BANCO DE LA REPÚBLICA
COLOMBIA

# The board of directors' report to the Congress of Colombia

March 2017

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# Board of Director's Report to the Congress of Colombia

March 2017

*Banco de la República*
Bogotá, D. C., Colombia

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Bogotá, March 28, 2017

Honorable Chairmen and Members
of the Third Standing Constitutional Committees
of the Senate of the Republic
and 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 macroeconomic results for 2016 and the outlook for 2017 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 2017.

Cordially,

**Juan José Echavarría**
**Governor**

# Monetary, Exchange-Rate, and Credit Policy

## MONETARY POLICY

The Colombian Constitution of 1991 provides that "The State, through *Banco de la República*, shall ensure that the purchasing power of the currency be preserved." Subsequently, by Decision C-481 of July 7, 1999, the Constitutional Court expanded on the coordination that should exist between the monetary, exchange rate, and credit policies under the charge of the Board of Directors of the Central Bank, and fiscal, wage, and employment policies under the charge of the government:

"...the Bank's duty of preserving the currency's purchasing power shall be performed in coordination with the general economic policy…"

The constitutional mandate of keeping prices stable in an economy provides several advantages. One of the most important is that by achieving this aim, the underprivileged are protected from the tax that inflation represents. This social group, whose income cannot keep up with rising consumer prices, will see their purchasing power strongly reduced by acceleration in inflation.

Monetary policy should ensure price stability in coordination with a general policy designed to foster growth in output and employment. In this context, output increase over and above the country's installed capacity must be avoided, for, besides generating inflationary pressure, it will jeopardize the economy's sustained growth. Accordingly, monetary policy should also aim to stabilize output and employment at their long-term sustainable levels.

The Central Bank's inflation-targeting scheme, implemented by the Board of Directors in 2000, aims at fulfilling this constitutional mandate. Monetary policy applies this strategy to lower inflation and keep it stable, as well as to smooth out fluctuations in output and employment around a path of sustained growth.

The Board set specific inflation targets for 2000 and 2001. Since 2002, it started to announce a target range for the following year with the purpose of reducing growth in consumer prices and safeguarding the currency's purchasing power. In November 2001, the Board announced that the long-term inflation target would be 3.0%, explaining that maintaining this target would be tantamount to fostering price stability in the country. Thus, by mid-2009, inflation had fallen to around

3.0%, and since 2010, the range (between 2.0% and 4.0%) has centered on the long-term target.

The inflation target range is a communications strategy to inform the public that inflation dynamics involves uncertainty, and that inflation control is subject to transitory shocks that cannot always be counteracted by monetary policy. Such temporary fluctuations do not imply lack of commitment on the part of the Central Bank regarding the purpose of keeping prices stable.

Monetary-policy decisions are based on the analysis of the current situation and outlook of the economy, and the assessment of inflation forecasts and expectations relative to the long-term target (3.0%). Thus, the Board determines the value that its main monetary instrument, the benchmark interest rate (also known as policy rate or intervention rate), should have in order to stabilize inflation at 3.0%. The main criteria that the Board considers in setting the benchmark rate are the following:

- If the analysis of current and future inflation and of the variables that explain it suggests that inflation may deviate from 3.0%, the benchmark intervention rate is modified in order to move inflation towards the long-term target within a reasonable time frame. If the deviation is exclusively due to temporary supply factors (for example, an increase in food prices) and inflation expectations are "anchored" to the target, the monetary-policy stance is not altered.
- In setting the intervention rate, the aim is to keep an appropriate balance between meeting the inflation target and accomplishing the objective of smoothing out fluctuations in output and employment around their paths of sustained growth. In this regard, Colombia's inflation targeting is flexible, because it seeks to keep inflation at 3.0% as well as to avoid excess spending or output capacity.
- Another aim in setting the intervention rate is to have the monetary policy help mitigate the risk of financial imbalances, understood as excessive leveraging or high asset prices that jeopardize the country's financial stability. Thus, monetary policy would help the economy move closer to its path of sustained growth in medium and long-term horizons.

The above-mentioned criteria are incorporated into monetary-policy decisions in such a way as to reach a balance between them. Thus, the intervention rate is altered gradually, except in conditions posing a highly probable (or certain) risk that inflation will deviate considerably from target or the economy from its path of sustained growth.

Another of *Banco de la República*'s functions is to ensure liquidity in the market. The Central Bank performs this function on a daily basis by carrying out one-day repo operations with the financial system, at a cost equal to the intervention rate.

## EXCHANGE-RATE POLICY

Colombia has been operating on a flexible exchange-rate regime since September 1999. This means that the price of the peso *vis-à-vis* other currencies is determined by free supply and demand of foreign exchange in the currency market. This regime, besides being consistent with inflation targeting, has the following advantages:

- Exchange-rate flexibility is desirable for countries that often face real shocks. For example, sharp falls in the terms of trade are usually accompanied by nominal depreciations that help to smoothen the shock. Thus, exchange-rate movements tend to accommodate relative prices in the economy and lessen the impact of shocks on activity and employment.
- In the face of external shocks, a good part of the adjustment is made through the exchange rate, which means that the domestic market interest rate is more stable in a flexible regime than in a fixed exchange-rate system.
- In a floating exchange-rate regime, the authorities of a small and open economy such as Colombia's have greater autonomy to formulate monetary policy, and are thus able to react to their own economic cycles. In contrast, where the exchange rate is pegged to the currency of a developed country, monetary policy is subject to decision-making by the foreign monetary authority. If the economic cycles of the two countries are not synchronized, the developed country's monetary actions could bring negative effects on output and employment in the emerging country.
- A flexible exchange-rate system discourages currency mismatches, which arise whenever an agent's income is in local currency and part of its liabilities in another currency, without any kind of hedging. This poses a risk to the country's financial stability.
- With inflation expectations standing at the mid-point of the target range, exchange-rate flexibility is a useful tool for stabilizing output. In fact, since the flexible regime was introduced in the country, monetary policy has been strongly counter-cyclical, in contrast to what it was in the nineties.

Hence, setting target levels for the exchange rate may be inconsistent with the inflation target, weakens the inflation-targeting scheme, and undermines the credibility of the monetary-policy. Furthermore, any attempt to fix the exchange rate brings about risks of financial instability because economic agents do not incorporate exchange-rate risks in their borrowing decisions.

Nevertheless, as the authority in charge of the exchange-rate, *Banco de la República* is empowered to intervene the currency market. In the context of a flexible exchange-rate regime, inflation targeting must assess whether such intervention is consistent with meeting the inflation target in the medium term. The exchange-rate management thus recognizes the importance of flexibility as a central element of inflation targeting.

Since the flexible exchange-rate regime was implemented, the Central Bank has taken part in the currency market with sterilized interventions, without seeking to fix or reach any specific exchange-rate level. The main reasons for the interventions have been the following:

- To mitigate exchange-rate movements that do not match the behavior of the fundamentals of the economy, with the purpose of avoiding subsequent currency-price corrections that may jeopardize the inflation target.
- To reduce volatility of the exchange-rate around its trend.

- To increase the level of international reserves so as to reduce external vulnerability and improve the conditions of access to external credit.
- To ensure foreign-currency liquidity needs.

## MONETARY POLICY AND FINANCIAL STABILITY

Monetary policy also seeks to avoid financial imbalances arising from high leveraging and excessive risk taking, for example, which usually cause financial crises and strong fluctuations in output and employment. There is a variety of measures to deal with such situations, and the use of any specific subset of them can be justified according to the general conditions of the economy and of the particular financial problem to be dealt with.

Economic theory and the country's experience have taught that one of the determinants of financial instability is having "abnormally" high or low policy interest rates over long periods. Where policy rates are abnormally low, agents tend to underestimate risk, asset prices may rise beyond what is sustainable, and there is a general tendency to invest in riskier assets. On the other hand, credit institutions increase loans as a proportion of capital, and sometimes also lower the requirements to grant them. Additionally, participants in the financial-market replace safe assets by riskier ones in order to obtain higher returns. Thus, the economy may be confronted with high levels of debt and risk, becoming more vulnerable to unexpected income adjustments caused by employment losses, for example.

Whenever policy rates are exceptionally high, economic activity and asset prices may fall and unemployment rise, increasing the risk of having higher non-performing loans or default. If this risk materializes, default by debtors and the adverse impact of lower asset prices will threaten the solvency of credit establishments and generally hamper the proper functioning of financial markets and of the monetary policy.

A strong, prolonged deviation of the policy rate from its "normal" level may thus make it more likely for situations of financial instability to arise. Therefore, mitigating this risk is one of the criteria that the Board of Directors of the Central Bank applies in setting the policy rate.

However, moving the policy-rate does not suffice to prevent financial imbalances from happening. In such a context, the Central Bank may also use other instruments if it considers it is necessary to supplement the policy rate in order to counteract potentially excessive lending, for example. The use of such other instruments must be based on a careful cost-benefit analysis. Furthermore, institutions sharing the aim of preserving financial stability, such the Office of the Financial Superintendent, the Ministry of Finance, and Fogafin (deposit insurance agency), may adopt different measures to prevent financial imbalances.

Lastly, *Banco de la República*, as the central bank and currency issuer, ensures the secure and efficient operation of the payment systems, in addition to being the "lender of last resort."

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# Introduction

During 2016, the Colombian economy advanced in the process of the macroeconomic adjustment required to restore the foundations for sustainable economic growth. The negative shock to the terms of trade, of great magnitude and permanent character due to the fall in the price of oil, caused imbalances that could have led to a severe economic crisis, with a significant loss of welfare. This danger has dissipated due to the fact that nowadays the Colombian economy has better institutional arrangements, such as flexibility of the exchange rate, which enable it to adapt to unexpected situations. The response of the economic policies, both monetary and fiscal, has played a key role by strengthening the automatic adjustment mechanisms that stabilize the economy.

The nominal depreciation of the peso, close to 60% compared to when the shock took place, caused a strong increase in the relative price of tradable to non-tradable goods, which led to an adjustment of the external imbalance, whose results can now be verified. Added to this, the decline in the terms of trade itself negatively affected national income, and hence domestic demand, which, by reducing total expenditure in the economy, contributed to the external adjustment. Thus, imports of goods fell by 15.6% and 7.0% in 2015 and 2016, respectively, a result not mediated by increases in tariffs or administrative restrictions, as it used to be.

Although a positive response of exports to the stimulus of the exchange rate would have been desirable, this has not taken place due to the weak global demand, and particularly to the fact that our most important trading partners (besides the United States) were also affected by the fall in the price of oil, thus preventing an expansion of trade. Despite this, the current account deficit, which reached USD 18,780 million in 2015 (6.4% of GDP), fell to USD 12,541 million (4.4% of GDP) in 2016. As detailed in the section on the balance of payments, a better balance of net factor revenues also contributed to this adjustment, due to the lower remission of profits abroad by enterprises with foreign direct investment, mostly due to the effect of the shock on the terms of trade.

The important role played by the flexibility of the exchange rate in the adjustment process is beyond any doubt. This did not happen during the external shock of the late 1990s, which plunged the country into a serious economic crisis. However, the depreciation of the peso brought about a collateral effect:

the inflationary pressure caused by the higher costs of final goods and imported raw materials. This effect was even more noticeable because the country was coming from a period of appreciation of its currency, which made imports cheaper and increased its insertion in the production chain. Consequently, the annual inflation of tradable goods (excluding food and regulated items), which had been negative until mid-2011 and which did not exceed 2.0% before the shock, suffered a sharp increase, reaching 8.0% by mid-2016.

The effect of *El Niño* phenomena added to the pass-through of depreciation to prices, already significant by itself. The intense and prolonged drought caused by *El Niño* throughout the Colombian territory reduced the food supply, thus increasing food prices. Hence, annual food inflation, which stood at around 3.0% by mid-2014, increased almost uninterruptedly, reaching 15.7% annually in July of 2016.

The simultaneous increase in the inflation of tradable goods and food put indirect pressure on non-tradable goods inflation due to the higher cost of their inputs and to the activation of some indexation mechanisms. As a result, non-tradable goods inflation began to show successive increases from a 3.25% annual level by mid-2014 to over 5.0% in February 2017.

This inflationary pressure came not from excess demand, as it was slowing down due to the slower growth pace of national income following the deterioration of the terms of trade. The monetary authority faced one of the most complex dilemmas for any central bank: hiking inflation caused by exogenous supply shocks that hindered reaching the target and affected credibility, and a declining economic activity that drove the economy away from its potential capacity and undermined the confidence of both consumers and businesses.

After assessing the forecasts for inflation and economic activity and the behavior of economic agents' expectations, the Board of Directors of *Banco de la República* (BDBR) decided to begin a hike cycle of the benchmark interest rate from 4.5% in September 2015 to 7.75% in July 2016. The challenge of the policy was to balance the risks of a too-slow convergence of inflation to the target, on the one hand, and an excessive deceleration of economic activity, on the other. A faster convergence of inflation would have required a very strong deceleration of the economy, bringing about a significant cost in terms of employment. On the other hand, a slower convergence would have entailed the risk of perpetuating inflation expectations above the 3.0% target and extending the indexation mechanisms, thus raising the cost of a future disinflation. Considering this, the Board decided it would be desirable to seek a gradual convergence of inflation to the target.

In this context, consumer price inflation by the end of 2015 was 6.77%, and continued to increase during the first half of 2016, reaching a peak of 8.97% in July when the trucking strike was added to the already existing pressures.

This trend had a significant break starting August thanks to the fact that the effects of the shocks herein described began to fade, and that the policy actions taken since 2015 contributed to moderate inflation and inflation expectations. Thus, inflation closed at 5.75% in 2016, and during the first months of 2017, it continued to recede, reaching 5.18% in February. This downward trend of price variation was predictable, given the transitory nature of *El Niño* and the pass-through of depreciation to prices. The Board reiterated this to the public opinion in all of its communications, with the purpose of preventing an unjustified increase in inflation expectations.

The fall in the terms of trade weakened the National Government's finances, given that oil revenues accounted for about 20% of its total income. To offset this shock, the government reduced spending and introduced a tax reform to Congress in order to raise the value-added tax (VAT) and other indirect taxes starting 2017. Such increases push the prices of various articles of household consumption up, causing the convergence of inflation to its target to be slower, which in turn induces economic agents to revise their inflation expectations upwards. On top of this is the additional pressure that arises from the recent increase in the minimum wage above the inflation rate observed in 2016.

This policy dilemma requires the monetary authority to review the risk balance between inflation and growth more regularly and rigorously. As part of this process, in its sessions of December 2016 and February and March of this year, the Board of Directors decided to lower the benchmark interest rate by 25 basis points (bp) on each occasion, reaching a level of 7.0%. As reported opportunely, such decisions have taken into account the continuity of the decline in the indicator for headline inflation and its outlook, the weak performance of the economy, and the favorable reduction in the current account deficit, among other factors. Yet, the monetary policy stance continues to be contractionary, which is consistent with the purpose of seeking a gradual convergence of inflation to its target.

GDP growth in 2016, at a rate of only 2.0% as reported by the National Administrative Department of Statistics (DANE), confirms the severity of the shock to the terms of trade, which, having contributed negatively to national income, weakened the dynamics of consumption and investment, and affected the performance of many branches of activity. Additionally, other shocks such as *El Niño* and the trucking strike deepened the slowdown.

On the demand side, the most affected component was that of gross capital formation, which recorded a 4.5% contraction in the year. This result is due greatly to the reduction of investment in machinery and equipment as well as in transport equipment as a reflection of the decline in the mining sector and the depreciation of the peso. This was partially offset by the good results in construction of buildings and civil works, driven by the government's housing construction programs and road-building projects. Total consumption also contributed to the slowdown, registering a 2.0% growth, lower than had been observed in 2015. In this case, the most affected items were household consumption of durables and semi-durables. Thus, domestic demand remained virtually stagnant, with a growth figure of just 0.3%. In a context of low demand, the different branches of activity exhibited low or negative growth, except for financial services, construction, and industry, the former driven by the reopening of Reficar.

Despite the slowdown in economic activity, resilience of the labor market should be highlighted. For the average of the fourth quarter of the year, the unemployment rate in the main thirteen metropolitan areas was 9.2%, *vis-à-vis* 8.9% in the same period of 2015. Something similar happened to the national total, whose average for the last quarter of 2016 amounted to 8.2%, compared with 8.0% a year before. The stability of the unemployment rate is surprising, considering that the economic activity stepped down from a 4.4% growth in 2014, to 3.1% in 2015 and 2.0% in 2016. As discussed in the document, the reason for this is that, while labor demand shrank (occupation rate: OR) due to the effect of lower growth, so did the labor supply (global participation rate: GPR). The latter is an atypical behavior compared to past periods of slowdown, given that the GPR is usually a counter-cyclical variable that increases when the economy falls, and vice-versa. The technical staff is currently investigating the phenomenon with the purpose of providing an explanation in the next report.

It should be noted that a factor that allowed for a gradual adjustment of the external sector and the economy in general facing the oil shock was the external funding that the rest of activities continued to receive. This behavior reflects the continued confidence of foreign investors in the Colombian economy and their ability to overcome the shock. Larger purchases of public debt bonds by foreigners stand out, as well as the increasing acquisition of loans and other external credits by the Government and other public entities. In addition to this, the sale of Isagen also contributed to the country's incoming resources. All this allowed to partially offset the lower amount of foreign capital received by the mining and oil sectors, specifically those related to direct investment.

Preserving the confidence of external markets in the midst of such a strong shock as that which struck the Colombian economy cannot be taken for granted. Largely, this depends on the country's economic institutionality. The flexibility of the exchange rate and the independent management of the monetary policy under the inflation-targeting regime contributed to this. Similarly, the existence of the fiscal rule and strict compliance with it has played a key role in maintaining trust. In this context, in order to ensure compliance with the goals of the fiscal rule and ensure the sustainability of public debt in the medium term, the Government introduced a tax reform that was approved by the Congress at the end of 2016. With the reform, the Government expects to gradually increase collection from 0.7% of GDP in 2017 to 3.1% of GDP in 2022. With this additional income and the adjustment in operating and investment costs, the Government expects to resume the downward path of the fiscal deficit, which is estimated at 3.3% of GDP for 2017, compared with 4.0% in 2016.

The perception of a solid institutional context and an appropriate policy response, together with the reduction in the current account deficit, the downward trend of inflation, and the approval of the tax reform, has reduced uncertainty and increased the confidence of the markets.

This Report examines the outlook for the main macroeconomic variables for 2017. On the external front, it highlights the expected improvement in global economic conditions, thanks to the strengthening of growth in developed economies. Regarding the international price of oil, although there is uncertainty about its dynamics, it should continue to respond to the expected supply reduction.

As for the Colombian economy, its performance will be framed in the continuation of the adjustment process to be completed this year. With this, the technical staff forecasts GDP growth for 2017 between 0.7% and 2.7%, with 2.0% as the most likely figure. The amplitude and downward bias towards the lower part of the forecast range suggest the possibility of a slow dynamism of economic activity. Regarding inflation, the lagged effects of *El Niño* and the accumulated depreciation of the peso are eventually expected to disappear. This, along with modest growth of demand and the effect of the monetary policy actions taken since 2015, should limit price adjustments and reduce inflation expectations, which will favor the convergence of inflation to its 3.0% target. Finally, the correction of the external imbalance that began in 2016 is expected to continue in 2017, with which the current account deficit would be expected to stand between 3.0% and 4.4% as a percentage of GDP, with 3.7% as the most likely figure. The additional adjustment to the current account estimated for 2017 would be explained not by a reduction of expenditures resulting from lower imports, but by the increase in revenues, mainly due to larger exports of goods.

# I. International Context

*The performance of global economic activity was below what had been expected in 2016, primarily during the first part of the year. Furthermore, the worldwide geopolitical picture generated a high level of uncertainty in the international financial markets. With respect to commodities, there was a recovery of the international prices for oil and metals.*

Global economic activity continued to show a performance that was below what had been expected in 2016, primarily during the first part of the year. The slowdown occurred in the midst of a complicated geopolitical panorama with rather unexpected outcomes that generated a lot of uncertainty in the international financial markets. Nevertheless, since the end of the year, there has been a significant improvement in global economic conditions and some indicators signal a surge that could continue in 2017.

Several indicators suggest there was a recovery in the global economy during the latter part of 2016 that could continue in 2017. Among these was an expansion in industrial production. The industrial production expansion is due to business owners' optimism and the rebuilding of inventory, growth in private consumption, which has been reflected in an increase in retail sales and of new orders, and the slight improvement in world exports of goods mainly seen in Asia and Europe.

The prices of commodities, in turn, seem to have hit bottom in 2016 primarily after the recovery of the international prices for petroleum and the basic metals. This price recovery is expected to continue in 2017, especially in response to an anticipated reduction in the supply.

Regarding worldwide financial markets, stock shares appreciated, the US dollar became stronger, and government bonds depreciated at the end of the year when the long-term interest rates in advanced economies were raised. Global financial conditions could be more restrictive in 2017 to the extent that the monetary policy of developed countries is less expansionary and the US Federal Reserve's interest rates stay on their upward cycle. Moreover, the uncertainty in the financial markets could continue over the course of the year.

## A. PERFORMANCE IN 2016

In 2016, the Colombian economy was encompassed by a context of slow worldwide growth that began to heat up in the last few quarters; terms of trade which, even though they recovered a little because of the price rise for commodities during the year, are still at low levels; and a peso that became stronger in comparison with the end of 2015.

The global economy continued to show a performance that was below expectations, mainly in the first half of the year. In spite of the signs of recovery that were evident towards the end of 2016, the preliminary estimates indicate that world growth for the year could have been below what was reached in 2015 (3.2% annually).[1]

The slowdown in the global economy seen in 2016 occurred in the midst of a complicated geopolitical panorama with rather unexpected outcomes that generated a lot of uncertainty in the international financial markets. Events such as the result of the referendum on the United Kingdom leaving the European Union (Brexit), the election of a new president of the United States, the escalation of conflict in the Middle East, the removal of the president of Brazil from office, among others, kept geopolitical risks high in 2016. Nevertheless, since the end of the year, there has been a significant improvement in global economic conditions and some indicators signal a surge in the last half of 2016 that could continue into 2017.

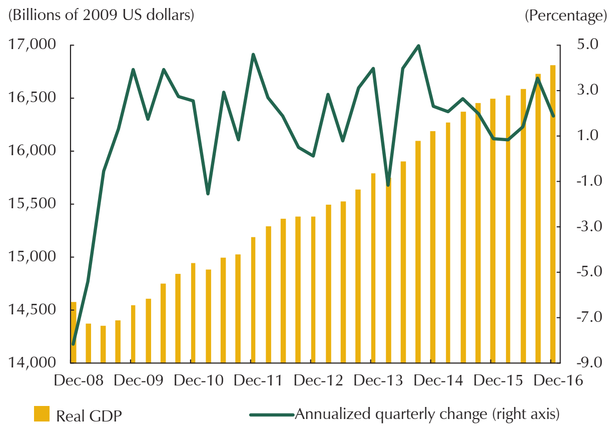
Thus, industrial activity began to become stronger. Business confidence is rebounding and the boost in private consumption is reflected in the increase in retail sales and in new orders. Worldwide product exports likewise showed a slight improvement in the last quarter of the year, especially in Asia and Europe. All of the above makes it possible to forecast a recovery of the global economy in the latter part of the year mainly due to better growth in the developed economies.

*Since the end of the year, an improvement in global economic conditions has been seen that could continue into 2017.*

In the above group, the upturn in economic activity in the United States during the second half of 2016 after the weak performance in the first half of the year stands out. This recovery is particularly due to the sharp upsurge in the third

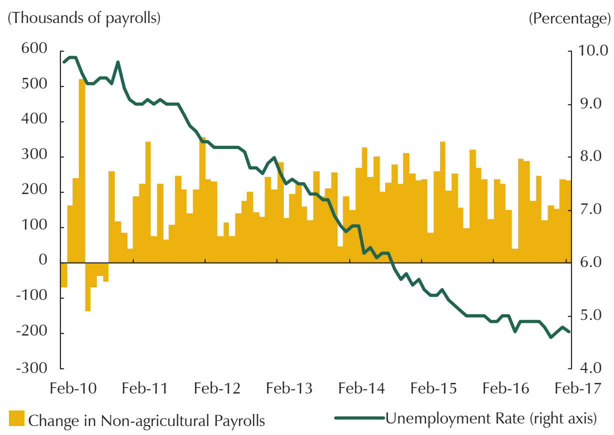
1 In their January 2017 update of the World Economic Outlook (WEO), the International Monetary Fund (IMF) envisioned 3.1% in annual worldwide growth for 2016. However, the analysts surveyed by Consensus Forecast expect it to stand at 2.6% on average.

Graph 1
Real GDP of the United States




Source: Bureau of Economic Analysis.

Graph 2
Unemployment Rate and Creation of Employment in the United States




Source: Bloomberg.

quarter (3.5%, annualized) (Graph 1). Although the US economy did not continue expanding at the same pace in the last three months of the year,[2] the rapid growth in domestic demand, which was driven by fixed investment, government consumption, and a major correction in inventory was notable.[3]

The notable improvement in manufacturing production in the United States registered in the last few months of the year[4] along with the decrease in inventory are signs that the recovery will continue over the next few months in view of the expected growth of domestic demand. Furthermore, employment creation remains solid[5] (Graph 2). This resulted in the unemployment rate in 2016 having been at its lowest point in close to a decade (annual average of 4.9%). In this context and in light of a total annual inflation of 2.1% in December, which was the highest since May, 2014, the Fed decided, during their December meeting, to raise the policy rate 25 basis points (bp) for the second time a year after having raised it for the first time since the financial crisis.

In spite of a complex political picture, the economy in the euro zone managed to maintain a relatively acceptable performance with an annual economic growth of 1.7% in 2016. This is lower than the growth registered in 2015 (2.0%). After the downturn that the economy registered during the second and third quarters[6], mainly due to the uncertainty related to Brexit and the weak demand for exports, a slight improvement was seen in the last quarter of the year when it grew 1.8% annually.

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2 The economy of the United States grew 1.9% annualized in the fourth quarter of 2016 according to the figures published by the Bureau of Economic Analysis (BEA) on January 27.

3 The reduced growth seen during that period is owing to the slowdown in private consumption and the fall in exports of goods and services. The latter was partly due to the strengthening of the US dollar as well as the uncertainty associated with the election of the new president of the United States.

4 To be specific, the manufacturing index (ISM) and the new orders indicator reached their highest levels since December 2014.

5 The creation of employment reached its highest level in 18 months in December with the private sector acting as the main employment generator.

6 During these quarters, the annual economic growth was 1.6% and 1.7% respectively.

Towards the end of 2016, industrial production and retail sales exhibited a significant upswing at the same time that new orders and business owner and consumer confidence indicators improved notably. This confirmed the trend towards recovery. The unemployment rate in the euro zone, in turn, remained at their lowest levels in years and inflation (1.1% annually) stayed even below the European Central Bank's (ECB) target of 2.0%. The above led the ECB to modify the amount, duration, and components of their asset purchase plan at their December meeting.

Graph 3
Annual Growth of China's Real GDP

(Percentage)


Source: Bloomberg.

Regarding emerging countries, the performance of these economies has been varied and their growth in 2016 was relatively more sluggish than that of previous years. The Chinese economy grew 6.7% annually, which is below what was registered the previous year (6.9%) but slightly higher than expected (Graph 3). This performance is mainly owing to a moderation in the rate of investment in fixed assets as a result of the new development model implemented by the government which is more focused on private consumption. In spite of the fact that industrial production slowed down towards the end of the year, retail sales, confidence and investment in the manufacturing sector[7] rebounded because of the government's uninterrupted stimulus policy.

In Latin America, in turn, after the stagnation seen in 2015 (0.1% annually), the region's economy began to experience symptoms of recession in the first quarter which worsened over the course of the year. Although some indicators suggested that the contraction in the fourth quarter was less severe than in previous ones and that the region seems to be showing signs of stabilization, 2016 saw the region's worst performance since the crisis in 2009.[8]

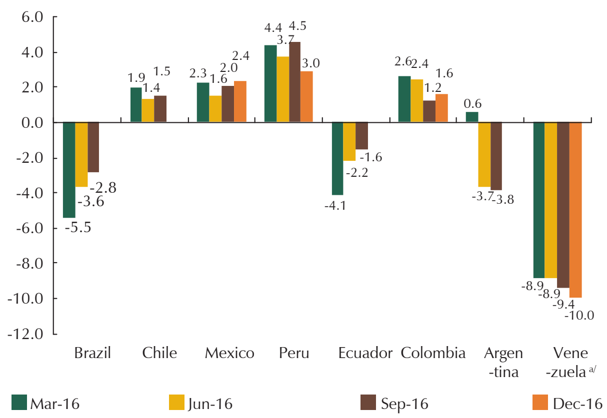
Said behavior has occurred in a complex political context in some countries and this has increased the uncertainty and has affected the confidence of business owners and consumers. The economic adjustment in Argentina, the deep recession in Brazil, the impact of the price of petroleum on Ecuador and the severe recession in Venezuela led to these economies presenting the worst performance in the region, with negative growth in 2016. The rates of growth for Chile, Mexico, and Colombia, in turn, were below their historical averages while Peru was the country with the best growth (Graph 4).

7 Said investment registered its lowest level in years around the third quarter of 2016.

8 According to IMF estimates, the economy of the region declined 0.7% annually in 2016.

Graph 4
Annual Growth of Real GDP for Some Latin American Countries

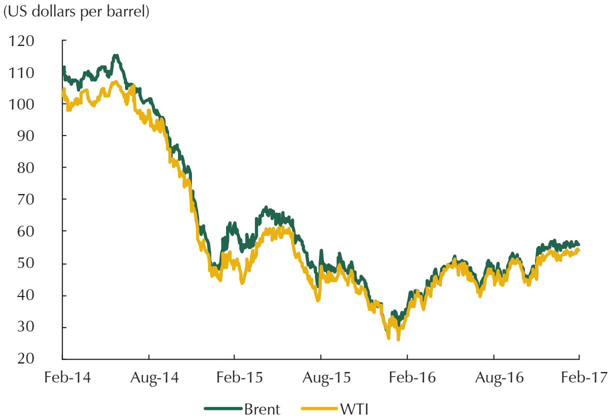
(Percentage)




a/ There have been no official statistics available for Venezuela since the third quarter of 2014. Therefore, an estimate from Oxford Economics is given here.
Source: Datastream.

Graph 5
International Price of Petroleum

(US dollars per barrel)




Source: Datastream.

With respect to the terms of trade, the prices of commodities seem to have touched bottom in 2016, primarily following the recovery of the international price of petroleum (Graph 5). This hit its lowest level at the beginning of the year because of factors related to both supply and demand.[9] The recovery was reinforced at the end of the year as a result of an agreement by the Organization of Petroleum Exporting Countries[10] (OPEC), which was joined by other producers, to cut world production and reduce the inventories of crude oil.[11] The prices of other raw materials as well as basic metals also recovered in response to the investment in infrastructure and real estate in China and to the expectations of a fiscal expansion in the United States, etc.

Global inflation showed an upward trend in 2016 and reached its highest rate in more than three years in December. By country, the divergence was large: while there were rises in the developed countries, they remained at low levels and some emerging countries showed high inflation because of the depreciation of their currencies. The increase in prices in a slowing economy has exacerbated the monetary policy dilemma in the emerging countries while the unconventional expansionary policy continues in Europe and the normalization of the monetary policy in the United States is still gradual.

Throughout the year, expectations of increases in the interest rate on the part of the Fed were a significant source of uncertainty for the international financial markets.[12] This, together with a complicated international geopolitical picture, the outlook for the growth of the developed countries, and the

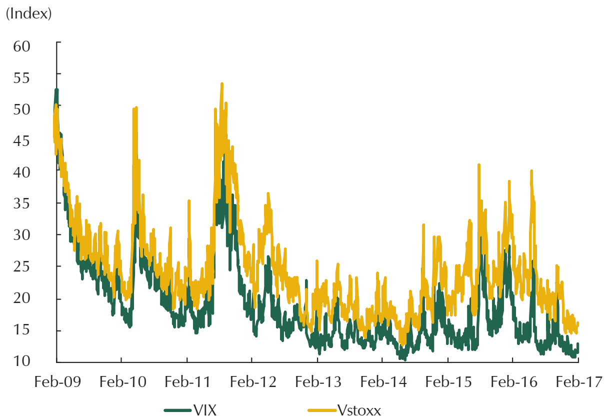
9 The downward trend in the price of crude oil that had been registered since the middle of 2014 reversed itself in February 2016 as a result of the reduction in inventory and the active oil rig platforms in the United States. At the end of the year, the price went up due to the agreements reached to reduce global production.

10 The objective of the agreement between the members of OPEC that was signed on November 30 was to limit the daily production to 32.5 million barrels per day (mbd) which is a reduction of 1.2 mbd.

11 As provided for in the agreement between the OPEC member countries and the non-members signed on December 10, 2016, oil production will be reduced 558,000 barrels daily.

12 This rate remained unaltered for the majority of 2016, and it was not until the last meeting of the year that the Fed raised it 25 bp, thus placing it between 0.5% and 0.75%.

Graph 6
Financial Volatility Indices




Source: Bloomberg.

performance of the Chinese economy as well as certain events, generated volatility in the markets. Nevertheless, the perception of international risk began to decline as of mid-year and the volatility indices stood at low levels in December and the beginning of 2017 (Graph 6).

In this context, the international stock markets performed well, the US dollar was strengthened, and the government bonds of some countries appreciated. This situation reversed itself at the end of the year when the long-term interest rates in the advanced economies were raised, mainly in the government bond market of the United States.

## B. OUTLOOK FOR 2017

In 2017, the positive performance seen at the end of 2016 is expected to continue and a surge in global economic activity is also expected. The IMF[13] projects a global growth of 3.4% for the year with the emerging economies being the ones fueling the global economy as it goes from growing 4.1% in 2016 to a projected 4.5% for 2017. This recovery would be mainly due to the expected normalization of macroeconomic conditions in the major economies after the tensions to which they have been subjected. In China, India, and other emerging countries in particular, the rate of growth will probably stabilize and the period of slowdown or contraction in several Latin American countries could be coming to a close.

The Chinese economy is expected to continue to be supported by the recent stimulus policies although, to the degree that a high level of indebtedness exists, the risks remain, especially on the part of state-owned companies. A moderate recovery is expected for Latin America with a yearly growth of 1.2% projected by the IMF mainly given the upturn in the prices of raw materials.[14] Moderate growth is predicted for the Central American countries fueled especially by the positive performance expected for the United States economy. Nevertheless, the outlook for Mexico is less optimistic in view of the possible measures the new president of the US may take with respect to trade and immigration policies.

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13 Based on the January 2017 update of the IMF's WEO.

14 The supply of raw materials is expected to be lower in 2017, which would imply higher prices than in 2016.

*Global financial conditions are expected to be more restrictive in 2017 since monetary policy in the developed countries will be less expansionary.*

The advanced economies, in turn, will continue recovering moderately and unevenly and reach a growth of 1.9% for the year based on the IMF projections. This performance envisions a significant recovery in the United States resulting from better working conditions and wages as well as in business confidence. The fiscal stimulus policies that the new government carries out are expected to have positive effects on the US economy by 2018. The euro zone, in turn, will probably continue to grow at rates similar to those seen the previous year due, in particular, to their domestic demand.

With this situation, the global financial conditions are expected to be more restrictive in 2017 to the extent that the monetary policy in developed countries is less expansionary and the interest rates of the US Fed continue their upward cycle.[15] Likewise, over the course of the year, the uncertainty in the financial markets could continue in light of the different political events that will mainly take place in Europe.

Last of all, the performance of the world economy during 2017 will continue to face downward risks which are related to the policies that the new US government implements (see the shaded text below), the over-indebtedness and financial instability in China, and the financial and political problems in the euro zone, etc.

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15 In fact, the Fed raised their interest rate again at their March meeting and set it between 0.75% and 1.0%.

# CONSIDERATIONS ON THE POSSIBLE IMPLICATIONS OF THE CHANGE OF GOVERNMENT IN THE UNITED STATES FOR THE COLOMBIAN ECONOMY

Despite the high uncertainty regarding the scope of the new U.S. government policies, the implications for Colombia can be expected to be associated with: 1) the implementation of expansionary fiscal policies in that country, 2) higher increases in interest rates on the part of the Federal Reserve, and 3) the possibility of an increase in the trade and immigration restrictions.

On the fiscal side, a reduction in corporate taxes is expected in the short term and subsequently, an increase in government spending. These policies could drive aggregate US demand, at least initially, which could have a favorable effect on foreign demand for Colombian exports and for commodities directly and, indirectly, through the positive impact on the foreign demand of some of our trading partners.

However, the tax reductions in the US could discourage foreign direct investment by companies in that country. In Colombia, where 27.1% of the foreign direct investment, which goes mainly to the petroleum sector, comes from the United States, a reduction in this area could generate some pressure.

In addition, a lower tax rate could also encourage US multinational corporations to repatriate profits obtained abroad. According to a note prepared by the Bank for International Settlements[1], the income earned by foreign subsidiaries of U.S. companies is not currently subject to income tax in that country until it is turned over to the parent company. Given that the tax rate in the United States is relatively high in comparison to other countries, this situation generates an incentive for these subsidiaries to reinvest their profits outside of the United States. Thus, according to what that entity has stated, a reduction in taxes on the part of the new Republican government could cause outflows of capital from emerging economies due to the repatriation of the foreign profits of US corporations. This would have consequences for the exchange rate and the availability of foreign financing for these economies. According to the Bank for International Settlements, the market estimates for this undistributed income range between USD 1.0 billion (b) and USD 3.0 b.

With respect to the commercial channel, if President Trump's administration applies restrictive policies, the productive sector could find itself affected. The possible adoption of taxes on imports on the part of that country (border adjustment tax)[2], could have a significant impact on Colombia's trade through a more limited access to that market and a consequent reduction in exports to that country. Note that a significant portion of Colombian exports (31.8%) go to the United States. Of these, 52% are exports of crude oil and petroleum and coal derivatives. If highly protectionist policies are set up, exporters may be forced to reduce their production if they cannot easily replace the US market with other markets. Nevertheless, there is a lot of uncertainty surrounding effective support (even within President Trump's administration) for these proposals and the application of such measures.

