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REPORT OF THE
BOARD OF DIRECTORS
TO THE **CONGRESS**
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Bogotá, August 1, 2018

To
PRESIDENTS AND OTHER MEMBERS
Honorable Members Third Standing Constitutional Committee
The Senate of the Republic
The House of Representatives

Dear Sirs:

In compliance with Article 5, Act of Congress 31/1992, the Board of Directors of *Banco de la República* hereby submits to the Congress of the Republic of Colombia a *report* on the macro-economic results of the first half of 2018 and the outlook for the remainder of the year for its consideration. The last two chapters report on the composition of the international reserves and the projections for *Banco de la República's* financial situation in 2018.

Cordially,



Juan José Echavarría
General Director

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Introduction

The evolution of the Colombian economy during the first half of 2018 shows that the process of adjustment to the shocks of the last few years has consolidated simultaneously with an upturn in economic activity and improvement in consumer and entrepreneur confidence. The recent recovery has taken place within a context of high volatility in global capital markets, which has affected a number of emerging markets, and to which the Colombian economy has responded satisfactorily.

This coincidence can be explained by economic reasons. The macroeconomic imbalances resulting from the shock to the terms of trade and the inflationary pressures generated thereof wouldn't have allowed for a sustained recovery of growth and convergence of inflation to its target, as is currently the case. Hence the importance of reviewing the complex scenario of recent shocks and imbalances in order to understand how the economy managed to overcome them, reaching the current favorable scenario. Naturally, the consequences of the shocks still persist. The economy still hasn't achieved its natural output level; inflation and inflation expectations still need to finish the convergence to the target; and the current account deficit must be closed further so as to ensure a sustainable level.

As has been documented in the Reports to Congress from recent years, the shocks and imbalances that the Colombian economy has had to overcome have been severe, due both to their magnitude and persistence as to their coincidence, testing the responsiveness of the macroeconomic policy. The first shock was the abrupt fall in the price of oil in the second half of 2014, which caused a sharp deterioration of the country's terms of trade with significant consequences on economic growth as well as on the external and internal equilibriums. Later on, *El Niño* caused a significant increase in food prices since late 2015, which was accentuated with the truckers' strike in mid-2016. Similarly, the collapse of the economic activity of our major trading partners in the region, also affected by the oil shock or by the fall in the prices of other commodities, weakened the demand for our export products. Finally, the tax reform in 2016, which was indispensable to ensure fiscal sustainability after the fall of national income from oil, temporarily pushed prices and weakened domestic demand, mainly due to the increase in the value-added tax (VAT) and other indirect taxes.

This sequence of shocks determined an unfavorable international environment. However, the response of the Colombian economy was smoother than in previous episodes of tension regarding the external context. This was due to the fact that the recent process of adjustment was achieved without major trauma, thanks to the sound fundamentals of the economy and adequate institutional arrangements (such as the inflation-targeting strategy and the exchange-rate flexibility; the fiscal rule; the soundness of the financial system; and the adequate level of international reserves), which retained access to external financing and market confidence. Particularly, the credibility of monetary policy, consolidated in the inflation-targeting strategy, was key to face the external shocks without causing turmoil on inflation or on the economic activity.

The macroeconomic effects of the shocks were shown in an expansion of external and public deficits, an increase of headline inflation above its 3.0% target, a reduction in the economy's growth rate, and a slight increase in the unemployment rate. The process of adjustment of the economy to the shocks has been orderly, and has allowed these imbalances to be corrected. Thus, for example, the current account deficit, which reached 6.4% in 2015, returned to 3.3% of GDP in 2017, a level that is even lower than the one recorded before the oil shock in 2013. It must not be forgotten, however, that the greatest external deficits recorded for some time resulted in an increase in the country's foreign debt, which stood at 36.8% of GDP by April 2018. This figure is higher than the one recorded five years ago (21.8% in April 2013). Hence the importance of sustaining high savings rates that allow to maintain high levels of investment without compromising the country's external sustainability. Similarly, an exporting strategy that promotes growth and diversification of external income is key to reduce the traditional dependency on exports of a few commodities and thus achieve full recovery of economic activity in the context of a sustainable external balance.

The finances of the national government were also affected by the oil shock and by the subsequent slowdown of growth. Between 2013 and 2017, government revenues from oil went from 3.3% to 0.3% of GDP, and the government's deficit increased from 2.4% to 3.6% of GDP. The increase in the deficit was lower than the fall of income from oil, which was possible due to the 2014 and 2016 tax reforms as well as to the behavior of primary public spending¹, which decreased one percentage point of GDP between 2013 and 2017. According to the government's Financial Plan, the fiscal adjustment will continue in 2018, and it is projected to reach a deficit of 3.1% of GDP. It should be noted that, over these years, the national government's debt stepped from 32.6% to 43.4% of GDP. In order to ensure fiscal sustainability, it is advisable to continue complying with the limits established by the fiscal rule regarding the structural balance (which discounts the cyclical component of the deficit).

The impact of the sequence of shocks mentioned above on the inflation rate was also considerable. Consumer price inflation, which was close to 3.0% in

1 The primary expenditures of the government exclude interest payments on the debt of total expenditure.

2014, reached a peak of 8.97% on a yearly basis in July 2016, driven by the depreciation of the peso, the trucking strike, and *El Niño*. This weather phenomenon produced a rebound of food inflation, which rose from 5.7% to 15.7% from July 2015 to July 2016. From that moment on, the decline of headline inflation came quickly, except for a transitory increase during the second half of 2017. Several factors contributed to this significant reduction of inflation, among them the normalization of climatic conditions, the end of the pass-through of depreciation of the exchange rate to prices, and a weaker aggregate demand. The reaction of monetary policy, which increased the benchmark interest rate from 4.5% to 7.75% between September 2015 and July 2016, was another factor that played a crucial role, bringing inflation expectations to the 3.0% target.

During the first half of 2018, annual consumer inflation exhibited a significant reduction, standing at 3.2% in June. This decrease concentrated in the first three months of the year, particularly due to the disappearance of the shock caused by the increase in indirect taxes in 2017. The existence of spare capacity, the absence of pressures from the exchange rate, inflation expectations that remained close to the target, and a moderate variation in food prices also contributed to this trend. On the other hand, the decline of inflation has been limited by pressures exerted by the increase in the minimum wage and indexation to high inflation rates from previous years on the prices of some services of the economy. Some upward pressures have appeared recently as a result of increases in the international prices of oil.

Compared with the levels of June, a slight increase in yearly inflation is expected in the second half of the year. This would result from the acceleration in the annual variation of food prices associated with the usual behavior of the domestic agricultural cycle, and from increases in international prices of agricultural raw materials. Additionally, higher oil prices would exert pressure on prices of fuels and other regulated items. However, the persistence of spare capacity for the remainder of 2018 and in 2019, despite the projected recovery of economic growth, a relative slack in the labor market, and inflation expectations aligned with the target, should allow inflation to return to a decreasing trend next year and converge to 3.0%.

The adjustment of the Colombian economy to the sequence of shocks gradually regained the macroeconomic balance required to initiate the recovery of growth. Thus, the reduction of the country's risk indicators, improvement of the confidence of economic agents, and the stimulus offered by monetary policy, together with a counter-cyclical fiscal policy consistent with the fiscal rule, make up an appropriate scenario to boost economic growth. This has been reinforced by better external conditions thanks to the strength of world growth.

The reactivation of global economy has gained strength and scope. The forecasts by several international agencies outlined in this report estimate global growth in 2018 to stand between 3.1% and 3.4%, and they expect it to continue at similar levels in 2019. The acceleration of global output reflects the greater economic activity in the United States, the euro zone, China, and Japan, as

well as a slight recovery in Latin America. Growth of trade and investment has played an important role in global recovery.

In this context, commodity-exporting countries such as Colombia have benefited from the recent increases in the prices of these products, which have improved their terms of trade. Particularly, the price of Brent oil increased 14.7% during the first five months of the year thanks to a favorable economic situation that strengthened its demand as well as to various geopolitical factors that affected its supply.

The Colombian economy has already begun to record the benefits derived from a better domestic and external macroeconomic environment, as shown by the result of GDP growth in the first quarter of the year, which exhibited a higher dynamism compared to previous quarters. During the first three months of the year, the economy recorded a 2.8% expansion compared to the same period of 2017 (considering the corrections by seasonality and calendar effects). Thus, the country's economy accelerated at the beginning of 2018 *vis-à-vis* the fourth quarter last year, when the annual growth rate was 1.4%.

The figures for GDP growth on the side of expenditure for the first quarter of the year show that the greater dynamics of demand was driven by the expansion of total consumption, which grew from 2.2% to 3.3% in the fourth quarter of 2017, while gross capital formation contracted 5.6%, contrasting with a growth figure of 1.3% in the last quarter last year. This suggests that growth of demand in the first quarter was not homogeneous among its components, which is due to transitory factors that might be reversed in the remainder of the year.

As for total consumption, its greater dynamism reflects the strong recovery in public consumption, which registered a growth figure of 7.2% in the first quarter. This was due to the effect of exceptional expenditure such as the costs of elections and the population census, together with a higher expenditure by regional and local governments associated with the electoral cycle. Similarly, a higher dynamism of household consumption was observed, growing 3.3% from 1.3% in the first quarter of 2017 as a reflection of the increase in consumer confidence, the fading of the effects of the increase in the VAT, and the decline of headline inflation. On the other hand, the contraction of gross capital formation seems to come from major setbacks in construction of civil works and building construction, as can be seen from the annual variation of the added value of these sub-sectors in the first quarter of the year (-8.2% and -9.2%, respectively).

The performance of all the branches of economic activity exhibited significant differences during the first quarter of the year. Those with the highest growth rates were, in order, financial and insurance activities (8.4%), and public administration and defense, education, health, and social services (7.0%). On the contrary, significant contractions were recorded in construction (-7.9%) and mining (-3.9%). Retail, agriculture, and industry showed moderate expansions.

The information available on GDP for the first quarter, along with data for the other indicators of economic activity for the second quarter, allow the Central Bank's technical staff to maintain the forecast for economic growth at 2.7% for 2018. This figure is higher than the one observed in 2017 (1.8%), although lower than the estimate of the natural output level of the economy. This reaffirms that the worst part of the effects of the shock to the terms of trade has been overcome, and that the Colombian economy would begin to record moderate (albeit sustained) expansions, which converge to its natural output in the long term.

Regarding the labor market, there were no significant changes in unemployment rates during the first five months of the year. At the national level, the unemployment rate stood around 9.5% between January and May, a figure similar to the one presented in the last four months of 2017 and slightly higher than the value for the first half of the year (9.3%). For the 13 larger metropolitan areas, the unemployment rate was stable around 10.6% and around 5.1% in rural areas, the latter slightly below the values for the first half of last year. On the other hand, the quality of employment at the national level (measured as the number of salaried and formal employees) exhibited a slight deterioration, registering a 0.5% fall in the number of salaried workers in May, compared to the levels in December 2017. On the other hand, non-salaried employment showed a 2.4% expansion. The decline in construction, which was an important source of employment in previous years, possibly impacted these indicators. The section of this Report on labor market discusses this topic in depth.

The general context herein described shows that the Colombian economy managed to correct a large part of the imbalances caused by the shocks and that it has begun to regain gradually its growth dynamics, thus providing favorable conditions for the consolidation of growth. Consequently, until April 2018, the Board of Directors continued to reduce the interest rates, having started to do so in December 2016. The convergence of inflation and inflation expectations to the 3.0% target and the persistence of spare capacity have supported this policy. Currently, the Central Bank's intervention rate is 4.25%, a figure that corresponds to a moderately expansionary monetary policy stance. The acceleration of economic growth foreseen, the expected behavior of inflation, and the long-term trend of the cost of funding of the economy explain the recent stability of the policy rate.

However, this scenario does not exclude risks and policy challenges. Although external conditions continue to be favorable in 2018, there is uncertainty about the pace of the normalization of monetary policy in advanced economies; also, regarding greater trade protectionism in some major economies; and about the possibility of a relapse in the prices of oil and other commodities.

Normalization of monetary policy in the United States and volatility of the international financial markets have affected some emerging economies. Colombia has weathered this situation smoothly until now, given that the markets have recognized the soundness of its macroeconomic policy framework and

the orderly adjustment to shocks in previous years. However, normalization of monetary policy in advanced economies is expected to continue, which could generate tension on capital flows and on the cost of financing in emerging economies, especially if these events take place abruptly and are not anticipated by financial markets. This would be important for Colombia and other countries in the region, whose financial markets have been important recipients of capital flows in the last few years and have a broad base of foreign investors.

In this regard, the low currency mismatches in the balance sheets of financial intermediaries, households, and real sector firms in Colombia stand out. This feature reduces the risks on macroeconomic and financial stability resulting from strong fluctuations in capital flows and the exchange rate. In recent years, the Board of Directors of the Central Bank strengthened monitoring and regulation of currency and term mismatches of financial intermediaries in foreign currency. This allowed for the modification of the exchange rate regime (External Resolution 01 of 2018) in order to simplify it, maintaining the risk-monitoring mechanisms and counter-cyclical instruments. One of the boxes in this Report describes the modifications to the foreign exchange regulation, explaining the general principles of the new regime, as well as the main changes and their motivations.

A relevant aspect in the current risk map is linked to the implementation of protectionist measures by some countries that could weaken global growth through a fall in international trade and the destruction of global value chains. The renegotiation of the North American Free-Trade Agreement, as well as the decisions by the Government of the United States on the imposition of tariffs on imports from China and other countries, and their response to these retaliatory measures generate threats to global commercial activity. An escalation of trade conflicts would bring a negative impact on growth, both in advanced economies as in emerging markets.

Another latent risk that prevails is the sustainability of oil prices at their current levels. The information from the oil futures market suggests lower prices in six to twelve-month horizons. However, these and other forecasts are uncertain. The future evolution of the price of oil will depend, among other factors, on decisions made by OPEC and other large producers regarding their production levels, as well as on the extension of the current pace of global growth.

In order to address these risks and retain the confidence of domestic and external agents in the country, it is necessary to preserve a credible policy framework and to maintain an appropriate level of international liquidity. The Board of Directors of the Central Bank continuously monitors the risks of international liquidity in the country to ensure that the level of reserves provides adequate coverage. The current level of net international reserves, which is close to USD \$48,000 m, is appropriate to respond for the country's debt payments with the rest of the world and to finance the current account deficit. Additionally, Colombia has a line of contingent financing with the IMF, which is granted to member countries with good economic performance, prudent policies, and a strong economic policy framework. On 25 May 2018, the IMF reaffirmed the

access agreement to contingent resources to Colombia, amounting to approximately USD \$11,400 m. Although the economic authorities do not anticipate using these resources, they considered prudent to have them before the materialization of a strong shock to the balance of payments. A box of this report presents, besides the background of Colombia's access to this instrument, an analysis of its costs and benefits.

This Report has been structured in four sections: the first one provides an overview of the external context; the second describes the behavior of the country's main macroeconomic aggregates and presents a detailed analysis of the regional economy. The third section describes the composition of international reserves, analyzing the factors that have affected their profitability and include (as an annex) the Central Bank's international reserves management policies. The last section analyzes the financial position of *Banco de la República*, detailing the evolution of financial results to June 2018 and the projected income and expenses for the remainder of the year.

Besides the usual sections and the boxes mentioned above, this report presents two additional boxes: one about some indicators of the operation of the payments system, and another on crypto assets. The Central Bank of Colombia manages seven payment systems and must ensure their safe and efficient operation, which is indispensable for the operation of the economy. For this reason, the availability and quality of these systems are analyzed, including some statistics on availability, a summary of events that have affected their operation, and the corrective actions taken to ensure provision of the service. Given the importance of payment systems, a section on this topic will be included in the body of the report.

Finally, the box on crypto assets provides a definition and lists some of the features that prevent it from substituting legal tender and the payment instruments issued by financial institutions. Additionally, the box includes a brief description of the changes made by different countries in their regulatory frameworks with the purpose of mitigating the potential economic impact of the proliferation of these assets.

01

International Context

The very dynamic global economy of 2017 is expected to continue in 2018 due to the fiscal stimulus in the United States, the better prices for raw materials, and some financial conditions that remain lax.

Nevertheless, there are still some risks: the implementation of protectionist policies on the part of the United States and geopolitical tensions could reduce global growth. Furthermore, the normalization of monetary policy in advanced economies and the effects this may have on the emerging countries and international financial markets are a source of uncertainty in determining the capital flows to emerging economies.

Worldwide growth continues to become stronger with a better outlook for both the advanced economies and emerging ones. The United Nations (UN), the World Bank, and the International Monetary Fund (IMF) expect that growth in the world economy will be 3.2%, 3.1%, and 3.4% respectively at market prices for 2018 and this will probably reflect a surge in comparison to 2017. These entities also estimate that this trend will probably continue in 2019 at levels that are similar to those projected for 2018 (Table 1.1). According to the reports prepared by different international organizations, the stimulus that resulted from the recent tax reform in the United States and the still relaxed financial conditions in the international markets should be a support for growth in the short term.

The countries exporting raw materials have seen themselves benefited by the recent increases in the prices for these products mainly due

Table 1.1
Growth Rates of the Regions Based on the World Bank, the International Monetary Fund (IMF),
and the United Nations (UN)
(percentage)

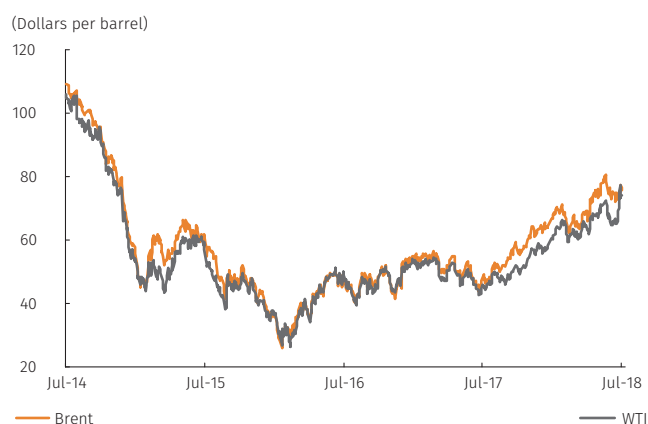
	World Bank						IMF						UN					
	PPA ^{a/}			Market prices			PPA ^{a/}			Market prices			PPA ^{a/}			Market prices		
	2017	2018 ^{b/}	2019 ^{b/}	2017	2018 ^{b/}	2019 ^{b/}	2017	2018 ^{b/}	2019 ^{b/}	2017	2018 ^{b/}	2019 ^{b/}	2017	2018 ^{b/}	2019 ^{b/}	2017	2018 ^{b/}	2019 ^{b/}
World	3.7	3.8	3.8	3.1	3.1	3.0	3.8	3.9	3.9	3.2	3.4	3.3	3.7	3.9	3.8	3.1	3.2	3.2
Advanced economies				2.3	2.2	2.0	2.3	2.5	2.2							2.3	2.2	2.1
Euro zone				2.4	2.1	1.7	2.3	2.4	2.0							2.3	2.1	1.9
Emerging economies				4.3	4.5	4.7	4.8	4.9	5.1							4.6	4.8	4.8
Latin America and the Caribbean				0.8	1.7	2.3	1.3	2.0	2.8							1.0	2.1	2.5

a/ Purchasing power parity

b/ Estimated

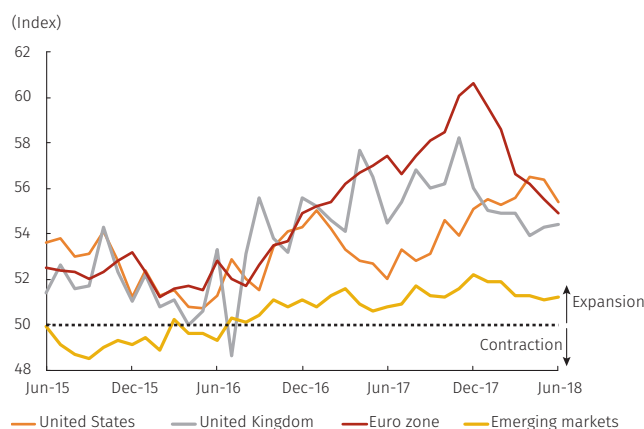
Sources: World Bank, IMF, and UN.

Graph 1.1
International Price of Oil (Brent y WTI)



Source: U.S Energy Information Administration (EIA).

Graph 1.2
Manufacturing Indices
(PMI: purchasing managers index)



Source: Bloomberg.

to the positive impact on their terms of trade. Bloomberg's raw materials index¹ has risen 7.9% from the level it was at a year ago and 4.6% in the last six months. The price of Brent crude oil rose 14.7% during the first five months of the year due to the favorable economic conditions that supported a greater demand for this type of product and the production caps set by the Organization of Petroleum Exporting Countries (OPEC) (Graph 1.1). Nevertheless, the information on oil from the futures market suggests that its price could fall in the coming months.² Future changes in the price for crude oil will depend, in part, on the decisions that OPEC makes regarding their production levels and how long the current period of global growth continues.

The recent change in activity in the advanced economies has been favorable. The latest figures on unemployment show levels of 4% in the United States, 2.2% in Japan, and 4.2% in the United Kingdom. The manufacturing production

1 The Bloomberg commodity index weighs the prices of the futures market for 22 raw materials including energy products, metals, grain, etc. Commerce and overall production of each good are used to calculate the weights in the index.

2 As of July 11, the futures contracts for the Brent crude oil with delivery in December 2018 were trading at USD 76.06 per barrel. Those with a delivery date in December 2019 were trading at USD 72.51 per barrel.

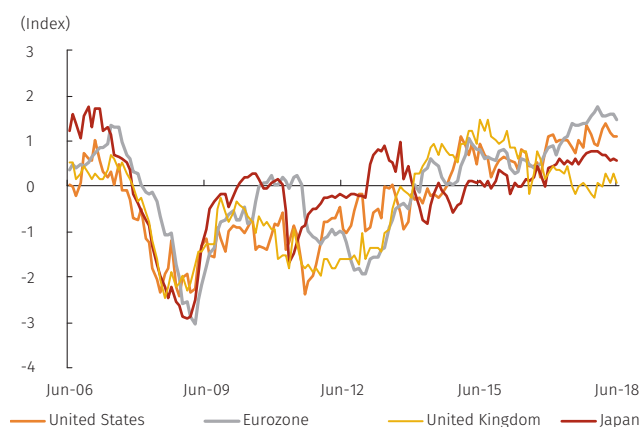
indices continue to show expansion (Graph 1.2) while consumer confidence is still rising and, for a sample of advanced economies, this indicator is currently standing above its long-term average level (Graph 1.3). In spite of the prolonged growth and the low unemployment, major pressure has not been generated on inflation or wages (Graph 1.4, panels A and B).

Notwithstanding the better short-term outlook, there are risks in the growth that warn of a possible correction in the medium term. In the first place, a faster than expected tightening of international financial conditions could reduce the international liquidity which has supported the current cycle of growth to a large extent. The period of financial volatility in February in which the markets reacted sharply to the data on wage growth in the United States (which could suggest future increases in inflation in that country) may have been an example of the greater sensitivity that financial markets are experiencing at present to rises in inflation expectations in advanced economies.

In this context, some indicators show that the international financial conditions continue to be relaxed although they have become slightly more stringent in some countries (Graph 1.5). For example, when the transnational bank credits, reported by the Bank for International Settlements (BIS), are studied, it can be inferred that international liquidity remains high, especially the liquidity directed towards emerging economies although this is slightly lower than the average that has been seen for the last few years.³

Furthermore, the increases in the policy interest rate on the part of the United States Federal Reserve (Fed) have been transmitted to the long-term US Treasury bonds. The returns on bonds

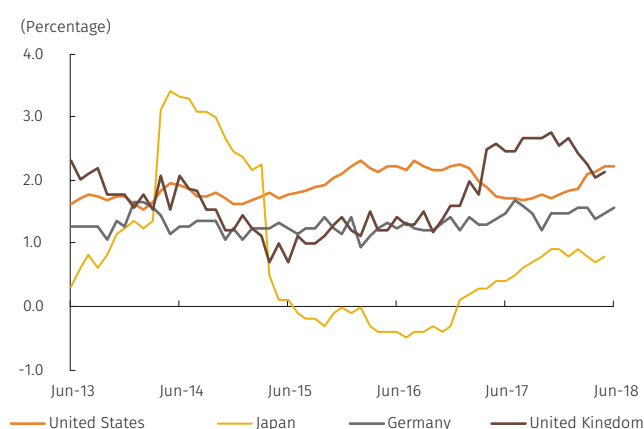
Graph 1.3
Index of Consumer Confidence in Advanced Economies^{a/}



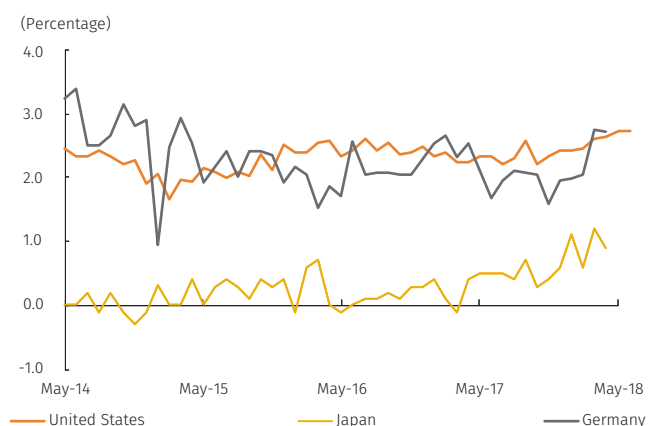
a/ standardized series with an average equal to zero since the year 2000.
Source: Bloomberg.

Graph 1.4
Evolution of inflation and salaries in advanced economies

A. Core inflation in Advanced Economies



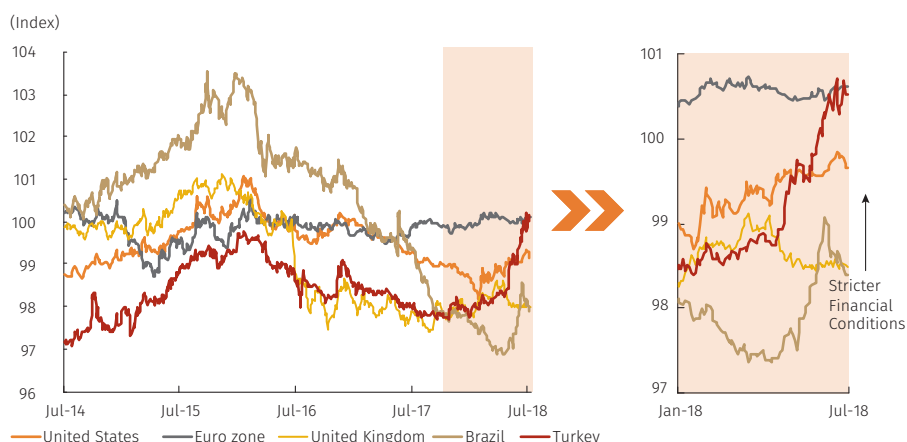
B. Annual Growth of Wages in Advanced Economies^{a/}



a/ For the United States: remuneration per hour in non-agricultural sectors; for Germany: remuneration per hour in all sectors of the economy; for Japan: average monthly salary in non-agricultural sectors.
Source: Bank for International Settlements.

3 A high global liquidity should be reflected in a significant strength of transnational bank loans. During 2017, the average quarterly growth for these loans was 3.3% while the average quarterly growth since 2013 has been 4.3%. Banking flows of this type towards emerging economies grew at a higher rate thus demonstrating greater liquidity in this group of countries. In emerging Asia and Latin America, the growth of these loans during the fourth quarter of 2017 was 14.1% and 5.5% respectively.

Graph 1.5
Financial and International Conditions^{a/}

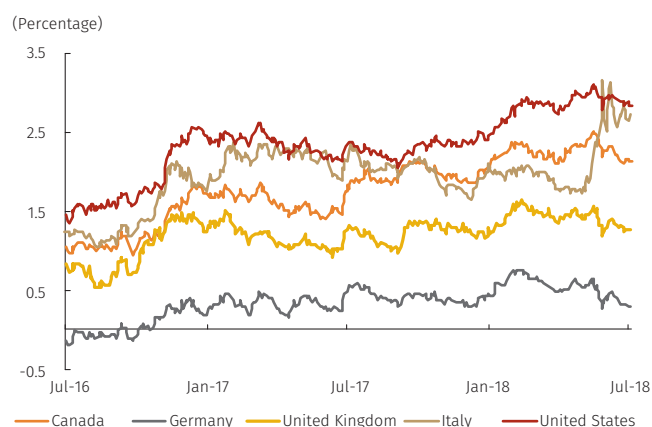


a/ Index of Goldman Sachs financial conditions. Higher values indicate more stringent financial conditions. The index includes daily data on short-term rates, yields on sovereign bonds, corporate spreads, stock prices, and exchange rates. Source: Bloomberg.

with 10-year maturity have increased 79 basis points (bp) over the last twelve months and ended up above 3% in May. This is something that has not occurred since the beginning of 2014. According to the annual report of the BIS for 2018, when the returns on these securities are broken down, what is found is that the recent increase is explained in large part by a rise in the expectations regarding the short-term interest rates which suggests that the markets anticipate that financial conditions will become tighter. Likewise, the returns on long-term bonds in other advanced economies have risen in the last few months (Graph 1.6).

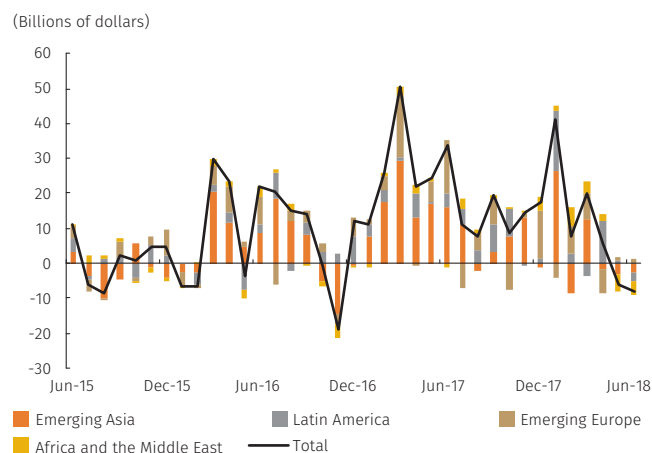
The recent decline in capital flows to emerging economies could also demonstrate a reduction in international liquidity. Estimates made by the Institute of International Finance (IIF) show that there has been a decrease in portfolio flows to emerging economies since April of this year. This is explained primarily by outflows of capital from emerging economies in Asia (Graph 1.7). Specifically, the IIF calculated that, in the first six months of the year, the average monthly capital inflows to emerging economies was USD 9.9 billion (b), a figure that is lower than the monthly average for the last two years (USD 14.7 b). It should be noted that the correlation between capital flows to one emerging country and another has been declining over the last year. This suggests that

Graph 1.6
Returns on 10-year Sovereign Bonds for Advanced Economies



Source: Bloomberg.

Graph 1.7
Portfolio flows to Emerging Markets by Region^{a/}



a/ Estimates as of May 2018. Source: Institute of International Finance.

International financial conditions continue to be relaxed, although they have become slightly more stringent in some countries.

international investors have begun to differentiate more between the potential recipient countries for the location of their investments.⁴

The rise in long-term interest rates in the advanced economies could have an impact on emerging markets by affecting the preferences of non-resident investors that are involved in these countries; this is especially the case if the increases in the interest rates occur abruptly and are not anticipated by the financial markets. This could turn out to be important for Colombia and other countries in the region whose financial markets have been important recipients of investment on the part of non-resident investors in recent years.⁵ Recent estimates by the BIS suggest that the sensitivity of the long-term interest rates in emerging economies to the changes in bond yields in advanced economies such as the United States and Germany has risen over the past year.⁶ In regards to the sensitivity of local markets to external variables, IMF estimates in their most recent report on regional outlook show, for example, that the sensitivity of the exchange rate in Colombia to increases in the VIX⁷ fits within the average levels of LAC-5

4 To check the hypothesis that investors have begun to differentiate between different emerging economies, researchers at *Banco de la República* did an analysis of the main components using data on portfolio flows to different emerging countries based on the information published by the IIF. It has been found that, since 2012, the first main component explains 49.1% of the variance in the data which suggests the existence of an important common factor that justifies the trend of the capital flows to emerging economies. In contrast, when the same exercise is done starting from 2017, the explanatory power of the first main component decreases to 40.2%. This suggests an increase in the importance of idiosyncratic factors and a greater differentiation on an individual level between countries on the part of investors.

5 See Box 2: “Share of Local Government Bond Market Held by Foreigners,” in the *Board of Directors’ Report to the Congress of Colombia*, March 2017 and Box 3: “Foreign Investors in Local South American Financial Markets,” in the *Board of Directors’ Report to the Congress of Colombia*, July 2017.

6 According to a note prepared for a June 2018 meeting of BIS governors entitled: “Recent Developments in the Global Economy”. The exercise carried out by the BIS consisted of estimating the parameters in the following regression by country in a set of developed and emerging economies: $\Delta i = \alpha + \beta \Delta i^* + \gamma \Delta VIX + \varepsilon$, where Δi and Δi^* represent the daily change in the local interest rates and the rate for ten-year US or German bonds respectively. The results show that the average value of parameter β is 0.4 for a sample of 15 countries between 2013 and 2018, and this suggests that a 100 bp change in the long-term interest rate in the United States will probably precede an increase of 40 bp in the average long-term rates. The average value estimated based on information exclusively from 2018 is higher than this value which suggests that there is a higher level of sensitivity to the rates of these countries. Nevertheless, when the estimates are duplicated using information for Colombia, researchers at the Bank found that the level of transmission of external rates to local ones is not much higher than the level for the group of countries analyzed by BIS (β is equal to 0.28), and that this sensitivity has not risen significantly during the last year.

7 The volatility index for the market in *put* options (VIX) makes it possible to measure the expectations of market volatility. Values higher than this index indicate a higher perception of risk on the part of the investors.

The sensitivity of the long-term interest rates in emerging economies to bond yields in advanced economies has risen over the past year.

countries⁸ while the elasticity of the sovereign debt *spreads* is slightly higher than the average for these countries.⁹

The recent episodes of sharp depreciations and financial volatility in Argentina and Turkey could be the consequence of vulnerabilities these economies have to stricter international financial conditions and a sudden increase in the perception of sovereign risk on the part of international markets. The Argentine peso has suffered an almost 50% depreciation during 2018 which led that country's central bank (BCRA) to raise their monetary policy rate. In addition, the BCRA had to intervene in the foreign exchange market in order to curb the depreciation, and the Argentine authorities had to resort to the IMF in search of financial support.¹⁰ A similar situation occurred in Turkey where the lira depreciated 20% with respect to the dollar during the first five months of the year and led the central bank of that country to raise their policy interest rate 300 bp and 125 bp respectively at their May and June meetings.

One very relevant aspect on the current risk map is linked to the implementation of protectionist measures on the part of some countries as well as geopolitical tensions that could decrease global growth due to a decline in international trade. The renegotiation of the North American Free Trade Agreement (NAFTA) as well as the decision by the United States government with respect to imposing tariffs on some Chinese imports¹¹ generate threats to the processes of integration and commercial activity. An escalation of these trade measures would have negative repercussions on growth for both advanced economies and emerging markets.

An escalation in trade wars could have negative repercussions on global growth.

To summarize, conditions abroad are still favorable, but risks have emerged as a result of expectations of some international financial conditions that are more stringent and a scenario of greater trade protectionism in some major economies. The most recent economic developments in some regions around the world that are relevant to Colombia and the outlook for the remainder of 2018 are presented below.

8 Corresponds to Brazil, Chile, Colombia, Mexico and Peru. On average, a 1 point increase on the VIX generates a depreciation of 0.46% in these countries and of 0.5% for Colombia.

9 According to the IMF estimates, an increase of 1 point on the VIX predicts an average increase of 7.8 bp on the EMBI (an indicator of sovereign risk that measures the difference between the rate paid by the bonds of any country with respect to the rate of a US bond). For Colombia, this sensitivity would be 9.8 bp.

10 On June 20, the Executive Board of the IMF approved a three-year stand-by agreement of USD 50 b for Argentina. The agreement seeks, among other things, to restore the confidence of international markets in Argentina, raise the credibility of the inflation targeting framework, and ensure the sustainability of public debt.

11 This past June 14, President Trump's administration announced the imposition of USD 50 b in tariffs on imports from China. In response, Chinese authorities announced that they will impose USD 50 b in tariffs on US imports including meat, tobacco, and automobiles.

1.1 Performance during the First Half of 2018

Economic activity in the United States continued to present an expansion with 2.2% growth in the first quarter of the year.¹² Prices rose slightly in May with headline inflation standing at 2.8% while the growth in the price index of personal consumption expenditures, a measure of inflation that is closely followed by the Fed, was 1.8% which was slightly below the target of 2%. The labor market continued to improve: unemployment declined and stood at 3.8% in May, which is the lowest figure in 18 years although it underwent a slight 4% rise in June. At this juncture, the monetary authority has continued to normalize their policy and at their meeting in June decided to raise the target interest rate for federal funds to a range that is between 1.75% and 2%.

In the euro zone, annual inflation stood at 1.9% in May as a result of higher energy and food prices; core inflation went to 1.3% during the same month, from 1.1% in April. With respect to monetary policy, the European Central Bank (ECB) recently announced that, if the available information continues to be favorable, they will probably reduce their asset purchase program from EUR 30 b to EUR 15 b per month in September and continue to make that amount in purchases until December of this year when the program will probably come to an end. The ECB also announced that no increases in the benchmark rate are anticipated at least until the end of the first half of 2019, and this suggests that there will probably continue to be ample liquidity during the upcoming quarters. It should also be noted that the region is still facing intense political uncertainty. The recent governmental changes in Italy caused a sudden rise in the returns on that country's sovereign bonds (Graph 1.6); in addition, the uncertainty is also sustained by the exit process of the United Kingdom from the European Union.

China's economy continues to grow at a high rate as it expanded 6.9% in 2017. The IMF projects growth rates of 6.6% and 6.4% respectively for 2018 and 2019 and expects growth to decline gradually until it reaches 5.5% in 2023. The Chinese authorities have continued to implement measures to reduce the growth of loans and curb the excessive leverage, which is currently one of its main vulnerabilities, in its economy.¹³ The recent increase in trade tensions with the United States must be noted since it is another important source of uncertainty. Chinese exports to the United States represent 3.5% of that Asian country's GDP. This highlights their extensive exposure to a trade war with the United States. IIF

A positive performance by the United States economy has made it possible to continue the process of normalizing its monetary policy.

The ECB does not expect increases in benchmark interest rates until the end of the first half of 2019. China continues to implement measures to curb excessive leverage in its economy.

¹² Preliminary values indicated a growth of 2.3%. The revised figure, published at the end of May, was 2.2% due to updates on the inventory and consumption figures.

¹³ In China, debt as a percentage of GDP is approximately 256%. This figure was 141% in 2008. The fast-paced growth of indebtedness and its high sensitivity to changes in interest rates have been generating concerns about the possibility of a sharp correction in the future that could generate problems of macroeconomic and financial stability with repercussions at the international level.

estimates suggest that a drop of USD 100 b in their exports to that destination would reduce the growth of China's economy by 0.4%.

Unlike other emerging regions, Central America¹⁴ went through a slowdown in 2017 with an average growth which went to 4% compared to 4.6% in 2016. Growth continues to be driven in South America by the end of the recessionary cycle in Argentina, Brazil, and Ecuador. In contrast, Venezuela continues to experience an acute crisis. The IMF forecast that the economy in that country will shrink 15% this year, and it estimates that inflation could reach levels that are higher than 12,000% due to the exponential increase in the monetary base.

The Venezuelan situation has unleashed changes in migratory flows and remittances between Colombia and that country. Based on the statistics from "Migración Colombia," Venezuelans accounted for more than a quarter of the total number of foreigners who had entered Colombia at the end of 2017. Moreover, over the last year 386,363 Venezuelans were registered entering the country. With regards to remittance flows, the figures show a considerable drop. In 2017, the remittances coming from Venezuela were USD 802,161 while they had been USD 492 m in 2013, USD 80.1 m in 2014, and USD 2.64 m in 2015. The remittances sent to Venezuela have also declined having gone from USD 28,181 in 2015 to USD 12,905 in 2017.¹⁵

1.2 Outlook for the remainder of 2018

The upsurge in the advanced economies and the higher prices for raw materials that benefit the countries that export these products, including the oil-producing countries, should strengthen worldwide growth for the remainder of 2018.¹⁶ International trade, in turn, will continue to be one of the bases of overall growth.¹⁷

For Latin America and the Caribbean, a surge in the rate of growth is expected;¹⁸ however, the commercial and migratory ties with the Unit-

The recessionary cycle in Argentina, Brazil, and Ecuador is coming to an end and driving economic growth in the region.

