INFLATION REPORT

June 2017*

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

THE INFLATION-TARGETING STRATEGY IN COLOMBIA

OBJECTIVES

Monetary policy in Colombia is based on inflation targeting, which is intended primarily to keep inflation low and to ensure stable growth in output near its long-term trend. Accordingly, the objectives of monetary policy combine the goal of price stability with that of maximum sustainable growth in output and employment. In this way, monetary policy complies with the constitution and contributes to the well-being of the Colombian population.

HORIZON AND IMPLEMENTATION

The Board of Directors of *Banco de la República* (the Central Bank of Colombia) (BDBR) sets the target for the annual rate of inflation. BDBR's policy initiatives are designed to meet that target and to provide for long-term inflation at around 3.0%. The annual change in the consumer price index (CPI) is the benchmark that is used for inflation targeting.

THE DECISION-MAKING PROCESS

Monetary-policy decisions are adopted based on an analysis of the current state of the economy and its prospects for the future, and on an assessment of the forecast for inflation in light of the predefined targets. If that assessment suggests, with enough certainty, that inflation will deviate from its target under current monetary-policy conditions and within the time horizon in which the policy operates, and that such deviation is not due to temporary shocks, the BDBR modifies The Inflation-Targeting Strategy in Colombia its policy stance by changing its

benchmark interest rates (those charged by *Banco de la República* on short-term liquidity operations).

COMMUNICATION AND TRANSPARENCY

Monetary policy decisions are announced after the Board of Directors meetings. This is done in a press bulletin posted immediately on *Banco de la República*'s website (www.banrep.gov.co). The Inflation Report is a quarterly publication that is intended to lend transparency to the Board's decisions. It also contributes to a better understanding of monetary policy and helps to enhance its credibility. Specifically, the report: i) lets the public know how the Board of Directors and the Technical Governor of the Bank view recent and anticipated developments in inflation and its short- and mid-term determinants; ii) explains the implications of those determinants for monetary-policy management within the scope of inflation targeting; iii) describes the situation and analysis justifying the monetary- policy decisions made during the quarter; and iv) provides information that helps agents in the economy to form their own expectations about future developments with respect to inflation and output growth.

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Inflation Developments and Monetary Policy Decisions

In March 2017, annual consumer inflation fell for the eleventh consecutive month, standing at 3.99% (Graph A). The behavior of foods, and to a lesser extent, that of tradables excluding food and regulated items, explained most of the fall in inflation in the second quarter of the year. This suggests that the supply shocks continue fading (*El Niño* and nominal depreciation of the peso, mainly), which deviated inflation from its target, and it is likely that its accumulated effects will disappear in the second half of the year.

On the other hand, the four core inflation indicators (which do not incorporate the prices that respond to supply shocks, or those which are highly volatile) fell at a slower pace. To June, the average of these indicators stood at 5.09%, a figure lower than in the first quarter, but still well above the 3.0% target.

As described in the previous Inflation Report, several factors explain the lower descent of core inflation *vis-à-vis* total inflation. One of them is the increase in the value added tax (VAT) and other indirect taxes, whose largest impact has been on the tradable CPI excluding food and regulated items. Another one is the indexation of prices and wages, which has increased the persistence of inflation and has delayed the deceleration of the CPI, especially in non-tradable goods and services, such as leases.

Inflation expectations continue to converge to the target. Those by economic analysts to December 2018 are at 3.5%, similar to the inflation expectations embedded in public debt bonds to longer terms, which are between 3.3% and 3.6%.

Regarding economic growth, the Colombian economy is culminating the adjustment process, as a response to the deterioration of national income since mid-2014. The fall in the terms of trade, the

Graph A
Headline Inflation

(Percentage)
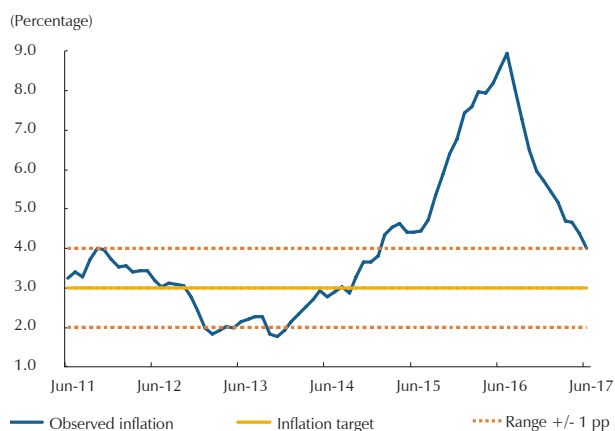
Sources: DANE and *Banco de la República*.

behavior of the neighboring countries, and the recent tax reform, which was necessary to recover public revenues and to ensure the country's fiscal and external sustainability, have affected household spending, and thus consumption. The lower purchasing power of households due to the increase in inflation and monetary policy actions required to return inflation to its 3.0% target have also explained the economic dynamics. Although external demand has recovered slightly, its expansion has been slow and has been insufficient to promote robust exports by the country.

Indicators of economic activity in the second quarter suggest that domestic demand remains weak. In fact, the consumer confidence index and retail sales suggest that consumption is growing at historically low rates. Investment could register a modest recovery, mainly due to civil works; net exports would have subtracted from growth. With these figures, the technical staff at *Banco de la República* estimates an economic growth figure of 1.2%[1] for the second quarter of 2017, within a range between 0.7% and 1.7%.

For the remainder of 2017, a low increase in output is expected, exhibiting a modest recovery in the second half of the year. The behavior of domestic demand would continue to be weak, led by investment in civil works. External demand and the country's terms of trade are likely to continue recovering within a more dynamic environment (although highly uncertain) for world trade. With all this in mind, the technical staff revised its forecast of the most likely growth figure for 2017 from 1.8% to 1.6%, within a range between 1.0% and 2.0%.

In all, the Colombian economy continues to adjust to the strong shocks recorded since 2014, and it is likely that the current account deficit will continue correcting. Output dynamics has been weaker than forecast; also, there is greater risk that the economic slowdown may be stronger than what is compatible with the deterioration in national income. The supply shocks that deviated inflation away from its target are still fading, which explains most of the deceleration of the CPI. The reversal of core inflation has been slower than that of headline inflation, as the former has been affected by the increases in taxes, indexation mechanisms, and by the increase of the persistence of inflation.

Facing this macroeconomic situation, the Board of Directors of the Central Bank considered the following issues in its most recent decisions:

- The increasing weakness in economic activity and the risk of a slowdown beyond what is compatible with the deterioration in the dynamics of income due to the fall in oil prices. Recent indicators confirm an ex-

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1   The forecast for the second quarter and for all of 2017 was carried out with data available as of 27 July

cess capacity of the economy, although its magnitude is highly uncertain.

- Uncertainty about the pace of convergence of inflation to its 3.0% target. Indexation mechanisms and the persistence of inflation continue to be reflected on core inflation indicators, which exceed the inflation target (3.0%).