Furthermore, if very restrictive immigration policies are implemented, this could affect the inflow of funds Colombians receive through remittances. These are currently equal to 1.8% of GDP. This figure is high compared to those of other countries such as Peru (1.5%) and Brazil (0.2%) but lower than the figures in Mexico (2.4%) and Guatemala (10.7%). In addition, close to half of the remittances workers send to Colombia (45.6%) come from the United States. Nevertheless, based on figures from the US Migration Policy Institute, only 19% of Colombian immigrants are illegal. This, the percentage of illegals, is more than 50% for other countries such as Mexico, Honduras, and Guatemala, which suggests that the effects of the extreme policies could be relatively more severe in other countries.

The probability is that the most significant transmission channel for Colombia will be a hardening in the external financial conditions. This could affect the cost of foreign funds since it would imply higher interest rates and a de-

1 Bank for International Settlements (2016). "Risks Facing Emerging Market Economies in 2017", a note for the meeting of the Governors from major emerging market economies, Basel, January 2017.

2 In order to encourage exports and consumption of locally produced finished goods and supplies, President Trump's administration is evaluating the possibility of a tax on imports of finished goods and of supplies for the production of local goods. This type of tax would, in principle, change the way in which companies in the United States pay taxes since the location of the final consumer of the goods (destination based tax) instead of the place of production (origin based tax) would determine the taxes to be paid by the companies. Thus, imports from other countries could not be written off as production costs and income from exports would not be taxable.

preciation of the peso. Based on figures from the Bank for International Settlements, the exposure of Colombian residents to international credits from the United States reached a historical maximum having surpassed USD 10.0 b since 2015. It should also be noted that the deficit in Colombia's current account (an estimate of 3.7% of GDP for 2017) implies major financing needs which suggests that a hardening of foreign conditions could affect the country's capacity for indebtedness.

Nevertheless, the portfolio flows into Colombia have risen since the election of President Trump. Specifically, portfolio inflows came to USD 1.070 b in November with the majority of it concentrated in the second half of the month (after the US elections) while USD 494 m in inflows was generated in December. Before November, the portfolio capital inflow was USD 429 m on average in 2016.

In spite of the aforementioned rise, a hardening in foreign financial conditions could have an impact on changes in some of the variables in the local financial system. The existence of higher interest rates (which affect the prices of government bonds) and a negative shock to debtors' balance sheets could affect the value of the assets of the banks. Nonetheless, the information available indicates that the Colombian financial system could face an extreme scenario regarding interest rates, exchange rate, and investment sell off. Some stress tests done by the Bank suggest that the joint and simultaneous appearance of different shocks would have relatively moderate effects on the solvency of the financial system. Specifically, if we assume an extreme scenario[3], the solvency ratio would decline 1 pp (from 15.4% to 14.4%) and remain above the minimum regulatory level of 9%.

3 The scenario considered has three elements that would affect the value of the financial institutions' assets. First of all, the assumption is made that an increase in external interest rates would lead to a parallel increase in interest rates for the local debt market thus affecting the market value of these assets. Secondly, the higher yields abroad would encourage foreign investors in the local debt market to liquidate their positions, which would affect the spot curve even more (especially in the medium and long term if the foreign investors are one of the main holders) and accentuate the negative effect on the balance sheet of the financial intermediaries. Third, a depreciation of the currency would unleash a deterioration in the credit rating of those borrowers who are highly leveraged in foreign currency.

# II. The Colombian Economy: Results of 2016 and Outlook for 2017

*The orderly adjustment of the internal and external accounts of the Colombian economy continued in 2016 in response to the adverse shocks that have been occurring since mid-2014.*

*GDP rose 2.0%, a figure that is 1.1 pp lower than the growth seen in 2015. This was primarily due to the adjustment in domestic demand (0.3%) and the downturn in real exports. The deficit in the current account, however, continued its self-correction and closed 2016 at 4.4% of GDP.*

*Consumer prices were heavily affected by El Niño and by the depreciation of the peso. In the second half of the year, the upward effects caused by these phenomena began to diminish. The year 2016 closed with consumer inflation at 5.75%.*

The adjustment in the Colombian economy continued in 2016 in response to the adverse shocks that have been occurring since mid-2014. The deterioration in national revenue, which has been affected by the low international petroleum prices and weak foreign demand, was reflected in a devaluation of the peso (nominal and real) and the country's lower rate of expenditure. The sharp depreciation of the peso and its pass-through to consumer prices together with the *El Niño* phenomenon generated a sharp rise in inflation (as much as 8.97% in July) and reduced household purchasing power.

*The deterioration in national revenue, which has been affected by the low international oil prices and weak foreign demand, was reflected in a devaluation of the peso (nominal and real) and the country's lower rate of expenditure.*

In spite of the weakness of demand and the transitory nature of the shocks that had affected prices, inflation expectations have begun to rise and some indexing mechanisms have been activated since the closing months of 2015. In response, the Board raised the benchmark interest rate from 4.50% to 7.75% between September 2015 and July 2016 in order to ensure the convergence of inflation with the target range in 2017. Thus, domestic demand slowed down, the deficit in the current account declined, and starting in August, the reversal of the supply shocks and the monetary policy measures implemented in 2016 contributed to reducing inflation to 5.75% in December.

*The low oil prices and the slowdown in foreign demand contributed to another fall in mining exports as well as in the rest of the foreign sales in US dollars.*

In the first quarter of 2016, the price for crude oil (Brent) reached its lowest level for the decade[16], and for the rest of the year, it presented a rising trend and reached an annual average (USD 45.1 per barrel) that is lower than the price a year ago (USD 52.9 per barrel).[17] The recovery of the international price of crude oil along with the prices for the country's other major export products (coal and coffee), and the decline in the prices of several of the goods that Colombia imports explained the rebound in the terms of trade, which ended up with an average annual level in 2016 similar to that observed in 2015.[18] Colombia's trading partners, in turn, registered their second lowest average economic growth for the last ten years in 2016. This average was only higher than the recession seen in the last global financial crisis. Thus, the low petroleum prices and the slowdown in foreign demand contributed to another fall in mining exports as well as in the rest of the foreign sales in US dollars. This also explained the sluggishness of national revenue.

The depreciation of the peso and *El Niño* reduced families' purchasing power. In the first case, and attributable mainly to the drop in petroleum prices, the peso depreciated 37.1%, on average, with respect to the US dollar. This figure became more moderate in 2016 (11.2%). Secondly, the severe drought that occurred from the end of 2015 to mid-2016 in addition to the truckers' strike reduced the supply of food. Thus, the nominal depreciation and its partial pass-through to consumer prices as well as the sharp upswing in food prices generated a significant deviation of inflation and inflation expectations from the target and activated some price indexing mechanisms. Thus, inflation went from 6.77% in December 2015 to 8.97% in July 2016.

*At the end of 2016, there were indications that the effects of the sharp transitory supply shocks that had deviated inflation from its target were diminishing.*

The downturn in the CPI for food in 2016 and, to a lesser degree, the behavior of the prices that were impacted by the past marked nominal depreciation indicated that the effects of the sharp transitory supply shocks that had diverted inflation from its target were diminishing. At the same time, domestic demand continued to decline and the estimates suggested that the excess installed capacity was still growing (negative output gap). The above, together with the monetary policy actions that were carried out, contributed to causing inflation and long-term inflation expectations to begin to give way although they were still above the target. That being the case, total Inflation and the average of the four measures of core inflation ended 2016 at 5.75% and 5.60% respectively.

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16 The WTI price in February (USD 26.19 per barrel) and the Brent price in January (USD 27 per barrel) were the lowest levels in the series since May 2003 and November 2003 respectively.

17 In 2014, the average price for the Brent benchmark was USD 99.2 per barrel and in 2013, USD 108.9 per barrel.

18 According to the foreign trade methodology, the average for the terms of trade in 2016 were 0.4% lower than those in 2015. Based on the methodology of the producer price index (PPI) the drop was 6.8%. An explanation of these methodologies is available on the webpage http://www.banrep.gov. co/es/indice-terminos-intercambio.

*GDP rose 2.0%, a figure that is 1.1 pp lower than the growth seen in 2015.*

In view of all these adverse shocks, the Colombian economy presented an orderly adjustment in its internal and external accounts in 2016. GDP rose 2.0%, a figure that is 1.1 pp lower than the growth seen in 2015 mainly due to the adjustment in domestic demand (0.3%) and to the sluggishness of real exports. The fall in durable consumer goods and of investment other than in construction contributed to the performance of domestic demand. Furthermore, although net exports contributed positively to growth, this was owing to a drop in imports (-6.2%) which was greater than the decline in foreign sales (-0.9%). The deficit in the current account (USD 12.541 billion, equivalent to 4.4% of GDP) turned out to be lower than what had been projected by the Bank at the beginning of the year and what had been registered in 2015. This occurred mainly because of the lower outflows in US dollars going abroad, especially for imports.

In spite of the downturn in economic growth, the labor market has not shown any significant changes. In December 2016, the total national unemployment rate and the rate for the thirteen metropolitan areas (quarterly moving average) stood at 8.2% and 9.2% respectively. These figures are close to these registered a year ago (8.0% and 8.9%) and well below their historical averages calculated since 2001 (11.6% and 12.8%).

The indebtedness of the economy[19] as a percentage of GDP, which had reached a historically high level in 2015, tended to stabilize in 2016. Throughout this last year, a downturn in the loan portfolio of companies that exceeded the higher growth rate of the loan portfolio of households was experienced. As a result, the total debt registered a growth rate of close to 1.0% in real terms. The above occurred together with an increase in the interest rates for loans in the first three quarters of the year and, especially in commercial loans, partly as a consequence of rises in the benchmark interest rate. In the last quarter they stabilized and some of the rates even declined.

To summarize, the Colombian economy continued to adjust in 2016 to the severe shocks that had been registered since 2014 and the deficit in the current account continued to correct itself. The output was weaker than what had been projected and inflation declined although the measurements of core inflation and inflation expectations surpassed the target of 3%.

*Improvements in the terms of trade as well as in foreign demand and stronger public investment are expected in 2017.*

Improvements in the terms of trade as well as in foreign demand and stronger public investment are expected in 2017. Consumption and private investment, in turn, could register small upticks. Based on this, the technical staff projects an economic growth similar to that of 2016 (2.0%) for the present year and a reduction in the current account deficit (from 4.4% to 3.7% of GDP). With respect to prices, the effects of the transitory supply shocks that raised inflation

19 This includes bank loans in national (N/C) and foreign currency (F/C), placement of bonds on the domestic and foreign markets as well as foreign direct financing. This does not include the national government.

and inflation expectations are expected to continue reverse themselves. The latter, together with the monetary policy measures that have been implemented so far, should consolidate the convergence of inflation with the target of 3.0%.

## A. ECONOMIC ACTIVITY

During 2016, the Colombian economy continued the process of adjustment to terms of trade at levels that were lower than those of previous years. Growth declined above all due to a significant drop in investment and weakening of consumption as could be expected in light of the weaker national income. Net exports, in turn, contributed positively to growth because of the marked contraction in imports, a reduction that was greater than the one in exports. This suggests that demand was significantly redirected towards local goods and services. By sectors, financial services and construction were the ones that expanded the most.

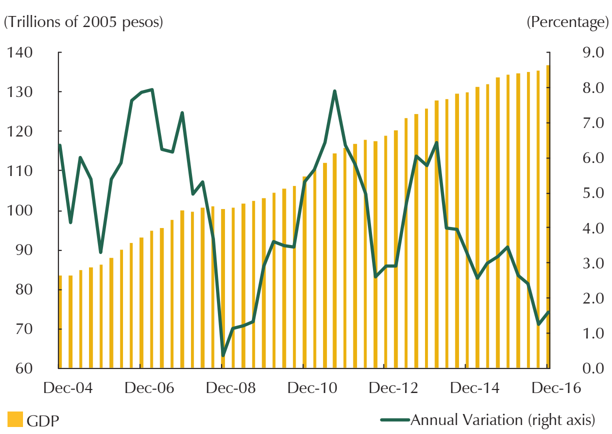
The process of adjustment is expected to consolidate in 2017, partly as a result of the monetary policy and fiscal actions undertaken in the last year and a half. The rate of growth should be similar to what was seen a year ago but with a make-up that is more balanced between the different expenditure components and between national and imported goods and services.

### 1. Change in Economic Activity in 2016

There was a slowdown in economic growth in 2016. This happened in a context in which the supply shocks (*El Niño* phenomenon and the strike in the transportation sector, etc.), which affected the various productive sectors over the course of the year and led to inflation ending up above the target range for 2016, were added to the orderly adjustment of the economy to the decline in the terms of trade since mid-2014. Thus, based on the figures most recently published by the National Bureau of Statistics (DANE in Spanish) on the gross domestic product (GDP), the Colombian economy grew 2.0% annually in 2016 (Graph 7). This figure is lower than the one registered in 2015 (3.1%).

The decline in the pace of growth in 2016 continued to be a gradual process as can be seen from the analysis of the quarterly figures. According to these, a downturn was registered between the first and second halves of the year since domestic demand went from growing at 0.9% in the first half of the year to -0.3% in the second. The existence of a flexible

Graph 7
Gross Domestic Product
(seasonally adjusted)




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

exchange rate regime continued to operate as an automatic stabilizer which made it possible for the Colombian economy to absorb the shock in an orderly fashion. In addition, the management of the monetary and fiscal policies generated an environment that was conducive to consistently adjusting the country's aggregate expenditure to a lower national revenue.

The slowdown for the entire year was mainly caused by a cut in investment although consumption in both the private and public component also registered less growth (Table 1). Thus, with the lower costs of non-tradable goods compared to tradable ones, the change in relative prices in the economy favored a deterioration in the demand for goods from abroad which was reflected mainly in the reductions of investment in industrial machinery and transportation equipment as well as the consumption of durable goods as will be explained in detail below.

Thus, the investment allocated to purchasing industrial machinery and equipment as well as transportation equipment registered significant slumps throughout 2016. The preceding was the result of several factors added together among which the following are highlighted: 1) low international prices for petroleum and coal that made prospecting for and operating mining sites unprofitable and, as a consequence, discouraged the firms in this sector from purchasing capital goods, 2) an accumulated depreciation of the exchange rate that discouraged

Table 1
Annual Real GDP Growth by Type of Expenditure

| | 2015 | 2016 | | | | 2016 |
|---|---|---|---|---|---|---|
| | Full year | Q1 | Q2 | Q3 | Q4 | Full year |
| **Total Consumption** | **3.6** | **3.1** | **2.3** | **1.1** | **1.6** | **2.0** |
| Household Consumption | 3.5 | 2.9 | 2.0 | 1.2 | 1.9 | 2.0 |
| Non-durable Goods | 3.7 | 3.4 | 2.4 | 1.3 | 1.0 | 2.1 |
| Semi-durable Goods | 2.0 | 0.6 | 0.9 | (1.2) | (0.2) | 0.0 |
| Durable Goods | 5.1 | (4.8) | (5.6) | (3.5) | 11.0 | (0.8) |
| Services | 3.5 | 3.6 | 3.0 | 2.1 | 2.1 | 2.7 |
| Final government consumption | 5.0 | 3.9 | 3.1 | 0.2 | 0.2 | 1.8 |
| **Gross Capital Formation** | **1.2** | **(3.5)** | **(5.0)** | **(6.2)** | **(3.3)** | **(4.5)** |
| Gross Fixed Capital Formation | 1.8 | (3.7) | (4.3) | (3.5) | (2.9) | (3.6) |
| Agriculture, Forestry, Hunting, and Fishing | (0.7) | 6.1 | 7.4 | 4.2 | (0.7) | 4.2 |
| Machinery and Equipment | (4.1) | (15.1) | (12.3) | (18.7) | (14.0) | (15.1) |
| Transportation equipment | 0.1 | (20.6) | (7.6) | (14.5) | (4.5) | (11.9) |
| Construction and Buildings | 2.6 | 11.3 | 1.0 | 10.3 | 0.6 | 5.6 |
| Civil works | 5.3 | (0.4) | 0.3 | 4.0 | 5.7 | 2.4 |
| Services | 2.8 | 3.8 | (2.1) | 4.6 | 1.2 | 1.8 |
| **Domestic demand** | **3.0** | **1.5** | **0.4** | **(1.0)** | **0.3** | **0.3** |
| **Total Exports** | **1.2** | **0.5** | **1.9** | **(2.8)** | **(3.2)** | **(0.9)** |
| **Total Imports** | **1.4** | **(5.7)** | **(3.5)** | **(11.1)** | **(4.2)** | **(6.2)** |
| **GDP** | **3.1** | **2.6** | **2.4** | **1.2** | **1.6** | **2.0** |

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

*The adjustment in domestic demand occurred because of a drop in investment and a lower consumption on the part of households and the government.*

the demand for imported capital goods, and 3) a tightening of liquidity conditions in the local market for credit due to the transmission of increases in the monetary policy rate to the market rates since September 2015.

Notwithstanding the above and like 2015, investment in building construction and public works projects grew at a faster pace than the rest of the items and contributed positively to the expansion of GDP in 2016. The performance of these items is due to the momentum generated by the government's various social programs for housing construction, the subsidies offered for the purchase of middle and low income housing, the use of funds for various road-building projects, and increased infrastructure spending on the part of, mainly, the regional and local governments.

In addition to the decrease in gross capital formation, the adjustment in domestic demand was caused by more sluggish consumption on the part of households and the government. Downturns in all of the items that private consumption includes were registered in 2016. The items with lower rates of growth were consumption of durable and semi-durable goods partly because of the high share that imported products have in these baskets and the fact that demand was affected by the accumulated depreciation of the peso with respect to the US dollar. Rates of growth that were lower than those of 2015 were also seen for the consumption of non-durable goods and services. This performance is related to the reduced household expenditures in response to their reduced purchasing power based on their real income. The lower public consumption, in turn, was owing to the continued adjustment of the central national government's (GNC in Spanish) expenditures following the fall in crude oil income and a lower level of implementation on the part of the regional and local governments. The latter is the usual situation during the first year of the political cycle as was confirmed at this point.

The outcome of the trading accounts abroad revealed that the deficit in real pesos in the balance of trade was partially corrected in 2016. This resulted more from a reduction in imports (closely related to the performance described for the domestic demand for imported goods) than from good performance on the part of exports. Indeed, last year imports fell 6.2% annually while exports dropped 0.9% (Table 1). The contribution of net exports to GDP growth grew steadily between the first and second half of the year.

*The outcome of the trading accounts abroad revealed that the balance of trade deficit in real pesos was partially corrected in 2016.*

The declines in imports of capital goods contributed to the contraction in purchases from the rest of the world, especially those of machinery and equipment for industry and transportation equipment as did the lower imports of refined petroleum products resulting from the Cartagena refinery (Reficar) going into operation. The poor performance of exports was mainly linked to the performance of crude oil production and its sale abroad. Even though exports of coal and coffee rebounded towards the end of 2016, they contributed little to the expansion of GDP in the aggregate for the year.

Regarding supply, the sectors that grew the most in 2016 were financial services (5.0%), construction (4.1%), and industry (3.0%). In contrast, mining (-6.5%) was the branch that showed the greatest reduction followed by transportation (-0.1%). Electricity, gas, and water (0.1%) and agriculture (0.5%) exhibited a weak performance. The fact that the deterioration in several of these sectors is due, in part, to a lagged effect of *El Niño* and to the significant supply shock caused by the truckers' strike should be mentioned.

Except for financial services and industry, the different areas of the economy reported an expansion that was lower than the average for the last decade, thus demonstrating a generalized slowdown that is part of the adjustment to the lower terms of trade but also to the various negative supply shocks in 2016. The above, along with a weak demand from our trading partners, limited the effect on tradable activities expected from the accumulated depreciation. Indeed, in 2016, the GDP for tradables showed no growth with respect to the 1.4% the year before. However, when mining is excluded, the GDP for those activities grew 1.5% (1.7% in 2015). In addition, the GDP for the non-tradables also showed a downturn as it went from 4.1% in 2015 to 3.2% in 2016.

Financial services showed a significant strength given their share of GDP (19.6%). As has been happening for several years, this sector has continued to be one of those that has contributed the most to the expansion of the economy. The sector total showed an expansion of 5.0% that is mainly explained by an 11.1% growth in financial intermediation and a 3.2% increase in real estate work and housing rental.

Table 2
Annual Real GDP Growth by Branches of Economic Activity

| | 2015 | 2016 | | | | 2016 |
|---|---|---|---|---|---|---|
| | Full year | Q1 | Q2 | Q3 | Q4 | Full year |
| Agriculture, Forestry, Fishing and Hunting | 3.3 | 0.0 | 0.4 | (0.5) | 2.0 | 0.5 |
| Mining and Quarrying | 0.6 | (4.7) | (6.9) | (6.5) | (8.2) | (6.5) |
| Manufacturing Industry | 1.2 | 4.3 | 5.1 | 1.5 | 1.0 | 3.0 |
| Utilities (gas, electricity and water) | 2.9 | 2.9 | (0.7) | (1.3) | (0.5) | 0.1 |
| Construction | 3.9 | 5.3 | 0.8 | 6.8 | 3.5 | 4.1 |
| Buildings | 2.1 | 10.9 | 2.8 | 11.0 | 0.9 | 6.0 |
| Civil works | 5.4 | 0.4 | (0.4) | 1.9 | 5.1 | 2.4 |
| Commerce, Repairs, Restaurants, & Hotels | 4.1 | 2.8 | 1.9 | 0.8 | 1.6 | 1.8 |
| Transportation, Warehousing, and Communications | 1.4 | 0.9 | 0.2 | (1.5) | (0.1) | (0.1) |
| Financial, Real Estate, and Business Services | 4.3 | 5.0 | 5.4 | 4.4 | 5.0 | 5.0 |
| Social, Community, and Personal Services | 2.9 | 3.5 | 3.2 | 1.3 | 0.9 | 2.2 |
| **Subtotal value added** | **3.0** | **2.7** | **2.2** | **1.3** | **1.5** | **1.9** |
| Taxes minus subsidies | 4.0 | 1.3 | 4.1 | 0.4 | 2.8 | 2.2 |
| **GDP** | **3.1** | **2.6** | **2.4** | **1.2** | **1.6** | **2.0** |

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

*The manufacturing industry reported a positive performance that primarily resulted from oil refinement due to the opening of Reficar.*

The dynamic construction results were mainly due to the positive performance of that part of it allocated to buildings (6.0%). This is due to a significant increase in non-residential buildings and the work of maintaining and repairing them. Regarding civil works projects (2.4%), it should be noted that the highway and other engineering work components drove the subsector and offset the decrease in construction for mining. The payments made by territorial entities explain a large part of the contribution that this subsector made to the growth of the Colombian economy.

Although the manufacturing industry again reported a positive performance, it should be noted that it also suffered from the negative impact of the truckers' strike in the third quarter. Its expansion over the full year was mainly due to the positive performance of petroleum refining resulting from the opening of Reficar (23.2%). Thus, while the total sector growth was 3.0%, when oil refining is excluded, the rest of the manufacturing sector had an expansion that was barely 0.6%.

In contrast, mining exhibited a marked reduction in 2016 led primarily by significant decreases in petroleum production (-11.1%) which stood at 885.7 thousand barrels daily. This offset the positive performance of coal, non-metallic and metallic mineral production.

Agriculture had a weak performance and grew 0.5% in 2016, partly due to the negative effect of *El Niño*. This result was because of the annual 0.3% decline in coffee production as well as the drop off in permanent crops and slaughter of animals. In contrast, the annual crops, the most important of which are grain and legumes, performed well.

Provisions of electricity, gas, and water also showed almost no growth which was the result of the *El Niño* impact. This climatic event led to the national and regional authorities encouraging electricity and water savings programs. Furthermore, the truckers' strike during the second and third quarters which affected the performance of several areas of the economy also impacted the demand for electricity, especially the non-regulated.

Finally, transportation showed a contraction of 0.1%, which was associated with the decline in items to be transported due to the lower pace of economic activity and the effects of the mid-year truckers' strike on the rest of the economy.

## 2. Outlook for Economic Activity in 2017

*El Niño had negative effects on the agricultural sector and provision of electricity, gas, and water.*

Given the magnitude of the terms of trade shock and its effects on the national revenue, the Colombian economy's adjustment process should be completed in 2017, which is why the technical staff at *Banco de la República* expects growth to be similar, although more balanced between components, to what

*The technical staff at Banco de la República expects growth in 2017 that would be similar to what was seen in 2016, although with more balanced components.*

was seen in 2016. Domestic demand would register growth that was positive and better than that of the previous year, although once more lower than the potential of the economy. Some factors that could contribute to the expansion of GDP are related to a little more favorable international context, the dissipation of the supply shocks that affected the economy last year, and a somewhat greater contribution of public demand, due to the increased availability of funds that the tax reform should provide. However, in opposition to growth in 2017, there is high economic uncertainty as well as the negative effects of that reform on available household income. In 2017, imports are expected to recover in contrast to what was registered in 2016 and closely related to the outlook for a domestic demand in which investment would be more prominent and, therefore, more intensive in terms of goods coming from abroad.

With respect to the international context, even though some external factors could indicate an additional boost to GDP growth, it is not yet clear how the Colombian economy might take advantage of this improvement. First of all, a slight recovery is expected in the demand from our main trading partners for 2017 although this will probably remain low in comparison to the demand during the most recent decade. At this level, the possibility of the United States going to a more protectionist trade policy would be a downward risk. This could generate a more competitive environment and an increased supply of manufactured goods and tradable services in this region thus making the commercial expansion of national firms that produce these types of goods more difficult (see Chapter I). Secondly, an increase in the level of international prices for the goods that Colombia exports traditionally consists of is forecast for 2017. In spite of the fact that this would improve the country's terms of trade, the real effects on national revenue and domestic demand may be felt late in the year and will depend on the willingness and ability of the economic players to spend and invest. Finally, the change in the monetary policy stance in various developed economies could entail less and more expensive foreign financing. All of the above makes it possible to envision a moderate performance for domestic demand in 2017, but one that is higher than what was seen in 2016.

The forecast of GDP growth presented in this report also depends on assumptions about the domestic situation. The negative effects of the supply shocks (*El Niño* and the truckers' strike) on the prices and production seen last year are expected to dissipate completely this year. In addition, the predictions of the technical staff for 2017 take into consideration an expansion of public consumption that is similar to the one in 2016. This assumes that with the tax reform going into effect there will be more funds for the CNG such that an additional adjustment to expenditures may not be needed to comply with the fiscal deficit target for 2017 allowed by fiscal regulations. Furthermore, a higher level of resource use on the part of the regional and local governments is expected for their second legislative year.

*The finances for road infrastructure projects are expected to be secured this year.*

Another key assumption is that of a significant expansion in gross fixed capital formation in relation to public work projects which could contribute positively to GDP growth in 2017 and even do so to a greater degree than it did last year. The finances for road infrastructure projects are expected to be secured this year, especially for the projects for fourth generation highways (4G). Investment in construction of buildings could also rise although at a lower order of magnitude than investment in public works. For residential construction, the consolidation of low-income housing programs and the government subsidies for middle and low-income families to purchase of housing could boost the growth of this component of gross fixed capital formation.

With respect to private investment, other than in construction, positive growth is expected in 2017 that could contrast with the major drops throughout all of last year. However, it will probably be below the average pace of expansion seen during the 2010-2015 period. Expenditure on gross fixed capital formation for industrial machinery and transportation equipment, which is intensive in capital goods coming from abroad could rise at a slow pace. It should be noted that the technical staff's forecasts assume that the tax benefits for companies that are included in the reform could have real effects on investment in the medium and long terms, i.e., mainly starting in 2018.

Low growth for expenditures on private consumption and somewhat lower than in 2016 is anticipated. Even though the falling inflation is expected to mean some relief for the purchasing power of family income, it is likely that the increase in the VAT will affect the household purchasing power over the course of the year through an increase in the level of prices in the economy. Furthermore, the low household confidence levels seen at the beginning of the year may affect their consumption plans for the medium term. The fact that no excessive deterioration of labor market conditions is expected for 2017 should be emphasized, but neither is high job creation because of the sluggish economy. This being the case, the technical staff anticipates modest growth in the items that consumption consists of, especially that allocated to the purchase of durable and semi-durable goods.

*In 2017, net exports may not significantly contribute to the expansion of the GDP in spite of more favorable conditions abroad.*

Finally, in 2017 net exports may not significantly contribute to the expansion of GDP in spite of more favorable foreign conditions. First of all, even if increases in international prices for mining commodities are envisioned, they still will not necessarily correspond to significant increases in the amounts of these goods exported. Thus, sales of the traditional goods abroad in constant pesos could remain stagnant at the levels reached last year. The sales of non-traditional goods, in turn, will not show an outstanding performance either for the reasons outlined above. Secondly, imports may register positive growth that could be greater than that of domestic demand and contrast with the sharp drop in 2016.

*The reallocation of expenditures in favor of goods and services produced in the country is expected to continue in 2017.*

With regards to supply, although the accumulated depreciation of the peso has stimulated the production of a number of tradable sectors in 2016, this gave way towards the end of the year due to the weakening of demand from our trading partners as has been mentioned. Nevertheless, the reallocation of expenditures in favor of goods and services produced in the country is expected to continue in 2017 as a result of the improvements in competitiveness arising from the accumulated depreciation, the efforts to expand the markets for national products, and the investment made in capital goods in previous years. This will also depend on the performance of our trading partners' demand.

The production of tradable goods is expected to continue its recovery in 2017 due, in part, to the effects of the depreciation and reorientation of production towards local goods. In addition, further declines in mining production, such as in petroleum, are not expected. The improvement in the international commodity prices is expected to stimulate capital flows and investment in tradables such as mining.

As was mentioned, the government programs for buildings and the scheduled 4G public work projects are expected to stimulate non-tradable production and contribute significantly to this and next year's growth. Note that this branch has productive linkages with sectors such as industry and transportation which could boost the expansion of the national aggregate.

Considering all of the above, the forecast of the technical staff at *Banco de la República* suggests that the growth of the GDP in 2017 may be between 0.7% and 2.7% with 2.0% being the most probable figure in the central scenario. The spread is wide and the range is skewed toward the lower end of the interval and, as a result, the possibility that the Colombian economy could experience a mediocre performance this year needs to be conveyed.

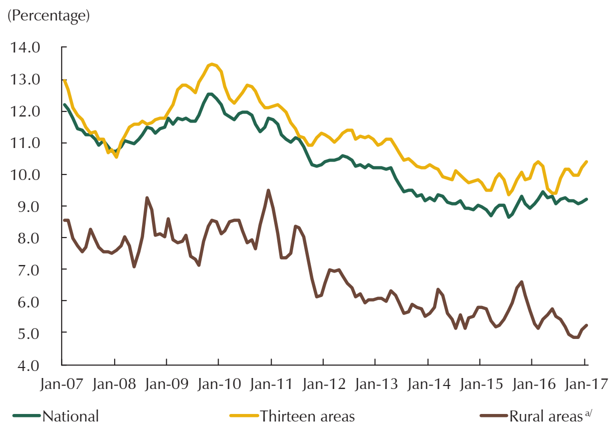
## B. LABOR MARKET

In general terms, despite of the economic slowdown seen in 2016, the labor market did not deteriorate and its performance was somewhat better than expected. The national unemployment rate (UR), in particular, remained relatively stable throughout the year as a result of the simultaneous decline of the supply and demand in the labor market. Although an increase in the UR was seen in the cities, there was a reduction in rural areas. Employment levels, in turn, rose slightly and the indicators related their quality showed improvements although these were more modest than in previous years.

*In spite of the economic slowdown in 2016, the labor market has not deteriorated.*

The labor market shows a seasonal adjustment, i.e., its values 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, the series presented in this section is seasonally adjusted.

Graph 8
Unemployment Rate
(seasonally adjusted quarterly moving average)




a/ The category, rural areas, refers to a geographical domain of dispersed rural and population centers as defined by DANE.
Source: DANE (GELH), calculations by *Banco de la República*.

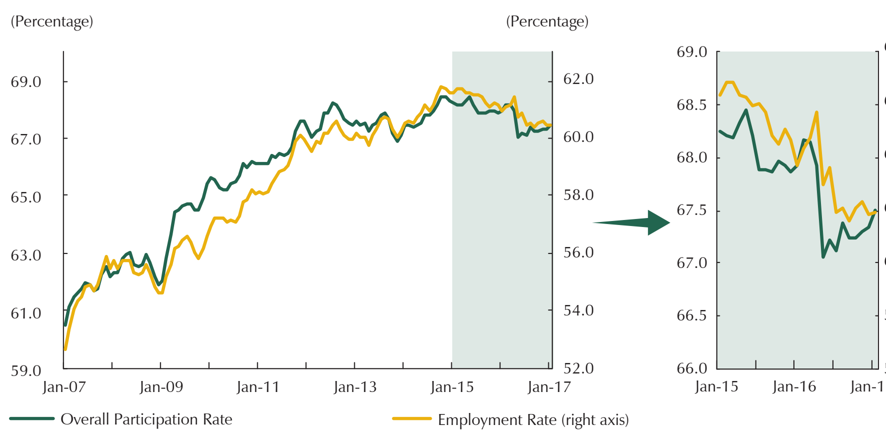
## 1. Unemployment

According to the National Bureau of Statistics' (DANE) general integrated household survey (GEIH in Spanish), the unemployment rate remained stable during 2016. In particular, the quarterly moving average for the series[20] shows a slight upward trend in the unemployment rate for the thirteen major metropolitan areas, especially since the second half of 2016. In regards to rural areas[21], the UR ended the year with a declining trend and levels that were lower than those seen a year ago. As a result, the national UR did not rise during 2016 for all practical purposes (Graph 8).

## 2. Labor Supply and Demand

The trend of unemployment can be explained by the interaction between the labor supply, represented by the overall participation rate (OPR), and the demand, expressed by the employment rate (ER). During 2016, the OPR and the ER for the thirteen metropolitan areas showed declines with respect to their levels in 2015 (Graph 9). Consequently, the unemployment rate remained stable. In spite of the downturn in the economy, there was a slight rise in employment (0.3% on average during the year) though it was less than the working-age population which explains the reduction in the employed rate (Graph 10).

Graph 9
Overall Participation Rate and Employment Rate
(seasonally adjusted, 13 areas)




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

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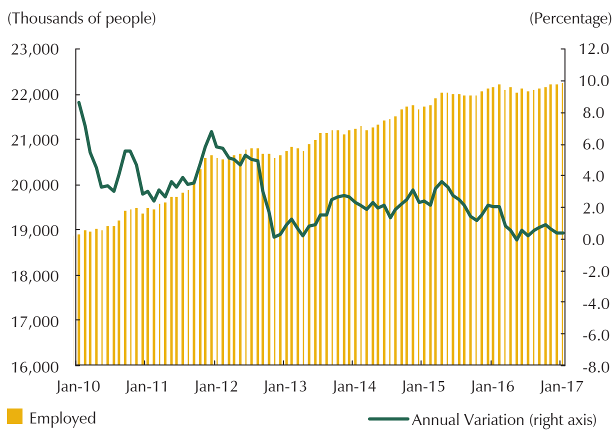
20 The quarterly moving average has fewer errors with respect to the monthly series since it presents less uncertainty.

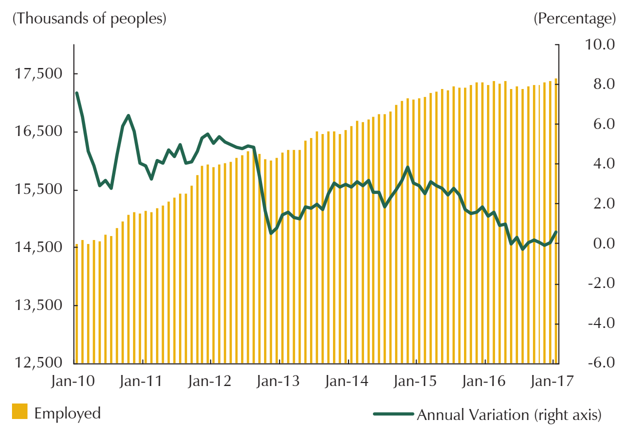
21 The category "rural areas" refers to a geographical domain of "dispersed rural and population centers" as defined by DANE.

Graph 10
Number of People Employed and Annual Change
(seasonally adjusted quarterly moving average)

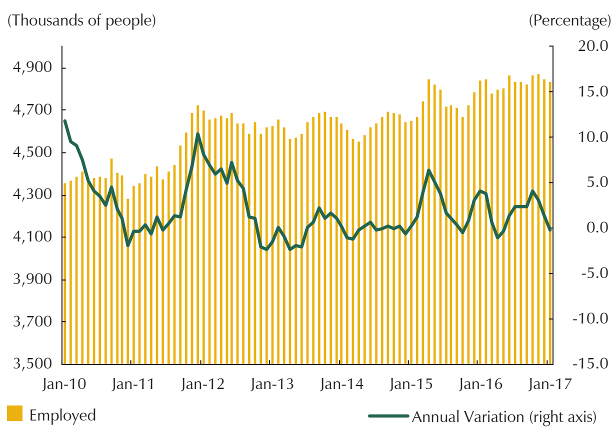
A. National Total



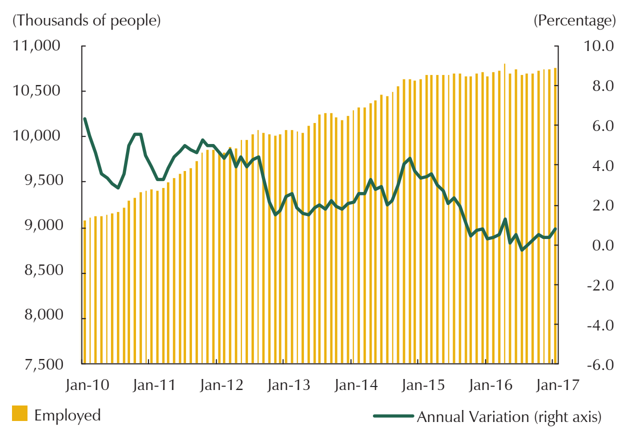

B. CUrban Centers




C. Rural areas[a/]




D. Thirteen Main Metropolitan Areas



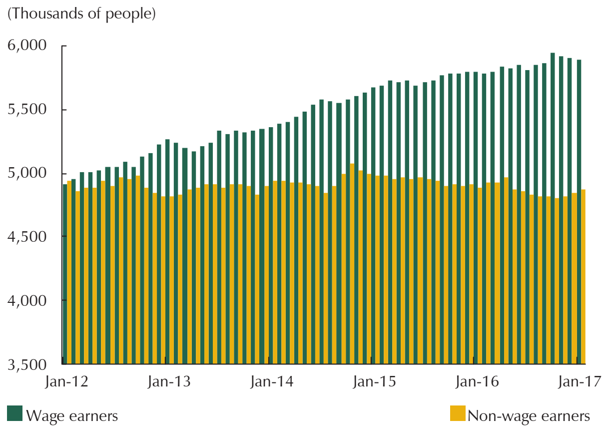

a/ The category, rural areas, refers to a geographical domain of dispersed rural and population centers as defined by DANE.
Source: DANE (GELH), calculations by *Banco de la República*.