The surge in advanced economies and the higher prices for raw materials are likely to favor global growth for the remainder of 2018.

14 Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and the Dominican Republic.

15 The measurement may not be precise since the remittances sent by traditional means are subject to Venezuela's official exchange rate.

16 The IMF has raised its growth forecast since the previous publication of this Report, and currently, this entity expects the global economy to grow 3.4% at market prices in 2018 in comparison to the 3.3% they had predicted six months ago. The advanced economies may have grown 2.2% while the growth rate will probably be 4.6% for the emerging markets (based on World Bank and UN data).

17 The World Trade Organization (WTO) calculates that the global volume of trade in goods will grow 4.4% this year. This is higher than the average growth for the past 10 years (3%).

18 The Economic Commission for Latin America and the Caribbean (ECLAC) expects growth to be between 2.0% and 2.5% this year. This would be higher than the 1.3% seen in 2017. The World Bank and UN estimates for growth in 2018 also suggest an upswing in comparison to 2017 (Table 1.1).

Graph 1.8
Five-year *Credit Default Swaps (CDS)* for Some Latin American Countries



Source: Bloomberg.

ed States whose policies with respect to these issues could change suddenly are factors causing uncertainty. Likewise, the tightening of international financial conditions constitutes another source of uncertainty for the region since they could cause pressure through a decline in capital flows. A correction in the international financial markets could lead to changes in local long-term interest rates and in financing conditions in Latin America which, at present, benefit from a low perception of sovereign risk on the international markets (Graph 1.8).

Like other emerging regions, Central America would benefit from a favorable international situation through increased trade flows and remittances, and this would support an outlook of greater economic growth.¹⁹ However, the region could be adversely affected by changes in US policies in this area. The results of the current negotiation of NAFTA, the uncertainty about the future of Temporary Protected Status (TPS),²⁰ and the free trade agreement between the United States, Central America, and the Dominican Republic²¹ could undermine the growth of that region. In addition, the situation of public finances continues to be another significant source of vulnerabilities in Central America. Even though some countries managed to reduce their fiscal deficit in 2017, the fiscal risks could worsen this year given the fact that the increase in international prices for oil is likely to generate pressure on public finances through energy subsidies.

Regarding the expectations about the international financial conditions, the advanced economies are expected to continue the process of monetary normalization which could generate a process of tightening these conditions. The markets expect the Fed to raise the benchmark

¹⁹ ECLAC expects 4.4% growth in Central America for 2018, which is 0.4% more than the figure seen in 2017.

²⁰ The TPS is a migratory status assigned by the United States Department of Homeland Security to those countries where the political or environmental conditions do not allow their citizens to return safely or when countries are not able to receive their citizens appropriately. Although the TPS is not equivalent to permanent resident status, those benefited by it cannot be expelled from the United States since they have legal permission to become employed in that country. Currently, some 255,000 citizens of El Salvador, Honduras, and Nicaragua are covered by this regulation which expires in September 2019 for El Salvador and in May 2019 for the other two countries.

²¹ Although the Treaty is not currently being renegotiated, it could be affected by the implementation of protectionist policies in the United States.

Despite higher risks such as the implementation of protectionist policies and the normalization of monetary policy in advanced economies, the positive growth of the global economy is expected to continue.

rate at least once more in 2018²² and that the Bank of England will increase its policy rate during the second half of the year.²³

In summary, the strong dynamic global economy is expected to continue in 2018 due to the fiscal stimulus in the United States, the better prices for raw materials, and financial conditions that remain loose. Nevertheless, the international scenario presents some risks for which the probability of materialization has risen since the previous publication of this *Report*. The implementation of protectionist policies on the part of the United States together with the possibility of a trade war with China creates concerns with respect to the integration of international trade. Furthermore, the normalization of monetary policy in advanced economies and the effects this may have on the emerging countries and international financial markets are a source of uncertainty in determining the capital flows to emerging economies.

22 The Federal Reserve has already raised their policy interest rate two times this year at their meetings in March and June.

23 According to the market, as of July 11, there was a 79% chance that the Bank of England would raise their interest rates during their meeting in August based on information from the *overnight indexed swaps*.

02

The Colombian Economy: Results so far in 2018 and Outlook for the Rest of the Year

The Colombian economy continued to gain momentum in the first quarter of 2018. Economic activity is expected to continue on the path of recovery for the remainder of the year.

The projection of the balance of payments for 2018 indicates that the current account deficit as a percentage of the GDP will probably continue to correct itself.

In the first half of the year, annual consumer inflation showed a significant decline and stood very close to the 3.0% target. For the second half of the year, a slight rise in annual inflation (both total and core) compared to the levels seen in June is expected.

2.1 Economic Activity

Based on the Gross Domestic Product (GDP) figures recently published by the National Bureau of Statistics (DANE), the Colombian economy continued to gain strength slowly during the first quarter of 2018 in line with the forecasts of *Banco de la República* and of the majority of economic analysts. With these data,²⁴ the slowdown in the expansion rate of the Colombian economy bottomed out

²⁴ DANE did a revision of the methodology for measuring GDP and updated the base year for calculating to base 2015 compared to base 2005 in the previous versions.

in the third quarter of 2016 and since then it has gained strength. It is gradually approaching its potential growth although it has not reached this point yet.

The figures for the first quarter of this year also point to a less balanced growth than what had been anticipated, a growth which would have been attributed to a positive shock in the case of public consumption and to a negative one in the case of investment. In the second quarter of the year, while correction of these shocks is beginning, it is likely that economic growth will moderate a little (measured in annual rates) although, with respect to that, it should be noted that the performance of various sectoral indicators in April and May has been relatively good and, therefore, the uncertainty of this forecast is high.

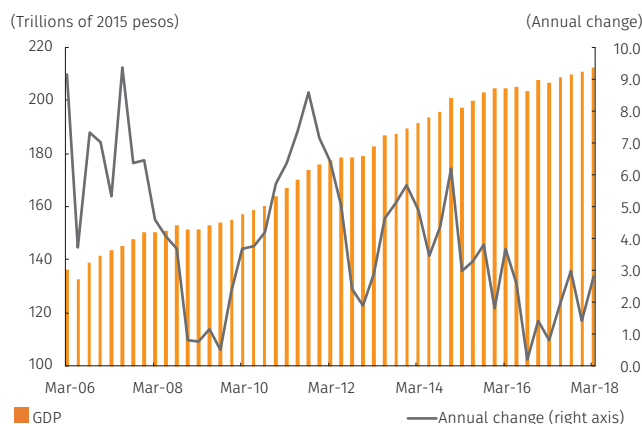
Bearing in mind the fact that the outlook for the foreign context could continue to be largely favorable to emerging economies, economic activity is expected to continue along a path of recovery for the rest of the year. As a result, the technical staff at *Banco de la República* holds to their forecast of 2.7% for the full year. This would imply greater growth, especially towards the end of the year. To the extent that the shocks to public consumption and investment in public works that was seen in the first quarter dissipate, government spending will grow less and investment will contribute positively once again. A strong external demand and some relatively high terms of trade should spur sales abroad and thus make net exports continue to contribute positively to growth.

2.1.1 Results for the First Quarter of 2018

With the most recent GDP figures published by DANE, the Colombian economy registered an expansion of 2.2% in real terms during the first

three months of the year compared to the same period in 2017. DANE published these figures corrected by seasonal adjustment and calendar effects. These make it possible to do a more accurate analysis of the trends in the economy since the statistical noise that these phenomena impress on the data are ruled out and this makes comparisons between consecutive quarters possible. The annual and quarterly variations of the corrected figures were 2.8% and 0.7% respectively (Graph 2.1). The latter corresponded to an annualized growth of 2.8%. Thus, the Colombian economy surged at the beginning of 2018 compared to what was seen in the fourth quarter of last year when the annual seasonally adjusted growth was 1.4%, the quarterly was 0.5%, and the annualized growth was 2.2%.

Graph 2.1
Gross Domestic Product
(seasonally adjusted and corrected for calendar effects)



External and domestic factors contributed to the surge in the growth rate of the GDP in the first quarter of 2018. In principle and as was explained in chapter 1 of this *Report*, the result observed occurred in a context of a better performance by the economies of our major trading partners and of the countries in the region. This also included an increase in international prices for raw materials exported by Colombia. The above favored the terms of trade and made it possible for the trade deficit to close with respect to the past records in both in dollars and in constant pesos. Indeed, with regard to the national account data on foreign trade, real exports registered an annual growth of 1.3% during the first three months of the year, a figure that contrasted with the declines seen for this same segment of the GDP over the course of the second half of 2017. Imports, in turn, fell 2.5% during the same period and have completed their second consecutive quarter of setbacks (Table 2.1). As will be explained, this performance was seen together with a bad performance in the case of investment.

Table 2.1
Annual Growth of the GDP by Type of Expenditure (corrected by seasonal adjustment and calendar effects, base 2015)

	2017				2017	2018
	I Qtr.	II Qtr.	III Qtr.	IV Qtr.	Full year	I Qtr.
Total Consumption	1.8	2.4	2.6	2.2	2.2	3.3
Household Consumption		1.8	2.3	1.7	1.8	2.3
Final government consumption	2.3	4.4	4.5	4.8	4.0	7.2
Gross Capital Formation	1.5	0.9	-1.3	1.3	0.6	-5.6
Domestic demand (consumption + investment)	1.8	2.1	1.7	2.0	1.9	1.3
Total Exports	-1.9	4.5	-1.0	-4.4	-0.7	1.3
Total Imports	-0.2	3.8	0.1	-2.6	0.3	-2.5
GDP	0.8	1.9	3.0	1.4	1.8	2.8

Source: DANE, calculations by Banco de la República.

With respect to the factors in the domestic context, the decline in inflation and the recovery of household confidence to levels that are close to its historical average stand out, and this could have favored the performance of private consumption. Added to the above is the disappearance of the effect of the increase in the value added tax (VAT) which occurred in the same period in 2017 and that affected the expansion of spending, especially during the first half of last year. A demand shock was also registered which is expected to be temporary in nature and that contributed significantly to public consumption. With that, the growth of total consumption in the figures corrected for seasonal and calendar effects surged with respect to what was registered at the end of 2017 as it went from growing 2.2% during that period to 3.3% during the first three months of the year (Table 2.1).

Unexpectedly and in contrast to the positive trend in consumption, gross capital formation (GCF) contracted sharply at the beginning of this year: 5.6% compared to the same quarter in 2017, the worst record in the most recent five-year period. With the updating of the new base for national accounts, the figures published by DANE do not make it possible to do a more thorough breakdown of the investment figures yet. Therefore, there is no certainty about which sub-component of the gross fixed capital formation the largest declines were registered in. However, and as will be described in detail, an analysis of the construction sector GDP (a mirror of the investment in this type of capital goods) suggests that the drop in the GCF could have been related to major setbacks in the segment of construction of public works and of buildings.

Investment contracted sharply in the first quarter of the year.

In the supply side, the branches with the highest rates of growth during the first quarter of the year were, in the following order, financial activities and insurance (8.4%), public administration and defense, and education, health, social services (7.0%). In contrast, there were significant reductions in construction (-7.9%) and mining (-3.9%). Commerce, agriculture, and industry showed moderate expansions (Table 2.2).

The annual growth of the agricultural sector moderated during the first quarter primarily because of lower expansions in the branches of perennial and annual crops (3.6%) and livestock (4.3%). The drop in coffee production (-5.5%), which was due, to a great extent, to weather conditions that were adverse and occurred during the second half of 2017, contributed to the slowdown in the first branch. Partly counteracting this effect, the segments of forestry and fisheries showed smaller reductions than those seen at the close of the previous year.

Mining, in turn, registered a significant drop during the first three months of the year due to the virtually zero growth in crude oil production during the same period and the sharp downturn in coal production (-8.1%). In spite of the fact that this result came about in a particular context in which some problems in law enforcement affected the oil infrastructure in February, it should be noted that this sector has presented downturns since 2014 due to the decline in the international prices for mining products and the subsequent decrease in the levels of investment in long-term projects.

In contrast, the manufacturing sector as a whole reported a performance that was better than what had been seen over the course of 2017 as it stopped falling and grew 1.5% during the first quarter of 2018. When oil refining is excluded, it grew 1.1%. The positive performance of meat processing and preservation (8.9%), preparation of milling products (7.2%), and production of beverages (3.2%) stands out. In spite of this positive result, the survey by the National Association of Colombian Business owners (ANDI in Spanish) indicates that business owners still perceive domestic and external demand as the main problems the industry faces followed by the cost of raw materials. The above may

Table 2.2
Real Annual GDP Growth by Branch of Economic Activity (corrected
by seasonal adjustment and calendar effects, base 2015)
(percentage)

	2016	2017				2017	2018
	Full year	I Qtr.	II Qtr.	III Qtr.	IV Qtr.	Full year	I Qtr.
Agriculture, forestry, hunting and fishing	2.2	-0.2	5.2	11.2	6.5	5.6	2.3
Mining and quarrying	-3.0	-6.9	-1.7	-5.2	-3.2	-4.3	-3.9
Manufacturing industry	2.8	-2.2	-2.7	-1.3	-1.7	-2.0	1.5
Electricity, gas and water	-0.0	-0.7	1.0	1.5	1.6	0.8	0.7
Construction	3.0	-0.6	-0.8	-3.4	-3.2	-2.0	-7.9
Buildings	5.4	-1.7	-4.0	-9.4	-5.9	-5.3	-9.2
Public works	-3.2	10.6	5.3	9.3	4.7	7.5	-8.2
Specialized Construction Work	5.3	-4.7	-6.1	-3.8	-2.2	-4.2	-8.2
Commerce, Repairs, Transportation, & Accommodations	1.9	0.5	1.1	2.0	1.1	1.2	3.3
Storage and communications	-0.8	-2.6	0.7	0.8	0.8	-0.1	6.4
Financial and Insurance Business	6.6	1.9	9.5	5.2	11.0	6.9	8.4
Real estate	3.3	3.1	2.8	2.6	2.5	2.8	2.8
Professional, Scientific, and Technical Work	-2.3	5.8	3.6	3.6	0.9	3.5	3.5
Public administration and Defense, Education, Health	3.6	3.5	4.2	3.9	3.7	3.8	7.0
Artistic, Entertainment, and Recreational Activities	5.5	6.1	5.5	-1.0	5.4	3.9	3.2
Subtotal –value added	2.0	0.9	1.8	1.9	1.6	1.5	2.4
Taxes minus subsidies	1.2	1.9	4.0	9.0	2.8	4.3	3.1
GDP	2.0	0.8	1.9	3.0	1.4	1.8	2.8

Sources: DANE, calculations by *Banco de la República*.

have reduced the positive effect that the accumulated depreciation would be expected to have on activity in the sector.

The branch that includes public administration and defense as well as education, and health and which has a high share of the GDP (14.7%) grew at a significant rate in the first quarter (7.0%). This is consistent with the upsurge seen in public consumption. Within the remainder of the sectors related to services, the real estate business, which represents a 8.9% share of the GDP, stands out as it expanded at a rate of 2.8% during the January to March period. The sector of financial activities and insurance, in turn, continued to grow at a significant rate during the first quarter (8.4%) and one that was better than the average seen for 2017 (6.9%).

Finally, as was mentioned, construction had a significant setback due to downturns in the segments of buildings (-9.2%) and public works (-8.2%). In the first case, based on the numbers of square meters of building in process in the *Census of buildings* published by DANE, the declines occurred in both residential (-19.2%) and non-residential (-7.1%) construction. In the second, the delays in the construction of various highways within the framework of the fourth generation roads (4G) generated by the delay in financial closures that have affected investment in these projects contributed to the segment's poor performance. As a result, there was a substantial decrease also in the segment of rentals of construction machinery and equipment with operators (-8.2%).

2.1.2 Outlook for Economic Activity for the Remainder of 2018

Higher growth in economic activity is anticipated for 2018 compared to 2017.

An environment abroad that remains favorable and the information available about the GDP for the first quarter along with the information of the rest of the economic activity indicators for the second quarter point to an upswing in the growth rate for the Colombian economy for 2018 as a whole using the 1.8% registered last year as a base. However, economic growth will probably be less balanced between the components of the GDP than what had been predicted by the technical staff at *Banco de la República* a quarter ago. Thus, and as is explained below, external demand will probably play a more relevant role in the performance of economic activity than what had been considered before while domestic demand may contribute less. In this respect, the shocks that influenced the outcome of the GDP for the first quarter will probably have an effect on the absorption (in particular on investment) in the coming quarters.

That being the case, the technical staff is not changing its forecast of 2.7% economic growth for 2018 at this time. This is higher than what was seen in 2017 (1.8%) but still below what the potential growth of the economy is estimated to be. The above is likely to mean that the worst of the effects of the shock to the terms of trade would have been overcome between 2016 and 2017 and that the Colombian economy will probably begin to register moderate but steady expansion that will converge towards its potential growth (3.3% in the long-term).

As was discussed in chapter 1 in this *Report*, the present year will be characterized by being one in which the growth rate of the worldwide economy will continue to recover with respect to what was registered in previous quarters. The projections made by the market analysts and by the technical staff at *Banco de la República* portend more dynamic economies in the developed countries, especially in the United States and the euro zone, at the same time as upswings in the growth of most Latin American economies are anticipated during the second half of 2018. These conditions make it possible to expect that foreign demand will contribute positively to the growth of the Colombian economy for the current year.

It should be noted that the surge in global growth and the process of normalizing the monetary policy stance in the advanced economies assume a moderate increase in foreign interest rates that are relevant to Colombia. Nevertheless, the technical staff anticipates that the Colombian economy will probably continue to have sources of external financing that are relatively ample during 2018 and that the pace of capital inflows are likely to remain stable over the course of the year.

Foreign demand is expected to contribute positively to GDP growth for the current year.

Likewise, the recent trend of the international prices for the commodities exported by Colombia has been more favorable than was foreseen in previous versions of this *Report* and this has led the technical staff to raise their forecasts regarding the level of the terms of trade for 2018. In the previous *Report*, the international average price of oil anticipated for this year was USD 62 per barrel while, at the moment, it is USD 71 per barrel. As a result of this, an annual increase of close to 8.6% in the terms of trade may be seen. In any case, this forecast implies that the current levels in the price of crude oil could present a slight increase during the second half of the year. In this context, the Colombian economy will probably enjoy a better national income this year and an eventual boost to exploration and drilling for oil.

The above makes it possible to expect that exports will contribute positively to an expansion in economic activity. The higher international prices and the greater external demand should boost the performance of sales abroad for both commodities and for those that are classified as non-traditional. Exports of services, especially those in the tourism sector, will probably register a better performance than what has been seen in previous years also.

Added to this is the fact that the fundamentals for growth on the domestic front make it possible to anticipate a surge in the rate of the GDP in 2018 compared with what was registered in 2017. Over the course of the year, a gradual recovery of confidence on the part of local consumers and business owners has been seen in a context of a more expansionary monetary policy stance and of relatively low domestic interest rates. In addition, the positive effects of the last tax reform with regard to investment incentives are expected to be felt in the remaining quarters. By the same token, the reduction in inflation this year should favor the purchasing power of household income and, as a result, the expansion of private consumption. The combination of all these factors makes it possible to rely on the forecast of a surge in domestic demand compared to what had been registered for the 2017 aggregate (1.9%²⁵). But this surge, given the demand shocks seen in the GDP figures for the first half of 2018, would be less than what is implied by the growth forecasts made by the technical staff at *Banco de la República* in the March *Report*.

During 2018, domestic demand will probably surge vis-à-vis the previous year.

25 This figure corresponds to the annual change in the aggregate of total consumption and capital GCF in the national accounts published by DANE base 2015.

When the components of domestic demand are examined in detail, a downturn in the growth of public consumption compared to what was registered in the first three months of the year will probably be seen for the remainder of 2018. This is the result of the difficulty of maintaining high growth like what was seen in the first quarter for this sector of the GDP. However, these are probably close to the average that has been calculated since 2006 (5.0%) and higher than what is expected for the aggregate of the economy. This performance is likely underpinned by the spending on the part of regional and local governments which probably more than offsets the gradual adjustment of the national central government's expenditure (NCG) (as a percentage of the GDP) in the areas of operation and investment based on what was presented in the most recent version of the *Medium-Term Fiscal Framework*.

Private consumption is expected to continue to recover for the remainder of the year.

Private consumption, in turn, is likely to continue showing signs of recovery. Over the course of 2018, rises in the levels of household confidence have been seen. This, in conjunction with a controlled inflation and close to the long-term target of 3.0% as well as lower interest rates resulting from the transmission of the accumulative cuts in *Banco de la República's* benchmark rate to the market rates will probably make it possible for household spending on goods and services to register growth rates for the remainder of the year that are higher than the ones in the first quarter (2.3%). In addition, expansion of private consumption should be facilitated by the disappearance of the VAT shock in 2017. Last of all, and as will be presented later, the technical staff expects the recent trends in job creation to contribute to the growth of consumption. However, the high financial burden on households could limit the expansion possibilities for this area of the GDP, especially the expansion of consumption of durable and semi-durable goods.

In contrast, the GCF could show setbacks for the 2018 aggregate since the results for the rest of the year will probably be influenced to a large extent by the demand shock in the first quarter. The figures published on the GDP expenditure accounts by DANE do not make it possible to clearly distinguish what the origin of the shock was nor which area of investment would have been the most affected during the first three months of the year. Nevertheless, the GDP figures by sector suggest that a majority of the shock occurred in the sub-components of building construction and public works. At the same time, imports of capital goods (in constant pesos) suggest that investment in machinery and equipment could be registering growth in contrast to what investment in transportation equipment is showing.

In the first case, the technical staff at *Banco de la República* envisions a recovery in public works during the second half of the year along with a better performance for the payment of funds intended for infrastructure and 4G road projects as well as a higher level of expenditures on exploration based on what has been reported by different companies in the oil sector. In the case of capital goods, the projections also envision this type of investment slowly gaining strength during the second half of the year

The manufacturing industry will probably grow in 2018.

since the better international prices for crude oil should encourage investment on the part of the oil sector and the reduction of the tax burden on companies as a result of the tax reform will tend to stimulate spending on these types of goods (through the elimination of the wealth tax, the reduction of the income tax, refunds on VAT for the purchase of machinery, etc.). However, if the poor situation for investment in construction continues, investment for this sector of the GDP is not likely to recover from the fall observed in the first three months of the year.

With regards to supply, the manufacturing sector could grow and this would depend on the anticipated recovery of domestic demand and of our trading partners who purchase industrial goods. With respect to the agricultural sector, this will probably grow at a lower rate than in 2017 mainly due to a lower yield from the crops. Specifically in the case of coffee production, a very moderate performance is expected for 2018 as a whole. In this, however, a limited recovery in the volume produced is anticipated during the second half of the year which could come about once the adverse effects from the winter weather at the end of 2017 have come to an end.

In another area, the decline in construction is expected to moderate during the remainder of 2018. This performance will probably be sustained to a large degree by the recovery expected in public works, especially during the second half of the year, as a result of the resumption of 4G projects that came to a halt at the beginning of the year. It should be noted that given their productive links with branches such as industry, transportation, and some services, the performance of this sector has a significant influence on the expansion of the national aggregate.

Finally, mining will probably stop declining for the rest of the year. Crude oil production should continue its gradual recovery that is associated with the increase in the international price for oil. This recovery also comes on the heels of normalizing the pipeline operations following the law and order issues that affected their operations during the first quarter. In the case of coal production, given the high volume levels seen in exports of this product for the second half of 2017, significant growth is not expected for the remainder of 2018 in spite of the recent recovery in international prices.

This being the case, the technical staff at *Banco de la República* is considering a more probable scenario for the forecast of GDP growth which again stands at around 2.7% for 2018,. However, this time it is contained within a forecast range between 2.0% and 3.2%. The main downside risks the growth of GDP faces will probably be: an increase in the external financing costs for the country that is greater than envisaged in the central scenario; a sharp fall in the prices of oil and other raw materials exported by the country; a more sluggish worldwide growth than expected due, among other reasons, to growing commercial tensions and a stronger persistence of the shock to investment in the cases of both construction

Some of the downward risks that the Colombian economy could face for the remainder of the year come from the external context.

of buildings and public works. An upward risk, in turn, associated with this projection is probably related to the protraction of the positive shock to public consumption that was seen in the first quarter of this year. Furthermore, the possibility that the international prices for crude oil will remain at current levels and that the yearly average could be higher than considered in the central scenario cannot be ruled out.

2.2 Labor Market²⁶

During the first half of 2018, the Colombian labor market experienced a rise in the number of people employed as well as a recovery in the overall participation rate (OPR) and in the employment rate (ER) both nationally and in urban areas. This explains the relative stability of the unemployment rate (UR) in both geographic domains. However, the indicators related to the quality of employment deteriorated a little. It is likely that the setback in construction work which, in previous years, was a major source of employment, is limiting its growth so far in 2018. For the remainder of the year no setbacks in the labor indicators are envisioned given that a continuation in the process of economic recovery is anticipated.

2.2.1 Unemployment

Based on the results of DANE's *General Integrated Household Survey* (GEIH in Spanish), the national UR did not present significant changes in the first five months of the year. With the seasonally adjusted quarterly moving average,²⁷ this indicator was around 9.5% between January and May. This figure is similar to the one seen in the last four months of 2017 and slightly higher than what was registered in the first half of the year (9.3%). With respect to the geographic domains, the UR for the thirteen most important metropolitan areas was stable at around 10.6% while in the rural areas²⁸ it stayed at around 5.1%. The latter was a little lower than the values in the first half of last year (Graph 2.2).

2.2.2 Labor Supply and Demand

The trend of unemployment can be explained by the interaction between the labor supply, represented by the OPR, and the demand,

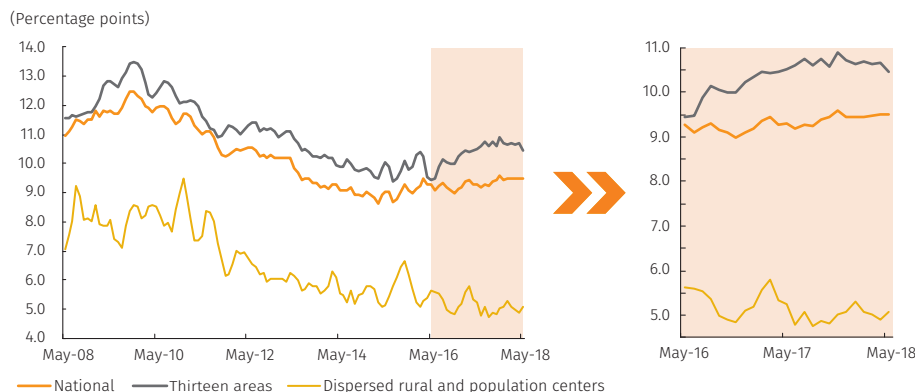
The Colombian labor market experienced rises in the number of people employed and recoveries in the employment rate on both the national level and in urban areas.

26 The labor market is showing a seasonal adjustment, i.e., its numbers are systematically higher or lower depending on the time of year. Therefore, this has to be corrected through statistical techniques in order to compare different months of the same year. Because of that, what is presented in this section is a seasonally adjusted moving average.

27 The quarterly moving average has smaller errors with respect to the monthly series since they show less variability.

28 The category "rural areas" refers to a geographical domain of "dispersed rural and population centers" as defined by DANE.

Graph 2.2
Unemployment Rate
(seasonally adjusted quarterly moving average)

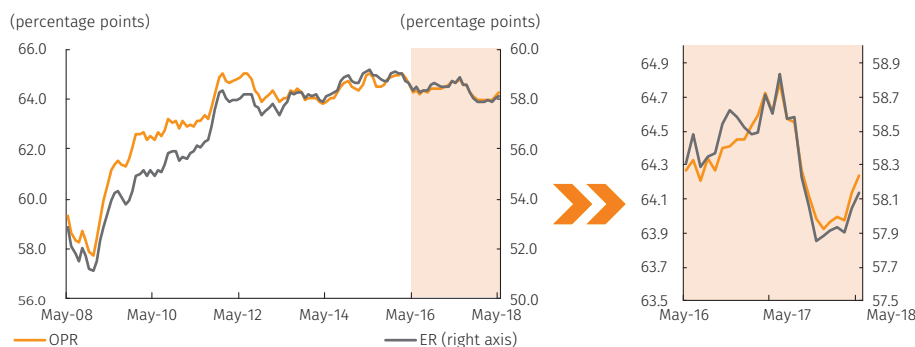


Source: DANE (GELH) and calculations by Banco de la República.

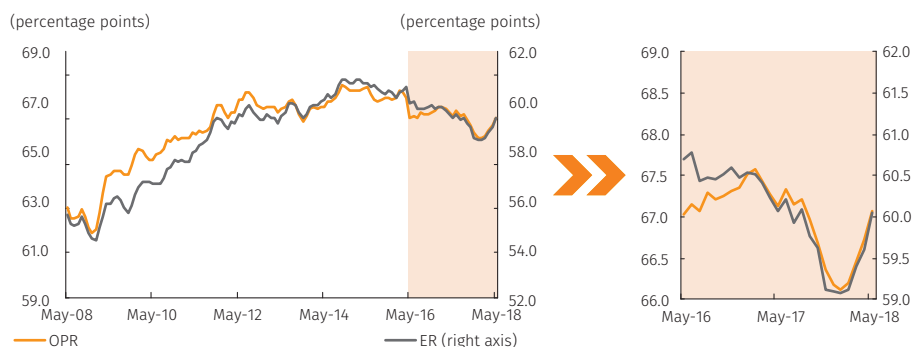
expressed by the ER. So far in 2018, the stability of the national UR and of the UR in the thirteen areas is the result of similar behavior in the ER and the OPR. In both domains it is clear that both the OPR and the ER show average levels that are similar to those seen in the second half of 2017. Nevertheless, both rates have shown an upward trend in recent months, a performance that is much more pronounced in urban areas (Graph 2.3).

Graph 2.3
Overall Participation Rate and Employment Rate
(seasonally adjusted)

A. National Total



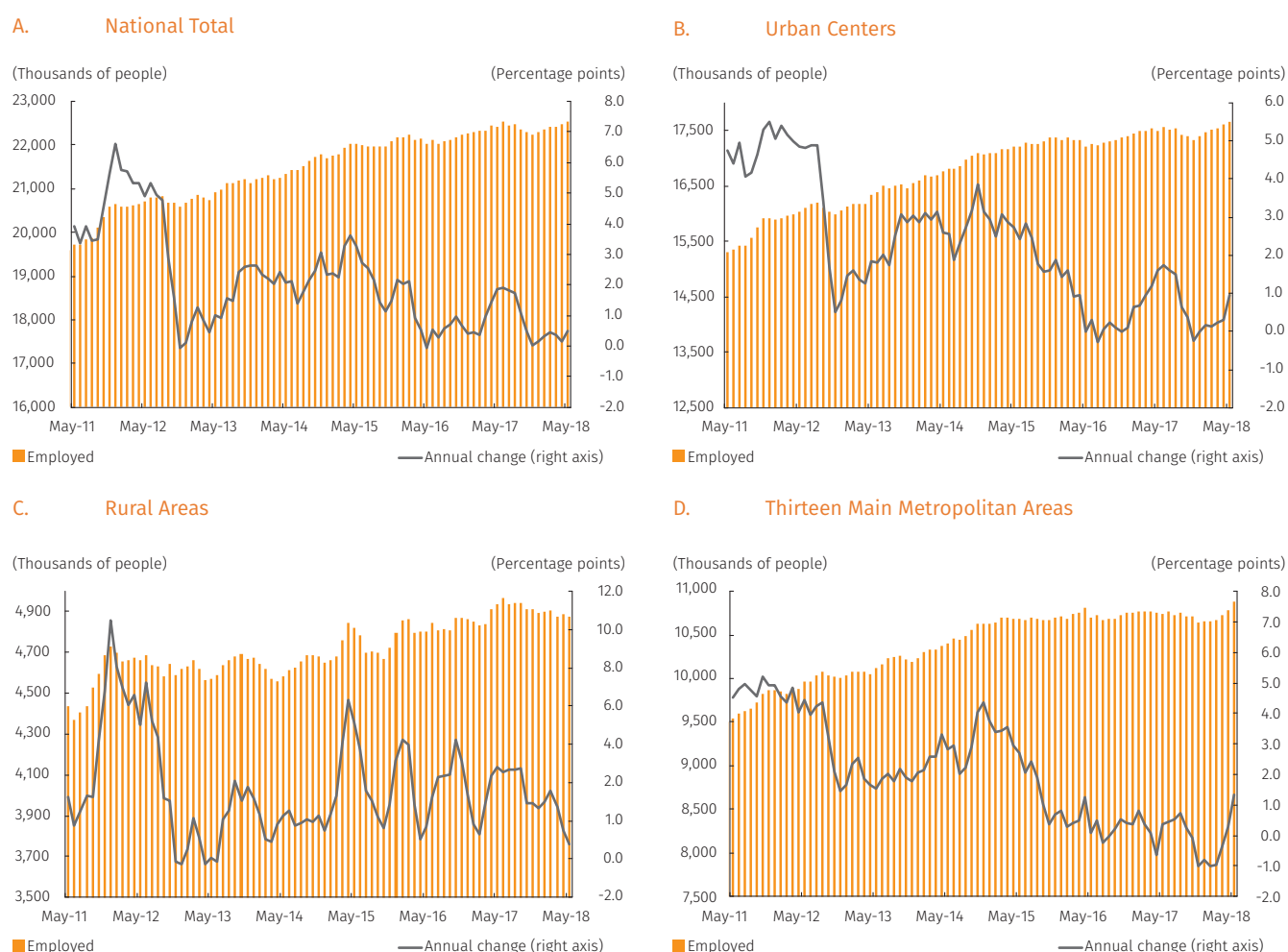
B. Thirteen areas



Source: DANE (GELH) and calculations by Banco de la República.

In the case of the national total, the performance of the ER is the result of a moderate growth in employment during 2018. With the seasonally adjusted series, the number of people employed at the national level rose 1.1% in May 2018 in comparison to the levels in December 2017. In the main cities and in the rural areas, this expansion was 1.5% and -0.4% respectively while in the thirteen areas it was 2.1% (Graph 2.4).

Graph 2.4
Number of People Employed Seasonally Adjusted and Annual Change



Sources: DANE (GELH), calculations by Banco de la República.

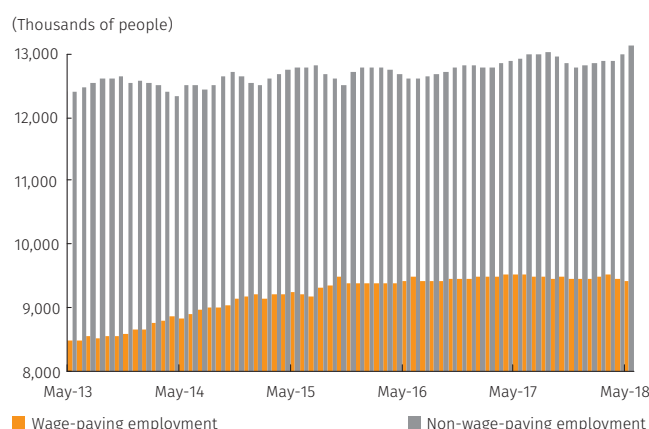
When broken down by branch of economic activity (seasonally adjusted) it can be seen that compared to the levels in December 2017, the creation of national employment in the first five months of this year was driven mainly by the sector of community, social, and personal services. During this same period, the branches that subtracted the most from the generation of employment were real estate, businesses and rentals, and construction.

2.2.3 Quality of Employment and Labor Market Conditions

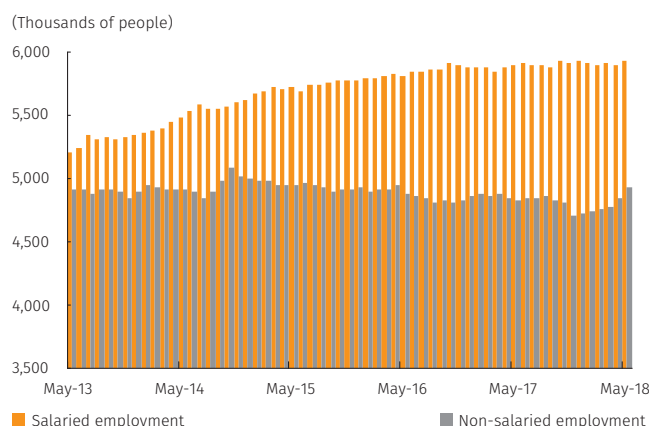
Legal and wage-paying employment are measures that enable the analysis of changes in quality of employment. Increases in legal jobs and salaried employment are usually associated with progress in the

Graph 2.5
Employment by Type of Occupation
(seasonally adjusted quarterly moving average)

A. National Total



B. Thirteen areas



Source: DANE (GEIH), calculations by Banco de la República.

quality of employment since the workers with these types of jobs enjoy greater job stability, higher wages, and greater access to loans – factors that, in turn, boost confidence, household consumption, and productivity.

The sluggishness seen in the labor market in the first five months of 2018 has been accompanied by a slight deterioration in the quality of national employment measured as the number of legally employed and salaried workers.²⁹ Based on the seasonally adjusted figures, the total number of salaried employees nationally in May 2018 fell 0.5% in comparison to the levels in December 2017 while non-salaried employment had an expansion of 2.4%. During the same period, wage-paying employment in the thirteen areas increased 0.1% while non-salaried work rose 4.5%. (Graph 2.5).

The percentage of the labor force that was formal in the thirteen areas, in turn, stood at 52.6% in May, a figure that is a little less than the one from the same month last year (53.3%). When the seasonally adjusted figures for May are compared to the ones registered in December 2017, increases of 1.4% in formal employment and 2.6% in informal employment are evident.

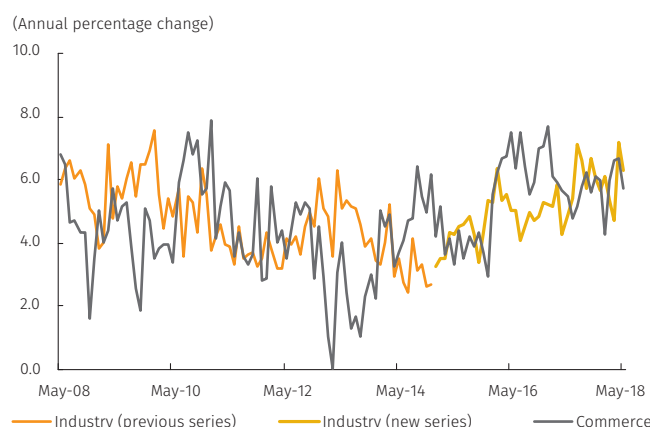
2.2.4 Wage and Labor Costs

The available information suggests that a large part of the salary adjustments that have been seen so far this year have been above the inflation target. Specifically, between January and May, the nominal wages in the retail sales sector rose an average of 5.8% per annum and the ones in the industrial sector an average of 5.9% (Graph 2.6, panel A). Between January and June, nominal wages in the heavy construction and housing sectors, in turn, registered annual increases of about 3.9% and 4.4% respectively which corresponds to the weakness the construction sector is showing (Graph 2.6, panel B).

29 All workers or laborers in private companies and the government are considered wage-earners. This is based, in turn, on DANE's definition, which is founded on the resolutions of the United Nations International Labor Organization (ILO), employers and workers in companies that have up to five workers, unpaid family workers, unpaid workers in other household companies or businesses, domestic workers, day laborers or peons, and independent workers who work in establishments that have up to five people with the exception of independent professionals are informal (DANE, 2009).