  - The current level of the real policy interest rate *ex-ante* is contractionary. This rate is measured taking into account inflation expectations, which have been reducing.

Having analyzed the above, between May and July this year, the Board of Directors decided to reduce the benchmark interest rate by 100 bp (in May, -25 bp; in June and July, -50 and -25 bp) (Graph B). Additional reductions would consider the risk balance between a slow convergence of inflation to 3.0% and a greater slowdown of economic activity versus the forecast.

Juan José Echavarría
Governor

Graph B
Banco de la República's Benchmark Interest Rate and Interbank Interest Rate
(2009-2017)[a/]

(Percentage)
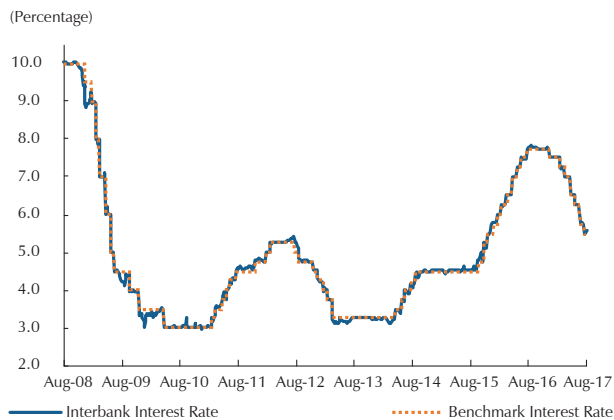
a/ The figures correspond to data from working days; the last figure corresponds to 11 Aug 2017.
Sources: Office of the Financial Superintendent of Colombia and *Banco de la República*.

INFLATION REPORT

Written by:
Programming and Inflation Department
Monetary Policy and Economic
Information Division

I. Foreign Situation and Balance of Payments

The forecasts of economic growth for our trading partners in 2017 and 2018 were not significantly modified in this Report. A recovery of growth, although at lower rates than those seen in previous years, is still anticipated.

The reduction in the international prices for oil seen in the second quarter led to revising the forecast downwards for what remains of 2017 and for 2018.

During the first quarter of 2017, the country's current deficit was 4.4% as a share of the GDP and 5.9% lower than it was a year ago.

The external imbalance, both in US dollars and as a percentage of GDP, is expected to continue adjusting over the remainder of 2017.

A. INTERNATIONAL CONTEXT

There has been little change in the foreign context that Colombia faces with respect to the previous Inflation Report. The data available indicate that the developed economies continued to recover and China probably grew somewhat more than expected during the second quarter of 2017. However, economic activity in Latin America has turned out to be more sluggish than had been previously anticipated.

The financial markets have shown remarkable stability in spite of some increases in volatility associated with episodes of political uncertainty. Although the Federal Reserve (Fed) has continued to raise its policy interest rate, the financial conditions continue to favor the emerging markets. The above is reflected in the relatively low levels of the risk premia and steady capital inflows into emerging economies. The main change in the international context compared to what had been presented a quarter ago was the downward revision in the forecasts for international oil prices. So far in 2017, the Brent benchmark prices have been fluctuating between 45 and 55 dollars per barrel. This suggests that prices that are close to the upper limit of this range stimulate the

During the second quarter, global financial conditions remained favorable for emerging economies.

supply too much. In spite of the fact that this may have affected the country's terms of trade, these prices continue to exhibit a recovery with respect to 2016.

1.   Productive Activity, Inflation, and Monetary Policy

At the statistical close of this Report[1] the United States GDP for the first quarter was revised upward as it reported a growth of 1.4% annualized quarterly (a.q.). This figure remained below the one from the fourth quarter (2.1% a.q.). Nevertheless, the information from the second quarter indicates that this slowdown could be transitory given the positive results of the labor market and consumer confidence. The preceding points to an economic growth that is still based on consumption. The performance of investment may have also contributed positively to the growth in the first quarter and continued to do so in the second quarter based on the business confidence indicators.

In the euro zone, the growth indicators continue to reflect a continuing recovery. These positive results are explained by the domestic demand and net exports. With respect to what had been stated in the previous report, at this time, less uncertainty associated with political factors can be seen which has allowed consumer confidence to go to the highest levels seen in the last sixteen years. This fact, together with the continuing rises in the indicators for the manufacturing sector and the steady decline in the unemployment rates, favors positive growth results for the second quarter.

Graph 1
Indicators of Total Annual Inflation in the United States and the Euro Zone
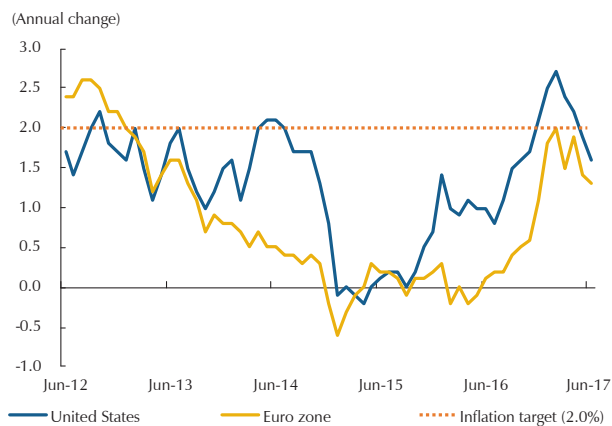
(Annual change)

Source: Bloomberg.

In spite of the greater economic activity in the advanced economies, a declining trend in total inflation has been seen in the last few months. In the United States and the euro zone, the annual change in the consumer price index as of June will probably be significantly below their respective inflation targets now (Graph 1).

In the case of the United States, the market has revised its inflation expectations which could only be above the implicit 2.0% target set by the Fed for the second quarter of 2018.

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1   This corresponds to the meeting of the Board on July 27, 2017.

Graph 2
International Oil Prices (Brent and WTI)

(Dollars per barrel)

Source: Bloomberg.
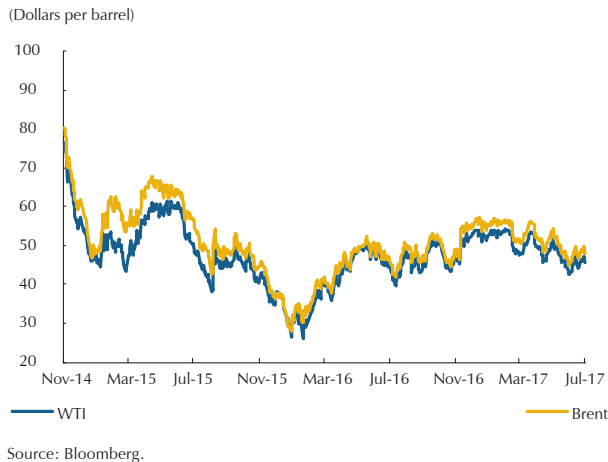
Graph 3
International Price of Wheat[a/]

(US Cents per bushel)

a/ Using wheat No. 2, soft red as a reference
Source: Bloomberg.