When broken down by branch of economic activity, one sees that, on average, the creation of employment in the thirteen areas was driven by the financial intermediation sector, manufacturing industry, and the retail trade, hotel, and restaurant sectors in 2016. Among the sectors that significantly subtracted from employment creation in 2016 are the community, social, and personal services and the mining and quarrying sectors.

### 3. Quality of Employment and Labor Market Conditions

In general terms, the indicators of employment quality stayed the same during 2016 in spite of the more sluggish economy and labor market seen that year. This is due to the fact that the number of salaried employees rose, and the legal job market remained practically stable. Increases in legal jobs and salaried employment are

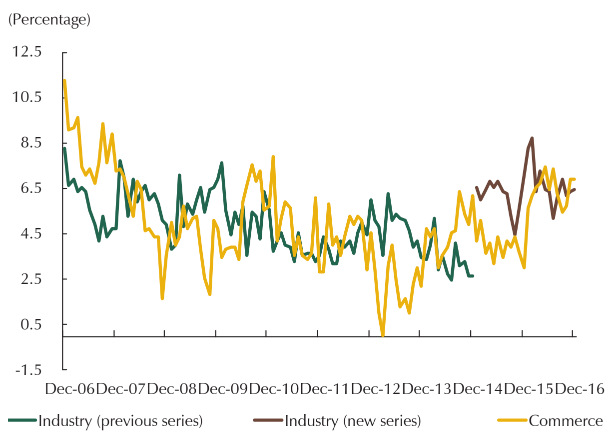
Graph 11
Employment by Type of Occupation
(Thirteen areas, seasonally adjusted quarterly moving average)



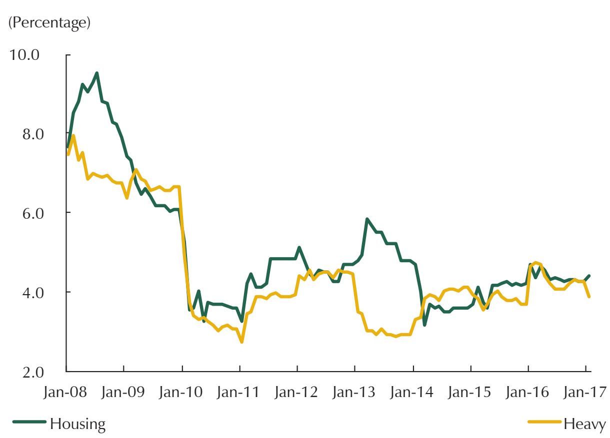

Source: DANE (GELH), calculations by *Banco de la República*.

Graph 12
Nominal Wage Index
(Annual change)

A. Industry and Commerce




B. Housing and Heavy Construction




Source: DANE (MMCM [Monthly Retail-Trade Sample], MMM, ICCV [Housing Construction Cost Index], and ICCP [Heavy Construction Cost Index]); calculations by *Banco de la República*.

usually associated with advances in quality of employment since the workers with these types of jobs enjoy greater job stability, higher wages, and greater access to loans. These factors, in turn, boost the confidence and consumption of households.

The majority of the employment generated over the course of 2016 in the thirteen areas was wage-earning while the non-salaried employment has been declining significantly. During this period, the number of salaried employees rose on average 2.0% per annum in the thirteen areas while the non-salaried employment fell 1.6% annually (Graph 11). Furthermore, as of the last quarter of 2016, the percentage of legal workers in the thirteen areas stood at 52.5%, which is 0.3 pp lower than what was seen during the same period the year before.

## 4. Labor and Wage Costs

Wage adjustments continued to be mixed during 2016. It can be stated that, in some cases, they were relatively consistent with the inflation target. This is the case with heavy construction and housing construction, which registered an average annual growth of 4.3% and 4.4% respectively. However, in cases such as commerce (with an average increase of 6.4% annually) and industry (with an average, annual increase of 6.7%), the upswings were significantly higher and even surpassed the inflation seen in 2015 and 2016 (Graph 12, panels A and B).

## 5. Expectations for 2017

The weak economic performance projected for 2017 suggests that the labor market indicators may deteriorate. The unemployment rate in particular could rise and the indicators of employment quality which showed progress in 2015 and did not deteriorate in 2016 could begin to show signs of worsening.

Regarding wages, in spite of the possible deterioration in labor market conditions, the chance that these may continue to be adjusted at rates that will be above the inflation target cannot be ruled out. This is due to the fact that wages in Colombia are highly indexed with respect to past inflation and because, at the moment, the minimum salary was raised 7%. Note that the minimum wage is an important benchmark for setting other salaries in the economy. Under these circumstances, there could be upward pressure on prices resulting from labor costs.

## C. INFLATION

After two years of continuous increases as a result of the impact of various supply shocks (primarily *El Niño* and the depreciation of the peso), annual consumer inflation began to decline in the second half of 2016. This decline has been largely the result of the disappearance of the direct, upward effects of these shocks and confirms their transitory nature. Monetary policy actions, which have partially contained the second-round effects on prices that such phenomena usually entail, especially in limiting a rise in expectations, have also contributed to this.

The policy actions undertaken between 2015 and 2016 along with the disappearance of the supply shocks should enhance the convergence of inflation with the target of 3%. This implies that the pressure for greater indexing and higher wage costs will probably tend to decline gradually, something that could turn out to be feasible to the extent that low economic growth is anticipated with an output level that is lower than could be achieved with the full use of the productive capacity.

### 1. Inflation in 2016

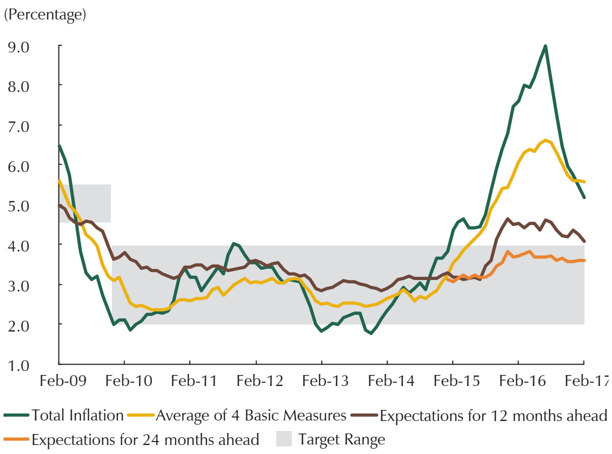
In 2016, consumer prices in Colombia continued to be strongly influenced by the supply shocks that have occurred since the end of 2014. First of all, there was *El Niño* which began to make itself felt in the second half of 2015 and, secondly, the depreciation of the peso that started in the second half of 2014 and lasted until the first quarter of 2016. In the second half of the year, the upward effects arising from these phenomena began to diminish and this, together with the impact of monetary policy, allowed inflation to decline and resume its path towards gradual convergence with the target set by the BDBR (3.0%).

As has been the case since 2015, consumer prices are affected by these shocks not only directly but also through the second-round effects associated with rises in inflation expectations, the activation of various indexing mechanisms, and wage readjustments, etc. Due to the lags that monetary policy works with, the increases made in the benchmark interest rate between September 2015 and July 2016 to try to reduce inflation through different channels began to have an impact, especially on inflation expectations. As can be seen in Graph 13, since the end of 2015 after the adjustment process in the policy stance started and in spite of the fact that actual inflation continued to rise, expectations for twelve months from now and beyond tended to stabilize. Likewise, the upticks in the interest rate contributed to

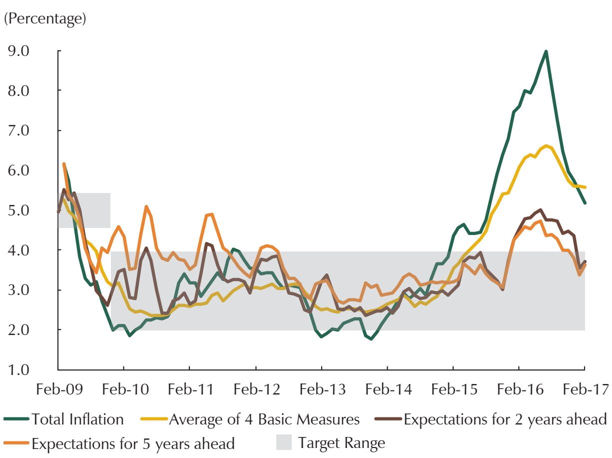
*Consumer prices in Colombia were still strongly influenced by supply shocks.*

Graph 13
Total Consumer Inflation, Core Inflation, and Inflation Expectations

A. Expectations from the Monthly Survey of Financial Analysts




B. TES-Derived Inflation Expectations (BEI)




Sources: DANE and *Banco de la República*.

reducing the existing upward pressure on the exchange rate and helped to synchronize domestic demand with a slower change in national revenue after the fall in the terms of trade.

Given the strength of the shocks, there were two stages of annual consumer inflation in 2016. In the first one, January to July, their upward effects continued to be felt which generated a marked rising trend. In the second, which started in August, inflation declined significantly since the effects of those shocks began to dissipate and this was also favored by the policy actions that have been adopted since 2015. Thus and, after having reached its highest level for the last 16 years in July (8.97%), annual inflation closed the year at 5.75%, which is a lower level than was registered in December 2015 (6.77%) (Graph 13 and Table 3).

The main source of inflationary pressure in 2016 was *El Niño*, which had an impact on mainly food and electricity prices, at least in regards to its direct effects. In the case of food, this climatic phenomenon caused disruptions in the supply of agricultural products and began to be reflected in the prices as of the second half of 2015. In 2016, the rises continued to be intense until approximately April and were concentrated in the prices of perishable food. Later, the trucker's strike in June and July, which affected the supply of food, and the increase in the prices for beef, for reasons related to the cattle-raising cycle (holding phase), tended to exacerbate this pressure, at least until July, when the annual changes for food reached a maximum of 15.71%.

Starting in August, once the trucker's strike had passed and when the climatic conditions had gone back to normal, the supply of agricultural products began to recover and the increases in prices for perishable food during previous quarters tended to go back down gradually. This has been the usual course of events after *El Niño* and, at this time, it translated into a decline in the annual change in the CPI for food that was rapid but close to what was anticipated in the second half of the year and came to 5.97% in December. That explained a large part of the drop in annual consumer inflation in the last two quarters.

The depreciation of the peso, in turn, that had accumulated over the previous year and a half was still being passed through to consumer prices, especially in the first half of 2016. The depreciation impacted not only the prices of tradable goods and

Table 3
Consumer Price and Core Inflation Indicators
(percentage)

| Description | Weighting | Dec-15 | Mar-16 | Jun-16 | Sept-16 | Dec-16 | Jan-17 | Feb-17 |
|---|---|---|---|---|---|---|---|---|
| **Total** | **100.00** | **6.77** | **7.98** | **8.60** | **7.27** | **5.75** | **5.47** | **5.18** |
| **Excluding food** | **71.79** | **5.17** | **6.20** | **6.31** | **5.92** | **5.14** | **5.26** | **5.17** |
| Tradables | 26 | 7.09 | 7.38 | 7.90 | 7.20 | 5.31 | 5.37 | 5.75 |
| Non-tradables | 30.52 | 4.21 | 4.83 | 4.97 | 4.85 | 4.85 | 4.83 | 5.06 |
| Regulated items | 15.26 | 4.28 | 7.24 | 6.71 | 6.19 | 5.44 | 5.93 | 4.55 |
| **Food** | **28.21** | **10.85** | **12.35** | **14.28** | **10.61** | **7.22** | **5.97** | **5.21** |
| Perishables | 3.88 | 26.03 | 27.09 | 34.94 | 6.66 | (6.63) | (10.15) | (9.60) |
| Processed | 16.26 | 9.62 | 10.83 | 12.09 | 12.56 | 10.74 | 9.38 | 7.69 |
| Meals outside the home | 8.07 | 5.95 | 7.53 | 8.11 | 9.18 | 8.54 | 9.26 | 9.31 |
| **Core Inflation Indicators** | | | | | | | | |
| Excluding food | | 5.17 | 6.20 | 6.31 | 5.92 | 5.14 | 5.26 | 5.17 |
| Core 20 | | 5.22 | 6.48 | 6.82 | 6.73 | 6.18 | 6.18 | 6.03 |
| CPI excluding perishable food, fuel, & utilities | | 5.93 | 6.57 | 6.77 | 6.65 | 6.03 | 5.95 | 5.74 |
| Inflation excluding food and regulated items | | 5.42 | 5.91 | 6.20 | 5.84 | 5.05 | 5.06 | 5.35 |
| **Average of core inflation indicators** | | **5.43** | **6.29** | **6.52** | **6.29** | **5.60** | **5.61** | **5.57** |

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

services which are the ones most affected by changes in the exchange rate but also those of a wide array of other items in the consumer basket through different channels including costs. Nevertheless, starting in the third quarter and partly due to the greater stability of the exchange rate, it became evident that this pressure had substantially waned and that the most affected prices had begun to show more moderate adjustments than in previous quarters and to contribute to the reduction of total inflation.

In the specific case of the CPI for tradables excluding food and regulated items, the aggregate which is most sensitive to changes in the exchange rate, increases continued in the first half of the year that led to 7.90% being the annual variation for this index as of June 2016 (compared to 7.1% at the end of 2015). It should be noted, however, that with regard to this basket and other segments in the consumer price index (CPI) that are directly affected by the exchange rate, the majority of the pass-through of the depreciation occurred in 2015. In 2016, the pass-through moderated and, in the second half of the year, it began to drop at a faster pace than what had been anticipated. Thus, for example, the annual change in the CPI for tradable goods excluding food and regulated items fell to 5.3% in December (Table 3).

*The performance of prices for food and tradables in the second half of 2016 confirms the predictions of the transitory nature of the shocks that confronted inflation starting in the second half of 2015.*

The performance of prices for food and tradables in the second half of 2016 confirms the predictions of the transitory nature of the shocks that confronted inflation starting in the second half of 2015 and extending into the first half of 2016. Nonetheless, these shocks have left somewhat significant permanent effects on the price formation process and have tended to raise the inflationary inertia to some degree.

The CPI for non-tradables excluding food and regulated items registered an increase in its annual change at the beginning of the year and fluctuated between 4.8% and 5.0% starting in February. In principle, these prices are affected by the behavior of demand, by past inflation through some indexing mechanisms, and by shocks to production costs. At this time, the rise was basically owing to indexing and cost pressure since demand had weakened and the output gap remained in negative territory over the course of the year, thus suggesting that there was excess productive capacity in the economy. Work-intensive segments of this sub-basket such as education and health, for example (tuition, pensions, general and specialized medical consultation, etc.), rose significantly over the course of the entire year and their annual change at the end was above 6.0%. All of this, which is derived from factors such as wages being raised more than 6.0% (see the previous section), the presence of inflation expectations that are above the target, and the activation of indexing mechanisms suggests an increase in inflationary inertia and the existence of second-round effects resulting from the transitory supply shocks from the last two years. The weakness of domestic demand did not fully offset this upward pressure. Last of all the CPI for regulated items maintained annual adjustments in 2016 that were above the ceiling of the target range and, in addition rose in comparison with what had been seen a year prior (Table 3). Just as it had with food, the climatic factor also influenced the significant increases in the rates for electricity and gas for household use, especially during the first half of the year. Furthermore, there were other upward pressures such as: 1) the increase in the international price of petroleum from the minimum levels it had reached at the beginning of the year which forced readjustments in the domestic price of fuel; 2) the activation of indexing mechanisms; and 3) the pressure of wage costs.

## 2. Outlook for 2017

*Consumer inflation is expected to continue declining in 2017.*

Consumer inflation is expected to continue declining in 2017. The effects of the supply shocks resulting from the accumulated depreciation of the peso from previous years and *El Niño* should completely disappear this year, especially in the first half of the year and thus contribute significantly to the decline in inflation. Added to the above, modest growth is expected for demand, which should limit adjustments in prices. Both circumstances, together with the monetary policy actions adopted after 2015, will facilitate the deactivation of the indexing mechanisms and the lowering of inflation expectations, which will also favor inflation converging with the target.

*The changes in the indirect taxes are often one-time shocks at the price level and, therefore, have a transitory effect on annual inflation.*

The figures seen for the first two months of the year have been in line with these forecasts and as of February, annual inflation stood at 5.18%. As was expected, the majority of the fall has been concentrated in the CPI for food, which confirms that the effects of the climate problems have continued to gradually disappear. This trend is expected to stay the same for the remainder of the first half of the year.

The effects of the depreciation accumulated in the past also continued to dissipate at the beginning of 2017 based on what can be deduced from the calculations done by the technical staff at *Banco de la República*. However, this has not translated into a decrease in the annual change in the CPI for tradables, the most sensitive to this variable, given the upward effects that the application of the new tax reform and the liquor law going into effect have had. The CPI for tradable goods is the segment of the consumer basket that is impacted the most by these measures. Other segments of the CPI such as the non-tradables (excluding food and regulated items) and the regulated items may have also registered some rises related to the changes in the indirect taxes but to a lesser extent.

In general, that reform is expected to translate into a 50 to 100 bp increase in the level of the CPI based on the estimates of the technical staff at *Banco de la República* and of various analysts in the market. The changes in the indirect taxes are often one-time shocks on the economy at the price level and, therefore, have a transitory effect on annual inflation for a 1-year period. Thus, their effect is expected to disappear in the first few months of 2018.

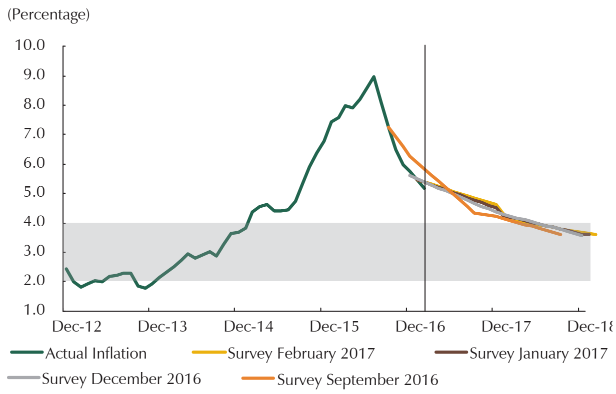
That being the case, the reduction in inflation in 2017 should be significant although it may tend to be concentrated more in the first than the second half of the year. Declines are expected, especially in food as well as in tradables (excluding food and regulated items) but to a lesser degree in regulated items. Indexing and adjustments to salary costs could delay a decline in non-tradables until next year in spite of the very limited demand pressure that is anticipated. A decrease in total Inflation is expected around the beginning of 2018 once the impact of the change in indirect taxes passes.

These forecasts face upward risks if the second-round effects derived from the supply shocks that the economy has faced do not attenuate as expected. This is the case with the indexing at significantly high rates with respect to the target, which is something that has already happened in the areas of education and health in the first two-month period, but it could be more extensive than anticipated. It is also possible that the 7.0% increase in the minimum wage will lead to rises in labor costs and that this, in turn, could induce general readjustments in prices at rates well above the target. Last of all, inflation expectations may resist convergence with the inflation target or even rise somewhat due to the stimulus of the tax reform shock along with other factors.

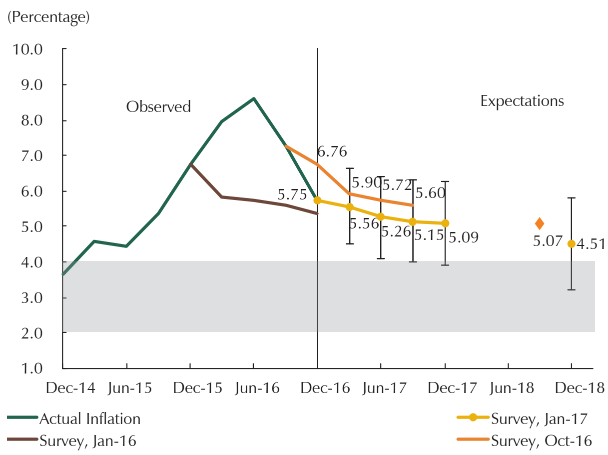
With respect to the latter, however, one item of good news in February was that the different measurements of inflation expectations have reflected the transi-

Graph 14
Expectations of Annual Inflation Drawn from Surveys

A. EMonthly Survey of Financial Analysts' Expectations

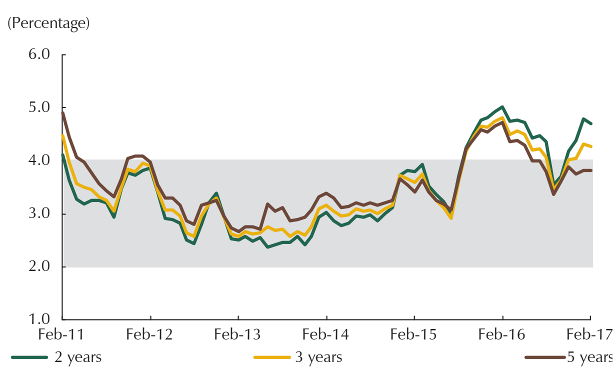



B. Quarterly Survey of Economic Expectations
(for 3, 6, 9, 12, & 24 months ahead)




Note: The respective standard deviation is presented for each expectation.
Sources: DANE and *Banco de la República*.

Graph 15
TES Derived Inflation Expectations (BEI)
(for two, three, and five years ahead)
(monthly average)[a/]




a/ Nelson and Siegel Methodology
Source: *Banco de la República*.

tory nature of the price increases associated with tax impact. The expectations obtained from the monthly survey of financial market analysts done by *Banco de la República* at the beginning of February showed that those surveyed expected inflation to be 4.61% as of December this year. This is only a little higher that what was estimated at the end of 2016. There were no major changes in expectations for 12 and 24 months from now and, as of February, they stood at 4.10% and 3.61% respectively. Something similar happened with those embedded in TES (Breakeven Inflation) which stayed at around 4.6%, 4.3%, and 3.8% for two, three, and five years' horizons, respectively. Last of all, the quarterly survey of business owners in January reported a decline in the expectations for three to twelve months ahead with the latter at 5.1% compared to the 5.6% reported in the October survey (Graphs 13 to 15).

Even so, in both this measurement and those obtained from the survey of financial analysts or from the TES, the levels of inflation expectations at various horizons remain far from 3.0% which, by itself, represents a risk for inflation converging with the target.

## D. INTEREST RATES AND FINANCIAL SECTOR

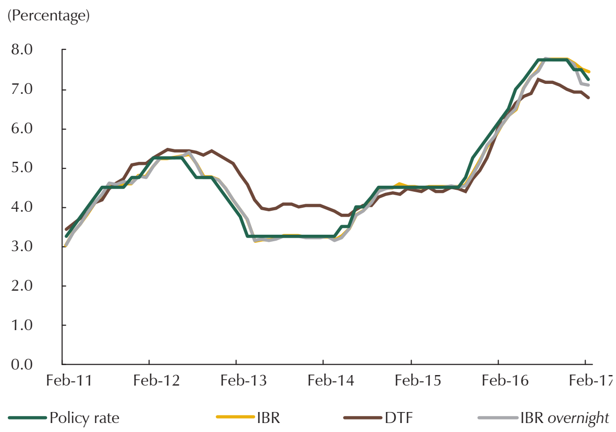
As has been explained in previous reports, the performance of interest rates influences families' and companies' decisions about savings and investments. Up until the third quarter of 2016, the increases in the policy interest rate continued to be transmitted to the deposit and lending interest rates. After that, the majority of the interest rates for deposits and lending fell, but in real terms, they stayed close to or above their averages for the past five years. Furthermore, the demand from mainly foreign agents for public debt bonds (TES) rose in 2016 (Box 2). This fact was reflected in a reduction in the interest rate for these papers (rise in their price).

In 2016, the credit institutions' balance sheet declined due to the slower pace of economic growth, monetary policy actions, and the behavior of the credit risk indicators, etc. The major source of financing, the liabilities subject to reserve requirements (LSRR), registered a lower rate of increase and a shift towards fixed-term deposits was seen. These, in comparison to demand deposits, offer the savers a better return and have a lower reserve requirement for the financial system. In the area of assets, investments decreased and the loan portfolio expanded at rates that were lower than those seen in recent years. The credit risk indicators registered a little deterioration but remained at low levels as well as levels lower than those registered during the global financial crisis (2008-2009).

### 1. Performance of Interest Rates in 2016

#### *a. Banking Interest Rates*

Graph 16
*Banco de la República* Benchmark Interest Rate, Overnight IBR, Interbank Borrowing Rate (IBR), and DTF[a/]




a/ The policy rate corresponds to the one set by the JDBR during the monthly meeting. In the March 2017 meeting, it was set at 7%. The rest of the rates correspond to the average for the month (weighted by amount).
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

Between August 2015 and July 2016, the benchmark interest rate went from 4.50% to 7.75% (Graph 16). These increases were transmitted to the rest of the interest rates including both those for deposits (deposit rates) and those for loans (lending rates). In the case of lending rates, the transmission was more intense for the commercial loans than for the rates for loans to households. Subsequently, at each of the meetings in December 2016 and February and March of 2017, the Board decided to reduce the benchmark rate 25 bp to bring it down to 7%

The increases in the policy rate were transmitted to the short-term rates. The overnight interbank interest rate (IIR) and the overnight banking benchmark indicator (BBI) saw increases similar to those of the benchmark rate (Graph 16) while the deposit rates, in turn, rose a little less[22] (Table 4). Starting in the third quarter when inflation began to give way, the deposit rates showed some declines.

On the loan market, the increase in the interest rates for loans was higher than that of the Bank rate and reached a peak in the third quarter. After that, these rates saw a few reductions in line with the declines in inflation and in the DTF. For household loans, the transmission was weaker and some increases in the consumer interest rates can still be seen.[23]

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22 Around 280 bp for the DTF and for the certificate of deposit rate.

23 The credit card interest rate has also shown recent upticks, but this is largely due to the modifications in the usury rate.

Table 4
Financial System Main Nominal Interest Rates
(Percentage)

| Date | Policy Interest Rate[a/] (end of month) | Deposit rates[b/] (monthly average) | | Lending rates[b/] (monthly average) | | | | | | Total Active Rates[e/] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Households | | | Commercial | | | |
| | | DTF | CD | Consumer | Mortgage[c/] | Credit card[d/] | Ordinary | Preferen-tial | Treasury | |
| Feb-14 | 3.25 | 3.97 | 4.39 | 17.68 | 10.94 | 28.08 | 10.26 | 7.02 | 6.97 | 10.64 |
| Mar-14 | 3.25 | 3.89 | 4.35 | 17.45 | 10.97 | 27.89 | 10.49 | 7.00 | 7.11 | 10.58 |
| Apr-14 | 3.50 | 3.81 | 4.18 | 17.19 | 11.10 | 27.82 | 10.50 | 6.88 | 6.83 | 10.57 |
| May-14 | 3.75 | 3.79 | 4.30 | 17.23 | 11.14 | 28.24 | 10.48 | 6.96 | 6.95 | 10.61 |
| Jun-14 | 4.00 | 3.94 | 4.34 | 17.41 | 11.24 | 27.98 | 10.46 | 7.00 | 6.93 | 10.41 |
| Jul-14 | 4.25 | 4.06 | 4.48 | 17.23 | 11.31 | 27.91 | 10.82 | 7.41 | 7.28 | 11.39 |
| Aug-14 | 4.50 | 4.04 | 4.60 | 17.10 | 11.30 | 27.39 | 10.74 | 7.34 | 7.73 | 11.15 |
| Sept-14 | 4.50 | 4.26 | 4.65 | 17.28 | 11.08 | 27.34 | 10.93 | 7.38 | 7.59 | 11.34 |
| Oct-14 | 4.50 | 4.33 | 4.69 | 17.06 | 11.21 | 27.01 | 10.99 | 7.57 | 7.50 | 11.14 |
| Nov-14 | 4.50 | 4.36 | 4.69 | 17.08 | 11.05 | 27.15 | 10.91 | 7.58 | 7.44 | 10.97 |
| Dec-14 | 4.50 | 4.34 | 4.59 | 16.70 | 11.09 | 27.71 | 10.60 | 7.77 | 7.37 | 10.55 |
| Jan-15 | 4.50 | 4.47 | 4.85 | 17.75 | 11.03 | 27.49 | 11.19 | 7.81 | 7.43 | 11.71 |
| Feb-15 | 4.50 | 4.45 | 4.88 | 17.36 | 11.09 | 27.18 | 10.76 | 7.43 | 7.94 | 11.13 |
| Mar-15 | 4.50 | 4.41 | 4.75 | 17.40 | 11.09 | 26.87 | 11.18 | 7.73 | 8.33 | 11.33 |
| Apr-15 | 4.50 | 4.51 | 4.90 | 17.24 | 11.05 | 26.98 | 11.07 | 7.81 | 8.17 | 10.95 |
| May-15 | 4.50 | 4.42 | 4.93 | 17.16 | 11.16 | 27.73 | 11.07 | 7.70 | 8.40 | 11.51 |
| Jun-15 | 4.50 | 4.40 | 4.75 | 17.17 | 11.09 | 27.75 | 11.08 | 7.55 | 8.17 | 10.98 |
| Jul-15 | 4.50 | 4.52 | 4.83 | 16.85 | 10.93 | 27.56 | 11.08 | 8.04 | 8.41 | 11.64 |
| Aug-15 | 4.50 | 4.47 | 5.38 | 16.84 | 10.90 | 27.13 | 10.82 | 7.76 | 8.50 | 10.84 |
| Sept-15 | 4.75 | 4.41 | 5.14 | 16.88 | 10.82 | 27.22 | 11.14 | 7.82 | 8.57 | 11.23 |
| Oct-15 | 5.25 | 4.72 | 5.66 | 17.27 | 10.99 | 27.71 | 11.07 | 8.06 | 8.84 | 11.61 |
| Nov-15 | 5.50 | 4.92 | 5.85 | 17.60 | 11.16 | 27.94 | 11.52 | 8.72 | 9.14 | 12.15 |
| Dec-15 | 5.75 | 5.24 | 6.05 | 17.64 | 11.26 | 27.98 | 11.94 | 9.40 | 9.71 | 12.33 |
| Jan-16 | 5.75 | 5.74 | 6.46 | 18.63 | 11.62 | 28.34 | 12.65 | 9.55 | 10.27 | 12.93 |
| Feb-16 | 6.25 | 6.25 | 7.07 | 18.45 | 11.87 | 28.14 | 12.61 | 10.70 | 10.63 | 13.33 |
| Mar-16 | 6.50 | 6.35 | 7.46 | 18.49 | 11.99 | 28.28 | 13.55 | 10.67 | 11.43 | 13.91 |
| Apr-16 | 7.00 | 6.65 | 7.64 | 18.73 | 12.19 | 29.24 | 14.25 | 11.43 | 11.80 | 14.77 |
| May-16 | 7.25 | 6.83 | 7.76 | 19.01 | 12.43 | 29.46 | 14.29 | 11.44 | 12.11 | 14.82 |
| Jun-16 | 7.50 | 6.91 | 7.86 | 19.14 | 12.49 | 29.44 | 14.31 | 11.71 | 12.10 | 14.77 |
| Jul-16 | 7.75 | 7.26 | 7.95 | 19.27 | 12.63 | 30.28 | 14.71 | 12.02 | 11.96 | 15.28 |
| Aug-16 | 7.75 | 7.19 | 8.04 | 19.54 | 12.73 | 30.45 | 14.72 | 12.14 | 12.32 | 15.23 |
| Sept-16 | 7.75 | 7.18 | 7.79 | 19.57 | 12.78 | 30.60 | 14.63 | 12.07 | 11.84 | 15.34 |
| Oct-16 | 7.75 | 7.09 | 7.52 | 19.84 | 12.70 | 31.38 | 14.47 | 11.97 | 12.03 | 15.41 |
| Nov-16 | 7.75 | 7.01 | 7.51 | 19.64 | 12.68 | 31.39 | 14.59 | 11.99 | 12.32 | 15.52 |
| Dec-16 | 7.50 | 6.92 | 7.41 | 19.39 | 12.59 | 31.52 | 14.06 | 11.58 | 11.86 | 14.45 |
| Jan-17 | 7.50 | 6.94 | 7.41 | 20.88 | 12.45 | 31.87 | 14.30 | 11.27 | 12.22 | 15.11 |
| Feb-17 | 7.25 | 6.78 | 7.57 | 20.03 | 12.56 | 31.69 | 13.79 | 11.37 | 12.03 | 14.87 |

a/ The date of the JDBR meeting is considered. In the March 2017 session, the Board set the policy rate at 7%.
b/ Monthly average.
c/ 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 credit rate in UVR, the annual change in UVR was added.
d/ Neither one-payment purchases nor advances are included
e/ Corresponds to the amount-weighted average of consumer, ordinary, preferential, and treasury loans. The weight of Treasury loans corresponds to one fifth of their weekly disbursement.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

During 2016, the price for short-term TES declined in accordance with the movements of the monetary policy rate.

In real terms, the lending rates also rose for most of the year. Indeed, when the average of the inflation expectation measurements is discounted from the lending interest rates[24] (ex ante real interest rates), both household and commercial rates rose more than 200 bp between the beginning of the increases in the benchmark rate and their highest point. As of January 2017, all of the real rates calculated with this methodology were higher than the average they have had since September 2003 except for the mortgage rate for housing other than low-income housing (non-LIH) (Graph17, panel A).

Another methodology for calculating the real rate of interest consists of subtracting the actual Inflation. With this methodology, the real rates also rose for most of the year but reached levels that were lower than the real ex ante rates. In this case, as of January 2017, the rates for consumer loans, purchase of housing other than low-income housing, and ordinary commercial loans were below their historical average (calculated as of September 2003) and the others, above their historical averages (Graph 17, panel B).

*b. Government Bond Market*

During 2016, the price[25] for short-term securities issued by the government (TES) declined in accordance with the movements of the monetary policy benchmark rate. Towards the end of the year, a price recovery was seen in light of the market expectations of lower inflation and possible cuts in the monetary policy rate in the future (Graph 18). Furthermore, during the same period, the appreciation of the medium- and long-term bonds was closely related to the performance of other sovereign bonds in the region with a similar maturity (Brazil, Chile, and Peru). This is mainly a result of the continuing conditions of global liquidity and reduction of inflation (Graph 19). Likewise, the share held by foreigners in the public debt market also influenced the curve. The percentage of the share in the local TES market held by foreigners increased and went from 18.3% at the end of 2015 to 25% at the close of 2016 (Table 2).

The market became more sluggish in 2016. The annual daily average for Colombian public debt securities traded on the Electronic Trading System (SEN in Spanish) and the Colombian Electronic Market (MEC in Spanish) was COP 3.77 trillion (t) which is less than what was seen in 2015 (COP 4.62 t). As of February 28 2017, the average daily amount was COP 5.25 t.

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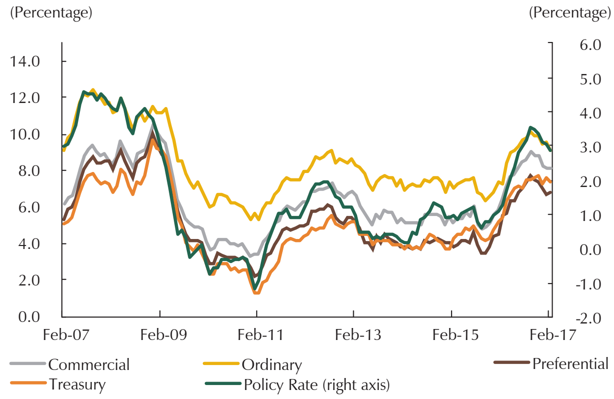
24 The average of five measurements of inflation expectations was used: for a year from now (survey of analysts), for a year from now (quarterly survey of economic expectations), Breakeven Inflation for two and three years from now and forward break even inflation for two to three years.

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

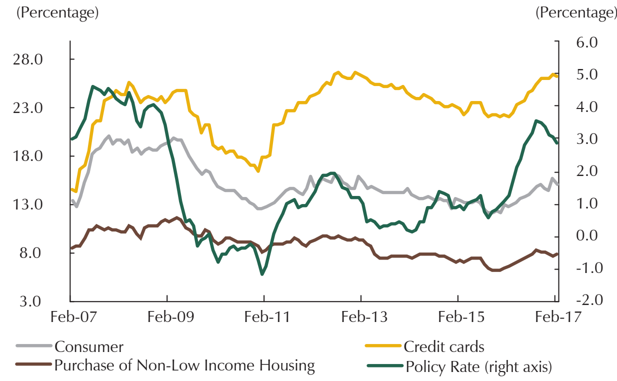
## Graph 17
Real Lending Rate

### A. Ex ante Rates (deflated by inflation expectations)[a/]

#### i. Loans to Businesses

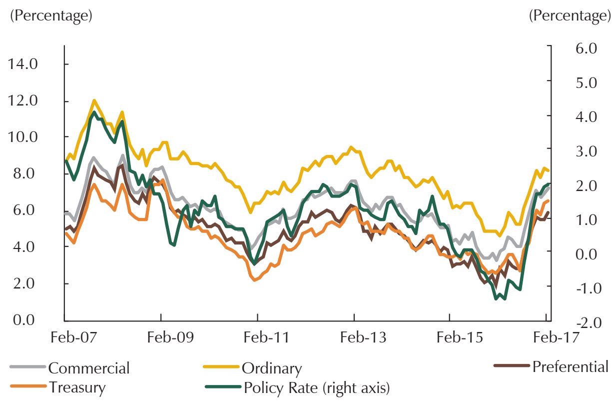



#### ii. Loans to households

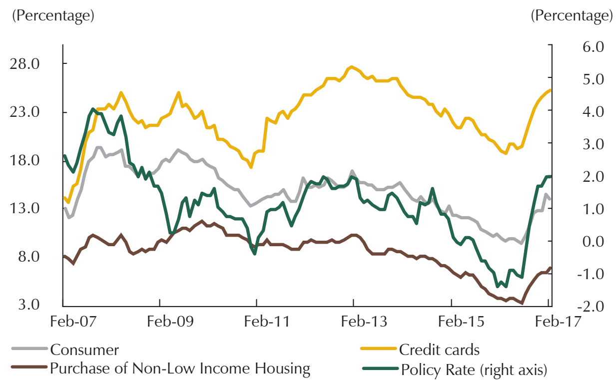



### B. Ex post Rates (deflated by actual inflation) b/

#### i. Loans to Businesses

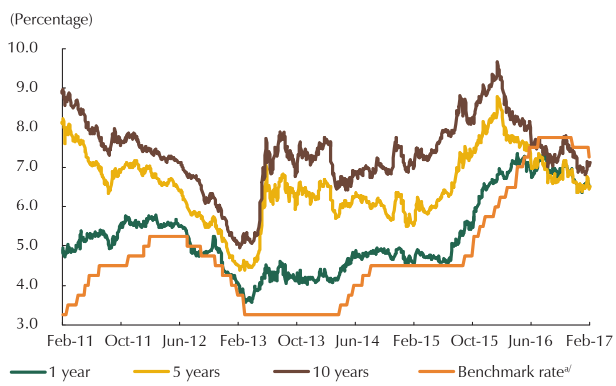



#### ii. Loans to households




Note: they correspond to the average rates except for the policy rate, which is presented at the end of the month.
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 break even inflation (BEI) for 2 and 3 years from now, and the forward break even inflation (BEI) for 2 and 3 years from now.
b/ The total CPI is used as a deflator.
Source: *Banco de la República*, calculations based on information from the Financial Superintendency of Colombia.