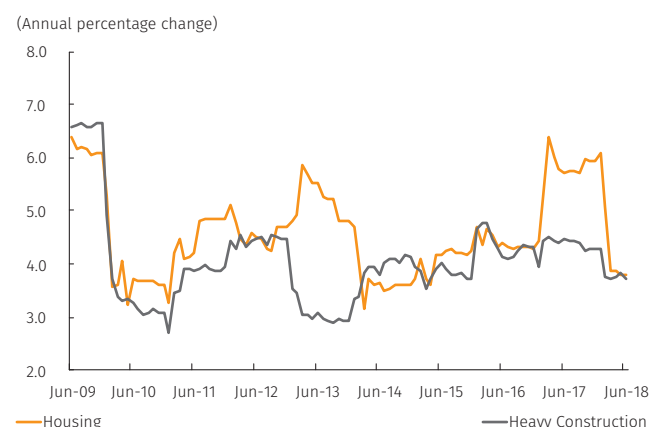
Graph 2.6
Nominal Salary Index

A. Industry and commerce



Source: DANE (EMCM and EMM), calculations by Banco de la República

B. Heavy construction and housing



Source: DANE (ICCV and ICCP), calculations by Banco de la República.

2.2.5 Outlook for the Rest of 2018

Based on the prospects of economic recovery during the second half of 2018, the indicators of the labor market should not show significant deterioration, and they may even experience a slight recovery. The UR could remain stable or present small decreases due to the fact that the growth improvement forecast for 2018 is moderate, with somewhat of an upswing in the second half of the year, and that there is a lag in the resulting reaction in the labor market.

In short, given that no significant improvement in the labor market conditions is anticipated, no substantial pressure on wages should be seen. Thus, if the labor market behaves in a way that is similar to the way it did in the first half of 2018, there will probably be no inflationary pressure originating on this level that could put obstacles in the way of a convergence of inflation rates with the target for the rest of the year.

2.3 Inflation

As was expected, in the first half of the year, annual consumer inflation showed a significant decline and stood very close to the 3.0% target established by the Board of Directors of *Banco de la República*. The drop in this indicator was concentrated in the first three months of the year, something that in large part was due to the disappearance of the shock caused by the increase in the indirect taxes in 2017 and to a favorable performance of the agricultural supply. However, a moderate growth in domestic demand with the existence of excess production capacity, the absence of pressure from the exchange rate, and inflation expectations that remained close to the target were also factors that were important in the reduction of inflation and in its stabilization slightly above this level during the second quarter of the year.

Notwithstanding these positive results, the figures for the second half of the year, especially the last two months, have shown evidence of the presence of some upward pressure on account of the fuel prices, a fact that had not been anticipated. This is due to the fact that the rises registered in the international price for crude oil as of March have begun to transfer to the international price of fuel in the absence of an offsetting effect on the part of the exchange rate. The results of these first six months also make the presence of a still significant indexation as is suggested by the level that the inflation of various prices for non-tradables is still showing.

These two factors together with an increase in the relative prices of food that is typical of the agricultural cycle could generate some temporary rises in annual consumer inflation in the second half of the year. This does not necessarily mean inflation will be above 4.0% for the end of the year. Nevertheless, the still existing presence of excess productive capacity for the remainder of 2018 and into 2019 should allow inflation to resume its declining trend next year and converge to 3.0% in spite of the projected recovery of economic growth, a relatively loose labor market along with a few expectations that are in line with the target. These forecasts assume a stable exchange rate and that no additional inflationary pressures arising from further increases in the international price of crude oil or adverse weather events come up.

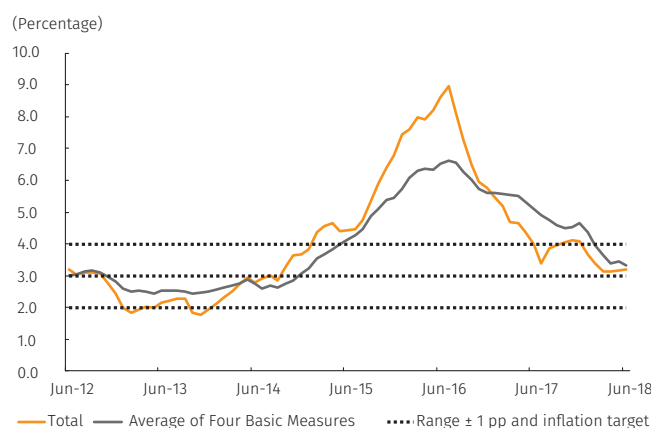
2.3.1 Inflation so far in 2018

At the end of the first half of the year, annual consumer inflation was at 3.20%, a figure that is significantly lower than the one seen at the end of last year (4.09%) and only a little higher than the one that had been forecast at the beginning of the year. A significant decline was also registered for core inflation: the average of the four indicators monitored by *Banco de la República* went from 4.66% in December to 3.33% in June (Graph 2.4 and Table 2.3). This trend, with different degrees of intensity, was shared equally by the main groups that the consumer basket is made up of.

As had been expected, the majority of the drop in both total annual inflation and core inflation was concentrated in the first three or four months of the year. Between May and June both indicators stabilized at levels that are somewhat above 3.0%.

The fall in annual inflation as of April is largely related to the disappearance of the effects associated with the rise in VAT and other indirect taxes which were put into effect at the beginning of last year. As has been explained in previous reports, price readjustments caused by the

Graph 2.7
Total Consumer Inflation and Core Inflation



Source: DANE, calculations by *Banco de la República*.

increase in indirect taxes raised annual inflation by about 50 or 60 basis points (bp) and had an impact on this variable that should last for approximately a year.

Furthermore, at the beginning of the year and, in general, throughout the first half, no demand pressure on prices was seen given the still moderate growth of expenditure nor was significant pressure registered originating from the depreciation of the peso either. Likewise, the disappearance of the VAT effect was added to the reversal of the surges in some prices that also appeared in the fourth quarter due to transitory shocks.

In the case of the disappearance of the VAT shock, the most affected segment of the consumer price index (CPI) would have been tradables excluding food and regulated items, and it is here where the greatest contribution to the reduction in headline inflation occurred at the beginning of the year. Thus, the annual change in the CPI for tradable goods (excluding food and regulated items) maintained a declining trend at the beginning of the year and went from 3.79% in December to 1.51% in April. This rate has not been seen since the second half of the year when these prices began to be affected by the depreciation of the peso (Table 2.3). The relative stability of the exchange rate since the middle of last year and over the course of the first half of 2018 was also another circumstance that allowed the inflation of tradables to maintain a declining trend.

Table 2.3
Consumer Price and Core Inflation Indicators
(as of June 2018)

Description	Weight	Dec-16	Dec-17	Jan-18	March-18	Apr-18	May-18	June-18
Total	100.00	5.75	4.09	3.68	3.14	3.13	3.16	3.20
Excluding food	71.79	5.14	5.01	4.61	4.05	3.80	3.85	3.81
Tradables	26.00	5.31	3.79	3.16	1.80	1.51	1.58	1.83
Non-tradables	30.52	4.85	5.49	5.37	4.76	4.59	4.57	4.27
Regulated items	15.26	5.44	5.86	5.27	6.01	5.65	5.79	5.82
Food	28.21	7.22	1.92	1.49	0.98	1.52	1.50	1.74
Perishables	3.88	-6.63	5.84	6.50	7.13	8.98	7.75	8.47
Processed food	16.26	10.74	-0.91	-1.27	-2.01	-1.59	-1.15	-0.91
Eating out	8.07	8.54	5.21	4.05	3.32	3.40	3.12	3.13
Core Inflation Indicators								
Excluding food		5.14	5.01	4.61	4.05	3.80	3.85	3.81
Core 20		6.18	4.87	4.72	4.04	3.72	3.79	3.58
CPI excluding perishables, fuel, & utilities		6.03	4.02	3.68	2.99	2.77	2.80	2.71
Inflation excluding food and regulated items		5.05	4.76	4.42	3.49	3.27	3.29	3.23
Average of core inflation indicators		5.60	4.66	4.36	3.64	3.39	3.43	3.33

Source: DANE, calculations by Banco de la República.

Throughout the first half of the year, no pressure on prices from demand was observed.

The readjustment of the VAT likewise affected the level of CPI for non-tradables at the beginning of last year which is why a significant decline in the annual variation of this basket was seen in the first few months of 2018 (Table 2.3). In addition, the moderate growth of demand as of March, the presence of excess productive capacity for the last several quarters, and expectations of close to 3.0% inflation at different horizons also limited the price adjustments for this group of the CPI. Similarly, and as was expected, the temporary increases in the level of prices for soccer tickets reversed during the first few months. Given their magnitude, these had a significant impact on the inflation for the group.

In spite of the above, the readjustments that were seen in the educational and health services continued to appreciably surpass the target of 3.0% within the group of non-tradables. The latter suggests that the indexation to the inflation of previous years and a more than 4.0% adjustment in the minimum wage and other salaries are factors that have limited the decline in inflation for this group. Apart from these services, the salary readjustments have had little impact on consumer prices over the course of the year.

In addition to tradables and non-tradables (excluding food and regulated prices), the decline in inflation in the first few months of the year was the result of the very favorable performance of the CPI for food which resulted in its annual change going from 1.92% in December last year to 0.98% in March of the present year. The most outstanding thing in this area was the downward pressure resulting from the prices of eating away from home that went from an annual change that was above 5.0% at the end of 2017 to a figure that was a little above 3.0% at the end of the first quarter. The slower rate of adjustment can be attributed to the weakness that domestic demand is still exhibiting and the relatively moderate increases that the prices of various types of food presented. These factors have probably more than compensated for the 5.9% readjustment of the minimum wage, a very important factor in the cost structure of this service.

The reductions in the prices for processed products, which to a large degree have been imported, also stand out in the CPI for food. The absence of upward pressure on international prices for imported agricultural raw materials (oil and grain) in the last few months and the stability of the exchange rate contributed to this result.

As for the basket of food prices, the positive performance of eating away from home during the first half of the year was notable.

In contrast, in the case of the prices for perishable products, the readjustments in the first few months of the year have exceeded those that occurred during the same period last year and, as a result, the annual change of the respective CPI surged and was close to 9.0% in April. A rate this high has not been seen since 2015 and 2016 when the main effects of the El Niño climate condition were felt. The largest adjustments at the beginning of the year were mainly concentrated in products such as potatoes and various types of fruit and may have been

An interruption in the decline in inflation in the second quarter of the year was already expected.

due to the low prices and ample supply that was registered during much of 2017. This would have discouraged the planting, harvesting, and marketing of these products since the end of last year.

The decline in annual consumer inflation was interrupted in May and April, a situation that had been predicted in forecasts made by the technical staff at the Bank. This has occurred despite the fact that the economy has continued to have excess productive capacity and that demand pressure remained limited. This is still being reflected in smaller adjustments in the IPC for non-tradable goods. Nevertheless, the prices of perishable food continued to present significant adjustments as part of the normalization of the agricultural cycle while the pace of adjustment in the prices for tradable goods stopped falling and stabilized at low rates of growth.

In addition, in recent months unanticipated increases in the domestic fuel prices began to appear due to the rise in the international price of crude oil which was not accompanied by an equivalent appreciation in the peso as it had been on previous occasions. This fact, along with rises in the prices for electricity and water and sewer services due to changes in regulations kept the adjustment of the CPI for regulated items at high levels and above what had been forecast by *Banco de la República* (Table 2.3).

2.3.2 Outlook for 2018 and 2019

For the second half of the year, a slight rise in annual inflation (both total and core) compared to the levels seen in June is expected. This would result from a slight upswing in the annual change in food prices associated with the usual behavior of the domestic agricultural cycle and a few increases in international prices for agricultural raw materials due to the spike in the price of crude oil in previous months.

The higher prices of oil will also tend to have an impact on the domestic price for fuel in the absence of an appreciation of the peso to offset them. Furthermore, additional adjustments in the fees for utilities related to regulatory changes and other shocks are expected. Both of these occurrences will tend to keep the annual variation in the CPI for regulated goods at high levels with respect to 3.0% and with something of a rising trend during a large part of the second half of the year. This will also put a slight upward pressure on annual inflation.

For the second half of the year, a slight increase in inflation is expected.

Aside from these two phenomena, no upward pressure on consumer prices is anticipated for the remainder of the year. Economic activity should continue to recover slowly due to which the excess productive capacity should not disappear. This should discourage rises in those prices that are the most sensitive to demand such as those for non-tradable goods. Pressure from the exchange rate is not expected

either, especially in the case of the prices for tradable goods and services. Moreover, the labor market will probably remain relatively weak which will limit increases in wages.

In this environment, inflation expectations are projected to be at levels close to 3.0%. The greater credibility monetary policy has as a result of actions taken in the past has contributed to this fact.

Going into 2019, consumer inflation should resume a downward trend and converge to 3.0%. This prediction is supported by the transitory nature of the slight upward pressure in the area of food and regulated prices that is expected in the second half of 2018 and that should disappear in 2019. Likewise, the economy will continue to show some excess productive capacity in 2019 with moderate adjustments in wages and some mechanisms for indexation that should lose prominence given the lower levels of inflation forecast for the end of 2018 in comparison to 2017. These forecasts assume an exchange rate that will depreciate slowly and in an orderly fashion during the remainder of 2018 and into 2019 in line with gradual increases in external interest rates.

With respect to the latter, an upward risk that inflation could face is that of a possibly deeper depreciation of the peso with respect to the dollar in the event that, for various reasons, a more pronounced increase in the cost of external financing occurs. Upward pressure resulting from an international price for crude oil that is higher than had been projected in the central forecast cannot be ruled out either. Prices for regulated items in Colombia could also be subject to upward pressure if risks in the long-term supply of energy materialize or as a result of the recent regulatory changes. The effects of these changes are difficult to estimate, but they could have repercussions on tariff adjustments for several quarters or even years.

The main downward risk for inflation might be associated with a lower growth in domestic demand than had been anticipated given the uncertainty surrounding the performance of variables such as public consumption and investment. This would tend to increase the excess of productive capacity in the economy and have repercussions on smaller adjustments to consumer prices.

Going into 2019, consumer inflation should resume a downward trend and converge with the 3.0% target.

2.4 Interest Rates and Financial Sector

As was said in the last *Report*, the weakness in economic activity and the deterioration in the labor market has been reflected in the performance of the credit establishments. However, this effect has moderated in the first half of this year so, the annual changes in the assets and liabilities of the financial system stopped falling and registered growth rates that were similar to the growth of the nominal GDP. Among the assets, the growth of the total peso-denominated loan portfolio (7%)

was relatively stable. Here, mortgage loans (11.4%) and, to a lesser extent, consumer loans (8.9%) have been the strongest. Commercial loans (4.8%), in turn, are still growing at nominal and real rates that could be described as historically low. The second component of the assets with greater weight, the investments in pesos, rose 13.1%. This result has occurred in an environment of deteriorating risk indicators for the loan portfolio which stand above the average registered during the last decade.

The transmission of the reductions in the policy interest rate to the interest rates for commercial loans has been relatively complete; the transmission to interest rates for mortgages and consumer loans is partial, but it has continued in recent months. In real terms, the policy interest rate as well as the interest rates for loans (except for credit cards) is close to or below the averages calculated for the last decade.

In spite of the weakness of economic activity, the deterioration in the quality of the loan portfolio, and the lower profitability seen in credit institutions, their balance sheets still show positive resilience in view of these facts. Indeed, the loan-loss provisions remain high and the capital adequacy and liquidity indicators can be described as solid.

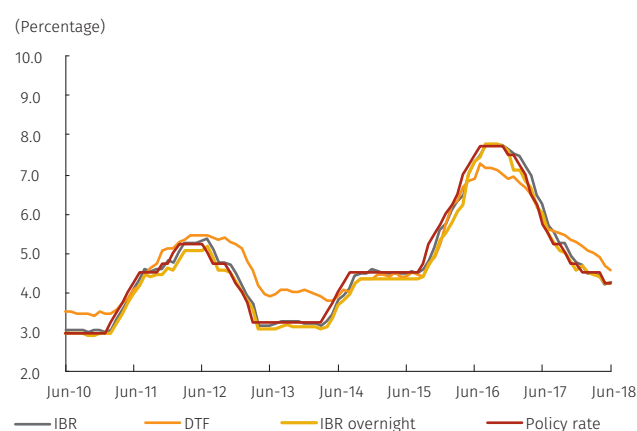
2.4.1 Performance of Interest Rates in 2018

2.4.1.1 Banking Interest Rates

As of December 2016, the JDBR began to gradually reduce its policy interest rate. Thus, at the end of the first half of 2018, the benchmark rate stood at 4.25% and therefore, had been reduced 350 bp during the period of declining rates. Of this decline, 50 bp has occurred over the course of this year³⁰. Thus, the monetary policy has been transmitted at different levels of intensity to the lending and deposit rates, primarily to the rates for commercial loans and, to a lesser extent, to the rates for deposits and those for households (Graph 2.8).

The downward cycle in the policy rate was transmitted to the short-term rates. During the period in which the overnight repo rate was being lowered (between November 2016 and June 2018), both the interbank interest rate for the same period (IIR) and the *overnight* banking benchmark

Graph 2.8
Banco de la República Benchmark Interest Rate ^{a/}, Interbank Rate (IBR) ^{b/}, IBR overnight ^{b/}, and DTF ^{b/}



a/ Policy rate based on date of the JDBR meeting.

b/ The average monthly rate is used.

Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

30 25 bp in the meetings in January and April, respectively.

Monetary policy has been transmitted at different intensities to loan and deposit rates.

indicator (BBI) dropped 349 bp (Graph 2.8). On the same dates, the ones for deposits decreased a little less partly because they had already been declining since the last quarter of 2016 in a context of the greater availability of liquidity from the sales of TES on the part of the banks. The decline in inflation and the possibility that a change in the monetary policy stance may occur sooner could have also contributed to this trend. The longer-term rates for deposits (360 days or more) have been lowered more than the short-term rates. The aggregate rate for certificates of deposit (CD) declined 260 bp and the average interest rate for fixed-term deposits (DTF) decreased 242 bp during the same period.

In the lending rates, the ones for commercial loans fell more than the policy rate (as of May 2018) (Table 2.4). The rates for loans to households have seen reductions that are less than those of the policy rate. As of June 2018, there were decreases in the interest rates for commercial loans (preferential -403 bp, Treasury -458 bp, and ordinary -378 bp), for credit cards (-281 bp), consumer (-175 bp), and mortgage loans (-210 bp). At the beginning of the year during January and February there were increases in the rates for consumer loans (including credit cards) and ordinary loans. The latter was the result of the seasonal adjustment that these rates present during the first month of the year due in part to the reduction in disbursements and amounts lent in the segment of promissory notes which has a lower rate than the one for other consumer loans and affects its share of the aggregate rate. Credit card rates, in turn, rose in February due to the increase in the usury rate for that month. During the first half of the year, the consumer rates have decreased 76 bp. This reaction was greater than the one seen in commercial loan rates (preferential 47 bp, ordinary 53 bp, and treasury 42 bp).

In real terms, there have also been declines in interest rates on loans and for deposits. In the lending rates, when the average of several measurements of inflation expectations is discounted³¹ (*ex ante* interest rates in real terms), both the commercial rates and those for households and deposits were reduced after the change in the monetary policy stance. From the beginning of the year to June reductions were also observed in all real rates. At the close of the first half of the year, all of the real rates, except for the ones for credit cards, were at levels that were below the historical average (Graph 2.9).

31 Specifically, if the average of five measurements of inflation expectations is discounted: for a year from now obtained from a survey of financial analysts, for a year from now obtained from the quarterly survey of economic expectations, from the *break-even inflation* for two and three years from now and the *forward break even inflation* for two to three years from now.

Table 2.4
Financial System Main Nominal Interest Rates
(percentage)

Date	Policy Interest Rate (at end of month)	Interest Rate for Liabilities				Interest Rate for Assets						
		DTF	CD	Weighted liabilities ^{a/}	Three month IBR ^{a/}	Consumer	Households Mortgage ^{b/}	Credit card ^{c/}	Ordinary	Commercial Preferential	Treasury	Total assets ^{d/}
Jan-16	6.00	5.74	6.46	4.62	6.32	18.63	11.62	28.34	12.65	9.55	10.27	12.93
Feb-16	6.25	6.25	7.07	4.78	6.58	18.45	11.87	28.14	12.61	10.70	10.63	13.33
Mar-16	6.50	6.35	7.46	4.96	6.72	18.49	11.99	28.28	13.55	10.67	11.43	13.91
Apr-16	7.00	6.65	7.64	5.18	6.98	18.73	12.19	29.24	14.25	11.43	11.80	14.77
May-16	7.25	6.83	7.76	6.45	7.38	19.01	12.43	29.46	14.29	11.44	12.11	14.82
Jun-16	7.50	6.91	7.86	6.24	7.54	19.14	12.49	29.44	14.31	11.71	12.10	14.77
Jul-16	7.75	7.26	7.95	6.54	7.69	19.27	12.63	30.28	14.71	12.02	11.96	15.28
Aug-16	7.75	7.19	8.04	5.78	7.82	19.54	12.73	30.45	14.72	12.14	12.32	15.23
Sep-16	7.75	7.18	7.79	6.06	7.74	19.57	12.78	30.60	14.63	12.07	11.84	15.34
Oct-16	7.75	7.09	7.52	5.66	7.71	19.84	12.70	31.38	14.47	11.97	12.03	15.41
Nov-16	7.75	7.01	7.51	5.44	7.63	19.64	12.68	31.39	14.59	11.99	12.32	15.52
Dec-16	7.50	6.92	7.41	5.29	7.20	19.39	12.59	31.52	14.06	11.58	11.86	14.45
Jan-17	7.50	6.94	7.41	6.02	7.33	20.88	12.45	31.87	14.30	11.27	12.22	15.11
Feb-17	7.25	6.78	7.43	5.63	7.03	20.03	12.56	31.69	13.79	11.37	12.03	14.87
Mar-17	7.00	6.65	7.08	5.16	6.64	19.78	12.42	31.61	13.84	11.22	11.96	15.13
Apr-17	6.50	6.53	6.84	5.36	6.20	19.87	12.38	31.71	13.71	10.65	11.26	14.47
May-17	6.25	6.17	6.54	5.05	5.87	19.78	12.36	31.54	13.37	10.09	10.68	14.02
Jun-17	5.75	5.96	6.31	4.23	5.50	19.47	12.02	31.18	12.89	9.75	10.57	13.50
Jul-17	5.50	5.65	6.00	4.38	5.35	19.39	11.57	31.16	12.64	9.47	10.27	13.58
Aug-17	5.25	5.58	6.06	4.52	5.19	18.91	11.29	30.97	12.27	9.14	9.47	13.27
Sep-17	5.25	5.52	5.97	4.12	5.15	18.87	11.01	30.19	12.04	8.77	9.17	12.69
Oct-17	5.00	5.46	5.93	4.95	4.95	18.88	10.91	29.93	12.13	8.79	8.79	13.05
Nov-17	4.75	5.35	5.82	3.70	4.56	18.67	10.90	29.40	11.72	8.72	9.11	12.87
Dec-17	4.75	5.28	5.55	3.69	4.66	18.66	10.83	28.89	11.33	8.43	8.16	11.66
Jan-18	4.50	5.21	5.59	3.84	4.48	19.25	10.74	29.37	11.59	8.28	8.04	12.53
Feb-18	4.50	5.07	5.50	3.96	4.41	18.60	10.82	29.55	11.32	7.92	7.99	12.06
Mar-18	4.50	5.01	5.31	3.48	4.33	18.33	10.77	29.23	11.14	7.72	8.44	11.72
Apr-18	4.50	4.90	5.23	3.86	4.20	18.16	10.66	28.72	11.17	8.02	8.02	12.21
May-18	4.25	4.70	5.05	3.63	4.20	17.77	10.61	28.59	11.18	7.82	8.50	12.37
Jun-18	4.25	4.60	4.91	3.63	4.20	17.89	10.58	28.58	10.80	7.96	7.74	12.35

a/ End of month data

b/ Corresponds to the amount-weighted average of the rate for peso- and UVR-denominated disbursements for the purchase of non-low income housing. Before figuring out the weighted average for the UVR-denominated credit rate, the annual change in UVR was added.

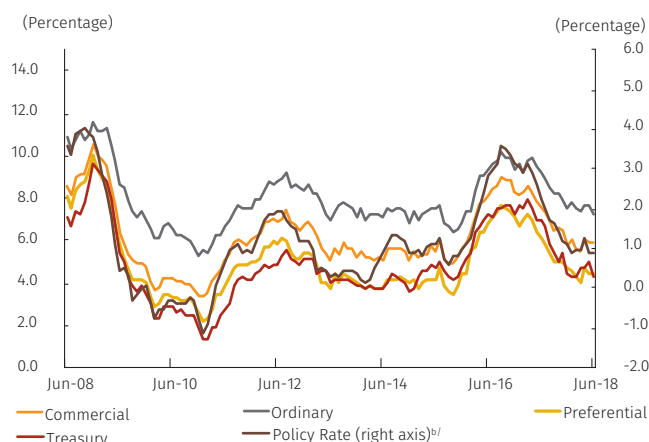
c/ Neither one-payment purchases nor advances are included

e/ Corresponds to the amount-weighted average of consumer, ordinary, ordinary, preferential, and treasury loans. The weight of Treasury loans corresponds to one fifth of their weekly disbursement.

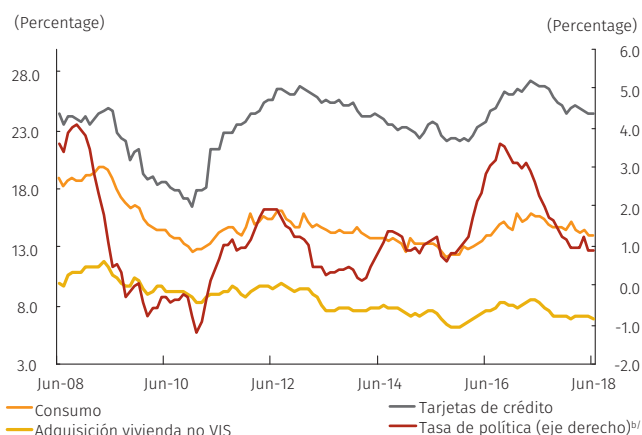
Source: Office of the Financial Superintendent of Colombia (Form 088 and Form 441)

Graph 2.9
Interest Rates for Real Loans/Real Ex-ante Interest Rates^{a/}

A. Interest Rates for Loans to Businesses



B. Interest Rates for Household Loans



a/ The average of several measures of inflation expectations are used as a deflator (for 1 year from now obtained from the monthly survey of financial analysts, for 1 year from now obtained from the quarterly survey on economic expectations, the BEI for 2 and 3 years from now and the forward BEI for 2 and 3 years from now).

b/ The policy rate corresponds to the one set by the JDBR during their monthly meeting; the other rates correspond to the monthly average (weighted by amount).

Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

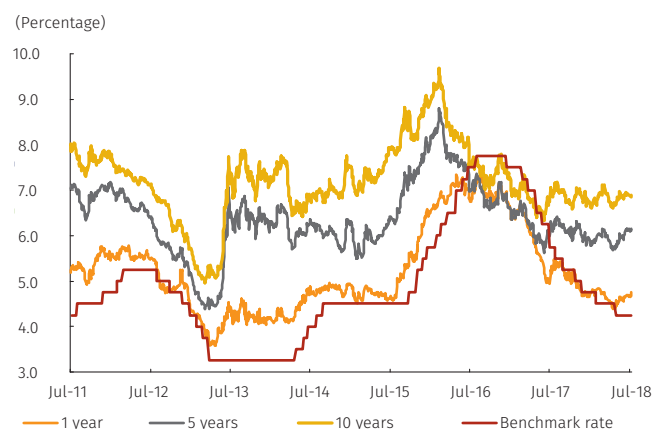
2.4.1.2 Government Bond Market

Up to this point in 2018, the price³² for the bonds issued by the government (TES) declined slightly in accordance with the lower share held by foreigners, the lower worldwide liquidity conditions, and the lower expectations with respect to additional declines in the inflation rate and in the monetary policy benchmark rate (Graph 2.10). During the year, the percentage of the share in the local TES market held by foreigners decreased going from 26.6% in 2017 to 25.9% as of July of this year.

The market performance was very dynamic during 2017. The annual average daily amount of the Colombian public debt securities traded on the SEN and MEC trading systems for 2017 was COP 6 trillion (t), a figure that is higher than the COP 3.77 t seen in 2016. So far in 2018, the average daily amount has stood at COP 7.1 t as of July of the current year.

Up to this point in 2018, the performance of the yield curves in the region has been mixed and volatile with appreciations in Mexico and Chile while devaluations were seen in Brazil and Peru. In the case of Chile, the trend has been associated with favorable macroeconomic data and positive

Graph 2.10
Zero-coupon Peso-denominated TES rate, and Banco de la República Liquidity Expansion Auction Rate



Sources: SEN (electronic trading system) and MEC (Colombian electronic market), calculations by Banco de la República.

32 There is an inverse relationship between the price of a TES and its market interest rate. For example, if a security promises to pay COP 110 at maturity and its market price is COP 100, then its interest rate is 10%. If the market price of the same security rises to COP 105, then its rate falls ($4.8\% = [110/105] - 1$) because at the end, the holder will still receive the same COP 110.

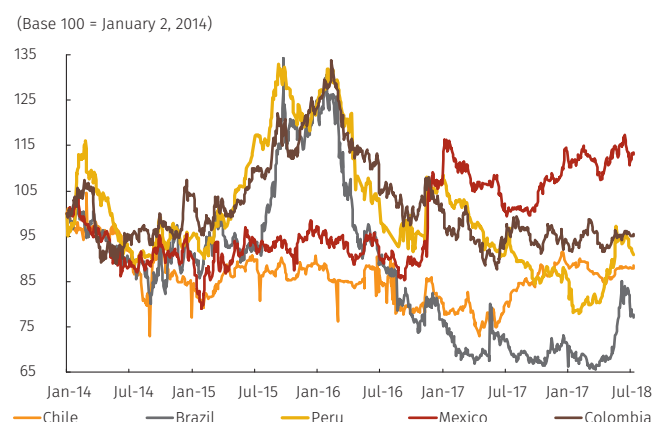
expectations of economic performance for the remainder of the year. Brazil's, Mexico's, and Peru's public debt, in turn, has been affected by events that cause political uncertainty and the prices of *commodities* (Graph 2.11).

2.4.2 Credit institutions' main accounts³³

During the first half of 2018, the tendency towards a slowdown that the credit establishments' (CE) balance sheets have shown since 2016 came to a halt. With respect to assets, at the close of June, the gross loan portfolio in legal currency registered a balance of COP 416.900 trillion (t) with an annual variation of 6.5% (3.2% in real terms). Just as in 2017, the loans granted to households (consumer and mortgage) so far this year explained the majority of the change in the total loan portfolio (Graph 2.12). Even though these modalities, which represent close to 45.0% of the total CE peso-denominated loans,³⁴ declined a little between January and March, they maintained growth rates of around 8.6% and 11.4% respectively in the second quarter³⁵ (Graph 2.13).

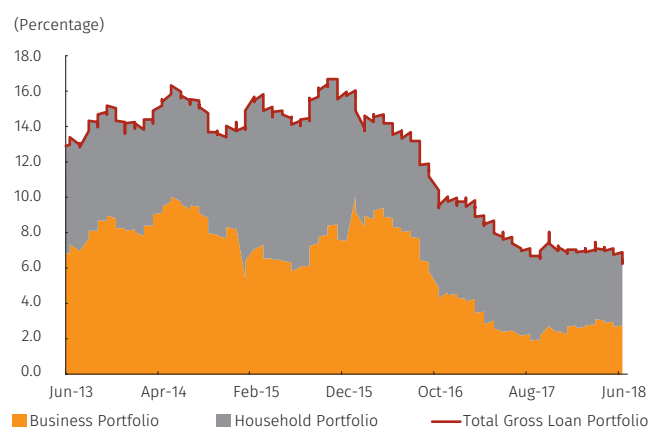
As regards loans to companies (commercial, and microcredit), the share of which is 55.0%, their rate of increase rose in the first quarter and it has decreased a little in recent months. The commercial loan portfolio, which is the main component, grew an average of 4.8% per annum during the first half of the year³⁶ while the rate of expansion for microcredit continued

Graph 2.11
Index of Zero-coupon Rates for 10 Years Ahead, Latin America



Sources: Bloomberg, SEN (electronic trading system) and MEC (Colombian electronic market), calculations by Banco de la República.

Graph 2.12
Contribution of Loans to Households and to Businesses to the Growth of the Total Loan Portfolio in Legal Currency



Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

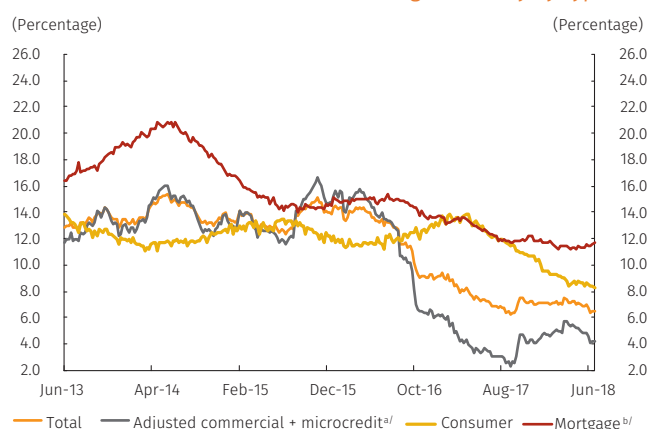
33 Information on the credit institutions is obtained from the Office of the Financial Superintendent of Colombia's format 281. The figures correspond to Friday, June 29, 2018. The comparisons so far this year were made with respect to Friday, December 29, 2017, and the annual ones with respect to Friday, June 30, 2017. Due to the fact that, starting January 01, 2015, the credit institutions have been following the international financial reporting standards (IFRS) to report on the information from their balance sheet accounts, statistical adjustments have been included to offset the effects of the change in methodology.

34 The consumer loan portfolio represents close to 30.0% of the peso-denominated loan portfolio and 15.0% of the mortgage portfolio.

35 When the securitizations of the mortgage loan portfolio are included, the average growth for the first half of the year was 11.5%.

36 For a historical comparison, note that, in addition, the statistical effects related to the merger of Bancolombia with Leasing Bancolombia at the end of 2016, which had a downward impact on the growth of the commercial loan portfolio, had disappeared in November 2017. This was due to the fact that Bancolombia had lent the portfolio to Leasing Bancolombia for a period that was greater than one year and, therefore, these loans were registered in the commercial portfolio.

Graph 2.13
Annual Growth of the Loan Portfolio in Legal Currency by Type



a/ Includes adjustments for operational leasing

b/ Does not include securitizations of the mortgage loan portfolio.

Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

to decrease. The latter stood at 5.5% at the close of June (Graph 2.13). The foreign currency loan portfolio, which is granted to companies almost in its entirety, also maintained the declining trend it had carried over from previous years. At the end of June, its balance in dollars had fallen 17.1 per cent per annum.

According to the latest *Survey on the Loan Situation*,³⁷ the sluggishness of the loan portfolio was the result of both supply and demand factors. Based on that survey, the CE faced a lower demand for loans in all of the modalities (except in mortgage loans) during the first quarter of the year. With regard to the requirements, the majority of the banks indicated that they were more restrictive than in December of last year. Note that

during 2017, entities raised or maintained their requirements in all of the modalities.

Investments in legal currency, the component with the second highest share of the CE assets, in turn, registered a balance of COP 86.296 t at the end of June and an annual increase of 13.8% (10.3% in real terms). Over a large part of 2017, this item had negative rates of growth and its share within the total assets in legal currency reached the lowest levels seen for the past 15 years. This, together with the weakness that the loan market is still showing, may have encouraged the CEs to increase their investment portfolio in spite of the slight tendency towards a devaluation that the public debt securities have demonstrated (main component of the investment in pesos) over the course of this year (See section 2.4.1.2).

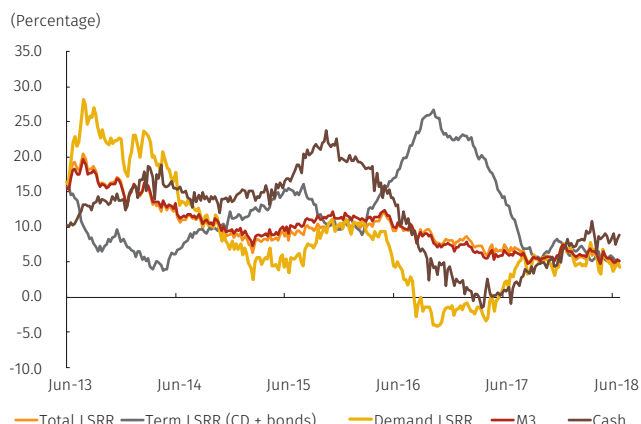
Regarding liabilities, the trend towards a slowdown that deposits of various agents among the CEs (liabilities subject to reserve requirements, LSRR) have carried over since mid-2016 has halted. At the close of June, the LSRR rose 4.6% (1.4% in real terms) with respect to June of the previous year and registered a balance of COP 421.873 t.

By type of deposit, since the second half of last year, time deposits (CD plus bonds) have maintained increases that are close to demand deposits. The decrease in the interest rates for deposits and in inflation made a more balanced growth possible between these two types of deposits than what was registered during 2016 and the first half of 2017. Moreover, it supported a recovery in the demand for cash which, at the close of June had grown 9.0% annually and an average of 8.3% for the six-month period. This has supported the recovery that this aggregate has shown since the mid 2017 (Graph 2.14).

37 Survey as of March 2018, available at <http://www.banrep.gov.co/es/reporte-de-la-situacion-del-credito-en-colombia>

The performance of the LSRR and cash was reflected in M3 (LSRR plus cash), which is the monetary aggregate that includes the set of financial assets that agents can use to make payments in legal currency. At the close of June this aggregate stood at COP 475.432 t and grew 5.1% (1.8% in real terms) which is a little above the increase in the LSRR due to the behavior of cash. Furthermore, the change in LSRR and cash had an impact on the monetary base (See the shaded area on the monetary base).

Graph 2.14
Annual Growth of M3, Cash, and Liabilities Subject to Reserve Requirements (total, demand, and term)



Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

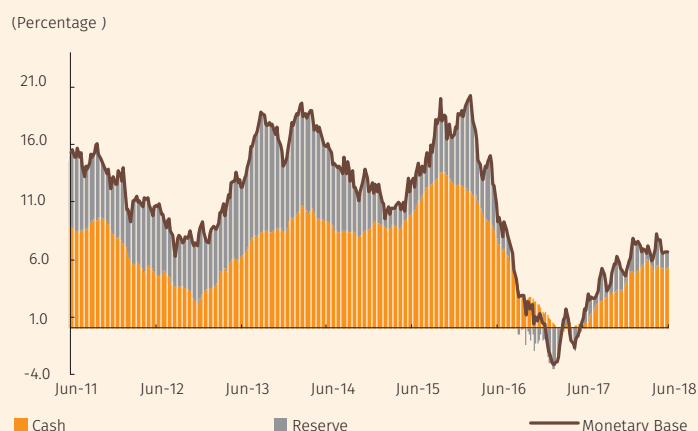
Monetary Base

At the close of June 2018, the balance of the monetary base stood at COP 83.076 t with a nominal annual growth of 6.4%. During the first half of the year, the average annual change was 6.9% which is significantly higher than what was registered during the same period the previous year (-0.8%)

Based on use, the increase in the monetary base is due to the recovery of cash which, in addition to being its main component (65% of the base), went from growing 0.6% per annum on average in the first half of 2017 to 8.3% yearly during the same period this year. The bank reserves, in turn, also contributed, although to a lesser extent, to the increase in the monetary base and went from growing -2.9% per annum on average between January and June 2017 to 4.6% this year (Graph A).

Based on sources, (Graph B, panels 1 and 2), both in annual terms and over the course of the year, the Bank's purchases of TES were one of the main sources of expansion of the monetary base. Between

Graph A
Contribution of Cash and the Bank Reserves to the Growth of the Monetary Base



Source: Banco de la República.

June 2017 and June 2018, they acquired COP 3.658 t in securities of which COP 659 b were purchased in June 2018. When the contraction effect of maturities and payment of coupons is discounted, the TES portfolio generated an expansion of COP 2.932 t in the monetary base for the year and one of COP 531 b so far in 2018.