Graph 4
Terms of Trade Index
(Foreign trade methodology)

(2005=100)

Source: *Banco de la República*.
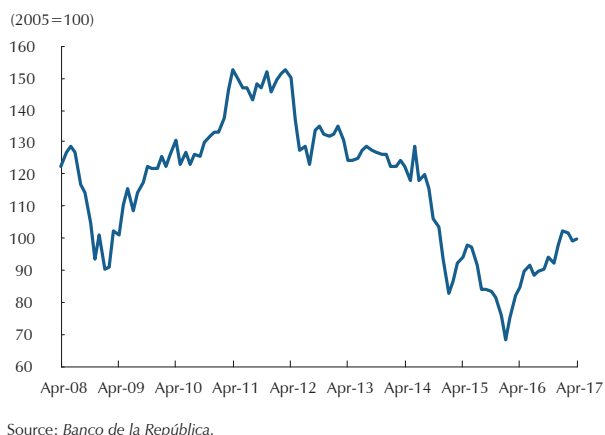
2. Prices of the Core Products

As was mentioned, the most important development in the international context that the country faces was the fall (unanticipated in the previous report) of the international prices for oil which has been seen since May. This is due to reports of higher inventories and production in the United States and in other countries and in spite of the announcements of cutbacks in production made by the Organization of Petroleum Exporting Countries (OPEC) (Graph 2).

Regarding the international prices for coal, these have remained at the positive levels reached at the end of 2016 due to the relaxation of regulations in China. Initially, the measures were intended to restrict the supply by limiting the number of days in which the mines were allowed to operate; their relaxation has increased the supply and stabilized the prices.

So far in 2017, the international coffee prices have shown a declining trend due to the normalization of the world supply to the extent that the negative supply shocks, which were largely associated with climatic factors, have dissipated.

The significant increase that has been seen in the prices of wheat stands out among the prices of agricultural raw materials. Since May 2017, a sharp growth trend has been seen in its price caused by fears of drought in the United States upper plains region (Graph 3). With Colombia being an importer of this product, this fact could adversely affect the terms of trade which, in addition, represents an upward risk for the domestic price of food.

Thus, during the second quarter, the country's terms of trade have probably shown some moderation mainly associated with the lower prices for oil. However, up until April, they remained at levels that were higher than those seen in 2015 and 2016 (Graph 4).

3. Financial Markets

In general terms, there has been a notable stability in the global financial markets during the sec-

ond quarter which has been reflected in the low levels of the volatility indices (Graph 5). This trend has persisted up to this point in 2017 in spite of the perception of political uncertainty that still remains high. Thus, there is major appetite for risk that has expressed itself in the premiums. The above has been reflected in Latin America in their credit default swaps (CDS) which showed remarkable stability during the second quarter and even a slight downward trend (Graph 6). In this context, there have been no capital outflows from the economies in the region in spite of their lower prospects for growth.

Although the long-term interest rates in advanced economies are at levels that are somewhat higher than those seen in 2016, they are still historically low and have shown a slight downward trend (Graph 7). This is probably due to the moderation in the expectations for growth, especially for the U.S. economy. Even though the advanced economies have recently shown somewhat positive trends, there are doubts that suggest that moderate steps be taken in the future. The current political balance in the United States, specifically calls into

Graph 5
Financial Volatility Indices

(Percentage points)
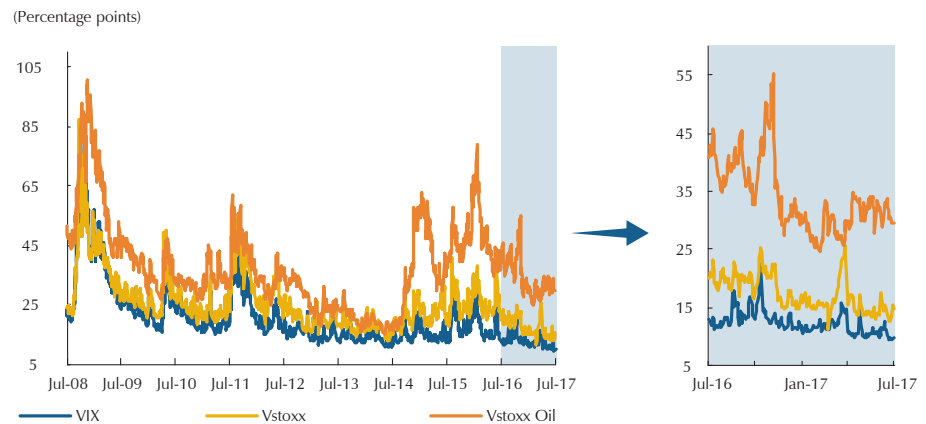
Source: Bloomberg.

Graph 6
Five-year Credit Default Swaps (CDS) for Some Latin American Countries
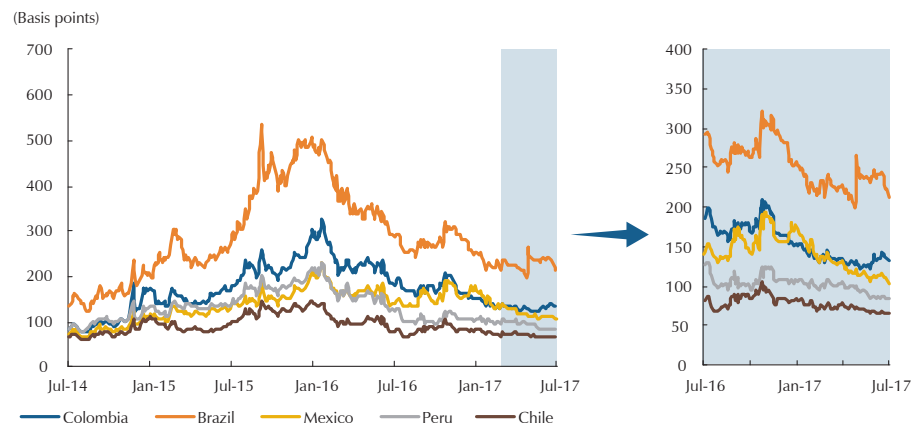
(Basis points)

Source: Bloomberg.

(Percentage points)
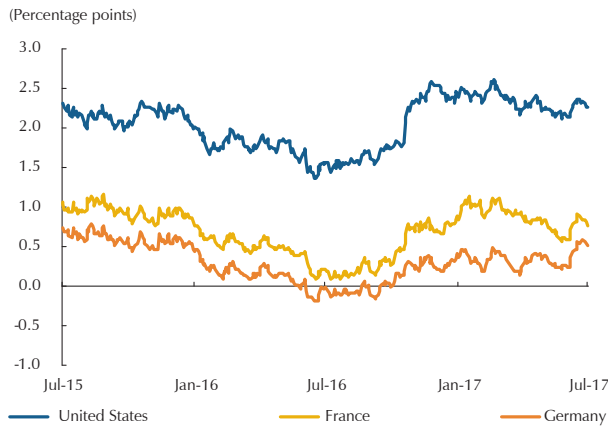
Source: Bloomberg.

