effect of financial payments and revenues on the accrual rate.
United States	Dögüs (2018)	<p>Tables showing:</p> <ul style="list-style-type: none"> <li>– Changes in gross fixed capital formation, dividends and interest balances (1960-2015)</li> <li>– Gross fixed capital formation and changes in consumer spending of households in the United States (1960-2015)</li> <li>– Financialization index (= ratio of financial assets to non-financial assets held by non-financial United States companies) (1960-2015)</li> </ul>	This is a post-Kaleckian approach to financialization, which posits that the investment by non-financial companies in real capital assets has been limited by increasing dividend and interest payments. A critique is made according to Minsky's investment theory. The paper suggests that reinvestment of profits in capital goods has decreased as lower demand pushes down quasi-rent expectations. The argument is substantiated by the Granger causality, using the data available from the United States for the period 1960–2014.
Chile	Marshall (2003)	<p>Figures:</p> <ul style="list-style-type: none"> <li>– Gross fixed capital formation by component: construction, machinery and total</li> <li>– GDP growth and share of gross fixed capital formation</li> <li>– Profitability and share of gross fixed capital formation in total</li> </ul>	The importance of rising investment rates at the end of the 1990s as a boost to the Chilean economy is highlighted. The improvement in companies' profitability indicators and stock prices is favourable for the investment outlook.
Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, Uruguay and Venezuela (Bolivarian Republic of)	Ramírez (2006)	Lagging foreign direct investment, public spending on investment and real private sector lending have positive effects on the formation of capital in the private sector. On the contrary, the lagging real exchange rate and its volatility have a negative effect on capital formation.	A pooled panel data model is used for the period 1981–2000. Seemingly unrelated regression equations are used to calculate the model and unit-root tests are conducted for the countries' series.

Country or group of countries	Author and year	Relevant variables	Methodology and other antecedents
Spain	Posada, Urtaun and González Mínguez (2014)	In the basic model, the statistically significant variables are: – demand (used as proxy of GDP) – Tobin's Q (as a measure of expected returns) In the advanced model, the important variables are: – companies' financial position (margins and cash flows) – uncertainty, which has a negative and significant relationship with investment in equipment	Analysis of investment in machinery and equipment in the period 1995–2013, based on the model proposed in Bardaji and others (2006) using quarterly data. Ordinary least squares (OLS) and short- and long-term equations are used for estimations.
General	Azofra Palenzuela and López Iturriaga (1997)	– expected volume of production, demand forecasts, cost of capital or adjustment costs – Tax incentives for the cost of capital (relative prices, discount and tax factor) – Tobin's Q – informational asymmetries	Analysis of the main theories of investment: the neoclassical capital accumulation theory, Tobin's Q and asymmetrical information.
Brazil	Bonelli and Castelar Pinheiro (2007)	– GDP/worker – Capital/worker Figures: – Gross fixed capital formation at current prices and at constant prices The reduction in fixed investment by government explains more than half (57%) of the downswing in gross fixed capital formation between the first half of the 1970s and the start of the 2010 decade.	The Hausmann-Rodrik-Velasco Growth Diagnostics (2005) approach. This methodology is based on the premise that private investment in fixed capital is the basic determinant of growth.
22 countries of the Organization for Economic Cooperation and Development (OECD)	Kamps (2004)	This paper estimates the output elasticities of capital (public/private), not the determinants of the gross fixed capital formation.	This study estimates capital stock data for three categories of investment: private non-residential gross fixed capital formation, private residential gross fixed capital formation and government gross fixed capital formation, for the period 1960–2001.
India	Chandrasekhar (1996)	The main conclusion of the work is that no link can be established between liberalization, private investment and industrial growth (it is noted that liberalization has increased private consumption and credit for consumption).	Macrodata from the period 1985–1995 are used for a descriptive analysis of gross fixed capital formation (investment) and industrial development.



# Stylized facts and main determinants of investment: an analysis of selected Latin American and Caribbean countries

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Introduction

A. Argentina

B. Chile

C. Colombia

D. Mexico

E. Conclusions

Bibliography

Annex IV.A1



## Introduction<sup>1</sup>

This chapter presents an analysis of investment in four selected countries, namely Argentina, Chile, Colombia and Mexico. This set of countries accounts for 42% of the region's investment and 41% of its GDP. The chapter describes the evolution of investment in these countries and its composition in the last three decades. More importantly, it focuses on an empirical and econometric analysis of investment determinants there.

The country-level findings support the stylized facts for the region as a whole, presented in chapter III, "An empirical analysis of the determinants of investment".

As is the case at the regional level, all the countries analysed showed an increase in investment levels in the 2000s. The investment rate rose from 10% to 18% in Argentina, from 20% to 24% in Chile, from 14% to 27% in Colombia and from 15% to 22% in Mexico between 2000 and 2015. This rising investment trend reflects the different countries' business cycles.

Another factor in common with the regional analysis is that a breakdown by asset type reveals construction to be the largest component of investment on average, accounting for 61% in Argentina, 69% in Chile, 57% in Colombia and 55% in Mexico. Likewise, the machinery and equipment item has become the most dynamic investment component in the individual countries in the last decade, bearing out the findings presented for Latin America and the Caribbean as a whole.

The breakdown into public and private investment reflects two major trends. First, private investment is much greater than public investment in all the cases considered. Second, public investment has tended to diminish over time and usually represents between 20% and 25% of total investment and between 2% and 5% of GDP. Nonetheless, as noted for the case of Mexico, public investment can have a positive crowding-in effect on private investment.

The empirical analysis of investment determinants shows that the cases analysed have important factors in common.

The econometric analyses reveal the close relationship between investment and GDP in the four countries. In general, the results indicate a two-way rather than a one-way causal relationship between investment and growth.

First, investment is one of the variables that determine economic growth, together with exports and government spending. Investment uses production capacity not only through direct expenditure but also because of the effect it induces in the other components of aggregate demand. A larger multiplier effect for investment spending means greater demand for inputs and finished products, which in turn can result in greater use of installed production capacity. At the same time, growth and the expectation of higher demand and more growth are essential for initiating and maintaining investment dynamics.

Together with a close relationship between investment and GDP, the analysis shows that variables associated with the external sector (real exchange rates, terms of trade, foreign-currency lending and external financial flows) play a central role in investment performance. It is not enough to have appropriate domestic policies conducive to an investment-friendly climate. External conditions matter as well.

The empirical analysis of investment determinants not only highlights factors common to the different countries considered but brings out facts associated with the countries'

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<sup>1</sup> This chapter was based on studies by Claudio Aravena, ECLAC staff member, and by the consultants Hildegarth Ahumada, Daniel Aromí, Carolina Durana, Juan Carlos Moreno Brid, Camila Pérez and Leonardo Villar.

specific circumstances. Thus, investment is closely related to a country's production structure, as exemplified by the cases of Chile, Colombia and Mexico. The impact of external factors on investment depends on how these affect the production structure.

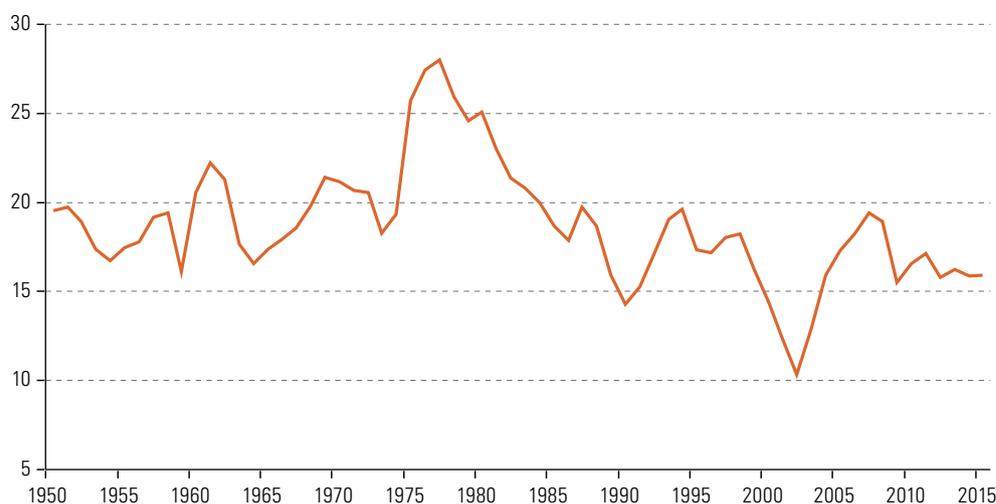
What also comes out of the analysis is that local financing conditions do not always have the same degree of impact in all the cases examined, it being in Argentina that they bulk largest. Real wages also play an important role in Argentina as a determinant of aggregate demand. In Colombia, the local financial system has been particularly important since 2000, which shows how important security conditions are for maintaining a suitable investment climate.

## A. Argentina

### 1. Stylized facts of investment behaviour in Argentina

The evolution of investment in Argentina over the last six decades (1950-2016) falls into five phases (1950-1974, 1975-1987, 1988-1998, 1999-2011 and 2012-2015). The first two phases had the highest investment ratios (19% and 23% of GDP in 1950–1974 and 1975–1987, respectively). The investment ratio reached its peak for the whole period in the second phase (27% of GDP in 1975). The next three phases show a downward trend followed by recovery and eventual stagnation of investment. Between 1975 and 2002 (coinciding with the convertibility crisis), the investment ratio fell from 27% to 10% of GDP, after which it recovered to 18% of GDP in 2010 before falling back to 16% (see figure IV.1 and table IV.1).

**Figure IV.1**  
Argentina: investment ratios at current prices, 1950–2015  
(Percentages of GDP)



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

Breaking down investment into construction and machinery and equipment shows that the first component is the largest on average (61% of the total and 11% of GDP for the period 1950–2015). Machinery and equipment represented 27.6% of the total and 5% of GDP for the same period. Construction is also the most volatile component. The standard deviation of the construction investment ratio averages 2.0% over the whole of the period considered, while for machinery and equipment it averages 1.49% (see table IV.1).

	Current prices			
	Total	Construction	Transport	Machinery and equipment
1950–1974	19	11	3	5
1975–1987	23	15	3	6
1988–1998	17	11	2	5
1999–2011	16	9	2	5
2012–2015	16	10	2	4
	Constant prices (base 2004)			
	Total	Construction	Transport	Machinery and equipment
1950–1974	19	12	3	5
1975–1987	21	13	3	5
1988–1998	17	10	2	5
1999–2011	17	9	2	6
2012–2015	20	9	3	8

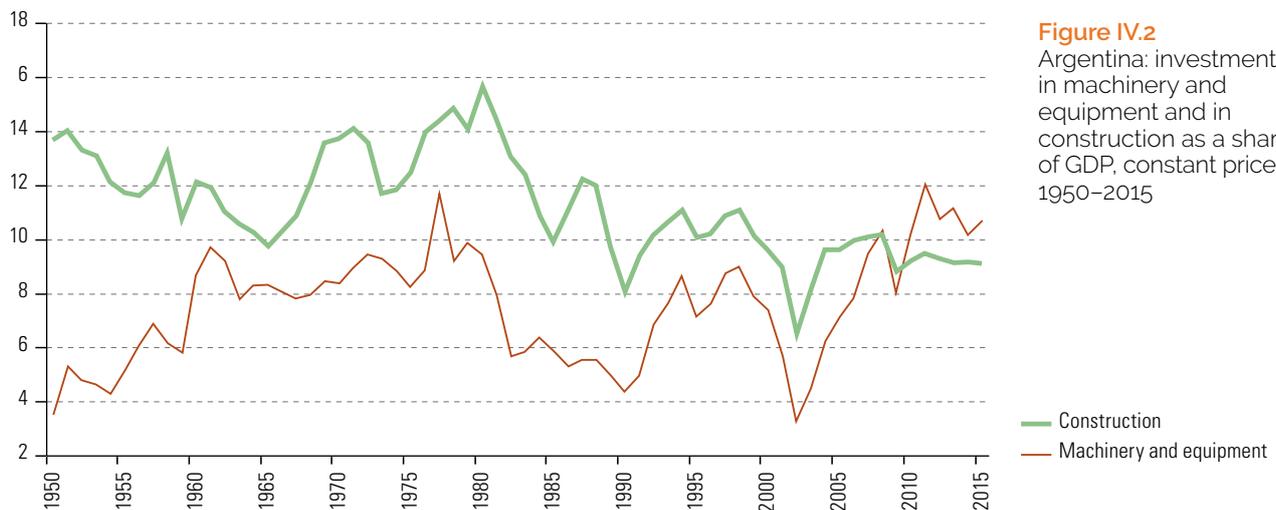
**Table IV.1**

Argentina: investment ratios and their decomposition into construction, transport, and machinery and equipment, at current and constant prices, 1950–2015 (Percentages of GDP)

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

Nonetheless, a more detailed analysis of the different phases in the evolution of the investment rate shows that, just as at the aggregate level, growth has been higher for machinery and equipment than for construction since the 2000s. In addition, the investment rate has been higher for machinery and equipment than for construction since 2011 (averages of 11% and 9% of GDP, respectively, for the period 2011–2015).

Since the 1990s, machinery and equipment has included a large share of imported inputs. This tendency intensified in the 2000s, with the data available showing that imports of machinery and equipment were worth an average of over 6% of GDP in the period 2006–2015, whereas the local component represented just 5% of GDP.

**Figure IV.2**

Argentina: investment in machinery and equipment and in construction as a share of GDP, constant prices, 1950–2015

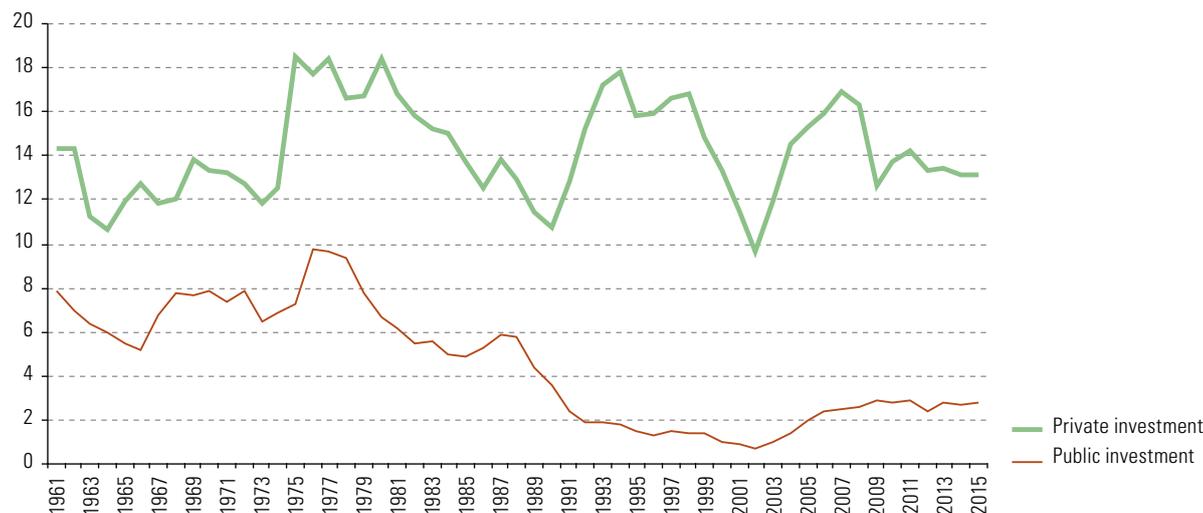
**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.

The evolution of investment over the whole period examined presents two trends. The first is the predominance of private investment over public investment, with the former averaging 14% of GDP and the latter 4% (see figure IV.3). Secondly, the data show a declining trend in public investment from the late 1970s. Between 1961 and 1979, public investment was generally above 6% of GDP, peaking at 8% of GDP between 1976 and 1979. Public investment accounted for about a third of total investment in that period. Public investment represented a significantly smaller share during subsequent

periods, falling from 8% to a low of 1% of GDP between 1979 and 2001 and stabilizing at 2% between 2008 and 2015. In the latter years of the sample (2006–2015), this component represented less than 20% of total investment. The trend can largely be explained by the privatization of public enterprises.

**Figure IV.3**

Argentina: public and private investment as shares of GDP, current prices, 1961–2015  
(Percentages)



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

## 2. An analysis of the long-term relationship between gross fixed capital formation and GDP

This section presents an econometric study of the process of capital formation in the Argentine economy and its determinants for the period 1950–2015. As part of this, aggregate investment (gross fixed capital formation) is modelled in consideration of a set of macroeconomic and financial variables, the aim being to identify long-run determinants in order to then focus on the relationship between investment and output.

The system cointegration approach proposed by Johansen was used to study long-run relationships (Juselius, 2006).<sup>2</sup> The variables considered for the analysis included: (i) GDP at constant prices, having regard to the possible relationship deriving both from accelerator theory (with GDP as the given) and from an aggregate production function (with capital as the given); (ii) real wages, in relation both to interrelated demand for the

<sup>2</sup> Briefly, the starting point is to estimate a vector autoregression (VAR) system and, setting out from this, find the possible long-run or, more accurately, cointegration ratios, given by certain constraints deriving from the coefficients of the levels of the variables (reduced rank). In the event that different cointegration vectors are detected, the factors for adjusting the different variables to the long-run ratios can also be obtained. These will provide information on which variables “adjust” to attain the ratio, which is “moved” by others that can be taken as exogenous (weak). It should be noted that this concept of exogeneity, which is the right one for estimating conditional models, such as a single equation one, is different from that used in the Granger (1969) causality concept, which only reflects anticipations in the behaviour of variables and can be evaluated by estimating the (unrestricted) VAR. Both concepts will be applied later to aggregate investment in Argentina and its determinants. A simple example for stationary variables and simple regression explains the difference. If we want to estimate a single equation model:  $y_t = \beta x_t + u_t$ , when the model that generates  $x_t$  is  $x_t = \gamma x_{t-1} + \varphi y_{t-1} + e_t$ , the existence of Granger non-causality of  $y$  for  $x$ , given by  $\varphi = 0$ , is neither necessary nor sufficient for estimating the model of  $y$  given  $x$  by the simple single equation regression. What is important for this is the covariance of the errors of the previous equations, if it can be assumed that  $E[u_t, e_t] = 0$ . If this is so,  $x$  will be exogenous and it will be possible to estimate the model of  $y$  given  $x$  for the simple single equation regression. Thus, the important thing is the covariance of the errors of the previous equations, if it can be assumed that  $E[u_t, e_t] = 0$ . If it can,  $x$  will be exogenous and the model of  $y$  given  $x$  can be estimated for the simple single equation regression.

other import production factor and to its behaviour over the cycle; (iii) the real free-floating exchange rate, both as a factor in expectations of macroeconomic performance reflecting competitiveness and as an important component in the costs of imported capital goods; (iv) credit in foreign and local currency and interest rates as components of the cost of capital. All the estimates included two lags, a linear trend to cover the possibility of different (deterministic) growth rates and dummy (impulse) variables for extreme values, for the year 2002 in most of the systems, among other things.<sup>3</sup>

In the first place, the results obtained yielded a single cointegration ratio that made it possible to focus on the association between gross fixed capital formation and GDP. The other variables<sup>4</sup> (such as the exchange rate) were non-significant, or their long-run ratios did not have the expected signs (credit measures in particular).<sup>5</sup> The cointegration equation is reproduced below, and the econometric results of the cointegration test and the second-order bivariate system of autoregressive vectors between gross fixed capital formation and GDP with a linear trend and dummy variables for 2002 and 1960 (for non-normality of residuals) are shown in annex IV.A1.

$$\text{LGFCF} = 2.28^{***} (\text{LGDP}) - 0.03^{***} (\text{Trend}) \quad (1)$$

(0.103) (0.002)

Equation 1 shows a positive and statistically significant relationship between gross fixed capital formation and GDP.<sup>6</sup> In addition, the output elasticity of investment is found to be above 2. However, there is also a negative and significant trend effect on investment. It may be noted that for average GDP growth (1951–2015) of 2.5% a year, aggregate gross fixed capital formation rises to 5.7%, but if the negative trend effect is deducted, investment growth is just 2.7%. This first result suggests a need to investigate what factors besides GDP might explain the behaviour of investment for the period under consideration. This point is addressed in the following section.

The more detailed results of the econometric analysis presented in the table in annex IV.A1 show that the adjustment coefficients yield the conclusion that investment tends to adapt to GDP changes in the long run, meaning that the latter is an exogenous variable. This reflects investment behaviour compatible with the “accelerator” principle for aggregate investment.

Lastly, the results presented in the table in annex IV.A1 show that the interaction between gross fixed capital formation and GDP takes place within the year, as demonstrated by the lag exclusion test for the two lags of gross fixed capital formation in the GDP equation (see table IV.1).

### 3. Analysis of the determinants of the investment ratio

The long-run econometric ratio of gross fixed capital formation to GDP can be used to carry out an econometric analysis of the behaviour of the investment ratio with consideration of factors other than the level of output, relating to the cost of capital and other macroeconomic determinants.

<sup>3</sup> The usual recommendation is to include the unrestricted trend so that it enters the cointegration space if it proves significant. Conversely, the dummy variables (impulses, 000010000) for extreme values, like the constant, were included in restricted form and thus outside the cointegration ratio, as is also suggested.

<sup>4</sup> Including interest rates creates the problem of determining them in real terms, as it requires a measure of inflation expectations. Current and lagged inflation can be used as a proxy for these expectations. Tests along these lines were not satisfactory as of the time this report was prepared. Nor were terms-of-trade effects encountered.

<sup>5</sup> The issue of real wages in the long-run ratio is under study. Measuring wages in dollars was even less satisfactory.

<sup>6</sup> Standard errors are in brackets and \*\*\* denotes significance at 1% level.

The most relevant variables were selected by means of an automatic selection algorithm ("Autometrics", see Doornik, 2009 and Hendry and Doornik, 2014) that helped in obtaining the models. Briefly put, this algorithm automates a methodology that goes from the general to the particular by conducting a tree search, with the variables ordered by their *t*-squared statistical significance statistics on the basis of a given starting model.

Diagnostic tests are taken into account in this procedure, which means that a data-congruent model is the goal and not just the model's goodness of fit. An important part of the development of this algorithm is the selection of dummy variables (and trends) for each observation in the sample, an approach known as dummy saturation that is useful for detecting outlying values, breaks and much else.

After trying a variety of starting models, we estimated a model that takes intermediation margins, the real wage and the real exchange rate as determinants of investment, including private foreign-currency lending (see table IV.2).

**Table IV.2**

Results of the investment regression estimate, 1953–2015

Independent variables <sup>a</sup>	Ratio	Standard deviation from the mean	t-statistic	t-prob
Investment rate (-1)	0.649867	0.05288	12.3***	0.0000
Foreign-currency lending <sup>b</sup>	3.18723	0.5388	5.9***	0.0000
Intermediation margin	-0.287000	0.05299	-5.42***	0.0000
Real wage <sup>b</sup>	0.304147	0.05840	5.21***	0.0000
Real exchange rate (-1) <sup>b</sup>	-0.0898850	0.03307	-2.72***	0.0087
Constant	-0.585621	0.09066	-6.46***	0.0000
I:1976	0.249660	0.07698	3.24***	0.0020

Diagnostic test	Result
AR 1-2 test	F(2,54) = 1.7480 [0.1838]
ARCH 1-1 test	F(1,61) = 0.073230 [0.7876]
Normality test	Chi <sup>2</sup> (2) = 1.5621 [0.4579]
Hetero test	F(10,51) = 0.40399 [0.9386]
Hetero-X test	F(20,41) = 0.31436 [0.9964]
RESET23 test	F(2,54) = 0.49598 [0.6117]

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

**Note:** Standard deviation = 0.0679 R<sup>2</sup> = 0.86 F(6,56) = 57.76 [0.000]\*\* Adj.R<sup>2</sup> = 0.846.

Period = 1953–2015; number of observations = 63; number of parameters = 7.

\*\*\* denotes significance at 1% level.

<sup>a</sup> Dependent variable: investment rate.

<sup>b</sup> Rate of variation.

As can be seen, all the variables included are significant (at 1%) and none of the diagnostic tests reject the respective null hypotheses, so that this model can be regarded as congruent (there being just one dummy variable, in 1976) (see table IV.2).

According to the estimates obtained, the investment rate depends positively not only on its own past value but also on changes in foreign-currency lending and wage acceleration. It also depends negatively on changes in the real exchange rate and the margin of intermediation in the financial system.

It can be seen how external factors influence the investment rate. First, it is increases in the availability of credit in foreign currency, not local currency, that influence the investment rate. Then, the effect of the real exchange rate can be associated with

that of a major determinant of the cost of acquiring imported capital goods, and this is why changes in this rate negatively affect the investment rate. It should be noted that, at least at the aggregate level, the prices of the different investment components, measured in implicit real-term prices (relative to output prices), were not significant or did not have the expected sign. The exchange rate can likewise affect expectations of the evolution of the economy, insofar as real-term depreciations can imply negative wealth effects. As regards domestic financing, the intermediation margin can be treated as a measure of banking sector efficiency, which is why increases in it lead to a reduction in the investment-output ratio.

Lastly, it may be noted that the positive wage effect arises through wage acceleration, making it likely that it is acting as an indicator of the cyclical behaviour of the economy rather than as the price of the labour factor.<sup>7</sup>

The model in table IV.2 was also evaluated in relation to the possibility of introducing additional measurements to reflect expectations about the economy with the database available. In particular, the effects of inflation (annual change) and the exchange-rate gap (log difference between the free-floating exchange rate and the import exchange rate) were incorporated but did not yield satisfactory results.

## B. Chile

### 1. Stylized facts of investment behaviour in Chile

Analysis of the evolution of the investment ratio during the period 1990–2016 shows a trend increase between 1990–2003, when it was 19%, and 2004–2016, when it was 24%. This behaviour reveals two patterns, before and after the commodity price boom. Over the whole period, investment ranged from peaks of some 27% of GDP or more (in 2012) and troughs well below 15% (in 1991).

During the period 1990–2003, investment grew by an average of 12% a year between 1990 and 1998, peaking in the latter year at a level 70% higher than at the start of the period. However, the situation changed completely with the start of the Asian crisis: after dropping 17% in 1999, investment stabilized, but at lower levels than in 1998.

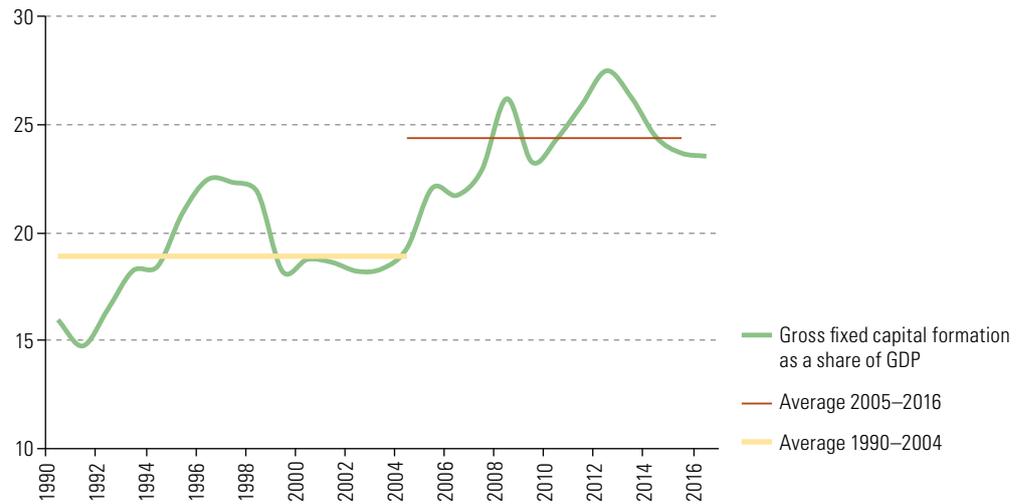
The large increase in commodity prices from 2003 led to a slight upturn in investment that year, and it rose from 2004 onward to reach a historic high in 2012. In this period (2004–2012), investment grew by an average of 9% a year, and only in 2009 (the year of the global financial crisis) did it decline. Investment contracted at an average rate of 2% a year from 2013 onward, declining by a total of 8% over the five years it fell. Nonetheless, the investment effort in the Chilean economy over the past 12 years has been striking, with almost a quarter of the country's GDP going to investment.

Breaking down investment by asset type (construction or machinery and equipment) reveals stable growth up to 1997. Thereafter divergences arose in the paths of each asset, for while non-residential construction carried on growing, albeit more slowly, both residential investment and investment in machinery and equipment contracted and then stagnated, reproducing to a degree the pattern of investment overall (see figure IV.5).

<sup>7</sup> Recursive estimates of the ratios estimated in the previous model and the Chow tests for joint stability. These tests do not reject the null hypothesis of constant parameters (given the level of standard error in the regression), as the variation coefficient for foreign-currency lending is the only one to have changed substantially since the 1980s.

**Figure IV.4**

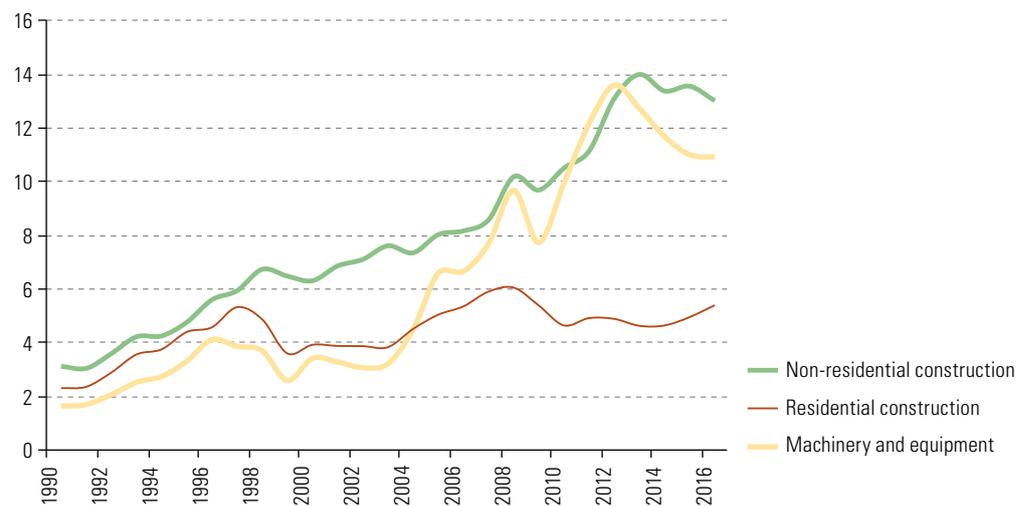
Chile: ratio of gross fixed capital formation to GDP, 1990–2016  
(Percentages)



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

**Figure IV.5**

Chile: gross fixed capital formation by asset type, 1990–2016  
(Billions of pesos at constant 2013 prices)



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

Both assets began growing again in 2004, machinery and equipment more quickly than other assets, as investment in that category tripled in five years (see figure IV.4). Indeed, it became the main component of investment alongside residential construction, having a very large impact on the evolution of total investment. The decline in investment from 2013 is mainly explained by the drop in the machinery and equipment category.

Although it began the period of study (1990–2016) at higher levels than machinery and equipment, residential investment ended 2016 at about half the latter's. The decline in 2009 and subsequent stagnation meant that the level of residential investment in 2016 was similar to what it had been 10 years earlier. Investment in non-residential construction presents a pattern more like that of machinery and equipment than of its residential counterpart. Its growth was fairly stable throughout the period of analysis, except in the last three years.

The evolution of investment in the different types of economic activity broadly reproduces the behaviour of the economy as a whole. To properly evaluate sectoral composition, it is advisable to centre the analysis on non-residential investment, excluding investment in housing. Investment in most of the major economic sectors held fairly steady during the early years, dipped in 1999 and then increased. However, there are differences between sectors that are worth highlighting (see table IV.3).

	1995–2000	2004–2008	2009	2010–2016
Total	13 951	20 879	22 834	29 281
Agriculture	442	626	572	697
Mining	1 377	2 748	3 965	6 782
Manufacturing	1 233	1 864	1 711	2 065
Electricity, gas and water	1 010	1 433	2 241	2 434
Construction	661	620	646	855
Commerce, restaurants and hotels	729	546	648	1 273
Transport and communications	1 134	3 414	2 993	4 537
Financial and business services	492	1 330	1 118	1 846
Communal, social and personal services	2 406	2 909	3 536	3 907

**Table IV.3**  
Chile: investment by economic sector, 1995–2016  
(Billions of dollars at constant 2013 prices)

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

The behaviour of the economic sectors of mining, transport and communications and communal, social and personal services is particularly important, given that they account for the bulk (some 60%) of non-residential investment. Investment in these sectors held steady during the early years and was higher than in the remaining sectors of economic activity. It then increased more quickly and consistently from 2003 to 2013, in which year it began to stagnate or fall.

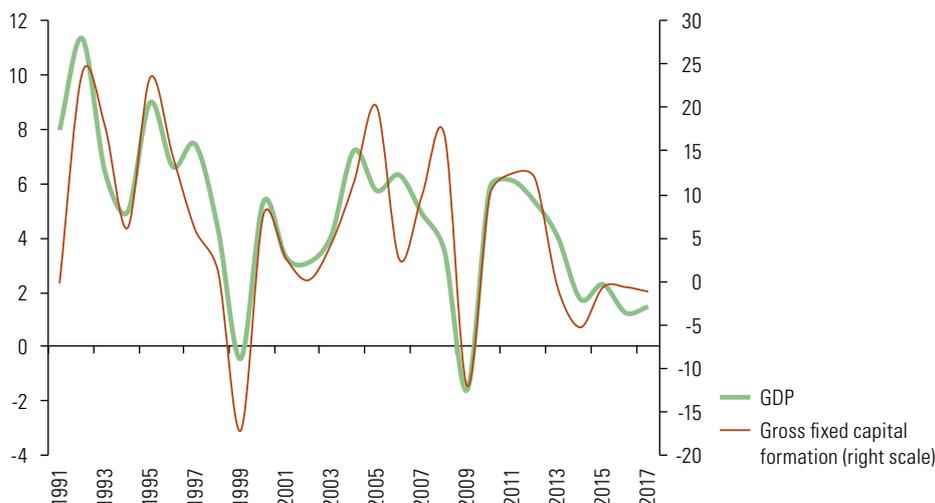
Mining is the main sector of economic activity in terms of its importance as a destination for non-residential investment. It accounts for about 20% of all non-residential investment, which is greater than its GDP share (11% in the same period). A specific aspect of mining is its strong growth and variability during the period studied, as it registered large increases and then a marked retrenchment from 2013. Its share of non-residential investment rose to 35% in 2013 before settling at 20%.