The liquidity transactions [discounting the non-reserve interest-bearing deposits (DRNCE) and the net interest for said transactions] and those for other P&L items and the Bank's balance

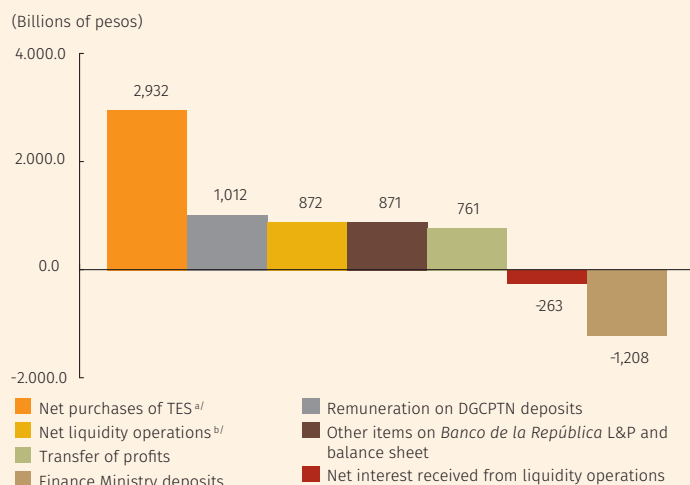
sheet also contributed to the increase in the monetary base in the economy both in annual terms and from the beginning of this year to June (for liquidity transactions COP 610 b for the full year and COP 2.289 t over the course of the year, and for other P&L and balance sheet items, COP 871 b for the full year and COP 528 b throughout the year).

The transactions with the national government (deposits at the Bank, remuneration for them, and the transfer of Bank's profits to the government) between June 2017 and the same month in 2018 explained the COP 565 b increase in the monetary base. In contrast, compared to the close of the previous year, these same transactions resulted in a COP 9.083 t contraction of the monetary base due to the increase that usually occurs with the government deposits at the Bank over the course of the year. These figures include the transfer of COP 761 in profits to the government in March.

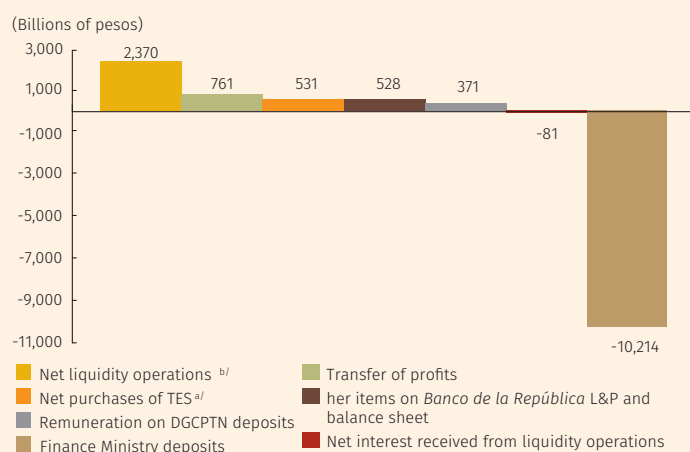
Last of all, in 2017 and in the first half of 2018, the Bank did not make any purchases or sales of foreign currencies on the foreign exchange market.

Graph B
Origin of Base money June 29, 2018

1. Complete annual variation



2. Year to date variation



a/ This is the result of purchases minus sales and maturities of these securities held by Banco de la República.

b/ Corresponds to the net transactions, i.e., it includes the expansion repos and the balance of non-reserve interest-bearing deposits (DRNCE) for all maturities.

Source: Banco de la República.

2.4.3 Some Measurements of Financial System Risk³⁸

As of April 2018, the CEs continued to maintain solid indicators of capital adequacy and liquidity in spite of factors such as the economic downturn seen since 2014. This has been reflected in a lower growth for the total loan portfolio and in an increase in the risky and past-due loan portfolios due to the fact that since the middle of 2016, the credit risk indicators have shown a deterioration that is greater than the average for the past five years.

³⁸ The information in this section was obtained from the balance sheets reported by financial entities to the Office of the Financial Superintendent of Colombia.

The growth rate of funding, in turn, understood as the sum of liabilities and equity, remained at levels close to zero. In contrast, an increase in investment, accompanied by appreciations in the public debt market, can be seen. As a result of these trends, there is a lower level of profitability for the CEs.

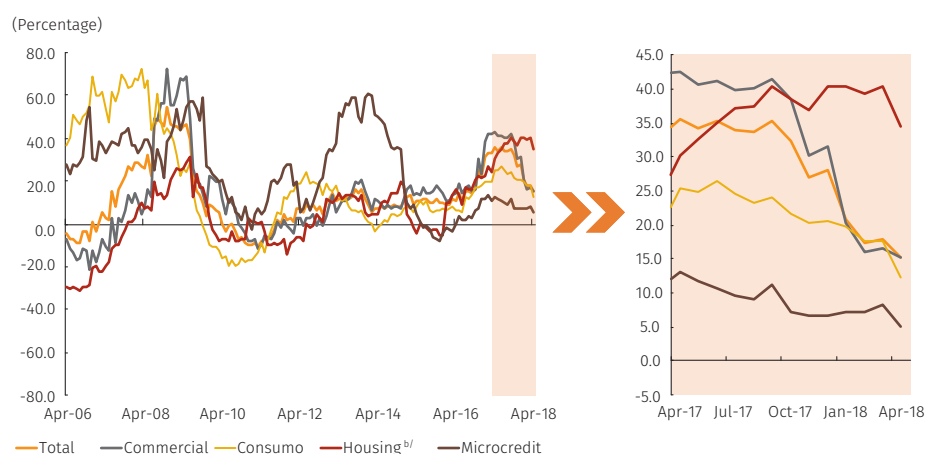
The credit institutions' exposure to credit and financing risks is presented below and the financial system's risk in the TES portfolio is analyzed.

2.4.3.1 Credit Risk

So far in 2018, the credit risk indicators continued to experience levels that are less favorable than the average over the past five years, especially those that correspond to the commercial loan portfolio. Both the quality indicator by risk (QIR)³⁹ and the quality indicator by default (QID)⁴⁰ continue to present increases although they are more moderate with respect to the ones in 2017. These upswings are mostly explained by the economic downturn and the deterioration of the risk perception of important debtors within corporate sector which have been affected by shocks in their respective sectors.

Between April 2017 and the same month in 2018, the risky loan portfolio dropped as it went from growing 35.5% to growing 15.3% in real terms (Graph 2.15). This performance resulted from the risky commercial

Graph 2.15
Annual Real Growth of Risky Loans ^{a/}



a/ CPI is used as a deflator. Special financial entities (second tier banks) are not included.

b/ The jumps seen in January 2015 and January 2017 resulted from the reclassification of residential leasing from the commercial loan portfolio to the housing portfolio.

Sources: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

39 The QIR is defined as the ratio between the risky and the total loan portfolio (the risky loan portfolio corresponds to all the loans with ratings other than A on a scale from A to E where A is the best rating).

40 The QID is defined as the ratio between the portfolio with a more than 30 day default and the total portfolio.

portfolio which presented a growth rate 15.3% after having reported a rate of 42.5% a year ago. Slowdowns were also seen in the areas of consumption and microcredit although these were less pronounced. The reduction in the growth rate of the risky loan portfolio in these areas could be associated with the economic recovery that has been seen up to this point in 2018. In contrast, the risky portfolio for housing surged during the same period as it registered a change of 4.3 (pp) in its real annual growth which ended up at 34.6%.

The greater growth of the risky loan portfolio with respect to the gross loan portfolio generated a rise in the total QIR during the period under analysis; this indicator rose 1.2 pp and, in April 2018, reached 10.3%, the maximum registered since the end of 2004. By type, all the loan portfolios showed deterioration between March 2017 and the same month in 2018, with the commercial portfolio, which saw its indicator rise 1.6 pp, doing the best (Table 2.5).

Table 2.5
Credit Risk Indicators by Type
(percentage)

Type	Quality indicator by risk (QIR)			Quality indicator by default (QID) excluding penalties			Quality indicator by default (QID) including penalties		
	April-17	April-18	Average ^{a/} Apr-2017 to Apr-2018	April-17	April-18	Average ^{a/} Apr-2017 to Apr-2018	April-17	April-18	Average ^{a/} Apr-2017 to Apr-2018
Total Loan Portfolio	9.1	10.3	9.8	4.7	5.5	5.0	9.0	10.1	9.4
Commercial	10.2	11.8	11.1	3.6	4.6	3.9	6.4	7.6	6.8
Consumer	8.7	9.3	9.0	5.8	6.2	6.0	14.0	15.0	14.5
Housing	4.6	5.7	5.3	6.7	7.3	7.1	7.2	7.7	7.5
Microcredit	11.9	12.1	11.9	7.8	7.7	7.8	15.1	14.5	14.7

a/ Average Monthly Data

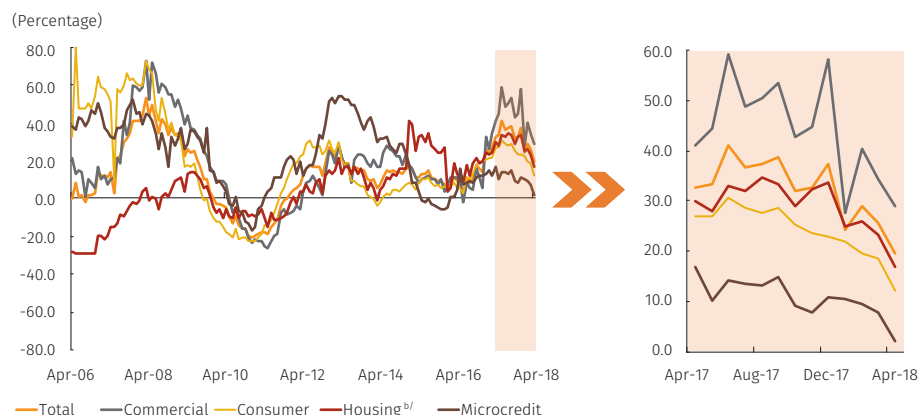
Source: Office of the Financial Superintendent of Colombia, calculations by Banco de República.

With regard to the materialization of credit risk, the real, annual growth rate of the non-performing loan portfolio declined 13.0 pp between April 2017 and a year later thus standing at 19.7% in April 2018 (Graph 2.16). The portfolio that registered the highest growth rate was the commercial portfolio (28.8%) followed by the housing (16.9%), consumer (12.2%), and microcredit (2.1%) portfolios.

During the period under analysis, the QID including and excluding penalties,⁴¹ rose 1.1 pp and 0.8 pp respectively and reached levels of 10.1% and 5.5% also respectively (Graph 2.17). These indicators have been worsening more noticeably since 2017 and are above the averages for

41 The QID including penalties is defined as the ratio of the non-performing loan portfolio to the total portfolio plus the penalties (these are assets which, since they are considered uncollectible receivables or lost, have been removed from the balance sheet in accordance with the legal provisions in effect).

Graph 2.16
Annual Real Growth of Non-performing Loans^{a/}

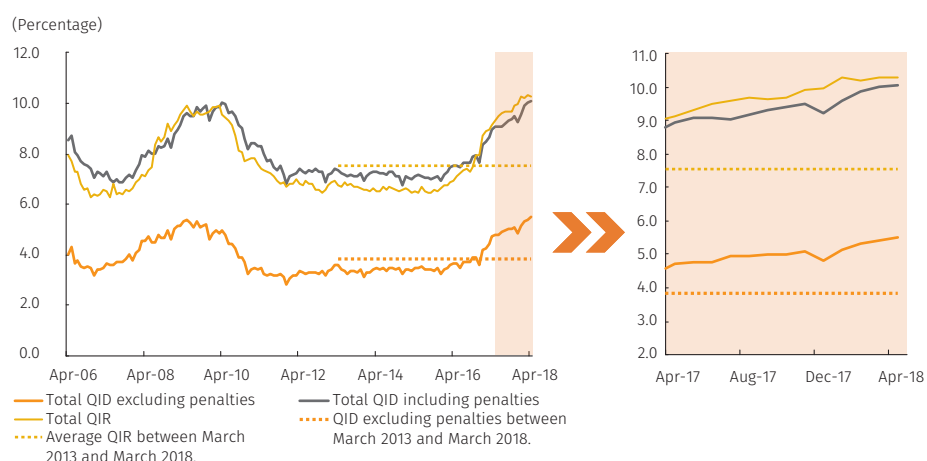


a/ CPI is used as a deflator. Special financial entities (second tier banks) are not included.

b/ The high growth levels for the housing loan portfolio in 2015 are due to the fact that the implementation of the IFRS starting in January 2015, residential leasing was reclassified from the commercial loan portfolio to the housing loan portfolio.

Source: Office of the Financial Superintendent of Colombia, calculations by *Banco de la República*.

Graph 2.17
Quality Indicators of the Gross Loan Portfolio by Default and by Risk



Source: Office of the Financial Superintendent of Colombia, calculations by *Banco de la República*.

the last five years in the cases of both the total portfolio and each one of the specific types (Table 2.5).

In short, over the last year, the credit risk indicators for the credit establishments have deteriorated due to the impact of the economic slowdown over the last few years and the difficulties of some specific debtors in the corporate sectors. However, the lower rate of growth of the risky portfolio in all areas with the exception of housing shows a recovery trend for the credit risk indicators. In spite of the materialization of credit risk, the measurements of core and total capital adequacy registered values of 11.7% and 16.5% respectively and were thus higher than their averages for the last five years (10.7% and 15.9% respectively).

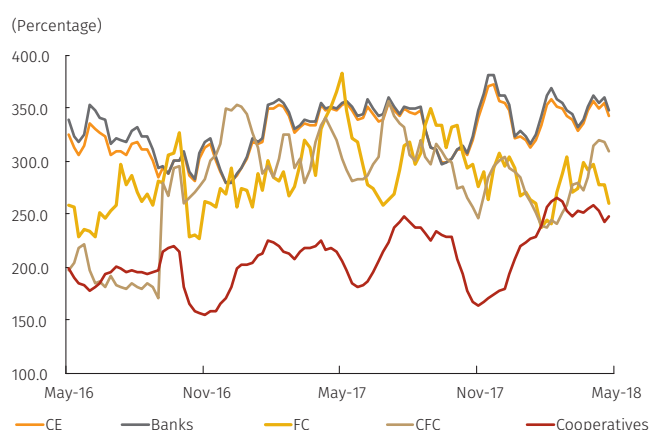
2.4.3.2 Liquidity Risk

In order to evaluate the liquidity the entities have to meet their short-term obligations, the liquidity risk indicator (LRI_R), defined as the ratio between the balance of liquid assets (available and liquid investments) and an estimate of the net requirements of short-term liquidity (thirty days) is used. If the LRI_R is higher than 100%, the entity has enough liquidity to meet their thirty-day obligations, but if not, the entities could have problems covering them in the short term.

As of May 2018, the CE^s level of liquidity stood at 342.9%, a figure that is 5.0 pp lower than what was registered the year before. This performance was mainly the result of the levels of liquidity the banks and the commercial financing companies (CFC) presented, which ended up at levels similar to those of May 2017. Financial corporations (FC), in turn, showed declines in their IRL_R while the cooperatives showed an increase. In spite of the fluctuations of the indicator, as can be seen at the aggregate level, the different types of entities generally have sufficient liquid assets to face their short-term obligations (Graph 2.18).

In April 2018, the real annual growth of funding stood at 1.1% when, a year ago, this growth stood at -1.0%. By components, the term deposits were seen to be the component that contributed the most to growth, which means that credit establishments opted for more stable, although more costly, funding sources (Graph 2.19).

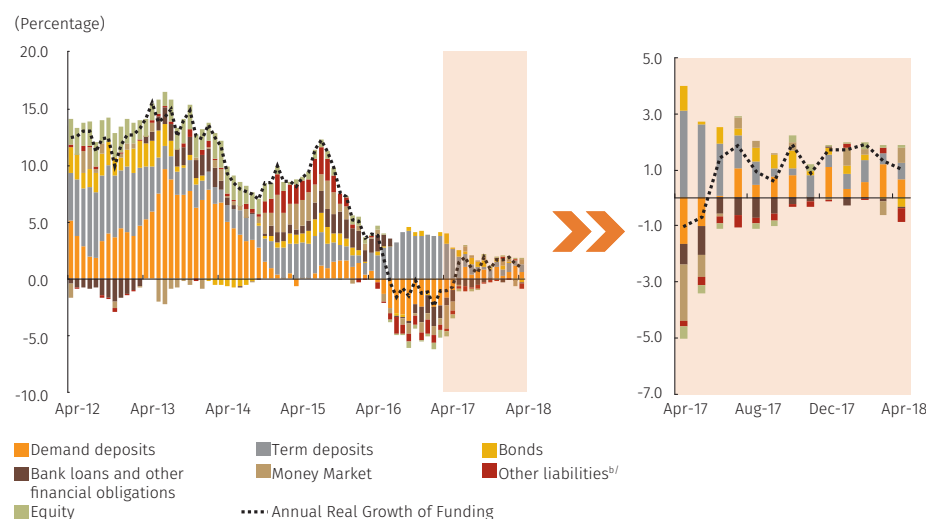
Graph 2.18
 LRI_R at 30 days ^{a/}



^{a/} Corresponds to a 4-week weighted moving average.

Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

Graph 2.19
Real, Annual Growth of Funding (liabilities + equity) and Contribution of Their Components ^{a/}



^{a/} CPI is used as a deflator. Special financial entities (second tier banks) are not included.

^{b/} Other liabilities include other financial instruments, accounts payable, BOCAS, BOCEAS, etc.

Source: Office of the Financial Superintendent of Colombia, calculations by Banco de la República.

2.4.3.3 TES Market Risk

Financial institutions can have TES as part of their assets (their proprietary position) or as part of the assets they manage for their clients (third party position). Between May 2017 and the same month in 2018, the financial system's TES portfolios, in both the proprietary and managed positions, rose and their indicator of volatility declined.

As of May 25, 2018, the value of the TES portfolio in the proprietary position rose COP 10.5 b with respect to the same date in 2017 thus showing increases in all of the types of entities in the financial system. The most significant increase was for the banks, which raised their TES balance by COP 6.1 b during the period under analysis. This has been accompanied by the declines in the monetary policy rate which have generated appreciations in the government bond market. The insurance companies, investment banks, and stock brokerage firms presented increases of COP 2.5 b, COP 0.6 b, and COP 1.1 b respectively (Table 2.6).

Regarding the managed funds, there was a COP 18.7 b increase during the same period which came to a balance of COP 186.5 b. The pension funds and foreign investors increased their TES portfolios holdings by COP 9.4 b and COP 8.7 b respectively. Thus, these agents showed a 55.0% and 39.1% share respectively of the total funds administered (Table 2.6).

The increase in holdings on the part of foreign investors in the TES portfolio is in line with the trend seen since the beginning of 2014. Nevertheless, the high global liquidity which motivated, in part, foreigners' investments in the country's bonds has decreased due to increases in the benchmark rates in some advanced economies. This stance could encourage the flow of international investment to developed economies and generate a liquidation of their positions in the emerging economies such as Colombia.

Like the rest of TES holders, the financial entities may face losses due to valuation resulting from a fall in the price of said securities. This risk is quantified by the change in the exposed TES balance using a value at risk (VaR) measurement. This methodology, based on the returns observed, estimates the maximum loss that an institution may experience in its investment portfolio over a 1-day horizon for a given level of confidence.⁴² It should be mentioned that an appropriate measure of the financial system's market risk is the VaR of their proprietary position since the losses associated with the portfolios managed by the system are faced by the investors.

Between May 2017 and the same month in 2018, the financial system's TES portfolios rose with respect to both the proprietary and managed positions.

⁴² To illustrate, if the VaR of a financial institution is 5% at a 99% confidence level, it indicates that the maximum loss that this entity might face in one day would be 5% of the value of their portfolio and there is only a 1% chance of surpassing this.

Table 2.6
Change in TES Balance in Financial System's Proprietary and Managed Positions
 (trillions of pesos)

Entities	26-May-17	25-May-18
a) Financial Systems: Proprietary position		
Credit institutions		
Commercial banks	34.9	41.0
Investment banks	1.2	1.8
Commercial finance companies	0.0	0.1
Financial cooperatives	0.0	0.0
Non-banking Financial Institutions (NBFI)		
Pension Funds	0.1	0.1
Stock Brokerage Firms	0.2	1.4
Trust fund companies	0.1	0.1
Insurance and Capitalization Companies	12.2	14.7
Total	48.7	59.1
b) Financial System: Managed Position		
Foreigners	64.1	72.8
Stock Brokerage Firms	0.0	0.0
Trust Funds	64.1	72.8
Pensions	93.2	102.6
Pension Funds	74.5	79.7
Trust Funds ^{a/}	18.8	23.0
Mutual Funds ^{b/}	2.5	1.8
Stock Brokerage Firms	0.3	0.5
Trust Funds	2.2	1.3
Others	7.9	9.3
Stock Brokerage Firms	0.8	0.3
Trust Funds	7.2	9.0
Total	167.8	186.5
c) Others ^{c/}	27.9	32.8
Total supply	244.4	278.4

a/ Pension liabilities managed by trust companies.

b/ Information from the Office of the Financial Superintendent of Colombia format 351.

c/ Others include *Banco de la República*, National Treasury Office, Fogafin, etc.

Sources: Central Securities Depository (DCV in Spanish), *Banco de la República*, and Office of the Financial Superintendent of Colombia, calculations by *Banco de la República*.

As of May 25, 2018, the average monthly VaR for the proprietary position of the financial entities declined with respect to what had been seen 12 months ago (0.2% in comparison to 0.5%). The above is a result of the decrease in volatility that the public debt market experienced throughout the year. Furthermore, the indicator is below the levels seen in 2013 when the volatility in the financial markets rose as a result of the announcements about the possible gradual phasing out of the Fed's asset purchase program (Graph 2.20).

Graph 2.20
VaR of the Financial System's Proprietary Position
(weekly moving average)



Source: Central Securities Depository (DCV), calculations by Banco de la República.

Cybernetic Risk

1. What is cybernetic risk and why is it relevant to financial stability?

Cybernetic risk is defined as any risk of financial loss, impairment or damage to the reputation of an organization derived from any type of failure in their information technology systems.¹ As a result of the development of new technology and digital solutions, the exposure entities have to cybernetic risk has risen due to the fact that these innovations have expanded the range and the number of entry points that hackers or information pirates can attack in search of deficiencies or weaknesses in the systems. In the international environment, it has become evident that, in recent years, cyber-attacks against the financial infrastructures have intensified. This is disturbing since these attacks have the potential to spread and become systemic.

Some recent examples that, due to the importance of the institutions affected and the magnitude of losses incurred, have ignited alarms in the financial industry with respect to the effects of cyber-attacks took place in Russia, Bangladesh, Ecuador, Mexico,

and Chile. Using malicious *software*, *hackers* succeeded in getting access to the electronic foreign currency trading system belonging to a Russian commercial bank in September 2014 and made USD 400 million (m) in transactions. Later during 2016, another group of *hackers* managed to steal USD 31 m from the central bank of that same country by falsifying the credentials of their clients. In February 2016, cyber criminals stole USD 81.0 m from the Central Bank of Bangladesh by planting a virus on the server and ordering about USD 1.0 b in transfers. In May 2015, cyber pirates used a similar method to steal USD 12.0 m from Banco del Austro in Ecuador and transfer them to various accounts around the world.² In April 2018, Banco de Mexico sent out a warning about anomalies that were appearing in the network of the interbank payment system which had affected three of the participants who had to be transferred to a contingency network until their control mechanisms had been reinforced. This had

1 According to the definition of the Institute of Risk Management, the world's leading agency regarding everything that is a matter for the management of risk that companies have to deal with.

2 See: <https://thehackernews.com/2016/05/swift-banking-hack.html>.

an impact the speed of their clients' transactions.³ Last of all, a virus was introduced into the computer systems at *Banco de Chile* at the end of March 2018, which forced a shutdown of 9,000 computers. This distracted those responsible for security from the theft of USD 10 m which were transferred to a bank in Hong Kong.⁴

In addition to the theft of funds, the banks face the risk of information theft. One of the main incidents of this type occurred in South Korea in March 2013. Three banks were victims of cyber-attacks that deleted files from their computer system and interrupted currency transfers and the operations of the automatic teller machines as it infected 48,000 computers and thus caused an estimated total loss of USD 738 m (IMF, 2017). Another incident occurred when a group of hackers stole data over a period of three years from JP Morgan Chase on one hundred million of their clients until they were discovered at the end of 2015.⁵ The Central Bank of Qatar was also a victim of these attacks when documents, which included confidential corporate files and their clients' financial information, were stolen in 2016 and spread across social media networks.⁶ The Swiss bank BCGE suffered an attack that revealed e-mails related to private communications with their clients.⁷ The most recent one was the Polish financial regulatory agency where attackers exposed files that banks used to report information for monitoring purposes thus affecting the entire industry.⁸

2. Local and International Experience

The regulatory entities for each country have made a few proposals with an eye to increasing the level of security for financial institutions on this front. Furthermore, they are increasingly interested in sharing their developments in order to face this threat together with the central banks. According to the Bank of England, everyone must become aware of the problem; in other words, it is not a matter of avoiding cyber-attacks but rather raising the awareness of the entities about them and motivating them to prepare appropriate responses to the attacks (Gracie, 2015). In Canada, the supervisory agency has published a guide that urges financial institutions to implement safety standards that comply with the best practices related to computer security. The central bank, in turn, has asked the financial infrastructures with the most systemic importance to complete a self-assessment of their security practices that includes a risk management plan for cyber-attacks.

In Latin America, the Superintendency of Banks and Financial Institutions of Chile sent out a circular on information security and cybersecurity in which it urged financial entities to take action with a view to mitigating the effects of a cyber-attack and carry out periodic reviews of their systems in order to evaluate their ability to respond.

In Colombia, *Banco de la República* has begun with raising awareness of the risk by participating in forums and inter-institutional round tables that are working on the subject. Within the institution, they have adopted a strategy of technological shielding that includes the analysis of risks in processes and in the Swift network with the collaboration of the International Operational Risk Working Group (IORWG). With respect to that, the Office of the Financial Superintendent of Colombia, in turn, issued External Circulars 052/2007 and 007/2018. In the first one, a framework with multiple stages for managing cybernetic risk is proposed. Part of this stipulates the minimum security requirements that financial entities must have in place for the distribution of the products and services they offer to their clients. In the second, the financial institutions are required to report incidents with regards to cybernetic risk that jeopardize their clients' information as well as the measures adopted to solve the problem. It also establishes the need to include actions that will make a recovery after a cyber-attack possible within the business continuity plan. This circular also

3 See: <http://www.banxico.org.mx/informacion-para-la-prensa/comunicados/miscelaneos/boletines/%7B6E30A138-AC30-68BC-43AF-D27C0D5BC531%7D.pdf>

4 See: <https://www.deccanherald.com/opinion/panorama/wi-fi-hacking-and-great-677274.html>

5 See: <https://www.wired.com/2015/11/four-indicted-in-massive-jp-morgan-chase-hack/>

6 See: <https://www.bankinfosecurity.com/qnb-confirms-leak-downplays-damage-a-9082>

7 See: <https://www.bankinfosecurity.com/hackers-release-info-from-swiss-bank-a-7781>

8 See: <https://www.cyberscoop.com/hackers-break-polish-banks-government-regulator-charged-bank-security-standards/>

encourages the entities to evaluate the advisability of having insurance policies to cover the costs arising from cyber-attacks. Last of all, this entity along with some of the ones that are monitored, is working on the implementation of the CONPES 3854 document (2016) for the National Policy on Digital Security which includes an explicit definition of the critical national cybernetic infrastructure and serves as a basis for joint action between financial institutions and the Cyber Joint Command of the General Military Forces Command of Colombia.

3. Principles for best practices in regulation and supervision of the cybernetic risk

As a result of the experience with regard to cyber-security, it is possible to identify a tentative set of principles that could serve as a basis for determining the best practices in regulation and supervision of cybernetic risk.

- a. The regulation and supervision of risk should be forward-looking.
- b. Some of the old regulatory principles do not necessarily apply to cybernetic risk.

- c. The prescription of specific and immovable actions for preventing cybernetic attacks is not desirable since they could offer potential attackers a map of action.
- d. Putting strategies to the test is an important component of the supervisory approach.
- e. The response strategies are potentially more important than defense strategies.
- f. International cooperation is essential.

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2.5 External Balance and Foreign Exchange Policy

Following a decline in the terms of trade in 2014, the country's external sector has been experiencing a period of adjustment. After the expansion of the current deficit due to the decrease in crude oil exports, the current expenditures began to shrink at a faster pace than income during 2015 and 2016. This is consistent with the lower domestic demand, smaller capital flows, and the accumulated depreciation of the exchange rate.

Starting in 2017, a recovery of income from abroad began to be seen due to not only exports of products but also income from tourism and remittances. This made it possible to more than compensate for the growth of imports and the outflows due to factor income. The performance of the Colombian peso was mainly associated with the change in the price for crude oil and, to a lesser extent, to the worldwide strength of the dollar.

The correction of the deficit in the current account as a share of the GDP is expected to continue during 2018 driven in large part by the

effect of the recovery of demand abroad on manufactured Colombian goods and the performance of the international price of crude oil. It should be noted that the better growth expected for domestic demand this year will have an influence on current outflows, among them, imports of goods and services and the profits of businesses that have foreign direct investment (FDI) and are focused on the local market. This is in an environment of higher costs for foreign financing.

2.5.1 Colombia's Foreign Balance in the First Quarter of 2018

Unlike in 2015 and 2016, the additional adjustment in the country's current account during 2017 was not due to a reduction in outflows but rather to the growth of income from abroad, a performance that was maintained during the first quarter of 2018. Between January and March 2018, the balance of payments data show a reduction in the country's current deficit. This decline is explained, in particular, by the reduction of the negative balance in the trade balance for goods and services added to the positive effect of the larger transfers from abroad. This was partially offset by the increase in profits generated by businesses using foreign capital and by the interest payments on the foreign debt.

During the first quarter of 2018, the country's balance of payments current account registered a deficit of USD 2.831 billion (b) which is USD 593 m lower than what was registered the year before (Table 2.7). As a share of the quarterly GDP, the deficit was estimated to be 3.5% which is 1.1 pp lower in comparison to the same period the previous year. The current deficit was financed by net capital inflows of USD 2.580 b (3.2% of the GDP) which included the USD 137 m variation in international reserves.⁴³ The errors and omissions are estimated at USD 251 m.

Between January and March 2018, the country's current account deficit continued to decline.

Note that the development in Colombia's balance-of-payments current account shows a tight relationship with the performance of the trade balance of goods due to the high share that exports and imports have in the country's total current income and expenditures.⁴⁴

⁴³ Note that this accumulation of reserves is the result of income from the net yields on international reserves amounting to USD 157 m and USD 21 m in net outflows for other *Banco de la República* transactions. No transactions for the purchase or sale of foreign currency to foreign exchange intermediaries, in turn, were registered.

⁴⁴ The analysis of the structure and of the change in the current account income over the last 15 years shows that foreign sales of merchandise are its main component and hold a share that ranges between 70% and 81% of the total income. Regarding the current expenditures, their most important component is imported goods which represented, on average, 64% of the total outlays (59.9% between January and March of 2018).

Table 2.7
Colombia's Balance of Payments (annual flows in millions of dollars)

	2017 (pr) (Jan - Mar)	2018 (pr) (Jan - Mar)	Change (dollars)
Current Account (A + B + C) (percentage of the GDP)	-3,424 -4.7	-2,831 -3.5	593
A. Goods and Services (1 + 2)	-2,564	-1,761	803
1. Goods (a - b)	-1,694	-1,045	649
a. Exports FOB	9,195	10,085	891
b. Imports FOB	10,889	11,130	242
2. Services (a - b)	-870	-716	154
a. Exports	1,945	2,354	409
b. Imports	2,815	3,070	255
B. Factor Income	-2,278	-2,689	-411
Income	1,338	1,471	133
Outlays	3,617	4,160	544
C. Current Transfers	1,418	1,620	201
Income	1,635	1,856	220
Outlays	217	236	19
Financial Account ^{a/} (A + B + C + D) (percentage of the GDP)	-3,122 -4.3	-2,580 -3.2	542
A. Direct Investment (ii - i)	-1,784	-1,022	762
i. Foreign in Colombia (FDI) (percentage of the GDP)	2,500 3.4	2,133 2.7	
ii. Colombian Abroad	716	1,111	
B. Portfolio Investment (1 + 2)	263	1,719	1,456
1. Public Sector (ii - i)	-1,617	409	
i. Foreign Portfolio Investment (a + b)	2,236	616	
a. International markets (bonds)	830	-664	
b. Local Market (TES)		1,280	
ii. Portfolio Investment Abroad	619	1,025	
2. Private Sector (ii - i)	1,880	1,310	
i. Foreign Portfolio Investment (a + b)		-431	
a. International markets (bonds)		-500	
b. Local Markets	169	69	
ii. Portfolio Investment Abroad		879	
C. Other Capital Flows public sector + private sector	-1,694	-3,414	-1,720
D. Reserve Assets	93	137	44
Errors and Omissions (E and O)	302	251	-51
Memo Item:			
Financial account excluding change in international reserves	-3,215	-2,717	498
Change in International Reserve	93	137	

(pr): preliminary

a/ In the financial accounts, the negative sign on net flows (A, B, C, and D) reflects funding resources entering the Colombian economy. In this respect, positive changes imply less foreign financing in the balance of payments.

Note: the results presented at the current date follow the recommendations of the sixth version of the IMF Balance of Payments Manual. Therefore, the financial account is presented with a negative sign for the net capital income. For further information and methodological changes consult <http://www.banrep.gov.co/balanza-pagos>.

Source: Banco de la República.

The reduction in the foreign deficit was mainly caused by the lower trade deficit, which was largely due to the improvement in the terms of trade.

Thus, the deficit in the balance of trade in goods during the first quarter of 2018 declined USD 649 m with respect to the year before (Table 2.7). The country's exports totaled USD 10.085 b during the period under analysis with an annual increase of 9.7% (USD 891 m) (Table 2.7). The growth of exports resulted mainly from the larger sales abroad of oil and its derivatives (USD 370 m), industrial products (USD 369 m), and coal (USD 366 m). In contrast, the sales abroad of non-monetary gold (USD 157 m) declined as did the shipments of coffee (USD 99 m), and bananas (USD 39 m).

The higher exported value of crude oil and coal is explained by the rise in their international prices (28.6% and 14.9% respectively) and by the upswing in the amount of coal shipped (7.7%). In contrast, the volumes of oil sold dropped 13.2%. The reduction in the exported value of coffee and bananas, in turn, resulted from the smaller quantities sold (2.2% and 16.0% respectively) and the decrease in the export price of coffee (11.8%).

The imported value of merchandise between January and March 2018 totaled USD 11.130 b with an annual increase of 2.2% (USD 242 m). This is primarily explained by the growth of imports of supplies and capital goods for industry (USD 251 m, 4.5%). In contrast, purchases from abroad of fuel and lubricants (10.2%) and of consumer goods (0.2%) declined. The increase in imports has been the result of a general turnaround in the prices in dollars partially offset by the lower quantities imported.

With respect to the deficit in the service account, this declined USD 154 m during the first quarter of 2018 (Table 2.7) due to the higher increase in exports of services compared to the imported services. In the area of exports, the higher income received from trips as well as the sale of other services is highlighted. The greater outflows associated with expenditures on insurance and financial services through the payments for business services and transportation and the spending of Colombian travelers abroad stand out among imports.

During the period under analysis, in turn, the increase in net outflows due to factor income (USD 411 m) (Table 2.7) resulted from the increase in the profits obtained by companies with direct investment (USD 447 m). Furthermore, although to a lesser extent, the interest payments on the foreign debt rose. The higher outflows due to FDI profits are mainly the result of the increase in the estimated earnings for the companies that work in oil drilling (USD 270 m), transportation, warehousing and communications (USD 163 m), and mining and quarrying (USD 126 m). These higher earnings were partially offset by the reduction in the profits of the foreign companies in the manufacturing sector (USD 53 m), financial establishments (USD 39 m), and the provision of electricity, gas, and water (USD 30 m).

The increase in the profits of companies with FDI and the higher interest payments for external debt has put upward pressure on the current account deficit.

Foreign funds received by the country came mainly from loans, FDI, and the purchase of TES by foreigners.

The reduction of the country's current deficit was offset by the lower capital inflows. As a result of that, in terms of the financial account,⁴⁵ USD 2.580 m in net capital inflows were registered between January and March 2018. This is USD 542 m lower than what was seen the year before when they totaled USD 3.122 b. These inflows were the result of incoming foreign capital (USD 4.752 b), outflows of Colombian capital (USD 2.585 b), inflows from financial derivatives (USD 549 m), and a USD 137 m increase in international reserves. In terms of the GDP, the financial account went from 4.3% to 3.2% (Table 2.7).

Capital inflows received by the country came from FDI (USD 2.133 b), the net disbursement of loans and other loans from abroad (USD 2.434 b), and the portfolio investment in the local market (USD 1.349 b). This revenue was partially offset by the payments on debt securities issued abroad (USD 1.164 b).

In the first quarter of 2018, USD 2.133 b was received through FDI (2.7% of the quarterly GDP), an amount that is USD 367 m (14.7%) lower than what had been received the year before. The FDI received during this period was distributed by economic activity as follows: mining and oil (40.5%), financial and business services (18.4%), retail sales and hotels (13.9%), transportation and communications (13.3%), manufacturing industry (8.0%), and the remaining sectors (5.9%). The flow of Colombian direct investment abroad, in turn, was estimated at USD 1.111 b and the majority of this was made by businesses in the commercial and financial sectors.

Between January and March 2018, inflows from foreign portfolio investment totaled USD 185 m, an amount that is USD 1.621 b lower than what it was a year ago. This was the result of USD 1.349 b in purchases of TES and stocks on the local market by foreign investors and of USD 1.164 b in payments corresponding to long-term debt securities on the international markets. The outflows of Colombian capital for this totaled USD 1.904 b and correspond to portfolio investments made by public sector (USD 1.025 b) and by the private sector (USD 879 m) companies (Table 2.7).

Finally, for other capital flows, the country acquired USD 3.414 b in liabilities abroad mainly arising from loans acquired by the government and public sector entities. This amount is USD 1.720 b greater compared to the USD 1.694 b in liabilities seen the previous year.

⁴⁵ According to the IMF's proposed Balance of Payments Manual, sixth version, the financial account has the same sign as the current account. The financial account is the result of the difference between asset and liability flows. If the current account has a deficit, then the financial account is negative, which indicates that the Colombian economy has had to resort to foreign financing (liabilities) or liquidate its foreign assets in order to finance its current excess spending. In contrast, if the current account is positive (surplus), the financial account will also be positive which would indicate that the country has the capacity to lend funds to the rest of the world.

2.5.2 Forecast of the Balance of Payments for 2018

In 2017, the Colombian economy continued to adjust and the deficit in the current account continued to be corrected until it stood at 3.3% of the GDP. Last year's adjustment was mainly resulted from the recovery in foreign revenue, especially due to exports of products and, to a lesser extent, the increase in the remaining items, remittances and tourism in particular. This is expected to continue in 2018 driven in large part by the performance of the international price for crude oil and the effect of the recovery of demand abroad on manufactured Colombian goods.

The projection for the balance of payments for 2018 indicates that, as a percentage of the GDP, the most likely figure for the deficit in the current account will probably be around 3.2%. This forecast falls within a context of higher prices for oil than those registered in 2017 and of greater foreign demand. The latter is due to the estimated growth of the main trading partners (Table 2.8).

Moreover, a growth rate for imports of goods that is higher than what was seen in 2017 is estimated as a result of the increased economic activity forecast for 2018, which will encourage imports for all of the sectors in

Table 2.8
Balance Of Payments

	2017 (pr)	2018 (proj)
Current Account (A + B + C + D)	-10,437	-11,151
Percentage of the GDP	-3.3	-3.2
A. Goods	-4,759	-3,366
Exports	39,482	45,674
Imports	44,241	49,040
B. Non-factor services	-4,184	-4,196
Exports	8,342	9,476
Imports	12,525	13,673
C. Factor Income	-8,089	-10,882
D. Transfers	6,594	7,293
Financial Account (A + B + C + D)	-9,831	-11,151
A. Direct Investment (ii - i)	-10,235	-8,653
i. Foreign in Colombia (FDI)	13,924	12,756
ii. Colombian Abroad	3,690	4,103
B. Portfolio Investment	-1,597	-219
C. Other investment (loans, other loans and derivatives)	1,455	-2,867
D. Reserve Assets	545	587
Errors and Omissions (E and O)	606	0

(pr): preliminary
(proj): projected
Source: Banco de la República.

general. This is also the result of the greater acquisition of capital goods on the part of the mining-energy sector due to a better outlook for prices.