## Graph 18
Zero-coupon Peso-denominated TES rate, and *Banco de la República* Expansion Auction Rate

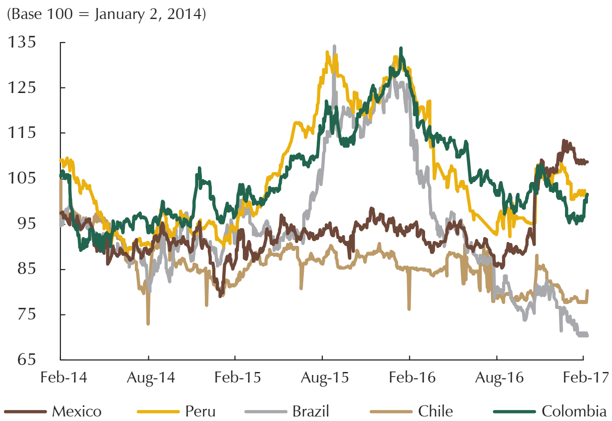



a/ At their March 2017 meeting, the Board set the benchmark rate at 7.0%.
Sources: SEN (electronic trading system) and MEC (Colombian electronic market); calculations by *Banco de la República*.

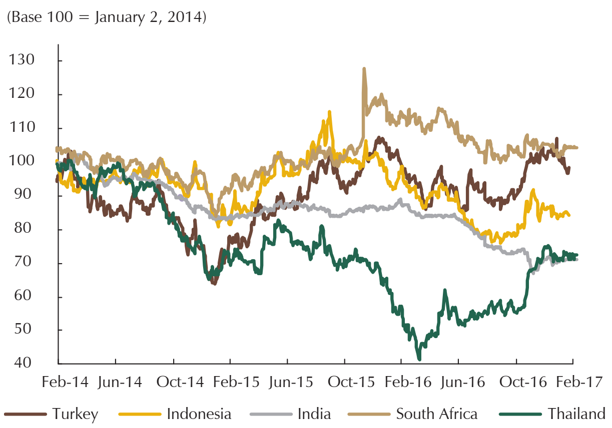
A generalized appreciation of the debt securities in the region has been seen in 2017. This was influenced by the favorable performance of commodity prices, especially iron, soybeans, copper, and petroleum and by events particular to each country. In the case of Colombia, there have been appreciations in all of the tranches at the prospect of cuts in the monetary policy rate and the active participation of foreign investors (Graph 18). The appreciations in the region in 2017 have also been in accordance with the performance of other emerging markets (Graph 19).

Graph 19
Index of Zero-coupon Rates for 10 Years Ahead, Latin America and Other Emerging Countries

A. Latin America




B. Other Emerging Countries




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

## 2. Credit institutions' main accounts[26]

The items that are part of the statement of the credit institutions' financial position constitute an essential vehicle for the transmission of monetary policy. The LSRR, i.e., deposits (checking accounts, savings accounts, certificates of deposit, etc.) are the largest component of liabilities while the loan portfolio and investments are the most important assets. As is explained in this section, deposits and loans were the main source of funds in 2016 and were also used mainly as such by the credit institutions.

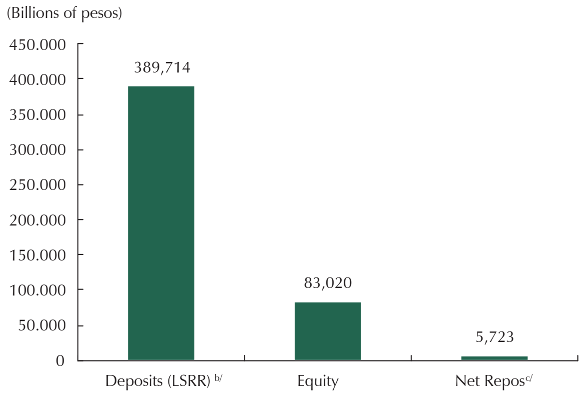
Regarding liabilities, deposits (LSRR) registered a balance of COP 389.714 trillion (t) at the close of 2016, with an annual change of COP 28.106 t (7.8%). The equity was COP 83.020 t with an increase of COP 4.614 t (5.9%) in comparison to the close of the previous year. The net repos for the non-reserve interest-bearing deposits (DRNCE), in turn, stood at COP 5.723 t (Graph 20).

During the year, the LSRR dropped, particularly in the second half of the year, which is consistent with the more sluggish economy. Nonetheless, the performance of its components was different. As was shown in the previous section, the Board's increase in the policy rate resulted in rises in the interest rates for deposits, especially term deposits (CD and bonds). This created a preference for this type of LSRR (such that at the end of 2016, its annual change was 22.7%) to the detriment of that for demand deposits (the majority of them being checking and savings accounts) (Graph 21). In addition, the higher inflation also discouraged the demand for the latter, which have lower returns than the term LSRR. As is explained in the shaded area on page 54, these factors also had effects on the growth of cash and the bank reserves. As a consequence of the slowdown in the growth rate of cash, the bank reserves, and the LSRR, the annual change in M3 also declined. At the close of 2016, its rise was 7.1% annually (COP 29.449 t) which is lower than what was seen in 2015 (11.7%, COP 43.438 t) (Graph 21).

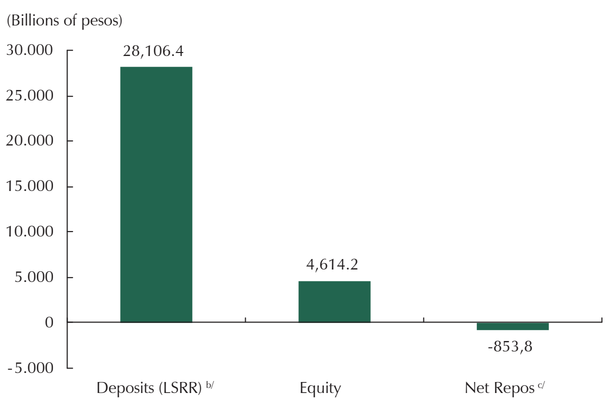
26 Data on the credit institutions was obtained from the Financial Superintendency of Colombia's format 281. The figures correspond to Friday, December 30, 2016 while the annual comparisons were done based on Friday, January 01, 2016. Due to the fact that, starting January 01, 2015, the credit institutions 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.

Graph 20
Net Repos, Liabilities Subject to Reserve Requirements (LSRR), and Credit Institutions' Equity[a/]

A. Balance at the Close of 2016

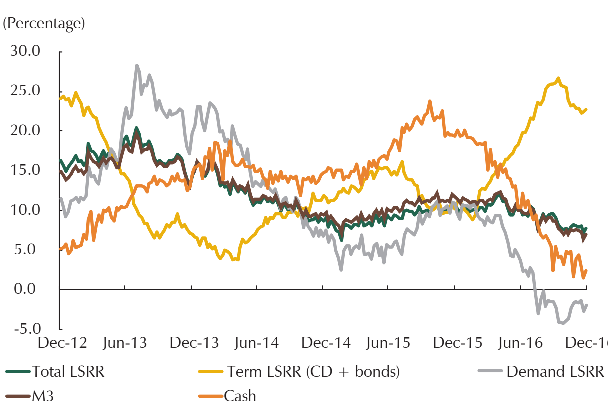



B. Annual Changes at the Close of 2016




a/ The balances presented correspond to Friday, December 30, 2016 and the annual changes are calculated with respect to Friday, January 01, 2016.
b/ Corresponds to the demand and time deposits in credit institutions
c/ Net Non-reserve interest-bearing deposits.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

Graph 21
Annual Growth of M3, Cash, and Liabilities Subject to Reserve Requirements (LSRR) (total, demand, and term)

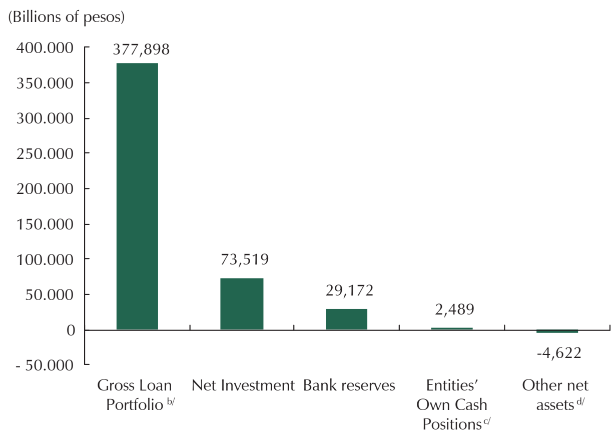



Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

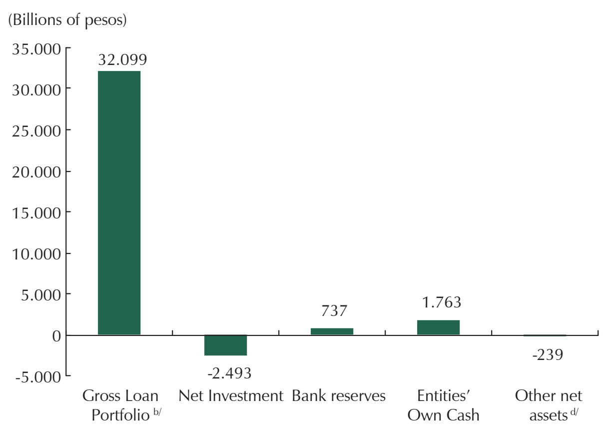
With respect to assets, as of December 2016 the balance of the gross loan portfolio in national currency was COP 377.898 t with an annual rise of COP 32.099 t (9.3%) while the balance of the net investments in national currency was COP 73.519 t, which is equivalent to a COP 2.493 t (3.3%) decline with respect to the previous year (Graph 22). When considering adjustments from the securitization of the mortgage loan portfolio, the gross adjusted loan portfolio showed a balance of COP 381.563 t with an annual nominal increase of COP 32.091 t (9.2%).

Graph 22
Credit Institutions' Main Assets[a/]

A. Balance at the Close of 2016




B. Annual Changes at the Close of 2016




a/ The balances presented correspond to Friday, December 30, 2016 and the annual changes are calculated with respect to Friday, January 01, 2016.
b/ Loans to employees and loan portfolio securitizations not included.
c/ Stock brokers not included. The absolute variations correspond to the fluctuations in US dollars multiplied by the average exchange rate for the period.
d/ Net liabilities other than net repos of remunerated non-reserve deposits and LSRR.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

## MONETARY BASE

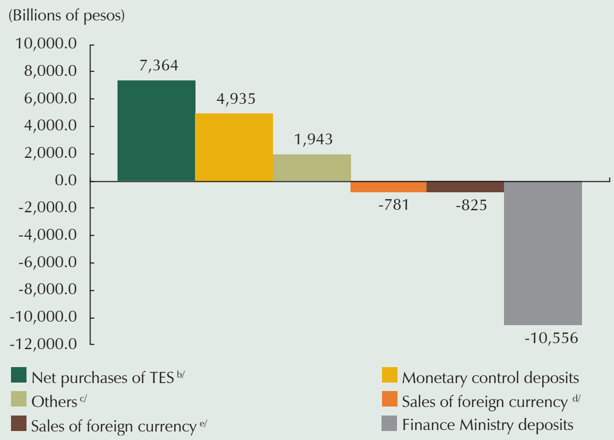
At the end of 2016, the balance of the monetary base stood at COP 84.598 t and presented a nominal annual growth of 2.5%, which is equivalent an increase of COP 2.079 t. The low growth of the monetary base is a response to the smaller changes in both cash (2.5%) and in the bank reserves (2.6%). Cash registered variations of between 15% and 20% per annum in the first few months of the year, but at the end of 2016, its growth rate declined notably and it remained at average levels of 2.0% per annum.

The fall in the growth rate of cash is due to several factors. The higher inflation and the general increase in interest rates make it more expensive to have cash. In addition, the slower pace of economic activity is consistent with a lower demand for means of payment in general. The bank reserves, in turn, were affected by both by the lower growth of the LSRR and the change in its components to term deposits that have a lower reserve requirement.

Regarding the sources of the monetary base, the expansionary factors were the COP 7.364 t [1] in net purchases of TES, the maturity of COP 4.935 t in monetary control deposits, and the monetary effect of other items, primarily Bank expenditures of COP 1.943 t. The reduction factors, in turn, were the COP 10.556 t increase in interest-bearing deposits by the General Office of Public Credit and the National Treasury (DGCPTN) and, to a lesser degree, the COP 825 b decrease in net liquidity transactions, and the central bank's sales of foreign currency on the exchange market equal to COP 781 b (Graph A).

1 Includes the effect of the maturities of TES held by *Banco de la República*.

Graph A
Origin of monetary base in 2016[a/]



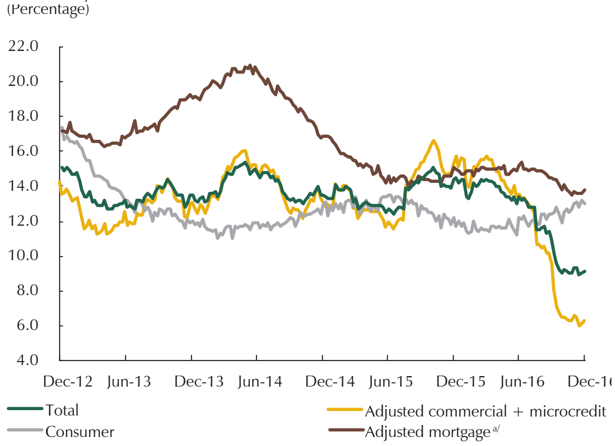

a/ Figures as of December 30, 2016
b/ This is the result of purchases minus sales and maturities of these securities held by the Banco de la República.
c/ This includes the monetary effect of the Banco de la República's profit and loss statement.
d/ Corresponds to the sales of foreign currencies through an auction of call options for a rundown in reserves.
e/ 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*.

When the portfolio is analyzed by type, it can be seen that the fall in its nominal growth is mainly due to the sharp slowdown in the commercial and microcredit loan portfolios, which together, presented a nominal annual change of 6.3%, followed by a slight negative trend in the growth of the adjusted mortgage portfolio[27] (13.8%). In contrast, there were increases in the consumer loan portfolio during the second half of the year and at the end of 2016, it was at 13.0% (Graph 23).

The growth of the loan portfolio was lower than in previous years as a consequence of increases in the interest rates on loans and the decline in the pace

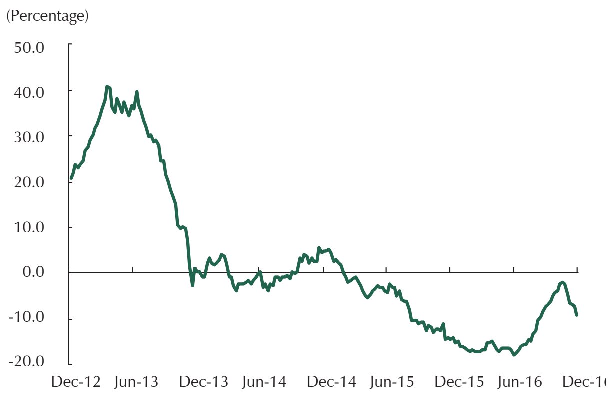
27 Includes securitization of mortgage loans.

Graph 23
Annual Growth of the Loan Portfolio by Type (national currency)



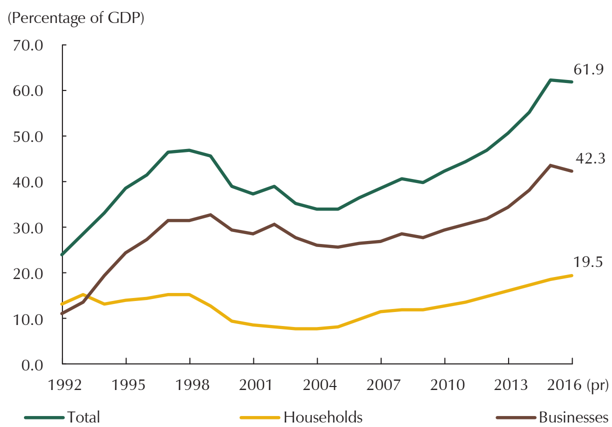

a/ Includes securitizations of the mortgage loan portfolio.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

Graph 24
Annual Growth of the Loan Portfolio in Foreign Currency (expressed in US dollars)




Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

Graph 25
Household and Business Indebtedness[a/]




a/ Includes bank loans in national and foreign currency, securitization of mortgage loans, bond issues, and foreign direct financing.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

of economic activity, which negatively affected the demand for, mainly, commercial credit.[28] This was confirmed by the quarterly survey on the credit situation[29], which showed that the banks perceived a low demand for commercial and consumer loans although they indicated that their perception of demand for commercial credit had improved by December 2016. Furthermore, according to the same survey, the financial institutions may have maintained or raised their requirements for granting new loans throughout the year.

Last of all, in regards to the portfolio in foreign currency, its US dollar amount showed negative nominal growth over the course of 2016. During the January-September period, this change was -15.3% on average, and, for the last quarter, it was -5.2% (-9.3% at the end of the year) (Graph 24).

The performance of the loan portfolio, along with that of other types of liabilities,[30] contributed to stabilizing the indebtedness (relative to GDP)[31] in 2016 at levels similar to those in 2015. These are the highest ones in the last 25 years. In the case of companies, the sluggishness in the commercial loan portfolio explains a slight reduction in the level of debt (relative to GDP) in 2016, which was offset by a rise in the level of household liabilities (Graph 25).

28 The statistical effects related to the merger of Bancolombia and Leasing Bancolombia were also presented. Loans greater than a year between financial institutions are included in the portfolio statistics. As a result of the merger, the portfolio that Bancolombia had lent to Leasing Bancolombia disappeared.

29 Available at http://www.banrep.gov.co/es/encuesta-credito

30 Other types of liabilities: bond issuance and indebtedness to foreign entities. This does not include financing granted by entities under the oversight of the Superintendency of Economic Solidarity.

31 This includes bank loans in national (N/C) and foreign currency (F/C), placement of bonds on the domestic and foreign markets as well as foreign direct financing. This does not include the national government.

*In a context of lower economic growth, there has been a gradual slowdown in the loan portfolio and a rise in the risky and non-performing loan portfolio*

## 3. Some Measurements of Financial System Risk[32]

Credit institutions' exposure to credit and funding risks is presented below and the risk in the TES portfolio is analyzed. Throughout 2016, the quality indicators by risk (QIR) and by default (QID) including and excluding penalties[33] showed deterioration as they settled above the average levels for the past five years although they remained below those seen during the global financial crisis of 2008-2009.

To the extent that the country has adjusted to the recent macroeconomic shocks, which has led to a gradual downturn in the portfolio and a rise in the risky and non-performing loan portfolio, the loan portfolio risk indicators have been given in a context of economic slowdown.

The liquidity indicator, in turn, suggests that the financial system has sufficient liquid resources to meet its contractual and non-contractual obligations in the short term. The real annual growth of liabilities has declined mainly because of the downturn in demand deposits. Nonetheless, as was explained in previous sections, an increase in funding through CDs has been seen, which indicates that the credit institutions have opted for funding sources that are more stable but offer the savers a higher interest rate.

Regarding the financial system's own TES investment portfolio, a decline in the balance was seen over the course of the year. In contrast, the managed portfolio rose mainly due to the greater purchases of these securities by foreign investors. The greater volatility registered in the price of these securities was reflected in higher levels in the measurement of market risk for both their own and the managed position in 2016 in comparison to the previous year.

### *a. Credit Risk*

During 2016, the credit risk indicators deteriorated thus surpassing the average for the last five years, but they remained at levels that were lower than those registered in 2008. Note that the performance seen during the year is a response to the financial system's adjustment, which has been made gradually, to a lower rate of growth in the economy. Because of the above, continuing to

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32 The information in this section was obtained from the balance sheets reported by the financial divisions of the Financial Superintendency of Colombia.

33 The quality indicator by risk (QIR) is defined as the ratio between the risky and the total loan portfolio (the risky loan portfolio is all the loans with ratings other than A on a scale from A to E where A is the best rating). The QID excluding penalties is defined as the ratio between the non-performing and the total loan portfolio (the non-performing portfolio includes the loans that have been not been paid for a period equal to or greater than 30 days), while the QID including penalties, such as the ratio between the non-performing loan portfolio and the total with the addition of the penalties (these are assets which, being considered uncollectible or lost, have been removed from the income statement in accordance with the legal provisions in force).

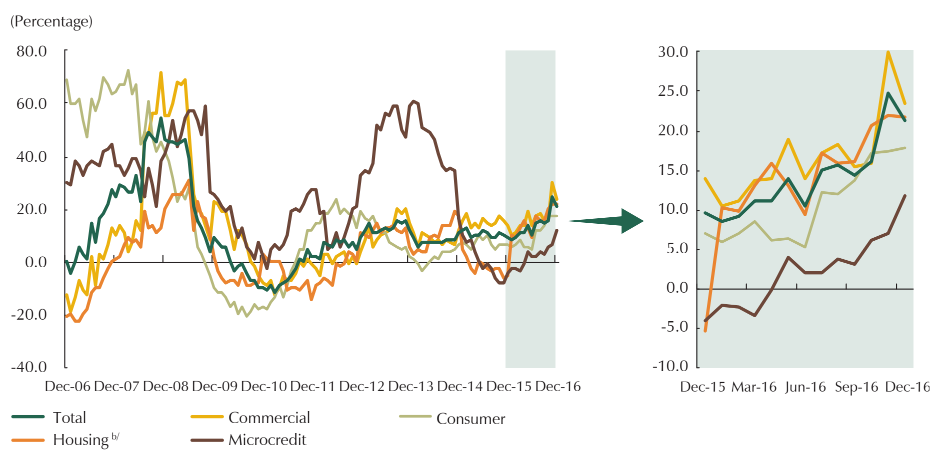
*In 2016, the real annual growth of the risky and non-performing loan portfolio showed a surge in comparison to the previous year.*

monitor the credit risk and its implications for the stability of the system turns out to be important.

In 2016 the real annual growth of the risky and non-performing loan portfolio showed a surge in comparison to its performance in 2015 – as of December 2016 this increase stood at 21.3%, 11.6 pp higher than the year before. In spite of the fact that the latest levels registered are the highest ones since July 2009, they are below the growth rates seen during the global financial crisis of 2008. The total loan portfolio, in turn, continued the slowdown it has been experiencing since 2015 thus exhibiting a real, annual growth rate of 1.8% in December 2016 (6.8 pp less than a year ago). The above led to a rise in the total CRI putting it at 7.9% at the end of the year. Even though the indicator surpassed its average for the last five years in February 2016, it remained at levels that are lower than those seen in 2008 and 2009.

The risky loan portfolio likewise registered upswings for all the types over the last year. The real, annual rates of growth were at 23.6%, 21.8%, 17.8%, and 11.9% for the commercial, housing, consumer, and microcredit loan portfolios respectively (compared to the previous year they rose 9.6 pp, 11.6 pp, 10.8 pp, and 15.9 pp respectively, Graph 26).

Graph 26
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 2016 resulted from the reclassification of residential leasing from the commercial loan portfolio to the housing portfolio.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

In line with the above, the QIR for all the types showed deterioration, especially that of the commercial loan portfolio which stood at 8.6% in December 2016 (1.8 pp more than a year ago). The QIR for the microcredit, consumer, and housing loan portfolios showed increases of 116 bp, 70 bp, and 49 bp respectively (Table 5).

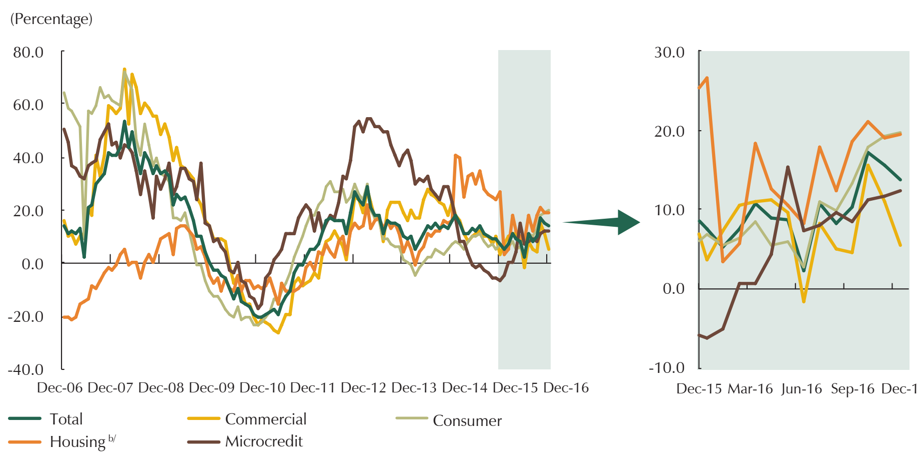
Table 5
Credit Risk Indicators by Type
(percentage)

| Type | Quality indicator by default (QID) excluding penalties | | | Quality indicator by default (QID) including penalties | | | Quality indicator by risk (QIR) | | |
|---|---|---|---|---|---|---|---|---|---|
| | Dec-15 | Dec-16 | Average 2016[a/] | Dec-15 | Dec-16 | Average 2016[a/] | Dec-15 | Dec-16 | Average 2016[a/] |
| Total Loan Portfolio | 3.2 | 3.6 | 3.6 | 6.9 | 7.7 | 7.6 | 6.6 | 7.9 | 7.2 |
| Commercial | 2.2 | 2.3 | 2.5 | 4.5 | 5.0 | 5.0 | 6.9 | 8.6 | 7.6 |
| Consumer | 4.5 | 5.0 | 5.0 | 12.0 | 12.8 | 12.8 | 7.0 | 7.8 | 7.7 |
| Housing | 4.9 | 5.5 | 5.6 | 5.5 | 6.0 | 6.1 | 3.6 | 4.1 | 3.9 |
| Microcredit | 6.5 | 7.2 | 7.1 | 12.5 | 14.3 | 13.6 | 10.6 | 11.8 | 11.1 |

a/ Average Monthly Data
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

Regarding the materialization of credit risk, the total non-performing loan portfolio surged starting in June 2016 and reached a real annual growth of 13.6% at the end of the year (6.0 pp more than a year ago). The same thing was also seen in the consumer, housing, and microcredit portfolios. Here, the first two presented higher rates of growth at the end of 2016 (19.8% and 19.4% respectively; Graph 27).

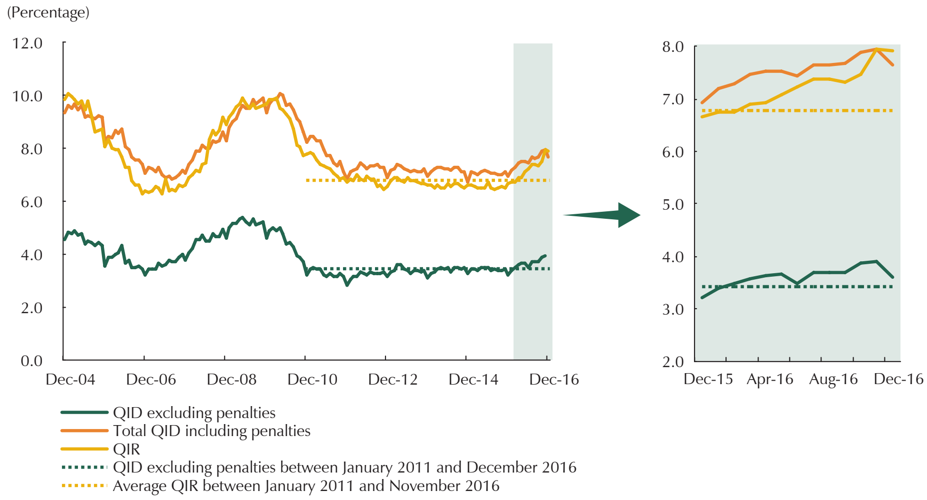
Graph 27
Annual Real Growth of Non-performing Loans[a/]




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 with the implementation of the IFRS starting in January 2015 residential leasing was reclassified from the commercial loan portfolio to the housing loan portfolio.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República*.

The QID including and excluding penalties, in turn, rose over the course of 2016 and had average levels of 7.6% and 3.6% respectively during the year while, in 2015, the average of these indicators was 7.1% and 3.4% respectively (Graph 28). This performance is similar to what is seen in the majority of the types of loan portfolios (Table 5). Just like the QIR, the QID surpassed its average for the past five years but remained at levels lower than those seen in 2008 and 2009.

Graph 28
Quality Indicators of the Gross Loan Portfolio by Default and by Risk



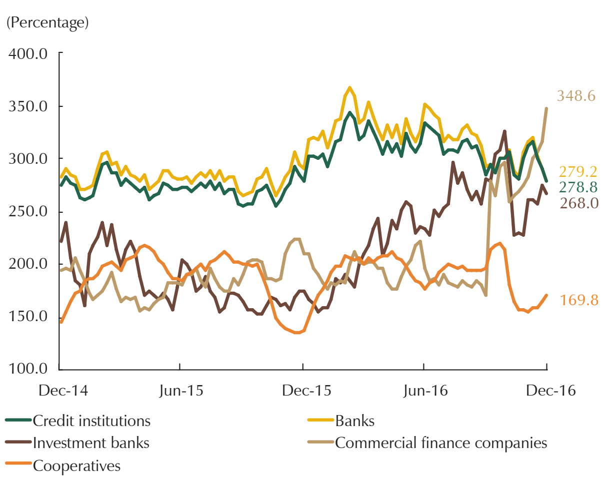

Source: Financial Superintendency of Colombia, calculations by *Banco de la República.*

The coverage ratio, in turn, calculated as the ratio between the provisions and the past-due portfolio presented a decline over the course of the year, going from 139.8% to 137.2% from December 2015 to the same month in 2016.

## b. *Liquidity Risk*

In order to evaluate the funding liquidity the entities have available 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$_R$ (30 days) are used. If the LRI R is higher than 100%, it indicates that the entity has enough liquidity to meet its obligations in the short term, but if not, the entity could have problems covering them.

Graph 29
Liquidity Risk Indicator$^R$ at 30 days[a/]

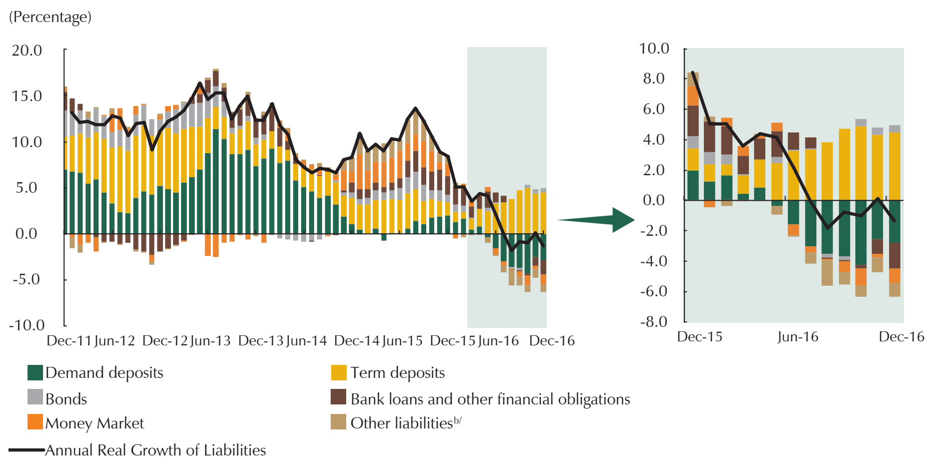



a/ Corresponds to the 4 week moving average.
Source: Financial Superintendency of Colombia, calculations by *Banco de la República.*

In 2016, the credit institutions exhibited greater short-term liquidity in comparison to 2015 as they presented an average LRI $R_R$ of 309.2% (36.7 pp more than the average for 2015). By type of intermediary, the indicator presented increases for commercial finance companies and investment banks and reached levels that were close to those of the banks in the second half of the year. The banks, in turn, marginally reduced their LRI R over the course of the year. Thus, none of the types of credit institutions shows any difficulty covering their short-term obligations (Graph 29).

In a manner consistent with the dynamics of the portfolio, the real annual growth rate of the liabilities continued to show a declining trend and reached negative levels in the second half of 2016. In terms of the structure of liabilities, there was a less funding through demand deposits, money market operations, loans from banks and other financial institutions, and other liabilities. Furthermore, note that since March 2016, the term deposits are the liability component that contributes the most to growth, which means that credit institutions have opted for more stable funding sources, but ones that offer a higher interest rate for savers (Graph 30).

Graph 30
Real Annual Growth of Credit Institutions' Liabilities 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: Financial Superintendency of Colombia, calculations by *Banco de la República*.

### c. *TES Market Risk*

Financial institutions can have TES as part of their assets (their own position) or as part of the assets they manage for their clients (third party position). During 2016, the financial system's TES portfolio for their own position was reduced while the portfolio for the managed position increased. With respect to the volatility of the TES portfolios, this presented higher levels than those seen in 2015 in the cases of both their own position and the managed position.

As of December 30, 2016, the value of the TES portfolio of the financial system in its own position fell COP 2.5 t with respect to December 30, 2015 and settled at COP 49.8 t. This performance is the result of a decrease in the credit establishments' portfolio of these securities, the balance of which represents 69.8% of the total loan portfolio held for their own position. With regards to the managed funds, there was a COP 27.2 t increase in the same period which resulted in a balance of COP 153.4 t. This is primarily due to the increased purchase of these securities by foreign investors, who enlarged their TES portfolio by COP 25.3 t, and obtained a share of 37.5% of the total managed funds (Table 6).

Financial entities, like any investor, may face losses due to valuation in light of a fall in the price of such securities. This risk is quantified by means of the development in the exposed TES balance and a measure called value at risk (VaR), which, on the basis of the returns observed, estimates the maximum loss that an institution may experience in its investment portfolio or in the managed one with a 1-day horizon for a given level of confidence.[34] It should be mentioned that the appropriate measure of the market risk in the financial system is the VaR of their own position since the losses associated with the portfolios managed by the system are faced by the investors.

Table 6
Outstanding TES in Financial System's own and Managed Positions
(trillions of pesos)

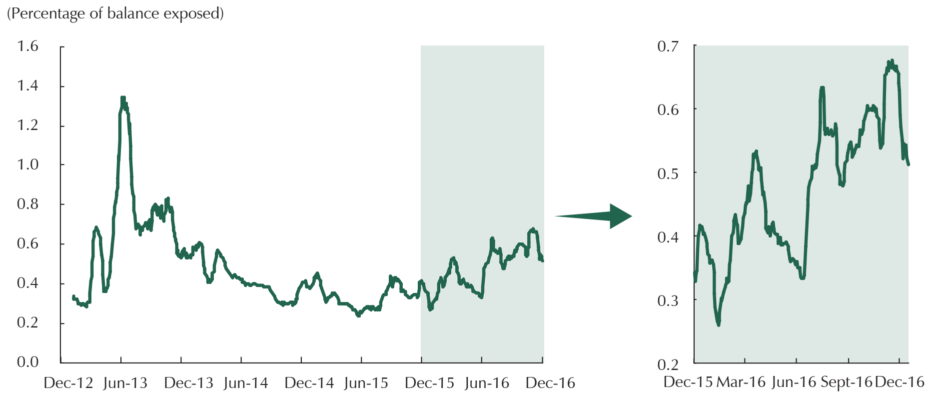
| Entities | Dec 30, 2015 | Dec 30, 2016 |
|---|---|---|
| **Financial System's Own Position** | | |
| Credit institutions | | |
| Commercial banks | 36.2 | 32.6 |
| Investment banks | 3.7 | 2.1 |
| Commercial finance companies | 0.0 | 0.0 |
| Financial cooperatives | 0.0 | 0.0 |
| Non-bank financial institutions (NBFI) | | |
| Pension funds | 0.2 | 0.2 |
| Stock Brokerage Firms | 0.1 | 0.9 |
| Trust Funds | 1.8 | 1.9 |
| Insurance and Capitalization Companies | 10.2 | 12.0 |
| **Total** | **52.3** | **49.8** |
| **Financial System - Managed Position** | | |
| Foreigners | 36.5 | 57.5 |
| Stock Brokerage Firms | 0.0 | 0.0 |
| Trust Funds | 36.5 | 57.5 |
| Pensions | 79.5 | 87.1 |
| Pension Funds | 63.2 | 69.0 |
| Trust Funds a/ | 16.3 | 18.1 |
| Mutual Funds | 1.8 | 1.2 |
| Stock Brokerage Firms | 0.0 | 0.0 |
| Trust Funds | 1.8 | 1.2 |
| Others | 8.4 | 7.5 |
| Stock Brokerage Firms | 1.1 | 1.2 |
| Trust Funds | 7.3 | 6.3 |
| **Financial System** | **126.2** | **153.4** |
| Others[b/] | 21.0 | 27.2 |
| **Total TES balance[c/]** | **199.4** | **230.3** |

a/ Pension liabilities managed by trust companies.
b/ Others include *Banco de la República*, National Treasury Office, Fogafin, etc.
c/ Corresponds to the total balance of current TES issued.
Source: *Banco de la República*.