Graph 8
Average Growth of Trading Partners
(weighted by non-traditional trade)

(Annual change)
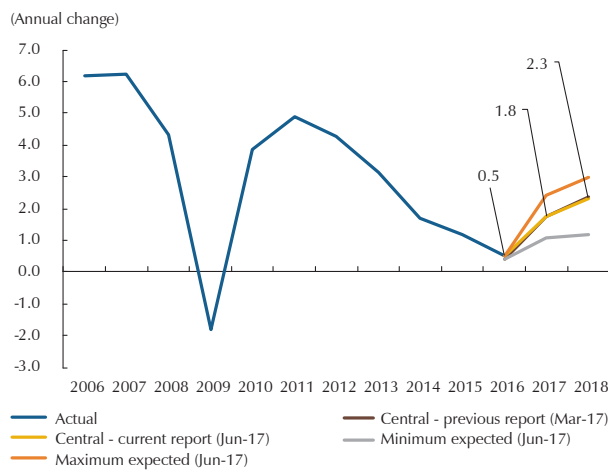
Source: International Monetary Fund, Calculations and projections by *Banco de la República*.

question the ability of the government to implement policies that could drive economic growth whether these are fiscal stimulus or reductions in taxes.

4. Forecasts of *Banco de la República's* Technical Staff.

The forecast for the economic growth of Colombia's trading partners did not change significantly in comparison to the previous report. Although there were some downward revisions for some trading partners, these were not of concern and were offset by upward revisions in others. Therefore, an economic expansion (weighted by non-traditional trade) of 1.8% on a yearly basis for 2017 and 2.3% for 2018 is projected (Graph 8). The following were the revisions to the central scenario forecast with respect to the previous report (Table 1):

- In the United States, the growth for 2017 and 2018 was revised slightly downward due to its economic weakness during the first quarter and the lower probability of implementing fiscal stimulus or tax reductions in the near future.

- In the euro zone, growth for 2017 was revised upward due to the positive results in the first quarter and the relative political stability which has boosted consumer's and business owner's confidence. However, for 2018, it was revised downward due to the possibility that the impact of Brexit could be greater than had been expected.

- China's growth in 2017 was revised upward since this economy showed better than expected results in the first half of the year. For 2018, the prospect remained unchanged.

- The 2017 and 2018 predictions for Brazil were lowered because of the increased political uncertainty that has been seen recently. This situation could have an adverse effect on growth over the next few years.

- In Ecuador and Venezuela, the forecasts of growth for 2017 and 2018 were revised downward because of the lower prices for petroleum, both the ones seen and those predicted.

- In Peru, growth for 2017 was revised downward since the recent floods appear to have significantly affected their performance. Even though it is likely that the momentum of reconstruction will be felt more in 2018, the forecast for this year was not modified.

Table 1
Growth Projections for Trading Partners

| Growth Projections for Trading Partners | 2016 | Projections for 2017 | | | Projections for 2018 | | |
| | | Scenario | | | Scenario | | |
		Minimum expected	Central	Maximum expected	Minimum expected	Central	Maximum expected
Main trading partners							
United States	1.6	1.8	2.2	2.6	1.0	2.2	3.0
Euro zone	1.7	1.4	1.8	2.2	0.5	1.6	2.2
Venezuela[a/]	(12.0)	(10.0)	(7.0)	(2.0)	(5.0)	(1.0)	1.0
Ecuador	(1.5)	(1.5)	0.0	0.8	(1.5)	0.5	1.5
China	6.7	6.2	6.6	6.8	5.2	6.2	6.8
Other trading partners							
Brazil	(3.6)	(0.3)	0.4	1.0	0.4	2.1	3.2
Peru	3.9	2.4	3.0	3.6	3.0	4.0	5.0
Mexico	2.3	1.2	2.0	2.8	1.0	2.2	3.0
Chile	1.6	0.8	1.4	2.0	1.0	2.6	3.5
Total trading partners (weighted by non-traditional)[a/]	0.5	1.1	1.8	2.4	1.2	2.3	3.0

a/ The 2016 data for Venezuela is an estimate.
Source: Bloomberg, Calculations by *Banco de la República* and projections.

- The growth figure expected for Chile in 2017 was lowered due to the fact that the miner's strike probably had a significant negative effect – one that was greater than expected in the previous report – on the GDP for the first quarter. The forecast for 2018 was not changed.

- In Latin America, Mexico, where the growth expected for 2017 was revised upward, is the exception. The above is explained by the resilience to the uncertainty associated with the new government of the United States shown by this economy. Given the political balance that is not very favorable to the US government, it is now considered less likely that it will implement policies that negatively affect the Mexican economy.

The central scenario presented here could imply an inflation in the advanced economies that might return to levels close to their respective targets towards the end of 2017. This would imply a monetary policy that will probably fall slowly in the United States with an additional increase in the policy rate for the remainder of 2017 and another in 2018. Note that in the central scenario presented here, the effects that the program announced by the Fed for reducing their balance sheet could have are not considered.

Naturally, the central scenario considered in this Report involves risks upward and downward. Although, lower downward risks are now seen with respect to the previous report, the balance of risks is still showing a negative bias. The main downward risks considered in this report are:

- Financial stability in China: the levels of leverage in China continue to pose a risk to global financial stability. Therefore, the possibility that worse financial conditions in this economy could lead to a lower than expected growth cannot be ruled out.
- Less investment in the United States than in the central scenario: a large part of the expectations of greater U.S. growth rest on the assumption that the new government will implement fiscal stimulus policies or tax reductions. This would have significantly boosted investment in fixed assets during the first quarter. Nevertheless, it is possible that investment will be affected for the rest of the year if these policies do not materialize and this would adversely affect growth.

The main upward risk considered is:

- Structurally low inflation in advanced economies: it is possible that the low inflation seen in the last few months could persist for structural reasons (for example, new technologies that reduce the mark ups in various markets). If this risk materializes, it would lead to a more expansionary monetary policy in the United States or in the euro zone than what was considered in the central scenario.

Regarding the predictions for prices of raw materials, the most important revision in the central scenario was given for crude oil (Table 2). Even though oil prices that are higher than those seen in 2016 are still being expected, the forecasts have been revised downwards with respect to the previous report. This is because of the lower prices seen so far in 2017. Therefore, a larger worldwide supply of crude oil is anticipated for the rest of the year and during 2018. This forecast assumes a partial compliance with the OPEC agreements and that the higher rate of economic growth in the advanced economies and in China may stimulate demand and thus prevent further declines in prices.

Table 2
Forecasts for the Benchmark Prices of Commodities Exported by Colombia

| | 2016 | Projections for 2017 | | | Projections for 2018 | | |
| | | Scenario | | | Scenario | | |
		Minimum expected	Central	Maximum expected	Minimum expected	Central	Maximum expected
Brent Crude (dollars per barrel)	45.14	48	51	54	37	52	57
Coal (dollars per ton)	54.2	55	68	80	45	57	75
Colombian coffee (ex dock) (dollars per pound)	1.55	1.40	1.55	1.70	1.30	1.60	1.90
Nickel London stock market (dollars per ton)	9,638	9,000	10,000	11,500	9,000	10,500	13,000
Gold[a] (dollars per troy ounce)	1,249	1,400	1,220	1,100	1,500	1,250	1,100

a/ The assumption for the gold prices is that gold is a value haven due to which its price rises when there is greater uncertainty (pessimistic scenario).
Source: Bloomberg, Calculations by *Banco de la República*.