The result of the trade balance for 2018 is expected to be a lower deficit than the one last year, mainly spurred, by the growth in exports of products, a majority of which will be oil and its derivatives, and industrial products. Thus, a large part of the adjustment of the current imbalance as a share of the GDP could be explained by this item. Larger current transfers are also expected, above all because of the expected growth of the remittances sent from the United States, Europe and some Latin American countries.

Factor income is included among the factors that could put upward pressure on the current deficit in 2018 since an increase in the profits of companies that have foreign capital is expected, especially from those that work in the oil sector as a result of the higher prices compared to what was seen in 2017. It should be noted that, to the degree in which higher income from exports is anticipated for oil companies with FDI, this will be reflected in an increase in their profits due to factor income. An improvement in the profits for companies working in sectors other than mining-energy is also expected that is consistent with the better growth anticipated for the economy. Higher payments for interest on the foreign debt (bonds and loans acquired by the public and private sectors) due to the higher level of debt and to the increase in the foreign interest rates could be added to the above.

For 2018, the deficit in services is estimated to be at levels similar to those during the previous year (Table 2.8). With respect to outflows, these will probably rise mainly due to the higher spending by Colombians on trips abroad, and to a lesser degree, the increased outlays on freight costs, and the growth of the oil technical services given the higher international prices for crude oil. Meanwhile, revenue will probably grow to a larger extent due to the greater income from tourism which is facilitated by the improvement in global growth.

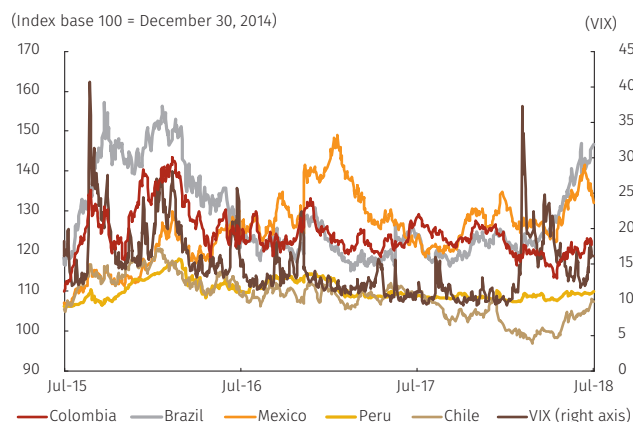
In terms of the financing of the current account, direct investment is expected to continue being the main conduit for foreign capital inflows in 2018. In addition, a major reduction in loans (net disbursements) from multilateral entities and foreign banks is expected in contrast with net repayments in 2017. With regards to the portfolio investments, the central scenario for 2018 assumes a more limited placement of bonds on the part of the public sector and more activity on the part of foreigners in the TES market.

In 2018, the current external deficit is expected to be close to 3.2% of GDP.

2.5.3 Changes in the Exchange Rate so far in 2018

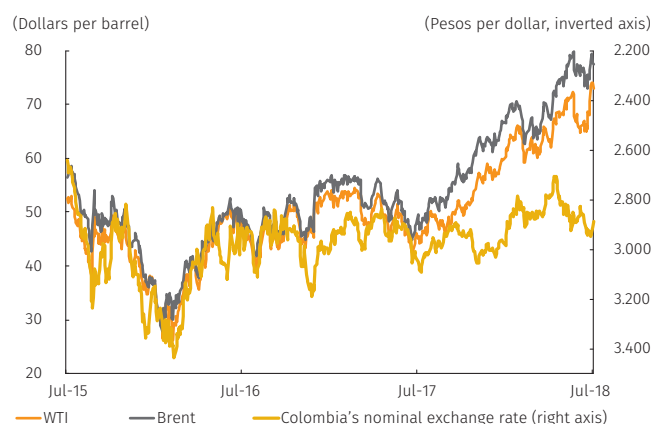
During the first half of 2018, there was a change in the tendency of the US dollar to depreciate that had been registered in 2017 and, it became

Graph 2.21
Nominal Exchange Rate Indices with respect to Dollar for Some Latin American Countries



Source: Bloomberg.

Graph 2.22
Nominal Exchange Rate and International Price of Oil



Source: Bloomberg.

stronger, generally speaking, with respect to the currencies of developed and emerging countries: it appreciated 1.9% in comparison to the former currencies⁴⁶ and 7.9% with respect to the latter ones.⁴⁷ In the region, the dollar has strengthened against all currencies with the exception of the Colombian peso. The specific ones that have depreciated are: the Brazilian real (17.0%), the Chilean peso, (6.4%) the Peruvian sol, (1.1%) and the Mexican peso, (1.0%). At the same time, the Colombian peso has appreciated 1.8% (Graph 2.21).

In the first half of 2018, the performance of the majority of the currencies in the region, including the Colombian peso, was influenced by opposing forces. This is how the depreciation of the currencies contributed: the positive performance of the US economy in relation to other developed economies; the expectations of the Fed rates rising at a higher rate compared to what was forecast at the end of last year, and the trade tensions between the United States and other economies such as China and the European Union; while the increase in crude oil prices contributed to the appreciation.

In the case of the Colombian peso, its correlation with the trend of oil⁴⁸ rose during the first half of 2018 compared to what had been seen the previous year. Thus, our currency appreciated in view of the prospects of a lower supply of crude oil (Graph 2.22).

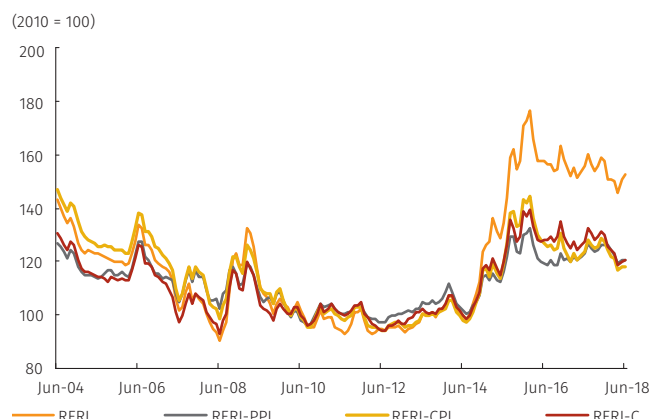
In comparison to the currencies of the main trading partners based on the nominal exchange rate index (NERI), the Colombian peso had also strengthened between January and May 2018 with respect to both the close of last year and the average for the first half of 2017. In real terms, that is, adjusting for the changes in prices in both Colombia and the other countries, the Colombian peso also showed a tendency

⁴⁶ According to the *Bloomberg dollar spot index* (BBDXY) which includes the currencies of Europe, Japan, Canada, Mexico, the United Kingdom, Australia, Switzerland, South Korea, China, and Brazil. This group corresponds to the currencies of the United States' main trading partners combined with those with the greatest liquidity (based on the BIS' three-year survey).

⁴⁷ According to the *FXJPEMCI index*, which includes the currencies of Brazil, Russia, China, Mexico, South Africa, South Korea, Chile, Israel, Taiwan, Peru, Turkey, India, Argentina, Malaysia, Colombia, Hungary, Indonesia, Egypt, Thailand, the Czech Republic, the Philippines, Morocco, Pakistan, Jordan, and Poland.

⁴⁸ Between the returns of the nominal exchange rate and those from the price for crude oil.

Graph 2.23
Multilateral Real Exchange Rate Indices (nominal and real)



Note: The RERI shows the changes of the nominal exchange rate of the Colombian peso with respect to the currencies of our main trading partners as a group. The RERI-PPI and the RERI-CPI compare the purchasing power of the Colombian peso to our main trading partners, using the PPI and CPI, respectively, as deflators. With the RERI-C (for competitiveness), a comparison is made with our main competitors in the US in the coffee, banana, flower, and textile markets.

Source: Banco de la República.

toward appreciation in comparison to its trading partners and its main competitors in the United States in the coffee, banana, flower, and textile markets (RERI-CPI and RERI-C respectively). Similarly, if the producer price index (PPI) is used as a deflator, the peso has shown a slight appreciation so far this year compared to those countries that it trades with the most (RERI-PPI) (Graph 2.23).

2.5.4 International Reserve Indicators

Banco de la República recognizes the importance of having a suitable level of international liquidity to deal with capital outflows as well as to improve confidence in the country. In addition to the reserve accumulation strategy, Colombia has had a line of contingent financing with the IMF

since May 2009, which is granted to member countries with good economic performance, prudent policies, and a sound economic policy framework. On May 25, 2018, the IMF reaffirmed the agreement on access to contingent resources, amounting to approximately USD 11.400 b, for Colombia. Although the economic authorities do not envisage making use of these funds, they consider having them prudent in the event of a sudden cut off in external financing.

To determine whether or not there are enough international reserves to prevent and deal with external shocks, various indicators are used which are described below (Table 2.9). In general, the international markets think low values for these could be warning signs of the external vulnerability of an economy.

To establish the economy's ability to respond to capital outflows triggered by a speculative attack, the level of the reserves is compared to different economic variables including monetary aggregates, such as M2 or M3. When the various indicators of Colombia's international liquidity are compared to those of countries in the region, the ratio of reserves to M3 for 2017 is seen to register levels above those of Brazil, and Chile and lower in comparison to Peru's and Mexico's (Graph 2.24).⁴⁹

The ratios of net reserves to repayment of the total foreign debt and to the current account deficit show the country's ability to meet its credit obligations with the rest of the world in an extreme scenario where access to international financing is completely closed off. In the ratio of international reserves to debt repayment, debt servicing, and current account deficit plus debt repayment, Colombia historically registers

49 In the case of Peru, the banking reserve requirements are excluded from the balance of the international reserves.

Table 2.9
Indicators of Colombia's International Reserves

	2011	2012	2013	2014	2015	2016 (pr)	2017 (pr)	2018 (proj)
Balance								
Net international reserves (NIR) (millions of dollars) ^{a/}	32.300	37.467	43.633	47.323	46.731	46.675	47.629	48.216
Indicators								
A. Foreign Debt Repayment Indicator								
Repayment of foreign debt (millions of dollars)		22.539	16.773	21.755	24.524	23.759	30.362	24.386
NIR/current year foreign debt repayments		1,66	2,60	2,18	1,91	1,96	1,57	1,98
NIR/coming year foreign debt repayments ^{b/}	1,43	2,23	2,01	1,93	1,97	1,54	1,95	1,71
B. Appropriate External Liquidity Position								
NIR/(current year debt service)		1,44	2,14	1,84	1,61	1,64	1,34	1,63
NIR/(coming year debt service) ^{c/}		1,84	1,69	1,63	1,64	1,31	1,61	1,41
NIR/(current year debt repayments + current year current account deficit)	1,34	1,11	1,49	1,14	1,08	1,30	1,17	1,36
NIR/(coming year debt repayments + coming year current account deficit) ^{d/}	0,95	1,28	1,05	1,10	1,31	1,14	1,34	1,20
C. Other International Reserve Indicators								
NIR as months of product imports		7,9	9,2	9,2	10,8	13,0	12,9	11,8
NIR as months of total imports		6,5	7,4	7,6	8,7	10,3	10,1	9,2
NIR/M3 (percentage)		22,1	24,7	30,2	35,5	31,7	29,6	27,7
NIR/GDP (percentage)	9,6	10,1	11,4	12,4	15,9	16,5	15,1	13,9

(pr): preliminary

(proj): projected.

Note: Calculations based on the preliminary data from the balance of payments estimate.

a/ The net international reserve balance includes the contributions to the Latin American Reserve Fund (FLAR in Spanish).

b/ The debt repayments for the coming year correspond to the projected payments on foreign debt at the closing of the projected balance of payments. Includes the balance of the short-term debt.

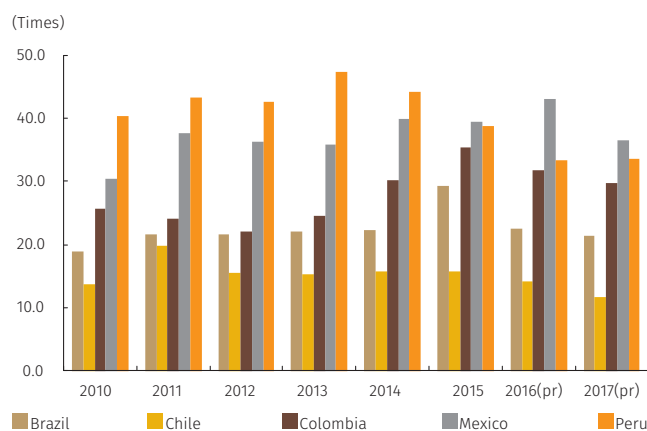
c/ The interest for the coming year corresponds to the estimated payments at the closing of the predicted balance of payments.

d/ The current account deficit for the coming year is a forecast.

e/ The dollar value of the GDP corresponds to an estimate in nominal terms for 2018

Source: Banco de la República.

Graph 2.24
International Reserves/M3



(pr): preliminary

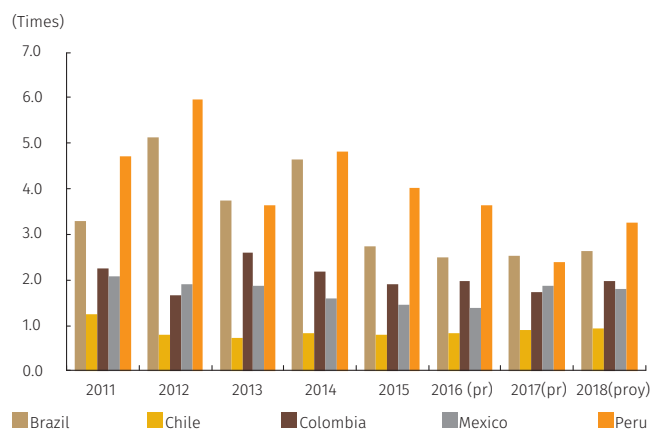
Source: Central banks, The Economist Intelligence Unit (updated June 2018) and Banco de la República.

levels that are above those of Chile and below Brazil's and Peru's levels (Graph 2.25, panel C). For Colombia, these indicators have registered values that, on average, are above 1⁵⁰ during the latest decade.

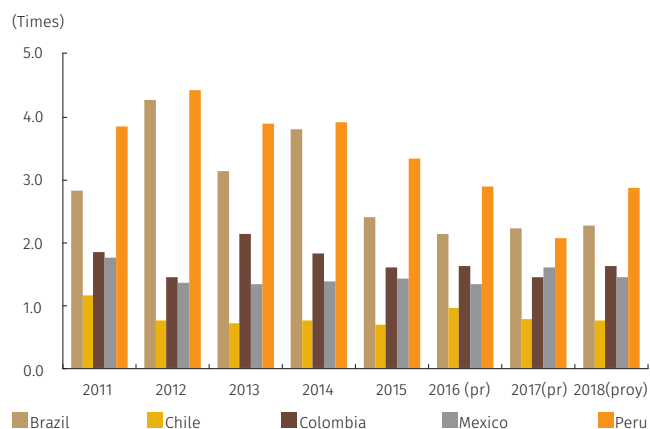
50 According to the IMF, "Debt and Reserve Related Indicators of External Vulnerability" (2000), there is empirical evidence for a sample of emerging economies, which makes it possible to establish the value of 1 for these types of reserve indicators as a benchmark. Specifically, the Guidotti-Greenspan rule states that a country's reserves should be equal to the balance of the short-term external debt, which implies a ratio of 1 for this indicator. The explanation is that countries should have enough reserves to be able to withstand a massive withdrawal of short-term external capital.

Graph 2.25
Adequate External Liquidity Position Indicators

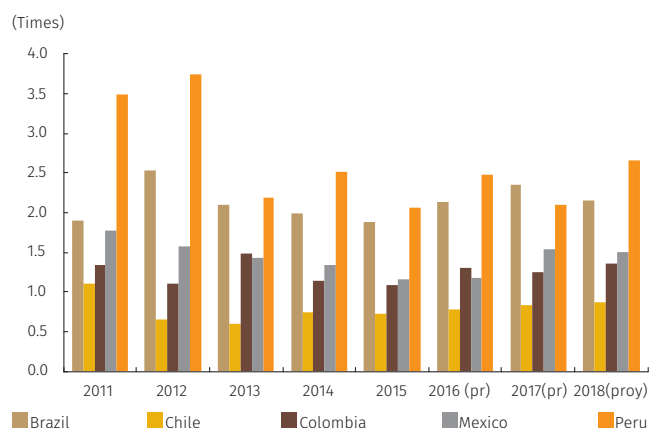
A. International Reserves/Current Year Repayment



B. International Reserves/Current Year Debt Service



C. International Reserves/Current Year Current Account Deficit + Amortizations

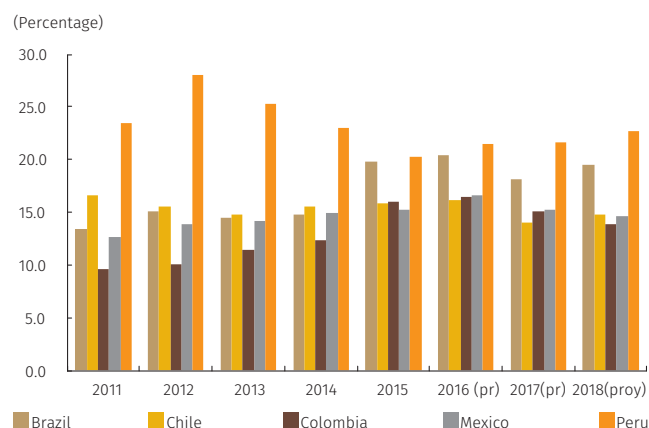


(pr): preliminary
(proy): projected
Source: Central banks, The Economist Intelligence Unit (updated June 2018) and Banco de la República.

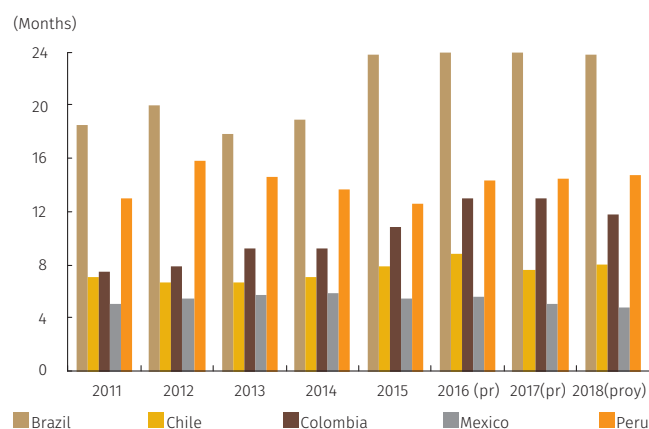
In recent years, the indicator of reserves to GDP, in turn, has stood, on average, at lower levels than those seen for the rest of Colombia's peers in the region.⁵¹ With respect to reserves measured in months of product imports, these show that, in 2017 and 2018, Colombia's relative position was low with respect to Brazil and higher or equal to the rest of the economies analyzed (Graph 2.26, panel B).

Graph 2.26
Other International Reserve Indicators

A. International Reserves/GDP



B. International Reserves as Months of Product Imports



(pr): preliminary
(proy): projected
Source: Central banks, The Economist Intelligence Unit (updated June 2018) and Banco de la República.

51 In order to ensure that this accounting period is comparable, the GDP of the countries under analysis, including Colombia, corresponds to the GDP converted into dollars using the purchasing power parity rates of the World Bank.

The results of various indicators for Colombia between 2011 and 2018 are shown in Table 2.9. In the case of the ratio of net reserves to M3, an improvement in the indicator was evident up to the year 2015 along with a slight decline over the two years following that. This 2015 result was associated with the purchase of reserves on the part of the Bank up until December 2014, with the slowdown in the growth rate of the monetary aggregate since mid-2013, and with the effect of depreciation on the M3 valuation in dollars. For 2017 and 2018, a growth rate that is higher than that of the reserves is seen for dollar-denominated M3, which is why the value of the indicator has declined.

The ratio of net reserves to total imports of goods and services shows the number of months of purchases abroad that an economy is able to cover using its international reserves in the event of an abrupt change in the trade balance. This indicator estimates 9.2 months for 2018 which is higher than the average of 7.7 months since the year 2000. When this indicator is calculated for imports of goods, it rises to 11.8 months.

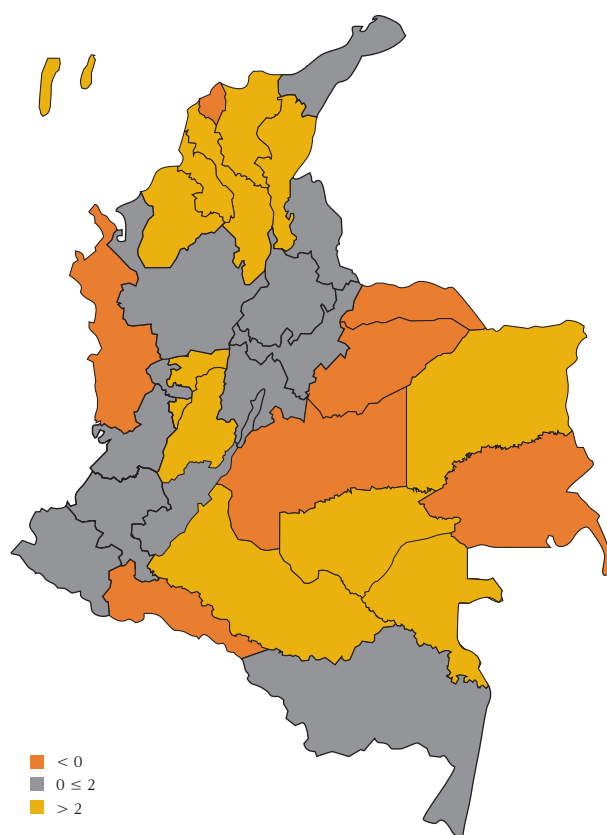
2.6 Performance of Colombia's Regional Economy In 2017

2.6.1 The Economies of the Departments in 2017

The most recent figures available for the departmental GDPs of the country's thirty-three territories⁵² showed a positive annual performance for thirteen economies in 2017, moderate growth in a third of them (within a range of 1.0% to 2.0%), stagnation in two, and deterioration in seven territories (Map 2.1). In general, the above represents a growth equal to or greater than the national record (1.8%) for more than half of the departments being followed (Graph 2.27).

The performance of the departmental economies took place in a context in which the process of adjustment caused by the shocks that have occurred since 2014 with the deterioration of the terms of trade and their effects on national income, and the culmination of the pronounced effects in 2016 resulting from intensity of el Niño and the trucker's and freighter's strike

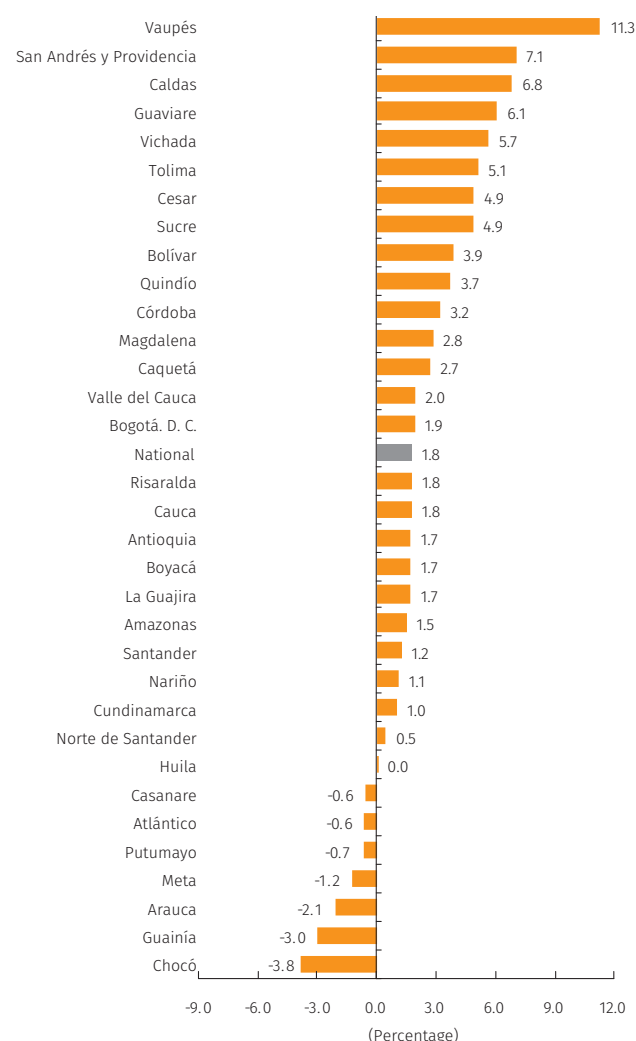
Map 2.1
Annual Growth of the Real Departmental GDP, 2017
(percentage)



Source: DANE, calculations by Banco de la República.

52 DANE published the departmental GDP for the country's thirty-three (33) territories using new methodology and 2015 as the base year. The latest information available was as of 2017 and the date of publication was June 29, 2018.

Graph 2.27
Annual Growth of Departmental GDP, 2017



Source: DANE, calculations by Banco de la República.

was completed.⁵³ There was a change in the trend of the shocks in 2017 with higher foreign sales of coal and of oil and its derivatives that were largely due to the recovery in export prices.⁵⁴ In addition, public works were in full swing and there was more public consumption on the part of local and regional governments. This was accompanied by the new tax reform going into effect that prolonged the time needed for household consumption to adjust.

In this scenario, the department of Vaupés registered the most growth (11.3%) in 2017 fueled by the agricultural sector, followed by San Andrés and Providencia (7.1%) which were based on trade and construction, and by Caldas (6.8%) spurred by the industrial sector. These departments together accounted for 2.0% of the total national production (Graph 2.28). The growth in the territories with the highest share of the national GDP, which include Bogotá, Antioquia, and Valle del Cauca, was very close to the national registry (1.8%). Their dynamic economies were explained mainly by financial services, real estate, professional services,⁵⁵ and public administration and defense work.⁵⁶ This result was offset by lower industrial production and the downturn in retail sales,⁵⁷ and in information and communications.

Moreover, the departments that showed some deterioration in their economies were Casanare, Atlántico, Putumayo, Meta, Arauca, Guainía, and Choco. The majority of these territories have a significant mining-energy sector. In Atlántico, specifically, the decline in construction work and industrial production is added to this performance.

53 See the *Board of Directors Report to the Congress of the Republic* prepared by Banco de la República, March 2018, pp. 9-33.

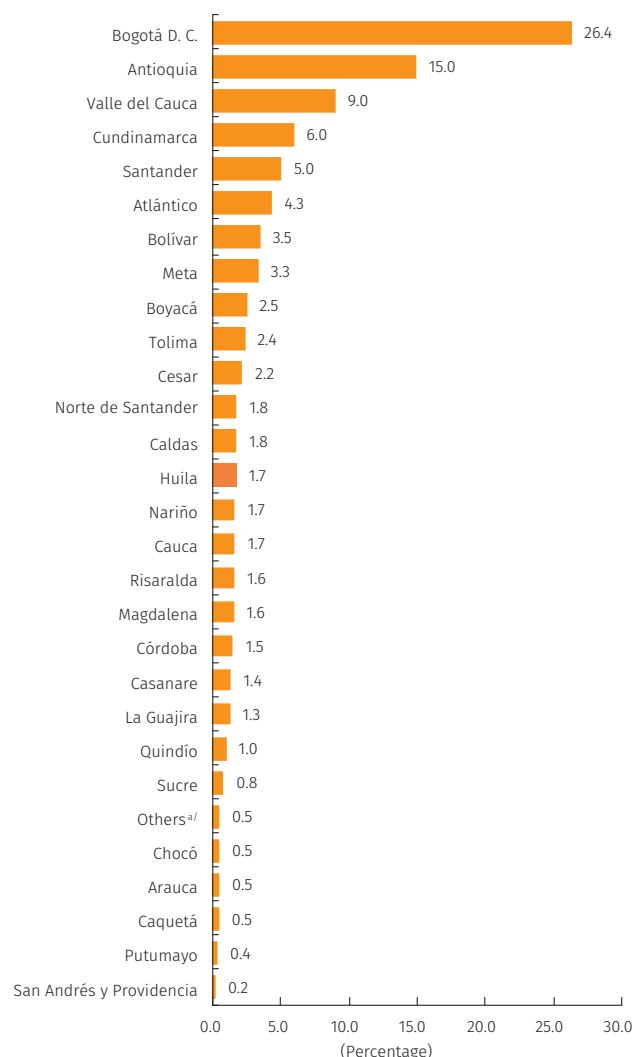
54 "Change in the balance of payments and international investment position, 2017," March 2018, *Bank of the Republic*.

55 Professional, scientific and technical activities; administrative and support services.

56 Public administration and defense; compulsory affiliation to social security plans; education; human health care and social services.

57 Wholesale and retail sales; automobile and motorcycle repair; transportation and warehousing; lodging and food services.

Graph 2.28
Departmental Share of the National GDP, 2017



a/ Guaviare, Amazonas, Vichada, Guainía and Vaupés
Source: DANE, calculations by Banco de la República.

By economic activity, the better performance of agriculture is notable in the majority of the departments with the return to normal crop production and recovery of pasture quality. The highest growth in the agricultural sector was found in some of the departments in the Southeast region⁵⁸ and on the Caribbean Coast⁵⁹ along with Cundinamarca, Santander, and Tolima. This result was, to a large degree, associated with the increase in the area planted and the better crop yields.⁶⁰ The recovery of the agro-industrial production of food products,⁶¹ in turn, was led by the last two departments in addition to Córdoba and Caldas.

With regards to construction, the pace of work on building highways and civil engineering projects⁶² in the majority of the departments on the Caribbean Coast, in the Eje Cafetero (coffee region), Vichada, Tolima, and Boyacá stands out. San Andrés and Providencia, in particular, registered the highest growth spurred by the completion of road and port infrastructure projects. Progress in public works was also seen in Antioquia, Cundinamarca, Santander, and Bogotá with significant rates of growth which partially offset the declines in construction of residential and non-residential buildings as well as of those activities that are specialized for construction.

In contrast, a deterioration in the buildings sector was registered. This was widespread throughout the regions and contributed partly to explaining the reduced industrial requests for iron; steel; products made of metal, rubber, and plastic; electrical equipment and wooden furniture, etc. Annual declines in industrial processes coincided among the

58 The Southeast Region: Amazon, Casanare, Guainía, Guaviare, Meta, Vaupes, and Vichada.

59 Caribbean Coast Region: Atlántico, Bolívar, Cesar, Córdoba, La Guajira, Magdalena, San Andres and Providencia, and Sucre.

60 See the *Board of Directors Report to the Congress of the Republic* prepared by Banco de la República, March 2018, pp. 82-88.

61 Preparation of food products; production of beverages; manufacturing of tobacco products.

62 Highways and railways, public service projects, and other civil engineering projects.

territories that are the most representative with respect to metallurgical,⁶³ furniture, and textile⁶⁴ production, Bogotá, Antioquia, Cundinamarca, Atlántico, and Boyacá. This was partly offset by the increase in production of these three types of products in Bolívar and the departments of the Eje Cafetero. Bolívar and Caldas, in turn, also registered significant growth in the manufacture of products from oil refining.⁶⁵

In the sector of mining and quarrying, the lagged effect of the TT shock on oil and gas production was seen in the most representative departments that are found in the Southeast – Meta, and Casanare as well as Putumayo and those in the Northeast region.⁶⁶ The downturn in activity in Antioquia, Choco, Nariño, and Cauca was associated with the implementation by the Ministry of Mines’ Single Registry of Mineral Marketers (Rucom) of the new measures adopted to control the marketing of minerals.⁶⁷ In Boyacá and Huila, the reduction in iron ore production was mainly associated with the adjustment in building activity around the country. In contrast, the favorable results of the mining work seen in Cesar and Magdalena were essentially justified by the increase in the volumes of coal shipped abroad.

2.6.2. The Departmental Labor Market

The downturn in the Colombian economy which, in 2017, registered a less marked slowdown of the GDP than what was seen in 2009, had a smaller than expected impact on the departmental labor market that was consistent with the orderly macroeconomic adjustment that occurred after facing the above-mentioned shocks. Indeed, according to the DANE *General Integrated Household Survey* (GEIH in Spanish) the total departmental UR⁶⁸ in 2017, stood at 9.4%, which was slightly higher

63 Basic metallurgics; manufacturing of metal products, except machinery and equipment; manufacturing electrical apparatus and equipment; manufacturing of computer, electronic and optical products; manufacturing machinery and n. c. p. equipment; manufacturing of automobiles, trucks and semi-trucks; manufacturing other types of transportation equipment; specialized installation, maintenance, and repair of machinery and equipment.

64 Textiles; clothing; tanning and retanning of skins; manufacturing footwear; manufacturing articles for travel, suitcases, purses and other similar items, and the production of articles such as saddles and harnesses; tanning and dyeing fur.

65 Coking, manufacture of products from oil refining, fuel blending, manufacturing of chemicals and chemical products; manufacturing of pharmaceuticals, medicinal chemical substances, and botanical products for pharmaceutical use; manufacturing rubber and plastic products; manufacturing non-metallic mineral products.

66 The Northeast Region: Santander, Boyacá, Arauca, and Norte de Santander.

67 Resolution 208/2017, of the National Agency for Mining. “By means of which the criteria are established that make it possible to determine the economic capacity of individuals and legal entities to accomplish the work involved in marketing minerals.”

68 Information on twenty-three departments plus the capital city.

what was registered in 2016 (Table 2.10) and much lower than the one in 2009 (12.0%). This was the period when the decline to single-digit levels started, and it has remained at an average of 9.2% over the last five years.

Table 2.10
Labor Market Indicators by Department
(percentage)

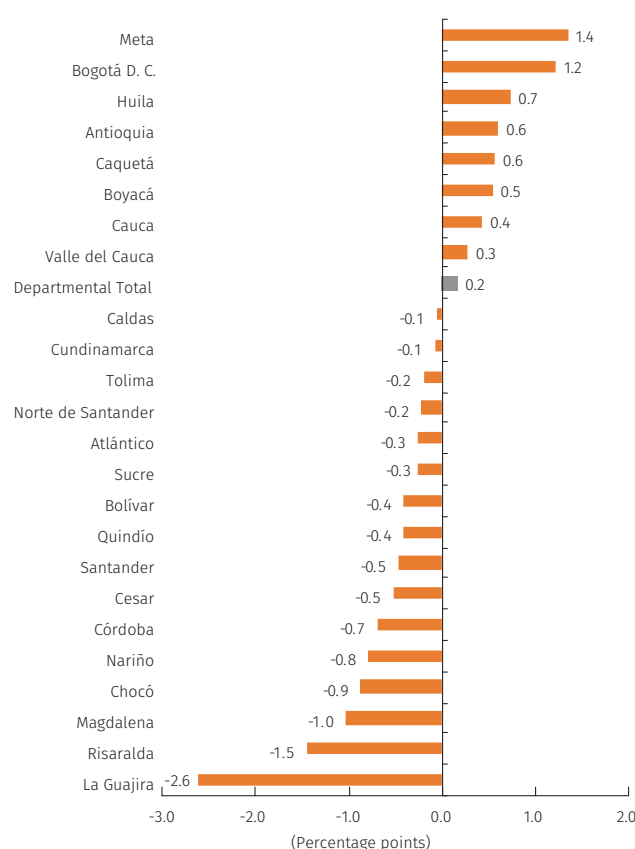
Departments	Overall Participation Rate (OPR)			Employment Rate (ER)			Unemployment Rate (UR)		
	2016	2017	pp	2016	2017	pp	2016	2017	pp
Departmental Total ^{a/}	64.7	64.6	-0.1	58.7	58.5	-0.2	9.2	9.4	0.2
Antioquia	62.3	63.2	0.9	56.3	56.8	0.4	9.6	10.2	0.6
Atlántico	63.7	62.8	-0.8	58.8	58.2	-0.6	7.6	7.4	-0.3
Bogotá D. C.	70.8	69.6	-1.1	64.2	62.3	-1.9	9.3	10.5	1.2
Bolívar	59.2	58.7	-0.6	55.2	54.9	-0.3	6.8	6.4	-0.4
Boyacá	59.6	59.0	-0.5	55.4	54.6	-0.8	7.0	7.5	0.5
Caldas	55.8	56.0	0.3	50.6	50.9	0.3	9.3	9.2	-0.1
Caquetá	59.7	57.8	-1.9	55.1	53.0	-2.1	7.6	8.2	0.6
Cauca	60.0	60.5	0.4	55.3	55.4	0.2	7.9	8.3	0.4
Cesar	56.5	59.5	2.9	50.1	53.0	2.9	11.5	10.9	-0.5
Chocó	51.0	50.7	-0.3	45.6	45.7	0.2	10.7	9.8	-0.9
Córdoba	60.5	62.2	1.8	54.6	56.6	2.0	9.7	9.1	-0.7
Cundinamarca	69.8	70.5	0.7	64.2	64.9	0.7	8.1	8.0	-0.1
Huila	63.4	62.5	-1.0	58.4	57.0	-1.4	8.0	8.7	0.7
La Guajira	68.0	69.1	1.1	61.8	64.5	2.8	9.1	6.5	-2.6
Magdalena	57.3	57.1	-0.2	52.5	52.9	0.4	8.4	7.4	-1.0
Meta	62.8	64.5	1.7	56.0	56.7	0.6	10.8	12.2	1.4
Nariño	69.4	70.0	0.6	64.1	65.2	1.1	7.6	6.8	-0.8
Norte de Santander	59.5	59.3	-0.2	52.0	52.0	-0.0	12.6	12.4	-0.2
Quindío	64.8	64.6	-0.2	55.7	55.9	0.1	13.9	13.5	-0.4
Risaralda	63.8	63.4	-0.3	57.9	58.5	0.6	9.3	7.8	-1.5
Santander	68.9	67.9	-1.0	63.9	63.2	-0.6	7.3	6.8	-0.5
Sucre	60.1	59.8	-0.3	54.4	54.3	-0.1	9.4	9.1	-0.3
Tolima	68.9	66.7	-2.2	61.8	59.9	-1.9	10.3	10.1	-0.2
Valle del Cauca	66.5	66.5	-0.0	59.1	58.9	-0.2	11.2	11.5	0.3

a/ The Departmental total includes 23 departments and Bogotá, D.C.
OPR = (economically active population / working-age population) x 100.
ER = (employed / working-age population) x 100
UR = (unemployed / economically active population) x 100
Source: DANE (GELH), calculations by Banco de la República.

Eight territories registered double-digit unemployment rates in 2017. This is less than half of the number seen in 2009 (twenty territories) and those that represent the highest contributions to the national GDP are found among them, namely: Bogotá, Antioquia, and Valle del Cauca. During the 2009-2017 period, Quindío, Valle del Cauca, and Norte de Santander maintained a double-digit UR and the first two showed

improvements at the end of the period while the one on the border registered a deterioration. During the same period of time, the rest of the territories showed downward corrections in their UR except for the departments of Meta and Caesar.

Graph 2.29
Change in the Unemployment Rate by Department, 2016-2017



Source: DANE, calculations by Banco de la República.

When the figures for 2017 are compared to the immediately preceding year, favorable results were registered in the majority of the territories with La Guajira, which reduced its UR 2.6 pp, having the best results (Graph 2.29). Regarding the group of departments that make up the Eje Cafetero, some on the Caribbean Coast (Cordoba, La Guajira, and Magdalena), and on the Pacific (Choco and Nariño), the improvement was mainly due to the rise in demand for labor as represented by the ER which was superior to the change in the labor supply as expressed by the OPR. With respect to other departments in the Caribbean region (Atlántico, Bolivar, and Sucre) together with Santander and Tolima, the trend of the UR was a result of a smaller drop in the ER compared to the decline in the OPR.

In contrast, annual increases in the UR were seen in the central region (Bogota, Huila, Caquetá), the southwest region (Valle del Cauca, Cauca), and in Boyacá, Meta, and Antioquia. In the case of the central region, rises were evident in the UR supported by a rapid decline in the demand for labor in comparison to the decline in the labor

supply. In the departments of Cauca, Meta, and Antioquia the increase in the UR resulted from a rise in the labor supply that was greater than the observed rise in demand.