34 To illustrate, if the VaR of a financial institution is 5.0% at a confidence level of 99%, it indicates that the maximum loss that this entity might face in one day would be 5.0% of the value of their portfolio and there is only a 1.0% chance of surpassing this.

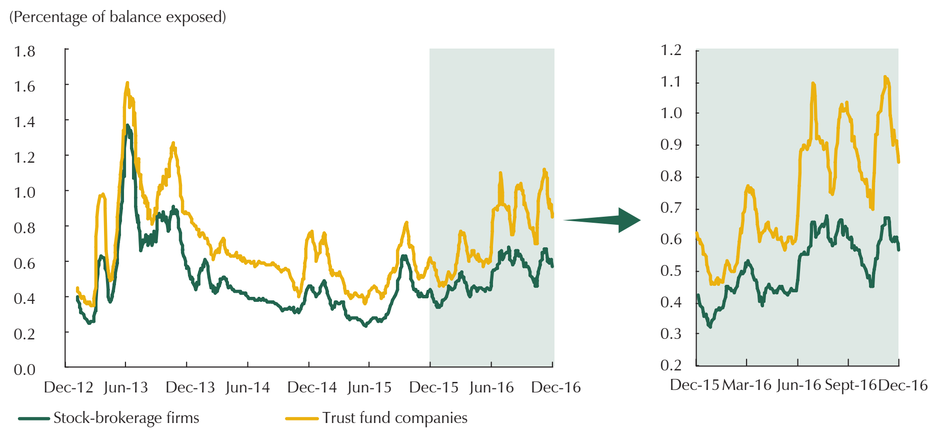
In 2016, there was greater volatility in the public debt securities in comparison to what was seen in 2015. The above led to the average of the financial system's VaR in their own position being at 0.5% as a percentage of the exposed balance. This is 14 bp higher that the average for 2015 (Graph 31). Regarding funds managed by stock brokerage firms and trust companies, the average VaR for the former was 0.5% (14 bp more than the average for 2015) while the average for the latter stood at 0.8% (21 bp above the average for 2015). The above is owing to the fact that the portfolios managed by trust companies are of longer duration[35] compared to those managed by stock brokerage firms (Graph 32).

Graph 31
VaR of the Financial System's own Position
(weekly moving average)




Source: *Banco de la República.*

Graph 32
VaR of the Position Managed by the Financial System
(weekly moving average)




Source: *Banco de la República.*

35 The duration is a measure of the sensitivity of a bond price to changes in the interest rate. The greater the sensitivity, the greater the risk is with respect to fluctuations in the interest rate for the TES portfolio.

In the case of the position of third party pension and severance funds, the goal of which is to pay the affiliates their pension, the VaR is not an appropriate measurement of the vulnerability that these portfolios are exposed to. One of the plans by which the pensioners have access to this monthly income flow is the annuity plan. There the amount of the pension is obtained by taking the value of the pensioner's portfolio at the time he retires and projecting a future flow for this money for the number of years in which this payment must be delivered to the person. Like all flows over time, this must be discounted at a rate of interest. Consequently, although the value of the portfolio may fall when long-term interest rates rise, the discount factor also falls with the result that the amount of the pension remains stable. In this respect, the VaR does not measure changes in the flow of the future pension, which constitutes the contributor's main risk.

## E. EXTERNAL BALANCE AND FOREIGN EXCHANGE POLICY

The last two years were ones for adjustments in the external variables in view of the sharp and rapid fall in international prices for petroleum since mid-2014. In 2015, the variable that made the largest adjustment was the exchange rate while the current account deficit stayed at levels (in US dollars) similar to those seen a year ago in spite of the decline in capital flows (discounting the reserve assets). In 2016 in contrast, the external deficit decreased significantly, which is consistent with the slowdown in domestic demand and the lower capital flows while the exchange rate attained a certain stability once the terms of trade stopped falling.

For 2017, the current account deficit is expected to continue adjusting in line with the weakness of domestic demand in Colombia and the better outlook for commodity prices and foreign demand. This is in an environment of higher costs for foreign financing.

### 1. Colombia's Foreign Balance in 2016

*In 2016, the foreign deficit was reduced significantly in line with the slowdown in domestic demand and lower capital flows.*

The fall in the terms of trade in 2014 was reflected in a widening current account deficit due to the sharp contraction in the income from exports of goods while current outlays maintained their positive growth rates. Later in 2015, outflows from imports fell significantly although at a lower rate than exports, which was reflected in a significant increase in the trade deficit. Nevertheless, due to lower net outflows for services and factor income as well as the higher current transfers, the current account deficit this year dropped USD 655 m.[36]

36 36. However, as a share of the GDP, the current deficit went from 5.1% to 6.4% due to the effect of the nominal depreciation of the peso with respect to the GDP measurement in US dollars.

*During 2016, the country's balance of payments current account registered a deficit of USD 12.541 b, which is USD 6.239 b lower than what was registered a year ago.*

The data on the balance of payments for 2016 show a considerable reduction in the country's current deficit resulting from a fall in current outflows which more than exceeded the decrease in income. In US dollars, the lower deficit for the year is due, especially, to the reduction in the value of imports of goods and services and the lower profits generated by companies with foreign capital in addition to the positive effect of the greater transfers from abroad. From the point of view of productive activity, the above is consistent with the slowdown in domestic demand and with the fact that the economy has been adapting to the new trajectory of national revenue.

During 2016, the country's balance of payments current account registered a deficit of USD 12.541 b which is USD 6.239 b lower than what was registered a year ago (Table 7). As a share of GDP, the deficit was 4.4%, which meant a decline of 2.0 pp in comparison to what had been registered in 2015 when it came to 6.4% of GDP. The current deficit was financed by net capital inflows of USD 12.764 b (4.5% of GDP) which included the accumulation of USD 165 m in international reserves.[37] The errors and omissions are estimated at -USD 223 m. Note that the development in Colombia's balance-of-payments current account shows a tight relationship with the behavior of the balance of goods due to the high share that exports and import of goods have in the country's total current income and expenditures.[38] Because of that, what happens to the foreign trade in goods translates into an exacerbation or mitigation of the current deficit.

*The reduction in the value exported was caused mainly by the lower sales abroad of crude oil and, to a lesser extent, the drop in exports of industrial products.*

Thus, the trade deficit in goods dropped USD 3.709 b in 2016 compared to what was registered a year before (Table 7) which explains close to 60% of the lower current imbalance. Regarding the imports of products, these totaled USD 43.226 b with an annual decline of 17.0% (USD 8.824 b). There was a general fall in the value of imported goods, particularly, the smaller purchases of supplies and capital goods for industry (USD 3.820 m) and transportation equipment (USD 2.110 b). The decline in imports has been the result of the slowdown in economic activity, the effect of the real depreciation of the quantities of foreign goods demanded, and the general reduction in US dollar prices of imports. The exports of goods, in turn, stood at USD 32.965 b with an annual decline of 13.4% (USD 5.115 b) (Table 7). The reduction in the value exported was caused mainly by the lower sales abroad of crude oil (USD 4.774 b) and, to a lesser extent, the drop in exports of industrial products (USD 880 m)

37 Note that this accumulation of reserves is the result of income from the net return of USD 525 m on the international reserves, outflows from the sale of USD 256 m in foreign currency to foreign exchange intermediaries, and USD 105 m in net outflows from other *Banco de la República* transactions.

38 The analysis of the structure and change in the current account income over the last 15 years shows that foreign sales of merchandise is its main component with a 70% to 81% share of the total income. Regarding the current expenditure flows, their most important component is importing goods which represented, on average, 64% of the total outlays (67% in 2016).

Table 7
Colombia's Balance of Payments
(annual flows in millions of dollars)

| | 2015 (pr) | 2016 (pr) | Change (USD) |
|---|---|---|---|
| **Current Account (A + B + C)** | **(18,780)** | **(12,541)** | **6,239** |
| **(percentage of the GDP)** | **(6.4)** | **(4.4)** | |
| A. Goods and Services (1 + 2) | (18,506) | (13,281) | 5,225 |
| 1. Goods (a - b) | (13,970) | (10,261) | 3,709 |
| a. FOB Exports | 38,080 | 32,965 | (5,115) |
| b. FOB Imports | 52,050 | 43,226 | (8,824) |
| 2. Services (a - b) | (4,536) | (3,020) | 1,516 |
| a. Exports | 7,407 | 7,796 | 389 |
| b. Imports | 11,943 | 10,816 | (1,127) |
| B. Factor Income | (5,526) | (4,910) | 616 |
| Income | 4,483 | 4,974 | 491 |
| Outlays | 10,009 | 9,884 | (125) |
| C. Current Transfers | 5,251 | 5,650 | 398 |
| Income | 5,847 | 6,141 | 295 |
| Outlays | 595 | 492 | (104) |
| **Financial Account (A + B + C + D)** | **(18,293)** | **(12,764)** | **5,529** |
| **(percentage of the GDP)** | **(6.3)** | **(4.5)** | |
| A. Direct Investment (ii - i) | (7,514) | (9,076) | (1,562) |
| i. Foreign in Colombia (FDI) | 11,732 | 13,593 | |
| (percentage of the GDP) | 4.0 | 4.8 | |
| ii. Colombian Investment Abroad | 4,218 | 4,516 | |
| B. Portfolio Investment (1 + 2) | (10,283) | (3,693) | 6,590 |
| 1. Public Sector (ii - i) | (6,306) | (4,097) | |
| i. Foreign Portfolio Investment (a + b) | 6,489 | 7,115 | |
| a. International markets (bonds) | 4,453 | 1,910 | |
| b. Domestic Markets (TES) | 2,036 | 5,205 | |
| ii. Portfolio Investment Abroad | 183 | 3,019 | |
| 2. Private Sector (ii - i) | (3,977) | 404 | |
| i. Foreign Portfolio Investment (a + b) | 3,319 | 1,791 | |
| a. International Markets | 900 | 1,100 | |
| b. Domestic Markets | 2,419 | 691 | |
| ii. Portfolio Investment Abroad | (658) | 2,195 | |
| C. Other Capital Flows (public sector + private sector) | (911) | (160) | 751 |
| D. Reserve Assets | 415 | 165 | (250) |
| Errors and Omissions (E and O) | 487 | (223) | (710) |
| Memo items | | | |
| Financial account excluding change in international reserves | (18,709) | (12,929) | 5,780 |

(pr): preliminary
Note: the results presented follow the recommendations of the IMF in its Balance of Payments Manual, sixth version. Therefore, the net capital inflows are presented as a negative in the financial account. For further information and methodological changes consult http://www.banrep.gov.co/balanza-pagos.
Source: *Banco de la República*.

*The deficit in the services account declined due to the reduction in the demand for imported services and, to a lesser degree, to the increase in exports.*

and coffee (USD 109 m) abroad. The lower exported value of crude oil was due to both the reduction in the volumes shipped and the drop in its export price.

With respect to the deficit in the services account, this declined USD 1.516 b during 2016 (Table 7) primarily due to the reduction in the demand for imported services and to a lesser degree, to the increase in exports of such. Regarding imports, the fall in expenditures linked to the provision of services related to the oil fields, the lower imports associated with paying for insurance and financial services as well as freight and the costs of Colombians traveling abroad are notable. With respect to exports, the increase in income from the rise in the number of non-resident travelers and their spending in this country stands out.

The behavior of the services sector can be largely explained by the reduction in the country's rate of economic growth, especially in the mining-energy sector, and the higher costs for importing services due to the depreciation of the peso with respect to the US dollar.

The payment for the use of foreign capital is reflected in the current account as net payments for factor income. During 2016, the fall in net outflows for that item (USD 616 m) (Table 7) was mostly caused by the lower profits earned by companies with direct investment, which decreased USD 862 m (16.8%) compared to 2015. This result is mainly associated with the losses firms in the oil sector have experienced due to lower volumes and export prices for crude oil. The reduction in profits for the firms in the rest of the sectors also contributed to this fall, especially those belonging to the manufacturing industry, mining sector (excluding oil) and commerce. These declines were partially offset by the increase in the profits earned by foreign companies operating in the financial sector (17.9%, USD 183 m) and those supplying utilities (electricity, gas, and water) (26.8%, USD, 115 m).

The reduction of the country's current deficit was offset by the lower need for financing. As a result of that, in terms of the financial account,[39] net capital inflows of USD 12.764 b were registered in 2016 which is USD 5.529 b lower than what was seen the year before when they totaled USD 18.293 b. Specifically, USD 24.108 b in net foreign capital inflows, outflows of Colombian capital to purchase assets abroad (USD 11.820 b), transactions with derivative financial instruments (USD 640 m), and USD 165 m international reserves transactions were registered in 2016. In terms of GDP, the financial account went from 6.3% to 4.5% (Table 7).

39 According to the IMF's proposed Balance of Payments Manual, sixth version, the financial account appears with 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 external financing (liabilities) and/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, thus indicating that the country has the capacity to lend funds to the rest of the world.

*In 2016, the country continued to receive significant capital inflows. Foreign direct investment remained the primary source of financing.*

Just as in the majority of the countries in the region, foreign capital flows have fallen due to both external and internal factors. Nevertheless, the country continued to receive substantial amounts of foreign funds of which foreign direct investment (FDI) remained the main source of financing since it represented 56% of the total income from foreign capital received, followed by portfolio investment in the local market (24%), the issuance of securities on the international markets (12%) while the remaining 8.0% corresponded to loans and other foreign credit.

Funds amounting to USD 13.593 b (4.8% of GDP) in FDI entered the country with an annual growth of 15.9%. Among these, the significant increase in investment in the electricity sector stands out.[40] Indeed, 27% of the amount of FDI was received by companies that operate in this sector followed by the sectors of financial and business services (19%) mining and petroleum (15%), manufacturing industry (14%), transportation and communications (8.0%), and the rest of the sectors (17%). The flow of Colombian direct investment abroad, in turn, is estimated at USD 4.516 b. The majority of this was carried out by companies in the financial sector and in the mining and petroleum sector.

Moreover, the country received USD 8.907 b in foreign portfolio investment in 2016, which is USD 901 m lower than what had been received a year earlier. Of these funds, 66.2% came from foreign investors' purchases of TES and stocks on the domestic market and the remaining 33.8% from the issuance of long-term debt securities by public sector entities and companies in the financial sector and their placement on the international markets. The outflows of Colombian capital for investment totaled USD 5.214 b and correspond, in particular, to portfolio investments made by public sector companies (USD 3.019 b) and, to a lesser extent, to investments made by the private sector (USD 2.195 b) (Table 7).

Finally, the country acquired USD 160 m in net liabilities abroad for other capital flows mainly from loans acquired by public sector entities. This amount is in contrast with the higher liabilities of USD 911 m seen a year ago.

### 2. Projection of the Balance of Payments for 2017

*The correction of the external imbalance is expected to continue in 2017.*

The correction of the external imbalance which started in 2016 is expected to continue in 2017 even though the adjustment may go forward at a different pace this year. In line with the expected effects that the strong, terms of trade shock that started in 2014 had on the economy, the current outflows from the country contracted 14% (USD 10.180 b) annually in 2016 while

40 Due to the funds from the sale of Isagen to foreign investors.

*The projection of the balance of payments for 2017 indicates that the current account deficit may be between 3.0% and 4.4% as a percentage of the GDP.*

the income contracted 7.0% (USD 3.940 b). Together these explain the lower current deficit. In contrast, the additional adjustment of the current account estimated for 2017 may no longer be explained by a decline in outflows which seem to be showing growth but by the increase in income, especially from exports of goods.

The projection of the balance of payments for 2017 indicates that the current account deficit may be between 3.0% and 4.4% as a percentage of GDP with 3.7% being the most probable figure.

This forecast is within a context of higher international commodity prices, which will probably be above those registered in 2016, even if they remain at relatively low levels. The above could be accompanied by a moderate recovery of foreign demand because of the better growth expected from our main trading partners which, added to the real, accumulated depreciation of the Colombian peso, could favor the country's industrial exports.

In addition, low growth is estimated for imports of goods in contrast to the last two years in which these have fallen. This could occur due to the lower depreciation of the peso and the effect this entails for all of the sectors' imports in general and to the larger purchases of capital goods on the part of the mining-energy sector because of the better outlook for prices.

Given the above, the trade balance for 2017 is expected to have a lower deficit than in 2016 mainly due to the growth of exports of products, a majority of which would be commodities. Thus, the majority of the adjustment of the current imbalance could be due to this item. Another factor that could also contribute to reducing the current account deficit would be the higher transfers due above all to the expected growth of the remittances sent from the United States and Europe.

For 2017, the upward pressure on the current deficit could be mainly associated with factor income and to a lesser degree to foreign trade in non-factor services. Regarding factor income, higher profits are expected from companies with foreign capital, especially those operating in the oil and mining sector as a result of the better outlook for commodity prices. Growth of profits for companies in the rest of the sectors is also anticipated since it is favored by the more limited effects of depreciation on accounting in US dollars and the expected growth of economic activity. Added to the above is the higher interest payments on foreign debt, in particular those associated with bonds and loans acquired by public and private sector entities, as a result on one hand of the high level of debt and, on the other, of the possible increase in the cost of foreign financing in 2017.

For non-factor services, the deficit in 2017 is expected to reach levels that are higher than those in 2016, driven by the greater demand expected for services

*Net capital flows entering the country are expected to moderate in 2017.*

linked to petroleum industry as well as the payment of insurance given the effect of fourth generation concessions. In addition, increases in freight payments are included as a result of importer growth and higher estimates for crude oil prices. It should also be noted that a rebound in service exports is also anticipated as a benefit of greater global growth and the investment in sectors such as tourism in previous years.

With respect to capital flows and as a reflection of the external adjustment expected for 2017, a moderation of the net capital flows into the country is anticipated. First of all, fewer FDI funds are expected compared to 2016, due in particular to the sale of Isagen, which may be partially offset by the higher investments expected for the mining-energy sector and for other sectors to a lesser extent. In addition to this, net capital inflows related to loans and other external credits (mostly granted by multilateral entities) and bond issuance, mainly by the government, may be added to this though they will not reach the levels registered in 2016. Also, for 2017, net financing through portfolio investment funds is expected to be lower than in the previous year, partly because of expectations of an increase in foreign interest rates and a better outlook for growth in developed economies.

### 3. Changes in the Exchange Rate in 2016 and During the Elapsed Months in 2017.

In 2016, the US dollar was strengthened with respect to the main currencies, especially since April, as a result of the expectations of more rapid increases in the Fed's monetary policy rate compared to what had been projected at the beginning of 2016. Specifically, at the close of the year, the US currency had risen 2.8% annually with respect to the main currencies[41] and weakened 0.6% with respect to the emerging countries.[42]

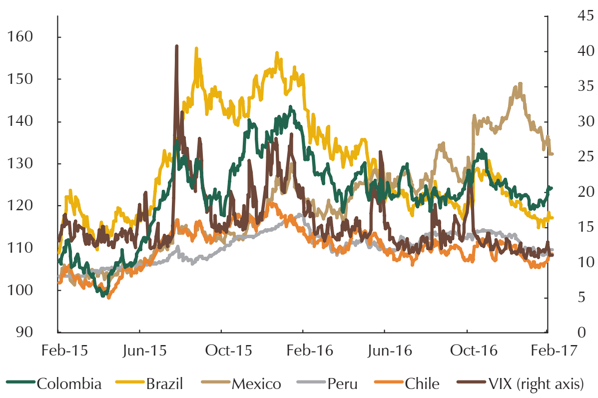
*The US dollar became stronger vis-à-vis the major currencies in 2016.*

During the year, the currencies of emerging countries presented a mixed performance which was influenced by the behavior of the indicators of risk perception and of the prices of raw materials. In this region, the Brazilian real (18.0%), the Chilean peso (5.2%), the Colombian peso (4.7%), and Peruvian sol (1.7%) appreciated while the Mexican peso (20.5%) depreciated (Graph 33). However, if the average exchange rates are compared to those from the

41 According to the Bloomberg US 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 of currencies corresponds to those belonging to the United States' main trading partners combined with those with the greatest liquidity (based on the BIS' three-year survey).

42 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.

Graph 33
Nominal Exchange Rate Indices with respect to the Dollar for Some Latin American Countries and VIX

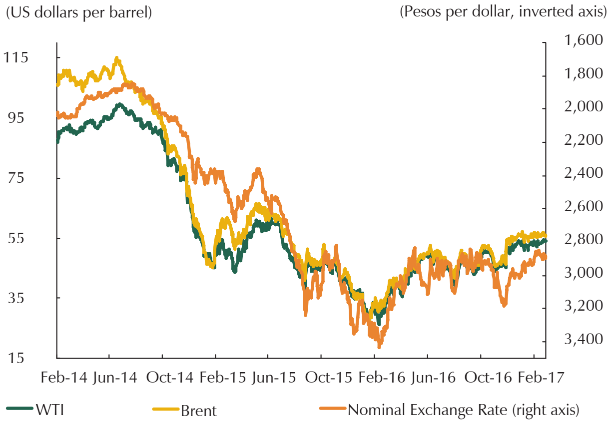



Source: Bloomberg.

previous year, the currencies of these Latin American countries weakened with respect to the US dollar.[43]

Until mid-February, risk perception indicators remained at high levels because of factors such as the poor outlook for growth (especially in China), declines in international prices for commodities and uncertainty about the stability of the European financial system. During this period, the depreciation trend that the Latin American currencies had been following since 2015 was accentuated. Afterwards, to the degree that risk aversion decreased and the prices for the main commodities exported by Latin American countries recovered, their currencies were strengthened. Starting in May, the exchange rates remained relatively stable with respect to the US dollar apart from a few volatile episodes linked to events that increased the perception of global risk such as Brexit, the uncertainty surrounding the decisions of the Fed, and the presidential elections in the United States. The latter has been especially important for the Mexican peso, which depreciated significantly due to the various announcements that the new US government has made regarding its relationship with Mexico (Graph 33).

Graph 34
Nominal Exchange Rate[a/] and Price of Petroleum




a/ Corresponds to the market exchange rate
Sources: Bloomberg and Financial Superintendency of Colombia.

The performance of the Colombian peso, in turn, was associated mainly with the change in the price for crude oil[44] (Graph 34). Domestically, the uncertainty related to the submission and approval of the tax reform in Congress, which, according to what the rating agencies had stated would be a determining factor for keeping the country's investment grade credit rating, also affected changes in the exchange rate.

With respect to the country's main trading partners (based on the nominal exchange rate index: NERI) the peso also weakened during the first two months of the year and, starting in March, it had a tendency to appreciate until September. If the changes in the prices in Colombia and the rest of the countries are discounted (based on the real exchange rate index:

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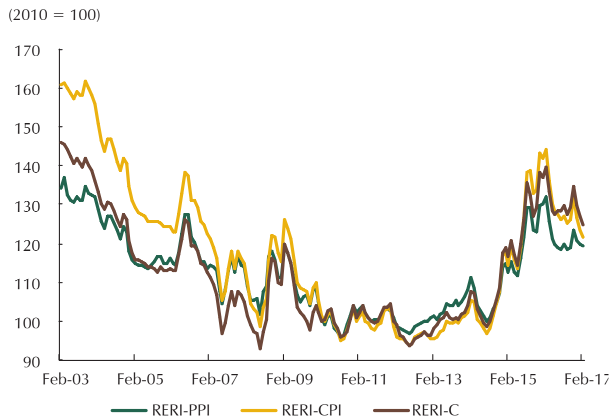
43 The Brazilian real depreciated 4.0%, the Chilean peso, 3.2%; the Peruvian sol, 5.9%; the Colombian peso, 11.2%; and the Mexican peso, 17.7%.

44 Between January 01, 2016 and February 28, 2017, the ratio of the correlation between the levels of the Brent price for petroleum and the average peso-dollar exchange rate was -81.5%.

RERI), the peso was also strengthened with respect to the country's main trading partners as a group (RERI-CPI and RERI-PPI) once the prices for petroleum began to recover as of March (Graph 35) while the risk premium declined at the same time. Something similar can be seen if the purchasing power of the Colombian peso is compared to competitors in the United States in the coffee, banana, flower, and textile markets. Nevertheless, for the yearly average and compared to 2015, the peso weakened in real terms.

Graph 35
Multilateral Real Exchange Rate




Note: the RERI-PPI and the RERI-CPI compare the purchasing power of the Colombian peso with respect to our main trading partners using, respectively, the PPI and CPI 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*.

So far in 2017, the US dollar has weakened with respect to the main currencies and to those of emerging countries mainly due to the influence of announcements made by the president of the United States on economic[45] and political[46] concerns which, according to analysts, will make this economy more closed and generate a depreciation of its currency.

## 2. 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.[47] 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 8). 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. The ratio of net reserves to M3 shows an improvement in the indicator up to the year 2015 with a slight decline in 2016. In the last few years, this result was associated with the purchase of reserves on the part of the Bank up until December 2014 and with the slowdown in the growth

45 Announcements of possible measures such as the imposition of tariffs on imports and the revision of multilateral treaties like the North American Free Trade Agreement (Nafta) or the Trans-Pacific Partnership (TPP).

46 Measures such as the tightening of issuance of visas and border protection.

47 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 June 13, 2016, the IMF approved a new agreement on access to contingent resources for Colombia, for an approximate amount of USD11.500 b. Although the economic authorities have no plans to use these resources, they consider it prudent to have them in the event of an abrupt cut off in foreign financing. Countries such as Poland and Mexico also have this line of credit.

Table 8
Indicators of Colombia's International Reserves

| Balance | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 (pr) | 2016 (pr) |
|---|---|---|---|---|---|---|---|---|
| Net International Reserves[a/] (millions of dollars) | 25,356 | 28,452 | 32,300 | 37,467 | 43,633 | 47,323 | 46,731 | 46,675 |
| Indicators | | | | | | | | |
| A. External debt amortization indicator | | | | | | | | |
| External Debt Amortization (millions of US dollars) | 11,488 | 10,465 | 14,174 | 22,348 | 16,582 | 21,564 | 23,827 | 22,007 |
| Net reserves/current year foreign debt amortization | 2.21 | 2.72 | 2.28 | 1.68 | 2.63 | 2.19 | 1.96 | 2.12 |
| Net reserves/coming year foreign debt amortization[b/] | 2.42 | 2.01 | 1.45 | 2.26 | 2.02 | 1.99 | 2.12 | 1.77 |
| B. Adequate External Liquidity Position | | | | | | | | |
| NIR/(current year debt service) | 1.76 | 2.12 | 1.86 | 1.45 | 2.16 | 1.85 | 1.65 | 1.74 |
| NIR/(coming year debt service) [b/, c/] | 1.89 | 1.64 | 1.25 | 1.85 | 1.71 | 1.67 | 1.75 | 1.48 |
| NIR/(current year debt repayments + current year current account deficit) | 1.57 | 1.49 | 1.35 | 1.12 | 1.51 | 1.15 | 1.10 | 1.35 |
| NIR/(coming year debt repayments + coming year current account deficit)[d/] | 1.33 | 1.19 | 0.96 | 1.30 | 1.06 | 1.11 | 1.35 | 1.26 |
| C. Other International Reserve Indicators | | | | | | | | |
| NIR as months of product imports | 9.7 | 8.9 | 7.4 | 7.9 | 9.2 | 9.2 | 10.8 | 13.0 |
| NIR as months of total imports | 7.7 | 7.1 | 6.2 | 6.5 | 7.5 | 7.6 | 8.8 | 10.4 |
| NIR/M3 (percentage) | 26.2 | 24.7 | 24.1 | 22.0 | 24.7 | 30.4 | 35.4 | 31.5 |
| NIR/GDP | 10.8 | 9.9 | 9.6 | 10.1 | 11.5 | 12.5 | 16.0 | 16.5 |

(pr): preliminary
a/ The net international reserve balance includes the contributions to the Latin American Reserve Fund (FLAR in Spanish).
b/ The debt repayments for 2017 correspond to the projected payments on foreign debt at the closing of the balance of payments.
c/ The interest for 2017 corresponds to the projected payments at the closing of the balance of payments.
d/ The current account deficit for 2017 is a forecast.
Source: calculations by *Banco de la República*.

rate of the monetary aggregate since mid-2013, in particular due to the effect of depreciation between 2014 and 2015 on the M3 valuation in US dollars. As of 2016, the level of reserves was similar to that of the previous year while the M3 in US dollars registered a positive growth rate which reduces the estimated value of the indicator.

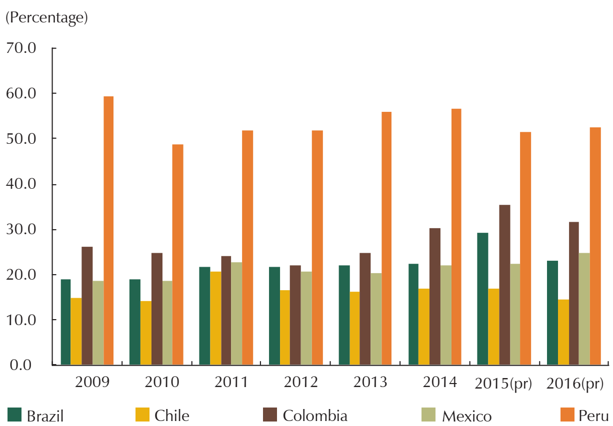
The ratios of net reserves to repayment of the total foreign debt and to the current account deficit show the country's ability to meet its credit obligations with the rest of the world in an extreme scenario where access to international financing is completely closed off. In general, these indicators register values above 1.0.[48]

48 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 1.0 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 shot-term external debt, which implies a ratio of 1.0 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.

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 10.4 months for 2016, which is higher than the average since the year 2000. When this indicator is calculated for imports of goods, it rises to thirteen months.

When the various indicators of Colombia's international liquidity are compared to those of countries in the region, the ratio of reserves to M3 is seen to register levels above those of Brazil, Chile, and Mexico and lower than Peru's[49] (Graph 36). In the ratio of international reserves to debt repayment, debt servicing, and current account deficit plus debt repayment, Colombia historically registers levels that are above those of Chile and below Brazil's and Peru's (Graph 37). The indicator of reserves to GDP, in turn, is at lower levels than those seen in the rest of Colombia's peers in the region except for the case of Chile and Mexico, which, in 2015 and 2016, have been at levels that are very similar to Colombia's. With respect to the reserves measured in months of product imports, these show that Colombia has a position that is relatively higher than Chile and Mexico, and lower than Brazil and Peru (Graph 38).

Graph 36
International Reserves/M3

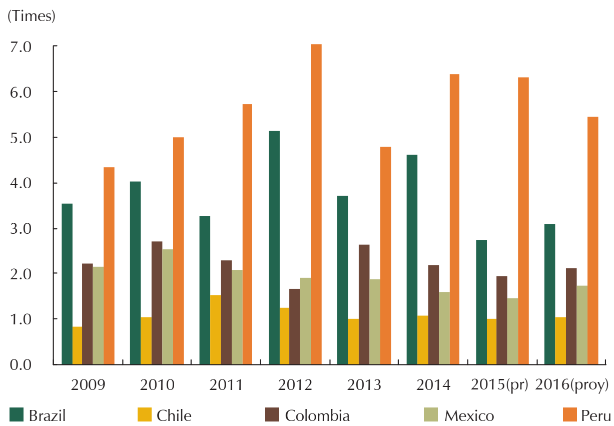



(pr): preliminary
Sources: Central banks, The Economist Intelligence Unit (updated as of February 2017), and *Banco de la República*.

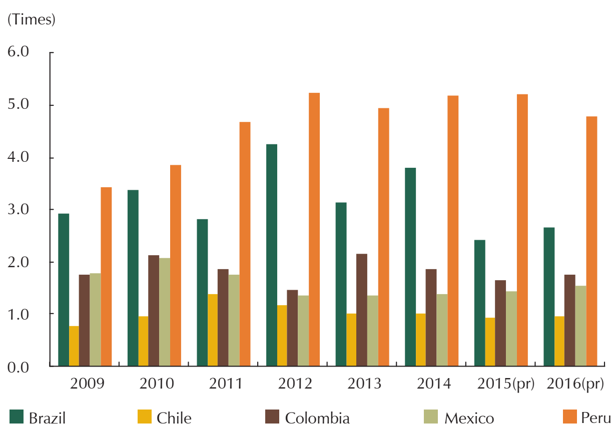
49 The growth and level of this ratio for Peru stands out due to the fact that the local banks can receive deposits in US dollars and the reserve requirement for these is entered on the books as reserves.

Graph 37
Appropriate Foreign Liquidity Position Indicators

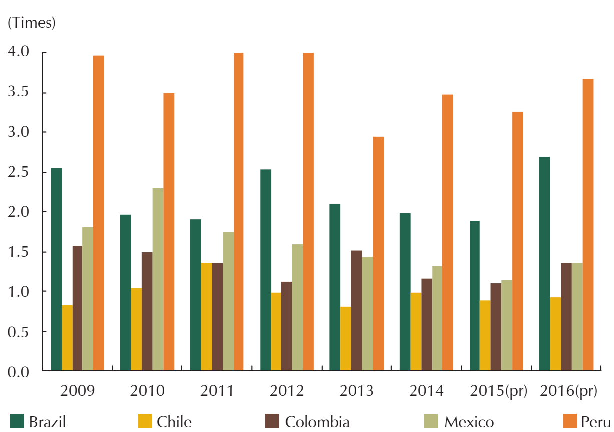
A. International Reserves/current year debt repayments




B. International Reserves/current year debt service



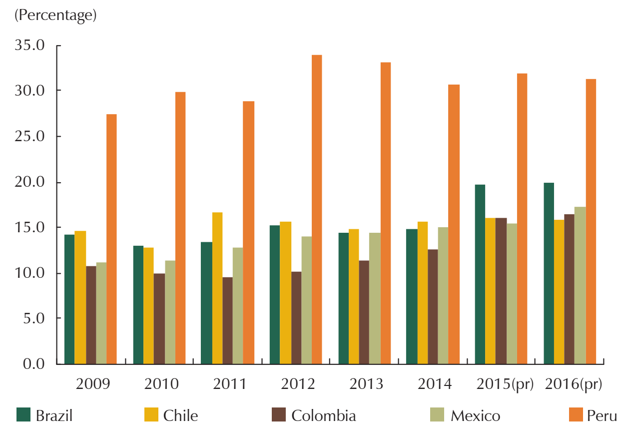

C. International Reserves/current year (current account deficit + debt amortization)



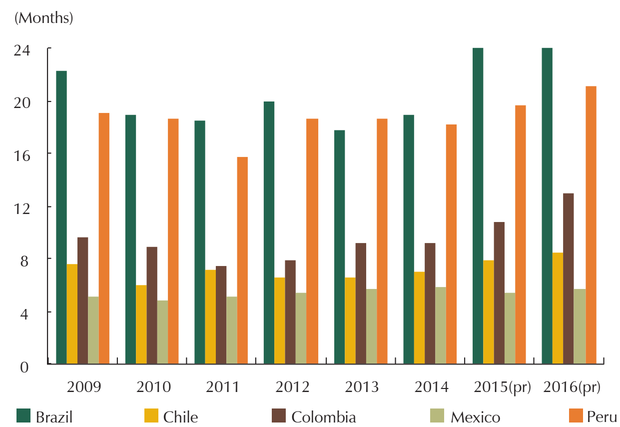

(proj): projected
Sources: Central banks, The Economist Intelligence Unit (updated as of February 2017), and *Banco de la República*.

Graph 38
Other International Reserve Indicators

A. International Reserves/GDP




B. International Reserves as Months of Product Imports




(pr): preliminary
Sources: Central banks, The Economist Intelligence Unit (updated as of February 2017), and *Banco de la República*.

## Box 1
## ADJUSTMENT OF THE COLOMBIAN ECONOMY TO THE OIL PRICE SHOCK

A large body of literature has emphasized the impact that fluctuations in the terms of trade have on output growth and economic cycles, especially in countries that specialize in exporting commodities (Mendoza, 1995; Kose, 2002; Hoffmaister and Roldos, 1997; Wai-Mun Chia, 2006; Aizenman et al., 2012). The fall in the price for these types of products affects economies through different channels. Initially, it reduces the terms of trade and national revenue, worsens the external balance and fiscal accounts, raises risk premiums, reduces foreign capital inflows and leads to currency depreciation.

If the magnitude of the negative shock on the prices is considerable and permanent in character, its effects on national revenue will be the same in nature. Under such conditions, the economy will need a significant adjustment in domestic demand which will imply lower growth rates for expenditure and output than those seen before the shock. In contrast, the increase in the current account deficit could be unsustainable. Indeed, initially the lower strength of the national revenue is accompanied by an expansion of the current account deficit. Subsequently, the adjustment in expenses will be reflected in a slowdown in domestic demand thus making it possible to reduce the foreign debt.

The magnitude of the effects of these types of shocks largely depend on the economic policy framework (Fornero et al., 2014). With a floating exchange rate plan such as the one used in Colombia, the economy is better able to absorb the shock and a less pronounced slowdown in growth is seen (Hamann et al., 2014).

In fact, the nominal and real depreciation of the currency, caused largely by the fall in the terms of trade and capital flows, act as the main automatic adjustment mechanism. Said depreciation produces a change in the relative prices which induces a reallocation of funds between the tradable and non-tradable sectors as well as a change in the demand, thus contributing to a reduction in the impact on output. Depreciation also contributed to the external sector adjustment by discouraging imports of goods and services and favoring the sector that exports products other than raw materials. Nevertheless, this depreciation could pass through to local prices and have an impact on inflation.

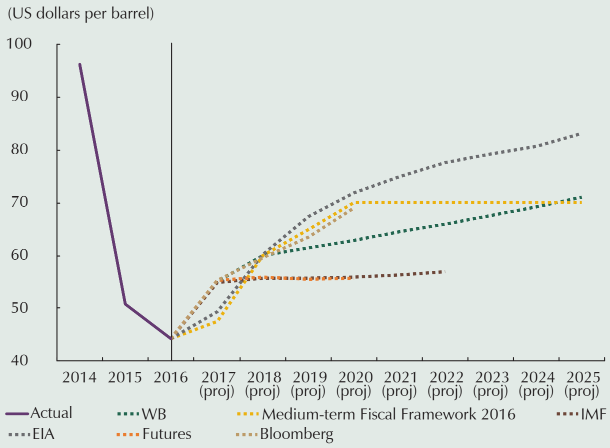
In the macroeconomic adjustment process, foreign financing plays a decisive role as it facilitates an orderly transition to new sources of economic growth. Access to this financing and, in general, the orderly adjustment of the Colombian economy are favored by other aspects of the country's economic policy. Among these are the reinforcement of public finances by applying the principle of fiscal sustainability, which is included in the Constitution, and through the fiscal rule mechanism. To this, the international reserve balance, access to the flexible line of credit with the International Monetary Fund and the implementation of the regulation geared towards ensuring financial stability must be added.