## 2. Empirical analysis of the relationship of investment to economic activity through growth accounting

The evolution of investment is clearly procyclical and matches the behaviour of the Chilean economy. This reflects, first, the positive effect of investment on demand and output and, second, the effect of positive or negative expectations for economic activity on investment decisions. Figure IV.6 shows how movements in annual rates of economic and investment growth synchronize.

**Figure IV.6**

Chile: annual rates of change in gross fixed capital formation and GDP, 1991–2017  
(Annual rates of change and percentages)



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

Growth accounting analysis shows that services provided by physical capital and labour made a large contribution in the period of analysis. GDP grew by an average of 4.5%, of which capital contributed 3.1% and labour 1.83%, while the contribution of total factor productivity was 0.43%. In that 25-year period, capital services were primarily responsible for growth in the Chilean economy, followed to a lesser degree by the labour factor (see table IV.4).

**Table IV.4**

Chile: contribution of labour, capital and total factor productivity (TFP) to GDP growth, 1990–2015

	1990–1997	1998–2003	2004–2009	2010–2015
GDP	7.25	2.76	3.37	4.00
Labour	2.64	1.71	1.03	1.81
Capital	3.67	2.73	3.99	3.48
TFP	0.94	-1.68	-1.65	-1.28

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

When the four phases mentioned are considered, it transpires that the growth rate of the Chilean economy was two or three times as great in the first period (1990–1997) as in the other periods (1998–2003, 2004–2009 and 2010–2015). All three components contributed to growth, with total factor productivity accounting for 15%. As table IV.4 shows, the contribution of this productivity to growth was negative in the following periods, especially 1998–2003, when the contributions of capital and labour were particularly important.

A more detailed analysis of the labour factor shows that groups with high levels of education have increased the number of hours worked, while those with low indices of education are working fewer hours, indicating that both the quantity and the quality of the labour factor have contributed positively to growth in the economy. The rise in hours worked has occurred among men aged over 29 and women aged over 50, but most of all in the age range from 30 to 49.

The sectoral analysis shows that sectors registering a negative growth rate (construction and communal and social services) or that have shown a tendency to decline since the 2000s (mining, electricity, gas and water, and transport and communications) generate 51% of the value of the economy as a whole.<sup>8</sup> The sectors that have recorded a positive rate of total factor productivity growth (agriculture, forestry and fisheries; commerce; hotels and restaurants; manufacturing) generated just 17% of value added in the economy as a whole (see table IV.5).

<sup>8</sup> Nine sectors of economic activity were considered: agriculture, forestry and fisheries; mining; manufacturing; electricity, gas and water; commerce; hotels and restaurants; transport and telecommunications; construction; financial services; and social and communal services.

**Table IV.5**

Chile: value added, capital stock and total hours worked, by sector of economic activity  
(Percentages, whole economy=100)

	Agriculture	Mining	Manufacturing	Electricity, gas and energy	Construction	Commerce	Transport and telecommunications	Financial intermediation	General services
<b>Value added</b>									
1995	6.2	6.9	16.0	2.4	6.6	14.6	9.9	24.6	12.8
2000	5.9	5.6	15.6	2.5	5.1	13.1	11.4	24.9	15.8
2005	5.1	13.3	14.9	2.6	5.1	11.1	10.9	22.6	14.3
2010	3.9	17.1	12.0	3.3	6.3	10.7	8.9	22.3	15.6
2015	4.3	9.6	12.5	3.1	7.2	12.0	8.8	25.0	17.4
<b>Capital stock</b>									
1995	2.8	11.7	12.2	14.7	4.5	8.2	8.6	2.7	34.5
2000	3.0	10.5	10.3	14.3	3.8	9.3	11.2	3.7	33.8
2005	3.0	11.1	9.6	13.7	2.6	8.4	15.3	4.9	31.3
2010	2.6	12.9	8.8	13.5	2.6	7.3	17.9	6.3	28.1
2015	2.2	17.2	7.7	12.7	2.6	7.4	18.4	6.9	25.0
<b>Total hours worked</b>									
1995	16.0	1.8	16.0	0.6	7.8	19.1	8.1	6.3	24.2
2000	14.4	1.6	14.0	0.5	7.2	20.2	8.5	7.8	25.9
2005	13.3	1.6	13.1	0.4	8.4	20.5	8.7	9.0	24.9
2010	10.8	3.0	11.7	0.9	8.1	24.8	8.4	7.6	24.8
2015	9.2	2.9	10.9	0.8	8.7	24.4	8.0	8.2	26.9

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

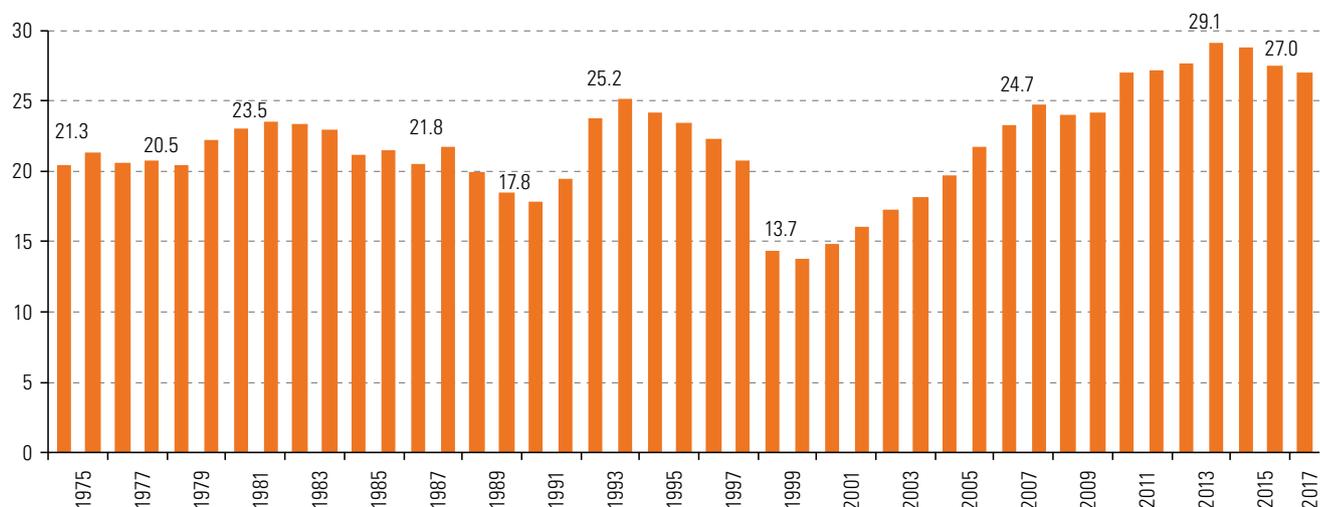
## C. Colombia

### 1. Stylized facts of investment behaviour in Colombia

The behaviour of investment in Colombia has gone through three clearly demarcated cycles over the past four decades (see figure IV.7).

**Figure IV.7**

Colombia: gross fixed capital formation, 1975–2017<sup>a</sup>  
(Percentages of GDP)



Source: National Administrative Department of Statistics (DANE) of Colombia.

<sup>a</sup> DANE has statistics available on gross fixed capital formation from 1975 to 2017. Data on public and private gross fixed capital formation by component (machinery and equipment, civil works, buildings, transport equipment and others) have been available since 1994, and since 2000 sectoral figures have also been available.

The first lasted from the late 1970s to the early 1990s. After a period of relative stability, the gross fixed capital formation ratio rose from 20.5% of GDP in 1979 to 23.5% in 1982, after which it contracted, bottoming out in 1991.

The second cycle took place in the 1990s. The gross fixed capital formation indicator rose from 18.0% of GDP in 1991 to 25.2% in 1994, after which it declined slowly before plummeting in 1999 and 2000, during what became known as the end of century crisis.

The third cycle, according to the data available, was the longest and most intensive, something largely accounted for by growth in construction and by the machinery and equipment and transport equipment categories, which made a large contribution to gross fixed capital formation until 2014, associated with stronger demand for capital goods in the energy mining sector.

Gross fixed capital formation increased continuously from 13.7% of GDP in 2000 to 29.1% in 2014, after which there was a slight fall-off. It grew at an average real rate of 12.4% between 2000 and 2008 and by 9.0% between 2010 and 2014. The ratio fell slightly between 2014 and 2017 but still remained around 27% of GDP, well above historical averages. The slowing of investment growth in this period is explained by a loss of dynamism in the categories of machinery and equipment, transport equipment and, in the last year, buildings.

The investment surge in the period 2000–2014 contrasts with those in the two previous cycles. Both in the cycle of the 1980s and in that of the 1990s, the increase took place over a period of three years and began to reverse thereafter. On this occasion, however, the increase was much more sustained, lasting 15 years.

It also represents a substantially greater increase in the gross capital investment ratio, coinciding with the price boom for commodities, especially oil, and with abundant global liquidity. The rise in the country's investment rate led to a substantial rise in the capital stock, which the Ministry of Finance estimates to have doubled between 2000 and 2016.<sup>9</sup>

The great question posed by current conditions concerns their future sustainability and the country's ability to sustain investment rates of over 25% (currently the highest of all medium-sized and large Latin American countries) in the medium term. It remains to be seen, however, whether or not the moderate reduction in the investment ratio between 2014 and 2017, at a time of slowing economic growth, will intensify in the coming years.

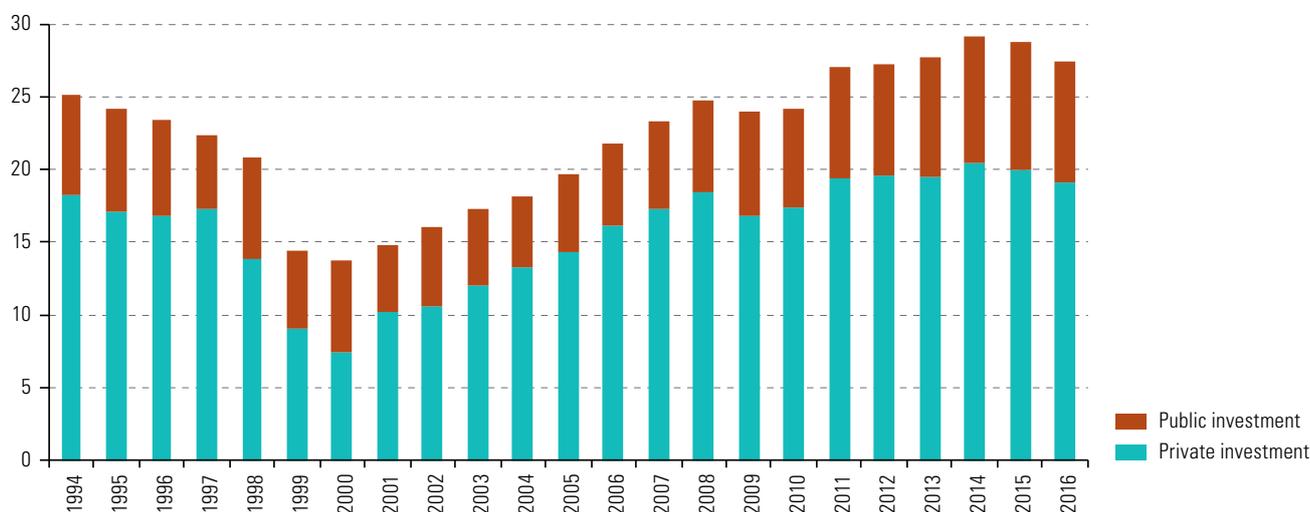
## 2. An analysis of the evolution of investment components

Investment cycles essentially reflect the behaviour of private investment. As in the other cases analysed, this represents over 70% of total investment (see figure IV.3). Public and private investment have moved in parallel as shares of GDP, meaning that both have grown during periods of strong economic growth and contracted during slowdowns. Thus, public investment has not been countercyclical. Public investment represented 8.3% of GDP and 30% of total investment in 2016, while the value of private investment was around 19% of GDP (see figure IV.8).

<sup>9</sup> The Ministry of Finance uses the perpetual inventory method to calculate the capital stock. The series used are those of the Colombian Economic Growth Study Group (GRECO) of the country's central bank. Annual depreciation is calculated as the weighted average of each component's depreciation rate: 2% for buildings, 8% for machinery and equipment and 13% for transport equipment.

**Figure IV.8**

Colombia: private and public investment, 1994–2016  
(Percentages of GDP)



**Source:** National Administrative Department of Statistics (DANE) and National Planning Department (DNP) of Colombia and Foundation for Higher Education and Development (Fedesarrollo).

As in the other cases, breaking down gross fixed capital formation into construction and machinery shows that the first component is the most significant, representing an average of 57% of the total and 12% of GDP for the period 1994–2017.

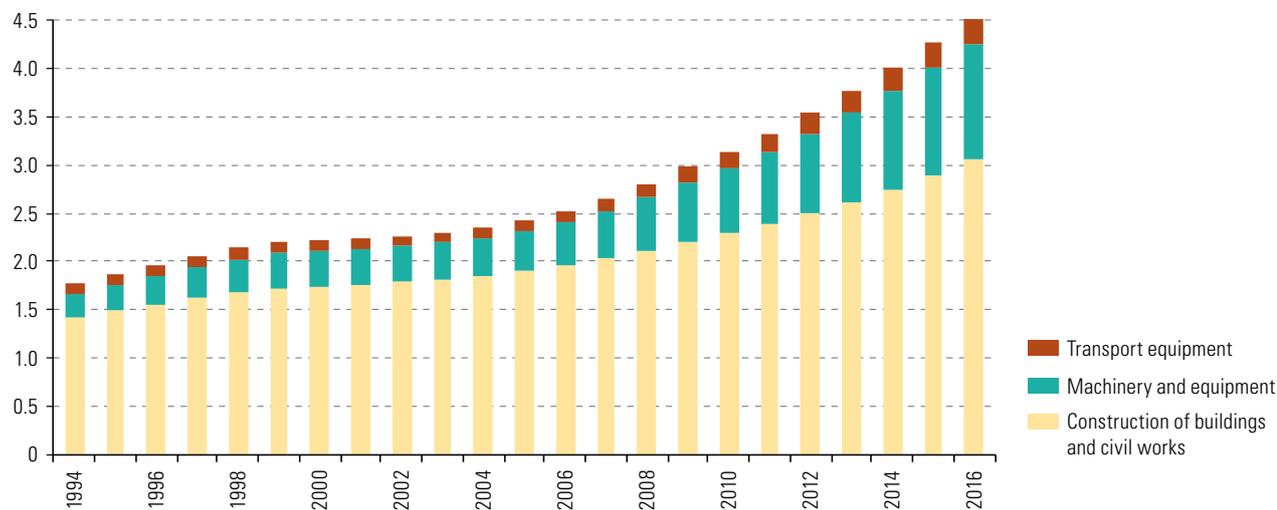
In turn, dividing construction into the categories of buildings and civil works reveals that the former lost ground to the latter.

After attaining a share of some 9% of GDP in 1994, the building construction component contracted significantly in the late 1990s because of the mortgage crisis. Building construction began to recover in 2002 and held fairly steady over the following years, rising to some 7% of GDP. Because investment in other areas grew solidly, however, the building construction share of total investment declined, falling from 29% to 23% in the period 2000–2017.

Investment in civil works declined from 1994 to 1999. From 2000, it recovered by 1% of GDP because of reconstruction in the coffee-growing region after the 1999 earthquake. The civil works component grew continuously and steadily in the period 2000–2017, rising from 5% to 9% of GDP. There were certain high points in gross fixed capital formation in civil works during the period, such as road rebuilding works after the severe winter weather of 2010 and the implementation of third and fourth generation (3G and 4G) concession projects. Once again, the behaviour of investment in civil works can be seen to be generally procyclical, although that was not the case in the most recent period, when the decline in other categories of gross fixed capital formation from 2014 was partially offset by the continuing dynamism of this investment.

**Figure IV.9**

Colombia: capital stock by sector, 1994–2016

*(Multiples of GDP)*

Source: Ministry of Finance of Colombia and Foundation for Higher Education and Development (Fedesarrollo).

The machinery and equipment category, meanwhile, represented an average of 28% of total investment and 7% of GDP between 1994 and 1998, and investment in machinery and equipment averaged a share of over 6% of GDP. It fell to levels of around 4% of GDP between 1999 and 2002 before returning to a path of growth in 2005, reaching 9% of GDP in 2013. Investment in machinery and equipment and transport equipment has grown faster than other investment in the past decade, as a result of which stocks have risen from less than 20% of the total before 2004 to over 25% now.

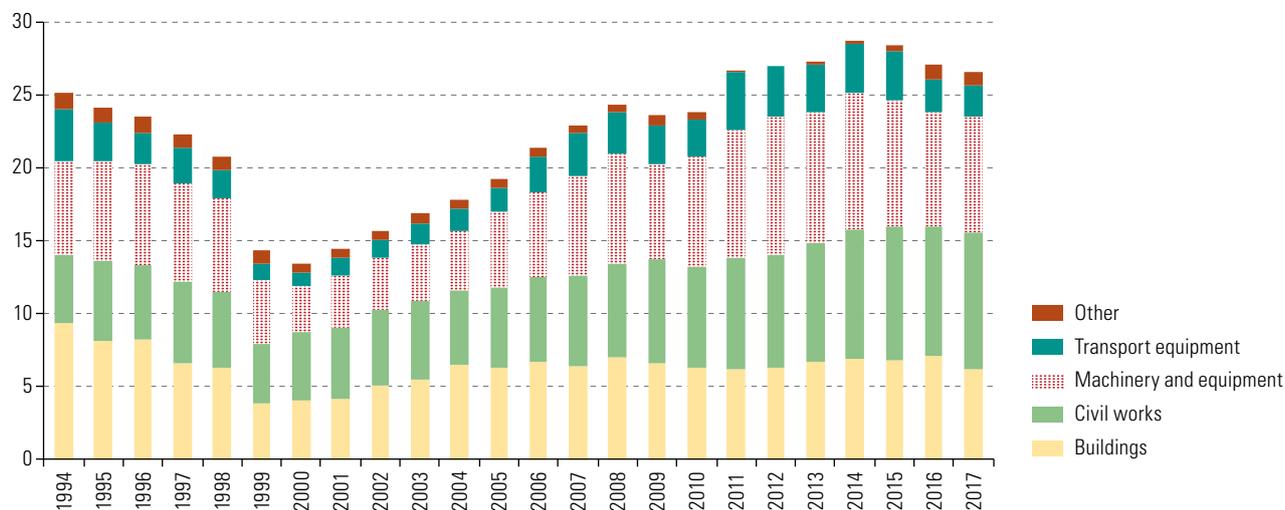
These percentages were maintained until 2015, when they began to decline. Thus, during the oil price boom, investment in machinery and equipment rose from 23% of gross fixed capital formation in 2000 to 32% in 2014. In 2017, however, it contracted to 29% of the total.

After a large drop between 1994 and 2000, when investment in transport equipment fell to around 1% of GDP, this investment recovered over the course of the present century, reaching 5% of GDP in 2015. It fell back towards the end of the period to stand at 2% of GDP in 2017. Thus, investment in this category was also associated with the oil price boom between 2004 and 2014.

Investment in the other sectors (services and agriculture) has accounted for a stable and extremely low share of GDP (less than 1%) over the last two decades. Investment contracted at an average annual rate of 1.5% between 1995 and 1998 and dropped by 35% in 1999. The negative change in gross capital formation between 1995 and 1999 was mainly due to the behaviour of the building construction sector and, to a lesser extent, the transport equipment sector.

**Figure IV.10**

Colombia: shares of gross fixed capital formation by sector, 1994–2017  
(Percentages of GDP)



Source: National Administrative Department of Statistics (DANE) of Colombia.

### 3. An analysis of investment in the most recent period (2000–2016): variables associated with the boom

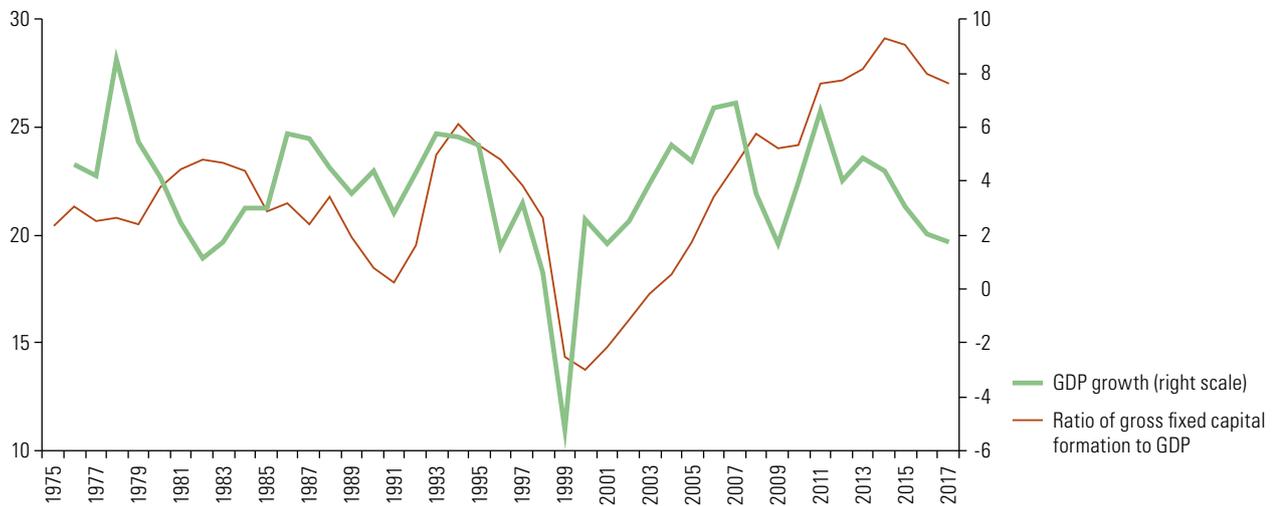
The analysis of investment determinants shows that investment correlates positively with GDP, raw material prices and a greater availability of external resources. Investment shows a negative correlation with the real interest rate and real exchange rate.

One of the factors to be borne in mind as an investment determinant is the dynamism of output, in the light of the accelerator model. In the cycle extending from the mid-1970s to the late 1980s, the relationship between economic growth and the ratio of gross fixed capital formation to GDP was unclear. The brief investment surge between 1979 and 1982 coincided with a substantial fall-off in the dynamism of GDP growth. Conversely, the declining trend in the gross fixed capital formation ratio arose in a context of relatively strong expansion in production activity during the period 1985–1989, when GDP growth averaged 4.5%.

By contrast with developments up to the late 1980s, the positive correlation between investment and growth is evident from the early 1990s and during the two most recent cycles of the indicator for the ratio of gross fixed capital formation to GDP. The contraction of investment in 1991 coincided with a sharp fall-off in economic growth that year, and the same happened in the crisis at the end of the century. During the period from 2000 to 2017, the ratio of investment to GDP fluctuated with economic growth. In 2009, and then again from 2015, there were declines in the gross fixed capital formation ratio associated with slowdowns in the economy during those years. However, it should be stressed that in both cases these ratios remained at atypically high levels, despite the slowing of GDP growth (see figure IV.11).

**Figure IV.11**

Colombia: ratio of gross fixed capital formation to GDP in comparison with GDP growth, 1975–2017  
(Percentages)



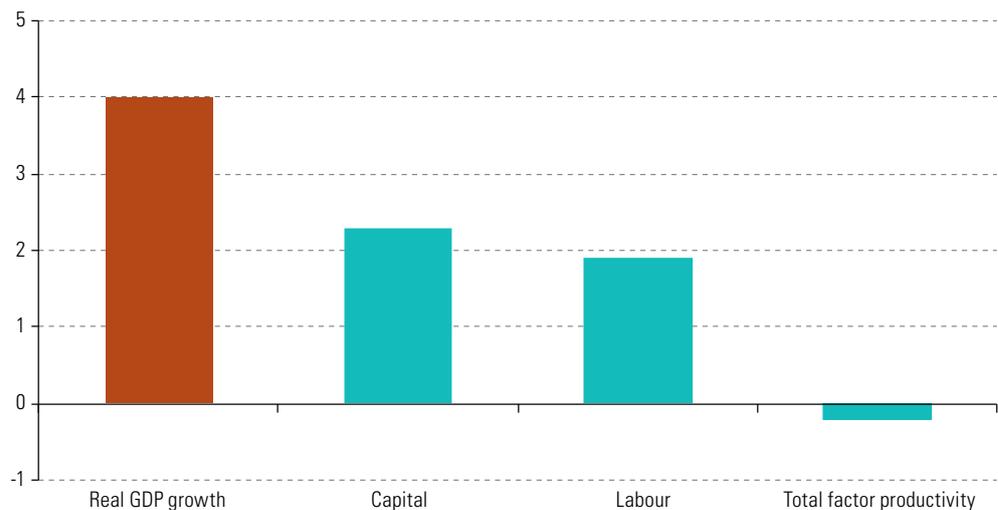
Source: National Administrative Department of Statistics (DANE) of Colombia.

Nonetheless, the relationship between investment and output is not one-way, since investment also affects growth through its impact on the capital stock.

Rapid investment growth and the resulting increase in the capital stock account for much of the growth in the economy over recent years. Gómez and Higuera (2018) use a Cobb-Douglas function to disaggregate economic growth factors (labour, capital and total factor productivity) in recent years in order to calculate the contribution of each to GDP growth. The exercise shows that the increase in the capital stock contributed significantly to GDP growth between 2000 and 2016 and that this contribution was greater than that of the labour factor. As figure IV.12 shows, the effect of the rise in investment on production capacity has been so large in recent years that it has offset the negative growth in total factor productivity.

**Figure IV.12**

Colombia: contributions of labour, capital and total factor productivity (TFP) to GDP growth, 2000–2016  
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from The Conference Board, Total Economy Database, 2017 [online] <https://www.conference-board.org/> and H.J. Gómez and L.J. Higuera, *Crecimiento económico: ¿Es posible recuperar un ritmo superior al 4% anual?*, Bogota, Foundation for Higher Education and Development (Fedesarrollo), 2018.

A second variable influencing investment is the real interest rate. Figure IV.13 shows the relationship between the investment ratio and movements in the real interest rate. At the start of the period studied (1980–2000), the domestic interest rate did not seem to have a systematic statistical relationship with the performance of gross fixed capital formation, although the surge in investment between 1992 and 1994 did coincide with atypically low real interest rates. In the twenty-first century so far, the large rise in the investment ratio has coincided with real interest rates that have been kept systematically very low by comparison with earlier periods (between 1% and 3%), reducing financing costs for domestic investment. This outcome has been made possible by inflation rates that have been considerably lower than in the latter decades of the twentieth century.

**Figure IV.13**

Colombia: real interest rates in comparison with the ratio of gross fixed capital formation to GDP, 1980–2016<sup>a</sup> (Percentages)



**Source:** National Administrative Department of Statistics (DANE), Central Bank of Colombia and Foundation for Higher Education and Development (Fedesarrollo).

<sup>a</sup> The real interest rate was calculated with the Fisher equation. For the nominal interest rate, the annual average of 90-day certificates of deposit was used for the period from 1980 to 1986 and the average effective annual 90-day fixed-term deposit rate for the period from 1986 to 2017.

Domestic credit recovered strongly as real interest rates fell, rising from 24.7% of GDP between 2001 and 2008 to 39.0% of GDP at the end of the period studied (see figure IV.14). The positive correlation between expanding domestic lending and investment is consistent with the conclusions of the studies mentioned in section 2 of Arbeláez and Echavarría (2002) and Salazar, Cabrera and Becerra (2011).

In addition, as mentioned in the studies on the major countries of Latin America by Reinhart, Calvo and Leiderman (1993) and by Izquierdo, Randall and Talvi (2008), there is a solid correlation between commodity prices, the real exchange rate and gross fixed capital formation. In particular, the cost of imported capital goods and of external financing for firms and the government is lower during periods of real-term currency appreciation, the result being stronger growth in gross fixed capital formation. In particular, for Colombia it is observed that the rise in investment in the periods 1991–1994 and 2003–2014 coincided with a large real exchange-rate appreciation (see figure IV.15). In the years subsequent to 2014, after the fall in the international oil price, the exchange rate depreciated considerably and investment fell.

**Figure IV.14**

Colombia: domestic credit to the private sector in comparison with the ratio of gross fixed capital formation to GDP, 1990–2016  
(Percentages of GDP)



Source: National Administrative Department of Statistics (DANE) and International Monetary Fund (IMF).

**Figure IV.15**

Colombia: real exchange rate in comparison with the ratio of gross fixed capital formation to GDP, 1986–2017  
(Index 2010=100 and percentages)

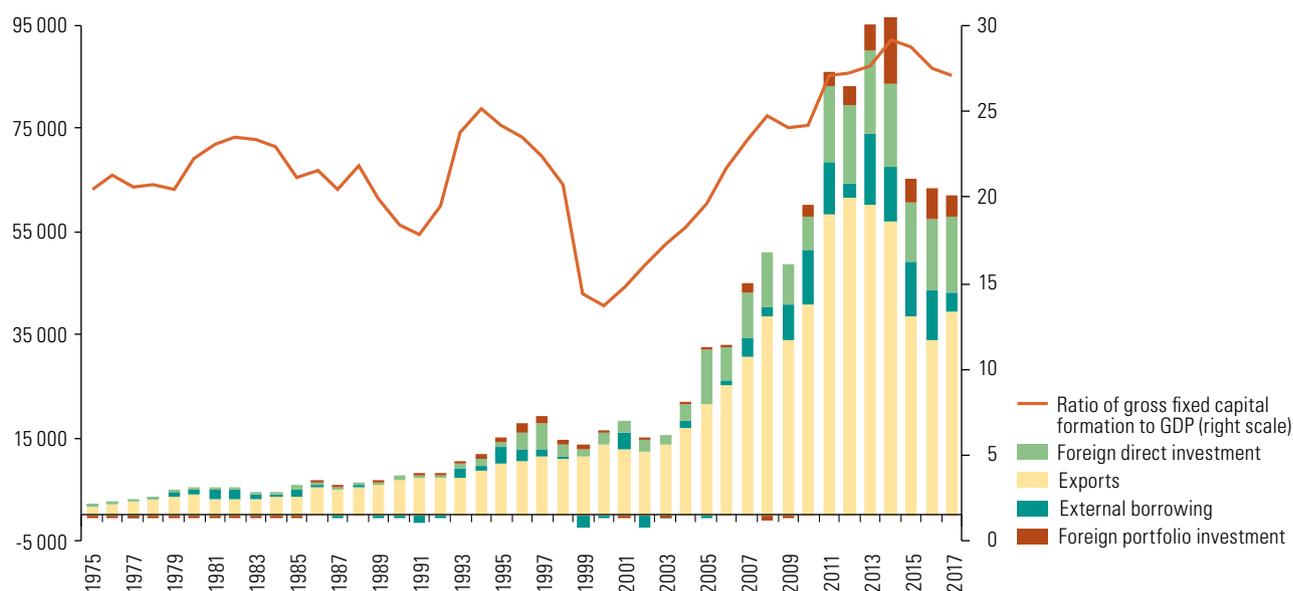


Source: National Administrative Department of Statistics (DANE), Central Bank of Colombia and Foundation for Higher Education and Development (Fedesarrollo).

An alternative way of approaching the same hypothesis about the importance of external factors in explaining the behaviour of gross fixed capital formation is the indicator of external flows (see figure IV.16). Resources generated by exports, the flow of net external borrowing, foreign direct investment and portfolio investment, all taken from balance-of-payments data, were included in this indicator of external flows.

**Figure IV.16**

Colombia: indicator of external balance-of-payments flows and investment ratios, 1975–2017  
(Millions of dollars and percentages of GDP)



**Source:** National Administrative Department of Statistics (DANE), Central Bank of Colombia and Foundation for Higher Education and Development (Fedesarrollo).

Figure IV.16 shows that the first period of strong growth in the gross fixed capital formation ratio, between 1979 and 1982, coincided with large flows of external resources associated initially with the upsurge in coffee exports and then, in the following years, with levels of net external borrowing that were atypically high by the historical standards of the Colombian economy. The second strong rise in the gross fixed capital formation ratio, observed after 1991, also coincided with a rising trend in the total availability of external resources between 1992 and 1997, associated both with export performance and with greater foreign direct investment. Likewise, the sharp fall in the gross fixed capital formation ratio observed in the late 1990s coincided with the drop in external resource flows, especially once international financing to the country was cut off following the Asian crisis of 1997 and the Russian crisis of 1998. Later, the rise in the ratio of investment to GDP that began in the early twenty-first century coincided with the substantial rise in external flows associated with the increased dollar value of oil and coal exports and with foreign direct investment and portfolio flows.

In the most recent period, given the sharp contraction in the value of exports observed from 2014 in consequence of the drop in oil and coal prices, combined with the impact from the collapsing Venezuelan economy, the expectation on this basis would have been a much more dramatic fall in gross fixed capital formation than actually occurred. The resilience of this indicator may be partly explained by the fact that the country was able to preserve substantial flows of external resources. The drop in the value of exports was partly offset by higher levels of net borrowing and foreign investment, both direct (in sectors other than mining and hydrocarbons) and in the form of portfolio flows.

In summary, it can be concluded that the upsurge of investment in Colombia in the twenty-first century so far has been due to favourable factors, both domestic and external. Between 2015 and 2017, gross fixed capital formation became less dynamic after the drop in the international oil price and consequent slowdown in the economy, but this impact has been largely mitigated by the fact that Colombia has succeeded in maintaining a substantial supply of currency by way of borrowing and foreign investment inflows, which have partially offset the decline in the value of exports.

## D. Mexico

### 1. Stylized facts of investment behaviour in Mexico

The evolution of the ratio of investment to GDP falls into three or perhaps four phases marked by changes in the dynamism of fixed capital asset accumulation and in the patterns of its private and public components, which are closely linked to changes in economic dynamism (see figure IV.17). In the first phase (1960–1981), the investment ratio rose steadily, increasing from 15.1% of GDP to a record 23.0% in 1981. Public investment grew strongly in the period, from 5.0% of GDP in 1960 to 10.8% in 1981. Private investment was greater in absolute volume terms but increased by somewhat less, rising from 10.2% of GDP to 12.8% in 1981.

**Figure IV.17**

Mexico: GDP growth and total, public and private investment ratios, 1961–2015  
(Percentage growth rates and percentages of GDP)



Source: J.C. Moreno Brid and others, "Inversión, cambio estructural y crecimiento", *Revista de Economía Mexicana. Anuario UNAM*, No. 1, 2016.

Thus, in 1981, in the context of an oil boom and an ambitious State-led industrialization plan, the public sector carried out 44.2% of all investment. The industrialization project came to an abrupt halt and a second phase began (1982–1987), characterized by recession and a drop of 9.0 points in the total investment ratio to 13.9% of GDP. The public component of investment lost 6.3 points, falling to 3.9% of GDP, while the private component dropped by less than 3 points to the equivalent of 10.0% of GDP, now contributing 72% of total investment.