B. BALANCE OF PAYMENTS

1. Results for the First Quarter of 2017

During the first quarter of 2017, the country's balance of payments current account registered a USD 3,182 b deficit which is USD 364 m lower than what it was a year ago. As a share of the GDP, the deficit stood at 4.4% which meant a reduction of 1.5 percentage points (pp) compared to the 5.9% seen in 2016.

The preceding is largely due to the reduction in the trade deficit for goods and, to a lesser extent, the one for services as well as because of the higher income from transfers. In contrast, the expenditures for factor income rose thus putting upward pressure on the deficit. The current revenue registered more growth (19.7%) than expenses (12.6%) resulting from the improvement in the country's terms of trade due to the increase in export prices. Note that the change in the current account deficit as of March 2017 was consistent with the expected trend and what was presented in the previous report, in which a deficit of around USD 3,233 b in the current account was estimated.

The trade deficit in goods declined USD 1,025 b in the first three months of the year mainly because of the USD 1,745 b growth in exports (24.5%) which more than offset the increase in imports (USD 720 m, 7.1%). The increase in foreign sales occurred in an environment of higher prices for the main commodities, especially crude oil and coal. Meanwhile, sales of industrial products registered levels similar to the sales seen a year ago. Furthermore, the increase in purchases from abroad was consistent with the appreciation of the exchange rate during the first quarter as well as with the slight recovery of consumption of durables.

Regarding the deficit in the services account, this declined USD 86 m during the same period due to the higher relative increase of exports compared that of imports. With respect to foreign sales, the rise in income due to the increase in non-resident travelers and their spending in the country as well as the higher income from sales of insurance and financial, business and construction services were the most outstanding. In imports, note the higher expenditures associated with payments for insurance, financial services and freight as well as the higher outlays caused by Colombians' trips abroad.

Regarding the net current transfers, these rose 1.9% on a yearly basis due, above all, to the growth of workers' remittances (3.9% annually). For the last item, the most significant rises were seen in the remittances sent from the United States and some Latin American countries.

Included in the expenditures for the first quarter of 2017, in turn, there was an increase of USD 773 m in the factor income which is attributed, on the one hand, to the higher profits of the petroleum and mining firms in the country

with foreign investment and, on the other, to the higher interest payments associated with loans and debt securities from abroad.

Regarding foreign financing, up until March 2017, net capital inflows of USD 2,858 b were seen which was lower than those seen a year ago when they stood at USD 3,698 b. During this period, net direct investment (USD 1,799 b) decreased USD 1,935 b mainly because of the lower inflows of foreign direct investment (FDI) as a result of the base effect from the sale of Isagen in the first quarter of 2016. The companies belonging to the manufacturing, petroleum, and commerce sectors were the ones that contributed the most to FDI. The country received inflows of USD 1,982 b in foreign portfolio investment at the same time as it set up USD 2,059 b in financial assets abroad. The funds received during the first quarter of the year came mostly from the purchase of shares and TES in the local market on the part of foreign investors and, to a lesser extent, from the placement of long-term debt securities, the majority of which were issued by the government and public sector entities, on the international markets.

Regarding other capital flows, the country registered USD 1,228 b in net inflows from settlements of assets abroad especially and, to a lesser degree, from net disbursements, mainly loans contracted with multilateral agencies. During the period under analysis, the international reserves rose USD 93 m through balance of payment transactions largely due to the revenue from the net yield on the portfolio. As of June 2017, the balance of Colombia's net international reserves came to USD 47,234 b.

2.   Forecasts

Graph 9
Total Exports FOB
(monthly)

Source: DANE, Calculations by *Banco de la República*.
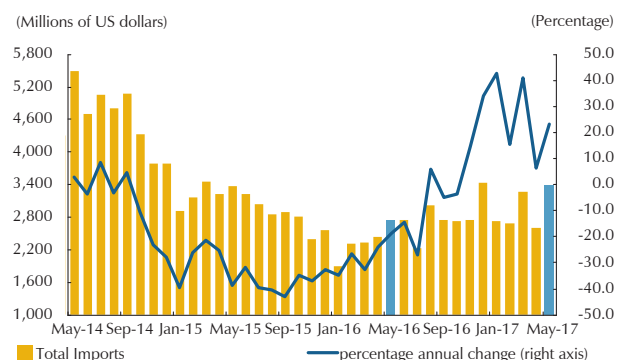
a.   *Estimates for the Second Quarter of 2017*

According to the information available, a slight reduction in US dollars of the current account deficit is estimated for the second quarter of 2017 compared to the same period of 2016. As a share of the GDP, this would be close to 3.5%, which is lower than the 3.9% for the same period a year ago. With respect to foreign trade in goods, the data show that in the April-May 2-month period, the total exports in dollars rose USD 802 m (15.5%) in comparison to the previous year (Graph 9) mainly due to the higher exported value of coal, crude oil, and gold. Regarding free on board (FOB) imports,[2] these rose

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2   Unlike the measurement of the balance of payments, which takes into account the FOB value of imports, the calculation of the GDP based on national accounts considers the cost, insurance and freight (CIF) of imports which include the value of the freight and insurance. During the April-May period, CIF imports totaled USD 7,761 b, which represents a growth of 6.5% per annum.

Graph 10
Total Imports FOB
(monthly)
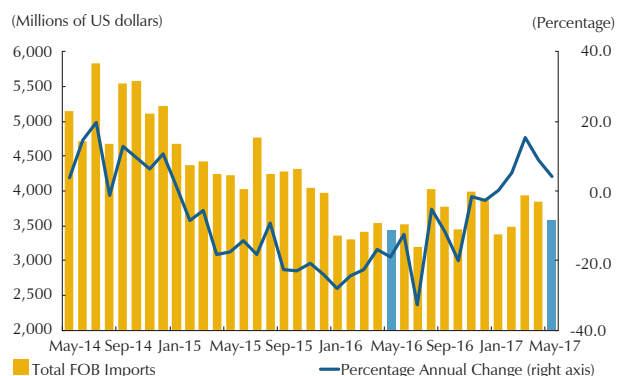
Source: DANE, Calculations by *Banco de la República*.

USD 454 m (6.5% in annual terms) during that period due, to a large extent, to the increased acquisition of transportation equipment most of which was airplanes. The purchases of fuel from abroad also contributed positively to the growth of the total imports while consumer goods are still showing declines in annual terms (Graph 10) (see the shaded area, pg. 25).