The negative shock to the terms of trade the country has faced was mainly caused by the decline in the price of crude oil that has been registered since the second half of 2014 and which was unanticipated, sudden, and considerable in magnitude. Thus, between the third quarter of 2014 and the first quarter of 2015, the price of crude oil fell close to 47%, and by the first quarter of 2016, the reduction came to 68%. Since then, and especially since the end of 2016, there has been a partial recovery in petroleum prices, which are between USD 50 and USD 55 per barrel, largely due to the agreement to cut back on hydrocarbon production led by OPEC at the end of last year. It should be noted that, in response to the low international prices, crude oil extraction was also reduced and this increased the impact on the country's oil revenue.

For the future, uncertainty about the international crude oil price fluctuations associated with downside and upside risks remains. Nevertheless, according to the central forecasting scenarios provided by specialized entities, no significant price increases are expected in coming years, which confirms the persistent nature of the petroleum shock (Graph B1.1)

The ongoing magnitude and effect of the shock to crude oil prices, coupled with the importance of petroleum for the Colombian economy and its links with other sectors, has been reflected in a significant macroeconomic adjustment, which, in part, occurred automatically, but also in response to economic policy actions. Indeed, the year before the shock (2013), the importance of the petroleum sector to the national economy was evident in its high share of the country's export basket (55% of the total), in foreign direct investment (about 30% of the total), and central national government revenue (19.6%). In addition, the petroleum sector registered a current surplus that made it possible to partially offset the growing deficit of the current account in other sectors. Thus, the negative balance of the aggregate current account in US dollars registered upticks associated with the growth of domestic demand that was above the GDP rates of variation.

## Graph B1.1
Forecasts for International Price of Petroleum



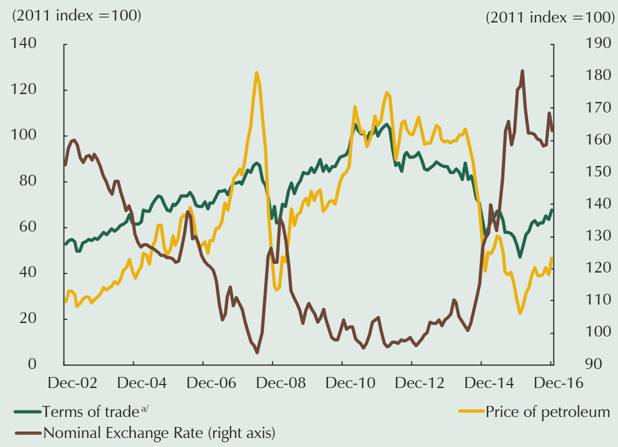

(proj): projected.
Note: The forecasts of the World Bank (WB) and the IMF are an average of the WEI, Brent, and Dubai benchmarks; the forecasts of the Energy Information Administration (EIA), Bloomberg, and of the futures markets are an average of the WTI and Brent benchmarks; those of the Ministry of Finance and Public Credit's 2016 Medium-term Fiscal Framework (MFMP 2016) correspond to the Brent benchmark.
Sources: Bloomberg, international agencies, and the Ministry of Finance and Public Credit.

As for the macroeconomic adjustment as a response to the oil shock, the external sector showed a contraction in the terms of trade and a significant deterioration of the country's external balance sheet and increases in risk premiums were seen which, added to other factors, caused a strong depreciation of the peso (Graph B1.2). Between June 2014 and January 2016, the terms of trade fell 46%, which surpassed even the drop registered at the end of 2008 and beginning of 2009 (30%). Therefore, there were continuous and significant declines in the value of the country's exports, which were 47% lower during 2016 than what was registered in 2013, in other words, a price shock.

During 2014, the larger current account deficit that resulted from the decline in external revenue was partially offset by lower profit outflows from mining and oil companies. As a consequence, the current account deficit as a proportion of GDP went up from 3.2% to 5.1% between 2013 and 2014 (Graph B1.3). Subsequently, in 2015, due to the economic slowdown and lower investment coupled with the effects of the depreciation of the peso, the country's current outflows began to decline at a similar rate (20%) to that of revenue (24%), which explains why the current deficit in US dollars remained relatively stable compared to the previous year. Nevertheless, as a proportion of GDP, this deficit grew to 6.4% in 2015 due to the effect that the nominal depreciation of the peso had on the GDP measured in US dollars.

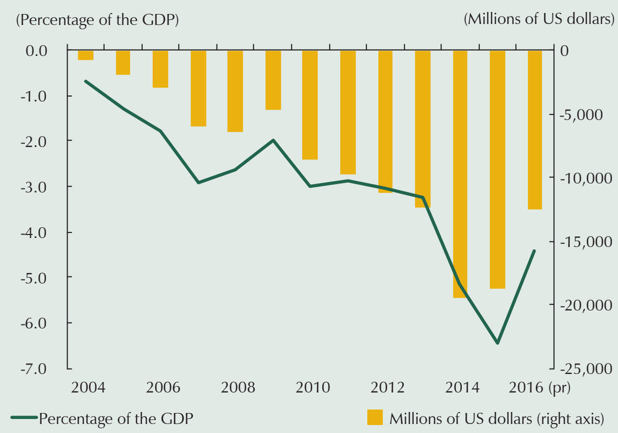
The external deficit registered a significant correction during 2016 as a result, along with other factors, of the accumulated depreciation of the peso and lower growth, which discouraged the import of goods and services and reduced the profits of foreign companies. This was reflected in a decline

## Graph B1.2
Price of Petroleum, Nominal Exchange Rate, and Terms of Trade




a/ Foreign trade methodology.
Sources: Bloomberg, Financial Superintendency of Colombia, and *Banco de la República*.

## Graph B1.3
Balance of Payments Current Account

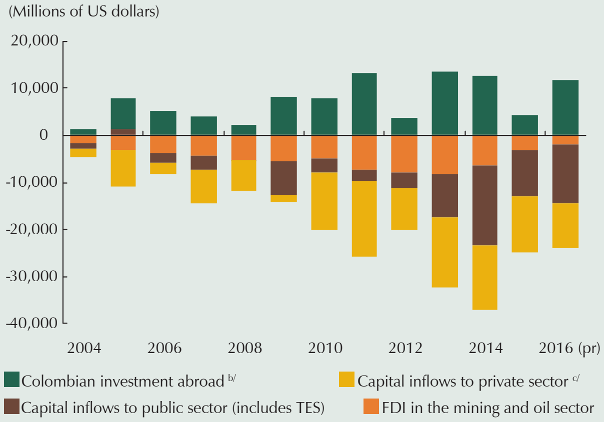



(pr): preliminary
Source: *Banco de la República*.

in external outflows that almost doubled the decline seen in revenue. Therefore, the value of the current account deficit in US dollars went from USD 18.780 b in 2015 (6.4% of GDP) to USD 12.541 b in 2016 (4.4% of GDP).

A factor that allowed for a gradual adjustment of the external sector and the economy in general in view of the petroleum shock was the external financing that the rest continued to receive, especially the public sector. Major purchases of public debt securities by foreigners as well as the growing acquisition of loans and other foreign credit by the government and other public entities (Graph B1.4) stand out. In addition to this, the sale of Isagen also contributed to the income entering the country. All of the above made it possible to partially offset the lower amounts of foreign capital received by the mining and oil sector, especially those related to direct investment (FDI).

Graph B1.4
Components of the Balance of Payments Financial Account[a/]




(pr): preliminary
a/ Does not include reserve assets or derivative financial instruments.
b/ Includes direct and portfolio investment, loans granted to non-residents and deposits abroad.
c/ FDI in the mining and oil sector excluded.
Source: *Banco de la República.*

The reduction in the current account deficit is expected to continue in 2017 and reach a level of around 3.7% of GDP. This would be the result of a recovery in the terms of trade and foreign demand caused by a better outlook for the international prices of raw materials exported by the country as well as by the higher economic growth rates expected from our main trading partners. In addition to the above, the imports will register low growth due to the accumulated depreciation of the peso and the persistent sluggishness of economic activity. The lower current deficit forecast for 2017 may be offset by a reduction in foreign financing. It is assumed that FDI flows may be the main source of foreign financing and that the country may continue receiving portfolio investments.

Meanwhile, the public finances were also affected by the petroleum shock due to the high share of the tax revenue this sector provides. In fact, the increase in crude oil prices and levels of production since the middle of the previous decade allowed the tax revenue derived from this industry to take on greater importance for the state's accounts. In 2013, the share this income holds in the total revenue of the government reached a level of 19.6%, which was equivalent to 3.3% of GDP. The increase in petroleum revenue made it possible to raise the level of spending, especially for investment, and to reduce the size of the fiscal deficit (Table B1.1).

As a result of the price shock in 2014, the share that income derived from petroleum has in the government's revenue declined to 15.6% (2.6% of GDP) that year and to 6.9% (1.1% of GDP) in 2015. In order to mitigate the

Table B1.1
Central National Government Balance Sheet and Petroleum Revenue[a/]

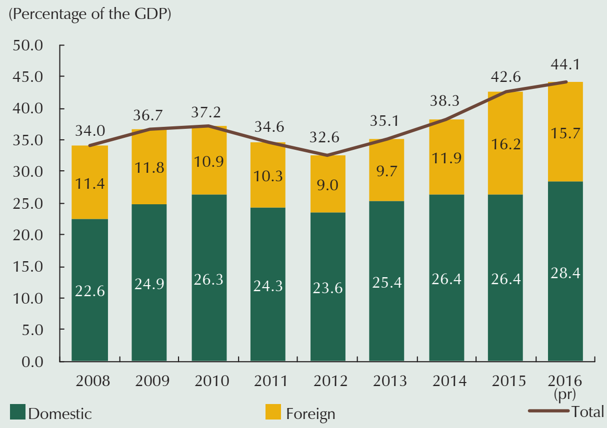
| Percentage of the GDP | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 (pr) | 2017 (proj) |
|---|---|---|---|---|---|---|---|---|
| **Total Revenue** | **13.8** | **15.2** | **16.1** | **16.9** | **16.7** | **16.1** | **15.0** | **15.1** |
| Tax Revenue | 12.3 | 13.5 | 14.3 | 14.3 | 14.3 | 14.5 | 13.7 | 14.4 |
| Non-tax and Special Funds | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Capital Resources | 1.2 | 1.4 | 1.4 | 2.4 | 2.0 | 1.3 | 1.0 | 0.4 |
| **Total expenditures** | **17.7** | **18.1** | **18.4** | **19.3** | **19.1** | **19.2** | **19.0** | **18.5** |
| Interests | 2.7 | 2.7 | 2.6 | 2.3 | 2.2 | 2.6 | 3.0 | 3.0 |
| Operating expenses[b/] | 13.0 | 12.5 | 12.9 | 13.7 | 13.9 | 13.5 | 13.9 | 13.7 |
| Investment[b/] | 1.9 | 2.9 | 3.0 | 3.3 | 3.0 | 3.1 | 2.1 | 1.8 |
| **Total deficit** | **(3.9)** | **(2.9)** | **(2.3)** | **(2.4)** | **(2.4)** | **(3.0)** | **(4.0)** | **(3.3)** |
| **Structural deficit[c/]** | **n. a.** | **n. a.** | **(2.4)** | **(2.3)** | **(2.3)** | **(2.2)** | **(2.1)** | **(2.0)** |
| | | | | | | | | |
| Petroleum revenue[d/] | 0.8 | 1.6 | 2.7 | 3.3 | 2.6 | 1.1 | (0.1) | 0.0 |
| Petroleum revenue/Total revenue (percentage) | 6.2 | 10.3 | 17.0 | 19.6 | 15.6 | 6.9 | (0.6) | 0.0 |
| Income from royalties | 1.1 | 1.4 | 1.6 | 1.3 | 1.1 | 0.9 | 1.0 | n. a. |

(pr): preliminary
(proj): projected.
n.a. Not applicable
a/ Costs of restructuring the financial system are not included.
b/ Includes payments and the floating debt.
c/ The structural fiscal deficit corresponds to the total fiscal balance adjusted for the effect of the economic cycle, the extraordinary and transitory effects of mining-energy activity, and other effects of a similar nature. This is equivalent to the difference between structural income and structural expenditure.
d/ The negative value of petroleum revenue in 2016 corresponds to the tax refunds.
Sources: Ministry of Finance and Public Credit, and DNP.

fiscal impact of this shock, the government worked out a tax reform at the end of 2014, which created a temporary tax on wealth, increased the CREE rate, and established a provisional surcharge on this last tax.[1] Despite these adjustments, the government's deficit went from 2.4% of GDP in 2014 to 3.0% of GDP in 2015 and the debt went from 38.3% of GDP to 42.6% of GDP in the same period (Table B1.1 and Graph B1.5).

In 2016, the repercussions of the petroleum shock showed greater severity given that the tax revenue coming from the sector disappeared. In view of the increased burden

Graph B1.5
Gross Debt of the Central National Government




(pr): preliminary
Source: Ministry of Finance and Public Credit.

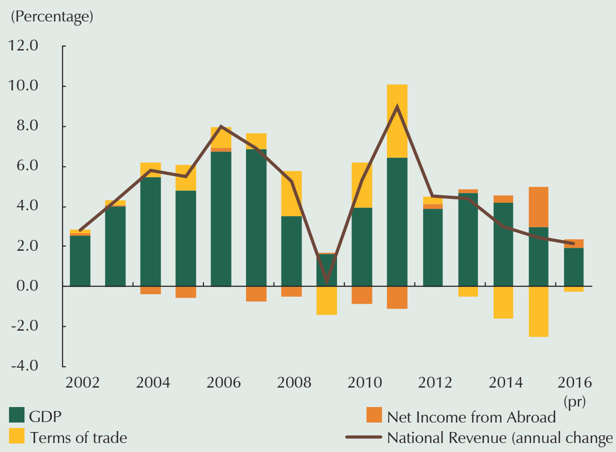
of the interest on debt caused by the depreciation and the rigidity of operating expenses, the Government cut the investment 1 pp of GDP, which was not enough to significantly reduce the share of total expenditure in the GDP. At the end of the year, the deficit and the debt came to 4.0% and 44.1% of GDP respectively (Table B1.1 and Graph B1.5).

The prospect of further deterioration of the fiscal situation, the risk of non-compliance with the goals of the fiscal rule, and the need to ensure the sustainability of the debt in the medium term led the government to submit a new tax reform that was approved by congress in late 2016. This tax reform increased the general rate of the value added tax (VAT) from 16% to 19%, reduced the tax burden for companies, created a tax on dividends, established a permanent basis for the tax on financial transactions, and created some sanctions against tax evasion, etc. With this reform, the government expects to gradually increase tax collection from 0.7% of GDP in 2017 to 3.1% of GDP in 2022. The government estimates that the fiscal deficit may fall to 3.3% of GDP by the end of 2017 as a result of this additional revenue and an adjustment in operating and investment costs.

From the standpoint of territorial finances, the drop in the price of petroleum reduced the value of royalties, which went from 1.6% of GDP in 2012 when it reached its peak level, to 1.0% of GDP in 2016 (Table B1.1). The use of a portion of the savings accumulated in the Savings and Stabilization Fund (FAE in Spanish) in the General System of Royalties eased the need to make cuts in the investment for which these resources are used. Unlike the national government, which saw its crude oil revenue decline to the point of disappearing, the regions maintained a flow of revenue after the shock that allowed them to preserve their spending programs.

The foreign and fiscal adjustment described and, in general, the reduction in the terms of trade and their impact on national revenue, brought about a slowdown in the output growth rate beginning in 2014. That is why the economic growth dropped from 4.4% in 2014 to 2.0% in 2016. This slowdown reflects the weakening of domestic demand, which was largely due to the loss of national revenue (Graph B1.6).

Graph B1.6
Contribution to the Change in National Revenue by Components

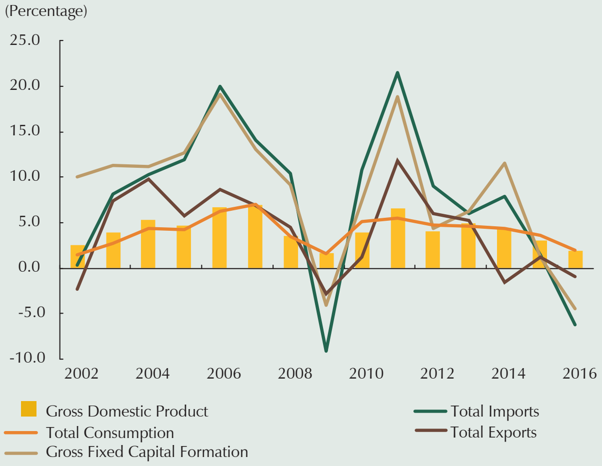



(pr): preliminary
Source: DANE, calculations by *Banco de la República*.

Specifically, among the components of expenditure, investment was affected by cutbacks on projects in the petroleum and mining sector, lower availability of resources for public investment, the drop in imports of capital goods due to real depreciation, and low expectations for economic growth, etc. (Graph B1.7). In addition, the weakening of domestic consumption, for which the growth rate went from 4.4% to 2.0% between 2014 and 2016, has

1 The wealth tax replaced the equity tax.

Graph B1.7
Annual Growth of the GDP and of its Components




Source: DANE.

been the result of a reduction in the household income, adjustment of public expenditures, increases in the cost of loans, real depreciation, and the drop in consumer confidence.

Furthermore, foreign demand has remained stagnant due to several factors, including the economic weakening of this country's main trading partners which were also affected by the shock to the prices of raw materials (Graph B1.8). This is compounded by low economic growth in the developed countries and the rigidities that hamper a stimulus of the country's non-traditional exports.

The recovery of the country's foreign demand and terms of trade forecast for 2017 will benefit net exports and, therefore, the national revenue. Domestic demand could remain sluggish although somewhat better than what was seen in 2016, mainly due to the positive trends expected

Graph B1.8
Annual Growth of the Main Trading Partners GDP)


(proj): projected
Source: IMF, calculations by *Banco de la República*.

for public investment, while private consumption may continue moderate growth. In addition, the negative effects of the different supply shocks registered throughout 2016, in particular the one associated with the *El Niño* phenomenon, may have already disappeared this year. Thus, the technical team at *Banco de la República* predicts growth that is between 0.7% and 2.7% with 2.0% as the most probable figure.

As mentioned in the introduction to the report, monetary policy has played a key role in the entire adjustment process. Thus, in September 2015, the BDBR set in motion a cycle of increases in the policy interest rates starting at a level of 4.5% and reaching 7.75% in July 2016. The challenge of the policy consisted of balancing the risks of a very slow convergence of inflation to the target, on one hand, and an excessive slowdown of the economic activity, on the other. After a reduction of 25 bp at each of the December, February, and March meetings, the policy rate is currently being maintained at 7.0% as explained in the main text of this report.

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## Box 2
## SHARE OF LOCAL GOVERNMENT BOND MARKET HELD BY FOREIGNERS

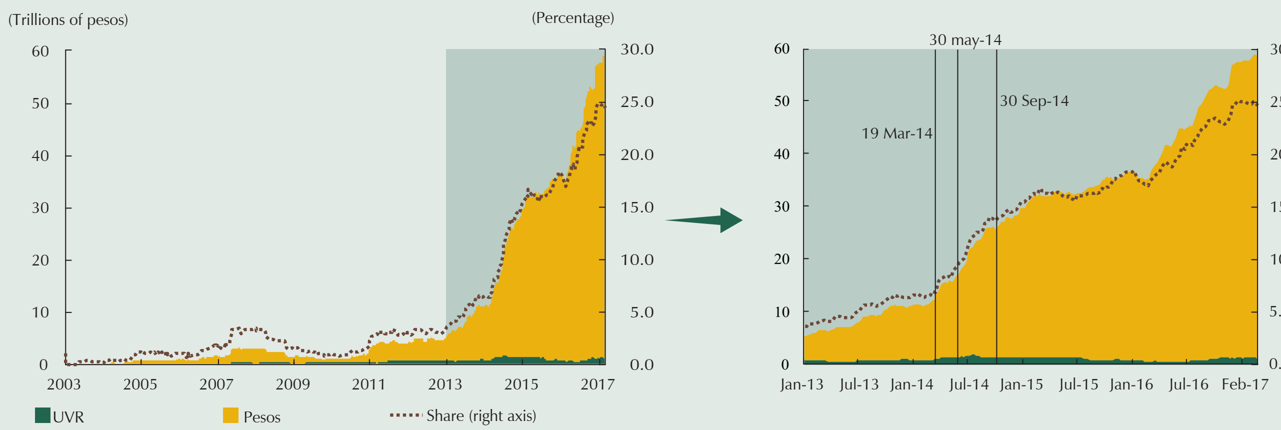
This box describes the participation of offshore investors in the local public debt market, investors who, in recent years, have become some of the main players in the fixed rate, peso-denominated TES market in particular.

Note that the share foreign investors held in the TES market was marginal before 2014 when their positions were equivalent to less than 5.0% of the total TES balance in both pesos and real value units (UVR in Spanish) (Graph B2.1). However, these agents have steadily increased the share they hold since that year such that they owned about 25% of the securities by the end of February[1] with their holdings concentrated in the peso-denominated, fixed rate categories. Here their participation went from approximately 8.0% to 35% between the end of 2013 and the end of 2016. Moreover, when the share foreign investors have in the local public debt market in Colombia is compared to their share in other countries in the region, it turns out to be lower than in Mexico (64.7%) and Peru (37.6%), but higher than the share held in Brazil (14.3%) (Citi Research, 2017).

There are several factors that explain this uptick. On one hand, after the 2008 international financial crisis, several developed economies implemented expansionary monetary policy strategies that significantly relaxed the conditions of international liquidity and drove investors to seek profits in emerging economies. The information provided by the Institute of International Finance shows that this led to a significant recovery in portfolio flows to emerging economies after 2008, especially towards fixed income markets, thus surpassing the levels that existed before the crisis (Graph B2.2).

On the other hand, several changes took place in Colombia that, along with better figures on macroeconomic performance and the strengthening of the investment grade rating of the country's public debt securities, improved the access of foreign capital to local financial markets. Among these, the most outstanding are the changes in access and tax conditions for those international investors that contributed significantly to increasing the flow of foreign investment to the public debt market. In particular, the General Regime for Foreign Capital Investment in Colombia and Colombian Capital Investment Abroad was modified in December 2010.[2] As a consequence, foreigners no longer need to set up a foreign capital investment fund but rather, their investments now only require a local manager.[3] Subsequently, the income tax that foreign inves-

Graph B2.1
Balance of Foreign Investor TES and Share inTotal Balance



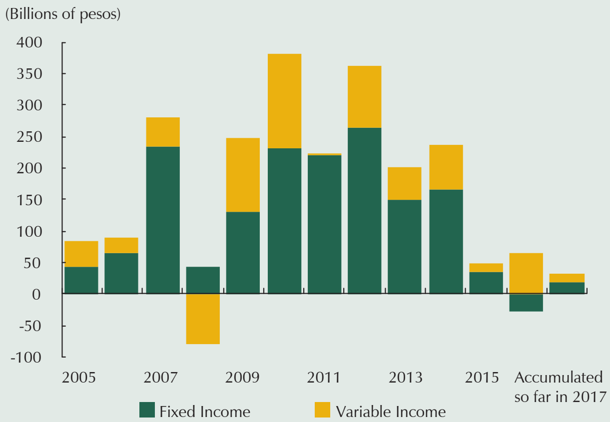

Note: Data as of February 28, 2017
Source: *Banco de la República*-Central Securities Depository.

1 Specifically, the TES holdings as a percentage of the total balance stood at 24.4% as of February 28.

2 Decree 4800/2010 which modified Decree 2080/2000.

3 Stock brokerage companies, trust companies, or investment management companies.

Graph B2.2
Foreign Investor Portfolio Flows to Emerging Economies[a/]



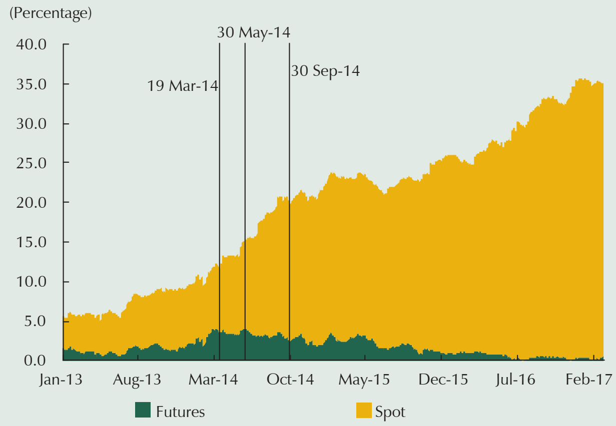

a/ The information is preliminary so far in 2017 (January and February) and corresponds to the figures published by the IIF on March 01, 2017
Source: The Institute of International Finance.

tors had to pay for their investments in TES[4] was reduced, going from 33% to 14% in 2012, and in 2013,[5] the calculation of the withholding tax on fixed income securities was simplified. As a result, the withholding tax was no longer collected monthly but rather only when the investors received income through, e.g., coupon payments or the sale of the security.

These improvements in taxation and the greater access of foreign investors to the domestic market, together with the weakening of other emerging economies, contributed to the JP Morgan announcement on March 19, 2014 of an increase in Colombia's share in three of its main emerging debt indices: GBI-EM Global Diversified (from 3.20% to 8.00%), GBI-EM Global (from 1.81% to 5.60%) and GBI-EM Global Diversified 15% IG (from 3.07% to 8.26%).[6]

These adjustments took place gradually between May 30 and September 30 of that same year, and according to initial estimates of *Banco de la República*, this rebalancing could have led to an additional potential demand for peso-denominated TES of close to COP 19 trillion (USD 9.420 b) by foreign investors.[7] In particular, between March 19 and September 30, 2014, foreign investors made net purchases of COP 13.2 trillion pesos in TES and COP 927 billion in TES UVR (Graph B2.1). In the case of peso-denominated TES, they increased the share they held, which was 8.0% of the total balance, to 18% between the aforementioned dates[8] (Graph B2.3).

Graph B2.3
Foreign Investor Share of Peso-denominated TES, Spot and Futures Market




Source: *Banco de la República*-Central Securities Depository.

4 Specifically, Act 1607/2012 established two rates for foreign portfolio investments, one of 25% and the other of 14%, depending on whether the investments came from tax havens or not respectively.

5 Decree 2318/Oct. 23, 2013.

6 With this increase, the participation of other emerging countries within the indices declined. The countries with the largest reductions were Turkey [GBI-EM Global Diversified (from 9.21% to 8.02%), GBI-EM Global (from 5.90% to 5.58%), and GBI-EM Global Diversified 15% IG (from 8.70% to 8.23%)]; Russia [GBI-EM Global Diversified (from 10.0% to 9.02%), GBI-EM Global (from 6.90% to 6.27%), and GBI-EM Global Diversified 15% IG (from 10.17% to 9.25%)]; Thailand [GBI-EM Global Diversified (from 8.42% to 7.57%), GBI-EM Global (from 5.39% to 5.26%), and GBI-EM Global Diversified 15% IG (from 7.94% to 7.76%)]; Indonesia [GBI-EM Global Diversified (from 8.0% to 7.42%)]; Hungry [GBI-EM Global Diversified (from 5.43% to 4.86%) and GBI-EM Global (from 3.47% to 3.38%)] and Poland [GBI-EM Global (from 11.45% to 11.03%) and GBI-EM Global Diversified 15% IG (from 15.0% to 12.34%)].

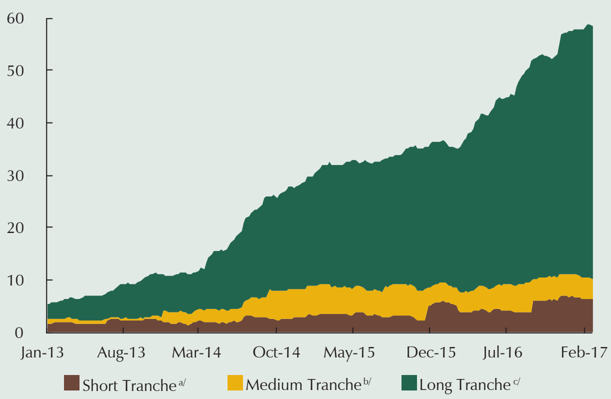
7 In the specific case of the GBI-EM Global Diversified index, new peso-denominated TES categories were included and the share of global bonds was reduced. For more detail on these changes and on the JP Morgan indicators, consult the April 2014 *Banco de la República's Reporte del Emisor* No. 179 or Box 2: "Análisis del impacto en Colombia de la recomposición de los índices de JP Morgan de deuda local de países emergentes" (Analysis of the impact on Colombia of the rearrangement of the JP Morgan indices for local debt of emerging countries) in the July 2014 Report to Congress.

8 This variation corresponds to purchases in the cash market. Taking into account the TES buyer position in futures contracts, the percentage went from 12% to 20%.

Note that the TES open buying position of foreign investors for non-delivery forward contracts[9] was rising, but it began to decrease once JP Morgan made the announcement (Graph B2.3). This can be explained by the fact that this instrument allowed foreign investors to take positions in TES without purchasing the asset directly since it could have been very expensive for them to participate in the domestic public debt market directly.

Moreover, although several categories of peso-denominated TES were considered for the adjustments in the JP Morgan indicators, those with longer maturities were given higher weightings within the indices. Therefore, foreign investor purchases have been concentrated in the long tranche of the yield curve[10] (Graph B2.4).

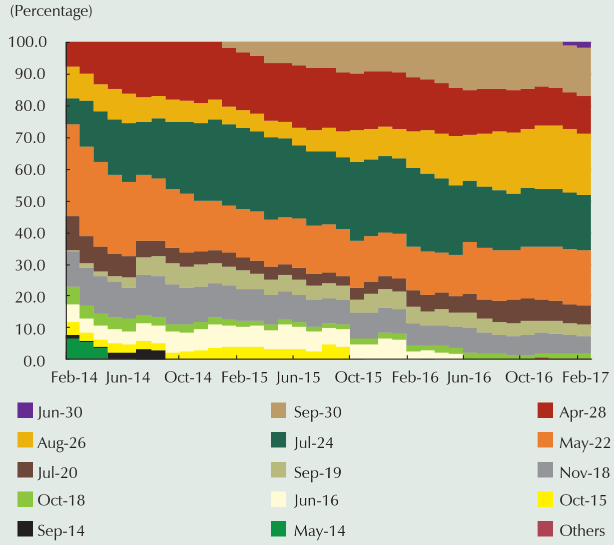
Graph B2.4
Change in the Peso-denominated TES Balance of Foreign Investors by Tranche




a/ Corresponds to all those securities that had a maturity period of less than two years at the time they were purchased.
b/ Corresponds to all those securities that had a maturity period of between two and five years at the time they were purchased.
c/ Corresponds to all those securities that had a maturity period of more than five years at the time they were purchased.
Source: *Banco de la República*-Central Securities Depository.

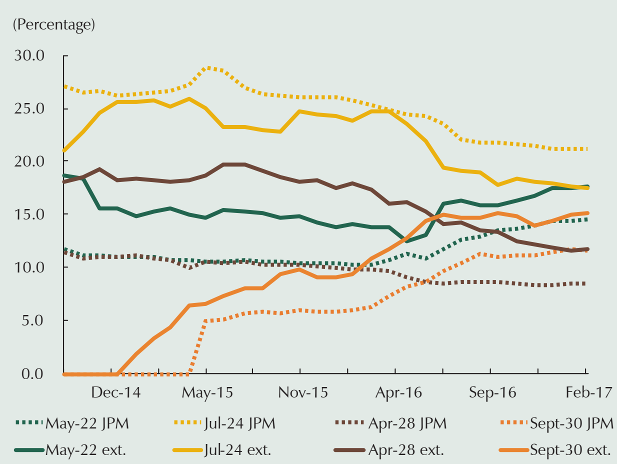
At the end of February 2017, the securities that the largest portion of the offshore peso-denominated TES portfolio was concentrated in were the categories with maturities in 2026 (19%), 2024 (17%), 2022 (18%), 2030 (15%), and 2028 (12%) (Graph B2.5). Graph B2.6 shows that, since September 30, 2014, the share of these categories within the portfolio of foreign investors has been similar to the weights of the GBI-EM Global Diversified Index, and the differences may be a reflection of the fact that some of the funds which have entered the Colombian market have an investment profile that does not restrict them from passively duplicating those indices.

Graph B2.5
Change in the Components of the Peso-denominated TES Portfolio of Foreign Investors by Reference




Source: *Banco de la República*-Central Securities Depository.

Graph B2.6
Change in the Peso-denominated TES Trends of Foreign Investors vs. JP Morgan Index Weights[a/]



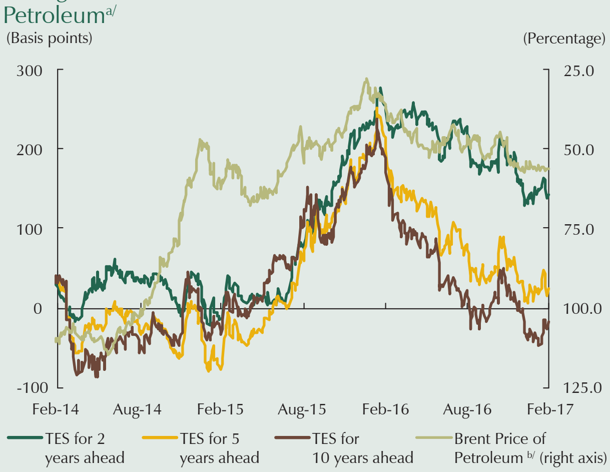

ext.: foreigners observed.
a/ The JP Morgan GBI-EM Global Diversified Index is used as a reference.
Source: *Banco de la República*-Central Securities Depository.

9 A forward contract is a derivative financial instrument in which the parties make the commitment to buy or sell an asset, in this case a TES, at a fixed price and at a specified date in the future. In this type of contract, the settlement is made by compensation (non-delivery forward), i.e., at maturity, the market price (or rate) is compared to the agreed price (or rate) and the differential is paid by the corresponding party.

10 For the purposes of this box, a long tranche is defined as all those securities that, at the time of acquisition, had a maturity period of more than five years. Likewise, the medium tranche is made up of the bonds that mature within a period of between two and five years, and the remaining securities are classified as short tranche.

The pace at which foreign investors made purchases dropped during 2015 and rebounded again during 2016 as their net purchases were even higher than those registered in 2014 when the JP Morgan indicators were adjusted.[11] The lower offshore inflows during 2015 coincided with a slowdown in the emerging economies in the face of lower prices for commodities, especially petroleum, and the uncertainty about the conditions of global liquidity. In this context, the TES depreciated during 2015 as did the region's public debt (Graph B3.7).

Graph B2.7
Changes in the Peso-denominated TES and the Price of Petroleum[a/]




a/ The bond variations are calculated using December 31, 2013 as the base.
b/ The axis for the price of petroleum is inverted.
Source: Bloomberg, calculations by *Banco de la República*.

In 2016, in contrast, the purchases made by these investors increased as a result of the recovery of crude oil prices and the decline in the perception of international risk during the first half of the year. Finally, and in line with what was seen in 2016, the trend of foreign investors' inflows into this market has continued to grow so far in 2017. In January and February, their balance rose COP 904.1 billion [12] thus strengthening their position as some of the main players involved in the domestic public debt market.

In summary, the rise in the participation of foreign investors in the public debt market constitutes one of the most relevant changes in the recent history of this market and could represent benefits in terms of depth, diversity of the market players, price formation, and lower costs for use of capital, but it could also become a factor in making the domestic economy more vulnerable to external shocks. This implies, among other things, the need to maintain credible, sensible, and well-communicated economic policy positions that reinforce the confidence of these agents in the performance of the economy. In this context, a constant monitoring of the international investors' participation is paramount for the analysis and follow-up of the TES market.

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11 The net purchases of peso-denominated TES by foreign investors for 2014, 2015, and 2016 amount to approximately COP 18, COP 7, and COP 21 trillion respectively.

12 Based on data from February 28, 2017.

# III. International Reserves

*As of December 2016, the net international reserves totaled USD 46.674,63 b, which is USD 56.48 m lower than the balance registered in December 2015. This decline is due to the sale of USD 255.6 m on the exchange market and the appreciation of the US dollar, which reduced the value of the investments in other currencies. The profitability of the reserves in dollars was 0.77%, USD 360.5 m, which is low in absolute terms, but the highest seen since 2009. The gradual increase in the interest rates in the international financial markets allowed the accrued interest returns to improve in comparison to previous years.*

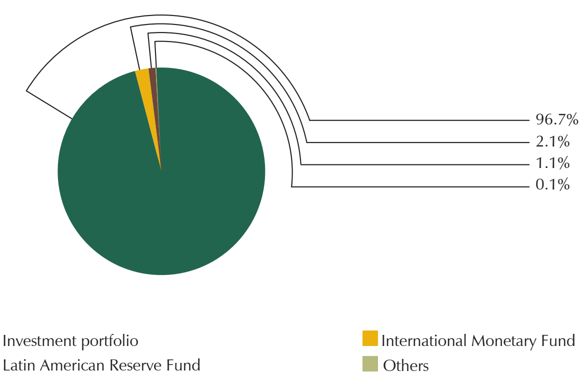
In compliance with Act 31/1992, *Banco de la República* manages the international reserves in accordance with the public interest, to the benefit of the national economy, and to facilitate the country's payments abroad. Based on this, the law requires that investment of the reserve assets be done under the criteria of security, liquidity, and profitability.