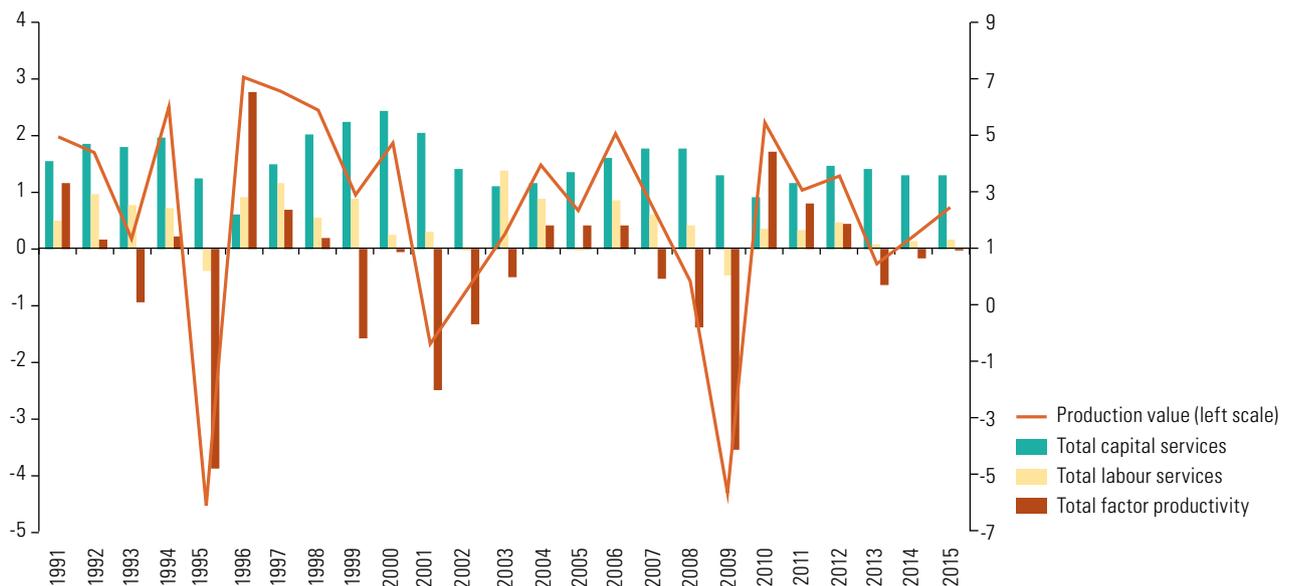
The third phase was marked by a renewed rise in the overall investment ratio and covered the period from 1988 to 2015. The ratio recovered by almost 9 points in those years to 23.1% of GDP, which was close to the earlier peak in 1981. Its composition reflected a dynamic whereby the private investment ratio rose by 7.5 points of GDP and the public ratio, after fluctuating sharply, rose by just 1.7 points. The 2009 crisis perhaps ushered in a new phase with a slightly lower overall investment ratio, this being 21.7% of GDP in 2015. In that period, private investment rose by half a point to 18% of GDP, while public investment declined in real terms, averaging 3.7% of GDP in the last decade.

## 2. An empirical analysis of aggregate investment determinants in Mexico on the supply and demand sides

### (a) Investment determinants from a growth accounting perspective

An analysis of investment from the perspective of growth accounting and total factor productivity shows, first, that the contribution of total factor productivity to the growth of the economy as a whole and of the manufacturing sector in particular is highly volatile (see figure IV.18).<sup>10</sup>

**Figure IV.18**  
Mexico: economic growth accounting, 1991–2015  
(Percentages)



**Source:** J.C. Moreno Brid and others, "Inversión, cambio estructural y crecimiento", *Revista de Economía Mexicana. Anuario UNAM*, No. 1, 2016.

<sup>10</sup> See chapter II for a more summary description of the methodology and the LA-KLEMS project sponsored by ECLAC. The results are from INEGI (2017a). Its calculations distinguish not only the contributions from capital and labour services already referred to but those of inputs of energy, materials and services. As part of the LA-KLEMS project, ECLAC and INEGI have been carrying out a major practical application of this methodology to the point where there is now an official platform, periodically updated, that presents calculations of the contributions made to real GDP growth by the different factors of production (labour, capital, energy, materials and services) and total factor productivity. The most recent results in the case of Mexico are for the period 1991–2015. The charts illustrate those that, in our judgment, are most important to the present study, both for manufacturing industry and for the Mexican economy as a whole.

In the second place, the data available show that the contribution of total factor productivity to growth in production activity has been adverse since the 1990s: the average contribution of total factor productivity to the average annual rise of 2.83% in the total value added of the Mexican economy during those years was negative (0.35%). The situation in manufacturing was similar, as this productivity also showed negative results. Taking the average for this period of almost 25 years in the major sectors of economic activity, only in the primary sector did productivity make a positive contribution (0.33%) to the growth of the economy as a whole, while in the secondary sector (0.57%) and the tertiary sector (0.27%) its contribution was negative.

The evolution of total factor productivity has also generally left much to be desired at a more disaggregated level. In only five branches of activity did it make a positive contribution: (i) agriculture, animal husbandry, forestry, fisheries and hunting (0.33%); (ii) electricity generation, transmission and distribution and the supply of piped water and gas to final consumers (0.50%); (iii) construction (0.09%); (iv) information in mass media (2.14%); and (v) financial and insurance services (0.4%). The situation is similar across manufacturing subsectors.

The disappointing performance of total factor productivity was accompanied by very different dynamics in the contributions of labour and capital. From the 1990s onward, the average annual contribution of capital services<sup>11</sup> (1.44%) was almost four times as great as that of labour services (0.40%) and also exceeded the aggregate for the services of the other three major inputs: energy, materials and services (totalling 1.35%). With this, the average annual increase in real value added in the Mexican economy over the period was just 2.8%. This performance pales beside real GDP growth in the 1960s and 1970s, when average rates were over twice this.

Analysing growth on the supply side by measuring total factor productivity has major limitations, even when it comes to disaggregating and measuring factor inputs, as well as substantive ones associated with the almost tautological nature of this approach, having regard to certain assumptions about income distribution and others of a theoretical character. It is also necessary to highlight the assumed orthogonality of the evolution of gross fixed capital formation relative to labour productivity and, of course, to the residual of total factor productivity. Accordingly, the supply-side analysis is supplemented by one centred on aggregate demand.

### (b) Investment and growth from an aggregate demand perspective

Demand-based investment analysis involves a calculation of aggregate demand multipliers based on a very simple macroeconomic model relying on the GDP effects of injections and leakages of the different aggregate demand components, whereby the annual GDP growth rate can be expressed as a weighted average of average annual export growth rates and of each of the two components of gross fixed capital formation.<sup>12</sup>

<sup>11</sup> This contribution by the services of each factor considered is given by the contribution to total value added that can (or rather must) be assigned to increases both in the quantity of the input incorporated into the production process and in its specific productivity.

$$12 \quad \left( \frac{Y_t - Y_{t-1}}{Y_{t-1}} \right) = \alpha \left[ \frac{\Delta I_{gt}}{I_{gt-1}} \frac{\Delta I_{gt-1}}{Y_{t-1}} + \frac{\Delta I_{pt}}{I_{pt-1}} \frac{\Delta I_{pt-1}}{Y_{t-1}} + \frac{\Delta X_t}{X_{t-1}} \frac{\Delta X_{t-1}}{Y_{t-1}} \right] \quad (2)$$

$$\alpha = \frac{1}{m+s} \quad (3)$$

The real GDP growth rate in period  $t$  is shown in the brackets to the left of expression (2). The two summands inside the square brackets on the right represent, respectively, the contributions of investment and exports to GDP growth. By construction, each is defined as the product of its growth rate in the period concerned weighted by its share of GDP in the starting year. The letter alpha ( $\alpha$ ) on the right-hand side represents the traditional "multiplier" given, as indicated in expression (3), by the saving coefficient ( $s$ ) and the coefficient of the propensity to import ( $m$ ).

This exercise was carried out for two subperiods (1960-1981 and 1988-2016) in order to contrast the two models of development followed by Mexico in its modern era: State-led industrialization and the free market model.

The two exercises show that the spillover effect of gross fixed capital formation (public and private) in 1960-1981 was more than twice as great as that of exports. Also in this period, private sector fixed capital formation had a slightly greater spillover effect on GDP than its public sector counterpart. In both exercises, furthermore, the relative weight of exports in the most recent period beginning in 1988 far exceeded that of aggregate investment and was greater still relative to public or private investment considered separately.

**Table IV.6**

Mexico: multiplier effects of investment and exports on GDP<sup>a</sup>

Period	GDP	Public investment			Private investment			Exports			Multiplier
	$(Y_t - Y_{t-1})/Y_{t-1}$	$\Delta \text{Publ}_t / \text{Publ}_{t-1}$	$\text{Publ}_{t-1} / Y_{t-1}$	$(D)=(B)*(C)$	$\Delta \text{Privl}_t / \text{Privl}_{t-1}$	$\text{Privl}_{t-1} / Y_{t-1}$	$(G)=(E)*(F)$	$\Delta X_t / X_{t-1}$	$X_{t-1} / Y_{t-1}$	$(J)=(H)*(I)$	$\alpha$
	(A)	(B)	(C)		(E)	(F)		(H)	(I)		(A)/(D+G+J)
1961–1981	2.87	6.93	0.05	0.38	3.89	0.13	0.51	5.85	0.05	0.31	2.39
Average growth rate	6.35	9.87			7.48			9.14			
1988–2016	1.2	0.61	0.04	0.03	2.13	0.13	0.27	4.07	0.15	0.62	1.29
Average growth rate	2.65	1.60			3.87			5.56			

**Source:** J.C. Moreno Brid, "La formación bruta de capital fijo en México y el crecimiento económico: investigación empírica desde diferentes ópticas metodológicas", 2018, unpublished.

<sup>a</sup> Calculated from 2013 price data.

In the second period considered, exports came to play a much more dynamic role than fixed capital formation as drivers of annual economic activity. Another conclusion of the greatest importance for both models is that the average annual growth rates of each of the variables considered here (GDP, total and disaggregated investment, exports) in 1960-1981 were substantially greater than those for the period 1988-2016. Lastly, the investment and export multipliers of the second period were significantly down on those of the first. Furthermore, the multiplier ratio fell by more than 50% from one period to the next.

### (c) Estimating private investment with an econometric cointegration model

To supplement the foregoing exercises, cointegration techniques were used to estimate a long-run ratio between private investment and its main determinants. Among the variables considered as investment determinants were: (i) GDP, (ii) the interest rate or credit availability, (iii) the expected rate of return, (iv) the exchange rate, (v) public investment and (vi) some indicator of macroeconomic stability as an element affecting confidence or the business climate.

GDP affects the determination of private investment insofar as it serves as a proxy for the accelerator effect and pressure on the degree of installed capacity usage. Including the interest rate for empirical studies, although justified given that it is an opportunity cost of capital, is challenging because there is a lack of information on the effective rates applied to investment projects. Accordingly, data on bank lending to the business sector are usually incorporated, this being recognized indeed as a major factor in private investment in countries where financing does not come only from reinvested profits. This is the case with Mexico and other emerging economies,

where investors lack adequate resources of their own to finance themselves (or do not want to fully commit them) and find it advisable or necessary to secure bank credit in a context where capital and stock markets are very weak. It is well known that these markets have a number of limitations in semi-industrialized economies, considering their lack of depth and rationing practices. Exchange rates influence investment in many ways. First, they affect the cost of machinery and equipment from abroad. Second, they are an ingredient in the price competitiveness of locally produced goods both in international markets and vis-à-vis imports in the domestic market. When they are volatile, furthermore, the business climate is affected by increased uncertainty about the viability of some investment projects and, in certain very extreme cases, about macroeconomic stability generally.

As regards government spending variables, two positions are taken: that they may either crowd out or crowd in private investment. Those upholding the crowding-out position (although now very much on the retreat in the international debate) argue that public investment competes unfairly with the private sector for scarce resources, thus displacing and limiting private investment. The other position is that the primary relationship at the macro level is one of complementarity and not of competition. On this view, public investment attracts private investment, as well as being a prerequisite or basis for it. Without public investment there can be no appropriate, modern infrastructure. Without it, too, it is very difficult to procure dynamic private investment in any modern economy or ensure international competitiveness. There are also a variety of crucial investment projects that are not viable unless there is a public-private partnership to execute them, a partnership entailing both coordination and the provision of resources for fixed capital formation by both sectors.

The other variables indicated do not require much comment. Confidence in macroeconomic stability, and of course in the rule of law, is a major factor in decisions about private sector investment, expansion of production plants and forays into other fields of business.

On the basis of the above considerations, a time series model with vector autoregression was specified to estimate the behaviour of private investment in relation to the evolution of GDP, public spending and investment, the exchange rate, the interest rate and bank lending for the period 1985–2015. Besides the long-run annual series for private investment and real GDP at 2008 prices that were prepared in the course of this research, as explained in the opening chapter, use was made of data from the National Institute of Statistics and Geography (INEGI), the Bank of Mexico and the World Bank. The unit root tests applied to long-run information on the variables examined showed that these were integrated series of order one.<sup>13</sup>

A number of distributed lag models were estimated in which private investment was established as dependent on itself and on the variables mentioned and a lag.<sup>14</sup> After a great variety of construction and specification exercises, following the technique of including all variables that were relevant a priori and then removing ratios which were not statistically significant or whose estimation did not pass some of the tests for correct specification, the outcome was the following model of private investment, in logarithms, which passed the usual diagnostic tests.<sup>15</sup>

<sup>13</sup> Except for the exchange-rate variable, whose order of integration is 0.

<sup>14</sup> The procedure used is one that goes from the general to the particular, removing non-significant determinants.

<sup>15</sup> The results from a selection of models are given in annex 1. The fact that the equation 1 variables are expressed in logarithms means that the ratios of the independent variables represent elasticities, i.e., indicate the proportion in which the dependent variable changes when there is a change of a certain proportion in the variable it depends on (or independent variable) and the sign preceding the elasticity ratio shows the direction of these changes, with the plus sign denoting direct changes and the minus sign inverse changes.

$$\text{LPI} = + 1.7706 * \text{LGDP} - 1.9474 * \text{LGDP}_{-1} + 0.4961 * \text{LPI}_{-1} + 0.6222 * \text{LPS} + e_t \quad (4)$$

(Standard error) (0,4486) (0,3553) (0,1045) (0,1755)

The p-values obtained from the respective tests were as follows: autocorrelation, Durbin-Watson (1,7142) and Breusch-Godfrey (0,4727); normality, skewness-kurtosis (0,1545); heteroskedasticity, White (0,5806).

The cointegration test, carried out using the augmented Dickey-Fuller method, yielded a ratio of -4.441, leading to the conclusion (given the critical values of 2.989 at 5% and 3.723 at 1%) that there is indeed a stable long-run relationship between the stationary variables considered in the model.

According to the results of the long-run econometric analysis, private investment in the period analysed was affected by private investment carried out in the previous period. In the case of public spending, the positive effect of this on current private investment relates to the current period, as for each percentage point increase in spending in this period there is a positive effect of one fifth of a percentage point (+0.62) on private investment. GDP is also found to have a positive aggregate effect which generates its contemporary level (+1.7706) and a negative effect with a lag, which is larger (1.9474).

#### **(d) Investment and economic growth from the perspective of input-output matrices**

The input-output methodology was employed to further explore the causal relationship between investment and GDP. This served to identify which specific branches or subgroups of activity carried out investment and which branches of activity, sectors or classes acquired it to increase their stock of machinery, expand buildings and plants and obtain software, transport equipment and other goods defined in the international classification as fixed capital stock.

Table IV.7 shows the composition of gross fixed capital formation in Mexico by sector of activity for the three most recent years. Information from input-output matrices, measured at constant 2008 prices, was available for this. As the table shows, two sectors stood out significantly from the rest in the three years for which information was presented as regards the scale of their gross fixed capital formation processes. These were real estate and tangible movable goods leasing services, and manufacturing, which between them systematically accounted for about half of all fixed investment in the country over those years.

Their individual proportions of the total were virtually identical in 2015, at 26.8%. They were followed at some considerable distance that year by transport, post and storage, then by commerce and by mining, with proportions of 8.9%, 8.3% and 6.9% of the total, respectively. It is worth mentioning that legislative activities also show high levels of investment, but as with much investment in residential construction and buildings, they do not affect potential long-run output in the same way as the other types of investment in plant, machinery, equipment and infrastructure.

What is also striking in this table is the slow pace of average annual growth in gross fixed capital formation in the country over this period. According to these figures, fixed investment in the economy as a whole grew by 1% a year on average between 2003 and 2015. The three most dynamic sectors in this respect were transport, post and storage (11%) and financial services and professional services, both with average annual growth rates of over 20%, albeit starting from very low levels. The performance of the two activities that invested most was divergent in these years. While gross fixed capital formation in the real estate sector also expanded by an average of 1% a year, the figure for manufacturing was 7%, which raised its share of total investment in the country from 18.7% to 26.8%.

**Table IV.7**

Mexico: gross fixed capital formation, total by destination for each sector of economic activity, 2003, 2008 and 2015

	2003		2008		2015		Average annual growth rate (percentages)		
	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	2003–2008	2008–2015	2003–2015
Agriculture, animal husbandry, forestry, fisheries and hunting	68 222	3.3	78 508	2.8	41 945	1.4	3	-9	-4
Mining	218 741	10.6	323 763	11.4	212 821	6.9	8	-6	0
Electricity generation, transmission and distribution and supply of piped water and gas to final consumers	62 979	3.1	73 220	2.6	41 966	1.4	3	-8	-3
Construction	25 003	1.2	32 052	1.1	11 535	0.4	5	-14	-6
Manufacturing	384 951	18.7	520 492	18.4	832 675	26.8	6	7	7
Commerce	152 490	7.4	317 466	11.2	257 468	8.3	16	-3	4
Transport, post and storage	79 185	3.9	100 110	3.5	277 339	8.9	5	16	11
Information in mass media	41 438	2.0	43 869	1.5	43 677	1.4	1	0	0
Financial and insurance services	3 137	0.2	5 977	0.2	32 448	1.0	14	27	21
Real estate and movable and intangible goods leasing services	735 181	35.8	903 696	31.9	832 423	26.8	4	-1	1
Professional, scientific and technical services	7 429	0.4	18 329	0.6	88 731	2.9	20	25	23
Corporate services	1 189	0.1	1 214	0.0	1 821	0.1	0	6	4
Business support, waste management and clean-up services	14 142	0.7	12 862	0.5	31 901	1.0	-2	14	7
Education services	12 760	0.6	9 708	0.3	9 116	0.3	-5	-1	-3
Health and social assistance services	19 092	0.9	10 987	0.4	8 072	0.3	-10	-4	-7
Cultural and sporting leisure services and other recreational services	5 018	0.2	8 142	0.3	6 769	0.2	10	-3	3
Temporary accommodation and food and drink preparation services	34 363	1.7	34 491	1.2	57 282	1.8	0	8	4
Other services except government activities	16 965	0.8	12 657	0.4	40 895	1.3	-6	18	8
Legislative and government activities, administration of justice and activities of international and extraterritorial organizations	173 580	8.4	322 878	11.4	275 751	8.9	13	-2	4
<b>Total</b>	<b>2 055 862</b>	<b>100</b>	<b>2 830 420</b>	<b>100</b>	<b>3 104 636</b>	<b>100</b>	<b>7</b>	<b>1</b>	<b>3</b>

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the World Bank and Bloomberg, 2018.

To calculate backward and forward linkages, use was made of information from 2013, which is presented in table IV.8. This indicates that, at this high level of aggregation, only three sectors showed push and pull effects in excess of 1.<sup>16</sup> They were: (i) manufacturing; (ii) electricity, gas and water generation, transmission and distribution; (iii) construction. As the figures show, manufacturing and construction are vital sectors because they have push and pull effects in excess of 1.

**Table IV.8**

Mexico: sectors of economic activity and their domestic push and pull effects, 2013

Sector	Pull	Sector	Push
31-33-Manufacturing	1 211	31-33-Manufacturing	3 668
22-Electricity generation, transmission and distribution and supply of piped water and gas to final consumers	1 121	23-Construction	1 111
23-Construction	1 103		

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

<sup>16</sup> Based on the North American Industry Classification System (NAICS).

Manufacturing's share of investment and production, combined with the crucial role it plays in terms of production linkages, makes it a vital pivot in the economic dynamics of the country.

Construction is another key sector. However, it only contributed 0.4% of the country's gross fixed capital formation in 2015, and investment there fell by an average of 6% a year between 2003 and 2015. Meanwhile, electricity, gas and water generation, transmission and distribution produced major pull effects but only contributed 1.4% of gross fixed capital formation in 2015, while investment in the sector also contracted (-3%) in the period.

INEGI figures also show whether gross fixed capital formation originates in Mexico or abroad, both at the national level and for individual activities. Imports contributed 27% of this formation and played an important role in enhancing potential growth capacity, since many of them bring in technology that does not exist in the country. In the case of manufacturing, just over half was of external origin in 2015. The average growth rate of investment in fixed assets imported by manufacturing industries was 6% between 2003 and 2015 (see table IV.9). Commerce registered 29.4% of total imports of investment goods in 2015, followed by information in mass media (3.6%), transport, post and storage (3.0%), professional, scientific and technical services (2.4%), construction (2.2%) and mining (2.1%).

**Table IV.9**

Mexico: imported gross fixed capital formation in each sector of economic activity, 2003, 2008 and 2015

	2003		2008		2015		Average annual growth rate (percentages)		
	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	2003–2008	2008–2015	2003–2015
Agriculture, animal husbandry, forestry, fisheries and hunting	3 343	0.9	5 998	1.0	6 030	0.7	12	0	5
Mining	9 760	2.5	22 725	3.6	17 708	2.1	18	-4	5
Electricity generation, transmission and distribution and supply of piped water and gas to final consumers	1 315	0.3	1 972	0.3	2 221	0.3	8	2	4
Construction	8 328	2.2	17 465	2.8	18 428	2.2	16	1	7
Manufacturing	204 291	52.9	335 592	53.5	423 585	50.6	10	3	6
Commerce	111 088	28.7	162 124	25.8	245 903	29.4	8	6	7
Transport, post and storage	8 052	2.1	17 428	2.8	25 036	3.0	17	5	10
Information in mass media	8 209	2.1	13 713	2.2	29 886	3.6	11	12	11
Financial and insurance services	473	0.1	688	0.1	1 078	0.1	8	7	7
Real estate and movable and intangible goods leasing services	4 836	1.3	9 072	1.4	9 205	1.1	13	0	6
Professional, scientific and technical services	11 945	3.1	16 337	2.6	19 692	2.4	6	3	4
Corporate services	707	0.2	933	0.1	2 164	0.3	6	13	10
Business support, waste management and clean-up services	3 797	1.0	6 058	1.0	9 140	1.1	10	6	8
Education services	513	0.1	739	0.1	840	0.1	8	2	4
Health and social assistance services	893	0.2	1 354	0.2	1 639	0.2	9	3	5
Cultural and sporting leisure services and other recreational services	369	0.1	597	0.1	1 209	0.1	10	11	10
Temporary accommodation and food and drink preparation services	710	0.2	1 217	0.2	1 441	0.2	11	2	6
Other services except government activities	4 218	1.1	8 335	1.3	12 221	1.5	15	6	9
Legislative and government activities, administration of justice and activities of international and extraterritorial organizations	3 596	0.9	5 410	0.9	9 586	1.1	9	9	9
<b>Total</b>	<b>386 442</b>	<b>100</b>	<b>627 758</b>	<b>100</b>	<b>837 014</b>	<b>100</b>	<b>10</b>	<b>4</b>	<b>7</b>

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

It should be stressed that in construction and manufacturing (the only two really crucial sectors, as we have seen, in terms of production linkages), capital goods imports grew at average annual rates of 7% and 6%, respectively, between 2003 and 2015. As for construction, the real estate production sector generated a cumulative 77% of the fixed capital goods produced in the country, even though investment by the construction sector itself is not substantial relative to the national total (4% in 2015).

### (e) The role of manufacturing in Mexican investment

Given manufacturing's character as a key sector for linkages and as a destination for investment goods, the decision was taken to examine the behaviour of its subsectors in more detail. As table IV.10 shows, calculating push and pull effects yields a total of 11 key subsectors, among them chemicals, oil and coal derivatives, computing and electronics equipment manufacturing and basic metal industries. For their part, printing and allied industries, hide and leather tanning and finishing, textiles and non-metallic mineral-based products are manufacturing industries that have large pull effects. The food industry has great push effects, as its products tend to be used as inputs for other businesses, such as hotels and restaurants.

**Table IV.10**

Mexico: manufacturing subsectors in Mexico with major domestic push and pull linkages, 2013

Manufacturing subsector	Pull	Manufacturing subsector	Push
Food industry	1 221	Food industry	3 029
Drinks and tobacco industry	1 121	Wood industry	1 230
Manufacture of textile inputs and textile finishing	1 132	Manufacture of oil and coal derivatives	2 031
Tanning and finishing of hides and leather, products of hide, leather and substitutes thereof	1 154	Chemicals	2 038
Wood industry	1 166	Basic metal industries	1 505
Paper industry	1 144	Transport equipment	2 321
Printing and allied industries	1 231		
Manufacture of oil and coal derivatives	1 411		
Manufacture of products from non-metallic minerals	1 292		
Basic metal industries	1 215		
Metal products	1 181		
Manufacture of furniture, mattresses and blinds	1 202		

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

The leading manufacturing subsectors in terms of gross fixed capital formation are computer equipment manufacturing (29.5% of the total), followed by transport equipment (16.6%), machinery and equipment manufacturing (9.4%), the food industry (7.9%) and the plastic and rubber industry (5.1%). Of these, only the food industry has push and pull effects, while transport equipment manufacturing has large push effects.

When the sectors with some push or pull effect are compared in terms of investment in imported gross fixed capital formation, the transport equipment manufacturing subsector stands out, accounting for 33.8% of imported gross fixed capital formation (see table IV.12). For its part, the chemical industry accounted for 4.9% of imported fixed capital assets in 2015 and had an average growth rate of 7.2% between 2003 and 2015, signifying an increase from 8.97 billion to 20.682 billion pesos over the period.

**Table IV.11**

Mexico: gross fixed capital formation, total by manufacturing subsector, 2003, 2008 and 2015

	2003		2008		2015		Average annual growth rate (percentages)		
	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	2003–2008	2008–2015	2003–2015
Food industry	37 517	9.7	35 699	6.9	65 724	7.9	-1.0	9.1	4.8
Drinks and tobacco industry	15 695	4.1	20 202	3.9	33 422	4.0	5.2	7.5	6.5
Manufacture of textile inputs and textile finishing	3 422	0.9	2 810	0.5	4 873	0.6	-3.9	8.2	3.0
Manufacture of textile products other than apparel	1 122	0.3	1 028	0.2	2 028	0.2	-1.7	10.2	5.1
Manufacture of apparel	3 422	0.9	3 212	0.6	7 712	0.9	-1.3	13.3	7.0
Tanning and finishing of hides and leather and manufacture of products of hide and leather and substitutes thereof	1 413	0.4	967	0.2	2 861	0.3	-7.3	16.8	6.1
Wood industry	892	0.2	606	0.1	687	0.1	-7.4	1.8	-2.2
Paper industry	10 357	2.7	8 307	1.6	5 181	0.6	-4.3	-6.5	-5.6
Printing and allied industries	2 812	0.7	2 537	0.5	1 605	0.2	-2.0	-6.3	-4.6
Manufacture of oil and coal derivatives	18 138	4.7	24 181	4.6	31 252	3.8	5.9	3.7	4.6
Chemical industry	56 280	14.6	48 918	9.4	37 509	4.5	-2.8	-3.7	-3.3
Plastic and rubber industry	16 174	4.2	21 739	4.2	42 195	5.1	6.1	9.9	8.3
Manufacture of products from non-metallic minerals	8 703	2.3	15 670	3.0	9 398	1.1	12.5	-7.0	0.6
Basic metal industries	7 267	1.9	30 507	5.9	21 979	2.6	33.2	-4.6	9.7
Metal products manufacturing	10 046	2.6	18 411	3.5	34 312	4.1	12.9	9.3	10.8
Machinery and equipment manufacturing	22 302	5.8	43 543	8.4	77 861	9.4	14.3	8.7	11.0
Manufacture of computer, communication, measuring and other equipment and electronic components and accessories	43 825	11.4	44 965	8.6	245 455	29.5	0.5	27.4	15.4
Manufacture of electricity generation accessories, electrical appliances and equipment	23 643	6.1	23 960	4.6	23 513	2.8	0.3	-0.3	0.0
Manufacture of transport equipment	89 466	23.2	160 018	30.7	138 310	16.6	12.3	-2.1	3.7
Manufacture of furniture, mattresses and blinds	2 155	0.6	2 179	0.4	10 591	1.3	0.2	25.3	14.2
Other manufacturing industries	10 301	2.7	11 033	2.1	36 208	4.3	1.4	18.5	11.0
<b>Total</b>	<b>384 951</b>	<b>100</b>	<b>520 492</b>	<b>100</b>	<b>832 675</b>	<b>100</b>	<b>6.2</b>	<b>6.9</b>	<b>6.6</b>

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

The manufacture of oil derivatives accounts for 3.8% of imported gross fixed capital formation in manufacturing. Its share of total gross fixed capital formation in the sector diminished from 4.7% in 2003 to 3.8% in 2015, with an average annual growth rate of just 4.6% in the period. Furthermore, this is a key subsector which produces large push effects and in which investment is mainly of Mexican origin. As noted in this section, most of the goods comprising gross fixed capital formation are produced in the country. However, imports play an important role in growth dynamics, since the activities with the greatest production linkages use a large proportion of imported capital stocks.

Table IV.12

Mexico: imported gross fixed capital formation, by manufacturing subsector, 2003, 2008 and 2015

	2003		2008		2015		Average annual growth rate (Percentages)		
	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	(millions of pesos)	(percentages)	2003-2008	2008-2015	2003-2015
Food industry	7 467	3.7	12 094	3.6	15 704	3.7	10.1	3.8	6.4
Drinks and tobacco industry	3 150	1.5	5 586	1.7	7 573	1.8	12.1	4.4	7.6
Manufacture of textile inputs and textile finishing	1 701	0.8	1 911	0.6	2 885	0.7	2.3	6.1	4.5
Manufacture of textile products other than apparel	536	0.3	763	0.2	1 059	0.3	7.3	4.8	5.8
Manufacture of apparel	570	0.3	739	0.2	1 116	0.3	5.4	6.1	5.8
Tanning and finishing of hides and leather and manufacture of products of hide and leather and substitutes thereof	264	0.1	435	0.1	617	0.1	10.5	5.1	7.3
Wood industry	144	0.1	260	0.1	360	0.1	12.5	4.7	7.9
Paper industry	3 672	1.8	4 968	1.5	6 875	1.6	6.2	4.7	5.4
Printing and allied industries	991	0.5	1 181	0.4	1 189	0.3	3.6	0.1	1.5
Manufacture of oil and coal derivatives	371	0.2	447	0.1	549	0.1	3.8	3.0	3.3
Chemical industry	8 970	4.4	13 401	4.0	20 682	4.9	8.4	6.4	7.2
Plastic and rubber industry	10 511	5.1	17 430	5.2	23 270	5.5	10.6	4.2	6.8
Manufacture of products from non-metallic minerals	4 233	2.1	8 147	2.4	8 882	2.1	14.0	1.2	6.4
Basic metal industries	7 841	3.8	15 694	4.7	22 017	5.2	14.9	5.0	9.0
Metal products manufacturing	6 072	3.0	11 793	3.5	17 014	4.0	14.2	5.4	9.0
Machinery and equipment manufacturing	22 032	10.8	39 909	11.9	50 179	11.8	12.6	3.3	7.1
Manufacture of computer, communication, measuring and other electronic equipment, components and accessories	27 000	13.2	41 601	12.4	64 081	15.1	9.0	6.4	7.5
Manufacture of electricity generation accessories, electrical appliances and equipment	9 092	4.5	15 734	4.7	22 658	5.3	11.6	5.3	7.9
Manufacture of transport equipment	83 323	40.8	133 569	39.8	143 260	33.8	9.9	1.0	4.6
Manufacture of furniture, mattresses and blinds	944	0.5	1 572	0.5	2 315	0.5	10.7	5.7	7.8
Other manufacturing industries	5 407	2.6	8 359	2.5	11 299	2.7	9.1	4.4	6.3

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

## E. Conclusions

This chapter shows that a review of the situation in individual countries supports the conclusions from the regional analysis. Investment has been on a rising trend both in the region and in the countries considered (Argentina, Chile, Colombia and Mexico), especially since the first decade of this century.

A breakdown by assets shows that construction predominates over machinery and equipment, although the latter is the component that has proved most dynamic over time.

Both stylized facts are positive for the region. Greater investment means greater growth opportunities. Increased dynamism in machinery and equipment lays the groundwork for growth through productivity and innovation, which could offset low and

sometimes negative rates of growth in total factor productivity. Regarding machinery and equipment, comprising essentially imported inputs, a prerequisite for improving productivity and innovation is to enhance the financing capacity and competitiveness of the economies of Latin America and the Caribbean.

In sectoral terms, private investment has traditionally been found to predominate over public investment, and the latter has been on a downward trend since the 1980s and, particularly, the 1990s. This means, first, that any effort to increase investment and improve its composition in terms of its productivity and innovation must be accompanied by an improvement in production capacity and incentives for private sector investment. Second, the decline in public investment is not a trend that ought to continue over time, as this would weaken the ability of governments in the region to provide public goods, with adverse effects on growth. Lastly, the analysis presented shows that public investment can generate crowding-in effects for private investment and that economic policies seeking to boost investment should therefore aim to strengthen the relationship between the two.

The estimates of investment determinants point to the two-way causality between investment and GDP. Investment not only determines economic growth via an increase in aggregate demand (multiplier effect), but also depends on economic growth. When growth rises, it is seen that firms invest more and create production capacity (accelerator effect). This twofold causality creates a major economic policy challenge, since maintaining growth and investment over time requires capacity usage to be coordinated with capacity creation.

Lastly, case studies show the importance of variables associated with the external sector, be they international interest rates, the real exchange rate, financial flows or the terms of trade. This means that for highly open economies like those of Latin America and the Caribbean, the performance of investment and growth becomes highly dependent on external conditions. This is particularly true in economies whose production structure and investment composition are heavily concentrated in sectors exposed to the vagaries of the international economy.