The deficit of non-factor services for the second quarter, in turn, is expected to be lower than what was registered for the same period a year ago, and net outflows for factor income will probably remain the same. The latter would be due to the impact of the higher foreign interest rates for Colombians' investments abroad which could offset the increase in the profits of the firms with FDI which work in the mining-energy sector. Likewise, the payment of interest on loans and debt securities is expected to continue to be a significant source of pressure on the current account deficit as was seen in 2016 and the first quarter of 2017.

With respect to capital flows, the estimate is that, during the second quarter of 2017, FDI funds will have reached levels similar to those seen during the same period a year ago. Furthermore, the information available on capital flows from the foreign exchange balance shows that between April and June there was an annual and quarterly reduction in funds from private sector foreign portfolio investment[3]. Added to the above are funds from external loans with multilateral banks (obtained by the government and other public sector entities in particular) and, to a lesser degree, from bonds placed by private sector companies.

b. Estimate for all of 2017 and 2018

The projection of the balance of payments for 2017 indicates that the current account deficit may be close to 3.7% as a percentage of the GDP.

Using the growth projections for the country's trading partners and for the terms of trade presented in the first part of this chapter, the forecasts made for this Report indicate that the deficit in the current account will continue to be adjusted in 2017 in both US dollars and terms of GDP. In the most probable scenario, the current deficit for the full year will probably be around USD 11,461 b, which corresponds to 3.7% of the GDP (Table 3).

For the entirety of 2017, it is estimated that the balance of trade in goods will probably continue to show a deficit. However, this deficit will probably be

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3   Although the capital inflows registered in the foreign exchange balance do not correspond exactly to what is recorded in the balance of payments, given that the former refer to the entry and exit of foreign currency, they offer some idea of the trend.

First quarter of 2017:

For the first quarter of 2017, the total exports denominated in US dollars registered a growth of 32.4% in comparison to the same period last year due to higher sales abroad of mining and agricultural products encouraged by the recovery in their international prices.[1] With respect to mining products, the 47.1% increase in exports of crude oil and the 82.7% increase in those of coal are notable while in the exports of agricultural products, coffee registered the most significant upswing: 41.6% on a yearly basis (Table A).

Exports of non-traditional goods (the majority of which are manufactured goods), fell 1.4% on a yearly basis, a fact that is related to the slow economic growth of our main trading partners who purchase these products. Based on destination, the exports that were most affected due to these types of goods were those going to Venezuela. These registered a decline of 72.7%. At the same time, sales to the United States fell 2.0% while sales to Mexico and Asia grew substantially, 26.0 % and 25.3% on a yearly basis respectively (Graph A).

With respect to FOB imports in US dollars, 7.0% growth annually was seen in the first quarter of the year due to increases in purchases abroad of the three groups of goods: intermediate (7.1%), consumer (7.7%), and capital (6.2%) (Graph B).

April-May 2-month period 2017:

In the April-May 2-month period for 2017, the impetus of the international prices for petroleum and coffee declined;[2] however, the price for coal remained at a level of 61%, on average, which is higher than it was during the same period in 2016.

In line with the above, the total exports in dollars grew 15.5% annually during the 2-month period under analysis. This was mostly spurred by foreign sales of mining products with the contribution of coal and crude oil being the most

notable. Agricultural goods, in turn, in response to decreases in the three components, fell 7.2% with coffee showing the greatest impact (Table B).

With respect to non-traditional exports (mostly manufactured products), a slight growth of 0.2% in annual terms was seen for the 2-month period (Graph C) which was influenced by the increase in sales abroad to the remainder of the Aladi group[3] (11.8%) – mainly the United States (7.8%) and Ecuador (11.6%). Sales of these types of goods to Mexico and Venezuela, in turn, dropped to an annual rate of 12.2% and 57.8% respectively.

Regarding FOB imports, the annual growth rate of 6.5% continued during this period associated with an increase in the import value of capital goods (16.3%) and of intermediate goods (6.8%). Purchases of consumer goods from abroad, in turn, fell 5.8% annually with declines in durable goods (-4.5%) and non-durable goods (-6.9%). When looked at in greater detail, the main increase in the value of imports in April occurred in the acquisition of airplanes; however, excluding this effect, imports of capital goods and total imports maintained positive rates of growth both that month and in the 2-month period under analysis.

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1   The average Brent price for coal and coffee, specifically, rose 55%, 79%, and 16% respectively per annum.

2   The average Brent price grew 15% per annum while the price for coffee grew 6.0%.

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3   Latin American Integration Association (Aladi) excluding Venezuela, Ecuador, Peru and Mexico.

Table A
FOB Exports and Imports in US Dollars for the First Quarter of 2017
(percentage)

Group	(Annual change)	Items with important contributions to the annual variation	
		Item	Annual change of the item
Total exports	**32.4**		
Mining products	59.1	Crude oil	47.1
		Coal, lignite and peat	82.7
Remaining exports[a/] (non-traditional)	(1.4)	Food, beverages, and tobacco (excluding coffee)	(12.1)
		Textile products	(14.5)
		To Venezuela	(72.7)
		To the United States	(2.0)
		To the European Union	(1.2)
Agricultural products	24.6	Coffee	41.6
		Bananas	15.8
		Flowers	5.5
Total imports	**7.0**		
Capital goods	6.2	Transportation equipment	17.3
		Capital goods for industry	2.4
Intermediate goods	7.1	Raw materials for industry	10.3
		Raw materials for agriculture	18.6
Consumer goods	7.7	Durable Goods	15.0
		Non-durable Goods	1.9

a/ This group includes neither oil nor its derivatives, coal, nickel-iron, gold, coffee, bananas, nor flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, Calculations by *Banco de la República*.

Graph A
Non-traditional Exports FOB Destined for: United States, Ecuador, Peru, Venezuela, and others[a/]
(monthly)
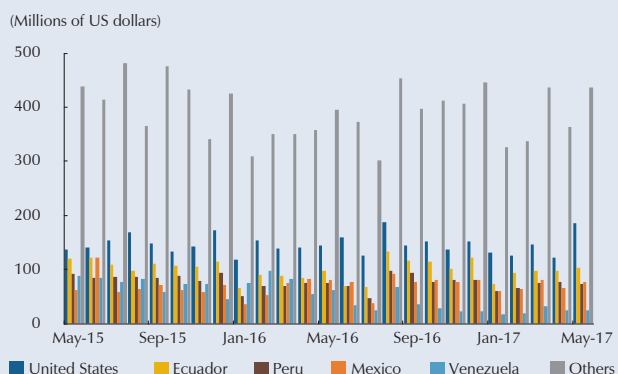
(Millions of US dollars)

United States   Ecuador   Peru   Mexico   Venezuela   Others

a/ Excluding petroleum and its derivatives, coal, nickel-iron, gold, coffee, bananas, and flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, Calculations by *Banco de la República*.