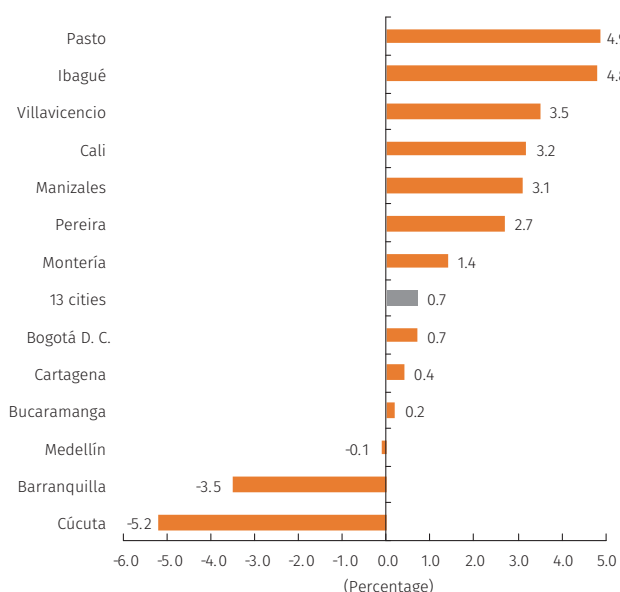
The total departmental number of people employed⁶⁹ amounted to 22.5 million in 2017 with a growth of 1.0% compared to the previous year. At the same time, the total number of employed people for the 23 capital cities and metropolitan areas registered a slight increase (0.2%). The cities totaled 11.9 million people employed, 53.0% of the departmental total. By branch of economic activity, there were increases in employment in retail sales, community and social services, the manufacturing industry, and real estate – the categories that accounted for 80.3% of total number of employed people – for more than half of the cities. The Caribbean region and Eje Cafetero, which were the leaders in the increased number of people employed in industry, accounted for 11.1% of the total number of people employed in that

69 Information for twenty-three departments plus the capital city.

sector with the largest expansion occurring in Santa Marta (34.6%). With respect to reductions, these occurred in cities, along with other areas, with larger populations such as Barranquilla, Medellín, Cali, and Bogotá. In the sectors of retail sales and community and social services, significant progress was identified in Valledupar and Villavicencio while Montería, Cartagena, Cali, Pasto, Neiva, and Bogotá showed a decline in these two branches. Last of all, in the sector of real estate, the number of people employed rose for more than 70% of the cities and metropolitan areas while in the remaining percentage of cities, the largest reduction corresponded the city on the border (11.8%).

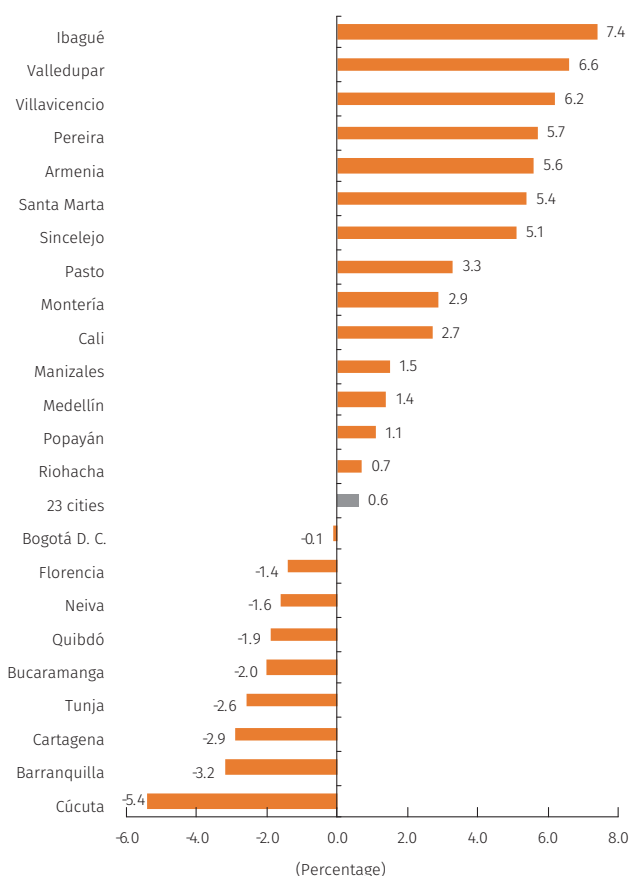
With regards to the indicators of employment quality, there was a positive change of 0.6 pp in legal employment for the twenty-three cities as a group in 2017. This result is similar to what was obtained in the number of wage earners within the group of thirteen cities and metropolitan areas. Based on the information from DANE, the most progress in quality of employment in terms of annual increases in the number of legal workers and wage-earners was seen in Montería, Pereira, Manizales, Cali, Villavicencio, Ibagué, and Pasto (Graphs 2.30 and 2.31). On the other hand, Cucuta and Barranquilla registered a deterioration in both indicators. For the 23 cities and metropolitan areas as a whole, formal employment stood at 51.6% of the total number of people employed and 15 cities, in particular, registered an improvement in the indicator with Ibagué, Cali, Pasto, Pereira, and Armenia being the most notable as they gained a higher share of this (between 1.1 pp and 3.4 pp). Tunja remained in the group of six cities with a formality indicator that was above 50%; however, it registered the largest percentage loss (2.1 pp) with respect to the total for the twenty-three cities and metropolitan areas. The highest percentage of informal workers to total number of people employed, in turn, was found in Cucuta (70.5%) and surpassed the 60,0% found in various cities on the Caribbean coast (Montería, Santa Marta, Valledupar, Sincelejo, and Riohacha) as well as Florencia.

Graph 2.30
Annual Growth of Salaried Growth by City, 2017



Source: DANE, calculations by Banco de la República.

Graph 2.31
Annual Growth of Formal Labor by City, 2017



Source: DANE, calculations by Banco de la República.

2.6.3 Consumer Inflation by City in 2017

At the close of 2017, the 24 cities for which DANE monitors the CPI registered inflation rates that were lower than the ones reported a year ago. This is consistent with the process of price adjustment after coping with the events that have occurred abroad since 2014, the shock to the terms of trade, and the effects that were accentuated in 2016 by the intensity of El Niño and both the trucker's and the agriculture strike. The reduction of inflation in Florencia, Barranquilla, Cucuta, Riohacha, and Sincelejo was notable in comparison to the result from the previous year which fluctuated between 300 bp and 500 bp (Table 2.11). Of the five cities mentioned, only Barranquilla exhibited an inflation (3.24%) that was higher than the target of 3%. In contrast, Pasto, Cali, and Valledupar showed smaller declines, fluctuating between 75 bp and 87 bp. In both cases, inflation had been adjusting in previous periods.

Table 2.11
Inflation Indicators by City
Percentage and difference in basis points (bp)

City	Headline Inflation			Excluding food			Food		
	2016	2017	Change (bp)	2016	2017	Change (bp)	2016	2017	Change (bp)
Armenia	6.28	3.78	-250	5.63	4.17	-146	8.03	2.76	-527
Barranquilla	6.47	3.24	-323	5.96	4.36	-160	7.66	0.71	-695
Bogotá	5.69	4.63	-106	5.18	5.53	35	6.98	2.45	-453
Bucaramanga	5.88	3.76	-212	5.18	4.96	-23	7.18	1.59	-559
Cali	5.13	4.28	-85	4.43	4.59	16	6.85	3.55	-330
Cartagena	5.25	3.17	-209	5.44	4.76	-68	4.85	-0.32	-517
Cúcuta	6.11	2.87	-324	5.73	4.05	-167	6.81	0.74	-607
Florencia	6.04	2.98	-306	5.26	3.48	-178	7.58	2.02	-556
Ibagué	5.25	2.91	-234	4.65	4.28	-37	6.55	0.05	-650
Manizales	6.47	4.29	-219	5.65	5.35	-29	8.42	1.85	-657
Medellín	6.54	4.16	-238	5.63	5.00	-63	9.22	1.76	-747
Montería	5.20	2.79	-241	4.53	4.96	43	6.79	-2.21	-900
Neiva	3.97	2.61	-135	3.43	3.61	18	4.94	0.83	-411
Pasto	4.75	4.00	-75	4.86	4.63	-22	4.55	2.73	-181
Pereira	5.62	4.11	-150	4.25	4.85	60	9.10	2.32	-678
Popayán	5.77	4.00	-177	5.36	4.68	-68	6.61	2.63	-398
Quibdó	4.57	2.73	-183	2.44	4.45	201	8.21	-0.04	-825
Riohacha	5.61	1.28	-434	4.47	3.77	-70	7.52	-2.76	-1,028
San Andrés	6.03	4.19	-184	3.99	4.70	71	9.18	3.43	-575
Santa Marta	4.85	2.84	-201	3.67	4.19	52	7.14	0.30	-684
Sincelejo	6.45	1.67	-478	6.29	3.71	-258	6.75	-2.11	-885
Tunja	4.91	3.35	-156	3.93	4.20	27	7.03	1.55	-548
Valledupar	4.28	3.41	-87	3.50	5.16	166	6.12	-0.58	-670
Villavicencio	4.45	1.78	-267	3.88	2.55	-133	5.57	0.30	-527
National Total	5.75	4.09	-166	5.14	5.01	-13	7.22	1.92	-530

Source: DANE, calculations by Banco de la República.

Of the twenty four, the regional economies registered ten cities with consumer inflation that was below the target in 2017 (Table 2.11). Eight cities, in turn, registered inflation levels that were between the target and 4.0%. The remaining six cities had inflation levels that were higher than the national result (4.09%). Bogota showed the highest inflation (4.63%) which was 0.54 pp higher than the national rate and 0.63 pp above the inflation target ceiling.

The downward correction of the annual change in the CPI in the twenty-four cities was primarily due to the disappearance of the upward pressure on the basket of food prices and, to a lesser extent, to the adjustment in the basket of prices for goods and services excluding food (Table 2.12). The widespread downward trend in food price inflation which has been seen since August 2016 reached minimum levels in 2017. To be specific, Pasto had minimum levels in May, 22 cities in July, and San Andres in August as a general effect of better weather conditions and the return to normal agricultural activity around the country. Starting with those months and up to the end of the year, Quibdó and the cities on the Caribbean Coast (except for Barranquilla and Santa Marta) registered reductions in inflation. The trend reversed in the rest of them with larger increases occurring in Cali and San Andrés and moderate rises in the remaining fourteen cities.

Table 2.12
Food Price Inflation by Subgroups for 13 Cities
Percentage and change in basis points (bp)

City	Perishables			Processed food			Eating out		
	2016	2017	Change (bp)	2016	2017	Change (bp)	2016	2017	Change (bp)
Barranquilla	-5.64	3.02	865	10.13	-1.05	-1.119	9.52	4.03	-549
Bogotá	-7.48	5.47	1.294	10.15	-0.76	-1.091	8.91	5.98	-293
Bucaramanga	-8.15	2.41	1.056	11.57	-1.11	-1.267	7.71	4.54	-317
Cali	-8.25	14.46	2.271	10.79	-0.81	-1.160	9.52	5.09	-443
Cartagena	-10.71	-1.77	894	8.0	-1.10	-910	7.72	3.10	-462
Cúcuta	-7.10	7.13	1.423	11.66	-1.98	-1.364	6.14	2.81	-333
Manizales	-9.56	7.72	1.729	14.66	-1.03	-1.569	7.06	6.62	-45
Medellín	0.35	6.33	598	12.06	-0.25	-1.231	8.06	4.13	-393
Montería	-5.13	-0.68	445	9.69	-4.51	-1.420	6.77	4.47	-231
Neiva	-13.14	9.88	2.302	10.14	-2.45	-1.260	7.38	1.71	-567
Pasto	-9.98	7.23	1.721	9.72	-0.23	-995	8.20	6.26	-194
Pereira	-4.86	6.48	1.133	13.46	-0.34	-1.380	7.76	7.12	-63
Villavicencio	-10.31	2.73	1.304	10.68	-1.94	-1.263	6.50	2.52	-399
National Total	-6.63	5.84	1.248	10.74	-0.91	-1.165	8.54	5.21	-332

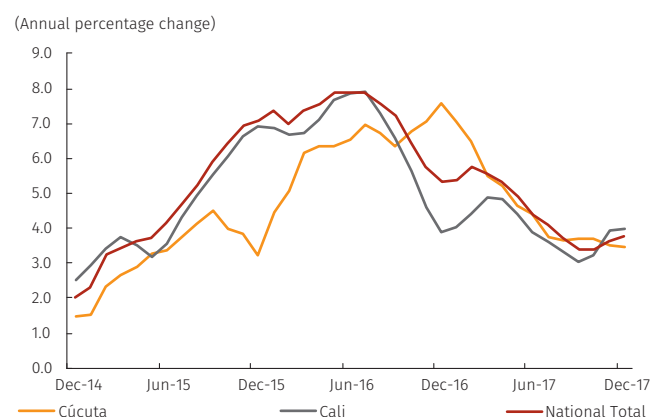
Source: DANE, calculations by Banco de la República.

Going by sub baskets of food prices and based on the information available from DANE for thirteen cities, a sharp reduction in the prices for processed food and a slower pace of growth in the area of eating out was registered in all of them (Table 2.12). The performance in the sub basket of prices for processed food can largely be explained by the recovery of quality pastures and the gradual recovery of crops after the severe drought. The cities with the largest reduction were those in the Eje Cafetero (Manizales and Pereira) and Monteria on the Caribbean Coast. Regarding inflation in the area of eating away from home, this showed a greater decrease at the end of the year compared to previous periods that was weakened by the pressure from price indexing and the cost of wages. Price inflation in the sub-basket of perishable food, in turn, rose at the end of the year for all the cities with the exception of Cartagena and Monteria thus partially compensating for the adjustment observed in the other sub-baskets. The cities with the greatest price inflation for perishable food were Cali and Neiva. These were particularly affected by the price of potatoes which rose 79.22% and 84.97%.

With respect to the adjustment in the basket excluding food for the 24 cities for which information is available, reductions in the annual variation were registered in more than half compared to the results from the previous year (Table 2.11). Sincelejo, Florence, Villavicencio, Cucuta, Barranquilla and Armenia showed the highest corrections. The three top cities together with Neiva and Riohacha had the lowest inflation excluding food within a range of 2.55% and 3.77%. In the remaining nineteen cities, inflation rates that fluctuated between 4.05% and 5.53% were seen. Cucuta had the lowest figure and Bogota, the highest one in this latter range.

In the regions, the performance of prices for the basket excluding food was mainly due to the decrease in inflation for tradables (excluding food and regulated items). Cali, which had a slight expansion of 7.9 bp compared to the inflation of tradables a year ago, was the exception to this decline. Cucuta exhibited the largest reduction in the price level for tradables (410 bp) after having presented the highest inflation rate compared to the rest of cities in 2016 (Graph 2.32). In 2017, the performance of the CPI for tradable goods was largely explained by the relative stability of the exchange rate and the downward effects of a weak domestic demand. The lower upward pressure was also associated with the disappearance of the effects on some items in the basket of consumer goods as a result of the tax reform going into effect at the beginning of the year and specifically due to the increase in the VAT and other indirect taxes.

Graph 2.32
CPI for Tradable Goods (excluding food and regulated items)
National Total, Cali and Cucuta



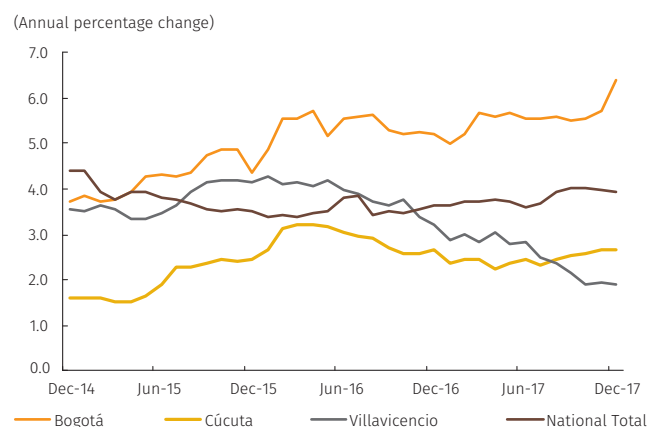
Source: DANE, calculations by Banco de la República.

Inflation rates for the sub-basket of prices for non-tradable goods in Villavicencio (1.90%) and Cucuta (2.65%), in turn, were relatively low (Graph 2.33). Bogota was at the other extreme since there was an upswing in consumer price inflation for non-tradables (6.39%) largely because of the one-time effect of the championship game between two teams from the capital city which had a significant impact on the sector of services related to entertainment. Together with the capital city, Monteria, Pasto, and Pereira, in that order, had the largest increases in the inflation rates of non-tradables at the end of the year – within a range of 80 bp and 117 bp – in spite of the weakening of the indexing levels.

In the subgroup of regulated items, Barranquilla, with its accentuated drop in the annual change compared to 2016, had the lowest inflation rate in 2017 (3.26%). Upward pressure was registered in the rest of the cities with Bogota leading with an increase of 340 bp in comparison to the inflation rate for regulated items a year ago. This was justified by the increase in the rates for natural gas for household use and the rise in fuel prices. Both were associated with the recovery of international crude oil prices. The green tax, which was introduced through the tax reform, probably contributed to the increase in the price of gas.

Graph 2.33

CPI for Non-tradable Goods (excluding food and regulated items)
National Total, Bogota, Cucuta and Villavicencio



Source: DANE, calculations by Banco de la República.

Box 1

Colombia's Flexible Credit Line with the IMF

On May 25, 2018, the Executive Board of the International Monetary Fund (IMF) approved a new agreement that was favorable to Colombia, within the framework of the flexible credit line (FCL), for 384% of the country's quota in this organization. This percentage corresponds to 7.848 billion (b) of special drawing rights (SDR), which was equivalent to approximately USD 11.4 b on the date of its approval.¹ This new line replaces the one that was approved for 400% of the quota in 2016 and which expired in June 2018. In all cases, Colombia has reported that it requests this credit line for precautionary reasons.

The FCL is an instrument created by the IMF which only countries with very strong economic fundamentals and institutional frameworks with a solid economic policy have access to. As indicated by its name, this is a credit line that Colombia has with the IMF and which it can use without meeting any conditions to deal with adverse events abroad. In this sense, the FCL complements the international reserves. At the end of May 2018, Colombia had an external liquidity buffer of USD 58.498 b (equivalent to the sum of the international reserves and the FCL amount), which could be used to face adverse shocks.

The IMF Executive Board decided that Colombia still met the criteria needed to have access to this line of credit and highlighted the soundness of the country's institutional policy framework, specifically the inflation targeting regime, the flexible exchange rate, the fiscal rule, and effective financial supervision and regulation. The renewal of the FCL constitutes the IMF's vote of confidence in the country and its economic authorities. Currently, only Colombia and Mexico have access to this credit line.

This box introduces some background information on Colombia's access to FCL within the framework of the different instruments offered by the IMF as well as a description of each instrument. Finally, some evaluation criteria with references to their benefits and costs are presented.

¹ As of June 28, 2018, the amount of this credit line in dollars was equal to USD 11.025 b given that the USD / SDR exchange rate on that date was 1.404920.

Background and description of the FCL

The FCL was created in March 2009 as a temporary and preventive instrument² designed to mitigate the effects of extreme external events on member countries which are characterized by strong economic fundamentals, a solid institutional framework for economic policy, the implementation of prudent policies, and the commitment to maintain them in the future. In addition to these, the country must meet certain qualification criteria, the compliance of which is validated by the IMF in the application for access to the instrument. These criteria are: 1) a sustainable external position; 2) a capital account in which private flows predominate; 3) a history of access to international markets under favorable terms; 4) a relatively ample level of reserves at the time an application is made for the precautionary FCL; 5) sound public finances (including sustainable conditions in terms of public debt); 6) a low and stable level of inflation in the context of a solid framework of monetary and foreign exchange policy; 7) the absence of bank solvency issues that pose a systemic threat to the stability of the banking system; 8) effective oversight of the financial sector; and 9) integrity and transparency of information.

In addition to complying with these conditions, in their request, the country must argue that external and exogenous risks exist and that they could affect their ability to finance the balance of payments. Although the risks may be considered extreme and low in probability, this credit line would provide coverage for the country if such risks materialize.

Given that access to the FCL is restricted to those countries that meet strict qualification criteria, the disbursements from this line of credit are not subject to compliance with policy goals agreed upon with the country and can be used on a contingency basis, i.e., they are available when the country needs them.³ The FCL works as a revolving line of credit that, at the discretion of the country, can be used for one or two years initially after which an evaluation of the country's right to access it is done at the end of the first year.⁴ It does not

² Even though the temporary nature of this instrument was not defined at the time of its creation in 2009, the FCL operational guidelines (page 5) indicate that, under the revision of conditions carried out in 2014, the directors of the IMF have reiterated that this instrument provides a temporary complement to the international reserves and the countries that use it are expected to stop doing so at the appropriate time. That is why the countries are required to define and provide a withdrawal strategy. Guide available at: <http://www.imf.org/external/np/pp/eng/2015/060115.pdf>

³ Article 14 of Act 31/1992 establishes that "Banco de la República may contract non-monetizable balance of payments loans."

⁴ This modification was made on August 30, 2010. Previously, the credit line could have a period of either six months or one year that included a review of the country's access rights after the first six months.

have a maximum amount established,⁵ and the amount may be increased during the period the agreement is in effect as long as the country continues to meet the qualification criteria. If the country decides to use it, the funds would be transferred to the Central Bank and would become part of the international reserves.⁶ The use of these resources is to address exclusively critical conditions in the balance of payments. The repayment of the borrowed funds would be made between 3.25 and 5 years after their disbursement.⁷

Since it was implemented, this line of credit has been approved for three countries: Mexico, Poland, and Colombia. This credit line has remained in effect for Mexico and Colombia since 2009 as a precautionary mechanism while it was in effect for Poland from 2009 until November 3, 2017, when the country decided to cancel it.⁸

Among the financial support mechanisms offered by the IMF (Table B1.1), the FCL is described as an instrument that is exclusively designed for member countries which, prior to their request, have the fundamentals and a record of implementing very effective policies. According to the IMF statement,⁹ the IMF is convinced that the Colombian authorities are committed to maintaining strong policies and implementing a structural reform that strengthens the resilience of the economy and boosts economic growth. However, the country remains vulnerable to foreign risks such as a rise in protectionist measures, a sudden tightening of the worldwide financial conditions, and a reduction in global economic activity associated with a drop in the price of crude oil, which could affect the current process of adjustment in the economy.

Access of Colombia to the FCL

Colombia has had access to the FCL since it was created. The first request was approved in May 2009 for an amount equal to 900% of Colombia's quota in the IMF¹⁰ (approximately USD 10.4 b). This credit line was renewed for a pe-

riod of one year and for an amount equivalent to 300% of the quota (about USD 3.5 b) on May 7, 2010.¹¹ On May 6, 2011, the IMF again approved an FCL for 500% of the quota for Colombia (approximately USD 6.1 b), this time for a period of two years. Later, on June 24, 2013, its renewal was approved for a period of two years¹² and for 500% of the quota for Colombia. On June 17, 2015, the FCL was again renewed for a two-year term and 500% of the quota.

Given the adverse situation that the Colombian economy was experiencing as a result of the drop in the price of crude oil, the next-to-last renewal was made on June 13, 2016. At that time, the country decided to cancel the credit line and request a new one for a two-year term. The IMF approved a line of credit for 400% of the quota (USD 11.5 b) after this was raised to SDR 2,044.5 b on February 10, 2016.¹³ The most recent request was made in March 2018 and was approved by the IMF Executive Board on May 25, 2018, for a term of two years and 384% of the quota (Table B1.2).

At every point during the approval and renewal process, the Colombian financial authorities have stated that, considering the precautionary nature of these credit lines, they had no intention of using them unless external conditions make this necessary.

Costs and Benefits of the FCL

An important benefit of the FCL is the signal it sends to the market with regard to the prudent management of the economy and its ability to react when there is a crisis,

5 Initially, the credit line had an access limit of 1,000% of the country's quota in the IMF.

6 These funds would have the same use, including intervention in the foreign exchange market.

7 This means that each disbursement is repaid through eight equal quarterly installments starting 3.25 years after the date of each disbursement.

8 Starting in 2015, Poland began to reduce its access to the FCL in line with their intention to withdraw from the agreement once the conditions abroad had improved. Article IV of the 2017 IMF Guidelines concluded that, in a context in which the foreign risks for Poland were declining, maintaining sound institutions and policies would reinforce the country's strength with respect to external risks.

9 The IMF statement available at: <https://www.imf.org/en/News/Articles/2018/05/25/pr18196-imf-executive-board-approves-flexible-credit-line-arrangement-with-colombia>

10 Colombia's quota in the IMF at that time (up to January 26, 2016) was SDR 774 million.

11 In May 2010, the renewal was made for an amount lower than that of the credit line approved in 2009 since the perception of risk was substantially lower than the one prevailing at that time. The economic results for 2009 were better, both for Colombia and worldwide, than what had initially been forecast; the projections for 2010 had been revised upwards and the risk premiums had been significantly reduced.

12 It was considered appropriate to request a credit line equal to 500% of the quota in February 2013 when access to the FCL was analyzed. This took into account the increase in the level of uncertainty in Europe and in Arab countries, and the fact that the historical minimums that the indicators of risk perception for Colombia showed could reverse themselves at any time and generate instability for the economy. According to the Financial Stability Board (FSB), "Vulnerabilities in the Global Financial System", Note for the FSB Plenary, January 28, 2013, at that time, it was difficult to analyze the extent to which there was an erroneous assessment of the investors' risk.

13 Based on information from the IMF, the conditions for implementing the increases in the quota, which were agreed upon in the framework of the Fourteenth General Review of Quotas, were met on January 26, 2016. As a result, the combined quotas of the 189 member countries of the IMF increased throughout 2016 as they went to a level of SDR 477 b (some USD 659 b) from a level of SDR 238.5 b (about USD 329 b). The IMF Board of Governors carries out general quota reviews with some regularity (usually every five years). Based on information provided by the IMF, a general review of quotas addresses two main questions: the volume of the overall increase and the distribution of this increase among the member countries. A general review of quotas allows the IMF to assess the suitability of the quotas based on the financing needs of the member countries' balance of payments and the IMF's own capacity to help meet those needs. In addition, a general review makes it possible to increase the quotas of the member countries based on changes in their relative position in the world economy. Information available at: <https://www.imf.org/external/np/exr/facts/spa/quotass.htm>

Table B1.1
Mechanisms of IMF Financial Support

Mechanism	Purpose	Conditions	Monitoring	Access Limit (percentage of quota)	Period
Stand-by Drawing Rights Agreement.	Short- and medium-term assistance for countries with short-term difficulties with the balance of payments.	Adopt policies that make it possible to solve the difficulties in the balance of payments within a reasonable period of time.	Disbursements are made each quarter. These are contingent upon the performance of the country.	Annual: 145% Cumulative: 435%	3.25 to 5 years.
IMF's Extended Fund Facility (EFF)	Long-term assistance to support structural reforms carried out by members in order to long-term difficulties with the balance of payments.	Adopt a program for up to four years with a structural agenda and a detailed definition of policies for the upcoming twelve months.	Disbursements are made each quarter or every six months. These are contingent upon the performance of the country.	Annual: 145% Cumulative: 435%	4.5 to 10 years
Flexible Credit Line (FCL)	Flexible tool that makes it possible to manage the current or potential needs of the balance of payments.	The country must have strong economic fundamentals, a solid institutional framework for economic policy, and the implementation of prudent policies beforehand.	Access is approved in advance for the entire period of the agreement. The 2-year agreements are subject to a review after one year.	There is no limit	3.25 to 5 years
Precautionary and liquidity line (PLL)	Tool for countries with sound fundamentals and policies.	Soundness in the institutional framework, in the external position, in access to the market, and in the financial sector.	Access in advance subject to semi-annual reviews.	6 months: 125% For the first year, approval for one to two years: 250% After twelve months of satisfactory progress: 500%	3.25 to 5 years
Fast-track financing instrument (FFI)	Rapid access financial support for all members facing urgent needs in their balance of payments.	Efforts to solve balance of payments difficulties.	Direct purchases with no need for a program or reviews.	Annual: 37.5% Cumulative: 75%	3.25 to 5 years

Note: the fees charged for all IMF instruments in cases of disbursement are:

a. Basic fee: SDR interest rate (SDR) plus a margin [100 percentage points (pp)] The SDR rate on June 28, 2018 was 0.979%

b. Surcharges: depending on the amount and period of the loan. A surcharge of 200 bp is paid for amounts higher than 187.5% of the quota. If the loan remains above this level for more than three years, the surcharge increases to 300 bp.

c. Service charge: 50 bp which applies to all IMF disbursements.

Source: IMF (Financial Operations Manual, edition 2018).

which makes it less vulnerable to speculative attacks. This should also contribute to lowering the cost of external financing for the economy.

The FCL complements the accumulation of international reserves as an economic alternative that makes it possible to expand coverage of external liquidity. Note that, under the current scenario, having a FCL is less expensive than accumulating and sterilizing international reserves.¹⁴

To compare how expensive the accumulation of international reserves versus having a FCL is, the following factors are usually considered: 1) the net cost of sterilizing purchases of international reserves, which is estimated by using the difference between *Banco de la República's* policy interest rate minus the return on international reserves, and 2) the cost of the FCL, assuming that the funds from that line of credit are used.¹⁵

¹⁴ Normally, countries that have an inflation targeting framework use different instruments to collect the money supply that is generated when they purchase reserves. This operation is known as sterilization. If the central bank (CB) does not sterilize purchases of international reserves, the interest rate of the economy is likely to move away from the CB benchmark rate.

¹⁵ The cost of having access to the FCL depends on whether or not the funds have been disbursed. If the funds are not disbursed, Colombia must pay an annual commitment fee that the IMF would reimburse if the funds were used. This fee rises along with the level of access and varies within a range of 15 to 44 bp. In a case in which the funds are disbursed, the cost will vary depending on the amount and the loan, as described in Table B1.1.

Table B1.2
History of FCL Approvals

Approval Date	Period (years)	Amount (millions in SDR)	Amount (millions of dollars)	Percentage of the quota
Mexico				
17-Apr-09	1	31,500	47,000	1,000
25-Mar-10	1	31,528	48,000	1,000
10-Jan-11	2	47,292	72,000	1,500
30-Nov-12 ^{a/}	2	47,292	72,000	1,305
26-Nov-14	2	47,292	69,247	1,305
27-May-16 ^{b/}	2	62,389	88,000	700
29-Nov-17	2	62,389	88,000	700
Colombia				
11-May-09	1	6,966	10,400	900
7-May-10	1	2,322	3,500	300
6-May-11	2	3,870	6,100	500
24-jun-13	2	3,870	5,837	500
17-jun-15	2	3,870	5,450	500
13-jun-16 ^{c/}	2	8,180	11,500	400
25-May-18	2	7,848	11,400	384
Poland				
6-May-09	1	13,690	20,580	1,000
2-Jul-10	1	13,690	20,430	1,000
21-Jan-11	2	19,200	29,000	1,400
18-Jan-13 ^{d/}	2	22,000	33,800	1,303
14-Jan-15	2	15,500	23,000	918
13-Jan-16 ^{e/}	1	13,000	17,940	770
13-Jan-17 ^{f/}	2	6,500	9,200	159

a/ In March 2011 the quota went from SDR 3.152 b to SDR 3.625 b.

b/ In February the quota went from SDR 3.625 b to SDR 8.912 b.

c/ In February 2017, the quota went from SDR 774 m to SDR 2.044,5 b.

a/ In March 2011 the quota went from SDR 1.360 b to SDR 1.688 b.

e/ The line that was approved for them decreased on 1/14/2015 and the quota went from SDR 1.688 b to SDR 4.095,4 b.

f/ November 3, 2017 Poland decided to cancel the credit line.

Source: IMF (organization's communiques).

In the case of Colombia, and using data up to 2018, the cost of accessing the FCL is lower than the alternative of accumulating reserves (and sterilizing them) under any possible scenario in which this instrument would be used (Table B1.3). This same situation has taken place every time Colombia has requested this line of credit.

Thus, the FCL is not only less expensive than accumulating reserves, but it also improves market confidence through

the signal it sends regarding the quality of the macroeconomic policy framework. Given the temporary nature of this financial instrument, access to it is understood to depend on the changes in external conditions and the country's vulnerability to such shocks. Therefore, the Colombian authorities have stated that, to the extent that the risks decline, access to this instrument should decrease in the future.

Table B1.3
Comparison between the cost of sterilizing and the cost of FCL

Probability of using the FCL.	Return on International Reserves (A) ^{a/}	Bank Benchmark Rate (B)	Net cost of sterilizing (C=B-A) (percentage)	FCL cost ^{b/} (D)	Difference in bp (C-D)
0	1.38	4.25	2.87	0.26	261.31
0.5	1.38	4.25	2.87	1.37	149.62
1	1.38	4.25	2.87	2.49	37.93

Note: FCL is assumed to be 384%. An SDR interest rate of 0.979% is used (June 26, 2018).

a/ The yield forecast for the international reserves consists of the return seen as of May 31, 2018, the return from interest, and the yield based on price projected for the rest of the year.

b/ (Probability of using FCL x annual cost for use) + (probability of not using the FCL x annual premium).

Source: calculations by *Banco de la República*.

Box 2

New Regulatory Framework for Foreign Exchange Market Operations¹

In an effort to comprehensively renew the regulatory framework and adjust it to the multiple events and innovations that have taken place in the Colombian scenario over the last eighteen years, *Banco de la República* recently began working on a revision of all pertinent regulations. The idea was to start using the logic of a foreign exchange market with a floating exchange rate with agents that have many years of experience participating in it. Not only these agents but also the markets in general became more sophisticated during these years, and the country was able to consolidate significant achievements in terms of institutional solidity and development.

In conjunction with all this development, the risks also became more sophisticated. Now, not only do the Colombian financial intermediaries use other currencies for their treasury transactions, but part of their balance sheets is also in other economies, especially those in Central America. The risks associated with exposure in the currencies of those countries, and not just the US dollar, began to be increasingly more pertinent. As a result, a task was started based on the following question: what should the goal of the regulatory framework of the market be? The answer included several criteria, as explained below.

1. Macro-economic and External Sector Information

First, this framework must guarantee the information necessary to calculate the country's balance with the rest of the world (i.e., the balance of payments) and, in particular, the amount and types of capital flows. Likewise, the information will probably be required to monitor the changes in the foreign exchange risk faced by the professional managers of these flows and transactions. This information is

mainly compiled through the foreign exchange reports that accompany the so-called “channeling” of the transactions. Considering the above, the opportunity was used to simplify the reports and eliminate details that were required but were not relevant when the information was analyzed.

Since other sources of information are available, this was why the Colombians' obligation to report the financial investments that they make abroad was eliminated. In addition, several items were removed from the foreign exchange reports, one form was eliminated, some document preservation requirements that the intermediaries demanded from businessmen were discontinued, and the whole process was set up to be done digitally.

2. Measuring and Controlling Risks

Secondly, the framework had to guarantee that the risks that come from foreign flows and transactions in foreign currency were properly measured and controlled. Although these risks may be understood as financial and already mitigated through prudential regulation, they possess a special characteristic. External shocks have strong impacts on mid-size and open economies like the Colombian one. Therefore, the framework of the inflation targeting policy with a floating exchange rate expects the exchange rate to be the variable that initially “absorbs” the external shocks, thus “protecting” the stability of the interest rate and seeking to soften any impact on the output. In order for this to work, it is important that the fluctuations in the exchange rate do not threaten the stability of the financial system nor the health of the real sector. That is why preventing major currency mismatches becomes relevant for the authority that is responsible for ensuring the operation of the entire policy framework.

It is hardly likely that the Bank would be able to limit mismatches in the real sector since there is no single supervisory authority that could guarantee compliance. However, currency flotation brings with it the risks of the same exchange rate volatility that normally leads agents to exercise a prudent management of these mismatches. In any case, the Bank constantly monitors these mismatches in search of warning signs.

The financial system has a different nature. This is not only because it has a consolidated supervisor that can ensure compliance with the regulations, but also because the intermediaries that it consists of are likely to end up accumulating many of the risks generated by all the transactions with their customers. Significant flaws in the financial system may jeopardize the proper functioning of basic elements in an economy such as the supply of loans and the payment systems. It was expedient, therefore, to review the kind of activities the different types of intermediaries had been authorized to carry out and remove inconsistencies that could have been generated over the years and as a result of specific reforms of regulations. Finally, there was an effort to make the license

¹ Summary based on what is contained in the technical document entitled “New Regulatory Framework for Foreign Exchange Market Operations” (Nuevo marco normativo para las operaciones del mercado cambiario), written by Ana Fernanda Maiguashca, *Banco de la República*. <http://www.banrep.gov.co/es/publicaciones/documento-tecnico-nuevo-marco-normativo-para-las-operaciones-del-mercado-cambiario>.

for intermediaries in the foreign exchange market (FEMI) a possibility for the entities, rather than an obligation, thus recognizing that there may be different business strategies within each group that do not necessarily involve carrying out an foreign exchange transaction.²

With respect to the risk to the balance sheets of these entities, the Bank started a process of upgrading the foreign currency risk regulation for the FEMI a few years ago. This transitioned from measuring the so-called “proprietary position,” which only considered the risk of fluctuations against the US dollar, to measuring and controlling for the mismatch risk in other currencies without losing control of the entire exposure in foreign currency. To do this, an indicator of liquidity risk denominated in those currencies was built. The exchange risk indicator (ERI), used to measure the overall exchange risk, and the individual and consolidated short-term exposure indicators, used to measure the liquidity risk in foreign currency at the individual and consolidated levels, were created through this process to encompass the entire balance sheet of the financial groups in conformity with the spirit of the law with respect to conglomerates (Act 1870/2017).

Once the mechanisms of control and measurement of balance sheet risks were strengthened, the foreign currency exchange operations could be simplified. In the case of loans denominated in foreign currency, in particular, the regulation focused on clearly revealing the foreign exchange risk in the balance sheet and lifting the currency restrictions on disbursement and payment in order to benefit the business owners who carry out these transactions. Foreign credit transactions denominated in Colombian pesos were also expected to occur and this process was facilitated since it was understood that they do not create any foreign exchange risk.

It was also found that the restrictions imposed on collateral and guarantee transactions did not have any conceptual support. This was because their risk could be revealed as long as the existence of the contingencies was known, and that when they were finally converted into debt, they would be covered under the corresponding regulation. To

that extent, these restrictions were eliminated seeking, of course, to ensure that the information on the contingencies generated for the financial system by that collateral or guarantee was properly reported.

With regard to the derivative transactions, many of the rules that covered them were made more flexible. A special chapter was drawn up for the operations known as *credit default swaps*, which includes those transactions that should be managed with greater prudence, such as credit risk derivatives. Certain precautions are maintained here although the rules authorized for the FEMI have been relaxed. In particular, these derivatives may be freely acquired regardless of whether or not they are being used as a hedge for any investment. However, no FEMI can issue them.

For the rest of derivatives, both financial and commodity, the restricting authorizations that existed were overridden: there is no list of operations or authorized underlying assets anymore. As a result, it is not necessary to regularly include the innovations generated in this market, which is quite dynamic and, in fact, seeks to provide customers with more efficient methods of managing their risk. This implies that the FEMI may participate in the commodity derivatives market. Up to now, permission was only given for residents to hedge themselves with agents abroad. Moreover, the conditions that had been established for all derivatives in terms of compliance were eliminated and, therefore, this compliance may now be financial or effective. This decision is now left to the parties under the agreement.

Lastly, some exceptions to credit transactions that are included in the requirement of a deposit for external debt were eliminated. This requirement is now 0%, but it is still a cornerstone of the Bank’s macro-prudential regulation.