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## Annex IV.A1

### Econometric estimation of the ratio between gross fixed capital formation (investment) and GDP, 1950-2015

Estimation results for the two-lag vector autoregression between gross fixed capital formation and GDP

$$\begin{aligned}
 (1) \text{ LGFCF} &= + 0.6301 * \text{LGFCF}(-1) - 0.271 * \text{LGFCF}(-2) + 0.9226 * \text{LGDP}(-1) \\
 &(0.245) (0.243) (0.722) \\
 &+ 0.1839 * \text{LGDP}(-2) - 0.01101 * \text{Trend} - 13.05 + 0.3598 * I:1960 - 0.5822 * I:2002 \\
 &(0.719) (0.00868) (9.55) (0.131) (0.128) \\
 (2) \text{ LGDP} &= - 0.06892 * \text{LGFCF}(-1) + 0.03149 * \text{LGFCF}(-2) + 1.132 * \text{LGDP}(-1) \\
 &(0.0953) (0.0945) (0.281) \\
 &- 0.2043 * \text{LGDP}(-2) + 0.002536 * \text{Trend} + 2.776 + 0.0413 * I:1960 - 0.1545 * I:2002 \\
 &(0.279) (0.00338) (3.72) (0.0508) (0.0496)
 \end{aligned}$$

Joint exclusion test LGFCF(-1) in LGDP and LGFCF(-2) in LGDP:

$$\text{Chi}^2(2) = 0.53107 [0.7668]$$

#### Cointegration analysis, 1952-2015

Characteristic log-likelihood values for the range

195.6075 0

0.46541 215.6476 1

0.10849 219.3225 2

H0:range<= Trace tests [Prob]

0 47.430 [0.000] \*\*\*

1 7.3497 [0.319]

Cointegration equation

(3) LGFCF = 2.28LGDP - 0.03Trend

(0.10257) (0.002439)

#### Cointegrating factor vector and adjustment factors with their respective standard errors

Beta Standard error

LGFCF04 1.0000

LGDP04 -2.2810 0.10257

Trend 0.0300 0.002439

Alpha Standard error

LGFCF04 -0.73427 0.22043

LGDP04 -0.078808 0.086779

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from the National Institute of Statistics and Geography (INEGI).

**Note:** Standard errors are in brackets.  
\*\*\* denotes significance at 1% level.





## Statistical annex

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**Table A.1**  
Latin America and the Caribbean: main economic indicators

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
<b>Annual growth rates</b>									
Gross domestic product <sup>b</sup>	-1.8	6.2	4.5	2.8	2.9	1.2	-0.2	-1.1	1.2
Gross domestic product per capita <sup>b</sup>	-3.1	4.9	3.2	1.6	1.7	0.1	-1.2	-2.1	0.2
Consumer prices <sup>c</sup>	3.5	5.4	5.8	4.9	5.0	6.3	7.9	7.3	5.7
<b>Percentages</b>									
Urban open unemployment	9.1	8.4	7.7	7.2	7.1	6.9	7.3	8.9	9.3
Total gross external debt/GDP <sup>d,e</sup>	33.8	31.4	30.2	33.4	35.2	37.9	40.7	42.1	41.4
Total gross external debt/exports of goods and services <sup>d,e</sup>	111.9	108.3	98.6	107.1	117.6	134.1	155.1	166.9	165.7
<b>Millions of dollars</b>									
<b>Balance of payments<sup>e</sup></b>									
Current account balance	-31 510	-95 406	-114 206	-136 714	-163 870	-184 608	-174 010	-95 520	...
Exports of goods FOB	703 782	892 266	1 107 530	1 128 528	1 119 396	1 087 539	927 064	894 467	...
Imports of goods FOB	652 671	847 298	1 041 619	1 087 461	1 116 747	1 104 136	981 163	889 460	...
Services trade balance	-36 175	-52 095	-69 191	-74 916	-79 616	-76 202	-53 815	-44 050	...
Income balance	-104 826	-152 684	-175 529	-166 511	-151 253	-158 486	-134 786	-132 287	...
Net current transfers	58 379	62 863	64 603	63 646	64 352	68 078	69 844	75 810	...
Capital and financial balance <sup>f</sup>	79 662	182 744	220 342	193 567	179 627	221 974	146 247	114 323	...
Net foreign direct investment	73 232	114 088	147 018	149 976	146 158	140 847	134 698	130 545	...
Other capital movements	6 431	68 656	73 325	43 590	33 468	81 128	11 549	-16 221	...
Overall balance	48 152	85 797	106 136	56 853	15 757	37 368	-27 772	19 366	...
Variation in reserve assets <sup>g</sup>	-50 768	-87 214	-106 403	-57 930	-16 179	-37 813	27 055	-19 220	...
Other financing	2 616	1 418	254	1 081	422	445	717	-146	...
Net transfer of resources	-22 547	31 480	45 067	28 136	28 796	64 304	14 575	-17 649	...
International reserves	512 726	512 727	567 444	655 389	830 204	857 634	811 913	831 556	858 343
<b>Percentages of GDP</b>									
<b>Fiscal sector<sup>h</sup></b>									
Overall balance	-2.7	-1.9	-1.5	-1.8	-2.5	-2.8	-2.9	-3.0	-2.9
Primary balance	-0.9	-0.3	0.2	-0.2	-0.8	-1.0	-0.9	-0.9	-0.8
Total revenue	17.2	17.8	18.0	18.1	18.2	18.0	18.0	18.0	17.9
Tax revenue	13.9	14.3	14.7	15.0	15.1	15.2	15.5	15.5	15.4
Total expenditure	19.9	19.8	19.5	20.1	20.7	20.8	20.8	21.0	20.8
Capital expenditure	3.8	3.9	3.8	4.1	4.2	4.0	3.7	3.6	3.4
Central-government public debt <sup>e</sup>	32.0	30.0	29.4	30.5	31.8	33.2	35.9	37.4	38.8
Public debt of the non-financial public-sector <sup>e</sup>	34.7	30.0	31.7	32.9	34.2	35.8	38.6	40.8	42.1

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

<sup>a</sup> Preliminary figures.

<sup>b</sup> Based on official figures expressed in dollars at constant 2010 prices.

<sup>c</sup> Weighted average. Does not include the Bolivarian Republic of Venezuela.

<sup>d</sup> Based on figures denominated in dollars at current prices.

<sup>e</sup> Simple averages for 18 countries. Does not include Cuba or Bolivarian Republic of Venezuela.

<sup>f</sup> Includes errors and omissions.

<sup>g</sup> A minus sign (-) indicates an increase in reserve assets.

<sup>h</sup> Coverage corresponds to the central government. Simple averages for 17 countries. Does not include the Bolivarian Republic of Venezuela, Cuba or the Plurinational State of Bolivia.

**Table A.2**

Latin America and the Caribbean: gross domestic product in millions of dollars

*(Current prices)*

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean<sup>b</sup></b>	<b>4 202 195</b>	<b>5 080 283</b>	<b>5 961 161</b>	<b>6 057 700</b>	<b>6 235 344</b>	<b>6 335 304</b>	<b>5 031 313</b>	<b>4 852 595</b>	<b>5 380 411</b>
<b>Latin America<sup>b</sup></b>	<b>4 144 028</b>	<b>5 017 056</b>	<b>5 892 787</b>	<b>5 987 058</b>	<b>6 163 926</b>	<b>6 262 743</b>	<b>4 960 326</b>	<b>4 784 790</b>	<b>5 311 795</b>
Argentina	336 359	426 488	530 158	581 431	613 316	567 050	644 903	554 862	631 142
Bolivia (Plurinational State of)	17 340	19 650	23 963	27 084	30 659	32 996	33 000	33 941	37 509
Brazil	1 666 995	2 208 837	2 616 157	2 465 528	2 472 819	2 455 385	1 802 212	1 793 406	2 048 376
Chile	172 767	218 563	252 014	266 481	278 384	260 584	243 999	250 036	277 631
Colombia	231 578	286 104	334 454	370 575	381 867	381 112	293 482	282 856	313 901
Costa Rica	30 <sup>iii</sup>	37 269	42 263	46 473	49 745	50 578	54 776	56 989	57 550
Cuba	62 079	64 328	68 990	73 141	77 148	80 656	87 133	91 370	94 224
Dominican Republic	48 187	53 781	57 811	60 658	62 662	66 065	68 802	72 343	75 838
Ecuador	62 520	69 555	79 277	87 925	95 130	101 726	99 290	98 614	103 057
El Salvador	17 602	18 448	20 284	21 386	21 977	22 586	23 166	23 912	24 805
Guatemala	37 734	41 338	47 655	50 388	53 851	58 722	63 767	68 663	75 643
Haiti	6 502	6 708	7 474	7 820	8 387	8 661	8 355	7 598	8 546
Honduras	14 587	15 839	17 731	18 102	18 281	19 274	20 584	21 029	22 973
Mexico	900 045	1 057 801	1 180 487	1 201 094	1 274 444	1 314 569	1 170 567	1 077 782	1 154 703
Nicaragua	8 299	8 759	9 774	10 532	10 983	11 880	12 611	13 184	13 787
Panama	26 594	28 917	34 374	39 955	45 600	49 921	54 316	57 821	61 838
Paraguay	22 347	27 239	33 716	33 283	38 585	40 277	36 164	36 054	38 974
Peru	120 851	147 528	171 762	192 650	201 218	201 078	189 924	191 642	211 925
Uruguay	31 661	40 285	47 962	51 264	57 531	57 236	53 274	52 688	59 374
Venezuela (Bolivarian Republic of)	329 419	239 620	316 482	381 286	371 339	482 386	...	...	...
<b>The Caribbean</b>	<b>58 167</b>	<b>63 228</b>	<b>68 373</b>	<b>70 642</b>	<b>71 417</b>	<b>72 560</b>	<b>70 986</b>	<b>67 805</b>	<b>68 616</b>
Antigua and Barbuda	1 224	1 152	1 142	1 211	1 193	1 280	1 365	1 460	1 526
Bahamas	9 982	10 096	10 070	10 720	10 628	10 957	11 792	11 839	12 162
Barbados	4 480	4 530	4 661	4 656	4 612	4 608	4 584	4 529	4 682
Belize	1 337	1 397	1 487	1 574	1 613	1 704	1 779	1 820	1 879
Dominica	489	494	501	486	502	524	541	575	497
Grenada	771	771	779	800	843	911	997	1 062	1 127
Guyana	2 061	2 273	2 576	2 862	2 988	3 078	3 197	3 504	3 555
Jamaica	12 120	13 219	14 440	14 800	14 275	13 898	14 187	14 057	14 790
Saint Kitts and Nevis	767	767	819	800	849	917	936	958	992
Saint Lucia	1 263	1 382	1 438	1 436	1 470	1 517	1 622	1 636	1 738
Saint Vincent and the Grenadines	675	681	676	693	721	726	757	767	779
Suriname	3 875	4 368	4 422	4 980	5 146	5 241	4 826	3 278	2 768
Trinidad and Tobago	19 122	22 097	25 363	25 623	26 578	27 200	24 402	22 320	22 122

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.<sup>a</sup> Preliminary figures.<sup>b</sup> As from 2015, the total does not include the Bolivarian Republic of Venezuela.

**Table A.3**

Latin America and the Caribbean: annual growth rates in gross domestic product  
(Constant prices)

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean<sup>b</sup></b>	<b>-1.8</b>	<b>6.2</b>	<b>4.5</b>	<b>2.8</b>	<b>2.9</b>	<b>1.2</b>	<b>-0.2</b>	<b>-1.1</b>	<b>1.2</b>
<b>Latin America</b>	<b>-1.8</b>	<b>6.3</b>	<b>4.5</b>	<b>2.8</b>	<b>2.9</b>	<b>1.2</b>	<b>-0.2</b>	<b>-1.1</b>	<b>1.2</b>
Argentina	-5.9	10.1	6.0	-1.0	2.4	-2.5	2.7	-1.8	2.9
Bolivia (Plurinational State of)	3.4	4.1	5.2	5.1	6.8	5.5	4.9	4.3	4.2
Brazil	-0.1	7.5	4.0	1.9	3.0	0.5	-3.5	-3.5	1.0
Chile	-1.0	5.8	5.8	5.5	4.0	1.8	2.3	1.3	1.5
Colombia	1.2	4.3	7.4	3.9	4.6	4.7	3.0	2.0	1.8
Costa Rica	-1.0	5.0	4.3	4.8	2.3	3.5	3.6	4.2	3.2
Cuba	1.5	2.4	2.8	3.0	2.8	1.0	4.4	0.5	1.6
Dominican Republic	0.9	8.3	3.1	2.7	4.9	7.6	7.0	6.6	4.6
Ecuador	0.6	3.5	7.9	5.6	4.9	3.8	0.1	-1.6	3.0
El Salvador	-2.1	2.1	3.8	2.8	2.4	2.0	2.4	2.6	2.3
Guatemala	0.5	2.9	4.2	3.0	3.7	4.2	4.1	3.1	2.8
Haiti	3.1	-5.5	5.5	2.9	4.2	2.8	1.2	1.5	1.2
Honduras	-2.4	3.7	3.8	4.1	2.8	3.1	3.8	3.8	4.8
Mexico	-5.3	5.1	3.7	3.6	1.4	2.8	3.3	2.9	2.0
Nicaragua	-3.3	4.4	6.3	6.5	4.9	4.8	4.8	4.7	4.9
Panama	1.6	5.8	11.8	9.2	9.6	5.1	5.6	5.0	5.4
Paraguay	-0.3	11.1	4.2	-0.5	8.4	4.9	3.1	4.3	4.8
Peru	1.1	8.3	6.3	6.1	5.9	2.4	3.3	4.0	2.5
Uruguay	4.2	7.8	5.2	3.5	4.6	3.2	0.4	1.7	2.7
Venezuela (Bolivarian Republic of)	-3.2	-1.5	4.2	5.6	1.3	-3.9	-5.7	...	...
<b>The Caribbean</b>	<b>-3.5</b>	<b>1.5</b>	<b>1.1</b>	<b>1.3</b>	<b>0.9</b>	<b>0.7</b>	<b>1.1</b>	<b>-1.8</b>	<b>0.0</b>
Antigua and Barbuda	-12.1	-7.2	-2.1	3.5	-0.1	5.1	4.1	5.3	3.1
Bahamas	-4.2	1.5	0.6	3.1	-0.4	-0.1	1.0	-1.7	1.4
Barbados	-4.0	0.3	0.7	0.3	0.0	0.0	0.9	2.0	0.6
Belize	0.8	3.3	2.1	3.7	0.7	4.0	3.8	-0.5	0.7
Dominica	-1.2	0.7	-0.2	-1.1	-0.6	4.4	-2.6	2.5	-9.5
Grenada	-6.6	-0.5	0.8	-1.2	2.4	7.3	6.4	3.7	5.1
Guyana	3.6	4.1	5.2	5.3	5.0	3.9	3.1	3.4	2.2
Jamaica	-4.3	-1.5	1.7	-0.6	0.5	0.7	0.9	1.4	0.5
Saint Kitts and Nevis	-3.4	-1.5	1.8	-0.7	5.5	6.1	2.1	2.2	1.3
Saint Lucia	-1.1	0.2	3.5	-0.6	-1.3	3.6	-0.9	3.4	3.8
Saint Vincent and the Grenadines	-2.1	-3.4	-0.4	1.4	1.8	1.0	1.8	1.3	0.5
Suriname	3.0	5.2	5.8	2.7	2.9	0.3	-2.7	-5.1	1.5
Trinidad and Tobago	-4.4	3.3	-0.3	1.3	1.0	-0.3	1.5	-6.0	-2.3

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

<sup>a</sup> Preliminary figures.

<sup>b</sup> Based on official figures expressed in dollars at constant 2010 prices.

**Table A.4**  
Latin America and the Caribbean: per capita gross domestic product  
(Annual growth rates)

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean<sup>b</sup></b>	<b>-3.1</b>	<b>4.9</b>	<b>3.2</b>	<b>1.6</b>	<b>1.7</b>	<b>0.1</b>	<b>-1.2</b>	<b>-2.1</b>	<b>0.2</b>
<b>Latin America</b>	<b>-3.0</b>	<b>5.0</b>	<b>3.3</b>	<b>1.6</b>	<b>1.7</b>	<b>0.1</b>	<b>-1.2</b>	<b>-2.1</b>	<b>0.2</b>
Argentina	-6.9	9.0	4.9	-2.1	1.3	-3.5	1.7	-2.8	1.9
Bolivia (Plurinational State of)	1.6	2.4	3.5	3.4	5.1	3.8	3.2	2.7	2.6
Brazil	-1.2	6.4	2.9	0.9	2.0	-0.4	-4.4	-4.3	0.2
Chile	-2.0	4.7	4.8	4.5	3.0	0.9	1.4	0.4	0.7
Colombia	0.1	3.2	6.2	2.8	3.5	3.7	2.0	1.1	0.9
Costa Rica	-2.3	3.6	3.0	3.6	1.1	2.4	2.6	3.1	2.2
Cuba	1.4	2.3	2.7	2.8	2.6	0.9	4.3	0.5	1.6
Dominican Republic	-0.4	6.9	1.8	1.4	3.6	6.3	5.8	5.4	3.4
Ecuador	-1.1	1.8	6.2	4.0	3.3	2.2	-1.4	-3.0	1.5
El Salvador	-2.5	1.7	3.4	2.4	2.0	1.6	2.0	2.2	1.9
Guatemala	-1.7	0.6	1.9	0.8	1.5	2.1	2.1	1.1	0.9
Haiti	1.5	-6.9	4.0	1.4	2.8	1.4	-0.1	0.1	-0.1
Honduras	-4.3	1.8	2.0	2.3	1.1	1.4	2.2	2.2	3.3
Mexico	-6.8	3.5	2.2	2.2	0.0	1.4	1.9	1.6	0.7
Nicaragua	-4.5	3.1	5.0	5.2	3.7	3.6	3.6	3.5	3.7
Panama	-0.1	4.0	9.9	7.4	7.8	3.4	3.9	3.4	3.7
Paraguay	-1.6	9.7	2.8	-1.9	7.0	3.5	1.8	3.0	3.5
Peru	-0.1	7.0	4.9	4.7	4.4	1.0	1.9	2.7	1.3
Uruguay	3.9	7.5	4.8	3.2	4.3	2.9	0.0	1.3	2.3
Venezuela (Bolivarian Republic of)	-4.7	-2.9	2.7	4.2	0.0	-5.1	-6.9	...	...
<b>The Caribbean</b>	<b>-4.2</b>	<b>0.8</b>	<b>0.5</b>	<b>0.7</b>	<b>0.2</b>	<b>0.1</b>	<b>0.5</b>	<b>-2.4</b>	<b>-0.5</b>
Antigua and Barbuda	-13.1	-8.3	-3.2	2.4	-1.2	4.0	3.0	4.3	2.0
Bahamas	-5.8	-0.1	-1.0	1.6	-1.8	-1.4	-0.2	-2.8	0.4
Barbados	-4.4	-0.1	0.3	-0.1	-0.3	-0.3	0.6	1.7	0.3
Belize	-1.7	0.9	-0.3	1.4	-1.5	1.8	1.6	-2.6	-1.4
Dominica	-1.4	0.4	-0.6	-1.5	-1.1	3.8	-3.1	2.0	-10.0
Grenada	-6.9	-0.9	0.4	-1.5	1.9	6.9	6.0	3.3	4.6
Guyana	3.7	4.0	4.8	4.7	4.3	3.2	2.4	2.7	1.6
Jamaica	-4.8	-1.9	1.3	-1.0	0.1	0.3	0.5	1.0	0.2
Saint Kitts and Nevis	-4.4	-2.5	0.7	-1.8	4.3	4.9	1.1	1.2	0.3
Saint Lucia	-2.1	-0.7	2.8	-1.2	-1.8	3.1	-1.4	2.9	3.3
Saint Vincent and the Grenadines	-2.2	-3.4	-0.4	1.4	1.8	0.9	1.7	1.1	0.3
Suriname	1.9	4.1	4.8	1.6	1.9	-0.7	-3.5	-6.0	0.6
Trinidad and Tobago	-4.8	2.8	-0.8	0.8	0.5	-0.7	1.1	-6.3	-2.6

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

<sup>a</sup> Preliminary figures.

<sup>b</sup> Based on official figures expressed in dollars at constant 2010 prices.

**Table A.5**

Latin America and the Caribbean: year-on-year growth rates in gross domestic product<sup>a</sup>  
(Constant prices)

	2016				2017				2018
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Argentina	1.0	-3.6	-3.3	-1.1	0.6	3.0	3.8	3.9	3.6
Belize	0.3	0.1	-1.1	-1.4	0.8	-0.2	-0.8	3.1	1.8
Bolivia (Plurinational State of)	5.4	3.2	4.9	3.7	3.3	3.8	4.3	5.2	...
Brazil	-5.2	-3.4	-2.7	-2.5	0.0	0.4	1.4	2.1	1.2
Chile	2.7	0.9	1.2	0.3	-0.4	0.5	2.5	3.3	4.2
Colombia	3.2	2.9	0.6	1.3	1.3	1.6	2.5	1.8	2.2
Costa Rica	4.2	4.3	3.5	4.6	3.6	3.4	2.7	3.1	2.5
Dominican Republic	6.2	8.6	6.4	5.3	5.5	3.1	3.1	6.5	6.4
Ecuador	-4.0	-1.7	-1.5	1.0	2.7	3.0	3.3	3.0	1.9
El Salvador	2.1	2.4	2.4	2.6	2.2	2.3	2.4	...	...
Guatemala	3.0	3.6	2.6	3.2	3.2	2.2	2.7	2.9	...
Honduras	3.8	4.0	3.0	4.1	5.6	3.5	5.9	4.2	3.0
Jamaica <sup>b</sup>	0.9	1.5	2.1	0.1	0.1	-0.1	0.8	1.1	...
Mexico	3.0	3.3	2.0	3.3	3.3	1.8	1.6	1.5	1.3
Nicaragua	3.1	6.8	4.4	4.4	7.5	4.6	3.2	4.3	...
Panama	8.6	6.4	6.4	5.7	6.1	5.2	5.3	4.9	4.2
Paraguay	0.4	7.9	4.1	4.9	6.9	2.0	4.7	5.4	4.1
Peru	4.5	4.0	4.4	3.0	2.3	2.6	2.9	2.2	3.2
Trinidad and Tobago	-5.3	-8.1	-12.1	-7.0	-7.0	-3.3	...	...	...
Uruguay	0.0	1.2	...	3.5	4.1	2.8	1.9	2.0	2.2

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

<sup>a</sup> Based on figures in local currency at constant prices.

<sup>b</sup> Gross domestic product measured in basic prices.

**Table A.6**

Latin America and the Caribbean: gross fixed capital formation<sup>a</sup>  
(Percentages of GDP)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>
<b>Latin America and the Caribbean</b>	<b>20.3</b>	<b>19.1</b>	<b>20.2</b>	<b>21.0</b>	<b>21.3</b>	<b>21.2</b>	<b>20.7</b>	<b>19.4</b>	<b>18.8</b>	<b>17.7</b>
Argentina	17.6	14.5	16.6	18.4	17.3	17.3	16.5	16.7	16.1	17.4
Bahamas	28.1	26.4	26.2	27.6	30.1	26.9	30.6	24.4	25.1	27.7
Belize	24.9	20.1	15.3	14.9	15.7	18.3	20.2	23.8	25.1	...
Bolivia (Plurinational State of)	16.1	16.1	16.6	19.5	19.0	19.9	20.7	20.7	20.6	22.1
Brazil	19.1	18.7	20.5	21.1	20.9	21.4	20.4	18.2	16.9	16.5
Chile	23.3	20.7	21.9	23.7	25.1	24.7	23.1	22.5	22.1	21.5
Colombia	21.6	20.3	21.1	23.4	23.3	23.6	25.2	24.2	23.8	23.5 <sup>c</sup>
Costa Rica	22.4	19.8	19.7	19.5	20.4	19.9	19.8	19.7	19.7	18.5
Dominican Republic	27.5	23.3	25.2	23.9	23.1	21.5	22.5	25.3	26.4	25.4
Ecuador	24.1	23.1	24.6	26.1	27.3	28.7	28.3	26.5	24.8	23.9
El Salvador	19.8	16.9	14.8	15.7	15.7	16.4	15.1	15.1	15.3	15.0
Guatemala	18.0	15.6	14.8	15.2	15.3	15.0	15.0	15.3	15.2	15.3
Haiti	25.6	25.7	25.4	...	...	...	...	...	...	...
Honduras	33.3	22.1	21.6	24.3	24.2	23.1	22.5	24.4	21.9	22.4
Mexico	23.2	21.7	21.6	22.5	22.7	21.7	21.7	22.1	21.7	20.9
Nicaragua	26.4	20.6	21.2	24.3	27.5	27.6	27.3	31.5	31.1	30.2
Panama	29.5	28.2	30.2	33.7	37.3	41.0	42.9	...	...	...
Paraguay	15.2	14.7	15.9	16.9	15.8	15.5	16.1	16.0	16.5	17.7
Peru	21.9	20.9	23.5	24.3	26.3	26.2	25.1	22.5	20.7	20.4
Uruguay	19.6	17.7	19.1	19.4	22.1	22.0	21.8	19.7	19.1	15.7
Venezuela (Bolivarian Republic of)	20.7	19.6	18.7	18.7	21.9	19.6	17.0	17.5	19.3	...

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

<sup>a</sup> Based on official figures expressed in dollars at constant 2010 prices.

<sup>b</sup> Preliminary figures.

<sup>c</sup> The figures correspond to gross capital formation.

**Table A.7**  
Latin America and the Caribbean: balance of payments  
(Millions of dollars)

	Exports of goods FOB			Exports of services			Imports of goods FOB			Imports of services		
	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean</b>	<b>927 064</b>	<b>894 467</b>	...	<b>153 891</b>	<b>152 137</b>	...	<b>981 163</b>	<b>889 460</b>	...	<b>207 705</b>	<b>196 187</b>	...
<b>Latin America</b>	<b>909 901</b>	<b>881 260</b>	...	<b>141 281</b>	<b>142 716</b>	...	<b>957 084</b>	<b>869 606</b>	...	<b>198 767</b>	<b>188 935</b>	...
<b>Latin America<sup>b</sup></b>	<b>872 665</b>	<b>853 857</b>	<b>953 090</b>	<b>140 118</b>	<b>142 716</b>	<b>153 040</b>	<b>923 776</b>	<b>853 236</b>	<b>933 205</b>	<b>186 604</b>	<b>180 776</b>	<b>195 971</b>
Argentina	56 809	57 930	58 446	13 214	12 801	14 196	57 594	53 505	63 993	19 029	20 992	24 083
Bolivia (Plurinational State of)	8 684	7 000	7 752	1 243	1 245	1 399	9 072	7 888	8 621	2 835	2 858	3 057
Brazil	190 092	184 453	217 243	33 778	33 300	34 478	172 422	139 416	153 215	70 723	63 747	68 329
Chile	62 035	60 733	69 230	9 520	9 452	10 098	58 609	55 293	61 308	13 095	12 732	13 156
Colombia	38 572	34 079	39 482	7 426	7 771	8 342	52 051	43 239	44 241	12 200	11 287	12 525
Costa Rica	9 452	10 100	10 808	7 694	8 537	8 750	14 059	14 526	15 150	3 085	3 411	3 657
Dominican Republic	9 442	9 840	10 121	7 542	8 309	8 791	16 907	17 399	17 700	3 174	3 370	3 509
Ecuador	19 049	17 425	19 621	2 391	2 140	2 300	20 699	15 858	19 298	3 197	3 194	3 296
El Salvador	4 437	4 321	4 662	2 478	2 556	2 558	9 407	8 954	9 499	1 531	1 773	1 867
Guatemala	10 824	10 581	11 118	2 823	2 784	2 836	16 381	15 767	17 110	3 162	3 026	3 272
Haiti	1 024	995	980	724	607	592	3 449	3 183	3 616	1 042	1 013	1 074
Honduras	8 226	7 940	8 675	1 212	1 269	1 318	11 175	10 559	11 324	1 657	1 732	1 907
Mexico	380 976	374 304	409 775	22 903	24 597	27 185	395 573	387 369	420 765	32 641	33 479	36 970
Nicaragua	3 859	3 772	4 143	1 253	1 394	1 557	6 405	6 384	6 613	1 022	1 000	1 044
Panama	12 765	11 705	12 474	14 337	14 613	15 541	22 487	20 513	21 912	4 758	4 423	4 583
Paraguay	10 898	11 155	12 082	860	883	937	10 317	9 789	11 524	1 104	1 104	1 210
Peru	34 414	37 020	44 918	6 236	6 312	7 394	37 331	35 132	38 652	8 276	8 287	8 828
Uruguay	11 106	10 504	11 561	4 485	4 145	4 768	9 838	8 463	8 665	4 074	3 347	3 605
Venezuela (Bolivarian Republic of)	37 236	27 403	...	1 163	0	...	33 308	16 370	...	12 163	8 159	...
<b>The Caribbean</b>	<b>17 162</b>	<b>13 207</b>	...	<b>12 609</b>	<b>9 422</b>	...	<b>24 079</b>	<b>19 853</b>	...	<b>8 939</b>	<b>7 253</b>	...
Antigua and Barbuda	66	78	...	968	955	...	460	503	...	388	424	...
Bahamas	527	...	...	2 737	...	...	2 953	...	...	1 271	...	...
Barbados	483	517	...	1 471	1 565	...	1 537	1 540	...	494	495	...
Belize	538	...	...	496	...	...	961	...	...	221	...	...
Dominica	34	26	...	234	255	...	188	188	...	126	126	...
Grenada	41	38	...	537	555	...	327	315	...	238	238	...
Guyana	1 170	1 434	1 042	143	166	31	1 475	1 341	1 027	423	447	62
Jamaica	1 255	1 195	646	3 059	3 218	1 793	4 449	4 169	2 386	2 161	2 167	1 090
Saint Kitts and Nevis	49	51	...	482	467	...	302	308	...	216	206	...
Saint Lucia	187	166	...	853	811	...	502	576	...	330	320	...
Saint Vincent and the Grenadines	46	47	...	233	239	...	295	295	...	117	119	...
Suriname	1 652	1 440	1 464	204	166	101	2 028	1 197	898	674	502	374
Trinidad and Tobago	11 114	8 214	...	1 192	1 025	...	8 602	9 422	...	2 277	2 210	...

Table A.7 (continued)

	Goods and services balance			Income balance			Current transfers balance			Current account balance		
	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean</b>	<b>-109 077</b>	<b>-39 043</b>	...	<b>-134 786</b>	<b>-132 287</b>	...	<b>69 844</b>	<b>75 810</b>	...	<b>-174 010</b>	<b>-95 520</b>	...
<b>Latin America</b>	<b>-105 831</b>	<b>-34 566</b>	...	<b>-132 839</b>	<b>-130 719</b>	...	<b>66 989</b>	<b>72 929</b>	...	<b>-171 681</b>	<b>-92 356</b>	...
<b>Latin America<sup>b</sup></b>	<b>-97 596</b>	<b>-37 440</b>	<b>-23 046</b>	<b>-125 178</b>	<b>-123 801</b>	<b>-139 761</b>	<b>67 144</b>	<b>72 755</b>	<b>77 448</b>	<b>-155 630</b>	<b>-88 486</b>	<b>-85 359</b>
Argentina	-6 600	-3 765	-15 434	-12 105	-12 105	-16 343	1 083	1 176	453	-17 622	-14 693	-31 324
Bolivia (Plurinational State of)	-1 980	-2 502	-2 526	-1 127	-621	-1 122	1 171	1 191	1 273	-1 936	-1 932	-2 375
Brazil	-19 276	14 590	30 178	-42 910	-41 080	-42 572	2 751	2 944	2 632	-59 434	-23 546	-9 762
Chile	-149	2 160	4 863	-7 219	-7 045	-10 802	1 858	1 385	1 793	-5 511	-3 499	-4 146
Colombia	-18 252	-12 676	-8 942	-5 727	-5 227	-8 089	5 430	5 878	6 594	-18 549	-12 025	-10 437
Costa Rica	2	700	751	-2 380	-2 482	-2 949	457	456	507	-1 921	-1 326	-1 692
Ecuador	-2 455	513	-674	-1 734	-1 851	-2 332	2 078	2 780	2 751	-2 111	1 442	-255
El Salvador	-4 023	-3 850	-4 145	-1 093	-1 229	-1 448	4 368	4 580	5 092	-748	-500	-501
Guatemala	-5 896	-5 428	-6 428	-1 399	-1 507	-1 419	7 199	7 959	8 981	-96	1 023	1 134
Haiti	-2 743	-2 595	-3 117	41	48	54	2 437	2 464	2 832	-266	-83	-231
Honduras	-3 394	-3 082	-3 238	-1 426	-1 508	-1 635	3 842	4 003	4 493	-978	-587	-380
Mexico	-24 335	-21 948	-20 775	-29 570	-27 900	-26 675	24 131	26 527	28 095	-29 775	-23 321	-19 354
Nicaragua	-2 314	-2 218	-1 957	-346	-357	-390	1 515	1 586	1 653	-1 145	-989	-694
Panama	-143	1 382	1 521	-4 025	-4 385	-4 431	-106	-157	-126	-4 274	-3 160	-3 036
Paraguay	337	1 146	285	-1 311	-1 505	-1 406	672	775	823	-301	416	-298
Peru	-4 956	-86	4 832	-7 544	-9 184	-11 263	3 331	3 967	3 712	-9 169	-5 303	-2 720
Dominican Republic	-3 097	-2 619	-2 297	-2 936	-3 253	-3 489	4 753	5 058	5 621	-1 280	-815	-165
Uruguay	1 679	2 839	4 059	-2 367	-2 611	-3 450	176	183	270	-512	410	879
Venezuela (Bolivarian Republic of)	-8 235	2 874	...	-7 661	-6 918	...	-155	174	...	-16 051	-3 870	...
<b>The Caribbean</b>	<b>-3 246</b>	<b>-4 477</b>	...	<b>-1 947</b>	<b>-1 567</b>	...	<b>2 854</b>	<b>2 881</b>	...	<b>-2 330</b>	<b>-3 164</b>	...
Antigua and Barbuda	185	106	...	-81	-98	...	-11	-7	...	93	2	...
Bahamas	-960	...	...	-403	...	...	-46	0	...	-1 409	...	...
Barbados	-78	47	...	-213	-221	...	2	-33	...	-289	-207	...
Belize	-149	...	...	-95	...	...	70	...	...	-175	...	...
Dominica	-47	-33	...	-19	-20	...	55	57	...	-10	5	...
Grenada	13	40	...	-58	-61	...	7	-12	...	-38	-34	...
Guyana	-585	-188	-161	25	-5	-15	417	320	102	-144	128	75
Jamaica	-2 296	-1 922	-1 037	-440	-570	-285	2 306	2 389	1 192	-430	-103	-130
Saint Kitts and Nevis	13	4	...	-81	-81	...	-17	-26	...	-85	-102	...
Saint Lucia	208	81	...	-111	-118	...	15	6	...	112	-31	...
Saint Vincent and the Grenadines	-132	-127	...	-14	-25	...	33	30	...	-113	-122	...
Suriname	-846	-92	293	-27	-111	-108	65	102	74	-798	-102	258
Trinidad and Tobago	1 428	-2 392	...	-429	-258	...	-42	53	...	957	-2 598	...