Graph B
Imports by Type of Goods (FOB)
(monthly)

(Millions of US dollars)

Consumer goods   Intermediate goods   Capital goods
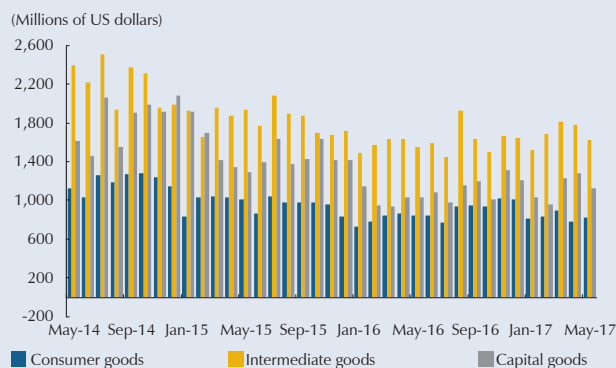
Source: DANE, Calculations by *Banco de la República*.

Table B
FOB Exports and Imports in US Dollars so far in the Second Quarter of 2017, April-May
(percentage)

Group	Annual percentage change	Items with important contributions to the annual variation	
		Item	Annual percentage change of the item
Total exports	**15.5**		
Mining products	32.7	Coal, lignite and peat	59.8
		Crude oil	19.2
Remaining exports[a]/ (non-traditional)	0.2	Food, beverages, and tobacco excluding coffee	27.0
		Non-metallic minerals and base metals	16.0
		To the rest of ALADI[b]/	11.8
		To the United States	7.8
		To Ecuador	11.6
Agricultural products	(7.2)	Coffee	(6.8)
		Flowers	(12.4)
		Bananas	(1.5)
Total imports	**6.5**		
Capital goods	16.3	Transportation equipment	59.2
		Capital goods for industry	2.4
Intermediate goods	6.8	Fuel	36.9
		Raw materials for agriculture	14.3
Consumer goods	(5.8)	Non-durable Goods	(6.9)
		Durable Goods	(4.5)

a/ This group includes neither oil nor its derivatives, coal, nickel-iron, gold, coffee, bananas, nor flowers. It includes other mining and agricultural products. The majority are manufacturing exports
b/ ALADI excluding Venezuela, Ecuador, Peru and Mexico
Source: DANE, Calculations by *Banco de la República*.

Graph C
Non-traditional Exports FOB[a]/
(monthly)
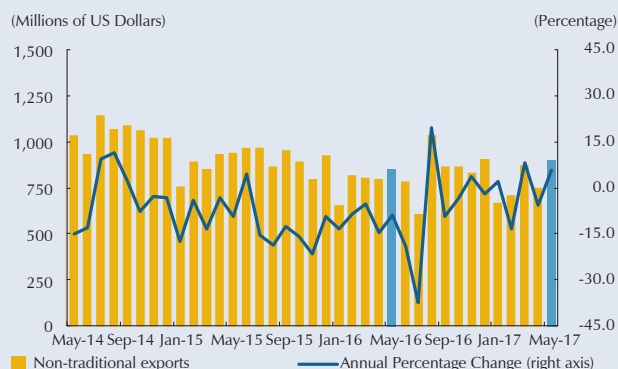
(Millions of US Dollars)   (Percentage)

Non-traditional exports   Annual Percentage Change (right axis)

a/ Excluding petroleum and its derivatives, coal, nickel-iron, gold, coffee, bananas, and flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, Calculations by *Banco de la República*.

Table 3
Balance Of Payments
annual flows (millions of US dollars)

	2013	2014	2015pr	2016pr	2017 (proj)
Current Account (A + B + C)	(12,501)	(19,611)	(18,642)	(12,236)	(11,461)
Percentage of the GDP	(3.3)	(5.2)	(6.4)	(4.3)	(3.7)
A. Goods and Services	(3,158)	(11,858)	(18,543)	(13,008)	(11,117)
B. Primary Income (factor income)	(14,230)	(12,375)	(5,528)	(5,074)	(6,462)
C. Secondary Income (current transfers)	4,887	4,622	5,430	5,846	6,118
Financial Account (A + B + C + D)	(11,738)	(19,332)	(18,096)	(12,818)	(11,461)
Percentage of the GDP	(3.1)	(5.1)	(6.2)	(4.5)	(3.7)
A. Direct Investment (ii - i)	(8,557)	(12,265)	(7,514)	(9,171)	(7,504)
i. Foreign investment in Colombia (FDI)	16,209	16,164	11,732	13,687	10,874
ii. Colombian investment abroad	7,652	3,899	4,218	4,516	3,371
B. Portfolio Investment	(7,438)	(11,565)	(10,283)	(3,716)	(4,360)
C. Other Investments (loans, other credit and derivatives)	(2,690)	61	(714)	(97)	(189)
D. Reserve Assets	6,946	4,437	415	165	592
Errors and Omissions (E and O)	763	279	546	(582)	0

(pr): preliminary
(proj): projected
Note: the results presented follow the recommendations of the IMF in its Balance of Payments Manual, sixth version. To consult for additional information and changes in methodology, see http://www.banrep.gov.co/balanza-pagos.
Source: *Banco de la República*

lower than the one registered in 2016 since the average terms of trade for the entire year are likely to be higher than the ones registered a year ago. Much like the projection presented a quarter ago, significant growth in the value of the major mining exports is anticipated which will be driven more by the increase in their prices than the amount exported. In addition, the forecast of the growth of the remaining exports (other than mining and agricultural products) was raised as a result of the performance shown in the first half of the year and of the higher growth rates expected for our main trading partners for the second half of the year.

As regards imports of goods, an annual growth of 4.0% is estimated for the entirety of 2017. This rise may be spurred by the expected strength of some of the investment components and, to a lesser extent, by the larger purchases of durable consumer goods from abroad. In view of the forecast made in the previous report, the assumed growth of imports was revised upwards, especially because of the performance that these have shown, as will be described later, in the second quarter of the year.

Larger net outflows are expected in 2017 for factor income due to the increased profits earned by foreign companies operating in the mining-energy sector and consistent with the higher export prices. Larger interest payments on the foreign debt are also anticipated, to a great extent, due to the increase in foreign interest rates and their impact on the outstanding debt.

The deficit in non-factor services is expected to reach an amount in 2017 that is similar to what was seen a year ago. For one thing, a growth in income associated with tourism to a large extent is anticipated due to the higher numbers and expenditures expected of foreign visitors in Colombia (see the shaded page, pg. 30). Regarding outlays, larger payments for freight are envisaged given the growth of imports and the higher prices for oil on average. Rises in imports of services linked to the oil industry are also included.

Finally, greater net income from transfers are expected especially due to the increased growth expected in the United States and Europe (see section A in this chapter).

With respect to capital flows, the funds from direct investment in 2017 are expected, in spite of being lower than those registered in 2016, to be the main source of financing, followed by portfolio investment, and other foreign loans and credit (Table 3). FDI flows in Colombia registered an annual slump of 20.5% resulting from the base effect of the funds from the sale of Isagen in 2016. Discounting that operation, the FDI could grow 4.7% spurred by the higher investments in the mining-energy, manufacturing, and trade sectors.

The correction of the foreign debt expected in 2017 could probably be explained by a growth in income from abroad that is greater than the outflows.