*Maintaining a suitable level of international reserves serves to improve confidence in the country and, hence, deal with any crisis in foreign markets better.*

*Banco de la República* recognizes the importance of having an appropriate level of international liquidity to deal with capital outflows from the country which may be caused by factors such as a deterioration in the terms of trade, financial panics, or financial crises in neighboring countries. In this context, maintaining a suitable level of international reserves also serves to improve confidence in the country and, hence, deal with a crisis in foreign markets better. The level of the international reserves is a determining factor in the perception of the national borrowers' ability to repay a loan. The credit rating agencies and foreign lenders think that a suitable level of reserves allows the residents to meet their obligations, for example, paying for imports and servicing the foreign debt, in foreign currency at a time when the country faces difficulty in accessing foreign financing. The agents in the international capital markets use the indicators of the reserves' ability to pay as a measurement of the country's liquidity, which highlights the importance of maintaining an appropriate level of international reserves. A country with low levels of international reserves may receive less funding through direct investment from the rest of the world, have greater difficulty getting access to foreign loans, or pay higher interest rates on foreign debt.

*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 chance of facing a default 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.

Graph 39
Components of the Gross International Reserves
(information as of December 31, 2016)




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*.

As of December 2016, the net international reserves totaled USD 46.674 b which is USD 56.48 m lower than the balance registered in December 2015.[50] This decline in the international reserves in 2016 is due to the sale of US dollars on the exchange market (USD 255.6 m) and the appreciation of the US dollar since the reserves in this currency appreciated and thus reduced the value of the investments in other currencies. The main component of the international reserves is the investment portfolio which corresponds to investments in financial instruments on the international market and to the certified physical gold (96.22% and 0.46% respectively of the reserves). The breakdown of the international reserves is presented in Graph 39.

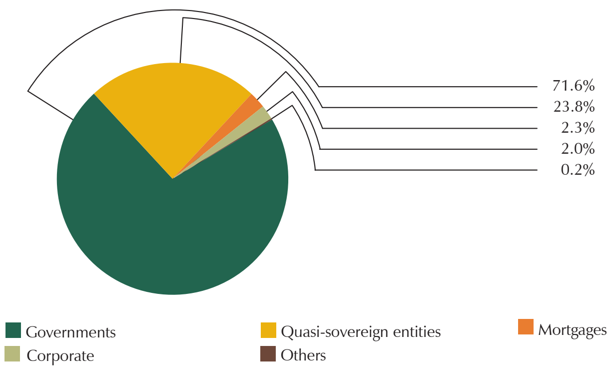
## A. COMPONENTS OF THE INVESTMENT PORTFOLIO[51]

An explanation of the policies that guide the investment portfolio management and some relevant definitions are provided in the Appendix. The components of the portfolio as of December 2016 can be seen in Graph 40 when about

50 The net international reserves are equal to the total international reserves, or gross reserves, minus the *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 46.68280 b and the short-term foreign liabilities were USD 8.16 m.

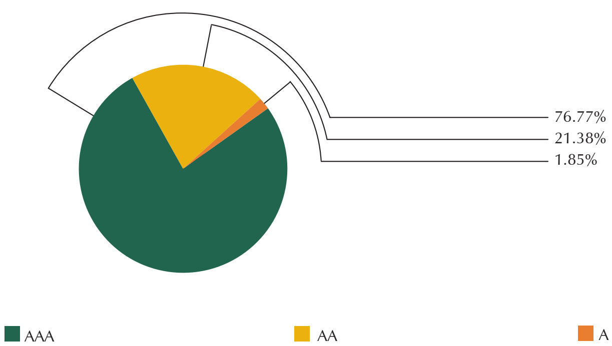
51 The graphs in this section were calculated based on the amount in the investment portfolio excluding the gold tranche.

Graph 40
Components of Investment Portfolio by Sector
(information as of December 31, 2016



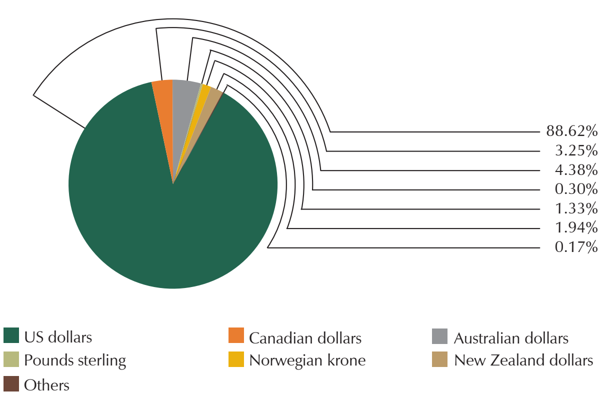

Source: *Banco de la República.*

Graph 41
Components of Investment Portfolio by Credit Rating
(information as of December 31, 2016)




Source: *Banco de la República.*

Graph 42
Currency Components of the Investment Portfolio
(information as of December 31, 2016)




Source: *Banco de la República.*

98% was invested in paper issued by governments or quasi-sovereign entities.[52]

Graph 41 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. Instruments with AAA ratings make up 76.77% of the portfolio and this is evidence of the high quality of the assets in which the portfolio invests.

Finally, Graph 42 shows the foreign exchange components the investment portfolio had as of December 31, 2016. The largest share of Colombia's international reserves is in US dollars due to the fact that a large part of the country's commercial and financial transactions with the rest of the world are carried out in this currency. Investment in the following currencies is also allowed: Canadian, Australian, New Zealand, Hong Kong, and Singapore dollars; Swedish krona; Norwegian krone; the pound sterling; Swiss franc; euros; Japanese yen; Chinese renminbi; Korean won. All of these currencies are characterized by high daily trading volumes and belonging to governments with high credit ratings.

## B. PROFITABILITY OF THE RESERVES

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

In 2016, the profitability of the reserves in US dollars was 0.77%[53] (USD 360.5 m). Although the rate of return remains low in absolute terms, it is the

52 Quasi-sovereign entities are issuers that are owned by governments or are backed by them, for example, supranational entities or agencies.

53 This rate is obtained by dividing the return in US dollars by the average value of the net reserves on December 31, 2015 and December 31, 2016. Since 2015, the impact of the exchange rate effect on the profitability of the reserves has been excluded.

highest one that has been seen since 2009. The interest rates in the main developed countries remained at historically low levels, but in the United States, they have risen incrementally due to the Federal Reserve's decision to raise their benchmark interest rate a total of 0.5% between 2015 and 2016. At the end of 2016, the monetary policy benchmark rate was within a range of 0.5% to 0.75% while the rate for the 2-year US Treasury bond closed the year at 1.19%. This made it possible for returns based on interest generation to improve with respect to the preceding years.

# IV. Banco de la República's Financial Position

*In 2016, Banco de la República had a profit of COP 502 b from the accounting period because of the higher foreign and domestic interest rates, the suspension of foreign currency purchases on the exchange market since the end of 2014, and the larger TES portfolio.*

*In the financial position statement, the lower peso value of the international reserves, which resulted from the strengthening of the peso with respect to the reserve currencies, was offset by the higher balance of the TES portfolio.*

Between 2004 and 2014, the Colombian economy faced a situation with high capital inflows and a tendency for the peso to appreciate. Moreover, starting in 2008, foreign interest rates declined significantly. Throughout this entire period, the Bank provided the primary market with the necessary liquidity, basically through the purchase of international reserves. These purchases were discontinued towards the end of 2014 and, as a result, it was necessary to seek different sources of monetary expansion: in 2015, the main source of liquidity expansion in the primary market was a reduction of government deposits in the central bank while, in 2016, it was the purchases of TES (see Box 3).

*In 2016, Banco de la República registered a profit of COP 502 b from the accounting period as a result of COP 3.130 t in income and COP 2.628 t in expenditures.*

The provision of primary liquidity, basically through the already mentioned purchases of foreign currency resulted in low yields for the Bank, especially during those years in which the differential between the domestic and foreign interest rates, was high and after having accumulated foreign currency purchases in significant amounts. In particular, the Bank registered losses primarily as a consequence of the cumulative cost of the intervention in the foreign exchange market during the 2010-2015 period.[54] In 2016, the higher foreign and domestic interest rates, the discontinuation of foreign currency purchases on the foreign exchange market since the end of 2014, and the larger TES portfolio held by the Bank led to a change in its profit-and-loss statement (P and L). The income rose and, once

54 See the Reports to Congress by the Board of Directors of the *Banco de la República* and the editorial note in the *Banco de la República*'s magazine for December 2013.

*In 2016, the income rose COP 1.414 t and the expenditures rose COP 517 b.*

again, it had a positive result for the accounting period in spite of the fact that the expenditures also rose.

This is reflected in the structure of the balance sheet. The main item is its assets consists of the international reserves (84% on average between 2004 and 2016). The purchases of foreign currency resulted in significant income from the returns on the international reserves during the first part of that period. However, starting in 2008, foreign interest rates declined and have been particularly low since 2009. This, together with the appreciation of the US dollar compared to other currencies in the reserves, led to low yields on the international reserves and even negative ones in 2013 and 2014. Starting in 2015 and as a result of the higher foreign interest rates, the return on the reserves became positive and significant in magnitude again for 2016.

However, purchases of foreign currency on the part of the Central Bank had been discontinued at the end of 2014 and the primary liquidity was provided through other sources: in 2015, through a reduction in the government deposits at the central bank and, in 2016, by means of the Bank's significant purchases of TES. The latter brought with it a rise in the balance of those securities in their possession, which represented 5.0% of the total assets in 2016 after having had practically none of them during the three years prior.

In addition, it should be mentioned that the most significant outlays for the Bank are what are called monetary costs (Table 9). Their development is mainly related to the supply sources for primary liquidity, the performance of which has been mentioned in detail in Box 3. The corporate expenditures, in turn, remained relatively constant in real terms over the last few years. A real growth for these is forecast for 2017 as a result of the increase in those which are affected by the change in the minimum wage, collective bargaining agreements, depreciations, debt repayments, taxes, asset maintenance, and technology projects, etc.

## A. CHANGE IN THE INCOME STATEMENT

In 2016, *Banco de la República* registered an operating result of COP 502 b, the result of COP 3.130 t in income and COP 2.628 t in expenditures (Table 9). Compared to the previous year, the income represented a COP 1.414 t increase and the outlays, a COP 517 b rise.

*The higher revenue is mainly explained by the return on the international reserves and the TES portfolio held by the Bank as well as by the results of the liquidity transactions.*

The higher revenue seen in 2016 is mainly explained by the return on the international reserves, the investment portfolio of TES Treasury bonds held by the Bank as well as by the income from the liquidity transactions through repos. In addition, the larger outlays are due, in particular, to the higher remuneration paid to the national government on its deposits at *Banco de la República*.

Table 9
*Banco de la República*'s Income Statement for 2016
(billions of pesos)

| | Implemented: | | Annual changes | |
|---|---|---|---|---|
| | 2015 | 2016 | Percentage | Absolute |
| **I. Total Income (A+B+C)** | **1,715** | **3,130** | **82.4** | **1,414** |
| A. Monetary income | 1,219 | 2,635 | 116.1 | 1,416 |
| 1. Interest and returns | 724 | 2,595 | 258.4 | 1,871 |
| International Reserves | 320 | 1,131 | 253.4 | 811 |
| Monetary Regulation Investment Portfolio (TES) | 29 | 1,007 | 3.413.1 | 979 |
| Active Monetary Regulation Transactions (Repos) | 375 | 456 | 21.7 | 81 |
| Other operations | 0 | 0 | (27.9) | (0) |
| 2. Foreign exchange differences | 493 | 37 | (92.5) | (456) |
| 3. Other monetary income | 3 | 4 | 41.1 | 1 |
| B. Face value of the coins issued | 308 | 300 | (2.7) | (8) |
| C. Corporate income | 188 | 194 | 3.5 | 7 |
| 1. Commissions | 154 | 160 | 3.9 | 6 |
| Banking services | 73 | 67 | (7.9) | (6) |
| Fiduciary operations | 81 | 93 | 14.5 | 12 |
| 2. Other corporate income | 34 | 35 | 1.8 | 1 |
| **II. Total expenditures** | **2,111** | **2,628** | **24.5** | **517** |
| A. Monetary expenditures | 1,380 | 1,850 | 34.1 | 471 |
| 1. Interest and returns | 1,089 | 1,568 | 44.1 | 480 |
| Remuneration for Liquidity on the Ministry Finance's accounts | 572 | 1,427 | 149.6 | 855 |
| Interest-bearing Deposits for Monetary Control | 510 | 131 | (74.3) | (379) |
| Liability Transaction Deposits for Monetary Regulation | 7 | 10 | 56.9 | 4 |
| 2. Management Costs and Cost of Managing Funds Abroad | 36 | 40 | 12.6 | 5 |
| 3. IMF Commission on Flexible Credit Commitment | 30 | 61 | 103.1 | 31 |
| 4. Foreign exchange differences | 224 | 180 | (19.9) | (45) |
| 5. Other monetary expenditures | 1 | 1 | 17.8 | 0 |
| B. Banknotes and coins | 219 | 215 | (2.0) | (4) |
| C. Corporate expenditures | 451 | 496 | 10.0 | 45 |
| 1. Personnel costs | 304 | 332 | 9.0 | 27 |
| 2. Overhead | 64 | 71 | 10.8 | 7 |
| 3. Other Corporative | 82 | 93 | 13.3 | 11 |
| D. Pensioners' expenses | 61 | 67 | 9.1 | 6 |
| **III. Operating results (I II)** | **(395)** | **502** | **-** | **897** |

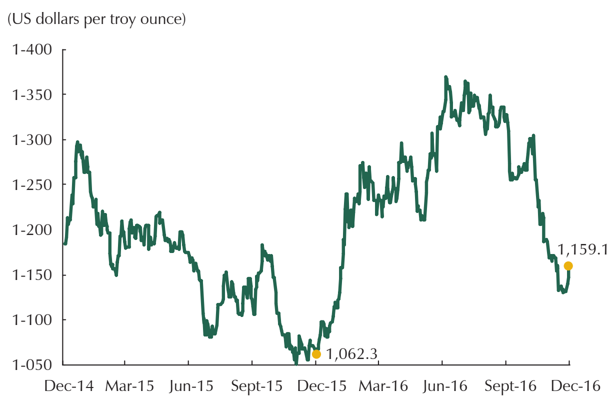
Source: *Banco de la República*.

Table 10
Return on International Reserve Investments
(billions of pesos)

| | 2015 | 2016 |
|---|---|---|
| **International Reserves** | **320** | **1.131** |
| Portfolio | 401 | 1.102 |
| International Entities, Aladi Agreement, etc. | 6 | 12 |
| Gold | (87) | 17 |

Source: *Banco de la República*.

Graph 43
International Price of Gold




Source: Reuters.

The items that had the greatest influence on the income statement in 2016 are given below:

- The increase from the yield of the international reserves is the result of: 1) the return on the investment portfolio (COP 1.102 t) that had an average profitability in 2016 of 0.77% compared to 0.43% in 2015; 2) the appreciation of the gold investments (COP 17 b) resulting from the rise in the international price for gold (7.3%);[55] and 3) the yields from the contributions to international entities, the agreement with the Latin American Integration Association (Aladi), and others (COP 12 b) (Table 10 and Graph 43).
- The income from the returns on the TES monetary regulation investment portfolio came to COP 1.007 t. This result was due to the increase in the balance of the TES portfolio that went from COP 118 b in December 2015 to COP 8.893 t a year later. This is the result of COP 15.033 t in net purchases, the transfer of COP 404 b in securities received from the government to cover the central bank's operating results for 2015, and the maturity of COP 6.705 t in securities held by the Bank.
- Income from liquidity transactions through repos amounted to COP 456 b, which is COP 81 b higher than in 2015 and the result of the higher rate of remuneration that offset the lower average daily volumes of these transactions.[56]
- The placement of coins into circulation generated COP 300 b in revenue, which is COP 8 b (-2.7%) lower than what was seen in 2015.
- The net effect of the income and expenditures caused by changes in the peso to US dollar exchange rate on the assets and liabilities in foreign currencies other than the international reserves was negative (-COP 143 b) and resulted from the appreciation of the peso with respect to the dollar which occurred at the end of the year.[57]

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55 The international price of gold was USD 1,159.1 per troy ounce at the close of 2016 and USD 1,062.3 per troy ounce at the close of 2015.

56 The average daily volumes were COP 6.687 t in 2016 and COP 8.254 t in 2015. The average rate of remuneration seen in 2016 was an annual rate (a.r.) of 7.06% and an a.r. of 4.65% in 2015.

57 57. The exchange rate ended 2016 at COP 3,000.71 per dollar, which meant a 4.7% appreciation of the peso in comparison to the close of 2015.

*The expenses also rose due to the higher remuneration for the government's deposits at the Bank.*

- The income received from commissions for banking services and fiduciary operations came to COP 160 b, which is COP 6 b (3.9%) higher than the amount received in 2015. The increase is explained by the earnings from the fiduciary operations which presented a growth of COP 12 b (14.5%) mainly because of the remuneration from TES management which grew 13.2% per annum.

Regarding expenditures, the following stands out:

- The expenses for paying interest on the deposits for managing the national government's liquidity was COP 1.427 t which was COP 855 b (149.6%) higher compared to a year ago. This was caused by the higher average volumes of these operations and the higher interest rate.[58] This item is the main explanation for the increase in the Bank's monetary outlays in 2016.
- The costs of issuing and distributing monetary species were COP 215 b and registered a 2.0%, COP 4 b decline compared to 2015 due to the lower demand for banknotes.
- The interest-bearing deposits for monetary control presented an implementation cost of COP 131 b in 2016 compared to one of COP 510 b in 2015.[59]
- Payment of interest on deposits for monetary-control liability operations came to COP 10 b compared to the COP 7 b seen in 2015 thus showing a 56.9% increase in expenditures.[60]
- The corporate outlays stood at COP 496 b with a rise of 10.0% (4.1% in real terms) compared to those registered in 2015. Included among these are:

  - Personnel costs, COP 332 b, which presented a change of 9.0% (3.1% real).[61] This expenditure involves wages and benefits, contributions to social security, medical service, financial aid, and formal training. Other employee expenses are also included such as contributions to family benefit funds, ICBF and SENA, continued training and per diems, etc.
  - Overhead, COP 71 b, which registered a change of 10.8% (4.8% real) as a result of higher expenditures on maintenance, improve-

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58 The average daily balance of these deposits in the *Banco de la República* was COP 20.367 t in 2016 and COP 12.597 t in 2015 (not including the cashier account). The annual average rate of remuneration seen was an a.r. of 7.26% and an a.r. of 4.54% respectively.

59 The average balance of these deposits in 2016 was COP 10.1345 t until July 1st, when they came to maturity. The annual average rate of remuneration was an a.r. of 5.49% in 2016 and an a.r. of 5.16% in 2015.

60 The average balance was COP 183 b in 2016 compared to COP 179 b in 2015. The average rate of remuneration was an a.r. of 5.87% and an a.r. 3.8% respectively.

61 Includes what is described in the collective agreement currently in effect.

*The net result for the 2016 fiscal year in the national government's favor is COP 407 b.*

ments to the facilities and equipment,[62] utilities, private security, janitor service, and outsourcing services associated with the growth of the Bank's infrastructure. The increase in the minimum wage (7.0%) also affected some items such as maintenance and building surveillance contracts.

- Other corporate outlays, COP 93 b, registered a change of 13.3% (7.1% real) resulting from the larger depreciation, debt repayments, technology projects, taxes and insurance associated with the purchase and renovation of assets. Within this area, cultural expenses (COP 9 b) did not register changes in real terms.

- Last of all, costs for those on pensions, COP 67 b, presented a change of 9.1% (3.2% real). This expense is the result of the financial cost of pensions, medical services, educational aid, and the income from the reimbursement of pensions recognized by Colpensiones.

## B. RESERVE ACCUMULATION AND PROFIT DISTRIBUTION

The Bank's articles of association establish that the Board of Directors must approve the financial statements corresponding to the fiscal year and create or increase the monetary and exchange rate stabilization reserve using the fiscal year's profits based on the forecasts of losses that the Bank's projections show for the next two fiscal years. The remaining profits, once the net investment in goods for cultural activity is discounted and the rest of the statutory reserves are appropriated[63], will belong to the nation. Losses from the fiscal year will be covered by the nation's general budget (NGB) as long as they are not absorbed by the monetary and exchange rate stabilization reserve.[64]

In 2015, in the process of applying the new IFRS-based accounting policies, adjustments were made to the assets, liabilities, and equity of the Bank. The net effect of this was a negative value of COP 153 b. In accordance with the IFRS, and with the instructions of the National General Accounting Office and Financial Superintendency, these losses were recorded in the financial statements for that year under "Accumulated results of the IFRS convergence process." Considering the fact that there were no profits in fiscal 2015 and accepting the opinions of the Public Accounting Technical Board, the Board of Directors of *Banco de la República* authorized covering the losses due to the implemen-

62 Treasury, corporate, and security equipment; elevators, air conditioning; communications; fire protection systems; pumps; motor pumps; and other equipment installed in the Bank's buildings.

63 Other statutory reserves: 1) to protect assets, 2) foreign exchange results, and 3) currency fluctuations (Decree 2520/1993, article 61 and Decree 2386/2015, article 1).

64 Decree 2520/1993, articles 34, 60, 62, and 63.

tation of the new IFRS-based accounting framework by using future profits through five equal annual payments when the annual fiscal year shows a profit.

According to the above, the net result in favor of the national government is COP 407 b, a figure that incorporates the COP 502 b in operating results and the fiscal year deductions for the net investment, COP 64 b[65] in cultural activity, and the reduction in equity, COP 31 b,[66] due to the implementation of IFRS (Table 11).

Table 11
Distribution of Profits
(billions of pesos)

| | 2016 |
|---|---|
| **A. Fiscal year result** | **502** |
| **B. Plus use of reserves** | **0** |
| Foreign-exchange fluctuation reserve | 0 |
| Monetary and currency stabilization reserve | 0 |
| Foreign-exchange result reserve | 0 |
| Asset-protection reserve | 0 |
| **C. Less allocation to reserves** | **95** |
| Foreign-exchange fluctuation reserve | 0 |
| Foreign-exchange result reserve | 0 |
| Asset-protection reserve | 0 |
| Loss due to implementation of IFRS | 31 |
| Net Investment in Cultural Activity Goods | 64 |
| **Net Result in favor (+) or charged to the national government (-): A + B-C** | **407** |

Source: *Banco de la República*.

## C. FINANCIAL STRUCTURE

The changes in *Banco de la República*'s main assets, liabilities, and equity as of December 31, 2016 in comparison to the balances registered on December 31 the previous year is explained below (Table 12).

65 This item is due, mainly, to the net investment in real estate for the cultural area in San Andres (COP 31 b), Neiva (COP 13 b), and the Gold Museum in Pasto (COP 3 b) as well as the investment in the donation of the house and works of Gomez Campuzano (COP 10 b). In this latter case, based on the new IFRS accounting policy, the donation increased the income on the profit and loss statement. When this sum is discounted as a cultural investment, it will have no effect on the profits that will be transferred to the nation in 2017.

66 This value corresponds to a fifth of the losses from the implementation of the new accounting framework based on the IFRS (COP 153.5 b).

Table 12
Financial Position of *Banco de la República* Classified by Economic Criteria
(billions of pesos)

| Accounts | December 2015 | | December 2016 | | Change | |
|---|---|---|---|---|---|---|
| | Balance | Percentage share | Balance | Percentage share | Absolute | Percentage |
| **Assets** | **160,153** | **100.0** | **167,289** | **100.0** | **7,135** | **4.5** |
| Gross International Reserves | 147,207 | 91.9 | 140,082 | 83.7 | (7,126) | (4.8) |
| Contributions to international entities | 3,795 | 2.4 | 10,109 | 6.0 | 6,313 | 166.3 |
| Investments | 118 | 0.1 | 8,893 | 5.3 | 8,775 | 7.407.0 |
| Public sector: Monetary control | 118 | 0.1 | 8,893 | 5.3 | 8,775 | 7.407.0 |
| Loan portfolio | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Other loans | 1 | 0.0 | 1 | 0.0 | 0 | 3.2 |
| Deterioration | (1) | (0.0) | (1) | (0.0) | (0) | 3.2 |
| Repo agreements - transitory liquidity support | 6,908 | 4.3 | 5,813 | 3.5 | (1,094) | (15.8) |
| Accounts receivable | 47 | 0.0 | 53 | 0.0 | 5 | 11.3 |
| Other net assets | 2,077 | 1.3 | 2,339 | 1.4 | 262 | 12.6 |
| **Liabilities and equity** | **160,153** | **100.0** | **167,289** | **100.0** | **7,135** | **4.5** |
| Liabilities | 97,077 | 60.6 | 110,428 | 66.0 | 13,351 | 13.8 |
| Foreign-currency liabilities that affect international reserves | 29 | 0.0 | 24 | 0.0 | (5) | (16.0) |
| Monetary Base | 82,519 | 51.5 | 84,598 | 50.6 | 2,079 | 2.5 |
| Cash | 54,084 | 33.8 | 55,427 | 33.1 | 1,343 | 2.5 |
| Reserve | 28,435 | 17.8 | 29,172 | 17.4 | 737 | 2.6 |
| Non-reserve interest-bearing deposits | 353 | 0.2 | 83 | 0.0 | (269) | (76.4) |
| Other deposits | 43 | 0.0 | 70 | 0.0 | 27 | 62.7 |
| Government - liquidity (Finance Ministry, local currency) | 4,043 | 2.5 | 14,589 | 8.7 | 10,546 | 260.8 |
| Government (Finance Ministry, foreign currency) | 241 | 0.2 | 266 | 0.2 | 24 | 10.1 |
| Interest-bearing Deposits for Monetary Control | 4,935 | 3.1 | 0 | 0.0 | (4,935) | (100.0) |
| Obligations with international organizations | 5,273 | 3.3 | 11,453 | 6.8 | 6,180 | 117.2 |
| Accounts payable | 226 | 0.1 | 82 | 0.0 | (144) | (63.9) |
| Other liabilities | (585) | (0.4) | (737) | (0.4) | (152) | 26.0 |
| **Total equity** | **63,076** | **39.4** | **56,861** | **34.0** | **(6,216)** | **(9.9)** |
| Capital | 13 | 0.0 | 13 | 0.0 | 0 | 0.0 |
| Surplus | 63,721 | 39.8 | 56,897 | 34.0 | (6,825) | (10.7) |
| Special foreign-exchange account settlement | 521 | 0.3 | 521 | 0.3 | 0 | 0.0 |
| Foreign exchange adjustment | 63,032 | 39.4 | 56,199 | 33.6 | (6,833) | (10.8) |
| Investment in assets for cultural activities and donations | 169 | 0.1 | 177 | 0.1 | 9 | 5.1 |
| Other overall results | (109) | (0.1) | (397) | (0.2) | (288) | 263.0 |
| **Results** | **(395)** | **(0.2)** | **502** | **0.3** | **897** | **-** |
| **Accumulated Results Process of Convergence with IFRS** | **(153)** | **(0.1)** | **(153)** | **(0.1)** | **0** | **0.0** |

Note: Includes the cashier account.
Source: *Banco de la República*.

*At the close of 2016, Banco de la República's assets registered a balance of COP 167.289 t, which was COP 7.135 t higher than what was seen a year ago.*

The positive value of the Bank's results for 2016 is highlighted. In addition, the reduction in the peso balance within the assets of the international reserves, mainly resulting from the appreciation of the peso with respect to the reserve currencies is notable. The lower value of the international reserves, in turn, was offset by the higher balance of the TES held by the Bank as a result of the net purchases of these securities made in 2016. Finally, the negative change in equity of the surplus account due to the exchange rate adjustment in which the devaluation of the peso balance of the international reserves caused by exchange rate movements is registered.

## 1. Assets

The assets of *Banco de la República* registered a balance of COP 167.289 t at the close of December 2016. This figure is COP 7.135 t (4.5%) higher than the balance seen a year ago when the assets came to COP 160.153 t. The main variations in the asset accounts are explained, as follows, by:

National currency investment portfolio: valued at market prices, its balance was COP 8.893 t in December 2016, COP 8.775 t higher with respect to the close of 2015. The above was the result of: 1) COP 15.033 t in purchases of TES by *Banco de la República*, 2) returns of COP 1.007 t on this portfolio, and 3) government's transfer of COP 404 b in TES to *Banco de la República* to cover the Bank's losses registered in 2015 (COP 395 b) and to increase the surplus account by investing in assets for cultural activity (COP 9 b). This was partially offset by the COP 7.669 t in maturities of the TES portfolio held by the Bank.

Contributions to international entities: the contributions at the end of December 2016 came to COP 10.109 t, which is COP 6.313 t (166.3%) higher than those registered in December 2015 when the balance was COP 3.795 t. This increase was basically caused by two transactions: 1) the rise in Colombia's position (quota), SDR 1.271 b[67], at the IMF which increases the balance for this account; 2) the sales of SDR 521 m to the United States, which caused a reduction in the contribution to the IMF in foreign currency, counterbalanced by an increase in peso contributions to maintain the position value in that entity.

International Reserves: at the close of December 2016, the balance of the gross international reserves, valued at market prices, was COP 140.082 t (USD 46.683 b) which is COP 7.126 t (-4.8%) lower compared to the data seen December 31, 2015. This reduction was mainly due to: 1) the negative foreign exchange adjust-

67 The SDR is an international reserve asset created by the International Monetary Fund (IMF), which is used as a unit of account. Its value is currently based on a basket of five currencies: the US dollar, the euro, Japanese yen, pound sterling, and Chinese renminbi.

*The balance of the liabilities was COP 110.428 t which is COP 13.351 t higher than what was registered at the end of 2015.*

ment of COP 6.833 t resulting from the changes in the peso/reserve currencies exchange rate; 2) the sale of the Bank's foreign currency on the exchange market by means of call options to dispose of COP 781 b (USD 255.6 m); and 3) the COP 353 b valuation at market prices in 2016. The above was partly counterbalanced by the COP 1.448 t in returns from accrued interest in 2016.

Repo transactions used to provide transitory liquidity: these presented a balance of COP 5.813 t at the end of December 2016, which meant a COP 1.094 t (-15.8 %) reduction compared to the close of 2015.

## 2. Liabilities

As of December 31, 2016, the liability balance was COP 110.428 t which is COP 13.351 t (13.8%) higher than what was registered at the end of 2015. The main sources of change are presented below:

- The government's deposits in pesos for managing its liquidity at *Banco de la República* set up through the General Office of Public Credit and the National Treasury: its balance was COP 14.589 t at the close of December 2016.[68] This amount is COP 10.546 t (260.8%) higher than that registered in December 2015.
- Obligations to international organizations: in December 2016, the balance was COP 11.453 t, which is COP 6.180 t (117.2%) higher than what was presented at the close of 2015. In this case, the change is due to the same reason that was given above for the increase in the asset account, "contributions to international entities." The offsetting entry for this higher asset value is a higher liability value through this account.
- Monetary base: as of December 31, 2016, the monetary base had a balance of COP 84.598 t which was COP 2.079 t (2.5%) higher than what was registered at the close 2015. By component, the cash in circulation showed an increase of COP 1.343 t and the bank reserves, one of COP 737 b.

## 3. Equity

*Equity stood at COP 56.861 t, which is COP 6.216 t lower with respect to what was seen at the close of the previous year.*

Equity had a balance of COP 56.861 t in December 2016, which is COP 6.216 t (-9.9%) lower with respect to the figure seen in December 2015. This decline was mainly due to: 1) the change in the foreign exchange adjustment account, which declined COP 6.833 t and which was offset by a reduction of the gross international reserves in pesos as was explained previously. This was partially offset by the COP 502 b profit from the 2016 fiscal year and the government's transfer of COP 404 b in TES to *Banco de la República*.

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68 Includes the cashier account.

An operating result of COP 153 b is projected for 2017, the result of COP 2.537 t in income and COP 2.384 t in expenditures.

## D. INCOME AND EXPENSE BUDGET FOR 2017

The budget for 2017 was approved by the BDBR in December 2016 with the prior approval of the Fiscal Policy Board (*Consejo Superior de Política Fiscal*, Confis).

*Banco de la República*'s budget has two main components: monetary and corporative. The former includes the results of responsibilities such as monetary, foreign exchange and credit authority; manager of international reserves; banker and lender of last resort for credit institutions; and issuing bank. The monetary results depend on variables that are not under the control of the Bank such as foreign interest rates and market price fluctuations (for example, securities in the reserves portfolio, TES, and gold). The corporative components include the results of the Bank's administrative work such as income from fees, personnel costs as well as the cost of operations and pensions.

An operating result of COP 153 b is projected for this year, the result of COP 2.537,1 t in income and COP 2.384 t in expenditures (Table 13).

The revenue budget for 2017 envisions an annual rise of 72.4% compared to what had been budgeted for 2016. The main items are as follows:

- Income from the net return on the international reserves is projected to be COP 1.037 t in comparison to the estimated COP 720 b for the 2016 budget. The average profitability of the international reserves for 2017 is estimated at 0.71%.[69]
- The estimated yield of the TES portfolio held by the Bank, COP 569 b, envisions a profitability of 6.8% based on the portfolio that serves as the basis for the forecast, the benchmark rates, and valuation margins and the corresponding maturities. Net purchases of TES are not contemplated for 2017.
- The estimated income from repo liquidity transactions (active monetary regulation transactions) is projected to be COP 276 b compared to the COP 147 b included in the 2016 budget. This change is explained by the higher average volumes of these transactions and the higher benchmark interest rate considered for 2017.[70]

69 The budget assumes no variation in the international price of gold.

70 The 2017 budget assumes a nominal annual growth of 5.1% for the monetary base. The average daily volumes for expansion repos projected for 2017 are COP 15.421 t and the average interest rate for remuneration is based on the benchmark interest rate (7.75% a.r.), in effect at the time the budget was drawn up. In 2016, average daily repo transactions were budgeted at COP 2.880 t and an average interest rate of 5.25% a.r.

Table 13
*Banco de la República*'s 2017 Budget
(billions of pesos)

| | Approved Budget | | Relative Changes (B) / (A) - 1 |
|---|---|---|---|
| | 2016[a/] (A) | 2017 (B) | |
| **I. Total Income (A+B+C)** | **1,472** | **2,537** | **72.4** |
| A. Monetary income | 978 | 2,022 | 106.7 |
| 1. Interest and returns | 877 | 1,882 | 114.7 |
| International Reserves | 720 | 1,037 | 44.0 |
| Monetary Regulation Investment Portfolio (TES) | 9 | 569 | 6.039.4 |
| Active Monetary Regulation Operations (Repos) | 147 | 276 | 87.5 |
| Other operations | 0 | 0 | 113.1 |
| 2. Foreign exchange differences | 98 | 137 | 39.1 |
| 3. Other monetary income | 3 | 3 | (9.4) |
| B. Coins issued | 326 | 331 | 1.6 |
| C. Corporate income | 168 | 184 | 9.4 |
| 1. Fees | 145 | 161 | 11.0 |
| Banking services | 68 | 64 | (6.4) |
| Fiduciary operations | 77 | 97 | 26.4 |
| 2. Other corporate income | 23 | 23 | (1.0) |
| | | | |
| **II. Total expenditures (A+B+C+D)** | **2,915** | **2,384** | **(18.2)** |
| A. Monetary expenditures | 1,998 | 1,409 | (29.5) |
| 1. Interest and returns | 1,625 | 1,182 | (27.3) |
| Remuneration for Liquidity on Finance Ministry accounts | 1,469 | 1,151 | (21.6) |
| Monetary-control interest-bearing deposits (DRCM) | 132 | 0 | (100.0) |
| Monetary-contraction operating expenses | 24 | 31 | 29.2 |
| 2. Costs of Management and Management of Funds Abroad | 47 | 49 | 4.9 |
| 3. Commitment fee for IMF flexible credit | 54 | 91 | 67.2 |
| 4. Foreign exchange differences | 271 | 85 | (68.5) |
| 5. Other monetary expenditures | 1 | 1 | (5.4) |
| B. Banknotes and coins | 323 | 321 | (0.5) |
| C. Corporate expenditures | 528 | 583 | 10.5 |
| 1. Personnel costs | 340 | 366 | 7.8 |
| 2. Overhead | 78 | 84 | 8.3 |
| 3. Other Corporative b/ | 110 | 132 | 20.3 |
| D. Pensioners' expenses | 67 | 72 | 7.5 |
| **III. Fiscal year result (I II)** | | **153** | **-** |

a/ The 2016 budget, includes the addition of COP 1.320 t to the monetary budget approved in July and November 2016.
b/ Includes taxes, insurance, depreciation, loan-loss provisions, debt repayment, cultural expenses, contributions and affiliations, etc.
Source: *Banco de la República*.

*In the revenue budget for 2017, the returns on the international reserves and on the TES portfolio held by the Bank stand out.*

- It is estimated that placing coins[71] in circulation will generate COP 331 b in income which is an annual increase of 1.6% compared to 2016 resulting from the estimated placement of 902.7 million coins into circulation.
- The net income estimated by the exchange rate adjustment is a result of COP 137 b in income and COP 85 b in expenditures due to the effect of the US dollar to peso variation on *Banco de la República*'s assets and liabilities in foreign currency other than international reserves.
- The fees received by the Bank for banking services and fiduciary operations are estimated to be COP 161 b which is 11.0% higher in comparison to the ones budgeted a year ago, mainly because of the higher estimated income from the management of trust securities.
- Other corporate income is estimated at COP 23 b, 1.0% lower than what was included in the 2016 budget.

Regarding expenditures, COP 2.384 t is projected for 2017 with a decline of 18.2% compared to the budget for 2016, thus:

*A decline in the remuneration for the government's deposits at the Bank is anticipated in the expense budget, especially due to the lower average volumes.*

- The remuneration on the deposits at the Bank for the government's liquidity management is expected to come to COP 1.151 t with a 21.6% decline with respect to what was projected in 2016, especially because of the lower average volumes of these deposits.[72]
- The outlay for the commitment fee paid on the flexible credit line (FCL) approved by the IMF is estimated at COP 91 b, which is COP 37 b higher than the one budgeted for in 2016. The above is explained by the new flexible credit line of SDR 8.18 b (approximately USD 11.5 b) approved for Colombia.[73]
- Expenses for administration and management of funds abroad are estimated at COP 49 b for 2017 compared to the COP 47 b budgeted for 2016.[74]
- The costs of issuing and distributing monetary specie are calculated at COP 321 b, which is 0.5% lower than the estimates from a year ago.
- Corporate expenditures are projected to be COP 583 b with a change of 10.5% annually (4.5% real) compared to the 2016 budget. Of these, COP 366 b correspond to personnel costs and COP 84 b to overhead. Within these:

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71 According to the Bank's statutes, this income corresponds to the face value of the coins placed in circulation.