Table A.7 (concluded)

	Capital and financial balance <sup>c</sup>			Overall balance			Reserve assets (variation) <sup>d</sup>			Other financing		
	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>
<b>Latin America and the Caribbean</b>	<b>146 247</b>	<b>114 323</b>	...	<b>-27 772</b>	<b>19 366</b>	...	<b>27 055</b>	<b>-19 220</b>	...	<b>717</b>	<b>-146</b>	...
<b>Latin America</b>	<b>145 262</b>	<b>111 934</b>	...	<b>-26 419</b>	<b>19 577</b>	...	<b>25 745</b>	<b>-19 379</b>	...	<b>674</b>	<b>-198</b>	...
<b>Latin America<sup>b</sup></b>	<b>133 262</b>	<b>114 872</b>	<b>104 234</b>	<b>-22 368</b>	<b>26 385</b>	<b>18 876</b>	<b>21 694</b>	<b>-26 187</b>	<b>-19 419</b>	<b>674</b>	<b>-198</b>	<b>543</b>
Argentina	12 716	29 004	45 880	-4 906	14 311	14 556	4 906	-14 311	-14 556	0	0	0
Bolivia (Plurinational State of)	316	-1 114	2 363	-1 620	-3 046	-12	1 620	3 046	12	0	0	0
Brazil	61 003	32 783	14 854	1 569	9 237	5 093	-1 569	-9 237	-5 093	0	0	0
Chile	5 722	5 305	1 397	211	1 805	-2 750	-211	-1 805	2 750	0	0	0
Colombia	18 964	12 190	10 982	415	165	545	-415	-165	-545	0	0	0
Costa Rica	2 565	1 091	1 273	644	-235	-419	-644	235	419	0	0	0
Dominican Republic	2 051	1 707	894	770	892	729	-407	-780	-731	-363	-112	2
Ecuador	622	-236	-1 603	-1 489	1 207	-1 859	1 453	-1 763	1 808	36	556	51
El Salvador	861	952	809	113	453	308	-113	-453	-308	0	0	0
Guatemala	572	368	1 432	475	1 392	2 566	-475	-1 392	-2 566	0	0	0
Haiti	43	164	272	-223	82	41	141	-142	-207	82	61	166
Honduras	1 269	637	1 264	290	50	885	-303	-66	-884	13	16	-1
Mexico	14 108	23 186	14 589	-15 667	-136	-4 765	15 667	136	4 765	0	0	0
Nicaragua	1 342	933	994	197	-57	300	-197	57	-300	0	0	0
Panama	3 290	4 487	1 740	-984	1 327	-1 296	78	-609	971	907	-718	325
Paraguay	-258	542	1 175	-560	957	877	560	-957	-877	0	0	0
Peru	9 242	5 472	4 348	73	168	1 629	-73	-168	-1 629	0	0	0
Uruguay	-1 165	-2 599	1 570	-1 677	-2 189	2 449	1 677	2 189	-2 449	0	0	0
Venezuela (Bolivarian Republic of)	12 000	-2 938	...	-4 051	-6 808	...	4 051	6 808	...	0	0	...
<b>The Caribbean</b>	<b>986</b>	<b>2 390</b>	...	<b>-1 353</b>	<b>-211</b>	...	<b>1 310</b>	<b>159</b>	...	<b>43</b>	<b>51</b>	...
Antigua and Barbuda	-35	-27	...	58	-24	...	-58	24	...	0	0	...
Bahamas	1 437	...	...	28	0	...	-28	0	...	0	0	...
Barbados	226	84	...	-63	-123	...	63	123	...	0	...	...
Belize	71	...	...	-104	...	...	104	...	...	0	...	...
Dominica	36	91	...	26	96	...	-26	-96	...	0	0	...
Grenada	67	44	...	29	10	...	-29	-10	...	0	0	...
Guyana	169	-181	-119	25	-53	-45	-68	2	19	43	51	25
Jamaica	870	482	15	440	379	-115	-440	-379	115	...	...	...
Saint Kitts and Nevis	47	147	...	-38	44	...	38	-44	...	0	0	...
Saint Lucia	-51	18	...	61	-13	...	-61	13	...	0	0	...
Saint Vincent and the Grenadines	128	142	...	15	20	...	-15	-20	...	0	0	...
Suriname	542	-540	-107	-266	-78	-14	266	78	14	0	...	...
Trinidad and Tobago	-2 521	2 130	...	-1 564	-467	...	1 564	467	...	0	...	...

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

<sup>a</sup> Preliminary figures.

<sup>b</sup> Does not include the Bolivarian Republic of Venezuela.

<sup>c</sup> Includes errors and omissions.

<sup>d</sup> A minus sign (-) indicates an increase in reserve assets.

**Table A.8**  
Latin America and the Caribbean: international trade of goods  
(Index 2010=100)

	Exports of goods FOB								
	Value			Volume			Unit value		
	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>	2015	2016	2017 <sup>a</sup>
<b>Latin America</b>	<b>104.0</b>	<b>100.8</b>	<b>109.0</b>	<b>116.5</b>	<b>118.9</b>	<b>123.5</b>	<b>89.3</b>	<b>84.7</b>	<b>91.2</b>
Argentina	83.2	84.8	85.6	84.1	90.1	89.5	98.9	94.1	95.6
Bolivia (Plurinational State of)	135.6	109.3	121.1	130.3	127.3	119.3	104.1	85.9	101.5
Brazil	94.4	91.6	107.9	112.1	115.9	124.0	84.2	79.0	87.0
Chile	87.2	85.4	97.4	110.7	110.3	108.3	78.8	77.4	89.9
Colombia	94.6	83.6	96.9	145.1	146.9	143.6	65.2	56.9	67.5
Costa Rica	126.2	134.8	144.2	134.6	146.2	152.5	93.7	92.2	94.6
Dominican Republic	138.5	144.4	148.5	150.0	159.8	160.2	92.3	90.3	92.7
Ecuador	105.0	96.1	108.2	125.2	122.7	121.2	83.9	78.3	89.3
El Salvador	127.8	124.4	134.2	119.8	119.0	128.6	106.7	104.5	104.3
Guatemala	126.8	124.0	130.3	141.7	140.3	146.2	89.5	88.3	89.1
Haiti	181.8	176.6	174.0	176.0	177.6	167.3	103.2	99.4	104.0
Honduras	131.3	126.7	138.5	155.4	149.8	158.8	84.5	84.6	87.2
Mexico	127.5	125.2	137.1	130.3	133.8	140.6	97.8	93.6	97.5
Nicaragua	141.6	138.4	152.0	132.5	136.7	147.4	106.8	101.2	103.1
Panama	100.7	92.3	98.4	99.6	94.5	99.4	101.1	97.7	99.0
Paraguay	104.0	106.5	115.3	107.9	113.8	121.6	96.4	93.6	94.8
Peru	96.1	103.4	125.5	108.3	120.9	129.8	88.7	85.5	96.7
Uruguay	138.3	130.8	144.0	130.8	131.7	154.2	105.7	99.3	93.3
Venezuela (Bolivarian Republic of)	55.8	41.0	47.9	80.0	69.5	67.7	69.6	59.0	70.8
	Imports of goods FOB								
	Value			Volume			Unit value		
	2015	2016	2017	2015	2016	2017	2015	2016	2017 <sup>a</sup>
<b>Latin America</b>	<b>115.8</b>	<b>105.2</b>	<b>114.2</b>	<b>114.6</b>	<b>108.9</b>	<b>114.3</b>	<b>101.0</b>	<b>96.6</b>	<b>99.9</b>
Argentina	106.3	98.8	118.2	108.1	111.9	128.1	98.4	88.3	92.2
Bolivia (Plurinational State of)	162.3	141.1	154.2	119.9	109.3	116.6	135.4	129.1	132.0
Brazil	94.3	76.3	83.8	95.7	85.0	89.8	98.5	89.7	93.3
Chile	106.1	100.1	111.0	117.5	117.9	124.6	90.3	84.9	89.1
Colombia	135.5	112.6	115.2	143.3	134.8	136.1	94.6	83.5	84.6
Costa Rica	127.3	131.6	137.2	132.1	138.3	137.9	96.4	95.1	99.5
Dominican Republic	111.2	114.4	116.4	117.8	125.2	119.5	94.3	91.4	97.4
Ecuador	105.4	80.7	98.3	100.4	78.0	91.3	104.9	103.5	107.6
El Salvador	125.5	119.5	126.7	124.2	124.1	129.0	101.0	96.3	98.2
Guatemala	127.9	123.1	133.6	139.0	146.3	149.2	92.0	84.2	89.6
Haiti	114.6	105.8	120.1	97.0	91.8	103.2	118.1	115.2	116.5
Honduras	125.5	118.5	127.1	125.5	122.5	123.6	100.0	96.8	102.8
Mexico	131.1	128.4	139.4	124.6	123.1	130.4	105.2	104.3	106.9
Nicaragua	141.9	141.5	146.5	150.4	160.8	157.2	94.3	87.9	93.2
Panama	130.6	119.1	127.3	125.5	114.7	118.3	104.1	103.8	107.5
Paraguay	107.5	102.0	120.1	106.5	103.1	116.5	101.0	99.0	103.1
Peru	129.6	121.9	134.1	128.1	124.3	129.8	101.1	98.1	103.4
Uruguay	115.0	98.9	101.3	124.5	117.1	117.3	92.4	84.5	86.3
Venezuela (Bolivarian Republic of)	79.8	39.1	26.1	75.4	36.5	23.6	105.8	107.4	110.5

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

<sup>a</sup> Preliminary figures.

**Table A.9**

Latin America: exports of goods, FOB

*(Millions of dollars)*

	2016				2017				2018	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America</b>	<b>196 554</b>	<b>222 315</b>	<b>223 853</b>	<b>227 283</b>	<b>218 121</b>	<b>355 238</b>	<b>239 813</b>	<b>245 626</b>	<b>242 587</b>	<b>202 227</b>
Argentina	12 444	15 427	15 803	14 205	12 752	15 503	15 774	14 398	14 410	15 416
Bolivia (Plurinational State of)	1 592	1 726	1 923	1 759	1 652	1 922	2 165	2 006	2 078	2 436
Brazil	40 375	49 448	48 925	45 706	50 342	57 110	56 776	53 015	54 264	59 231
Chile	15 060	14 809	14 471	16 393	15 708	133 649	17 769	19 215	19 702	19 507
Colombia	6 583	7 996	8 109	9 081	8 798	9 064	9 666	10 353	9 693	7 466 <sup>a</sup>
Costa Rica	2 387	2 676	2 372	2 480	2 544	2 852	2 612	2 599	2 731	1 984 <sup>a</sup>
Dominican Republic	2 272	2 508	2 624	2 457	2 401	2 612	2 463	2 644	2 593	...
Ecuador	3 627	4 298	4 235	4 638	4 721	4 696	4 625	5 080	5 239	3 766 <sup>a</sup>
El Salvador	1 299	1 467	1 375	1 278	1 438	1 448	1 502	1 373	1 482	1 033 <sup>a</sup>
Guatemala	2 615	2 729	2 569	2 537	2 908	2 827	2 634	2 614	2 846	1 852 <sup>a</sup>
Honduras	1 961	2 211	1 903	1 865	2 221	2 341	2 161	1 952	2 291	...
Mexico	85 147	93 746	94 919	100 127	94 709	102 657	101 851	110 183	105 242	76 358 <sup>a</sup>
Nicaragua	555	619	562	490	740	715	592	501	733	486 <sup>a</sup>
Panama	2 407	3 133	3 180	2 983	3 064	3 297	2 899	3 215	3 466	...
Paraguay	2 203	2 377	2 241	1 681	2 462	1 859	2 345	2 014	2 304	2 605
Peru	7 756	8 365	9 861	11 038	10 164	10 519	11 766	12 468	11 785	8 033 <sup>a</sup>
Uruguay	1 422	1 931	1 929	1 715	1 498	2 166	2 212	1 996	1 728	2 054
Venezuela (Bolivarian Republic of)	6 851	6 851	6 851	6 851	...	...	...	...	...	...

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.<sup>a</sup> Figures as of May.

**Table A.10**

Latin America and the Caribbean: imports of goods, CIF  
(Millions of dollars)

		2016				2017				2018	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America</b>		<b>201 355</b>	<b>216 063</b>	<b>225 922</b>	<b>225 767</b>	<b>217 096</b>	<b>226 975</b>	<b>262 511</b>	<b>248 259</b>	<b>242 383</b>	<b>192 592</b>
Argentina	CIF	12 777	14 345	14 688	14 101	13 931	16 941	18 318	17 709	16 891	18 007
Bolivia (Plurinational State of)	FOB	1 880	1 913	1 994	2 153	2 084	2 033	2 237	2 286	2 080	2 223
Brazil	FOB	32 608	34 861	37 073	34 873	36 532	35 999	40 470	40 214	43 244	42 731
Chile	FOB	12 906	13 047	14 534	14 806	14 605	14 585	15 578	16 541	16 335	17 363
Colombia	FOB	10 079	10 489	10 987	11 295	10 781	11 027	11 144	11 025	10 928	8 361 <sup>a</sup>
Costa Rica	CIF	3 505	3 950	3 797	4 025	3 897	3 921	3 859	4 251	3 877	2 971 <sup>a</sup>
Dominican Republic	CIF	3 897	4 375	4 532	4 679	4 181	4 346	4 374	4 800	4 600	...
Ecuador	CIF	3 880	3 704	4 161	4 580	4 471	4 789	5 241	5 509	5 265	3 972 <sup>a</sup>
El Salvador	CIF	2 327	2 565	2 441	2 496	2 497	2 622	2 647	2 827	2 687	2 035 <sup>a</sup>
Guatemala	CIF	3 932	4 342	4 290	4 439	4 388	4 413	25 912	5 007	4 475	3 528 <sup>a</sup>
Honduras	FOB	2 470	2 692	2 757	2 641	2 646	2 784	3 008	2 885	2 838	...
Mexico	FOB	89 133	96 814	100 155	100 963	97 480	102 959	107 901	112 030	107 019	78 234 <sup>a</sup>
Nicaragua	FOB	1 294	1 365	1 362	1 433	1 325	1 378	1 400	1 559	1 367	969 <sup>a</sup>
Panama	FOB	4 560	5 061	5 580	5 312	5 078	5 596	5 455	5 783	5 931	...
Paraguay	FOB	1 946	2 016	2 456	2 624	2 455	2 478	2 948	3 146	2 930	2 934
Peru	FOB	8 387	8 404	9 111	9 230	8 992	9 213	10 002	10 444	10 035	7 115 <sup>a</sup>
Uruguay	FOB	1 681	2 027	1 912	2 026	1 757	1 893	2 020	2 241	1 881	2 150
Venezuela (Bolivarian Republic of)	FOB	4 093	4 093	4 093	4 093	...	...	...	...	...	...

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

<sup>a</sup> Figures as of May.

**Table A.11**  
Latin America: terms of trade for goods FOB/FOB  
(Index: 2010=100)

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
<b>Latin America</b>	<b>90.1</b>	<b>100.0</b>	<b>108.0</b>	<b>104.4</b>	<b>102.1</b>	<b>97.8</b>	<b>88.4</b>	<b>87.7</b>	<b>91.3</b>
Argentina	96.6	100.0	110.3	114.8	107.5	105.3	100.6	106.6	103.7
Bolivia (Plurinational State of)	95.2	100.0	118.1	112.3	100.4	95.1	76.9	66.5	76.9
Brazil	86.2	100.0	107.8	101.5	99.4	96.1	85.5	88.1	93.2
Chile	82.3	100.0	101.8	94.6	91.7	89.9	87.2	91.2	100.9
Colombia	93.3	100.0	114.7	108.4	100.6	91.5	68.9	68.1	79.7
Costa Rica	104.1	100.0	96.3	95.8	96.1	97.0	97.3	97.0	95.0
Dominican Republic	103.8	100.0	94.7	93.8	91.5	93.3	97.9	98.9	95.2
Ecuador	87.0	100.0	112.4	112.1	113.2	106.7	80.0	75.7	82.9
El Salvador	105.9	100.0	97.5	97.1	94.5	96.7	105.6	108.6	106.2
Guatemala	100.5	100.0	99.1	93.7	91.8	92.3	97.2	105.0	99.5
Haiti	103.4	100.0	83.0	86.0	80.6	83.1	87.4	86.4	89.3
Honduras	97.3	100.0	108.4	94.6	88.6	90.4	84.5	87.4	84.8
Mexico	92.9	100.0	106.8	102.9	102.8	97.6	93.0	89.7	91.2
Nicaragua	98.3	100.0	106.6	106.5	98.2	100.1	113.3	115.1	110.6
Panama	101.9	100.0	97.8	98.2	97.7	99.7	97.1	94.1	92.1
Paraguay	100.0	100.0	102.4	103.4	102.8	103.3	95.5	94.6	92.0
Peru	82.7	100.0	107.0	104.6	99.1	93.8	87.8	87.2	93.5
Uruguay	100.5	100.0	102.4	106.3	108.1	112.3	114.5	117.6	108.1
Venezuela (Bolivarian Republic of)	84.1	100.0	120.2	121.4	118.9	111.8	65.7	54.9	...

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

<sup>a</sup> Preliminary figures.

**Table A.12**  
Latin America and the Caribbean (selected countries): remittances from emigrant workers  
(Millions of dollars)

	2013	2014	2015	2016	2017				2018	
					Q1	Q2	Q3	Q4	Q1	Q2 <sup>a</sup>
Bolivia (Plurinational State of)	1 182	1 164	1 179	1 204	293	311	336	349	325	...
Brazil	2 124	2 128	2 459	2 365	551	579	555	790	617	454 <sup>a</sup>
Colombia	4 401	4 093	4 635	4 849	1 200	1 345	1 394	1 316	1 383	1 044 <sup>a</sup>
Costa Rica	561	559	518	515	127	132	136	136	112	...
Dominican Republic	4 262	4 571	4 961	5 261	1 455	1 454	1 507	1 496	1 001 <sup>b</sup>	...
Ecuador	2 450	2 462	2 378	671	626	699	752	763	715	...
El Salvador	3 938	4 133	4 270	4 581	1 176	1 283	1 239	1 344	1 242	1 446
Guatemala	5 105	5 544	6 285	7 160	1 941	2 111	2 045	2 095	2 019	2 380
Honduras	3 093	3 437	3 726	3 946	1 038	1 143	1 126	1 132	1 078	1 280
Jamaica	2 065	2 157	2 226	2 291	558	594	587	567	558	...
México	22 303	23 647	24 792	26 972	6 640	7 306	7 320	7 506	7 036	5 814 <sup>a</sup>
Nicaragua	1 078	1 136	1 193	1 264	323	341	356	371	353	256 <sup>a</sup>
Paraguay	519	422	462	547	150	147	134	155	142	103 <sup>a</sup>
Peru	2 707	2 637	2 725	2 884	710	766	784	791	745	...

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

<sup>a</sup> Figures as of May.

<sup>b</sup> Figures as of February.

**Table A.13**

Latin America and the Caribbean: net resource transfer<sup>a</sup>  
(Millions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>
<b>Latin America and the Caribbean</b>	<b>-22 547</b>	<b>31 478</b>	<b>45 067</b>	<b>27 142</b>	<b>28 285</b>	<b>63 933</b>	<b>12 178</b>	<b>-18 109</b>	...
<b>Latin America</b>	<b>-21 573</b>	<b>34 497</b>	<b>48 396</b>	<b>30 774</b>	<b>31 165</b>	<b>64 282</b>	<b>13 097</b>	<b>-18 983</b>	...
<b>Latin America<sup>c</sup></b>	<b>-6 236</b>	<b>54 350</b>	<b>77 849</b>	<b>45 455</b>	<b>49 066</b>	<b>77 344</b>	<b>8 758</b>	<b>-9 127</b>	<b>-34 984</b>
Argentina	-16 227	-8 767	-15 841	-14 921	-11 864	-1 240	611	16 900	29 537
Bolivia (Plurinational State of)	-1 094	-707	923	-1 888	-1 840	-1 336	-811	-1 735	1 241
Brazil	37 269	57 870	65 194	38 810	36 374	62 844	18 094	-8 297	-27 717
Chile	-13 599	-15 522	3 006	-2 493	-486	-3 796	-1 498	-1 740	-9 406
Colombia	-2 270	647	-1 945	1 762	5 224	11 677	13 238	6 963	2 894
Costa Rica	-180	589	979	3 065	1 064	226	185	-1 391	-1 676
Dominican Republic	1 248	2 563	2 420	933	735	-882	-1 249	-1 659	-2 593
Ecuador	-2 264	-625	-522	-1 611	1 427	-1 441	-1 076	-1 530	-3 885
El Salvador	179	-302	79	1 020	201	123	-232	-277	-639
Guatemala	-762	142	313	693	989	-105	-827	-1 139	13
Haiti	375	969	573	784	625	325	165	273	492
Honduras	-429	546	521	32	894	225	-145	-854	-372
Mexico	-2 125	13 610	22 164	9 708	11 230	9 625	-15 462	-4 714	-12 086
Nicaragua	873	749	980	802	967	812	996	576	604
Panama	-664	1 223	2 854	673	1 585	4 134	171	-616	-2 366
Paraguay	-767	-1 036	-603	-1 184	-1 127	-279	-1 569	-964	-230
Peru	-6 728	3 531	-5 495	7 602	1 079	-3 146	1 698	-3 712	-6 915
Uruguay	929	-1 131	2 248	1 665	1 991	-422	-3 532	-5 210	-1 880
Venezuela (Bolivarian Republic of)	-15 337	-19 853	-29 453	-14 681	-17 901	-13 062	4 339	-9 856	...
<b>The Caribbean</b>	<b>-974</b>	<b>-3 019</b>	<b>-3 329</b>	<b>-3 632</b>	<b>-2 880</b>	<b>-349</b>	<b>-919</b>	<b>874</b>	...
Antigua and Barbuda	108	146	88	140	191	-9	-116	-124	...
Bahamas	909	627	992	1 162	1 096	1 542	1 035	...	...
Barbados	242	96	150	139	-38	188	13	-137	...
Belize	15	-107	-60	-30	72	78	-24	...	...
Dominica	118	70	67	81	23	29	18	71	...
Grenada	160	154	177	157	223	6	9	-17	...
Guyana	-51	101	341	311	568	471	236	-134	-110
Jamaica	430	871	1 326	400	860	1 472	430	-88	-270
Saint Kitts and Nevis	172	142	129	52	50	-7	-35	66	...
Saint Lucia	125	195	231	158	84	-86	-162	-100	...
Saint Vincent and the Grenadines	189	221	163	208	247	182	114	117	...
Suriname	-68	-720	-569	-175	-84	196	514	-651	-216
Trinidad and Tobago	-3 324	-4 816	-6 364	-6 236	-6 173	-4 411	-2 950	1 872	...

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

<sup>a</sup> The net resource transfer is calculated as total net capital income minus the income balance (net payments of profits and interest). Total net capital income is the balance on the capital and financial accounts plus errors and omissions, plus loans and the use of IMF credit plus exceptional financing. Negative figures indicate resources transferred outside the country.

<sup>b</sup> Preliminary figures.

<sup>c</sup> Does not include the Bolivarian Republic of Venezuela.

**Table A.14**  
Latin America and the Caribbean: net foreign direct investment<sup>a</sup>  
(Millions of dollars)

	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>
<b>Latin America and the Caribbean</b>	<b>73 232</b>	<b>114 089</b>	<b>147 018</b>	<b>149 976</b>	<b>146 158</b>	<b>140 847</b>	<b>134 698</b>	<b>130 545</b>	...
<b>Latin America</b>	<b>70 235</b>	<b>111 588</b>	<b>145 304</b>	<b>149 391</b>	<b>145 306</b>	<b>138 384</b>	<b>132 583</b>	<b>129 235</b>	...
<b>Latin America<sup>c</sup></b>	<b>73 848</b>	<b>112 506</b>	<b>139 194</b>	<b>147 712</b>	<b>143 378</b>	<b>141 785</b>	<b>132 213</b>	<b>129 208</b>	<b>134 398</b>
Argentina	3 306	10 368	9 352	14 269	8 932	3 145	10 884	1 474	10 361
Bolivia (Plurinational State of)	426	672	859	1 060	1 750	690	556	246	645
Brazil	36 033	61 689	85 091	81 399	54 744	71 140	61 200	65 432	64 064
Chile	6 622	6 559	3 898	9 736	10 937	10 936	5 026	4 909	1 595
Colombia	4 530	947	6 227	15 646	8 557	12 268	7 505	9 332	10 235
Costa Rica	1 340	1 589	2 328	1 803	2 401	2 818	2 541	2 127	2 583
Dominican Republic	2 165	2 024	2 277	3 142	1 991	2 209	2 205	2 407	3 570
Ecuador	309	166	644	567	727	772	1 322	755	606
El Salvador	366	-226	218	466	179	306	396	348	792
Guatemala	574	782	1 009	1 205	1 262	1 282	1 104	1 068	967
Haiti	55	178	119	156	162	99	106	105	374
Honduras	505	971	1 012	851	992	1 315	952	900	1 013
Mexico	8 291	12 951	11 989	-1 130	33 771	23 322	24 266	28 181	25 610
Nicaragua	463	475	929	704	665	790	905	835	816
Panama	1 259	2 363	2 956	3 254	3 612	4 130	3 966	5 041	5 433
Paraguay	71	462	581	697	245	412	306	320	356
Peru	6 020	8 189	7 194	11 710	9 663	3 640	8 144	6 560	6 507
Uruguay	1 512	2 349	2 511	2 175	2 789	2 512	827	-833	-1 128
Venezuela (Bolivarian Republic of)	-3 613	-918	6 110	1 679	1 928	-3 401	370	27	...
<b>The Caribbean</b>	<b>2 997</b>	<b>2 500</b>	<b>1 714</b>	<b>586</b>	<b>853</b>	<b>2 462</b>	<b>2 115</b>	<b>1 310</b>	...
Antigua and Barbuda	81	97	65	133	95	40	96	42	...
Bahamas	664	872	667	526	382	251	76	...	...
Barbados	352	329	83	565	-62	...	...	...	...
Belize	108	95	95	193	92	138	59	...	...
Dominica	42	43	35	59	23	14	23	32	...
Grenada	103	60	43	31	113	58	89	91	...
Guyana	164	198	247	278	201	238	117	6	141
Jamaica	480	169	144	411	631	584	921	564	331
Saint Kitts and Nevis	131	116	110	108	136	158	132	89	...
Saint Lucia	146	121	81	74	92	19	75	116	...
Saint Vincent and the Grenadines	110	97	86	115	160	108	48	90	...
Suriname	-93	-248	73	173	188	163	276	127	-66
Trinidad and Tobago	709	549	-13	-2 080	-1 197	689	205	153	...

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

<sup>a</sup> Corresponds to direct investment in the reporting economy after deduction of outward direct investment by residents of that country. Includes reinvestment of profits.

<sup>b</sup> Preliminary figures.

<sup>c</sup> Does not include the Bolivarian Republic of Venezuela.

Table A.15

Latin America and the Caribbean: total gross external debt<sup>a</sup>

(Millions of dollars, end-of-period stocks)

		2010	2011	2012	2013	2014	2015	2016	2017
<b>Latin America and the Caribbean<sup>b</sup></b>		<b>1 112 505</b>	<b>1 243 927</b>	<b>1 380 244</b>	<b>1 512 804</b>	<b>1 688 630</b>	<b>1 699 526</b>	<b>1 770 649</b>	<b>1 867 082</b>
<b>Latin America<sup>b</sup></b>		<b>1 095 210</b>	<b>1 225 537</b>	<b>1 361 850</b>	<b>1 493 132</b>	<b>1 667 941</b>	<b>1 677 013</b>	<b>1 746 285</b>	<b>1 841 433</b>
Argentina	Total	144 653	156 300	156 478	155 489	158 742	167 412	181 170	232 952
	Public	88 690	92 632	91 861	91 444	98 229	101 659	121 760	161 342
	Private	55 964	63 668	64 617	64 045	60 513	65 753	59 410	71 610
Bolivia (Plurinational State of)	Total	6 050	6 553	6 954	8 078	8 842	9 796	10 703	12 687
	Public	2 891	3 837	4 525	5 584	6 036	6 613	7 268	9 428
	Private	2 815	2 716	2 430	2 494	2 807	3 183	3 435	3 259
Brazil	Total	452 780	516 030	570 831	621 439	712 655	665 101	676 647	667 103
	Public	82 847	77 300	82 245	122 641	139 051	130 587	130 274	125 492
	Private	348 840	413 590	442 577	498 797	573 604	534 513	546 373	541 611
Chile	Total	86 570	100 973	122 668	136 351	152 135	160 904	166 974	181 513
	Public	18 377	22 262	27 757	27 994	31 285	31 831	35 679	47 437
	Private	68 193	78 711	94 912	108 357	120 849	129 073	131 295	134 076
Colombia	Total	64 792	75 622	78 784	92 073	101 404	111 927	120 414	124 523
	Public	39 600	42 487	46 116	52 216	59 767	66 158	71 078	71 870
	Private	25 192	33 135	32 669	39 856	41 637	45 769	49 336	52 653
Costa Rica	Total	9 527	11 286	15 381	19 629	21 671	24 030	25 470	26 885
	Public	4 381	4 345	7 428	7 428	8 919	10 312	10 748	10 945
	Private	5 146	6 941	7 953	12 201	12 752	13 717	14 723	15 940
Dominican Republic	Public	11 057	12 761	13 888	16 132	17 280	16 928	18 170	19 124
Ecuador	Total	13 914	15 210	15 913	18 617	23 975	27 680	34 181	39 529
	Public	8 622	9 973	10 768	12 920	17 582	20 226	25 680	31 750
	Private	5 292	5 237	5 145	5 697	6 393	7 454	8 093	7 779
El Salvador	Total	11 399	11 858	13 353	14 035	14 800	15 217	16 253	16 006
	Public	6 831	7 142	8 050	8 070	8 960	8 789	9 317	9 675
	Private	4 568	4 716	5 303	5 965	5 841	6 428	6 936	6 331
Guatemala	Total	12 026	14 021	15 339	17 826	20 031	20 885	21 651	23 178
	Public	6 038	6 027	6 823	7 429	7 510	7 878	8 393	8 673
	Private	5 988	7 993	8 516	10 396	12 521	13 007	13 258	14 505
Haiti	Public	353	727	1 126	1 503	1 875	1 993	2 019	2 107
Honduras	Total	3 785	4 208	4 861	6 709	7 184	7 456	7 499	8 600
	Public	2 843	3 218	3 664	5 202	5 569	5 927	6 108	7 145
	Private	942	990	1 197	1 507	1 616	1 530	1 391	1 455
Mexico	Total	194 766	210 713	226 492	259 977	286 624	298 398	316 177	334 033
	Public	110 428	116 420	125 726	134 436	147 666	162 210	180 986	193 981
	Private	84 338	94 293	100 766	125 541	138 958	136 189	135 191	140 051
Nicaragua	Public	7 286	8 126	8 957	9 677	10 132	10 543	11 025	11 512
	Public	4 068	4 263	4 481	4 724	4 796	4 804	5 042	5 546
	Private	3 218	3 863	4 476	4 953	5 336	5 739	5 983	5 966
Panama	Public	10 439	10 858	10 782	12 231	14 352	15 648	16 689	18 390
Paraguay	Total	3 713	3 970	4 563	4 776	6 126	6 513	6 751	7 708
	Public	2 335	2 291	2 241	2 677	3 680	3 993	4 822	5 592
	Private	1 378	1 679	2 322	2 099	2 446	2 519	1 929	2 116
Peru	Total	43 674	47 977	59 376	60 823	69 215	73 274	74 645	76 894
	Public	22 980	24 275	26 510	24 079	23 951	26 781	29 617	32 953
	Private	20 694	23 702	32 866	36 744	45 264	46 493	45 028	43 941
Uruguay	Total	18 425	18 345	36 104	37 767	40 898	43 311	39 846	38 690
	Public	13 182	14 436	16 662	18 044	18 953	18 954	17 942	18 661
	Private	5 243	3 909	19 439	19 721	21 946	24 357	21 905	20 029
Venezuela (Bolivarian Republic of)	Total	102 354	118 285	130 785	132 362	135 767	138 869	...	...
	Public	88 652	103 140	113 112	112 103	117 217	120 204	...	...
	Private	13 702	12 734	17 673	20 259	18 550	18 665	...	...

Table A.15 (concluded)

		2010	2011	2012	2013	2014	2015	2016	2017
<b>The Caribbean</b>		<b>17 295</b>	<b>18 389</b>	<b>18 394</b>	<b>19 672</b>	<b>20 688</b>	<b>22 514</b>	<b>24 365</b>	<b>25 648</b>
Antigua and Barbuda	Public	432	467	445	577	560	573	562	565
Bahamas	Public	916	1 045	1 465	1 616	2 095	2 176	2 373	3 238
Barbados	Public	1 366	1 385	1 322	1 434	1 499	1 468	1 448	1 409
Belize	Public	1 021	1 032	1 029	1 083	1 127	1 177	1 203	1 256
Dominica	Public	232	238	263	275	287	285	270	271
Grenada	Public	528	535	535	618	634	613	602	535
Guyana	Public	1 043	1 206	1 358	1 246	1 216	1 143	1 162	1 241
Jamaica	Public	8 390	8 626	8 256	8 310	8 659	10 314	10 244	10 121
Saint Kitts and Nevis	Public	296	320	317	320	284	214	195	157
Saint Lucia	Public	393	417	435	488	526	509	529	610
Saint Vincent and the Grenadines	Public	313	328	329	354	387	399	455	424
Suriname	Public	334	601	707	878	942	1 156	1 869	2 034
Trinidad and Tobago	Public	2 032	2 191	1 934	2 473	2 472	2 487	3 452	3 788

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

<sup>a</sup> Includes debt owed to the International Monetary Fund.

<sup>b</sup> Total does not include the Bolivarian Republic of Venezuela.