This deposit is the answer to a second dimension of the risk that the regulation must control: the one generated by flows. International experience has shown that enthusiasm spreads across borders when there are large flows of liquidity from abroad, and that the local financial intermediaries can amplify this trend. This can lead the real sector to become excessively indebted under the illusion that the good times will never end, which is common to all economies. However, if there was an excessive assumption of risk on the part of the real sector and the financial sector also played the role of intermediary, then the undoing of the distorted results will be painful and its costs can persist over time once the trend of the flows from abroad go in reverse. The Bank, and the Colombian authorities in general, have been very successful in maintaining a counter-cyclical framework of action during these rising and falling tides. When enthusiasm seems to overflow, several instruments handled by different authorities make it possible to bring this back to a state of calm through an increase in marginal costs of certain transactions. This is

2 In the end, there were five FEMI categories which allowed different types of activities based on their licenses and equities. The credit establishments, which had the largest number of authorized activities, were placed in categories 1 and 2. The main difference between these two groups is that the former can obtain and grant financing denominated in foreign currency and transact derivatives, while the latter must restrict the investment denominated in foreign currency to credit cards and cannot transact derivatives. Both are allowed to be intermediaries of funds denominated in pesos coming from external agents. The stock brokerage firms which have an equity that reflects the fact that their operation appropriately manages the risks considered fall into category 3. This category limits the leverage these entities have for transactions with derivatives that are settled in a central counterparty risk clearinghouse, thus guaranteeing that this entity is the one that manages the counterparty risk in the transaction. The debt operations are reserved for groups 1 and 2 which, being credit institutions, have the expertise to be professional managers of this type of risk. The entities which are focused on remittances, transfers, and payments such as the Sicfes and Sedpes are the ones which are part of groups 4 and 5.

how some provisions imposed by the Office of the Financial Superintendent, the marginal reserve requirement administered by the Bank, and the deposit for indebtedness abroad have worked. The national government has the power to impose a deposit on foreign portfolio investment flows under this same logic.

Since derivative transactions can duplicate debt or be highly leveraged, the Bank created another method of indirect measurement and control for them. The limits to the gross leverage position (GLP) and the proprietary cash position (PCP) were designed to reduce the ability of the FEMI to act as intermediaries of derivatives for their customers. However, unlike the cases of deposits for external debt and portfolio investment, the limits to the PCP and the GLP functioned continually. This did not follow the countercyclical logic sought by this type of macro-prudential instruments and, therefore, the decision was made that the entities would continue calculating these two indicators even though their limits were eliminated. This makes it possible to reinforce the derivatives market and its provision to the real sector, thus creating opportunities for companies and other customers in terms of better risk management. However, just as in the case of the deposit for external indebtedness, the Board of Directors of the Bank may impose new limits on these positions if it decides that there are reasons for their use at any given time.

the fact that, in any case, there is a record for each transaction regardless of its size. Others affect more specific targets, such as expanding the types of accounts denominated in pesos that non-residents can have with Colombian intermediaries; or the one that combines the regulation of public rediscount entities with the more homogeneous field of the general regulations of foreign exchange risk mitigation.

3. Avoid the Dollarization of Liabilities in the Financial System

Last of all, the regulations must ensure the autonomy of monetary policy. To that end, all the rules intended to reduce the dollarization of liabilities in the financial system were revised and the limits on such liabilities were maintained. The experience of other Latin American countries confirms the benefits of avoiding this kind of dollarization so that no restriction on the autonomy of the monetary authority in terms of the inflation targeting strategy with a floating exchange rate and ensuring that the best transmission of the monetary policy takes place. If the deposits were dollarized, the movements in the Bank's benchmark interest rate would have a limited effect on the interest rate of those deposits. That is why the currency breakdown of the liabilities in the financial system is significant for an effective transmission of the monetary policy.

4. Other measures

In a comprehensive review of the standards, such as the one carried out, there are many changes that cannot be listed in detail in the present box. Some of them affect the general public. One example is the increase in the limit on cash transactions from USD 3,000 to USD 10,000 for foreign exchange professionals. This aligns the amount with the one subject to a customs declaration and keeps in mind

Box 3

Payment systems of Banco de la República: availability and technological events that occurred in 2017

One of the main functions of *Banco de la República* is to further the safe and efficient functioning of the payment systems, a job it carries out by providing banking services to financial institutions. These include access to payment systems and to trading, clearing, and custody of government bonds. These services are a central axis of the Colombian financial infrastructure and their development has contributed significantly to the effectiveness of the transmission of monetary policy, the deepening of financial markets, and the modernization of payments in the economy.

In addition, the Bank has headed up and supported initiatives that ensure that the improvement and development of the payment system infrastructure and the provision of electronic services that are focused on facilitating and making the transactions carried out by financial intermediaries and the capital market safer, more efficient and economical. These initiatives have had a profound impact on the high and low value electronic payments¹ and have contributed to the solid and safe performance of the payment systems.

Banco de la República manages seven payment systems: 1) The Electronic Check Clearing System (CEDEC in Spanish); 2) the National Interbank Electronic Clearing System (Cenit in Spanish); 3) the Deposit Account and High Value Payment

Settlement System (CUD in Spanish); 4) the System of Settlement, Custody, and Central Securities Depository (DCV in Spanish); 5) the Computer System for the management of Treasury Transactions (Master); 6) Electronic Trading System (SEN), and 7) the Auction System which sells the government's public debt securities (Auctions) on the market.

An efficient and safe operation of the Payment Systems that it manages is a priority for *Banco de la República*. The availability of the systems was higher than 99.9% in 2017 and thus complied with the optimal standard in the industry of technology service² which has established that these must be available at least 99.9% of the time set out in the service agreements. The operation of the systems also satisfied the principles of information security.³ This result is the product of the continuing effort to strengthen the diagnostic tools in order to decrease the probability that incidents could occur that will affect the external and internal users of the services provided.

The availability of the payment systems that the Bank manages and the technological events that materialized in 2017 are presented below.

1. Availability of Payment Systems

Estimating the availability of payment systems makes it possible to: 1) know how much internal and external users are affected; 2) analyze the causes of the events that have materialized, and 3) decrease the probability that the events will occur or reduce their impact.

The estimate of availability considers the hours that the systems must be available each year and how heavily the service delivery schedules will be used as follows: 1) *high* level, if it refers to a heavily used time period, with a high impact or volume in the operation; 2) *moderate*, if the time period is moderately heavy where the flow of operations is lower; 3) *low*, if it is at a time when the flow of operations or the impact is not significant.⁴

The availability of these systems in 2017 was above the 99.9% standard and during some timeframes, the availability of service was 100% (Graph B3.1).

The lack of availability based on time period (low, medium, and high) is presented in Graph B3.2. In general terms,

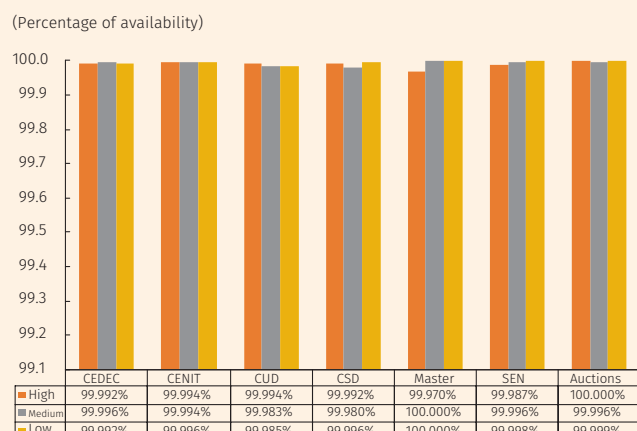
1 The Bank for International Settlements (BIS) refers to high value payments such as those that generally involve a significant amount and in which prompt payment is critically important. These are primarily exchanged by banks or financial intermediaries. The low value payments, in turn, are those that are made between consumers, companies, and the government, generally for small quantities.

2 Standard used by Disaster Recovery Institute International DRI

3 Best practices in information security such as the ISO 27002 standard states that this can be described on the basis of three principles: 1) the preservation of confidentiality, which ensures that access to information is properly authorized; 2) the integrity, which safeguards the precision and completeness of the information and its processing methods, and 3) the availability, which ensures that the authorized users may access the information when they need it.

4 $\% \text{ Availability}_i = \left[\left(\frac{\text{Annual hours not available}}{\text{Annual hours}} \right)_i \right] \times 100\%$, where $i = \{\text{high, Medium, low}\}$

Graph B3.1
Percentage of Time Available based on Payment System in 2017

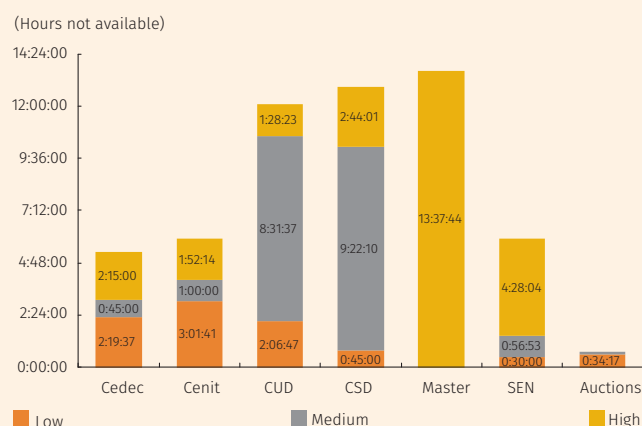


Source: Banco de la República.

such eventualities were seen to occur during periods of low or medium use. In the case of Master, this situation occurred during a period of heavy usage (13 hours and 37 minutes in the year) while this service was available 100% of the rest of the schedule (as is shown in Graph B3.1).

When 2017 is compared to 2016, a reduction in the lack of availability of the service during hours of high impact (0.010%) was registered which meant an increase of 3 hours and 17 minutes in the availability.

Graph B3.2
No Availability by Critical Information System in 2017



Source: Banco de la República.

2. Technological events that affected the availability of payment systems

Analyzing the technological events that affected the payment systems makes it possible to identify root causes and establish proper treatment and controls so that the systems function in accordance with what has been established in the service agreements. Guaranteeing that their workability is supported within an effective information

system that maintains the confidentiality, integrity, and availability of information is also sought.

Graph B3.3 shows the root causes of the technological events that occurred in 2017. It highlights the following:

- The *failure of software* represented 35.6% of the events that occurred (sixteen); of these, twelve correspond to the *failure of application software*⁵ and two to the *failure of base software*.⁶ This category includes damage to the service components that are related to the business application, security components, or elements of the base functionality layer or operating system.
- The *change in production (implementation)* represented 20.0% of the events that have materialized (nine). This category includes events in which an error occurs in the execution of a procedure on the part of the operator or technician.⁷
- The *saturation of resources* represented 15.6% of the events that occurred (seven). This category refers to reaching the maximum use limits of any of the resources of the service components in terms of *hardware* (memory, processor, space on the drive) or *software* (business application, security software, base software or operating system).

In the aggregate, these three root causes accounted for 71.1% of the technological events that occurred in 2017 (32 out of 45 cases).

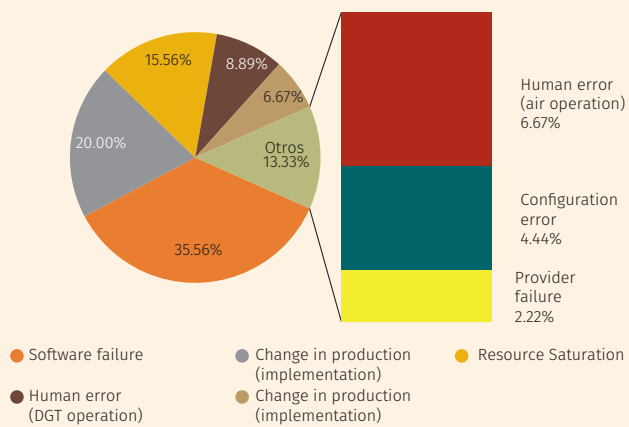
To stabilize the provision of service, the corresponding corrective actions will be carried out. Moreover, the platform for monitoring the technological risk events has been reinforced with optimization tools. This has made it possible to make diagnoses with greater timeliness and precision and take proactive actions before the moment the provision of services is started. In addition, attention protocols and warning controls have been defined that make it possible to deal with or escalate the situations that occur and resolve them expeditiously.

5 This refers to errors in the source code of a business application.

6 This refers to developer errors in some element in the software that is necessary for a business application to operate.

7 Best international practices as defined in the ITIL Standard, version 3.

Graph B3.3
Root Cause of the Technological Events in 2017



Source: *Banco de la República*.

Box 4

Crypto-assets

Crypto-assets (CA) such as Bitcoin¹ are digital units that can be used as a medium of payment for the exchange of goods and services, as a store of value, and as a unit of account (FATF, 2015).² These assets can be stored on computer devices and transferred by the internet on a global scale whether this is in a decentralized fashion (person to person) or with the support of specialized intermediaries who offer a wide range of services such as currency exchange houses, custody and trading of CA as well as the issuing and trading of financial derivatives based on them, etc.

The distributed logging technology (DLT),³ which supports a substantial part of the CA plans, allows the transfer of digital assets and information through a public registry of the transactions that is synchronized and shared among several participants in the plan (commonly known as miners). These participants take responsibility for the validation and updating of the registry (e.g.: new blocks of transactions) through the use of cryptographic security protocols without any need for centralized systems for issuance, registration, clearing, and settlement.

The market for CA is very dynamic with more than 1,500 CA (<https://coinmarketcap.com>; 18/04/2018). Among those that are traded and used the most are Bitcoin, XRP, (the Ripple plan CA), Ether, Bitcoin Cash, and Litecoin. In April 2018, Bitcoin and Ether reached a market value of USD 187.0 billion (similar to the capitalization value of Citigroup Inc.) and the 30 next most traded CAs had a value of USD 111.0 billion. However, since the emergence of the CAs with Bitcoin in 2009, approximately 625 CAs have gone out of circulation (<http://deadcoins.com/>; 18/04/2018).

Although these assets are presented as possible substitutes for legal tender or for the means of payment issued by financial institutions, they are far from having the necessary attributes to be considered money.

As various publications of the Bank for International Settlements (BIS) have declared – Carstens, 2018; BIS, 2018; Shin, 2018—, the money or fiduciary currency of a country is a social convention or agreement about an asset that is representative of the obligation of the issuer, usually the central bank, and that enjoys general acceptance for making payments, being a store of value, serving as a unit of account, and having unlimited clearance power for settling debts between agents. The basis of this convention is trust. And trust is given to it due to the backing of an issuing state institution with a high reputation (the central bank), a legal framework, and consistent public policies. This is what guarantees the high standards of safety, acceptability and stability in the purchasing power of the currency.

In contrast, the possibility that the CAs could serve as a store of value and means of payment is limited by the high volatility of their prices since, in these plans, the supply of CA is inflexible to changes in demand. Other factors that affect the volatility such as speculation and price manipulation, regulatory changes, cybercrime on CA intermediaries, and the uncertainty generated by the proliferation of new CAs (Cheah and Fry, 2016; Gómez-González and Parra-Polanía, 2015; Iwamura *et al.*, 2014; Camera and Giboni, 2013; Gandal and Halaburda, 2014; Shin, 2018; BIS, 2018) are added to this.

In addition to the above, the CA plans manage issuance, validation and security protocols that are quite opaque and that could undermine the confidence of the public. First of all, in the majority of them, there is no single party who is responsible to account for any fraud or failure in these plans. Secondly, there is no suitable protection for users and investors with regards to cyber-attacks or operational failures on the part of agents who serve as CA intermediaries. Third, the forks⁴ and possible alterations in registry due to agreements between the validating agents⁵ could arbitrarily modify the supply of CA. Fourth, unlike the certainty that traditional payment systems offer in terms of the purpose of the payments, in the CA plans this purpose depends on the validation process and consensus protocols between the registry validating agents. This situation generates uncertainty about the time when the funds will be available and leaves a door open to the

1 In November 2008, the document, “Bitcoin: A Peer-to-Peer Electronic Cash System”, was published on the internet under the pseudonym of Satoshi Nakamoto. There, “the methods of issuing and transferring encrypted digital units to carry out transactions without the need to validate the identity of the parties or anonymously” are detailed. The Bitcoin® net went into operation in January 2009 with the publication of the *software* for customers and the issuance of the first fifty bitcoins called the “genetic” block.

2 Virtual currencies differ from what has been called electronic money (or e-money) which is a digital representation of the currency which is the legal tender of a particular jurisdiction (He *et al.*, 2016; BIS-CPMI, 2015).

3 Commonly known of as *blockchain*.

4 A *fork* (or bifurcation) in a CA plan is the result of a rupture in the *blockchain* into two parallel chains due to the lack of consensus between validators on the network.

5 The danger lies in the fact that a coalition of validating agents which has more than 50% of the computing capacity of the network could modify blocks of transactions in their favor and leave them firmly bound in the public registry. In 2014, the computing concentration of GHash.io, one of the main groups of bitcoin miners, reached 42% which caused several miners to retire from the group in order not to compromise Bitcoin’s credibility (see <http://www.businessinsider.com/bitcoin-miners-approach-dangers-threshold-2014-1>; 05/10/2017).

possibility that already validated transactions in the registry could be reversed or erased (BIS, 2018).⁶

Moreover, CA plans face serious scalability problems (Danezis and Meiklejohn, 2016; BIS, 2018).⁷ For example, at the end of 2017, when Bitcoin reached an historical peak in volume of transactions, the processing of a transaction averaged 19.8 hours and the commissions per transaction, USD 28 (United States Congress, 2018).

As is highlighted in BIS (2018 and Shin (2018) the scalability problems in the CAs conflict with the principles of efficiency of a good payment system. Given the externalities of the network and economies of scale, a greater use of the system should lead to savings in costs and to growing profits associated with greater participation. However, in the CA plans the opposite happens. To the degree their use rises, the transaction costs and negative externalities associated with congestion also rise.

As a result of the above limitations, the CA plans currently in operation have a restricted use and acceptance when they are compared to the volumes and levels of acceptance that legal currency and the traditional electronic payment systems have.

However, their development raises relevant regulatory and public policy challenges. First of all, the CA plans are presented as alternatives to national legal currencies and to traditional digital payment systems. Secondly, these plans are intended to function as mechanisms of payment that are international in scope. Third, given that they operate in an environment of transactions that are difficult to trace, they present challenges from the point of view of taxation, money laundering, and financing of terrorism (ML/FT). Fourth, in the extent to which they become more developed, they could alter the way financial intermediation is done with implications for the monetary, exchange rate, and financial stability point of view.

This is why governments have taken on the task of adjusting their regulatory frameworks to this new reality. However, a review of international experience shows a broad spectrum of regulatory stances that go from financial education with press releases that emphasize the risks associated with holding and transferring these CA (as has

been the case in Colombia) to a total ban on the use and possession of CAs as in Bolivia (Arango and Bernal, 2017).

Among the actions taken by different jurisdictions around the world the following stand out:

- a. A fair number of countries have introduced regulations associated with specific businesses such currency exchange offices regarding holding and reporting information, knowledge about the client (KYC), consumer protection, and rules associated with ML/FT.
- b. The majority of the countries have extended legislation on taxes to these transaction ecosystems.
- c. Several have broadened the regulations associated with the financial system in order to make the requirements that apply to payment systems and traditional financial intermediaries also apply to intermediaries in CA plans.
- d. Some have applied the financial regulations for debt securities and derivatives to the CAs.
- e. A large number of countries have started publicity campaigns to warn citizens about the risks of CAs.

Currently, Colombian regulations do not explicitly mention the legal nature of CAs or associated businesses. Nevertheless, various official statements⁸ by both the central bank and the Office of the Financial Superintendent of Colombia have pointed out that cryptocurrencies (CC) are not recognized in Colombia as a legal tender currency based on Act 31/1992.⁹ They have also noted that CCs are not backed by central banks in other jurisdictions and, therefore, are not considered to be foreign exchange currencies for the purpose of transactions under the foreign currency exchange system. Finally, they have reiterated that under the regulations of the financial statute, no entity that they monitor is authorized to provide safe custody for, invest in, intermediate for, operate with nor allow the use of their platforms (wires) to carry out CC transactions. In these communiques, moreover, the public is warned about the risks of holding and using CC. DIAN (2018a, 2018b), in turn, has already made statements about CA to the effect that “[...] in the context of mining, as long as they are collected in exchange for services and/or commissions, they correspond to income and in any case, are assets that can be valued and generate an income for those who obtain them as well as becoming part of their equity and have an effect in terms of taxation.

6 This is what is denominated “probabilistic” finality and it is used in the sense that not all operations have the same chance of being processed since the miners could be validating blocks with different groups of transactions. Therefore, those transactions that appear in a larger number of blocks to be validated have a higher chance of being approved (BIS-CPMI, 2017; BIS, 2018; Liao, 2017).

7 An example of this is the difficulty that the developers of Bitcoin have in reaching a consensus on how to allow a larger number of transactions to be validated by block. This led to a bifurcation of CA and the emergence of Bitcoin Cash (<http://fortune.com/2017/08/11/bitcoin-cash-hard-fork-price-date-why/>; 04/10/2017).

8 Véase: <http://www.banrep.gov.co/es/print/40998>; <http://www.banrep.gov.co/es/print/41811>;

<http://www.banrep.gov.co/es/print/40991>;

<https://www.superfinanciera.gov.co/jsp/loader.jsf?lServicio=Publicaciones&lTipo=publicaciones&lFuncion=loadContenidoPublicacion&id=10082781>

9 Indeed, that law stipulates that the legal currency (i.e., unlimited legal tender), monetary unit, and a unit of account in Colombia is the peso issued by *Banco de la República*.

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03

International Reserves

As of June 2018, the net international reserves totaled USD 47.491,08 b which is USD 137.96 m lower than the balance registered in December 2017. The reduction of the balance of the international reserves denominated in US dollars over the course of the year was primarily due to a devaluation in the exchange rates of other currencies in the portfolio against the US dollar.

Banco de la República manages the international reserves within a rigid framework of risk control in which, emphasis is placed on the measures geared towards: 1) the management of market risk so that the value of the investments is not significantly affected by changes in the international interest rates, and 2) the management of credit risk in order to have a very low probability of facing defaults on payments. Through these risk control measures, an effort is made to keep reserves at a high level of security and liquidity. This, in turn, is associated with lower profitability since the safest investments are also those that have the lowest returns. The profitability of the reserves has also been affected in the last few years by the international situation since the central banks of the developed countries have maintained very low or even negative interest rates. The main management policies for Colombia's international reserves and their current breakdown are explained in this chapter.

As of June 2018, the net international reserves totaled USD 47.491,08 b which is USD 137.96 m lower than the balance registered in December 2017.⁷⁰ The decline in the balance of the international reserves denominated in US dollars over the course of the year is primarily due to the devaluation of the exchange rates of other currencies in the portfolio against the US dollar. The return on the international reserves

⁷⁰ The net international reserves are equal to the total international reserves, or gross reserves, minus *Banco de la República's* short-term foreign liabilities. The latter consist of demand obligations to non-resident agents in foreign currency. The gross international reserves came to USD 47.497,17 b and the short-term foreign liabilities totaled USD 6.08 m.

excluding the foreign exchange component was 0.36% at the close of June 2018 (USD 169.1 m). The most important factor for explaining this yield is the accrual of interest from the instruments in which the investment is made which has risen as a result of the gradual increase in interest rates by the Fed.

The main component of the international reserves is the investment portfolio which corresponds to investments in financial instruments on the international market and to certified physical gold (94.71% and 1.09% respectively of the reserves). The breakdown of the international reserves is presented in Graph 3.1.

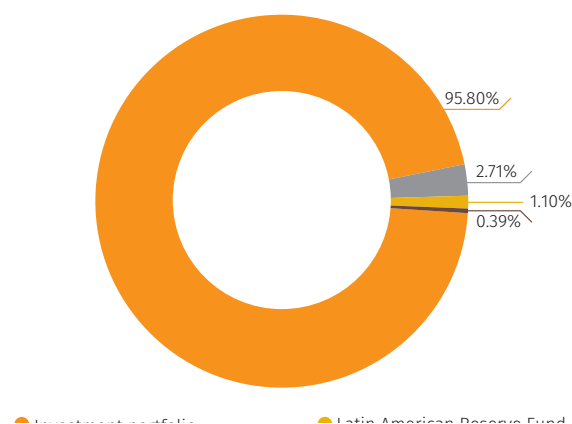
3.1. Breakdown of the Investment Portfolio⁷¹

An explanation of the policies that guide the investment portfolio investments and some relevant definitions are provided in the Appendix. The breakdown of the portfolio as of June 2018 can be seen in Graph 3.2 when about 94% of the investment portfolio was invested in paper issued by governments, entities related to governments (quasi-sovereign) and repurchase agreements with the Federal Reserve.

Graph 3.3 shows the credit rating of the investment portfolio. The Bank uses the lowest rating granted by at least two of the three main rating agencies (S&P, Moody's, and Fitch Ratings) as a benchmark. Evidence of the high credit rating of the assets the portfolio invests in can be seen in the fact that 72.04% of it is invested in instruments with AAA ratings and 24.30% is in instruments with AA.

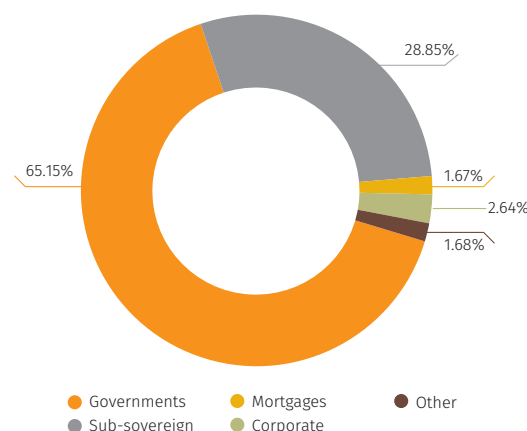
Finally, Graph 3.4 shows the foreign exchange components the investment portfolio had as of June 30, 2018. The largest share of Colombia's international reserves is in US dollars due to the fact that a majority of the country's commercial and financial transactions with the rest of the

Graph 3.1
Breakdown of Gross International Reserves
(information as of June 30, 2018)



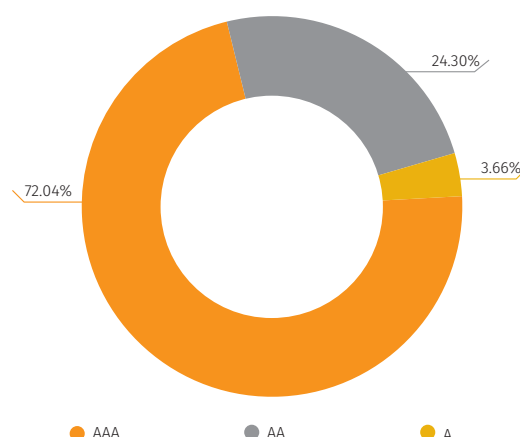
Note: gold is included in the investment portfolio. The item "Others" includes international agreements, cash on hand, and demand deposits.
Source: Banco de la República.

Graph 3.2
Breakdown of the Investment Portfolio by Sectors
(information as of June 30, 2018))



Source: Banco de la República.

Graph 3.3
Breakdown of the Investment Portfolio by Credit Rating
(information as of June 30, 2017)



Source: Banco de la República.

⁷¹ The graphs in this section were calculated based on the amount in the investment portfolio excluding the gold tranche.

world are carried out in this currency. Investment in the following currencies is also allowed: Canadian, Australian, New Zealand dollars; Swedish krona; the pound sterling; Swiss franc; euros; yen; Norwegian krone; the renminbi; Hong Kong and Singapore dollars, and Korean won. All of these currencies are characterized by high daily trading volumes and belonging to governments with high credit ratings.

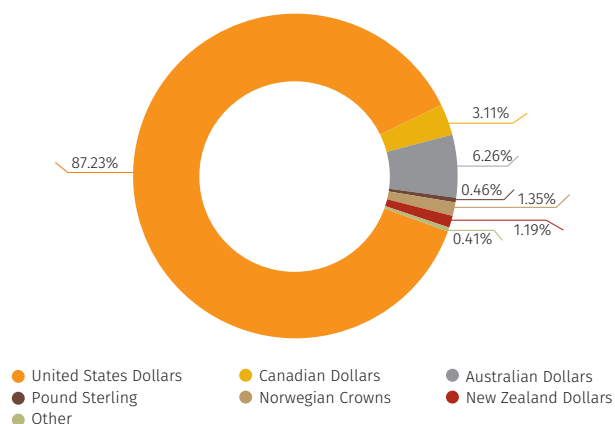
3.2. Profitability of the Reserves

The decision to have a portfolio with a conservative risk profile implies receiving a lower return. The basic financial theory for portfolio management indicates that, if an investor wants to face a lower risk, his expected profitability will be lower.

As can be seen in Graph 3.5, the rate of return on the international reserves has been rising gradually since 2013. The profitability of the reserves essentially depends on the interest received from the instruments in which the investment was made. Between 2009 and 2015, this yield remained low due to the expansionary monetary policy implemented by the central banks of the developed countries in response to the global financial crisis. However, the Fed has been gradually raising its monetary policy rate since 2015 which has made it possible to make the new investments at higher rates and thus offset the depreciation of the bonds that the reserves are made up of. This depreciation occurs because there is an inverse relationship between bond prices and interest rates. That is to say, the price of the bonds declines as interest rates increase.

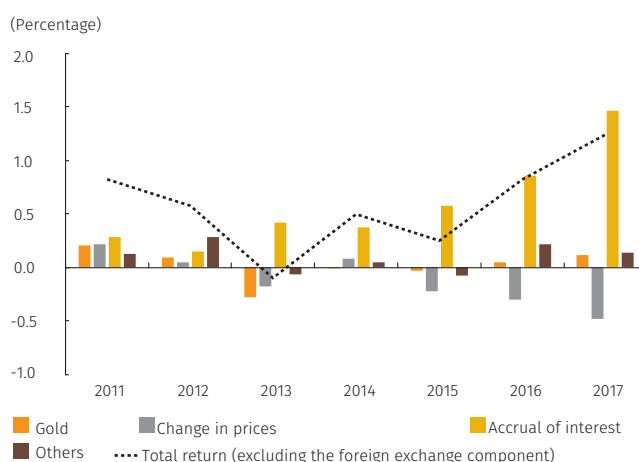
In the first six months of 2018, the profitability of the reserves excluding the foreign exchange component was 0.36%⁷² (USD 169.1 m). During this period, as in recent years, the gradual increase in interest rates has caused the accrual of interest to be greater than the depreciation seen in the price of bonds thus making it possible to obtain a positive return on investment.

Graph 3.4
Breakdown of the Investment Portfolio by Currency
(information as of June 30, 2018)



Source: Banco de la República.

Graph 3.5
Historical Profitability of International Reserves by Component



Source: Banco de la República.

⁷² This rate is obtained by dividing the return in dollars by the average value of the net reserves on December 31, 2017 and June 30, 2018. Since 2015, the impact of the exchange rate effect on the profitability of the reserves has been excluded.

04

Financial Situation of *Banco de la República*

During the first half of 2018, the Bank's P&L registered a positive outcome of COP 261 b, which is COP 350 b lower than what was seen as of June 2017, resulting from a lower international reserve revenue equal to COP 362 b.

In the first half of 2018, the strengthening of the peso with respect to the reserve currencies had an impact on *Banco de la República's* financial position statement. With respect to the assets, the peso balance of the gross international reserves, which is its main component (81.2%), decreased. In equity, the appreciation of the peso lowered the exchange rate adjustment.

The P&L, in turn, registered a positive outcome of COP 261 b, which is COP 350 b lower than what was seen between January and June 2017. This is primarily explained by the lower yield of the international reserves (COP 362 b) due to the rise in foreign interest rates that affects the valuation of the reserve portfolio with a direct negative impact on the P&L.

Furthermore, the reduction in the policy interest rate had a net positive impact on the P&L of the Bank during the first half of 2018 in comparison to the same period in 2017. Even though the income received by the Bank from expansion repos was lower, the reduction in the remuneration paid to the national government on their deposits was greater due to their higher volume compared to the primary liquidity transactions through repos.

4.1 Financial Position of *Banco de la República* (balance sheet)

The changes in *Banco de la República*'s main assets, liabilities, and equity as of June 30, 2018 in comparison to what was registered at the close of the previous year are explained below (Table 4.1).⁷³

4.1.1 Assets

The assets of *Banco de la República* registered a balance of COP 171.512 t at the close of June 2018.⁷⁴ This figure is COP 226 b (-0.1%) lower than the balance seen in December 2017 when the assets came to COP 171.737 t. The main items that explain the decline in the assets are the following:

- a. Gross International Reserves: at the close of June 2018, the balance of these reserves, valued at market prices was COP 139.204 t (USD 47.497 b),⁷⁵ which is COP 2.945 t (-2.1%) lower compared to the data seen December 31, 2017. This reduction is due mainly to the negative change in the COP 3.197 t adjustment in foreign exchange that resulted from the lower peso-to-other-reserve-currencies exchange rate at the end of June 2018 compared to December 31, 2017.
- b. Contributions to international entities: the balance came to COP 9.055 t which is COP 395 b lower than what had been registered at the close of 2017 (-4.2%). This variation is mainly the result of the COP 217 b decrease in contributions to the IMF in national currency to compensate for the increase in the special drawing rights (SDR) (52.5 m) position and the valuation of the SDR that reduced the peso balance of the contributions by COP 144 b.

The above was partially offset by:

- a. Repo transactions used to provide transitory liquidity: these presented a balance of COP 6.367 t which meant a COP 2.193 t (52.5%) increase with respect to the close of 2017.

73 Starting in 2015, the Bank has reported its financial statements under a new accounting framework based on IFRS.

74 In this section, the line items are shown by economic rather than by accounting criteria. With respect to the financial statements presented to the Office of the Financial Superintendent of Colombia and the National General Accounting Office, the differences are: first, the value of the liabilities associated with purchase transactions for the international reserves portfolio for which payment has not yet been made is discounted from the assets (this is registered as a higher value of the asset in the Bank's financial statements and as a requirement of the international reserves under liabilities); second, the coins in circulation, which are not part of the accounting information on the Bank's balance sheet, are included in the assets and liabilities in this section; and third, other reclassifications of lower value accounts. In this respect, the value of the asset presented in this Report (COP 171.512 t) differs from what was registered on the June 30, 2018 financial statements (COP 175.230 t), and the value of the liabilities (COP 117.937 t) differs from what was registered on the financial statements as of June 30, 2018 (COP 121.655 t).

75 See the previous note.

Table 4.1
Financial Position of Banco de la República Classified by Economic Criteria
Results from December 2017 to June 2018
(billions of pesos)

Accounts	December 2017		July 2018		Change	
	Balance	Percentage share	Involve-ment	percentage	Absolute	Percentage
Assets	171,737	100.0	171,512	100.0	-226	-0.1
Gross International Reserves	142,149	82.8	139,204	81.2	-2,945	-2.1
Contributions to international entities and organizations	9,450	5.5	9,055	5.3	-395	-4.2
Investments	11,515	6.7	12,338	7.2	823	7.1
Resale agreements: transitory liquidity support	4,174	2.4	6,367	3.7	2,193	52.5
Other net assets	4,450	2.6	4,547	2.6	98	2.2
Liabilities and equity	171,737	100.0	171,512	100.0	-226	-0.1
Liabilities	114,343	66.6	117,937	68.8	3,594	3.1
Foreign-currency liabilities that affect international reserves	24	0.0	13	0.0	-11	-46.2
Monetary Base	88,811	51.7	83,076	48.4	-5,736	-6.5
Cash	59,498	34.6	53,559	31.2	-5,939	-10.0
Reserve	29,313	17.1	29,517	17.2	204	0.7
Non-reserve interest-bearing deposits	278	0.2	100	0.1	-178	-64.1
Other deposits	108	0.1	61	0.0	-47	-43.3
National Government: National Treasury Office L/C	13,666	8.0	23,814	13.9	10,148	74.3
National Government: National Treasury Office F/C	323	0.2	196	0.1	-127	-39.3
Obligations with international organizations	11,131	6.5	10,677	6.2	-455	-4.1
Others	0	0.0	0	0.0	0	-
Total equity	57,394	33.4	53,575	31.2	-3,819	-6.7
Capital	13	0.0	13	0.0	0	-
Surplus	57,285	33.4	54,129	31.6	-3,155	-5.5
Special foreign-exchange account settlement	521	0.3	521	0.3	0	-
Foreign exchange adjustment	56,523	32.9	53,326	31.1	-3,197	-5.7
Investment in assets for cultural activities and donations	241	0.1	283	0.2	42	17.2
Other overall results	-584	-0.3	-194	-0.1	391	-66.8
Results	804	0.5	261	0.2	-543	-67.5
Fiscal year profits and/or losses	804	0.5	261	0.2	-543	-67.5
Cumulative results: effect of change in accounting policies	-	-	-512	-0.3	-512	...
Accumulated Results Process of Convergence with IFRS	-123	-0	-123	-0.1	0	-

Note: In this section, the line items are shown by economic criteria and not accounting. With respect to the financial statements presented to the Office of the Financial Superintendent of Colombia and the National General Accounting Office, the differences are: first, the assets discount the value of the liabilities associated with purchase transactions for the international reserves portfolio for which payment has not yet been made has been discounted (this is registered as a higher value of the asset in the Bank's financial statements and as a requirement of the international reserves under liabilities); second, the coins in circulation, which are not part of the accounting information on the Bank's balance sheet, are included in the assets and liabilities in this section; and third, other reclassifications of lower value accounts. In this respect, the value of the asset presented in this Report (COP171,512 t) differs from what was registered on the June 30, 2018 financial statements (COP175,230 t) and the value of the liabilities (COP 117,937 t) differs from what was registered on the June 30, 2018 financial statements (COP121,655 t).

Source: Banco de la República.

In the first half of 2018, the strengthening of the peso with respect to the reserve currencies had an impact on Banco de la República's financial position statement.

- b. National currency investment portfolio: valued at market prices, its balance was COP 12.338 t, which is COP 823 b higher with respect to December 31, 2017 (7.1%). This was the result of: 1) net purchases of COP 659 b in TES on the part of *Banco de la República* and 2) the COP 292 b valuation of this portfolio at market prices. The above was partially offset by the maturities of COP 129 b in coupons.

4.1.2 Liabilities

At the close of June 2018, the liability balance was COP 117.937 t⁷⁶ which was COP 3.594 t (3.1%) higher than what was registered at the end of 2017. This rise was mainly due to:

- a. The national government's deposits in pesos, set up through the General Office of Public Credit and the National Treasury (DG-CPTN in Spanish) at *Banco de la República*: at the close of June 2018, its balance was COP 23.814 t which was COP 10.148 t (74.3%) higher than what was registered in December 2017.

The above was offset, in part, by:

- a. Monetary Base: the balance for this stood at COP 83.076 t which was COP 5.736 t (-6.5%) lower than what had been registered at the close of the previous year. By component, the cash in circulation showed a decline of COP 5.939 t (-10.0%) while the bank reserves rose COP 204 b (0.7%).
- b. Obligations to international organizations: the balance was COP 10.677 t, which is COP 455 b (-4.1%) lower than what was presented at the close of 2017. In this case, the change is due to the offsetting decrease in the asset account, "contributions to international entities."

4.1.3 Equity

At the close of June 2018, equity had a balance of COP 53.575 t, which was COP 3.819 t (-6.7%) lower with respect to the figure seen in December 2017. This performance is mainly explained by the COP 3.197 t (-5.7%) reduction in the currency exchange adjustment account that was the counterpart to the gross international reserves fall in pesos mentioned above. Finally, from the beginning of the year to June, the Bank's profit from the accounting period was positive in COP 261 b.

⁷⁶ See Note 74.

As of June 2018, the P&L registered a positive result, although it was lower than the one seen in the first half of 2017.

4.2 Change in the Income Statement (P&L) as of June 2018

During the first half of 2018, *Banco de la República* registered a profit of COP 261 b, the result of COP 1.175 t in income and COP 914 b in expenditures (Table 4.2). Compared to the January-June 2017 period, the income presented a COP 605 b (-34.0%) decrease and the outlays, a COP 255 b (-21.8%) decrease. With respect to the budget approved for 2018, the income and expenditure amounted to 34.3% and 41.8% respectively.

The income as of June 2018 is explained mainly by the return of the international reserves, the yield from the monetary regulation investment portfolio (TES), and the return on active monetary regulation transactions (Repos). This represented an implementation of 26.4%, 46.7%, and 29.1% respectively of the budget approved for 2018. In the expenditures, in turn, the most outstanding are the remuneration paid on the government's deposits at the Bank and the corporate expenditures for which 43.6% and 42.7% respectively of the budget approved for 2018 have been implemented.

As was mentioned, both income and expenditure were lower in the first half of 2018 compared to the same date in 2017. In the case of international reserves,⁷⁷ income amounted to COP 493 b, USD 169 m, which is equivalent to an annualized return of 0.71% in dollars compared to 1.26% for the same period in 2017. The lower expenditures, in turn, are due in particular to the remuneration paid on the national government's deposits at *Banco de la República* that resulted from the additional reductions in the policy interest rate on the part of the JDBR that brought about a lower average level of interest rate paid on these deposits during the January to June 2018 period compared to the first half of 2017 and due to its lower level.