72 The average daily volume of national government deposits in the Bank was initially estimated to be COP 6.9695 t in 2016 with a rate of 5.25% a.r. Based on the higher volumes of these deposits in the Bank and the increase in the rate of return in 2016, higher expenditures were generated due to which it was necessary to make two additions to the budget. In the last quarter, an average of COP 23.280 t in deposits and a 7.75% a.r. interest rate was projected. The 2017 budget envisions average daily volumes of COP 15.421 t and an interest rate of 7.75% a.r., which was in effect at the time the budget was drawn up.

73 Approved on June 13, 2016

74 The forecast for the rates based on performance for 2017 assumes that all of the managers meet the goal of 30 basis points excess returns per year.

*The main source of the monetary base expansion in 2017 is expected to be the government's lower deposits in the Bank.*

- The estimate of the personnel costs includes an annual growth of 1.9% in real terms based on the wage increases under the collective bargaining agreement currently in force.
- The estimates of the overhead include a growth of 2.4% in real terms, which include expenditures on utilities; security; janitorial services; maintenance of the electrical equipment infrastructure; systems for air conditioning, technology, and the Treasury area; and the expenses corresponding to the new cultural centers. These expenditures are affected by the increase in the minimum wage[75] and by the exchange rate.
- Other corporate expenses such as taxes, insurance, depreciation, deterioration (provisions), and debt repayments, contributions and affiliations, cultural expenses and scholarships for people other than employees are estimated at COP 132 b, with an annual increase of 13.7% in real terms.

- Last of all, outlays for pensioners are forecast to come to COP 72 b based on actuarial calculations and statistics that include different variables (gender, age, life expectancy, interest rates, etc.).

The Bank's projected profit for 2017 (COP 153 b) is lower than the outcome seen in 2016 (COP 502 b). This is mainly because of the lower income from the return on the TES portfolio held by the Bank and from net monetary regulation transactions (expansion repos minus DRNCE), which are not adequately offset by the lower expenses associated with the reduction of the government's average deposits at the Bank. While the main source of primary liquidity expansion in 2016 was the net purchases of TES by the Bank, the lower average deposits in the Bank by the General Office of Public Credit and the National Treasury are projected to be the main source for monetary base expansion as they were in 2015 (Box 3).

75 Contracts that include labor such as building surveillance, janitorial services, cafeteria, outsourcing general services, computer services, photocopying, microfilming, customer service at the Luis Angel Arango Library, etc.

## Box 3
## CHANGE IN *BANCO DE LA REPÚBLICA*'S INCOME 2004-2016

Unlike private sector companies, which seek to maximize profits, the policy decisions adopted by *Banco de la República* are intended to meet the goals assigned to it by the Constitution and the law. In exercising its responsibilities, the Bank incurs expenses that do not necessarily reflect economic and social benefits for the country such as maintaining low and stable inflation, contributing to macroeconomic and financial stability, and preserving a level of international reserves that helps to reduce the country's vulnerability to external shocks, in the entity's financial results.

Between 2004 and 2014, the Colombian economy faced a situation with high capital inflows and a tendency for the peso to appreciate. In addition, the external interest rates were significantly reduced beginning in 2008. Throughout this entire period, the Bank provided the primary market with the necessary liquidity basically through the purchase of international reserves. These purchases were discontinued towards the end of 2014 and, as a result, it was necessary to find different sources of monetary expansion. Thus, in 2015, the main source of liquidity expansion in the primary market was a reduction of government deposits in the Bank while, in 2016, it was the purchases of TES.

The provision of primary liquidity mainly through the aforementioned purchases of foreign currency resulted in low yields for *Banco de la República*, especially during those years in which the differential between the domestic and foreign interest rates was high and after having accumulated foreign currency purchases in significant amounts. In particular, the Bank registered losses primarily as a consequence of the cumulative cost of its intervention in the foreign exchange market during the 2010-2015 period.[1] In 2016, the higher foreign and domestic interest rates, the suspension of foreign currency purchases on the foreign exchange market since the end of 2014, and the larger TES portfolio held by the Bank led to a change in its profit-and-loss statement (P and L). The income rose and, once again, it had a positive result for the year in spite of the fact that the expenditures also rose.

Table B3.1 shows the figures corresponding to the Income Statement of *Banco de la República* for the 2004-2016 period and their breakdown by income and expenditure components:

- With respect to income, note that the profits of financial assets that the Bank acquires while carrying out its monetary policy duties constitute its main sources:
    a. International Reserves
    b. Investments in TES
    c. Liquidity Operations (expansion repos)

- Regarding expenditures, the interest and profits on non-monetary liabilities, in particular government deposits with the Central Bank, are its highest expenditure, especially in recent years.

There has also been a recent structural change in the results due to the fact that, while losses were recorded in the 2010-2015 period, this trend changed in 2016, especially as a consequence of: 1) a better yield from international reserves, and 2) higher revenue from investments in TES due to the rise in the balance of these types of securities held by the Bank.

The performance of the main categories within the income statement, which were previously described as those that determine the income and expenses of the Bank, is shown below. With respect to income:

### a. *Return on International Reserves:*

As mentioned before, *Banco de la República* carried out significant net purchases of foreign currency on the exchange market between 2004 and 2014. These purchases amounted to USD 33.131 b and were made specifically through the discretionary intervention mechanism between 2004 and 2007, and subsequently through direct auctions between 2008 and 2014.[2] (Table B3.2).

Nevertheless, the return on the international reserves was low during the majority of the period. In particular, this income has declined significantly since 2009 as a result of lower foreign interest rates (Graph B3.1). Therefore, the greater accumulation of international reserves coincided with low rates of return, which represented a significant drop in the Bank's income from this kind of return. In addition, there was a significant appreciation of the US dollar with respect to other reserve currencies in 2005 and between 2012 and 2015 (Graph B3.2), which brought about a devaluation of

1 See the Reports to Congress by the Board of Directors of the *Banco de la República* and the editorial note in the *Banco de la República*'s magazine for December 2013.

2 Beginning in December 2014, the Bank discontinued its intervention in the foreign exchange market through direct purchase auctions.

Table B.3.1
*Banco de la República*'s Income Statement
(billions of pesos)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Revenue** | **1,586** | **1,185** | **2,739** | **3,506** | **2,977** | **1,300** | **769** | **893** | **1,158** | **(92)** | **458** | **1,715** | **3,130** |
| Interest and returns | 1,301 | 905 | 2,407 | 3,130 | 2,505 | 966 | 454 | 565 | 875 | (500) | (379) | 724 | 2,595 |
| International Reserves | 835 | 184 | 1,922 | 2,746 | 2,120 | 685 | 272 | 250 | 469 | (660) | (560) | 320 | 1,131 |
| TES Held by *Banco de la República* | 322 | 593 | 172 | 67 | 66 | 86 | 75 | 72 | 94 | 29 | 44 | 29 | 1,007 |
| Liquidity Operations[a/] | 131 | 115 | 304 | 305 | 312 | 193 | 106 | 241 | 312 | 131 | 137 | 375 | 456 |
| Others | 13 | 13 | 8 | 11 | 8 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Other monetary income[b/] | 116 | 119 | 151 | 164 | 285 | 98 | 106 | 147 | 141 | 261 | 655 | 804 | 340 |
| Corporate income | 170 | 160 | 182 | 213 | 187 | 236 | 209 | 181 | 143 | 147 | 181 | 188 | 194 |
| Total Outlays | **759** | **860** | **1,115** | **1,521** | **1,655** | **1,144** | **1,040** | **1,249** | **1,499** | **1,616** | **1,624** | **2,111** | **2,628** |
| Interest and returns | 220 | 446 | 430 | 759 | 956 | 602 | 349 | 586 | 874 | 811 | 934 | 1,154 | 1,670 |
| DGCPTN liquidity deposit accounts | 86 | 308 | 296 | 535 | 708 | 393 | 271 | 548 | 805 | 406 | 424 | 572 | 1,427 |
| Monetary contraction deposits | 9 | 0 | 0 | 86 | 68 | 75 | 28 | 8 | 8 | 18 | 14 | 7 | 10 |
| Deposit account reserve requirement | 99 | 110 | 117 | 120 | 163 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Interest-bearing Deposits for Monetary Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 344 | 443 | 510 | 131 |
| Other operations[c/] | 26 | 28 | 17 | 18 | 16 | 65 | 50 | 30 | 50 | 42 | 53 | 66 | 102 |
| Other monetary outlays[d/] | 278 | 188 | 166 | 282 | 290 | 247 | 262 | 206 | 245 | 179 | 209 | 444 | 395 |
| Corporate expenditures[e/] | 261 | 225 | 520 | 481 | 410 | 296 | 430 | 457 | 380 | 626 | 481 | 512 | 563 |
| Fiscal year result | **828** | **325** | **1,624** | **1,985** | **1,322** | **155** | **(272)** | **(356)** | **(341)** | **(1,708)** | **(1,166)** | **(395)** | **502** |

a/ Expansion repos and transitory liquidity support.
b/ Mainly corresponds to income from exchange rate differences, and currency issued.
c/ Mainly expenses for the management of the international reserves and for the flexible credit commitment fee with the IMF.
d/ This considers differences in the foreign exchange and costs of issuing monetary species.
e/ Includes outlays for pensioners (net return).
Source: *Banco de la República*.

the balance of international reserves in US dollars. The latter was recorded in each income statement until the end of 2014 and it explained, along with the exchange rate differential, the negative performance of the international reserves, especially in 2013 and 2014 (Graph B3.3).[3]

All of the above caused a low or even negative yield on international reserves, especially between 2009 and 2015. Moreover, given that these reserves make up the largest pro-

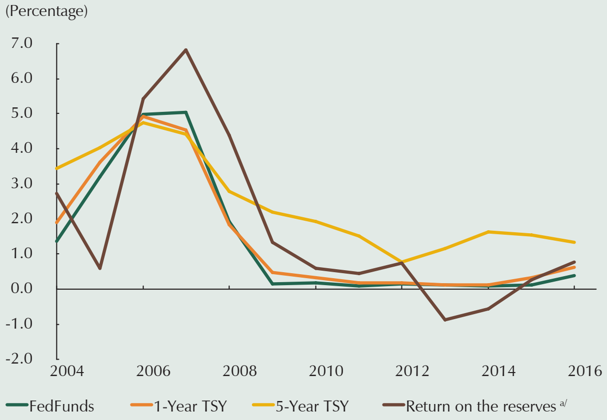
3 The fluctuation in the balance of international reserves caused by changes in the price of the US dollar with respect to other currencies is called the exchange rate differential. This result was included in the Bank's income statement for each year until December 2014. Beginning in December 2015, the way this result was entered was modified (Decree 2386/December 11, 2015), and now it is incorporated into the balance sheet along with the fluctuation of the international reserves from changes in the peso/dollar exchange rate without affecting the P & L statement.

Table B3.2
*Banco de la República*'s Purchase-Sale of Currency Transactions
(millions of dollars)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2004 -2014 | 2004 -2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Purchases** | **2,905** | **4,658** | **1,781** | **5,082** | **2,381** | **539** | **3,060** | **3,720** | **4,844** | **6,769** | **4,058** | **0** | **0** | **39,797** | **39,797** |
| Put options | 1,580 | 0 | 584 | 555 | 965 | 539 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,223 | 4,223 |
| Direct purchase auctions | 0 | 0 | 0 | 0 | 1,416 | 0 | 3,060 | 3,720 | 4,844 | 6,769 | 4,058 | 0 | 0 | 23,867 | 23,867 |
| Discretionary Intervention | 1,325 | 4,658 | 1,197 | 4,527 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,708 | 11,708 |
| **Sales** | **500** | **3,250** | **1,944** | **369** | **235** | **369** | **0** | **0** | **0** | **0** | **0** | **0** | **256** | **6,666** | **6,922** |
| Call options | 0 | 0 | 944 | 369 | 235 | 369 | 0 | 0 | 0 | 0 | 0 | 0 | 256 | 1,916 | 2,172 |
| National Government | 500 | 3,250 | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,750 | 4,750 |
| **Net purchases** | **2,405** | **1,408** | **(164)** | **4,713** | **2,147** | **171** | **3,060** | **3,720** | **4,844** | **6,769** | **4,058** | **0** | **(256)** | **33,131** | **32,875** |
| **Memo items (billions of pesos)** | | | | | | | | | | | | | | | |
| Effect of foreign currency purchases on the monetary base | 6,194 | 3,239 | (482) | 10,335 | 3,899 | 265 | 5,822 | 6,790 | 8,695 | 12,586 | 7,914 | 0 | (781) | 65,257 | 64,476 |
| Annual change in the monetary base | 2,647 | 3,542 | 4,228 | 5,383 | 3,778 | 3,352 | 5,330 | 6,464 | 5,124 | 8,630 | 4,578 | 12,848 | 2,079 | 53,056 | 67,984 |

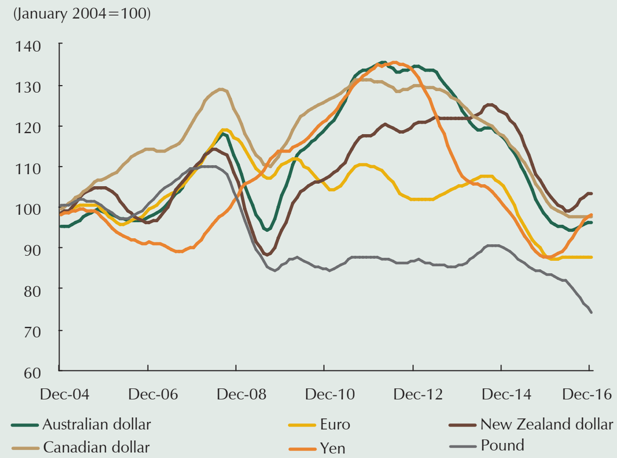
Source: *Banco de la República.*

Graph B3.1
US Interest Rates and Rate of Return on International Reserves
(annual average)



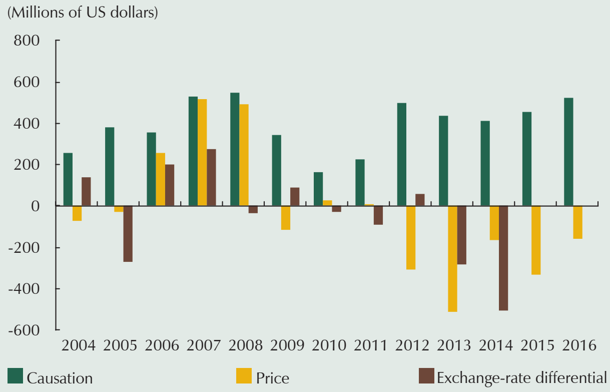

a/ Corresponds to the implicit return calculated as the ratio between the dollar value of the return on the reserves and the average balance of the gross international reserves.
Sources: Bloomberg and *Banco de la República*.

Graph B3.2
Nominal Exchange Rate Index of the US Dollar (dollars per currency)
(12-Month moving average)




Source: Federal Reserve, calculations by *Banco de la República*.

Graph B3.3
Return on International Reserves by Component

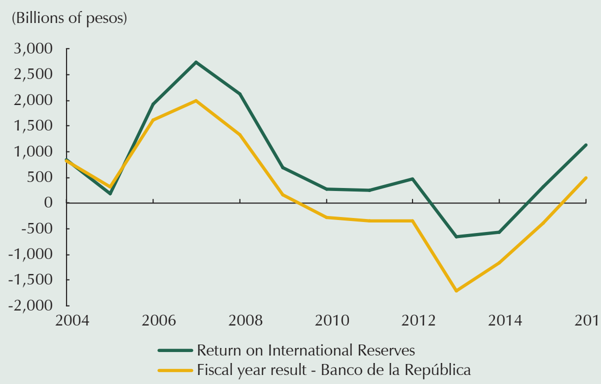



Sources: *Banco de la República*.

portion of the Bank's assets (84% on average between 2004 and 2016), their yield is closely related to the final outcome on the profit and loss statement (P & L) (Graph B3.4).

Finally, the return on international reserves rose again in 2016 as a result of the hike of foreign interest rates. This had a predominantly positive cause-effect on the negative price effect (Graph B3.3) due to the short duration of the Bank's international reserves portfolio.[4]

Graph B3.4
Return on International Reserves and Fiscal Year Result of *Banco de la República*

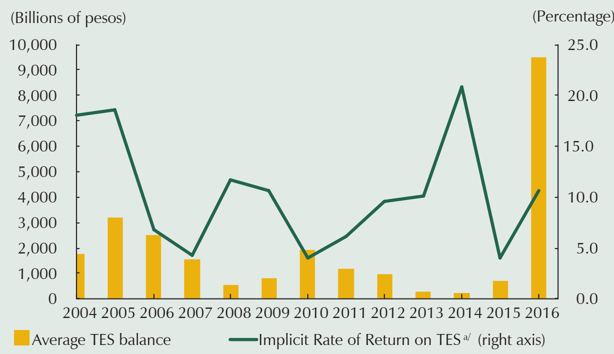



Source: *Banco de la República*.

### b. *Return on the Investments held by Banco de la República*

The expansionary effect of the Bank's net purchases of foreign currency, which was greater than the increase in the monetary base, made the implementation of sterilization mechanisms that had a net tightening effect on the primary liquidity of the market necessary (Table B3.2). This contraction was partly due to the net sale of TES held by the Bank between 2004 and 2014, except during 2005 and 2009. This has brought about a systematic reduction of the TES balance in the Bank's assets and, therefore, an income drop on the P & L statement, especially since 2006 (Graph B3.5).

Graph B3.5
Average TES balance and Implicit Annual Rate of Return on TES Held by *Banco de la República*




a/ Corresponds to the implicit return calculated as the ratio between the value of the return on the TES held by the Bank and the average monthly balance of the securities it holds.
Source: *Banco de la República*.

Furthermore, a structural change was seen in the income from the return on the TES held by the Bank which took place in 2016. This was closely linked to the type of instrument by which the Bank provided the primary market with liquidity that year (Table B3.3). In 2016, the largest expansion of the monetary base was produced by the Bank's net purchases of TES. Thus, the balance of these kinds of securities in the Bank's possession was larger, with a maximum of COP 15.669 t in May 2016 and COP 8.893 t by the end of that year (with an average of COP 9.511 t for the whole year). This scenario marked a change in the trend for the income statement since the income from the TES held by the Bank has become substantial again.[5]

4 See the Appendix to this Report.

5 This could be reflected in an estimate of the cost of intervention in the foreign exchange rate. In particular, the return on net foreign currency purchases made by the Bank between 2004 and 2014 could be compared to the return that would have been earned if this primary liquidity had been produced through the purchase of TES by the Bank. In both cases, the average implied rates calculated for the return on reserves and on TES held by the Bank are used. Once this calculation was done, the cumulative cost of the intervention was estimated at COP 16.1 b for the 2004-2014 period.

Table B3.3
Sources of Monetary Base
(billions of pesos)

| Item | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2004 - 2014 | 2004 - 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **I. Government** | **(237)** | **(2,668)** | **2,000** | **(2,117)** | **3,559** | **169** | **(769)** | **(2,363)** | **(2,914)** | **(5,972)** | **(6,330)** | **11,717** | **(5,622)** | **(17,641)** | **(11,545)** |
| Profits Transferred[a/] | 802 | 0 | 793 | 0 | 1,415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,010 | 3,010 |
| Liquidity Management Deposits | (1,039) | (2,668) | 1,207 | (2,117) | 2,144 | 169 | (769) | (2,363) | (872) | 1,971 | (3,221) | 3,559 | (10,556) | (7,558) | (14,555) |
| Interest-bearing Deposits for Monetary Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (2,041) | (7,943) | (3,108) | 8,158 | 4,935 | (13,093) | 0 |
| **II. TES Regulation Held by BR** | **(2,524)** | **897** | **(326)** | **(1,161)** | **(496)** | **2,444** | **(2,446)** | **(325)** | **(442)** | **(1,037)** | **(1,369)** | **(36)** | **7,364** | **(6,785)** | **543** |
| Definitive purchases | 1,023 | 5,230 | 633 | 60 | 653 | 3,000 | 0 | 0 | 0 | 1,091 | 0 | 1,860 | 15,033 | 11,690 | 28,583 |
| Definitive sales | (2,972) | (4,000) | (430) | (660) | (960) | (499) | (1,999) | 0 | 0 | (1,111) | (1,236) | 0 | 0 | (13,867) | (13,867) |
| Maturity | (575) | (334) | (529) | (561) | (189) | (57) | (448) | (325) | (442) | (1,016) | (133) | (1,896) | (7,669) | (4,608) | (14,173) |
| **III. Liquidity Operations a/** | **(1,058)** | **1,539** | **2,586** | **(1,492)** | **(5,221)** | **(293)** | **1,974** | **1,534** | **(1,255)** | **2,017** | **2,914** | **(259)** | **(825)** | **3,244** | **2,160** |
| Expansion | (1,086) | 1,539 | 2,586 | (1,233) | (3,856) | (1,087) | 2,079 | 1,210 | (1,220) | 1,557 | 2,799 | 23 | (1,094) | 3,287 | 2,215 |
| Contraction | 28 | 0 | 0 | (259) | (1,365) | 794 | (105) | 323 | (35) | 460 | 115 | (282) | 269 | (43) | (55) |
| **IV. Foreign Currency** | **6,194** | **3,239** | **(482)** | **10,335** | **3,899** | **265** | **5,822** | **6,790** | **8,695** | **12,586** | **7,914** | **0** | **(781)** | **65,257** | **64,476** |
| **V. Others[c/]** | **272** | **536** | **450** | **(182)** | **2,037** | **766** | **750** | **828** | **1,039** | **1,035** | **1,449** | **1,425** | **1,943** | **8,981** | **12,349** |
| Total change in monetary base | 2,647 | 3,542 | 4,228 | 5,383 | 3,778 | 3,352 | 5,330 | 6,464 | 5,124 | 8,630 | 4,578 | 12,848 | 2,079 | 53,056 | 67,984 |
| Monetary base position | 19,262 | 22,804 | 27,032 | 32,415 | 36,193 | 39,545 | 44,875 | 51,339 | 56,463 | 65,093 | 69,671 | 82,519 | 84,598 | 69,671 | 84,598 |

Note: Positive values imply an expansion of the monetary base and negative ones imply a contraction of this base.
a/ Includes the cashier account.
b/ Includes overnight and medium term transactions.
c/ "Others" includes the monetary effect of the Bank's profit and loss statement and deposits from foreign loans and portfolio investment.
Source: *Banco de la República*.

### c. *Income from Return on Liquidity Operations (expansion repos)*

As in the case of TES held by the Bank, the average balance of the expansion transactions through repos showed a significant increase during 2015 and 2016. As a result, the income derived from them increased on the Bank's statement (Graph B3.6).

Regarding expenditures:

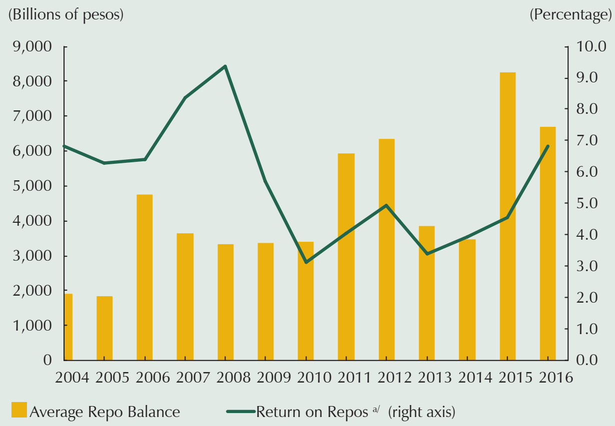
### a. *Return on the Government Deposits in the Bank*

Based on the model of liquidity supply approved at the BDBR meeting on June 3, 2005, it was established that all of the government's excess liquidity in pesos had to be managed through deposit accounts at the central bank.[6] This model started to operate fully on June 22, 2005, and that is why there has been an increase in the return on the Finance Ministry deposit accounts since that year. In addition, the issuance of TES for monetary control was implemented in November 2012 and its revenue was also put in interest-earning deposit accounts at the Bank in compliance with the regulations (RE-DODM-276).

Between 2004 and 2014, the government's total deposits in pesos with the Bank rose COP 17.641 t (with COP 13.093 t coming from interest-bearing deposits for monetary control as a result of the government's placement of TES for this purpose) (Table B3.3 and Graph B3.7).

6 External resolution DODM-276.

### Graph B3.6
### Average Balance of Repos and Implicit Annual Rate of Return on these Transactions

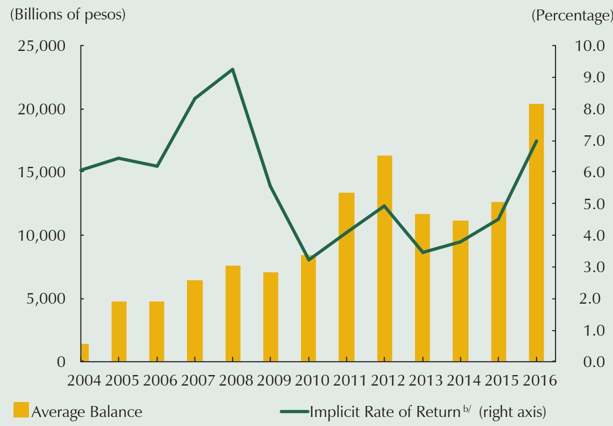



a/ Corresponds to the implicit return calculated as the ratio between the value of the *Banco de la República's* income from liquidity transactions and the daily average balance of the expansion repos.
Source: *Banco de la República.*

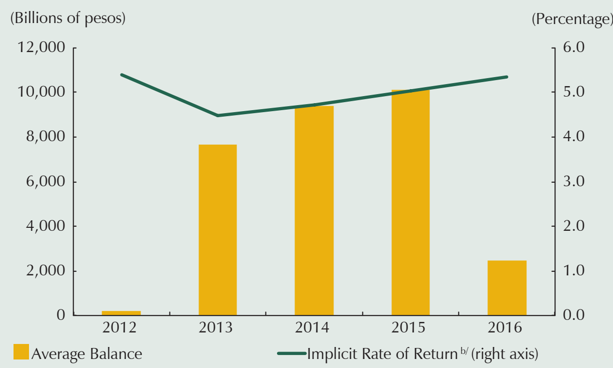
The rise in these types of deposits led to a loss of liquidity in the primary market and increased the outflow recorded on the Bank's P & L statement due to the returns earned on those deposits (Graph B3.8). In conclusion, the financial results of *Banco de la República* have been strongly influenced by the sources of the monetary base expansion and their corresponding sterilization mechanisms.

### Graph B3.7
### Average Balance and Implicit Annual Rate of Return on Government Deposits in *Banco de la República*

#### A. For Management of Liquidity[a/]

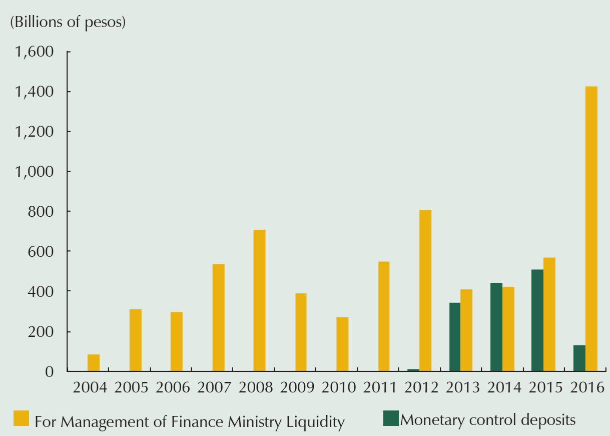



#### B. Monetary Control Deposits




a/ Includes the cashier account.
b/ Corresponds to the implicit return calculated as the ratio between the value of the Banco de la República's expenditures from interest payments on monetary control deposits and the daily average balance of these deposits at the Banco de la República.
Source: *Banco de la República.*

### Graph B3.8
### Total Remuneration for Government Deposits at the *Banco de la República*




Source: *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). In conformity with the authorization granted, the Bank acquired 3,000 shares of BIS valued at 65,712,000 special drawing rights (SDRs), which is equivalent to USD 100,978,710. These are registered at their acquisition cost in SDR in the category "contributions to international organizations and entities." On June 30, 2016, the Bank received USD 900,022 in dividends that corresponded to the BIS accounting year ending in March 2016 (April 2015 to March 2016), and which are equivalent to an annual return of 1.0%.[1]

The membership of *Banco de la República* in the BIS has allowed it 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 on issues of particular relevance to the network of central banks are exchanged, which helps participants to better understand the challenges faced by various countries and to implement appropriate policy measures. The Bank also takes part in a number of consultation groups coordinated by the BIS that foster international cooperation and research on issues related to central bank policies and other topics that determine macroeconomic and financial stability.

Within the framework of activities coordinated by the Consultative Council for the Americas (CCA), which is made up of the governors of the central banks in the Americas that are members of the BIS[2], the Bank participated in research projects and conferences in various areas relevant to central banks. Among these activities, the CCA Scientific Committee (which includes the chief economists of the respective central banks) organized the annual research network that focuses on studying the implications for macroeconomic and financial stability that stem from the trends in the prices of commodities.[3] In addition, through the Consultative Group of Directors of Financial Stability, the Bank participates in a network of financial stability research to evaluate macro-prudential policies using data from loan registries.[4] Some of the papers presented at these conferences will be published by the BIS in its series of working papers and subsequently in an academic journal.

Moreover, the Bank is member of the Consultative Group of Directors of Operations (CGDO), a network of representatives of the central banks who are responsible for open market and exchange market operations. Within the framework of this consulting group, a working group was organized to study the liquidity in the exchange market of the countries of the region. The results of this study will be published this year.

1 The BIS General Assembly approved the payment of a dividend of 215 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 for the conference and presentations are available at: http://www.bis.org/events/ccacloseconf2016/agenda. htm

4 The schedule for the conference and presentations is available at: http://www.bis.org/events/ccacgdfsconf2016/agenda. htm

# Appendix

## Management Policy for the International Reserve Investment Portfolio

According to the recommendations of best practices, 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 in this area 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+. Historically, the percentage of issuers with these ratings that have defaulted on their payments the year after is close to 0.0%. If the rating of an issuer in the portfolio 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.

Exchange rate risk: Act 31/1992, article 14 emphasizes that the reserve investments will be made "in assets denominated in freely convertible currency reserve currency or gold." *Banco de la República* like the majority of the central banks around the world has currencies other than the US dollar among its foreign exchange components in order to protect itself from the risk of a price increase for imported goods resulting from the appreciation of the currencies of the countries those purchases come from.

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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

Considering the fact that prices for currency are highly volatile and often do not have defined long-term trends, the impact of the exchange rate risk is entered in the equity account directly (Decree 2520/1993, article 62, numeral 4, Statutes of *Banco de la República*). Thus, it rises during those years when the currencies become stronger with respect to the peso and declines during those years when they weaken.

Counterparty risk: to reduce exposure to counterparties, transactions are settled through payment-on-delivery mechanisms, which seek to make the exchange of papers for cash or the exchange of payments in a foreign exchange transaction occur simultaneously in order to eliminate the possibility of one of the parties to the business defaulting. 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.[2] If they do not have said contract, the minimum rating is A+.

## 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 from the reserves in twelve months. Currently it consists of working capital and a debt portfolio. The first 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 US 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 level of the working capital may be between USD 390 m and USD 2 b.[3] The debt portfolio is the main component of the short-term tranche. This portfolio is characterized by its investment in a larger number of instruments and having a time limit and a profile of expected profitability that are greater than the working capital portfolio. It seeks to ensure that the expected return on the portfolio, excluding the foreign exchange component, will 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.[4] In December 2016, the value of the short-term tranche was USD 30.40032 b, of which USD 1.28213 b corresponded to working capital and USD 29.11819 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. Its goal is to maximize the risk-adjusted return in US dollars, the currency in which international reserves are valued,

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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 This range was defined by internal arrangement. The lower limit makes it possible to have sufficient daily liquidity in the event that it is necessary to sell reserves, and the purpose of the upper limit is to get excess liquidity transferred to the investment tranche, which has a higher expected return.

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

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. This tranche seeks to provide a positive expected return in US dollars with a 95% probability over a horizon of three years. Currently the medium-term tranche is made up of actively managed portfolios that seen to generate a return that is higher than the benchmark index.[5] As of December 2016, the value of the medium-term tranche came to USD 14.51933 b.

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 December 2016, the market value of the gold in the reserves came to USD 214.65 m.

The securities in the investment portfolio are deposited in financial institutions known as trustees.[6] 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.[7] Different indices are built for the short-term and medium-term tranches that reflect their investment goals. The indices serve as a frame of reference to measure the management of each one of the portfolios.

The first step in building the index of the short-term tranche[8] is to define a target foreign exchange composition that seeks to duplicate the behavior of the country's balance of payment expenditures.[9] 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 in periods in which the dollar value of the foreign payments decreases. The approved foreign exchange components of the short-term tranche is 83% US dollars, 7.0% Australian dollars, 5.0% Canadian dollars, 3.0% New Zealand

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

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

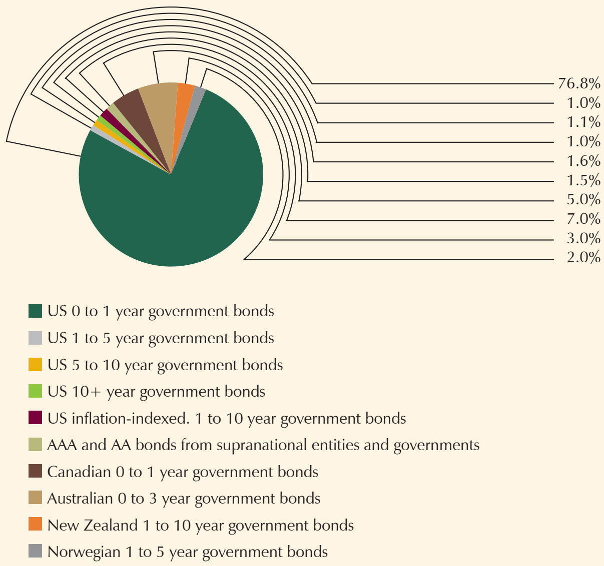
7 In the capital markets, a benchmark index is a basket of assets with predetermined weights in accordance with certain rules that define their composition. In general, an index tries to comprehensively duplicate the behavior of a financial asset market and serves as an indicator of the performance of other investment portfolios in the same market. For example, some of the most well-known benchmark indices in the stock markets are the ColCap in Colombia, or the S&P 500 and the Dow Jones in the United States (the Bank uses fixed income market indices only).

8 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.

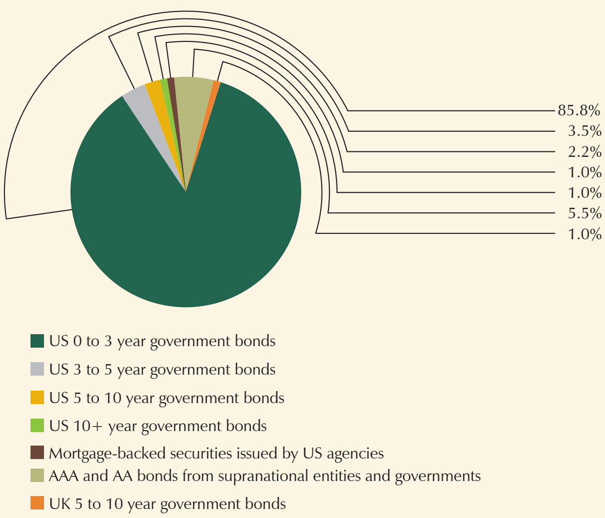
9 See the box, "International-reserve portfolio's currency composition" in the March 2012 Report to Congress for a detailed explanation of the methodology for the foreign exchange components of the reserves.

Graph A1.1
Composition of the Benchmark Index for the Short- and Medium-term Tranches of the Investment Portfolio
(information as of December 31, 2016).

A. Short-term Tranche




B. Medium-term Tranche




Note: Merril 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.*

dollars, and 2.0% 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 risk.[10]

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 US dollars, investments in currencies other than the dollar are allowed.

Graph A1.1 shows the benchmark indices for the short- and medium-term tranches.[11] The level of the market risk for the two portfolios is low. The modified duration of the short-term tranche index is 1.03 and the one for the medium-term tranche is 2.05.[12]

## 4. External Management Program

*Banco de la República* manages the short-term tranche, a medium-term tranche portfolio, and the gold tranche directly (USD 32.42353 b or 71.84% of the investment portfolio). The remaining medium-term tranche funds are managed by external portfolio managers.

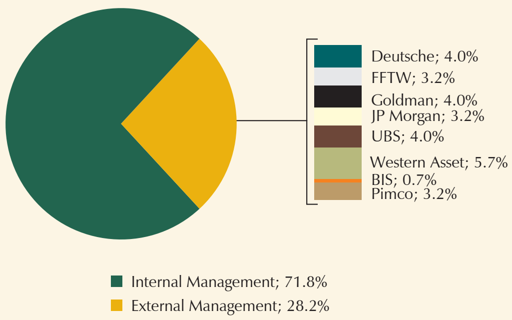
At the end of December 2016, the external management program came to USD 12.71077 b (28.16% of the investment portfolio). The reason for using external managers is to generate returns that are better than the benchmark index and train Bank officials in the management of international investments. The firms chosen to participate in the program are highly capable in the analysis of financial markets and have a sophisticated infrastructure that

10 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.

11 The indices published by Merrill Lynch are used for the different sectors the benchmark index is made up of.

12 The modified duration is defined as a percentage decrease (increase) in the value of the portfolio with respect to a 1.0% increase (decrease) in all of the interest rates.

Graph A1.2
Composition of Investment Portfolio
(information as of December 31, 2016)




Note: approximate values due to rounding.
Source: *Banco de la República*.

can be taken advantage of in order to define investment strategies.

The private companies that participate in the external management program currently are: Deutsche Bank Asset Management, Fisher Francis Trees & Watts (FFTW) (owned by BNP Paribas), Goldman Sachs Asset Management, JPMorgan Asset Management, UBS Global Asset Management, Pacific Investment Management Company and Western Asset Management (Graph A1.2). 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 Bank for International Settlements (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 assets that are appropriate for global international reserves in an effort by different countries to work cooperatively.[13]

13 Currently, the investments are made in a fund of inflation-indexed securities issued by the Treasury of the United States (USD 103.07 m), a fund of securities issued by the government of China (USD 101.69 m) and a fund of securities issued by the government of Korea (USD 97.05 m).

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