**Table A.16**

Latin America and the Caribbean: sovereign spreads on embi+ and embi global  
(Basis points to end of period)

		2013	2014	2015	2016	2017				2018	
						March	June	September	December	March	June
<b>Latin America</b>	<b>EMBI +</b>	<b>410</b>	<b>491</b>	<b>584</b>	<b>483</b>	<b>455</b>	<b>454</b>	<b>432</b>	<b>466</b>	<b>471</b>	<b>547</b>
Argentina	EMBI +	808	719	438	455	452	432	367	351	420	610
Belize	EMBI Global	807	819	822	1 837	655	730	669	771	753	750
Bolivia (Plurinational State of)	EMBI Global	393	508	605	473	436	435	407	419	426	497
Brazil	EMBI +	224	259	523	328	270	289	247	240	248	332
Chile	EMBI Global	148	169	253	158	133	132	128	117	128	144
Colombia	EMBI +	166	196	321	227	195	203	186	174	182	198
Dominican Republic	EMBI Global	349	381	421	407	333	321	283	275	292	348
Ecuador	EMBI Global	530	883	1 266	647	666	706	606	459	544	761
El Salvador	EMBI Global	389	414	634	536	553	561	448	383	380	450
Jamaica	EMBI Global	641	485	469	375	349	336	298	304	295	340
Mexico	EMBI +	155	182	232	232	196	193	170	189	191	211
Panama	EMBI +	199	189	218	186	153	150	120	112	132	148
Paraguay	EMBI Global	271	316	322	269	238	238	223	221	244	304
Peru	EMBI +	159	181	246	175	136	138	115	111	132	141
Uruguay	EMBI Global	194	208	280	244	209	193	165	146	168	200
Venezuela (Bolivarian Republic of)	EMBI +	1 093	2 295	2 658	2 138	2 330	2 450	3 178	5 780	4 422	5 367

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from JPMorgan Emerging Markets Bond Index (EMBI).

**Table A.17**

Latin America and the Caribbean: risk premia on five-year credit default swaps  
(Basis points to end of period)

	2013	2014	2015	2016	2016				2017	
					March	June	September	December	March	June
Argentina	1 654	2 987	5 393	419	364	324	284	232	272	451
Brazil	194	201	495	281	226	242	196	162	164	270
Chile	80	94	129	83	72	66	59	49	51	61
Colombia	119	141	243	164	134	136	122	105	107	125
Mexico	92	103	170	156	130	113	110	106	109	134
Panama	111	109	182	127	120	95	84	67	70	76
Peru	133	115	188	108	102	86	83	72	82	89
Venezuela (Bolivarian Republic of)	1 150	3 155	4 868	3 750	3 571	3 562	5 191	...	...	11 154

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

**Table A.18**  
Latin America and the Caribbean: International bond issues<sup>a</sup>  
(Millions of dollars)

	2013	2014	2015	2016	2017				2018	
					Q1	Q2	Q3	Q4	Q1	Q2
<b>Total</b>	<b>123 332</b>	<b>133 056</b>	<b>79 033</b>	<b>129 364</b>	<b>45 423</b>	<b>28 867</b>	<b>33 771</b>	<b>36 141</b>	<b>47 509</b>	<b>21 210</b>
<b>Latin America and the Caribbean</b>	<b>121 518</b>	<b>129 743</b>	<b>75 863</b>	<b>124 528</b>	<b>43 937</b>	<b>28 867</b>	<b>32 467</b>	<b>35 084</b>	<b>45 658</b>	<b>20 033</b>
Argentina	1 025	1 941	3 586	33 783	13 278	6 010	2 030	6 358	10 250	1 987
Bahamas	-	300	-	-	-	-	-	750	-	-
Barbados	-	2 500	320	-	-	-	-	-	-	-
Bolivia (Plurinational State of)	500	-	-	-	1 000	-	-	-	-	-
Brazil	37 262	45 364	7 188	20 481	9 950	6 050	4 125	11 941	10 800	3 129
Chile	11 540	13 768	7 650	5 336	2 610	3 844	5 004	2 990	3 737	1 845
Colombia	10 012	9 200	6 400	4 061	3 010	350	2 250	2 232	1 371	970
Costa Rica	3 000	1 000	1 127	500	-	300	-	-	-	-
Dominican Republic	1 800	1 500	3 500	1 870	1 517	500	-	-	1 818	-
Ecuador	-	2 000	1 500	2 750	1 000	2 000	-	2 800	3 000	-
El Salvador	310	800	300	-	951	-	-	-	-	-
Guatemala	1 300	1 100	-	700	500	830	-	-	-	-
Honduras	1 000	-	-	-	700	-	150	-	-	-
Jamaica	1 800	1 800	2 925	364	-	-	869	-	-	-
Mexico	41 729	37 592	30 375	41 539	8 166	3 880	10 980	6 196	12 458	7 282
Panama	1 350	1 935	1 700	2 200	150	1 302	1 569	300	-	1 425
Paraguay	500	1 000	280	600	500	-	-	-	530	-
Peru	5 840	5 944	6 407	1 960	605	2 550	4 390	1 517	1 694	1 120
Suriname	-	-	-	636	-	-	-	-	-	-
Trinidad and Tobago	550	-	-	1 600	-	-	-	-	-	525
Uruguay	2 000	2 000	2 605	1 147	-	1 250	1 100	-	-	1 750
Venezuela (Bolivarian Republic of)	-	-	-	5 000	-	-	-	-	-	-
<b>Supranational issues</b>	<b>1 814</b>	<b>3 313</b>	<b>3 171</b>	<b>4 837</b>	<b>1 486</b>	<b>-</b>	<b>1 304</b>	<b>1 057</b>	<b>1 851</b>	<b>1 177</b>
Central American Bank for Economic Integration (CABEI)	520	505	521	887	328	-	54	-	264.2	316
Caribbean Development Bank (CDB)	-	-	-	-	-	-	-	-	-	-
Foreign Trade Bank of Latin America (BLADEX)	-	-	-	73	-	-	-	-	-	-
Development Bank of Latin America (CAF)	1 294	2 808	2 650	3 376	1 158	-	1 250	1 057	1 587	861
Inter-American Investment Corporation (IIC)	-	-	-	500	-	-	-	-	-	-

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from LatinFinance Bonds Database and Bloomberg.

<sup>a</sup> Includes sovereign, bank and corporate bonds.

**Table A.19**  
Latin America and the Caribbean: stock exchange indices  
(National indices to end of period, 31 December 2005=100)

	2013	2014	2015	2016	2017				2018	
					March	June	September	December	March	June
Argentina	349	556	757	1 096	1 313	1 420	1 690	1 948	2 016	1 687
Brazil	154	149	130	180	194	188	222	228	255	217
Chile	188	196	187	211	243	242	272	283	282	270
Colombia	137	122	90	106	107	114	117	121	119	131
Costa Rica	190	211	191	250	253	...	...	...	...	...
Ecuador	148	168	161	150	159	171	179	185	188	196
Jamaica	77	73	144	184	214	225	251	276	282	293
Mexico	240	242	241	256	273	280	283	277	259	268
Peru	328	308	205	324	328	336	386	416	428	412
Trinidad and Tobago	111	108	109	113	116	113	116	119	118	116
Venezuela (Bolivarian Republic of)	13 685	19 295	72 940	158 525	219 385	616 775	2 447 495	6 315 700	23 237 200	464 660 050

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

Table A.20

Latin America and the Caribbean: gross international reserves  
(Millions of dollars, end-of-period stocks)

	2013	2014	2015	2016	2017				2018	
					March	June	September	December	March	June
<b>Latin America and the Caribbean</b>	<b>830 204</b>	<b>857 634</b>	<b>811 913</b>	<b>831 556</b>	<b>848 161</b>	<b>853 035</b>	<b>858 426</b>	<b>858 343</b>	<b>872 763</b>	<b>867 100</b>
<b>Latin America</b>	<b>813 981</b>	<b>839 372</b>	<b>795 049</b>	<b>814 669</b>	<b>831 566</b>	<b>836 939</b>	<b>842 029</b>	<b>841 708</b>	<b>858 075</b>	<b>852 043</b>
Argentina	30 599	31 443	25 563	38 772	50 522	47 995	50 237	55 055	61 726	61 881
Bolivia (Plurinational State of)	14 430	15 123	13 056	10 081	10 261	10 306	10 130	10 261	9 805	9 522
Brazil	358 808	363 551	356 464	365 016	370 111	377 175	381 244	373 972	379 577	379 500
Chile	41 094	40 447	38 643	40 483	39 022	38 915	37 738	38 983	38 104	36 991
Colombia	43 639	47 328	46 740	46 683	46 937	47 242	47 525	47 637	47 614	47 497
Costa Rica	7 331	7 211	7 834	7 574	7 274	6 812	6 898	7 150	8 474	8 090
Dominican Republic	4 701	4 862	5 266	6 047	6 459	6 514	6 176	6 781	7 577	6 598
Ecuador <sup>a</sup>	4 361	3 949	2 496	4 259	3 810	4 467	2 362	2 451	4 868	3 167
El Salvador	2 745	2 693	2 787	3 238	3 681	3 754	3 761	3 567	3 403	3 809
Guatemala	7 273	7 333	7 751	9 160	9 424	10 794	11 268	11 770	11 741	11 979
Haiti	1 690	1 163	977	1 105	1 074	1 242	1 228	...	...	...
Honduras	3 113	3 570	3 874	4 100	4 694	4 744	4 742	5 012	5 064	5 108
Mexico	180 200	195 682	177 597	178 025	178 704	175 396	174 889	175 450	177 601	178 308
Nicaragua	1 874	2 147	2 353	2 296	2 308	2 415	2 381	2 593	2 723	2 482
Panama	2 775	3 994	3 911	4 511	3 764	4 348	3 609	3 531	2 811	3 325 <sup>b</sup>
Paraguay	5 871	6 891	6 200	7 144	7 803	8 007	8 096	8 146	8 771	8 440
Peru	65 710	62 353	61 537	61 746	62 605	62 787	64 423	63 731	62 230	59 113
Uruguay	16 290	17 555	15 634	13 436	12 689	13 996	15 362	15 959	16 397	17 779
Venezuela (Bolivarian Republic of)	21 478	22 077	16 367	10 992	10 425	10 032	9 959	9 662	9 588	8 454
<b>The Caribbean</b>	<b>16 223</b>	<b>18 262</b>	<b>16 863</b>	<b>16 887</b>	<b>16 595</b>	<b>16 096</b>	<b>16 397</b>	<b>16 634</b>	<b>14 687</b>	<b>15 057</b>
Antigua and Barbuda <sup>a</sup>	202	297	356	330	297	317	315	314	...	...
Bahamas	740	787	808	902	925	961	1 065	1 408	1 597	1 588
Barbados	516	467	434	315	328	292	252	197	206	212 <sup>b</sup>
Belize	402	483	432	371	369	396	369	306	294	311
Dominica <sup>a</sup>	85	100	125	221	240	203	183	211	...	...
Grenada <sup>a</sup>	135	158	189	201	207	206	195	195	...	...
Guyana	777	666	599	616	596	578	580	584	499	485
Jamaica	1 818	2 473	2 914	3 291	3 324	3 186	3 715	3 781	3 657	3 734
Saint Kitts and Nevis <sup>a</sup>	291	318	280	313	327	338	361	357	...	...
Saint Lucia <sup>a</sup>	168	235	298	289	311	282	267	307	...	...
Saint Vincent and the Grenadines <sup>a</sup>	133	156	165	191	180	198	185	180	...	...
Suriname	779	625	330	381	384	401	404	424	447	762
Trinidad and Tobago	10 176	11 497	9 933	9 466	9 105	8 736	8 507	8 370	7 988	7 965

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

<sup>a</sup> Net international reserves.

<sup>b</sup> Figures as of May.

**Table A.21**Latin America and the Caribbean: real effective exchange rates<sup>a b</sup>

(Index: 2005=100, average values for the period)

	2013	2014	2015	2016	2017 <sup>c</sup>				2018 <sup>c</sup>	
					Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America and the Caribbean<sup>d</sup></b>	<b>81.2</b>	<b>80.4</b>	<b>84.4</b>	<b>85.4</b>	<b>83.3</b>	<b>83.8</b>	<b>84.6</b>	<b>84.9</b>	<b>85.5</b>	<b>86.5</b>
Barbados	89.3	87.9	84.4	82.9	81.2	82.3	80.8	78.8	80.2	82.5
Bolivia (Plurinational State of)	81.5	74.9	65.6	62.6	64.1	65.3	65.1	65.2	65.0	62.3
Brazil	83.0	85.4	106.1	101.9	90.5	94.4	95.1	99.0	96.6	103.2
Chile	95.2	105.4	109.4	108.4	104.0	106.8	105.6	104.6	100.1	100.9
Colombia	80.1	84.5	104.3	108.7	102.5	105.9	108.7	111.2	101.6	96.5
Costa Rica	74.1	77.4	73.5	75.0	76.7	79.4	81.2	80.2	79.8	78.9
Dominican Republic	115.8	118.9	115.8	117.3	119.3	122.5	125.8	128.1	124.8	121.7
Dominica	110.5	111.6	110.4	109.9	110.3	110.5	111.4	112.2	113.2	113.4
Ecuador	96.5	93.3	85.1	83.8	85.1	86.4	88.9	90.7	89.7	88.1
El Salvador	104.0	104.6	103.7	104.0	104.9	106.7	108.9	110.0	107.4	105.5
Guatemala	87.2	83.3	77.9	73.5	70.4	70.1	69.6	69.7	70.0	69.8
Honduras	84.8	82.8	82.6	84.1	85.5	85.6	86.3	86.6	86.0	85.4
Jamaica	99.8	106.0	104.9	115.4	122.1	126.4	131.4	137.0	114.1	103.0
Mexico	106.8	108.0	122.2	140.8	147.9	135.5	130.8	137.9	135.1	140.0
Nicaragua	100.4	105.6	100.9	104.1	108.1	112.4	117.7	121.8	110.3	103.7
Panama	92.2	89.0	85.5	84.6	84.3	85.7	87.3	87.9	88.6	87.8
Paraguay	68.3	66.0	67.1	69.7	71.8	71.1	72.3	72.2	70.9	67.7
Peru	90.5	93.1	94.9	96.4	92.1	92.6	94.2	95.4	96.2	94.9
Trinidad and Tobago	70.7	67.1	61.2	62.0	63.1	63.9	64.7	64.7	65.3	65.6
Uruguay	70.7	74.3	74.1	74.8	70.6	71.3	73.8	76.1	68.4	66.9

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.<sup>a</sup> A country's overall real effective exchange rate index is calculated by weighting its real bilateral exchange rate indices with each of its trading partners by each partner's share in the country's total trade flows in terms of exports and imports.<sup>b</sup> A currency depreciates in real effective terms when this index rises and appreciates when it falls.<sup>c</sup> Preliminary figures.<sup>d</sup> The extraregional real effective exchange rate index excludes trade with other Latin American and Caribbean countries.

Table A.22

Latin America and the Caribbean: participation rate  
(Average annual rates)

			2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>	2017 <sup>a</sup>	2018 <sup>a</sup>	
											First quarter	
<b>Latin America and the Caribbean<sup>b</sup></b>			<b>Total</b>	<b>62.2</b>	<b>62.2</b>	<b>62.1</b>	<b>61.9</b>	<b>61.9</b>	<b>62.0</b>	<b>62.1</b>	...	...
Argentina <sup>c</sup>	Urban areas	Total	59.5	59.3	58.9	58.3	57.7 <sup>d</sup>	57.5 <sup>e</sup>	57.8	57.2	58.5	
		Female	47.4	47.6	47.1	46.9	46.4 <sup>d</sup>	46.9 <sup>e</sup>	47.1	46.1	48.5	
		Male	72.9	72.2	72.0	70.9	70.1 <sup>d</sup>	69.4 <sup>e</sup>	69.7	69.6	69.8	
Bahamas	Nationwide total	Total	72.1	72.5	73.2	73.7	74.3	77.1	80.5	...	...	
		Female	...	69.5	70.1	70.1	71.7	73.1	74.7	...	...	
		Male	...	75.8	76.9	77.8	79.5	81.7	83.7	...	...	
Barbados	Nationwide total	Total	67.6	66.2	66.7	63.8	65.1	66.5	65.3	...	...	
		Female	63.0	61.1	61.8	60.4	61.7	62.8	61.5	...	...	
		Male	72.7	72.0	72.3	67.7	68.7	70.4	69.7	...	...	
Belize	Nationwide total	Total	...	65.8	64.0	63.6	63.2	64.0	64.1	...	...	
		Female	...	52.6	49.8	49.2	48.7	50.3	50.2	...	...	
		Male	...	79.2	78.3	78.2	77.8	78.0	78.2	...	...	
Bolivia (Plurinational State of)	Nationwide total	Total	65.9	61.2	63.4	65.8	61.0	65.6	62.4	...	...	
		Female	57.5	52.6	54.8	57.1	50.4	56.8	52.9	...	...	
		Male	74.7	70.4	72.6	75.0	72.1	75.0	72.4	...	...	
Brazil <sup>f</sup>	Nationwide total	Total	60.0	61.4	61.3	61.0	61.3	61.4	61.7	61.6	61.6	
		Female	50.1	50.8	50.7	50.6	51.2	51.4	52.3	52.0	52.3	
		Male	70.8	73.1	72.9	72.5	72.4	72.3	72.0	72.0	71.9	
Chile	Nationwide total	Total	59.8	59.5	59.6	59.8	59.7	59.5	59.7	59.5	59.9	
		Female	47.3	47.6	47.7	48.4	48.2	48.0	48.5	47.7	49.3	
		Male	72.7	71.9	71.8	71.6	71.5	71.3	71.2	71.6	71.0	
Colombia	Nationwide total	Total	63.7	64.5	64.2	64.2	64.7	64.5	64.4	63.8	63.2	
		Female	52.8	54.1	53.9	54.0	54.8	54.5	54.5	53.6	52.7	
		Male	75.1	75.4	74.9	74.9	75.2	74.9	74.8	74.5	74.1	
Costa Rica <sup>f</sup>	Nationwide total	Total	60.7	62.5	62.2	62.6	61.2	58.4	58.8	59.5	57.7	
		Female	45.7	48.4	48.6	49.2	48.1	44.3	44.5	45.0	42.7	
		Male	76.8	76.2	75.5	75.9	74.3	72.4	73.0	73.8	72.6	
Cuba	Nationwide total	Total	76.1	74.2	72.9	71.9	67.1	65.2	...	...	...	
		Female	60.5	57.4	57.3	56.3	52.6	50.9	...	...	...	
		Male	90.0	89.5	87.1	86.2	80.4	78.2	...	...	...	
Dominican Republic <sup>g</sup>	Nationwide total	Total	57.8	59.0	58.7	59.1	61.8	62.3	62.2	...	...	
		Female	42.6	44.0	43.7	44.0	48.1	48.9	49.0	...	...	
		Male	73.4	74.4	74.1	74.6	76.3	76.6	76.1	...	...	
Ecuador <sup>h</sup>	Nationwide total	Total	62.5	61.7	62.1	63.2	66.2	68.2	68.8	68.9	68.1	
		Female	47.8	47.4	47.7	48.5	52.7	56.2	56.9	57.5	55.6	
		Male	78.3	76.9	77.2	78.8	80.5	81.0	81.0	81.0	81.4	
El Salvador	Nationwide total	Total	62.7	63.2	63.6	63.6	62.8	62.1	61.9	...	...	
		Female	47.0	47.9	49.3	49.3	47.8	46.7	46.3	...	...	
		Male	81.2	81.4	80.7	80.7	80.7	80.2	80.6	...	...	
Guatemala	Nationwide total	Total	61.8	65.4	60.6	60.9	60.7	60.8	60.5 <sup>i</sup>	...	...	
		Female	40.4	45.7	40.6	40.6	38.9	39.2	39.0 <sup>i</sup>	...	...	
		Male	84.6	87.6	83.4	83.8	84.7	85.0	84.7 <sup>j</sup>	...	...	
Honduras	Nationwide total	Total	51.9	50.8	53.7	56.0	58.3	57.5	59.0	...	...	
		Female	34.9	33.8	37.2	40.6	44.1	43.0	43.8	...	...	
		Male	70.4	69.2	72.1	73.6	74.4	74.0	76.0	...	...	

Table A.22 (concluded)

			2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>	2017 <sup>a</sup>	2018 <sup>a</sup>	
											First quarter	
Jamaica	Nationwide total	Total	62.3	61.9	63.0	62.8	63.1	64.8	65.1	64.9	63.9 <sup>i</sup>	
		Female	54.9	54.9	56.2	55.9	56.3	58.6	59.1	59.1	58.0 <sup>i</sup>	
		Male	70.2	69.1	70.0	70.0	70.3	71.2	71.3	71.0	70.0 <sup>i</sup>	
Mexico <sup>k</sup>	Nationwide total	Total	58.6	59.2	60.3	59.8	59.8	59.7	59.3	59.2	59.0	
		Female	42.0	43.0	43.9	43.1	43.4	43.4	43.0	42.8	42.6	
		Male	76.9	77.1	78.5	78.3	78.0	77.7	77.6	77.4	77.1	
Nicaragua	Nationwide total	Total	75.6	76.8	75.8	74.0	72.4	73.6	73.5	...	...	
		Female	64.0	66.6	65.1	63.0	60.9	63.1	63.3	...	...	
		Male	87.9	87.7	87.3	85.8	84.6	84.9	84.7	...	...	
Panama	Nationwide total	Total	61.9	63.4	64.1	64.0	64.2	64.4	63.6	...	...	
		Female	45.6	48.0	49.2	49.8	50.8	51.1	50.7	...	...	
		Male	79.2	80.1	79.7	79.4	78.4	78.6	77.3	...	...	
Paraguay	Nationwide total	Total	60.7	64.3	62.6	61.6	62.1	62.6	63.1	...	...	
		Female	48.9	53.8	51.9	49.6	50.2	50.8	50.9	...	...	
		Male	72.8	74.7	73.8	74.1	74.1	74.5	75.2	...	...	
Peru	Nationwide total	Total	73.9	73.6	73.2	72.3	71.6	72.2	72.4	72.9	72.8	
		Female	65.2	64.8	64.5	63.3	62.3	63.3	...	...	...	
		Male	82.7	82.4	82.0	81.4	81.0	81.2	...	...	...	
Trinidad and Tobago	Nationwide total	Total	61.3	61.8	61.3	61.9	60.6	59.7	59.7 <sup>f</sup>	...	...	
		Female	...	...	...	51.8	50.1	50.1	50.7 <sup>f</sup>	...	...	
		Male	...	...	...	72.2	71.2	69.5	68.7 <sup>f</sup>	...	...	
Uruguay	Nationwide total	Total	64.8	64.0	63.6	64.7	63.8	63.4	62.9	63.2	62.6	
		Female	55.8	55.6	56.4	55.9	55.4	55.3	55.0	55.0	54.7	
		Male	74.7	73.5	73.9	74.3	72.9	72.3	71.4	72.2	71.2	
Venezuela (Bolivarian Republic of)	Nationwide total	Total	64.4	63.9	64.3	65.3	63.7	64.0	...	...	...	
		Female	50.3	50.1	50.6	52.1	49.8	50.2	...	...	...	
		Male	78.6	77.8	78.1	78.7	77.9	77.9	...	...	...	

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

<sup>a</sup> Preliminary figures.

<sup>b</sup> The data relating to the different countries are not comparable owing to differences in coverage and in the definition of the working-age population. The regional series are weighted averages of national data (excluding Belize and Nicaragua) and include adjustments for lack of information and changes in methodology.

<sup>c</sup> The National Institute of Statistics and Censuses (INDEC) of Argentina does not recognize the data for the period 2007–2015 and has them under review. These data are therefore preliminary and will be replaced when new official data are published.

<sup>d</sup> The figures correspond to the average for the first three quarters.

<sup>e</sup> The figures correspond to the average for the last three quarters.

<sup>f</sup> New measurements have been used since 2012; the data are not comparable with the previous series.

<sup>g</sup> New measurements have been used since 2015; the data are not comparable with the previous series.

<sup>h</sup> Up to 2013, the figures correspond to December of each year. From 2014, they correspond to the average for the year.

<sup>i</sup> The overall figure is the average of the February–March and May–June measurements.

<sup>j</sup> The figures in the last two columns correspond to the measurement of January.

<sup>k</sup> New measurements have been used since 2013; the data are not comparable with the previous series.

<sup>l</sup> The figures correspond to the average for March and June.

**Table A.23**Latin America and the Caribbean: open urban unemployment<sup>a</sup>  
(Average annual rates)

		2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>	2017 <sup>b</sup>	2018 <sup>b</sup>
		First quarter									
<b>Latin America and the Caribbean<sup>c</sup></b>		<b>8.4</b>	<b>7.7</b>	<b>7.2</b>	<b>7.1</b>	<b>6.9</b>	<b>7.3</b>	<b>8.9</b>	<b>9.3</b>	...	...
Argentina <sup>d</sup>	Urban areas	7.7	7.2	7.2	7.1	7.3	6.5 <sup>e</sup>	8.5 <sup>f</sup>	8.4	9.2	9.2
Bahamas <sup>g</sup>	Nationwide total	...	15.9	14.4	15.8	14.8	13.4	12.2	10.0	...	...
Barbados <sup>g</sup>	Nationwide total	10.8	11.2	11.6	11.6	12.3	11.3	9.7	10.0	...	...
Belize <sup>g</sup>	Nationwide total	12.5	...	15.3	13	11.6	10.1	9.5	9.3	...	...
Bolivia (Plurinational State of)	Urban total	...	3.8	3.2	4.0	3.5	4.4	4.9	4.6	...	...
Brazil	20 metropolitan regions <sup>h</sup>	6.7	6.0	8.2	8.0	7.8	9.3	13.0	14.5	15.0	14.8
Chile	Urban total	8.5	7.4	6.7	6.2	6.7	6.4	6.8	6.9	6.9	7.3
Colombia <sup>g</sup>	Municipal capitals	12.7	11.8	11.4	10.7	10.0	9.8	10.3	10.5	11.7	12.0
Colombia <sup>i</sup>	Municipal capitals	12.0	11.1	10.8	10.0	9.4	9.2	9.7	9.9	11.1	11.4
Costa Rica <sup>j</sup>	Urban total	7.1	7.7	9.8	9.1	9.5	9.7	9.6	9.0	9.1	10.4
Cuba	Nationwide total	2.5	3.2	3.5	3.3	2.7	2.5	2.0	...	...	...
Dominican Republic	Urban total <sup>k</sup>	5.7	6.7	7.2	7.9	7.2	7.9	7.9	6.1	6.4	5.7
Ecuador <sup>g</sup>	Urban total	7.6	6.0	4.9	4.7	5.1	5.4	6.8	5.6	5.6	5.7
Ecuador <sup>i</sup>	Urban total	6.1	5.0	4.2	4.0	4.3	4.7	5.9	5.0	5.1	5.3
El Salvador	Urban total	6.8	6.6	6.2	5.6	6.7	6.5	6.9	6.8	...	...
Guatemala <sup>l</sup>	Urban total	4.8	3.1	4.0	3.8	4.0	3.2	3.4	3.4 <sup>m</sup>	...	...
Honduras	Urban total	6.4	6.8	5.6	6.0	7.5	8.8	9.0	8.2	...	...
Jamaica <sup>g</sup>	Nationwide total	12.4	12.6	13.9	15.2	13.7	13.5	13.2	11.7	12.7	9.6 <sup>n</sup>
Jamaica <sup>i</sup>	Nationwide total	8.0	8.4	9.3	10.3	9.4	9.5	9.0	7.7	8.5	5.7 <sup>n</sup>
Mexico	Urban total	5.9	5.6	5.4	5.4	5.3	4.7	4.3	3.8	3.7	3.4
Nicaragua	Urban total	10.5	8.1	8.7	7.7	8.5	7.7	6.3	5.2	...	...
Panama <sup>g</sup>	Urban total	7.7	5.4	4.8	4.7	5.4	5.8	6.4	6.9	...	...
Panama <sup>i</sup>	Urban total	5.8	3.6	3.6	3.7	4.1	4.5	5.2	5.5	...	...
Paraguay	Asunción and urban areas of the Central Department	7.4	6.9	7.9	7.7	7.8	6.5	7.7	8.3 <sup>e</sup>	...	...
Peru	Urban total	5.3	5.1	4.7	4.8	4.5	4.4	5.2	5.0	6.4	6.2
Trinidad and Tobago	Nationwide total	5.9	5.1	5.0	3.6	3.3	3.5	4.0	4.9 <sup>o</sup>	...	...
Uruguay	Urban total	7.5	6.6	6.7	6.7	6.9	7.8	8.2	8.3	8.9	9.2
Venezuela (Bolivarian Republic of)	Nationwide total	8.7	8.3	8.1	7.8	7.2	7.0	7.3	...	...	...

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of household surveys.<sup>a</sup> Percentage of unemployed population in relation to the total workforce.<sup>b</sup> Preliminary figures.<sup>c</sup> Weighted average adjusted for lack of information and differences and changes in methodology. The data relating to the different countries are not comparable owing to differences in coverage and in the definition of the working age population.<sup>d</sup> The National Institute of Statistics and Censuses (INDEC) of Argentina does not recognize the data for the period 2007–2015 and has them under review. These data are therefore preliminary and will be replaced when new official data are published.<sup>e</sup> The figures correspond to the average for the first three quarters.<sup>f</sup> The figures correspond to the average for the last three quarters.<sup>g</sup> Includes hidden unemployment.<sup>h</sup> Up to 2011, six metropolitan areas.<sup>i</sup> Includes an adjustment for workforce figures due to exclusion of hidden unemployment.<sup>j</sup> New measurements have been used since 2012; the data are not comparable with the previous series.<sup>k</sup> Up to 2014, nationwide total.<sup>l</sup> New measurements have been used since 2011; the data are not comparable with the previous series.<sup>m</sup> The figures in the last two columns correspond to the average for February–March and May–June<sup>n</sup> The figures in the last two columns correspond to the average for January.<sup>o</sup> The figures correspond to the average for March and June.

**Table A.24**  
Latin America and the Caribbean: employment rate<sup>a</sup>  
(Average annual rates)

		2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>	2017	2018 <sup>b</sup>	
											First quarter	
<b>Latin America and the Caribbean<sup>c</sup></b>		<b>57.7</b>	<b>57.9</b>	<b>58.2</b>	<b>58.1</b>	<b>58.1</b>	<b>57.8</b>	<b>57.1</b>	<b>57.1</b>	...	...	
Argentina <sup>d</sup>	Urban areas	54.4	55.2	55.0	54.7	54.0	53.9 <sup>e</sup>	52.6 <sup>f</sup>	52.9	52.0	53.2	
Bahamas	Nationwide total	...	60.6	62.1	61.6	62.8	64.3	67.7	72.5	...	...	
Barbados	Nationwide total	59.4	60.0	58.5	58.9	56.0	57.7	60.0	58.8	...	...	
Belize	Nationwide total	...	...	55.7	55.9	56.6	56.8	57.9	58.1	...	...	
Bolivia (Plurinational State of)	Nationwide total	...	64.2	59.7	61.5	64.3	58.9	63.4	60.2	...	...	
Brazil <sup>g</sup>	Nationwide total	...	56.0	56.9	56.9	56.8	56.1	54.3	53.8	53.1	53.6	
Chile	Nationwide total	53.7	55.5	55.7	56.0	56.0	56.0	55.6	55.7	55.5	55.8	
Colombia	Nationwide total	55.4	56.8	57.9	58.0	58.4	59.0	58.5	58.4	57.0	56.9	
Costa Rica <sup>g</sup>	Nationwide total	54.8	56.0	56.2	56.4	56.6	55.4	52.8	53.5	54.0	51.8	
Cuba	Nationwide total	73.0	73.6	71.6	70.5	70.0	65.4	63.8	...	...	...	
Dominican Republic <sup>h</sup>	Nationwide total	53.6	54.5	55.2	54.6	55.4	57.3	57.9	58.7	...	...	
Ecuador <sup>i</sup>	Nationwide total	59.4	59.9	59.1	59.5	60.4	63.3	64.6	65.5	65.9	65.1	
El Salvador	Nationwide total	58.1	58.6	59.4	59.9	58.4	57.8	57.9	57.6	...	...	
Guatemala	Nationwide total	60.2	59.2	63.5	58.7	59.1	59.2	59.2	58.8 <sup>j</sup>	...	...	
Honduras	Nationwide total	51.5	49.7	48.9	51.6	53.1	54.0	53.2	55.1	...	...	
Jamaica	Nationwide total	54.6	54.4	53.3	53.4	54.2	54.6	56.2	57.5	56.7	57.7 <sup>k</sup>	
Mexico <sup>l</sup>	Nationwide total	55.3	55.6	56.3	57.3	56.9	57.2	57.4	57.3	57.2	57.1	
Nicaragua	Nationwide total	65.6	71.2	72.3	71.5	69.1	68.1	70.2	70.8	...	...	
Panama	Nationwide total	59.4	59.1	60.8	61.5	60.9	60.9	60.8	59.8	...	...	
Paraguay	Nationwide total	57.1	57.3	61.5	60.1	58.6	58.7	58.9	59.8	...	...	
Peru	Nationwide total	71.1	70.9	70.8	70.3	69.6	68.9	69.2	69.5	69.1	69.0	
Trinidad and Tobago	Nationwide total	58.4	58.2	58.8	59.1	59.9	58.5	57.4	56.7 <sup>m</sup>	...	...	
Uruguay	Nationwide total	58.4	60.7	59.9	59.5	60.4	59.0	58.4	57.9	57.8	57.1	
Venezuela (Bolivarian Republic of)	Nationwide total	59.0	59.0	58.7	59.3	60.4	59.2	59.3	...	...	...	

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

<sup>a</sup> Employed population as a percentage of the working-age population.

<sup>b</sup> Preliminary figures.

<sup>c</sup> Weighted average adjusted for lack of information and differences and changes in methodology. The data relating to the different countries are not comparable owing to differences in coverage and in the definition of the working-age population.

<sup>d</sup> The National Institute of Statistics and Censuses (INDEC) of Argentina does not recognize the data for the period 2007–2015 and has them under review. These data are therefore preliminary and will be replaced when new official data are published.

<sup>e</sup> The figures correspond to the average for the first three quarters.

<sup>f</sup> The figures correspond to the average for the last three quarters.

<sup>g</sup> New measurements have been used since 2012; the data are not comparable with the previous series.

<sup>h</sup> New measurements have been used since 2015; the data are not comparable with the previous series.

<sup>i</sup> Up to 2013, the figures correspond to December of each year. From 2014, they correspond to the average for the year.

<sup>j</sup> The figures correspond to the average for February–March and May–June.

<sup>k</sup> The figures in the last two columns correspond to the average for January.

<sup>l</sup> New measurements have been used since 2013; the data are not comparable with the previous series.

<sup>m</sup> The figures correspond to the average for March and June.