Disregarding the return on TES,⁷⁸ the lower policy interest rate average during the first half of 2018 (4.45%⁷⁹) compared to what had been seen between January and June 2017 (6.99%⁸⁰) had a net positive effect of COP 204 b on the Bank's P&L. The above is due to the fact that even though the reduction in this rate generated a lower income from the

77 Includes the accrual and valuation of the investment portfolio, return on contributions to international organizations and entities, the agreement with the Latin American Integration Association (Aladi) and others, and the depreciation of investments in gold.

78 In the case of the TES, the income for 2018 cannot be compared to that of 2017 due to the Bank's adoption of IFRS 9 since this changed the criterion for registering the yield of the TES on its P&L statement. Specifically, the P&L income in 2018 registered the interest returns due to accrual and the other comprehensive income (ORI in Spanish) equity account registered the valuation of these securities caused by changes resulting from the variations in their market interest rates. In 2017 both were recorded under income in the Bank's P&L statement.

79 Average number of working days.

80 *Ibid.*

Table 4.2
Banco de la República Income Statement for January to June, 2018
 (billions of pesos)

	Seen as of		Annual changes		Budget 2018 ^{a/}	Percentage implemented with respect to the budget
	July 2017	July 2017	Absolute	Percentage		
I. Total Income (A+B+C)	1,780	1,175	-605	-34.0	3,420	34.3
A. Monetary income	1,591	983	-608	-38.2	3,033	32.4
1. Interest and returns		971	-563	-36.7	3,003	32.3
International Reserves		493	-362	-42.3	1,871	26.4
Monetary Regulation Investment Portfolio (TES)		394	-130	-24.8	844	46.7
Active Monetary Regulation Operations (Repos)	155	84	-71	-45.9	288	29.1
Other operations	0	0	0	35.0	0	27.7
2. Foreign exchange differences	53	9	-45	-83.3	28	32.0
3. Other monetary income	4	3	-1	-23.8	2	137.7
B. Coins issued	101	80	-21	-20.7	202	39.5
C. Corporate income	88	112	24	27.4	185	60.6
1. Commissions: Banking services and Fiduciary operations	77	82	6	7.2	166	49.6
Banking services	27	28	2	6.5	58	48.9
Fiduciary operations	50	54	4	7.6	107	49.9
2. Other corporate income	12	30	19	160.2	20	153.7
II. Total expenditures (A+B+C+D)	1,169	914	-255	-21.8	2,188	41.8
A. Monetary expenditures	784	537	-247	-31.5	1,187	45.3
1. Interest and yield	714	439	-275	-38.6	1,017	43.2
National Government's Interest-bearing Deposits	711	436	-275	-38.7	1,001	43.6
Liability Transaction Deposits for Monetary Regulation	4	3	-1	-16.7	16	18.9
2. Costs of Management and Management of Funds Abroad	22	17	-6	-25.0	38	43.3
3. Commitment fee for IMF flexible credit	43	42	-2	-3.7	86	48.6
4. Foreign exchange differences	4	40	36	848.3	45	88.2
5. Other monetary expenditures	0	0	0	4.5	1	32.0
B. Banknotes and coins	79	90	11	14.1	227	39.6
C. Corporate expenditures	265	282	17	6.6	661	42.7
1. Personnel costs	179	191	12	6.9	394	48.6
2. Overhead	35	35	-0	-1.1	89	39.2
3. Other Corporate	51	56	5	10.8	179	31.4
D. Pension payments	41	4	-37	-89.6	112	3.8
III. Operating results (I - II)	611	261	-350	-57.3	1,232	21.2

a/ Includes the adjustments and transfers made during the first half of 2018 based on the Budgetary System of Banco de la República.
 Source: Banco de la República.

primary liquidity expansion transactions through repos, the decline in the remuneration the Bank paid on the government deposits was greater since their average volume was higher than what had been seen for repos (Table 4.3).

Table 4.3
Net Monetary Policy Income Excluding TES Yields held by Banco de la República
(billions of pesos)

	January to June		Difference
	2017	2018	
Net Total	-560	-355	204
(+) Revenue from expansion transactions (repos)	155	84	-71
Volume (six month average of daily data)	4,643	3,848	-795
Annualized percentage rate	6,83	4.44	-2.39
(-) Remuneration on the national government accounts at the BR	711	436	-275
Volume (six month average of daily data)	21,310	20,056	-1,253
Annualized percentage rate	6,84	4.43	-2,41
(-) Outlays on monetary tightening operations (DRNCE)	4	3	-1
Volume (six month average of daily data)	120	180	60
Annualized percentage rate	6.07	3.36	-2.71

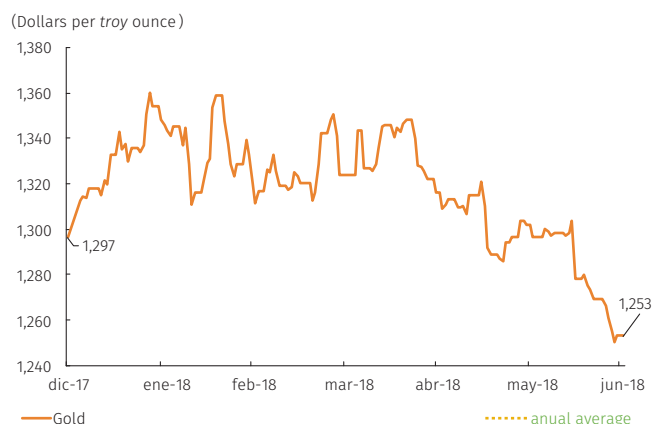
Source: Banco de la República.

The items that have had the greatest influence on the Bank's income statement from the beginning of the year until June 2018 are explained below:

4.2.1 Income

- a. Income from the COP 493 b (USD 169 m) in returns on the international reserves is the result of: 1) the return on the investment portfolio (COP 528 b, USD 182 m) arising from interest accrual income that offset the depreciation of the Bank's international reserves portfolio that resulted from the increase in the foreign interest rates; 2) the return on contributions to international organizations and entities, the Aladi agreement, and others (COP 21 b, USD 7 m), and 3) the devaluation of monetary gold (-COP 56 b, -USD 20 m) as a result of the decrease in the international price for gold (-3.4% per annum)⁸¹ (Graph 4.1). The income from the international reserves was lower compared to the January - June 2017 period

Graph 4.1
Change in Price of Gold



Source: Reuters.

⁸¹ The international price of gold was USD 1,296.5 per troy ounce at the close of 2017 and USD 1,253 per troy ounce at the end of June 2018.

given the depreciation of the portfolio seen in the first part of 2018 (Table 4.4).

Table 4.4
Return on International Reserve Investments
(billions of pesos)

	Actual as of June 2017	Actual as of June 2018	2018 Budget	Percentage implemented with respect to the budget
Returns	855	493	1,871	26.4
Investment portfolio	783	528	1,857	28.4
Accrual of interest	793	923	2,485	37.2
Valuation at market prices	-10	-395	-627	...
Gold	44	-56	0	...
International Entities	28	21	13	158.8

Source: Banco de la República.

- b. The income from the yield on the monetary regulation investment portfolio (TES) held by the Bank amounted to COP 394 b between January and June 2018. However, it is not possible to establish a comparison with the same period in 2017 since the accounting record of the returns on the TES held by the Bank given in the P&L statements changed as of 2018 due to the effect of adopting the IFRS 9.⁸² The balance for these securities went from COP 11,515 t in December 2017 to COP 12,338 t in June of 2018 with an increase of COP 823 b which was the result of net purchases of COP 659 b due to a COP 292 b valuation at market prices and the payment of COP 129 b in coupons.
- c. Income from liquidity transactions through monetary expansion repos amounted to COP 84 b. This was COP 71 b lower with respect to what had been seen a year ago (-45.9%) resulting from the JDBR's reduction in the policy interest rate and the lower average daily volume of these transactions.⁸³
- d. The income received from commissions for banking services and fiduciary operations came to COP 82 b, which is COP 6 b (7.2%) higher than the amount received between January and June in 2017. The increase is explained, primarily, by the earnings from the fiduciary business which presented a growth of COP 4 b (7.6%) as a result of the remuneration from the management of TES which rose COP 4 b (11.5%).⁸⁴
- e. The item of other corporate income presented an implementation of COP 30 b of which COP 20 b corresponded to the donation

⁸² See footnote 78.

⁸³ The average daily volume of these transactions was COP 4,643 t during the first half of 2017 and COP 3,848 t during the same period in 2018 with annualized average interest rates of 6.83% and 4.44% respectively during the two periods.

⁸⁴ The average TES balance managed by the Bank was COP 241,891 t during the first half of 2017 and COP 271,558 t for the same period in 2018.

of the Amira de la Rosa Theater in the city of Barranquilla. This transaction was COP 19 b (160.2%) higher compared to the first half of 2017.

- f. The face value of the coins issued and put into circulation generated COP 80 b in revenue between January and June 2018, which is COP 21 b lower than what was seen in the same period in 2017 (-20.7% annually), as a result of the lower demand for coins.
- g. The net result of the inflows and outflows caused by changes in the peso to dollar exchange rate for the assets and liabilities in foreign currencies other than the international reserves (exchange rate differences) was -COP 31 b on the negative side (COP 9 b in income and COP 40 b in expenses). This result is explained by: 1) COP 6 b in net income due to exchange rate differences in the national government's deposit accounts in foreign currency at the Bank; 2) COP 3 b in net income due to exchange rate differences for contribution obligations to international organizations and entities; 3) COP 34 b in net outlays due to contributions to international organizations and entities; and 4) COP 6 b in net outflows for other items. The above was primarily the result of the 1.78%⁸⁵ six-month appreciation of the peso against the dollar seen at the close of June 2018 compared to the end of December 2017.

4.2.2 Expenses

- a. The expenditure on remuneration of the deposits belonging to the national government was COP 436 b which was COP 275 b (-38.7%) lower than what was registered a year ago. This was the result of the lower interest rate for remuneration of these deposits compared to what was seen in the first half of 2017 and the lower average level of these deposits.⁸⁶
- b. The cost for issuing and putting the monetary species into circulation⁸⁷ was COP 90 b which is COP 11 b (14.1%) higher than what was seen between January and June 2017 as a result of the increased demand for banknotes.
- c. The cost of interest paid on the deposits for monetary-regulation liability operations came to COP 3 b, which was COP 1 b lower (-16.7%) than what had been registered in the first half of 2017.⁸⁸

85 The exchange rate at the end of 2017 was COP 2,984 to the dollar, and at the end of June 2018, it was COP 2,930.8 per dollar.

86 The average daily volume of these deposits at *Banco de la República* was COP 21.310 t during the first half of 2017 and COP 20.056 t during the same period in 2018 with average annualized interest rates of 6.84% and 4.43% respectively in the two periods.

87 The cost related to the publicity campaign about the new coins and banknotes is included.

88 The average daily balance of these transactions was COP 120 b between January and June 2017 in comparison to COP 180 b during the same period in 2018 with average annualized interest rates of 6.07% and 3.36% respectively in the two periods.

- d. The corporate outlays stood at COP 282 b (42.7% of the budget) with an annual increase of COP 17 b (a nominal 6.6% equivalent to 3.2% in real terms) as a result of:
- i. Personnel costs,⁸⁹ COP 191 b (48.6% of the budget), rose 6.9% per year (3.5% in real terms). These expenditures include salaries, benefits, contributions to social security, medical services, financial aid and formal training, and contributions to family compensation funds, to the Colombian Institute for Family Welfare (ICBF in Spanish), and to the National Education Service (SENA in Spanish); continuing education; travel expenses; etc. The increase that was higher than what was considered in the Collective Labor Agreement in effect (a nominal 5%) is explained by: 1) the adaptation of the new technology model which, in addition to the need for a facility specifically for it, also involves a facility to be used for a pre-defined period starting in 2018 for the development of projects, and 2) additional facilities for the opening of three new cultural centers in the second half of 2017 (San Andres, Manizales, and Buenaventura) and one in the first half of 2018 (Honda). The increase in personnel costs is in line with the programs contained in the Strategic Plan approved by the JDBR for the 2017-2021 period.
 - ii. General expenses came to COP 35 b (39.2% of the budget) and included expenses such as utilities, surveillance services, equipment maintenance, janitorial services, services contracted for the Bank and the Luis Angel Arango Library, improvements to the installations, transportation, fuel, supplies and stationery, surveys, special studies, and consultation in legal proceedings, etc. Its annual change during the first half of 2018 was a negative -1.1% (-4.2% in real terms) and mainly resulted from small contracts for professional advice on judicial procedures, the value of which offset the greater spending reflected in other line items.
 - iii. The other corporate expenses, COP 56 b (31.4% of the budget) presented an annual increase of 10.8% (7.3% in real terms). This variation was primarily due to the higher debt repayment on applications acquired over the last year.
- e. Last of all, costs for pensions, COP 4 b (3.8% of the budget), presented a negative annual change of -89.6% (-89.9% in real terms). This expenditure is the result of the financial cost⁹⁰ and of the pension refund recognized on the part of Colpensiones. The lower value implemented with respect to the budget and to what was seen during the first half of 2017 is the result of the total funding of pension liabilities since the end of 2017. The above lowers the financial cost since

89 Includes what is described in the collective labor agreement currently in effect.

90 This financial cost is calculated on the basis of the pension liabilities, which includes pensions, medical service, and educational aid for pensioners of the Bank. It also considers the return on the asset that supports this liability.

the income from the assets that are backing these pension liabilities is similar to the financial expenses.

4.3 Projection of the Income Statement (P&L) for 2018

It is estimated that at the end of 2018, the profit of the accounting period will be COP 1.199 t. The budget approved for 2018, envisioned a profit from the accounting period of COP 1.232 t. The new forecast of the Bank's profit in 2018 is the result of a projection of COP 3.161 t in income and COP 1.962 t in expenditures with an annual decrease of COP 169 b (-5.1%) and COP 564 b (-22.3%) respectively (Table 4.5).

The main revenues correspond to:

- a. The yields of the international reserves are estimated to be COP 1.752 t, COP 164 b (10.3%) higher than the yields seen in 2017. This result incorporates COP 1.787 t in returns on and valuations of the investment portfolio, COP 21 b in income from contributions to international agencies and entities, and COP 56 b in depreciation of the investments in gold.⁹¹ An annual average profitability in dollars of 1.37% is projected for the international reserve portfolio.
- b. The income from the returns on the TES monetary regulation investment portfolio are projected to be COP 728 b. At the close of 2018, the portfolio envisions COP 659 b in purchases and COP 2.765 t in maturities of principal and coupons.
- c. The estimated income from liquidity transactions through repos is projected to be COP 225 b which is 33.9% lower than what was seen in 2017. This is a result of the lower projected volume of transactions and the lower policy interest rate.⁹²
- d. The estimated net result due to the differences in the exchange rate will probably be a negative COP 38 b. This estimate consists of COP 47 b in revenue and COP 84 b in spending and is a product of the estimated 2.5% annual appreciation of the peso/dollar exchange rate at the end of 2018 that will have an impact on the peso value of the Bank's assets and liabilities in foreign currency apart from the international reserves.
- e. It is estimated that the placement of coins into circulation will generate COP 202 b in revenue based on their face value. This revenue is 23.9% lower than what was seen in 2017. This change is mainly associated with the lower demand for coins.

91 An international price of USD 1,253 per troy ounce for gold is estimated for the close of 2018 which is the same as what was seen at the end of June of the same year.

92 The forecast for 2018 includes an average, daily volume of COP 5.310 t in repo transactions compared to COP 5.920 t seen in 2017. The average interest rate estimated for 2018 is a real annual (r.a.) 4.32% compared to 5.91% r.a. which was seen in 2017. The budget included a daily average of COP 5.901 t in repo transactions and a policy rate of 5.0% r.a.

Table 4.5
Forecast for Banco de la República 2018 Income Statement
(billions of pesos)

	Actual 2017	Projection 2018	Annual changes		Budget 2018
			Absolute	Percentage	
I. Total Income (A+B+C)	3,330	3,161	-169	-5.1	3,420
A. Monetary income	2,866	2,753	-113	-3.9	3,033
1. Interest and returns	2,836	2,705	-131	-4.6	3,003
International Reserves	1,588	1,752	164	10.3	1,871
Monetary Regulation Investment Portfolio (TES)	908	728	-180	-19.8	844
Active Monetary Regulation Operations (repos)	340	225	-115	-33.9	288
2. Differences in Currency exchange	27	47	20	75.1	28
3. Other monetary income	4	2	-2	-46.9	2
B. Coins issued	266	202	-64	-23.9	202
C. Corporate income	198	206	7	3.6	185
1. Commissions: Banking services and Fiduciary operations	172	166	-6	-3.6	166
Banking services	69	58	-11	-15.5	58
Fiduciary operations	103	107	4	4.3	107
2. Other corporate income	27	40	13	50.5	20
II. Total expenditures (A+B+C+D)	2,526	1,962	-564	-22.3	2,188
A. Monetary expenditures	1,688	1,094	-594	-35.2	1,187
1. Interest and returns	1,362	887	-474	-34.8	1,017
National Government's Interest-bearing Deposits	1,355	883	-472	-34.8	1,001
Liability Transaction Deposits for Monetary Regulation	6	4	-2	-34.9	16
2. Costs of Management and Handling of Funds Abroad	44	38	-6	-13.2	37
3. Commitment fee for IMF flexible credit	86	83	-3	-3.4	88
4. Foreign exchange differences	1	84	83	5,784.3	45
5. Other monetary expenditures	194	1	-193	-99.5	1
B. Banknotes and coins	208	227	18	8.9	227
C. Corporate expenditures	548	628	80	14.7	661
1. Personnel costs	361	394	32	8.9	394
2. Overhead	77	89	12	15.9	89
3. Other Corporate	110	146	36	32.6	179
D. Pension payments	81	12	-69	-84.7	112
III. Fiscal year result (I-II)	804	1,199	395	49.1	1,232

Source: Banco de la República.

- f. The corporate income is estimated at COP 206 b with an annual increase of 3.6% primarily due to the trust business of TES management and the donation of the Amira de la Rosa Theater in the city of Barranquilla.

Regarding expenses:

- a. The remuneration for the government deposits at *Banco de la República* is projected to amount to COP 883 b with a decrease of COP 472 b (-34.8%) that is mainly due to the lower volume and lower rate of interest for these deposits.⁹³
- b. The expenditure for the commitment fee corresponding to the flexible line of credit with the International Monetary Fund (IMF) is projected to be COP 83 b. The value of this credit line went from SDR 8.2 b (USD 11.5 b) to SDR 7.8 b (USD 11.130 b) based on the new agreement.⁹⁴
- c. The cost of issuing and putting monetary species into circulation⁹⁵ is calculated to be COP 227 b for 2018. This includes an annual increase of COP 18 b (8.9%) resulting from the forecast of demand and placing coins and banknotes into circulation and the distribution of the cash.
- d. The corporate expenditures are projected to be COP 628 b with an annual variation of COP 80 b (14.7%). Of this, COP 394 b corresponds to personnel costs, COP 89 b to overhead, and COP 146 b to other corporate expenses. The rise in corporate expenditures is linked to the increase in the CPI, the increase in the minimum wage, the opening of the new cultural centers, the increase in facilities to be used for a pre-determined period for the development of technological projects, the debt repayment and depreciation derived from the acquisition of assets on the part of the Bank, and the effect of the VAT going from 16% to 19% in the renewal of long-term contracts during 2018.
 - i. Annual growth of personnel costs is estimated at 8.9% mainly resulting from the agreed upon wage increase in the collective labor agreement in effect and the start of the programs contained in the Strategy Plan approved by the Board of Directors of *Banco de la República*.
 - ii. The general expenses are estimated at COP 89 b, with an annual increase of 15.9% compared to what was seen in 2017. The increased spending estimated for 2018 is mainly due to expenses associated with maintaining the electrical infrastructure

It is estimated that the profit of the accounting period will be COP 1,199 t at the end of 2018.

93 The average daily volume is estimated to be COP 20.824 t for 2018 compared to COP 22.895 t seen in 2017; the rate projected for 2018 is 4.24% r.a. in comparison to 5.92% in 2017. The budget included average annual volumes of COP 20.513 t and an interest rate for remuneration of 5.0% r.a.

94 A new 2-year agreement was signed with the IMF on May 25, 2017.

95 The cost related to the publicity campaign about the coins and banknotes is included.

equipment, air conditioning systems, technology systems, and the treasury area through contracts that are adjusted in accordance with increases in the minimum wage⁹⁶ and the higher expenses generated by the opening of the new cultural centers. Furthermore, the growth forecast for 2018 incorporates, along with other things, the effect of the increase in the VAT and the higher expenditures on maintenance of the Bank's equipment for which the warranties have expired due to the length of time they have been used.

- iii. Other corporate expenses such as taxes, insurance, depreciation, deterioration, supplies, debt repayment, contributions and affiliations are estimated at COP 146 b as a whole with an increase of 32.6% in comparison to 2017. This growth was mainly due to items related to legal proceedings and judgments. Specifically, provisions were estimated for a process that dated from the financial crisis at the end of the 90s and related to temporary liquidity support (Banco Selfin S.A.) and the expenses for the process to be carried out for two insurance companies with respect to safeguards for the global banking policy resulting from the mortgage crisis also at the end of the 90s were budgeted for.
- f. Finally, it is estimated that the financial cost of retirement pensions will come to COP 12 b with a decrease of -84.7% compared to 2017 as a result of the funding of the actuarial liabilities in December 2017.

The profits expected for 2018 could be lower than those presented here. The greatest impact could materialize if the interest rates abroad are higher than those considered in the current projections.

96 Contracts for surveillance, janitorial, cafeteria, and general services, student interns, temporary workers, computer services, photocopying and microfilming, etc.

Share of the Bank for International Settlements held by Banco de la República

Act 1484/December 12, 2011 authorized *Banco de la República* to participate as a shareholder of the Bank for International Settlements (BIS). Based on this, the Bank acquired 3,000 shares of the BIS for a price of 65,712,000 in special drawing rights (SDR), which is equivalent to USD 100,978,710 that are registered on the books at their acquisition cost in SDR under “contributions to international organizations and entities.” On June 28, 2018, the Bank received SDR 705,000 (USD 994,668.3 in dividends which corresponded to the BIS accounting year that ended in March 2018 (April 2017 to March 2018), and which are equivalent to an annual return of 1.07%.¹

The membership of *Banco de la República* in the BIS has allowed the directors of the Bank to participate in periodic meetings in which recent events and the outlook for the global economy and the financial markets are examined. These meetings represent a discussion forum where points of view and experiences with issues of particular relevance to central banks are exchanged and all of this contributes to a better understanding of the challenges affecting various countries and to implementing appropriate policy measures. During 2018, the discussions have focused on various topics such as fintech, crypto-currencies, the challenges of globalization and the possible effects on emerging economies of a tightening of monetary policy on the part of the central

banks of the advanced economies. Similarly, the role of macro-prudential policies as effective tools for easing financial cycles in economies has been analyzed. The Bank also takes part in a number of consultation groups coordinated by the BIS such as the Consultative Council for the Americas (CCA) that foster international cooperation and research on issues related to central bank policies and other topics that impinge on macroeconomic and financial stability.

Within the framework of activities coordinated by the CCA, which is made up of the governors of the central banks on the American continent that are members of the BIS,² the Bank actively participates in research projects and conferences on various areas relevant to central banks. Among them was the Scientific Committee (which includes the head economists of the respective central banks), which organizes the annual research network and, for this year, they chose the use of microdata in economic research at central banks as the focus.³ At the conference that was held in Rio de Janeiro between June 4th and 5th, a researcher from the Medellín branch of the Bank presented a study on the effects that increases in the cost of short-term have on the financing of liquidity for companies.⁴ Along the line of this same Committee, the research network on the transfer of variations in the exchange rate to inflation (*pass through*) and commerce using company-based data, which started in 2017, was finalized this year.⁵ There will be final meeting of this network in Mexico City in August. A researcher from the Cali branch, who will present a study that analyzes whether there are differences in the impact of exchange rate variations on different industrial sectors in Colombia, will participate there.

In September 2017, the annual meeting of the CCA Advisory Committee of Financial Stability Directors. At this meeting, those in charge of the area of financial stability for the different central banks discussed recent aspects of the international situation and the progress on the research topics applied to the analysis of the financial stability of the member countries. At this particular meeting, the main topic will be the change in the models of banking business and their impact on bank

1 The BIS General Assembly approved the payment of a dividend of 235 SDR per share. The profitability corresponds to the ratio between the dividend received and the purchase price per share (21,904 SDR).

2 Argentina, Brazil, Canada, Chile, Colombia, the United States, Mexico, and Peru.

3 The schedule and documents are available at: <http://www.bis.org/events/cacconf2017/agenda.htm>

4 The document presented was written by Cardona, Restrepo and Strahan (2017). “Funding Liquidity without Banks: Evidence from a Shock to the Cost of Very Short-Term Debt”, NBER Working Papers, no. 23179, National Bureau of Economic Research, Inc.

5 The description of the project can be found at: https://www.bis.org/am_office/rsn/erkdeit.htm

credit.⁶ In addition to that, a working group on *stress testing* was set up, also during the past year, to share experiences between central banks and improve the tests that make it possible to evaluate the resistance of the financial system to different shocks. This group is evaluating the possibility of carrying out a joint exercise between the countries.

In February 2018, the Bank also participated in the annual meetings of the deputy governors of central banks of emerging countries that are members of the BIS. These meetings were focused on the effects of globalization on emerging economies. A study that describes the dynamics of trade integration between countries within different economic sectors as well as the Colombian experience in that process, which was prepared by Bank staff, will be published soon in the BIS Papers series where the contributions from different central banks are compiled.

Last of all, the Bank is a member of the Consultative Group of Directors of Operations (CGDO), a network of representatives of the central banks who are responsible for the central bank's operations. The last meeting, in which the main topics were digital currencies issued by central banks and the supply of and demand for money-like assets, was in Toronto (Canada) during May 2018. A meeting was likewise held with private sector analysts on the most recent financial developments in advanced economies and in Latin America.

6 The description of the project can be found at https://www.bis.org/am_office/wgfinstab/cbbm.htm

Appendix

Management Policy for the International Reserve Investment Portfolio

According to the best practices' recommendations, the management of reserves should endeavor to: 1) have enough liquidity in foreign currency, (2) have strict policies regarding the management of the different risks that the transactions face, and (3) generate reasonable, risk-adjusted returns subject to liquidity and other risk restrictions.¹ How these criteria are applied in the management of Colombia's international reserves is explained below.

1. Risk Management Policy

Banco de la República has a framework for risk management that identifies and assesses the risks to which their transactions are exposed in order to keep them low. Some of the main policies for risk management are as follows:

Liquidity risk: investing in financial assets that are permanently in demand on the secondary market in order to have the ability to turn reserve assets into cash quickly and at low cost. The portfolio is also divided into tranches so that some of them can be liquidated more rapidly.

Market risk: classes of eligible assets and strict limits on investment are used to lower the sensitivity of the value of the portfolio to interest rate movements in the market.

Credit risk: investments are only made in assets with high credit ratings by major rating agencies given that these investments have a low probability of defaulting on their payments. The minimum credit rating for governments and entities related to governments is A-. With respect to private issuers, the minimum rating is A+ for exposure to individual issuers, and BBB- (investment grade) when the investment is done through funds. Historically, the percentage of issuers with these ratings that have defaulted on their payments the year after is close to 0%. If the rating of an issuer that the portfolio has invested in directly drops below the minimum allowed, the exposure is liquidated within a short period of time. In addition, the maximum exposure is limited by sector and issuer in order to limit the impact of credit events on the value of the portfolio.

Foreign exchange risk: the estimates of the currencies are highly volatile and do not often have defined long-term trends. This makes it very difficult to reliably predict their behavior. *Banco de la República*, like the majority of the central banks around the world, has currencies other than the US dollar as part of their currency components in order to cover the country's payments abroad since these are made in many currencies. The impact of the foreign exchange risk is mitigated by the "foreign exchange adjustment" equity account that is dealt with under Decree 2520/1993 number 4 of article 62 (Statutes of *Banco de la República*). These rise during those years in which the reserve currencies become stronger

¹ One example of good practice in this respect can be found in the document "Guidelines for the Management of International Reserves," produced by the International Monetary Fund, which can be consulted at <http://www.imf.org/external/np/sec/pr/2013/pr13138.htm>

with respect to the Colombian peso and decline in those years when they weaken. Therefore, the variations in the currencies do not have any impact on the consolidated profit or loss statement.

Counterpart risk: In order to reduce the exposure to counterparties, transactions are settled by payment upon delivery mechanisms. The purpose for these mechanisms is to make the exchange of papers for cash or exchange of payments in a foreign exchange transaction a simultaneous one in order to eliminate the possibility of a default by one of the parties to the trade. In addition, counterparties in fixed income trading are required to be market makers, and the counterparties in currency trading are required to have high credit ratings. The foreign currency exchange counterparties should have a minimum credit rating of A- if they have an ISDA framework contract. If they do not have said contract, the minimum rating is A+.²

2. Tranche of the Investment Portfolio

The investment portfolio is made up of three tranches: the short term, the medium term and the gold tranche.

The purpose of the *short-term tranche* is to cover potential liquidity needs within twelve months from the reserves. Currently, this tranche consists of *working capital* and a debt portfolio. The *working capital* is the portfolio into which the funds that come from intervention in the exchange market are placed and their investments are concentrated in very short-term assets denominated in dollars. Given that the objective of this tranche is to provide immediate liquidity for intervention in the foreign exchange market, the working capital is concentrated in deposits and investments that can be liquidated in one day at a very low cost.

The *debt portfolio* is the main component in the short-term tranche. This portfolio is characterized by its investment in a larger number of instruments and having a time limit and profile of expected profitability that are greater than the working capital portfolio. It is under the restriction that the expected return on the portfolio, excluding the foreign exchange component, must be positive in 12 months with a confidence level of 95%. The *debt portfolio* is invested in multiple currencies in order to duplicate the behavior of the outlays in the country's balance of payments and seeks a return similar to that of the benchmark index.³ As of June 2018, the value of the short-term tranche was USD 28.897,86 b, of which USD 1.292,32 b corresponded to working capital and USD 27.605,54 b to the debt portfolio.

The *medium-term tranche* is implemented with a time limit and a profile of expected profitability that is higher than the short-term tranche. The goal of the medium-term tranche is to maximize the risk-adjusted return in US dollars, the currency in which the international reserves are valued, for the portion of the portfolio that is less likely to be used within a twelve month period. When there is a medium-term tranche, an effort is made to raise the expected profitability of the international reserves in the long term while maintaining a conservative portfolio. Thus, the maximum return, subject to the restriction that the expected return in US dollars for this tranche be positive with a 95% probability over a horizon of three years, is what is sought. Currently, the majority of the medium-term tranche consists of actively managed portfolios that seek to generate a return that is higher than the benchmark index.⁴ As of June 2018, the value of the medium-term tranche came to USD 16.235,55 b.

² The purpose of the framework contract established by the International Swaps and Derivatives Association (ISDA) is to establish the terms and conditions that govern over-the-counter derivatives traded between entities.

³ The concept and components of the benchmark index will be explained in the next section.

⁴ The fact that one of the seven active portfolios is managed directly by *Banco de la República* and the rest by external managers is explained in the section, "External Management Program." An explanation on how this program functions can also be found there.

The last tranche corresponds to the international reserve investments in certified physical gold that can be easily traded on international markets. Gold makes it possible to diversify the investment portfolio since its price behaves differently than prices of the securities which the short- and medium-term tranches are invested in. As of June 2018, the market value of the gold in the reserves came to USD 517.22 m.

The securities in the investment portfolio are deposited in financial institutions known as trustees.⁵ The entities that provide custody service for the securities in the international reserves are the New York Federal Reserve, Euroclear, JP Morgan Chase, and State Street. The investments in physical gold are in the custody of the Bank of England.

3. Benchmark indices

To manage the reserve investment portfolio, *Banco de la República* has defined theoretical portfolios or benchmark indices.⁶ Different indices are built for the short- and medium-term tranches in order to reflect their investment goals. The indices serve as a frame of reference to measure the management of each one of the portfolios. The way the two benchmark indices are built is explained below.

In order to build the short-term tranche index,⁷ first of all, objective foreign exchange components are determined. The foreign exchange components for this index are intended to duplicate the trend of the outflows from

the country's balance of payments.⁸ The goal is for the currencies other than the US dollar to appreciate during periods in which the dollar value of the country's payments abroad increases, which would mean that the value of these foreign currencies could decline with respect to the US dollar during periods in which the dollar value of the foreign payments decreases. As of June 30, 2018, the foreign exchange components of the short-term tranche index was 82% US dollars, 9% Australian dollars, 5% Canadian dollars, 2% New Zealand dollars, and 2% Norwegian krone. Once the currency components have been defined, the restriction of having positive returns in a 12-month horizon with 95% confidence is included apart from the exchange rate effect. Based on the foreign exchange component restriction and the restriction of positive returns in 12 months, a portfolio is sought that maximizes profitability adjusted for risk⁹.

In creating the index for the medium-term tranche, a similar procedure was followed with two basic differences. First of all, no currency exchange component restriction is imposed given that the goal of this tranche is to maximize the risk-adjusted return in US dollars. Secondly, the restriction of having positive returns at a 95% confidence level is defined for a longer horizon (three years) in order to reflect the lower probability of using the funds in this tranche in the short term. When building a portfolio that maximizes risk-adjusted profitability in dollars, investments in currencies other than the dollar are allowed.

⁵ Currently, the minimum credit rating for the trustees is A-.

⁶ In the capital markets, a benchmark index refers to a basket of assets with predetermined weights in accordance with certain rules that define their components. In general, an index tries to comprehensively duplicate the trend of a financial asset market and serves as an indicator of the performance of other investment portfolios in the same market. For example, some of the best-known benchmark indices on the stock markets are the ColCap in Colombia, or the S&P500 and the Dow Jones in the United States (the Bank uses fixed income market indices only).

⁷ This benchmark index does not apply to working capital since there are no benchmark portfolios that make it possible to measure the instruments allowed in this portfolio properly.

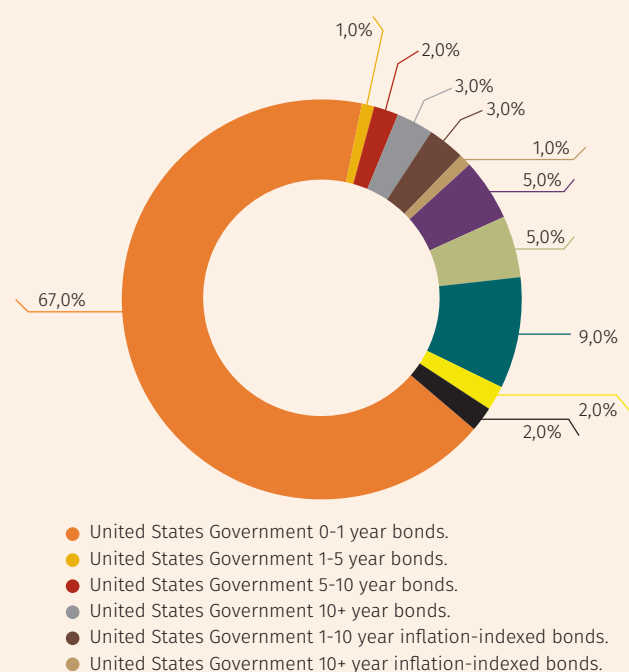
⁸ See the box, "International-reserve Portfolio's Currency Composition in the March 2012 *Report to Congress* for a detailed explanation of the methodology for the foreign exchange components of the reserves.

⁹ The detailed description of the methodology for building the benchmark index is located in the Box, "Technical Explanation of the Methodology for Building the Benchmark Index," in the March 2013 *Management Report on the International Reserves*.

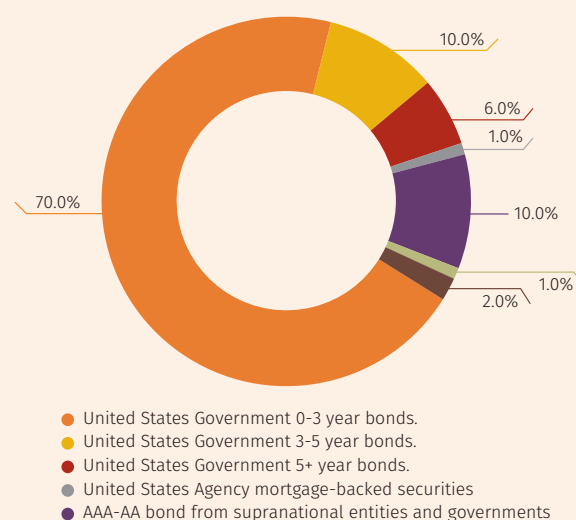
Graph A, panels 1 and 2 show the benchmark indices for the short- and medium-term tranches.¹⁰ The level of the market risk for the two portfolios is low. The modified duration of the short-term tranche index is 1.78 and the one for the medium-term tranche is 2.60.¹¹

Graph A
Breakdown of the Benchmark Index
(information as of June 30, 2018)

1. Short-term tranche



2. Medium-term tranche



Note: Merrill Lynch, along with others, builds indices that make it possible to measure the performance of different sectors of the fixed income market. The government bond indices include all of the instruments that comply with the minimum conditions of size and liquidity. Their rules are a matter of public record
Source: *Banco de la República*.

4. External Management Program

Banco de la República manages the short-term tranche, a portion of the medium-term tranche, and the gold tranche directly (USD 32.780,71 b or 71.81% of the investment portfolio). The remaining medium-term tranche funds are managed by external portfolio managers.

At the end of June 2018, the external management program came to USD 12.869,93 b (28.19% of the investment portfolio). The reason for using external managers is to generate returns that are better than the benchmark index and train Bank officials in the management of

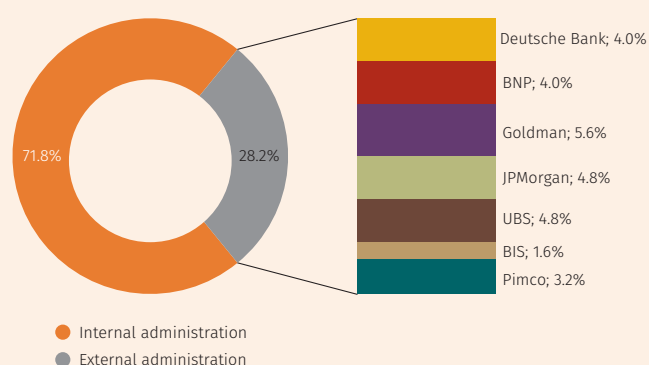
¹⁰ The indices published by Merrill Lynch are used for the different sectors the benchmark index consists of.

¹¹ The modified duration is defined as a percentage decrease (increase) in the value of the portfolio with respect to a 1% increase (decrease) in all of the interest rates.

international investments. The firms chosen to participate in the program are highly capable in the analysis of financial markets and have a sophisticated infrastructure that can be taken advantage of in order to define investment strategies.

The private companies that participate in the external management program currently are: Deutsche Asset Management International GmbH, BNP Paribas Asset Management USA, Inc., Goldman Sachs Asset Management, L.P., J.P. Morgan Asset Management (UK) Limited, Pacific Investment Management Company LLC, and UBS Asset Management (Americas) Inc, (Graph B). The private firms that participate in the program are chosen through a competitive bidding process and continuously evaluated. The funds that these entities manage are in *Banco de la República's* custody accounts and the administrators' contracts can be canceled whenever considered necessary. Based on the results each administrator obtains beginning with the starting date of their contract, the amount managed will be modified or their continuing to participate in the program will be reviewed. The investments in funds managed by the BIS are also considered part of the external management program. Only central banks and multilateral entities have access to these funds and the purpose for them is to invest in the assets that are appropriate for global international reserves in an effort by different countries to work cooperatively.¹²

Graph B
Breakdown of the Investment Portfolio
(information as of June 30, 2018)



Note: values are rounded.
Source: Banco de la República.

¹² At present, the investments are made in a fund of inflation-indexed securities issued by the Treasury of the United States (USD 109.48 m), a fund of securities issued by the government of China (USD 258.37 m) and a fund of securities issued by the government of Korea (USD 105.48 m) and a fund of securities issued by non-financial corporations (USD 247.80 m).

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