**Table A.25**

Latin America and the Caribbean: formal employment indicators

*(Index: 2010=100)*

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017	2018 <sup>a</sup>
											First semester
Argentina <sup>b</sup>	97.1	100.0	105.0	107.0	109.6	110.9	114.0	114.3	115.3	114.9	116.4 <sup>c</sup>
Brazil <sup>d</sup>	93.0	100.0	106.6	111.3	114.6	116.9	115.0	110.4	108.5	108.2	108.7 <sup>e</sup>
Chile <sup>f</sup>	94.2	100.0	105.7	112.1	115.8	117.9	120.1	122.2	123.4	123.5	128.3 <sup>e</sup>
Costa Rica <sup>g</sup>	97.0	100.0	103.1	106.7	109.0	110.7	112.6	116.3	119.7	119.1	121.9 <sup>e</sup>
El Salvador <sup>g</sup>	98.5	100.0	103.3	105.5	111.0	113.5	115.1	117.3	118.3	117.6	118.4 <sup>c</sup>
Guatemala <sup>g</sup>	98.3	100.0	104.3	107.1	110.4	111.8	114.2	117.4	118.6	...	...
Jamaica <sup>h</sup>	103.0	100.0	99.4	99.0	100.4	...	...	...	...	...	...
Mexico <sup>g</sup>	96.3	100.0	104.3	109.2	113.0	117.0	122.0	126.7	132.2	130.3	136.0 <sup>j</sup>
Nicaragua <sup>g</sup>	94.2	100.0	108.1	116.6	125.9	132.8	144.6	160.3	170.9	168.5	169.1 <sup>c</sup>
Panama <sup>i</sup>	98.5	100.0	110.3	117.8	122.5	126.1	127.2	125.4	126.8	...	...
Peru <sup>k</sup>	96.0	100.0	105.4	109.6	112.7	114.8	115.8	118.3	120.4	119.2	122.9 <sup>e</sup>
Uruguay <sup>l</sup>	94.4	100.0	104.9	108.9	110.9	111.7	110.1	108.9	109.4	110.9	110.4 <sup>c</sup>

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.<sup>a</sup> Preliminary figures.<sup>b</sup> Dependent workers paying into pension schemes.<sup>c</sup> The figures in the last two columns correspond to the first quarter.<sup>d</sup> Workers covered by social and labour legislation.<sup>e</sup> The figures in the last two columns correspond to the average for January–April.<sup>f</sup> Dependent workers who contribute to the pension system.<sup>g</sup> Workers with social security coverage.<sup>h</sup> Workers at firms with 10 or more employees.<sup>i</sup> The figures in the last two columns correspond to the average for January–May.<sup>j</sup> Up to 2012, workers with social security coverage. From 2013, corresponds to workers in small, medium and large enterprises in manufacturing, commerce and services.<sup>k</sup> Jobs reported to the National Superintendency of Customs and Tax Administration. Until 2015, workers of companies with 10 or more employees.<sup>l</sup> Employment positions generating social security contributions.**Table A.26**

Latin America: visible underemployment by hours

*(Percentages of employed workers)*

		2010	2011	2012	2013	2014	2015	2016	2017 <sup>a</sup>
Argentina <sup>b,c</sup>	Urban areas	9.8	9.1	9.3	9.2	9.6	9.0 <sup>d</sup>	11.5 <sup>e</sup>	11.4
Chile <sup>f</sup>	Nationwide total	11.5	11.9	11.5	11.6	11.3	10.3	10.9	11.1
Colombia <sup>g</sup>	Nationwide total	11.7	11.2	12.1	11.8	10.1	10.3	9.9	9.5
Costa Rica <sup>h</sup>	Nationwide total	11.2	13.4 <sup>i</sup>	11.3	12.5	12.8	12.4	9.0	8.1
Ecuador <sup>i</sup>	Nationwide total	11.7	9.1	7.9	9.9	10.6	11.7	15.7	17.0
El Salvador <sup>i</sup>	Urban total	7.0	3.4	5.8	5.8	6.7	6.8	7.7	7.6
Honduras <sup>j</sup>	Nationwide total	7.4	10.4	10.5	11.7	12.5	14.1	11.5	11.8
Mexico <sup>h</sup>	Nationwide total	8.7	8.6	8.5	8.3	8.1	8.3	7.6	7.0
Panama <sup>i</sup>	Nationwide total	2.0	1.5	2.4	2.5	2.0	2.5	2.3	2.5
Paraguay <sup>f</sup>	Asunción and urban areas of the Central Department	7.2	6.1	5.3	4.7	4.8	4.6	4.0	4.0 <sup>d</sup>
Peru <sup>b</sup>	Metropolitan Lima	14.5	12.4	12.0	11.6	11.3	10.4	11.3	11.5
Uruguay <sup>j</sup>	Nationwide total	8.6	7.2	7.1	6.8	6.6	7.1	8.3	8.3

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures.<sup>a</sup> Preliminary figures.<sup>b</sup> Employed persons who work less than 35 hours per week and wish to work more hours.<sup>c</sup> The National Institute of Statistics and Censuses (INDEC) of Argentina does not recognize the data for the period 2007–2015 and has them under review. These data are therefore preliminary and will be replaced when new official data are published.<sup>d</sup> The figures correspond to the average for the first three quarters.<sup>e</sup> The figures correspond to the average for the last three quarters.<sup>f</sup> Employed persons who work less than 30 hours per week and wish to work more hours.<sup>g</sup> Employed persons who work less than 48 hours per week and wish to work more hours.<sup>h</sup> Employed persons wishing to work more than their current job permits.<sup>i</sup> Employed persons who work less than 40 hours per week and wish to work more hours.<sup>j</sup> Employed persons who work less than 36 hours per week and wish to work more hours.

**Table A.27**Latin America: real average wages<sup>a</sup>

(Index: 2010=100)

	2010	2011	2012	2013	2014	2015	2016	2017 <sup>b</sup>	2017 <sup>b</sup>	2018 <sup>b</sup>
									First semester	
Bolivia (Plurinational State of) <sup>c</sup>	100.0	98.2	99.3	100.3	101.8	107.7	109.5	111.5 <sup>d</sup>	...	...
Brazil <sup>e</sup>	100.0	101.4	104.9	107.4	108.4	108.9	107.6	110.2	109.8	110.6 <sup>f</sup>
Chile <sup>g</sup>	100.0	102.5	105.8	109.9	111.9	113.9	115.4	119.0	118.1	120.0
Colombia <sup>h</sup>	100.0	100.3	101.3	104.0	104.5	105.7	103.4	106.6	104.9	106.2
Costa Rica <sup>i</sup>	100.0	105.7	107.1	108.5	110.7	115.2	118.2	119.6	120.5	122.6
El Salvador <sup>j</sup>	100.0	97.1	97.3	97.8	98.5	100.9	102.3	...	...	...
Guatemala <sup>i</sup>	100.0	100.4	104.4	104.3	106.8	110.4	108.2	107.2	...	...
Mexico <sup>i</sup>	100.0	101.1	101.2	101.3	101.7	103.2	104.1	102.9	103.5	103.9
Nicaragua <sup>i</sup>	100.0	100.1	100.5	100.7	102.4	105.1	107.5	109.1	108.1	112.2
Panama <sup>k</sup>	100.0	100.1	103.5	103.8	109.5	113.1	117.5	120.4	...	...
Paraguay	100.0	102.8	103.5	105.7	107.0	107.5	108.2	108.5	...	...
Peru <sup>l</sup>	100.0	108.4	111.0	114.7	117.9	117.5	115.8	115.5	112.2	116.5
Uruguay	100.0	104.0	108.4	111.7	115.4	117.3	119.1	122.6	122.3	124.2
Venezuela (Bolivarian Republic of)	100.0	103.0	109.1	104.3	...	...	...	...	...	...

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

<sup>a</sup> Figures deflated by the official consumer price index of each country.

<sup>b</sup> Preliminary figures.

<sup>c</sup> Private-sector average wage index.

<sup>d</sup> The figures correspond to the average of March and June.

<sup>e</sup> Private-sector workers covered by social and labour legislation. New series from 2013.

<sup>f</sup> The figures in the last two columns correspond to the first quarter.

<sup>g</sup> General index of hourly remuneration.

<sup>h</sup> Manufacturing. New series from 2015.

<sup>i</sup> Average wage declared by workers registered with and paying into social security.

<sup>j</sup> Average taxable salary.

<sup>k</sup> Average wage declared by workers covered by social security. As from 2013, corresponds to workers in small, medium and large businesses, in manufacturing, commerce and services.

<sup>l</sup> Average income in the formal sector. Until 2015, wages of employed workers in Lima metropolitan area.

Table A.28

Latin America and the Caribbean: monetary indicators

(Average percentage variation with respect to the year-earlier period)

		2013	2014	2015	2016	2017				2018	
						Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America</b>											
Argentina	Monetary base	30.2	19.7	33.2	27.9	38.8	33.6	27.3	26.1	26.5	30.4
	Money (M1)	29.5	26.1	31.6	31.6	26.0	32.0	34.6	25.8	24.2	28.6 <sup>a</sup>
	M2	30.9	23.1	33.2	33.2	28.1	30.0	28.7	25.7	32.4	35.2 <sup>a</sup>
	Foreign-currency deposits	-6.1	51.7	38.5	38.5	162.3	110.8	121.9	38.9	20.9	55.3 <sup>a</sup>
Bolivia (Plurinational State of)	Monetary base	10.8	9.5	19.2	3.9	-9.4	-2.2	3.4	9.4	10.0	9.2 <sup>b</sup>
	Money (M1)	13.5	15.4	9.4	9.4	3.9	-1.7	2.7	5.5	5.8	7.7 <sup>b</sup>
	M2	22.6	18.8	18.4	18.4	5.5	5.1	8.3	11.3	12.0	12.9 <sup>b</sup>
	Foreign-currency deposits	-4.1	-3.4	3.7	3.7	-1.8	-3.6	-2.1	-2.4	-4.3	-2.6 <sup>b</sup>
Brazil	Monetary base	5.5	7.2	3.0	3.2	5.0	6.2	6.5	6.9	5.1	6.3 <sup>a</sup>
	Money (M1)	10.7	4.7	-1.6	-1.6	2.7	3.7	4.2	3.8	5.4	7.1 <sup>a</sup>
	M2	9.3	11.7	6.8	6.8	3.3	5.4	6.1	5.4	6.4	6.7 <sup>a</sup>
Chile	Monetary base	16.3	5.3	9.6	11.4	10.1	7.0	7.9	3.8	1.4	8.8
	Money (M1)	10.1	12.1	14.3	14.3	3.7	8.8	11.4	11.0	12.7	12.9
	M2	10.3	7.7	11.3	11.3	4.2	4.7	6.4	4.3	9.7	10.5
	Foreign-currency deposits	18.7	29.0	18.7	18.7	-1.3	-6.5	-1.6	-1.6	1.8	4.3
Colombia	Monetary base	12.5	16.7	15.0	8.8	-2.4	0.0	2.8	4.7	8.4	6.2 <sup>a</sup>
	Money (M1)	14.3	14.8	10.4	10.4	-1.3	-0.4	2.2	4.0	5.4	6.8 <sup>a</sup>
	M2	17.5	12.9	10.4	10.4	6.1	5.6	5.1	5.9	6.2	5.4 <sup>a</sup>
Costa Rica	Monetary base	14.1	11.7	11.1	10.1	7.1	6.9	7.2	8.9	6.4	4.2 <sup>b</sup>
	Money (M1)	13.2	12.3	9.6	9.6	6.8	1.8	-0.8	-0.7	0.7	3.8 <sup>b</sup>
	M2	13.6	14.0	8.9	8.9	1.1	0.8	0.8	-0.7	-1.2	-2.1 <sup>b</sup>
	Foreign-currency deposits	0.8	15.9	0.8	0.8	11.8	14.3	11.3	9.2	2.0	2.9 <sup>b</sup>
Dominican Republic	Monetary base	3.9	3.3	22.1	9.1	5.7	2.7	2.5	-3.6	-3.1	-3.7 <sup>a</sup>
	Money (M1)	12.1	13.6	12.9	12.9	8.0	1.6	4.6	10.5	8.4	16.8 <sup>a</sup>
	M2	8.0	11.2	10.7	10.7	8.7	5.5	6.7	9.2	9.8	9.8 <sup>a</sup>
	Foreign-currency deposits	16.1	11.5	11.9	11.9	12.0	12.6	6.9	8.3	10.1	11.3 <sup>a</sup>
Ecuador	Monetary base	23.3	17.5	16.9	22.8	20.0	17.1	9.4	6.3	4.1	5.3 <sup>a</sup>
	Money (M1)	14.8	14.4	10.6	10.6	16.5	14.7	11.2	10.5	7.9	5.1 <sup>a</sup>
	M2	13.4	14.5	6.7	6.7	15.5	16.2	12.2	10.5	9.9	8.3 <sup>a</sup>
El Salvador	Monetary base	4.8	2.8	1.2	3.5	6.5	11.0	8.9	10.8	9.0	5.8 <sup>a</sup>
	Money (M1)	2.9	4.0	4.9	4.9	0.8	4.8	7.0	13.5	8.8	7.2 <sup>a</sup>
	M2	2.5	1.3	2.9	2.9	6.0	6.4	6.0	9.9	8.7	8.1 <sup>a</sup>
Guatemala	Monetary base	9.2	5.8	12.1	9.7	10.7	12.4	9.5	12.4	11.5	6.8 <sup>a</sup>
	Money (M1)	6.9	5.2	11.9	11.9	5.7	7.5	8.5	9.0	9.6	7.6 <sup>a</sup>
	M2	9.7	8.1	11.5	11.5	7.4	8.0	8.8	9.2	9.3	8.7 <sup>a</sup>
	Foreign-currency deposits	11.2	9.4	6.0	6.0	-1.4	-2.8	-1.4	-1.9	1.4	6.4 <sup>a</sup>
Haiti	Monetary base	0.4	-1.0	15.4	26.2	20.1	17.0	13.1	...	...	...
	Money (M1)	11.1	8.7	12.7	12.7	18.3	20.1	15.4	...	...	...
	M2	9.4	8.4	12.5	12.5	15.9	15.9	11.8	...	...	...
	Foreign-currency deposits	8.2	8.5	18.5	18.5	21.8	24.3	17.3	...	...	...
Honduras	Monetary base	4.0	9.7	16.6	14.9	20.9	20.1	23.0	12.4	13.5	8.2 <sup>a</sup>
	Money (M1)	-5.0	8.4	18.9	18.9	16.2	22.0	19.0	15.3	11.1	5.1 <sup>a</sup>
	M2	3.6	8.9	12.7	12.7	13.4	15.7	15.9	15.5	12.4	9.8 <sup>a</sup>
	Foreign-currency deposits	12.6	7.3	11.3	11.3	19.2	17.9	15.3	12.1	4.4	6.4 <sup>a</sup>
Mexico	Monetary base	6.3	13.5	20.1	15.9	14.2	12.7	8.8	8.3	8.8	10.1
	Money (M1)	7.5	13.9	16.1	16.1	12.4	10.7	8.4	8.8	8.7	9.6 <sup>a</sup>
	M2	6.7	11.1	11.7	11.7	10.6	10.6	8.0	8.8	9.7	11.1 <sup>a</sup>
	Foreign-currency deposits	12.5	26.1	39.7	39.7	34.8	23.2	31.5	28.8	13.8	18.6 <sup>a</sup>

Table A.28 (continued)

		2013	2014	2015	2016	2017				2018	
						Q1	Q2	Q3	Q4	Q1	Q2
Nicaragua	Monetary base	6.3	12.9	17.4	11.3	5.2	7.9	3.5	12.8	7.7	12.0
	Money (M1)	8.5	16.4	21.0	21.0	4.8	10.2	7.9	11.7	10.5	8.1 <sup>a</sup>
	M2	8.5	16.4	21.0	21.0	4.8	10.2	7.9	11.7	10.5	8.1 <sup>a</sup>
	Foreign-currency deposits	13.9	19.5	16.5	16.5	11.7	11.2	12.3	12.0	10.2	4.4 <sup>a</sup>
Panama	Monetary base	16.0	-1.2	28.5	7.9	1.1	2.1	2.5	6.8	4.8	0.9 <sup>b</sup>
	Money (M1)	6.8	15.1	-0.4	-0.4	-0.7	0.8	2.3	-0.3	0.9	6.2 <sup>b</sup>
	M2	6.3	13.3	4.8	4.8	4.8	5.3	6.3	5.1	4.1	3.9 <sup>b</sup>
Paraguay	Monetary base	5.1	8.3	11.3	2.7	6.2	9.9	13.3	14.9	15.2	16.6
	Money (M1)	15.6	9.6	11.6	11.6	11.2	13.6	15.9	15.8	14.7	13.9
	M2	17.4	10.6	11.2	11.2	10.6	12.6	14.3	14.9	14.4	13.1
	Foreign-currency deposits	15.8	29.3	22.3	22.3	0.7	0.8	4.7	1.1	2.9	6.9
Peru	Monetary base	21.1	-8.6	-0.9	3.3	4.8	5.6	4.9	6.9	8.5	8.3
	Money (M1)	14.3	4.9	5.1	5.1	4.5	7.4	8.2	12.2	15.9	15.1 <sup>a</sup>
	M2	18.4	2.5	2.9	2.9	13.7	12.2	8.1	12.4	14.0	11.7 <sup>a</sup>
	Foreign-currency deposits	16.3	21.4	17.3	17.3	-14.0	-9.8	-6.5	-3.9	0.2	-0.7 <sup>a</sup>
Uruguay	Monetary base	15.3	11.0	11.5	10.9	13.5	12.4	20.3	7.1	0.3	-0.5
	Money (M1)	11.7	6.1	7.1	7.1	10.3	11.9	16.6	13.8	7.3	9.2 <sup>a</sup>
	M2	12.4	8.7	9.4	9.4	16.3	13.4	16.3	15.5	11.0	13.4 <sup>a</sup>
	Foreign-currency deposits	14.8	25.8	26.6	26.6	-10.2	-10.1	-4.6	-2.1	-0.1	4.5 <sup>a</sup>
Venezuela (Bolivarian Republic of)	Monetary base	61.1	86.5	95.2	144.2	299.9	447.1	614.6	1 380.8	2 950.8	6 294.1 <sup>a</sup>
	Money (M1)	66.1	69.5	85.1	85.1	193.5	285.3	479.1	913.9	2 220.8	5 908.5 <sup>a</sup>
	M2	65.4	69.1	84.9	84.9	190.7	281.7	472.8	905.2	2 202.9	5 866.0 <sup>a</sup>
<b>The Caribbean</b>											
Antigua and Barbuda	Monetary base	9.5	22.7	19.6	12.5	-12.6	-16.9	-18.8	-19.7	3.7	...
	Money (M1)	3.1	11.5	4.4	4.4	11.4	12.6	10.7	15.6	13.3	...
	M2	2.8	3.5	2.5	2.5	4.9	4.9	4.6	5.9	5.3	...
	Foreign-currency deposits	0.9	20.0	17.0	17.0	9.3	16.2	22.7	24.8	45.7	...
Bahamas	Monetary base	2.2	13.8	-1.8	24.7	18.3	7.8	5.9	9.1	19.0	...
	Money (M1)	5.6	8.4	18.7	18.7	15.5	18.3	13.8	7.6	9.0	...
	M2	-0.6	0.1	1.5	1.5	5.8	6.2	27.7	2.4	2.4	...
	Foreign-currency deposits	15.8	-1.5	-19.9	-19.9	48.9	50.2	39.2	0.2	-2.9	...
Barbados	Monetary base	10.6	5.8	31.5	24.1	23.0	22.7	5.5	1.6	-2.3	-5.8 <sup>a</sup>
	Money (M1)	5.5	9.4	14.1	14.1	7.9	12.0	10.1	7.4	5.6	4.9 <sup>b</sup>
	M2	3.5	1.5	3.4	3.4	1.6	3.4	3.2	2.0	1.5	1.8 <sup>b</sup>
Belize	Monetary base	19.2	18.8	24.6	12.6	-2.4	-12.3	-21.1	-11.8	-16.3	-9.1 <sup>a</sup>
	Money (M1)	13.7	14.0	14.6	14.6	-4.0	-8.8	-9.9	3.9	6.3	8.3 <sup>a</sup>
Dominica	Monetary base	-0.1	14.6	22.9	40.7	84.9	51.0	6.0	-8.2	0.5	...
	Money (M1)	2.5	2.2	7.8	7.8	8.2	8.8	6.6	28.5	63.0	...
	M2	4.5	6.5	4.3	4.3	4.8	5.2	5.6	14.2	24.4	...
	Foreign-currency deposits	-6.1	13.5	1.3	1.3	-4.1	-10.9	-23.4	-40.8	-24.3	...
Grenada	Monetary base	6.1	19.7	10.2	5.6	-1.6	7.1	3.7	-1.9	-3.8	...
	Money (M1)	5.4	24.1	20.6	20.6	2.1	0.7	1.2	8.0	10.2	...
	M2	3.0	5.2	3.7	3.7	-0.1	0.2	0.6	2.9	4.0	...
	Foreign-currency deposits	-18.8	7.8	17.4	17.4	2.8	9.2	15.0	13.8	7.4	...
Guyana	Monetary base	6.6	2.5	14.3	13.5	12.3	5.1	3.4	2.2	2.7	10.9 <sup>a</sup>
	Money (M1)	6.7	10.1	7.9	7.9	11.1	10.6	7.0	7.4	8.0	8.1 <sup>a</sup>
Jamaica	Monetary base	6.3	5.9	9.9	15.5	12.3	20.6	20.6	21.0	22.9	14.7 <sup>a</sup>
	Money (M1)	5.9	5.0	15.7	15.7	18.1	16.5	5.8	6.0	15.9	20.3 <sup>a</sup>
	M2	6.4	2.6	9.9	9.9	21.4	24.5	24.4	25.8	22.7	21.5 <sup>a</sup>
	Foreign-currency deposits	28.5	9.2	13.6	13.6	15.5	19.5	29.6	19.4	12.7	7.5 <sup>a</sup>

Table A.28 (concluded)

		2013	2014	2015	2016	2017				2018	
						Q1	Q2	Q3	Q4	Q1	Q2
Saint Kitts and Nevis	Monetary base	22.8	11.5	-13.3	15.8	-2.2	-3.1	6.5	8.2	2.3	...
	Money (M1)	10.8	1.5	10.8	10.8	-7.2	-11.4	-7.2	-5.6	-5.6	...
	M2	4.5	6.4	5.9	5.9	-5.4	-6.0	-3.3	-1.9	0.1	...
	Foreign-currency deposits	18.4	46.4	16.3	16.3	-1.9	-2.1	-10.9	-8.9	-12.2	...
Saint Lucia	Monetary base	7.8	9.6	28.5	3.3	-3.6	-7.4	-8.1	-0.1	7.8	...
	Money (M1)	2.2	7.1	3.0	3.0	10.2	11.0	5.6	6.4	5.6	...
	M2	3.5	-1.0	1.6	1.6	2.7	2.3	0.6	-0.4	0.1	...
	Foreign-currency deposits	-10.1	45.0	20.1	20.1	3.1	15.3	2.1	0.9	-14.3	...
Saint Vincent and the Grenadines	Monetary base	26.8	19.5	15.6	8.9	-4.7	2.5	7.0	5.5	2.4	...
	Money (M1)	9.6	5.8	8.6	8.6	6.7	6.7	3.8	1.3	-1.0	...
	M2	8.6	8.1	5.6	5.6	3.1	4.0	4.6	2.6	1.0	...
	Foreign-currency deposits	28.9	15.8	17.6	17.6	-3.7	-6.9	-22.2	3.7	-8.7	...
Suriname	Monetary base	13.8	-7.2	-6.2	30.3	23.0	23.2	24.4	24.8	19.8	17.6
	Money (M1)	11.3	5.4	-4.5	-4.5	12.9	12.9	14.6	15.9	11.0	6.8 <sup>a</sup>
	M2	17.7	8.1	-2.4	-2.4	12.9	11.4	10.4	12.3	11.0	9.8 <sup>a</sup>
	Foreign-currency deposits	10.8	11.4	9.9	9.9	73.6	18.1	3.1	7.8	7.8	7.6 <sup>a</sup>
Trinidad and Tobago	Monetary base	19.5	8.0	-7.9	-7.3	-6.1	-11.2	-7.8	-8.5	-5.2	-9.7 <sup>b</sup>
	Money (M1)	19.2	19.8	0.0	0.0	-1.8	-1.2	-0.9	-3.9	-0.7	-4.8 <sup>b</sup>
	M2	11.8	11.6	3.8	3.8	0.3	-1.5	-1.7	-2.6	-0.7	-2.9 <sup>b</sup>
	Foreign-currency deposits	12.6	-6.8	1.6	1.6	4.8	-2.6	-2.5	2.5	-1.8	2.1 <sup>b</sup>

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

<sup>a</sup> Figures as of May.

<sup>b</sup> Figures as of April.

**Table A.29**

Latin America and the Caribbean: domestic credit  
(Percentage variation with respect to the year-earlier period)

	2013	2014	2015	2016	2017				2018	
					Q1	Q2	Q3	Q4	Q1	Q2 <sup>a</sup>
<b>Latin America</b>										
Argentina	40.8	24.7	36.2	25.0	31.0	26.2	21.9	19.3	21.1	31.1 <sup>a</sup>
Bolivia (Plurinational State of)	21.6	17.6	16.7	18.5	19.4	16.8	16.3	15.5	...	...
Brazil	11.9	9.5	9.0	9.5	10.4	5.9	4.9	6.7	3.1	3.3 <sup>a</sup>
Chile	9.3	7.6	20.0	8.8	3.9	4.4	7.0	6.8	10.5	11.3 <sup>b</sup>
Colombia	13.8	12.2	16.6	8.4	7.5	8.7	10.3	12.2 <sup>c</sup>	...	...
Costa Rica	4.2	19.9	9.5	7.1	5.8	7.4	6.3	3.1	-1.9	-3.8 <sup>b</sup>
Dominican Republic	12.4	11.6	15.0	14.5	10.1	7.6	8.0	9.0	10.2	9.3 <sup>a</sup>
Ecuador	16.7	16.2	10.1	5.6	16.0	15.2	11.2	6.4	2.7	6.1 <sup>a</sup>
El Salvador	5.5	9.5	7.3	8.1	4.3	3.7	4.1	5.3	6.0	5.7 <sup>a</sup>
Guatemala	12.6	12.0	12.0	6.0	4.0	2.8	1.4	0.4	0.6	1.5 <sup>a</sup>
Haiti	70.0	30.4	18.2	10.2	12.1	10.8	11.1	...	...	...
Honduras	9.2	6.7	7.8	6.0	4.4	8.4	8.3	5.9	13.3	10.6 <sup>a</sup>
Mexico	9.4	9.9	12.6	14.1	10.6	7.9	6.7	7.0	8.8	13.8 <sup>b</sup>
Nicaragua	20.8	11.6	11.8	13.2	13.0	17.1	15.9	13.7	9.8	5.8 <sup>a</sup>
Panama	13.0	15.9	5.8	10.4	8.9	11.6	10.6	9.9	10.9	...
Paraguay	20.8	12.0	26.0	5.9	-4.7	-2.2	0.6	1.9	5.8	11.0
Peru	6.6	18.6	14.2	12.5	9.3	6.1	11.2	18.0	23.2	23.6 <sup>a</sup>
Uruguay	16.5	18.6	12.9	33.4	12.9	3.0	2.7	-1.7	-11.2	-22.1 <sup>a</sup>
Venezuela (Bolivarian Republic of) <sup>d</sup>	61.9	63.8	74.5	100.1	132.0	189.8	312.8	456.7	3 118.1	8 218.7 <sup>a</sup>
<b>The Caribbean</b>										
Antigua and Barbuda	-4.9	-0.4	-5.9	-10.5	9.8	8.4	2.2	0.8	-2.6	...
Bahamas	1.9	0.0	0.7	0.7	2.0	3.6	4.2	-2.1	-4.0	...
Barbados	8.0	2.3	3.2	7.4	4.5	...	...	...	...	...
Belize	-2.6	-0.6	8.9	18.5	8.6	1.8	-1.6	1.8	4.3	7.0 <sup>a</sup>
Dominica	7.7	1.7	-1.8	-24.3	-22.2	-33.5	-24.2	-16.0	-13.6	...
Grenada	-2.1	-9.0	-10.2	-11.2	-6.8	-9.6	-6.6	-3.7	-1.1	...
Guyana	26.3	16.0	11.3	11.3	11.7	6.6	7.8	10.9	13.0	21.9 <sup>a</sup>
Jamaica	16.0	14.2	-2.2	4.7	17.9	13.1	-0.5	-6.0	-4.9	2.5 <sup>a</sup>
Saint Kitts and Nevis	-25.0	-18.7	-2.3	-8.2	-11.6	-5.8	-1.9	4.5	3.8	...
Saint Lucia	5.4	-3.1	-12.2	-6.1	-7.8	-7.6	-9.6	-7.1	-8.4	...
Saint Vincent and the Grenadines	6.5	3.5	5.4	0.3	-0.9	-2.2	0.6	2.9	3.3	...
Suriname	23.5	21.5	23.5	33.8	14.9	7.0	6.4	26.9	10.8	-5.4 <sup>a</sup>
Trinidad and Tobago	-20.4	-23.8	3.2	36.6	32.0	14.6	2.2	9.6	13.2	6.2 <sup>a</sup>

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

<sup>a</sup> Figures as of May.

<sup>b</sup> Figures as of April.

<sup>c</sup> Figures as of October.

<sup>d</sup> Credit granted by the commercial and universal banks.

**Table A.30**

Latin America and the Caribbean: monetary policy rates  
(Average rates)

	2013	2014	2015	2016	2017				2018	
					Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America</b>										
Argentina	14.6	26.7	27.0	28.8	24.8	26.3	26.3	28.4	27.5	36.8
Bolivia (Plurinational State of)	4.1	5.1	2.7	2.5	2.5	2.1	2.5	2.5	2.5	2.2
Brazil	8.4	11.0	13.6	14.2	12.5	10.6	8.9	7.3	6.8	6.5
Chile	4.9	3.7	3.1	3.5	3.2	2.6	2.5	2.5	2.5	2.5
Colombia	3.4	3.9	4.7	7.1	7.3	6.6	5.5	4.8	4.5	4.3
Costa Rica	4.4	4.9	3.5	1.8	1.8	3.1	4.5	4.7	4.9	5.0
Dominican Republic	5.3	6.3	5.4	5.1	5.5	5.8	5.3	5.3	5.3	5.3
Guatemala	5.1	4.6	3.3	3.0	3.0	3.0	3.0	2.8	2.8	2.8
Haiti	3.0	4.8	12.3	14.7	12.0	12.0	12.0	12.0	12.0	12.0
Honduras	7.0	7.0	6.5	5.7	5.5	5.5	5.5	5.5	5.5	5.5
Mexico	3.9	3.2	3.0	4.2	6.2	6.8	7.0	7.1	7.4	7.6
Paraguay	5.5	6.7	6.1	5.7	5.5	5.5	5.3	5.3	5.3	5.3
Peru	4.2	3.8	3.4	4.2	4.3	4.1	3.7	3.3	2.9	2.8
Venezuela (Bolivarian Republic of)	6.2	6.4	6.2	6.5	6.5	6.4	6.4	6.1	6.5	...
<b>The Caribbean</b>										
Antigua and Barbuda	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Bahamas	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Barbados	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0 <sup>a</sup>
Belize	11.0	11.0	11.0	11.0	11.0	11.0	11.0 <sup>b</sup>	...	...	...
Dominica	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Grenada	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Guyana	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0 <sup>c</sup>
Jamaica	5.8	5.8	5.5	5.1	5.0	4.8	4.5	3.8	2.9	2.7 <sup>c</sup>
Saint Kitts and Nevis	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Saint Lucia	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Saint Vincent and the Grenadines	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Trinidad and Tobago	2.8	2.8	4.1	4.8	4.8	4.8	4.8	4.8	4.8	4.8

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

<sup>a</sup> Figures as of April.

<sup>b</sup> Figures as of July.

<sup>c</sup> Figures as of May.

**Table A.31**  
Latin America and the Caribbean: representative lending rates  
(Average rates)

	2013	2014	2015	2016	2017				2018	
					Q1	Q2	Q3	Q4	Q1	Q2
<b>Latin America</b>										
Argentina <sup>a</sup>	21.6	29.3	28.2	33.3	26.2	27.3	25.9	27.8	29.7	34.2 <sup>b</sup>
Bolivia (Plurinational State of) <sup>c</sup>	7.0	6.5	6.4	6.2	5.7	5.8	6.2	6.4	6.4	6.2
Brazil <sup>d</sup>	39.1	45.0	49.5	53.7	53.6	49.7	49.5	46.9	46.6	45.4 <sup>b</sup>
Chile <sup>e</sup>	13.2	10.8	9.3	10.4	13.2	11.0	10.9	10.7	11.1	10.1
Colombia <sup>f</sup>	12.2	12.1	12.1	14.7	15.0	14.0	13.2	12.5	12.1	12.3
Costa Rica <sup>g</sup>	17.4	16.6	15.9	14.7	14.2	14.2	14.8	14.8	15.1	15.4
Dominican Republic <sup>g</sup>	13.6	13.9	14.9	15.1	16.1	14.2	13.3	12.0	12.2	12.3
Ecuador <sup>h</sup>	8.2	8.1	8.3	8.7	8.1	7.7	8.0	7.8	7.5	7.2
El Salvador <sup>i</sup>	5.7	6.0	6.2	6.4	6.3	6.5	6.5	6.6	6.5	6.5 <sup>b</sup>
Guatemala <sup>g</sup>	13.6	13.8	13.2	13.1	13.1	13.1	13.1	13.0	13.0	13.0
Haiti <sup>j</sup>	18.9	18.6	18.8	19.7	18.0	17.7	17.9	18.4	18.1	18.2 <sup>b</sup>
Honduras <sup>g</sup>	20.1	20.6	20.7	19.3	19.7	19.6	19.3	18.4	18.1	18.0 <sup>b</sup>
Mexico <sup>k</sup>	27.9	28.6	28.5	26.8	27.3	27.6	26.5	26.7	26.6	26.7 <sup>l</sup>
Nicaragua <sup>m</sup>	15.0	13.5	12.0	11.4	11.1	12.5	9.6	10.2	9.8	10.1
Panama <sup>n</sup>	7.4	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.7	7.9 <sup>b</sup>
Paraguay <sup>o</sup>	16.6	15.7	14.4	15.6	15.7	14.8	13.1	13.7	12.6	13.7 <sup>b</sup>
Peru <sup>p</sup>	18.1	15.7	16.1	16.5	17.3	16.9	16.9	16.1	15.6	14.2
Uruguay <sup>q</sup>	13.3	17.2	17.0	17.6	17.1	15.7	14.8	14.2	14.3	13.9 <sup>b</sup>
Venezuela (Bolivarian Republic of) <sup>r</sup>	15.7	17.1	19.9	21.4	21.5	21.6	21.5	21.5	22.1	21.7
<b>The Caribbean</b>										
Antigua and Barbuda <sup>s</sup>	9.4	9.6	8.7	9.2	9.0	9.0	8.9	9.0	9.0	...
Bahamas <sup>t</sup>	11.2	11.8	12.3	12.5	11.9	12.0	12.0	11.5	11.4	11.0 <sup>b</sup>
Barbados <sup>s</sup>	7.0	7.0	6.9	6.7	6.7	6.7	6.6	6.6	6.7	6.6 <sup>l</sup>
Belize <sup>u</sup>	11.5	10.9	10.3	9.8	9.6	9.5	9.4	9.3	9.2	9.2 <sup>b</sup>
Dominica <sup>s</sup>	9.0	8.8	8.6	8.2	8.1	8.1	8.0	8.0	7.9	...
Grenada <sup>s</sup>	9.1	9.1	8.8	8.4	8.4	8.2	8.1	8.0	7.9	...
Guyana <sup>f</sup>	12.1	11.1	10.8	10.7	10.6	10.6	10.6	10.5	10.5	10.4 <sup>b</sup>
Jamaica <sup>u</sup>	17.7	17.2	17.0	16.5	15.3	14.9	14.8	14.6	14.4	14.2 <sup>b</sup>
Saint Kitts and Nevis <sup>s</sup>	8.4	8.8	8.5	8.5	8.5	8.5	8.5	8.4	8.4	...
Saint Lucia <sup>s</sup>	8.4	8.4	8.5	8.2	8.1	8.1	8.1	8.0	8.0	...
Saint Vincent and the Grenadines <sup>s</sup>	9.2	9.3	9.3	9.1	8.9	8.8	8.7	8.6	8.5	...
Suriname <sup>v</sup>	12.0	12.3	12.6	13.5	14.7	14.2	14.4	14.4	14.3	14.3 <sup>b</sup>
Trinidad and Tobago <sup>q</sup>	7.5	7.5	8.2	9.0	9.0	9.0	9.0	9.0	9.0	9.0

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

<sup>a</sup> Local-currency loans to the non-financial private sector, at fixed or renegotiable rates, signature loans of up to 89 days.

<sup>b</sup> Figures as of May.

<sup>c</sup> Nominal local-currency rate for 60-91-day operations.

<sup>d</sup> Interest rate on total consumer credit.

<sup>e</sup> Non-adjustable 90-360 day operations.

<sup>f</sup> Weighted average of consumer, prime, ordinary and treasury lending rates for the working days of the month.

<sup>g</sup> Weighted average of the system lending rates in local currency.

<sup>h</sup> Effective benchmark lending rate for the corporate commercial segment.

<sup>i</sup> Basic lending rate for up to one year.

<sup>j</sup> Average of minimum and maximum lending rates.

<sup>k</sup> Average interest rate for credit cards from commercial banks and the TAC rate (Total Annual Cost).

<sup>l</sup> Figures as of April.

<sup>m</sup> Weighted average of short-term lending rates in local currency.

<sup>n</sup> Interest rate on one-year trade credit.

<sup>o</sup> Commercial lending rate, local currency.

<sup>p</sup> Market lending rate, average for transactions conducted in the last 30 business days.

<sup>q</sup> Business credit, 30-367 days.

<sup>r</sup> Average rate for loan operations for the six major commercial banks.

<sup>s</sup> Weighted average of lending rates.

<sup>t</sup> Weighted average of lending and overdraft rates.

<sup>u</sup> Rate for personal and business loans, residential and other construction loans; weighted average.

<sup>v</sup> Average of lending rates.

Table A.32

Latin America and the Caribbean: consumer prices  
(12-month percentage variation)

	2013	2014	2015	2016	2017				2018	
					March	June	September	December	March	June
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>7.5</b>	<b>9.4</b>	<b>16.5</b>	...	...	...	...	...	...	...
<b>Latin America and the Caribbean<sup>b</sup></b>	<b>5.0</b>	<b>6.3</b>	<b>7.9</b>	<b>7.3</b>	<b>6.6</b>	<b>5.3</b>	<b>5.4</b>	<b>5.7</b>	<b>5.0</b>	<b>5.9</b>
<b>Latin America</b>										
Argentina <sup>c</sup>	10.9	23.9	27.5	38.5	31.9	21.9	24.2	25.0	25.6	29.5
Bolivia (Plurinational State of)	6.5	5.2	3.0	4.0	3.3	1.8	3.6	2.7	2.7	3.2
Brazil	5.9	6.4	10.7	6.3	4.6	3.0	2.5	2.9	2.7	4.4
Chile	3.0	4.6	4.4	2.7	2.7	1.7	1.4	2.3	1.8	2.5
Colombia	1.9	3.7	6.8	5.7	4.7	4.0	4.0	4.1	3.1	3.2
Costa Rica	3.7	5.1	-0.8	0.8	1.6	1.8	1.6	2.6	2.6	2.1
Cuba <sup>d</sup>	0.0	2.1	2.4	-3.0	-2.7	-0.3	-0.5	0.6	1.6	1.7
Dominican Republic	3.9	1.6	2.3	1.7	3.1	2.6	3.8	4.2	3.9	4.6
Ecuador	2.7	3.7	3.4	1.1	1.0	0.2	0.0	-0.2	-0.2	-0.7
El Salvador	0.8	0.5	1.0	-0.9	0.5	0.9	1.6	2.0	0.9	0.9
Guatemala	4.4	2.9	3.1	4.2	4.0	4.4	4.4	5.7	4.1	3.8
Haiti	3.4	6.4	12.5	14.3	14.3	15.8	15.3	13.3	12.9	13.0
Honduras	4.9	5.8	2.4	3.3	3.9	3.7	3.7	4.7	4.4	4.2
Mexico	4.0	4.1	2.1	3.4	5.4	6.3	6.3	6.8	5.0	4.7
Nicaragua	5.4	6.4	2.9	3.1	3.2	3.2	4.3	5.8	5.0	5.6
Panama	3.7	1.0	0.3	1.5	1.5	0.7	0.8	0.5	0.6	1.2
Paraguay	3.7	4.2	3.1	3.9	2.8	2.9	4.2	4.5	4.1	4.4
Peru	2.9	3.2	4.4	3.2	4.0	2.7	2.9	1.4	0.4	1.4
Uruguay	8.5	8.3	9.4	8.1	6.7	5.3	5.8	6.6	6.7	8.1
Venezuela (Bolivarian Republic of)	56.2	68.5	180.9	...	...	...	...	...	...	...
<b>The Caribbean</b>										
Antigua and Barbuda	1.1	1.3	0.9	-1.1	2.3	2.9	2.8	2.4	0.3	...
Bahamas	0.8	0.2	2.0	0.8	2.7	1.2	0.9	1.8	0.5	...
Barbados	1.1	2.3	-2.3	3.8	4.9	2.8	4.4	6.6	6.2	6.2 <sup>e</sup>
Belize	1.6	-0.2	-0.6	1.1	2.3	0.6	0.7	1.0	-0.6	-0.6 <sup>f</sup>
Dominica	-0.4	0.5	-0.5	0.6	1.3	0.4	0.3	0.6	0.7	0.7 <sup>e</sup>
Grenada	-1.2	-0.6	1.1	0.9	1.5	0.4	0.6	0.5	0.4	0.4 <sup>e</sup>
Guyana	0.9	1.2	-1.8	1.4	2.5	1.5	1.9	1.5	0.6	0.6 <sup>f</sup>
Jamaica	9.7	6.2	3.7	1.7	4.1	4.4	4.6	5.2	3.9	3.9
Saint Kitts and Nevis	0.6	-0.5	-2.4	0.0	0.5	0.4	0.5	0.8	-0.1	-0.1 <sup>e</sup>
Saint Lucia	-0.7	3.7	-2.6	-2.8	-0.4	1.0	0.0	2.0	1.9	1.9 <sup>e</sup>
Saint Vincent and the Grenadines	0.0	0.1	-2.1	1.0	1.4	1.5	1.9	3.0	3.1	3.1 <sup>e</sup>
Suriname	0.6	3.9	25.2	49.2	41.8	19.8	11.7	9.3	8.7	8.7 <sup>e</sup>
Trinidad and Tobago	5.6	8.5	1.5	3.1	2.7	1.5	1.2	1.3	0.8	0.8 <sup>f</sup>

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

<sup>a</sup> Weighted average.

<sup>b</sup> Weighted average. Does not include the Bolivarian Republic of Venezuela.

<sup>c</sup> As from 2017, the data are matched with those corresponding to Gran Buenos Aires; in order to make an interannual comparison.

<sup>d</sup> Refers to national-currency markets.

<sup>e</sup> Figures as of April.

<sup>f</sup> Figures as of May.

**Table A.33**  
Latin America and the Caribbean: fiscal balances  
(Percentages of GDP)

	Primary balance				Overall balance			
	2014	2015	2016	2017	2014	2015	2016	2017
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>-0.3</b>	<b>-0.2</b>	<b>-0.1</b>	<b>0.0</b>	<b>-2.7</b>	<b>-2.7</b>	<b>-2.8</b>	<b>-2.6</b>
<b>Latin America<sup>b</sup></b>	<b>-1.0</b>	<b>-0.9</b>	<b>-0.9</b>	<b>-0.8</b>	<b>-2.8</b>	<b>-2.9</b>	<b>-3.0</b>	<b>-2.9</b>
Argentina	-2.3	-1.9	-2.1	-3.0	-4.2	-3.7	-5.8	-6.0
Bolivia (Plurinational State of) <sup>c</sup>	-1.7	-3.6	-2.4	...	-2.5	-4.5	-3.0	...
Brazil	-0.3	-1.9	-2.5	-1.8	-5.0	-9.1	-7.6	-7.7
Chile	-1.0	-1.5	-2.0	-1.9	-1.6	-2.1	-2.7	-2.8
Colombia	-0.4	-0.8	-1.6	-1.1	-2.4	-3.0	-4.1	-3.7
Costa Rica	-3.1	-3.0	-2.4	-3.1	-5.6	-5.7	-5.3	-6.2
Cuba	...	...	...	...	0.6	-0.4	...	...
Dominican Republic	-0.1	0.3	0.5	0.0	-2.5	-2.4	-2.4	-2.4
Ecuador	-4.9	-2.1	-3.7	-3.6	-6.3	-3.8	-5.6	-6.0
El Salvador	0.9	1.5	1.9	3.0	-1.7	-1.2	-0.9	-0.1
Guatemala	-0.4	-0.1	0.4	0.1	-1.9	-1.5	-1.1	-1.3
Haiti <sup>d</sup>	-0.5	0.3	0.9	0.7	-0.9	0.1	0.6	0.4
Honduras	-2.1	-0.6	-0.3	-0.2	-4.3	-3.1	-2.8	-2.8
Mexico <sup>e</sup>	-1.2	-1.2	-0.2	1.2	-3.1	-3.4	-2.5	-1.1
Nicaragua	0.5	0.3	0.4	0.5	-0.3	-0.6	-0.6	-0.6
Panama	-2.2	-2.0	-2.1	-1.2	-3.9	-3.7	-3.8	-2.9
Paraguay	-0.6	-0.9	-0.5	-0.5	-0.9	-1.3	-1.1	-1.1
Peru	0.8	-1.1	-1.2	-1.8	-0.2	-2.1	-2.3	-3.0
Uruguay	0.0	-0.5	-1.0	-0.3	-2.3	-2.8	-3.7	-3.0
Venezuela (Bolivarian Republic of)	1.1	-0.2	...	...	-1.9	-1.4	...	...
<b>The Caribbean<sup>f</sup></b>	<b>0.7</b>	<b>0.8</b>	<b>1.0</b>	<b>1.1</b>	<b>-2.6</b>	<b>-2.5</b>	<b>-2.4</b>	<b>-2.1</b>
Antigua and Barbuda	-0.1	4.5	2.3	0.1	-2.7	2.2	-0.4	-2.3
Bahamas <sup>g</sup>	-1.3	-0.3	-3.3	-0.3	-3.2	-2.6	-5.5	-2.5
Barbados <sup>h,i</sup>	-0.6	-2.1	2.4	3.9	-7.6	-9.4	-5.8	-4.2
Belize <sup>h</sup>	-1.3	-4.7	-1.8	1.8	-3.8	-7.2	-4.2	-1.0
Dominica	0.1	0.0	34.1	-4.3	-1.7	-1.8	32.4	-5.8
Grenada	-1.2	2.1	4.7	5.8	-4.7	-1.2	1.8	3.2
Guyana	-4.5	-0.4	-3.6	-3.6	-5.5	-1.4	-4.5	-4.7
Jamaica <sup>h</sup>	7.6	7.3	8.0	7.8	-0.5	-0.3	0.1	0.5
Saint Kitts and Nevis	13.9	8.2	6.2	3.6	10.5	6.2	4.6	2.0
Saint Lucia	0.2	1.3	2.8	2.8	-3.3	-2.1	-0.5	0.3
Saint Vincent and the Grenadines	0.3	0.9	4.3	1.9	-2.1	-1.3	2.2	-0.3
Suriname <sup>d</sup>	-3.8	-8.2	-7.3	-4.8	-5.9	-10.6	-10.8	-8.0
Trinidad and Tobago <sup>j</sup>	-0.8	0.5	-2.8	-5.4	-2.5	-1.7	-5.4	-8.4

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

<sup>a</sup> Simple averages for the 29 countries that submitted reports. Coverage corresponds to the central government.

<sup>b</sup> Simple averages for 17 countries. Does not include the Bolivarian Republic of Venezuela, Cuba or the Plurinational State of Bolivia.

<sup>c</sup> General government.

<sup>d</sup> Includes statistical discrepancy.

<sup>e</sup> Federal public sector.

<sup>f</sup> Simple averages for 12 countries. Does not include Dominica.

<sup>g</sup> Fiscal years, from 1 July to 30 June.

<sup>h</sup> Fiscal years, from 1 April to 31 March.

<sup>i</sup> Non-financial public sector.

<sup>j</sup> Fiscal years, from 1 October to 30 September.

**Table A.34**

Latin America and the Caribbean: composition of tax revenue  
(Percentages of GDP)

	Total tax burden		Social security contributions		Direct taxes		Indirect taxes		Other taxes	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>22.4</b>	<b>22.2</b>	<b>3.5</b>	<b>3.5</b>	<b>6.7</b>	<b>6.7</b>	<b>11.6</b>	<b>11.5</b>	<b>0.6</b>	<b>0.5</b>
<b>Latin America<sup>a</sup></b>	<b>21.4</b>	<b>21.0</b>	<b>4.0</b>	<b>3.9</b>	<b>6.7</b>	<b>6.6</b>	<b>10.2</b>	<b>9.9</b>	<b>0.6</b>	<b>0.6</b>
Argentina	30.8	30.3	6.8	6.9	8.3	8.5	14.1	14.2	1.6	0.7
Bolivia (Plurinational State of)	31.1	28.2	6.3	5.7	9.3	8.3	14.3	13.1	1.2	1.1
Brazil	32.2	32.2	8.4	8.6	10.2	9.6	12.7	13.4	0.9	0.6
Chile	20.2	20.1	1.4	1.4	7.7	7.9	10.9	10.9	0.1	-0.2
Colombia	19.9	20.8	2.5	3.0	8.9	8.7	7.6	8.1	0.9	1.0
Costa Rica	23.6	22.4	8.9	7.7	6.0	6.2	8.7	8.4	0.0	0.1
Cuba	41.5	44.0	5.2	5.5	11.4	12.1	22.2	23.5	2.7	2.9
Dominican Republic	13.6	13.9	0.0	0.1	4.7	4.9	8.9	8.9	0.0	0.0
Ecuador	21.2	20.9	4.8	4.6	5.5	4.9	10.5	11.1	0.3	0.3
El Salvador	19.7	20.1	2.2	2.3	7.0	7.1	9.5	9.6	0.9	1.1
Guatemala	12.6	12.4	2.1	2.1	4.1	3.9	6.3	6.4	0.1	0.1
Haiti <sup>b</sup>	14.5	14.3	0.7	0.7	3.2	3.7	8.6	7.9	1.9	2.0
Honduras	21.6	21.8	3.2	3.3	6.5	6.7	11.9	11.7	0.0	0.1
Mexico	16.6	16.0	2.2	2.1	7.8	7.9	6.4	5.8	0.2	0.2
Nicaragua	22.6	23.1	5.6	5.8	6.6	6.9	9.6	9.7	0.8	0.8
Panama	15.8	15.2	5.8	5.8	5.2	5.0	4.8	4.4	0.1	0.1
Paraguay <sup>c</sup>	13.0	13.6	3.5	3.6	2.1	2.3	6.9	7.4	0.6	0.2
Peru	16.0	15.3	2.0	2.0	6.6	6.2	7.2	6.9	0.3	0.2
Uruguay	27.4	28.7	7.5	7.7	8.6	9.5	11.4	11.4	0.0	0.0
Venezuela (Bolivarian Republic of)	14.9	6.7	0.2	0.0	3.8	1.5	10.8	5.1	0.1	0.0
<b>The Caribbean<sup>a</sup></b>	<b>23.8</b>	<b>24.0</b>	<b>2.8</b>	<b>2.9</b>	<b>6.7</b>	<b>6.8</b>	<b>13.8</b>	<b>13.9</b>	<b>0.5</b>	<b>0.4</b>
Antigua and Barbuda	19.0	18.3	2.8	2.8	2.4	2.3	12.8	12.0	1.1	1.2
Bahamas <sup>d</sup>	16.3	17.4	2.2	2.3	0.9	1.0	12.4	13.2	0.8	0.9
Barbados <sup>e</sup>	33.7	34.6	6.1	5.9	10.0	9.9	16.7	18.2	0.8	0.5
Belize <sup>e</sup>	27.6	28.2	2.2	2.3	7.3	7.2	18.1	18.7	0.0	0.0
Dominica	25.8	25.1	3.4	3.7	4.8	4.7	17.5	16.7	0.0	0.0
Grenada	24.7	25.3	3.0	3.1	5.3	5.5	16.0	16.6	0.3	0.2
Guyana	24.4	26.2	2.7	2.8	9.2	9.8	12.5	13.6	0.0	0.0
Jamaica <sup>e</sup>	27.1	28.0	1.1	1.1	9.1	8.6	16.0	17.4	0.9	0.9
Saint Kitts and Nevis	23.8	23.5	3.9	4.0	5.4	5.8	12.9	12.6	1.5	1.0
Saint Lucia	24.0	23.7	2.5	2.5	5.8	5.8	15.3	15.2	0.3	0.3
Saint Vincent and the Grenadines	27.1	27.0	3.0	3.2	9.7	9.7	14.4	14.1	0.0	0.0
Suriname	13.2	13.2	0.8	0.6	5.8	6.6	6.6	6.0	0.0	0.0
Trinidad and Tobago <sup>b</sup>	22.8	21.4	2.9	2.8	11.9	11.3	7.9	7.0	0.2	0.2

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

<sup>a</sup> Simple averages.

<sup>b</sup> Fiscal years, from 1 October to 30 September.

<sup>c</sup> Does not include tax collection by subnational governments.

<sup>d</sup> Fiscal years, from 1 July to 30 June.

<sup>e</sup> Fiscal years, from 1 April to 31 March.

**Table A.35**  
Latin America and the Caribbean: public income and expenditure  
(Percentages of GDP)

	Total income		Current expenditure		Interest payments on public debt		Capital expenditure		Primary expenditure	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>21.5</b>	<b>21.2</b>	<b>24.2</b>	<b>23.7</b>	<b>20.5</b>	<b>20.4</b>	<b>2.6</b>	<b>2.6</b>	<b>3.7</b>	<b>3.4</b>
<b>Latin America<sup>b</sup></b>	<b>18.0</b>	<b>17.9</b>	<b>21.0</b>	<b>20.8</b>	<b>17.4</b>	<b>17.4</b>	<b>2.1</b>	<b>2.2</b>	<b>3.6</b>	<b>3.4</b>
Argentina	20.3	18.3	26.0	24.3	23.9	22.4	3.6	3.0	2.1	1.9
Bolivia (Plurinational State of) <sup>c</sup>	31.3	...	34.3	...	22.1	...	0.6	...	12.1	...
Brazil	21.0	21.1	28.6	28.8	27.2	27.8	5.2	5.9	1.4	1.0
Chile	20.8	21.0	23.5	23.7	19.6	20.1	0.7	0.8	3.9	3.6
Colombia	15.0	15.8	19.1	19.5	16.8	17.3	2.5	2.6	2.3	2.1
Costa Rica	14.7	14.5	20.0	20.7	18.1	18.7	2.8	3.1	1.8	2.0
Cuba	...	...	...	...	...	...	...	...	4.1	...
Dominican Republic	14.6	14.9	17.1	17.3	14.3	13.8	2.9	2.4	2.8	3.5
Ecuador	18.8	17.6	24.4	23.6	14.7	15.2	2.0	2.4	9.7	8.4
El Salvador	18.3	19.3	19.2	19.3	16.3	16.6	2.8	3.1	3.0	2.8
Guatemala	11.0	10.8	12.1	12.1	10.0	9.9	1.5	1.4	2.1	2.2
Haiti <sup>d</sup>	14.4	13.8	13.2	12.7	11.9	11.6	0.3	0.3	1.2	1.1
Honduras	20.2	20.7	23.0	23.4	17.9	18.0	2.4	2.6	5.1	5.4
Mexico <sup>e</sup>	24.1	22.7	26.6	23.8	20.7	20.1	2.2	2.3	5.9	3.6
Nicaragua	18.6	18.7	19.2	19.3	14.6	14.5	1.0	1.1	4.5	4.8
Panama	13.4	13.9	17.2	16.9	10.7	10.9	1.7	1.7	6.5	6.0
Paraguay	13.9	14.2	15.0	15.3	11.7	11.7	0.6	0.6	3.2	3.6
Peru	19.1	18.6	21.4	21.6	16.6	16.8	1.1	1.1	4.7	4.8
Uruguay	27.8	29.0	31.5	32.0	30.1	30.6	2.7	2.7	1.4	1.3
Venezuela (Bolivarian Republic of)	...	...	...	...	...	...	...	...	...	...
<b>The Caribbean<sup>f</sup></b>	<b>26.5</b>	<b>25.7</b>	<b>28.7</b>	<b>27.8</b>	<b>24.8</b>	<b>24.5</b>	<b>3.2</b>	<b>3.2</b>	<b>3.9</b>	<b>3.3</b>
Antigua and Barbuda	24.1	19.5	24.5	21.8	20.6	20.3	2.6	2.4	3.9	1.5
Bahamas <sup>g</sup>	17.0	16.2	22.5	18.7	19.3	16.8	2.2	2.2	3.2	1.8
Barbados <sup>h,i</sup>	30.4	31.0	36.2	35.2	33.7	33.5	8.2	8.1	2.5	1.7
Belize <sup>h</sup>	28.9	29.5	33.1	30.4	26.2	26.9	2.5	2.8	7.0	3.5
Dominica	67.8	40.5	35.4	46.3	25.2	29.3	1.7	1.5	10.2	17.0
Grenada	26.4	25.8	24.5	22.6	19.8	19.9	2.9	2.6	4.7	2.7
Guyana	26.5	28.4	31.0	33.1	24.3	25.2	1.0	1.1	6.7	7.9
Jamaica <sup>h</sup>	28.7	30.4	28.6	29.9	26.2	27.4	7.9	7.3	2.4	2.5
Saint Kitts and Nevis	34.8	33.0	30.3	31.0	27.0	25.6	1.6	1.6	3.3	5.4
Saint Lucia	23.0	23.3	23.6	22.9	20.4	19.7	3.3	2.5	3.2	3.2
Saint Vincent and the Grenadines	30.9	29.0	28.7	29.3	24.9	26.1	2.1	2.3	3.8	3.3
Suriname <sup>d</sup>	16.7	17.4	25.8	24.7	23.1	21.3	1.8	2.5	2.7	3.3
Trinidad and Tobago <sup>j</sup>	30.2	25.3	35.6	33.7	32.6	31.3	2.5	3.0	3.0	2.4

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

<sup>a</sup> Simple averages for the 29 countries that submitted reports. Coverage corresponds to the central government.

<sup>b</sup> Simple averages for 17 countries. Does not include the Bolivarian Republic of Venezuela, Cuba or the Plurinational State of Bolivia.

<sup>c</sup> General government.

<sup>d</sup> Includes statistical discrepancy.

<sup>e</sup> Federal public sector.

<sup>f</sup> Simple averages for 12 countries. Does not include Dominica.

<sup>g</sup> Fiscal years, from 1 July to June 30.

<sup>h</sup> Fiscal years, from 1 April to March 31.

<sup>i</sup> Non-financial public sector.

<sup>j</sup> Fiscal years, from 1 October to September 30.

**Table A.36**

Latin America and the Caribbean: non-financial public sector gross public debt  
(Percentages of GDP)

	2010	2011	2012	2013	2014	2015	2016	2017
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>50.0</b>	<b>51.3</b>	<b>52.7</b>	<b>53.7</b>	<b>54.4</b>	<b>55.5</b>	<b>56.3</b>	<b>56.8</b>
<b>Latin America<sup>a</sup></b>	<b>30.0</b>	<b>31.7</b>	<b>32.9</b>	<b>34.2</b>	<b>35.8</b>	<b>38.6</b>	<b>40.8</b>	<b>42.1</b>
Argentina <sup>b</sup>	43.5	38.9	40.4	43.5	44.7	53.5	53.3	57.1
Bolivia (Plurinational State of) <sup>c</sup>	34.6	33.7	31.3	30.4	30.0	31.6	34.1	37.2
Brazil <sup>d</sup>	52.0	50.8	55.2	56.7	58.9	66.5	70.0	74.0
Chile	8.6	17.7	18.9	20.5	24.1	27.6	30.7	32.8
Colombia	38.7	43.1	40.7	43.1	46.0	50.1	54.9	54.4
Costa Rica	28.4	37.2	41.5	44.1	46.9	49.2	53.0	58.9
Dominican Republic	27.2	28.5	32.2	37.4	36.0	35.1	37.0	38.9
Ecuador	11.5	13.1	12.9	14.7	18.4	21.5	27.2	31.6
El Salvador	49.4	50.3	53.3	51.3	51.9	52.8	53.4	52.6
Guatemala	24.0	23.9	24.5	24.7	24.5	24.3	24.1	23.9
Haiti <sup>e f</sup>	22.8	23.9	28.0	30.5	35.1	39.7	40.8	36.6
Honduras	30.4	32.5	34.7	43.1	43.6	43.0	46.8	48.8
Mexico <sup>g</sup>	27.0	34.1	33.9	36.8	40.1	44.2	49.4	47.2
Nicaragua	33.2	32.6	32.0	31.5	30.7	30.4	32.0	34.5
Panama	39.6	37.3	35.7	34.9	36.5	37.3	37.5	37.8
Paraguay	9.1	8.1	10.7	10.8	13.5	15.1	17.3	18.2
Peru	20.7	22.0	20.4	19.4	19.8	20.9	22.7	22.6
Uruguay	39.9	43.4	45.7	41.5	44.6	52.2	50.2	51.6
Venezuela (Bolivarian Republic of) <sup>f</sup>	29.0	25.1	27.5	32.9	28.5	31.7	...	...
<b>The Caribbean<sup>h</sup></b>	<b>77.7</b>	<b>78.3</b>	<b>80.1</b>	<b>80.8</b>	<b>80.1</b>	<b>78.9</b>	<b>77.8</b>	<b>77.0</b>
Antigua and Barbuda	84.0	92.2	86.8	100.1	97.8	85.1	80.6	79.0
Bahamas	54.3	55.3	59.6	65.6	72.9	75.3	79.3	79.7
Barbados	88.1	89.8	91.0	100.2	106.1	106.7	101.4	96.2
Belize	72.3	70.7	72.8	78.5	75.6	78.8	84.8	92.2
Dominica	69.0	67.5	77.6	77.3	77.6	74.9	67.7	69.1
Grenada	93.5	98.7	101.4	103.7	96.9	88.6	80.4	70.1
Guyana	68.0	66.7	63.6	58.1	51.8	48.7	47.3	48.0
Jamaica	131.7	131.4	133.9	135.5	131.8	128.1	122.3	109.7
Saint Kitts and Nevis	145.1	140.1	137.4	99.4	77.5	66.9	63.2	62.6
Saint Lucia	56.8	61.1	67.3	68.5	69.1	66.2	67.0	67.5
Saint Vincent and the Grenadines	67.3	69.9	68.6	71.4	80.6	79.0	83.1	78.9
Suriname <sup>f</sup>	27.5	26.8	27.3	35.6	33.3	52.3	57.5	69.8
Trinidad and Tobago	52.9	48.0	53.2	56.2	70.6	74.4	77.2	78.5

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

<sup>a</sup> Simple averages. Does not include the Bolivarian Republic of Venezuela.

<sup>b</sup> National public sector.

<sup>c</sup> Refers to the external debt of the non-financial public sector and central government domestic debt.

<sup>d</sup> General government.

<sup>e</sup> Does not include public sector commitments to commercial banks.

<sup>f</sup> Central government.

<sup>g</sup> Federal public sector.

<sup>h</sup> Simple averages.

**Table A.37**  
Latin America and the Caribbean: central government gross public debt  
(Percentages of GDP)

	2010	2011	2012	2013	2014	2015	2016	2017
<b>Latin America and the Caribbean<sup>a</sup></b>	<b>45.3</b>	<b>45.9</b>	<b>47.4</b>	<b>48.2</b>	<b>49.0</b>	<b>50.1</b>	<b>50.7</b>	<b>51.3</b>
<b>Latin America<sup>a</sup></b>	<b>30.0</b>	<b>29.4</b>	<b>30.5</b>	<b>31.8</b>	<b>33.2</b>	<b>35.9</b>	<b>37.4</b>	<b>38.8</b>
Argentina <sup>b</sup>	43.5	38.9	40.4	43.5	44.7	53.5	53.3	57.1
Bolivia (Plurinational State of)	34.6	34.5	29.1	28.4	27.7	29.5	31.4	34.4
Brazil <sup>c</sup>	52.0	50.8	55.2	56.7	58.9	66.5	70.0	74.0
Chile	8.6	11.0	11.9	12.8	14.9	17.4	21.3	23.6
Colombia	38.7	36.5	34.6	37.2	40.0	43.9	44.3	45.3
Costa Rica	28.4	29.9	34.3	35.9	38.5	41.0	45.0	49.2
Dominican Republic	27.2	28.3	31.5	37.2	35.9	34.4	36.2	38.0
Ecuador	11.5	12.1	11.9	13.6	16.3	19.4	24.6	28.3
El Salvador	49.4	47.6	50.9	49.2	49.6	50.2	50.2	49.1
Guatemala	24.0	23.7	24.3	24.6	24.3	24.2	24.0	23.8
Haiti <sup>d</sup>	22.8	23.9	28.0	30.5	35.1	39.7	40.8	36.6
Honduras	30.4	32.5	34.4	43.1	44.4	44.6	45.5	47.7
Mexico	27.0	27.3	27.8	29.8	31.7	34.1	37.1	35.4
Nicaragua	33.2	31.8	31.2	30.8	30.2	29.9	30.6	34.1
Panama	39.6	36.7	35.2	34.4	36.2	36.9	37.1	37.6
Paraguay	9.1	6.9	9.5	9.7	12.1	13.3	15.1	15.8
Peru	20.7	18.4	18.2	17.2	18.0	19.7	21.6	21.2
Uruguay	39.9	38.4	40.2	36.9	39.2	47.2	46.1	47.8
Venezuela (Bolivarian Republic of)	29.0	25.1	27.5	32.9	28.5	31.7	...	...
<b>The Caribbean<sup>e</sup></b>	<b>66.5</b>	<b>68.7</b>	<b>70.7</b>	<b>71.0</b>	<b>71.0</b>	<b>69.9</b>	<b>69.1</b>	<b>68.6</b>
Antigua and Barbuda	74.2	77.1	72.2	77.9	82.1	69.6	66.7	65.1
Bahamas	40.7	42.3	45.1	52.6	57.4	56.5	57.5	58.7
Barbados	71.9	78.0	79.0	87.0	92.2	92.7	88.1	83.6
Belize	72.3	70.7	72.8	78.5	75.6	78.4	84.4	91.6
Dominica	56.7	54.6	64.6	64.6	64.8	64.6	56.9	58.0
Grenada	84.2	87.8	91.4	94.6	89.6	82.7	76.1	68.9
Guyana <sup>f</sup>	68.0	66.7	63.6	58.1	51.8	48.7	47.6	47.1
Jamaica <sup>f</sup>	131.7	131.4	133.9	135.5	131.8	128.1	122.3	109.7
Saint Kitts and Nevis	98.1	114.1	108.7	76.9	64.8	53.9	51.4	50.2
Saint Lucia	49.2	54.3	61.6	63.6	65.2	62.9	64.2	66.1
Saint Vincent and the Grenadines	55.5	58.5	61.2	59.1	68.9	67.5	65.9	62.6
Suriname	27.5	26.8	27.3	35.6	33.3	52.3	57.5	69.8
Trinidad and Tobago	34.1	31.3	38.0	38.5	45.4	50.5	60.0	61.0

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

<sup>a</sup> Simple averages. Does not include the Bolivarian Republic of Venezuela.

<sup>b</sup> National public sector.

<sup>c</sup> General government.

<sup>d</sup> Does not include public sector commitments to commercial banks.

<sup>e</sup> Simple averages.

<sup>f</sup> Public sector.

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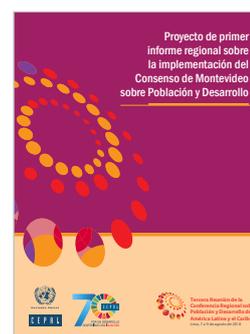
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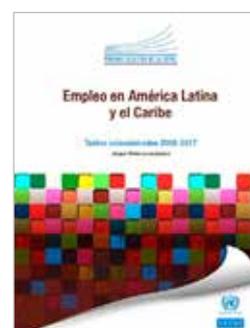
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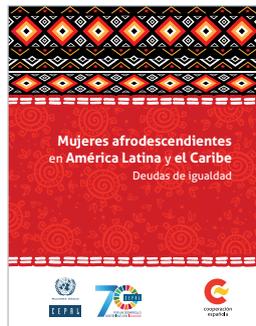
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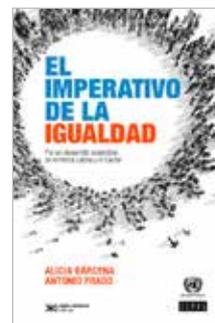
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