In addition to this, net capital inflows from portfolio investments are expected associated, to a large extent, with the issuance of bonds on the part of the government and with the purchase of shares in the local market by foreign investors. Funds from the purchase of TES on the part of foreigners are also expected although not in the amounts seen in 2016.

In addition to the central scenario, two alternative forecasts for the balance of payments were considered for all of 2017 just as was the case in the previous report. These were associated with different conditions and availability of foreign financing for the local economy as well as with the various price predictions for commodities and growth of our trading partners as was shown in the first part of this chapter. The different assumptions about these and other factors determine the extent of the projection range of the current account deficit. Thus, as a share of the GDP, a low scenario of 3.3% and a high one of 4.2% are estimated.

A deficit in the current account in US dollars is projected for 2018 which will be similar to what was estimated for 2017 and implies a slight reduction of about 3.5% as a share of GDP. An expansion of the merchandise trade deficit is expected in 2018 due, in large part, to the increase in imports compared to the moderate growth of exports. The latter were largely spurred by the performance of foreign sales of industrial goods based on the recovery in external demand. The contribution of commodities exports will probably be low that year as a result of the recovery in international prices forecast for 2017 that is unlikely to continue at the same pace in 2018. With respect to foreign purchases of the country's products, these will probably continue registering positive rates of growth in line with the greater economic activity predicted for next year. In addition to this, higher income from current transfers and a similar deficit for non-factor services and factor income are expected.

Historically, the country's foreign trade in services has been characterized by a negative trade balance and contributing significantly to the deficit in the current account that has been seen since 2001. In 2014, the services deficit reached a value that, as a percentage of the GDP, came to 1.9% after a long and increasingly unprofitable trend (Graph A). Various factors affected these outcomes including the growth of domestic demand, the upward trend of the price for crude oil which translated into larger imports of technical services and the appreciation of the exchange rate, etc.

Around mid-2014, with the sharp and unexpected fall in the price of petroleum and its effects on a number of variables in the Colombian economy, the external balance began to undergo an adjustment process. This has been characterized by a slowdown in economic activity and a depreciation in the exchange rate along with other factors that have led to a reallocation of resources among sectors. However, it has, in particular, discouraged the demand for imported services and encouraged other areas such as, for example, income derived from tourism. In fact, between 2014 and March 2017 the trade deficit in services declined significantly due to the combined effect of higher revenue and lower expenses. Based on the balance of payments, the services deficit in the first quarter of 2017 was 0.9% as a share of the GDP (Graph A) which is well below the average levels seen previously.

Regarding the reduction of expenditures in the last few years, this has been widespread. The most notable are the lower imports of business services associated with technical petroleum services for oil exploration and production as well as with the decrease in freight cost payments and

the lower expenses for travel and tickets for Colombians abroad, which together account for close to 75% of the total imported services. All of the above, along with other factors, is the result of the sluggishness of national revenue, the low prices, and the outlook for the price of crude oil and the higher exchange rate.

Instead, income from services has depended primarily on sales that are derived from providing tourist services (including tickets) and business in Colombia for non-residents and, to a lesser extent, the sale of professional services, consulting on business administration, and call centers on the part of subsidiaries for their parent and affiliated companies. Income from tourism has been growing over the past decade (Graph B) and reached 73% of the total exports of services in 2016, 65% higher than it was in 2007. Tourism exports for 2016 (USD 5,835 b) rose 11.5% annually and were the third largest source of income following exports of petroleum and its derivatives (USD 10,442 b) and industrial products (USD 9,811 b) and even surpassed the income from exports of other commodities such as coal, gold, coffee, and flowers.

The recent performance of income from tourism has been associated with several events that have made this country more attractive including the depreciation of the peso, which has made trips around the country cheaper for foreigners, and the improvement of internal security. All of the above has translated into a significant increase in the number of international passengers, which, according to the Civil Aeronautics Agency, almost tripled between 2005 and 2016 and grew at average annual rates of 10.5% during that period. This is expected to continue for the remainder of this year spurred largely by the previously mentioned factors.

Graph A
Foreign Trade in Non-factor Services

(Percentage of the GDP)   (Percentage of the GDP)

Exports   Imports   Balance of trade (right axis)
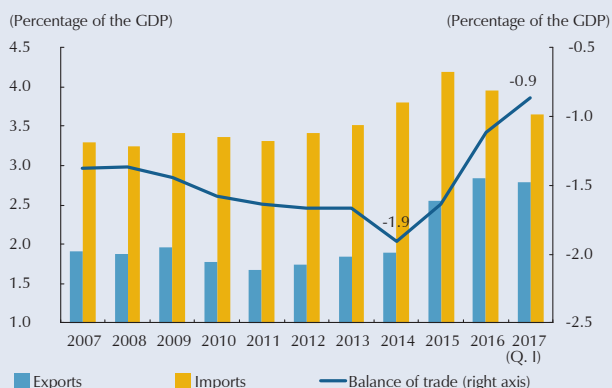
Source: *Banco de la República*.

Graph B
Income from Tourism[a/]
(millions of dollars, six-month figures)

(Millions of dollars)

Level   .... Trend

Note: seasonally adjusted data. Adjustments are made for holidays and Easter Week when they are significant.
(proj): projected
a/ Includes the expenditures of foreigners traveling in Colombia and the income from passenger transportation.
Source: *Banco de la República*, estimate for 2017 based on the most recent projection for the balance of payments.

Box 1
SECTOR DYNAMICS OF COLOMBIA'S CURRENT ACCOUNT AND ITS RECENT ADJUSTMENT

Camilo González Sabogal
Adrián Martínez Osorio*

One of the main characteristics of the Colombian economy has been the persistence of the current account deficit in the balance of payments. Thus, in the 2000-2016 period, the average annual deficit was 2.5% of the gross domestic product (GDP) thereby presenting a growth trend that culminated in 2015 when it reached its peak of 6.4%. During those years, both the rapid expansion of the current deficit in 2014 and 2015 and its subsequent correction in 2016 were notable as it declined 2.1 percentage points (pp) with respect to the previous year (Graph B1.1).

The marked rise in the current imbalance in 2014 and 2015 was the result of the external shocks that the Colombian economy received. These were characterized by low commodity prices and the weak growth of the global economy that affected the foreign demand of our trading partners, the terms of trade, and therefore, the value of the country's exports. Furthermore, the permanent nature of the shocks together with their high magnitude intensified the expansion of the current deficit during those two years. However, in 2016, the Colombian foreign sector began to adjust to the new economic conditions and succeeded in reversing the growth trend of the external imbalance (4.3% of the GDP and USD 12,236 billion).

Due to the structure of the Colombian foreign sector, which has been characterized by a persistent current deficit since 2001 and a strong dependence on mining-energy activity for income from abroad, a sector analysis of the current account for the balance of payments is carried out below. To be specific, economic activity is divided between the mining-energy sector, public sector,[1] and the rest of the economy[2] in order to

Graph B1.1
Current Account by Sectors Based on Balance of Payments

A.   Percentage of the GDP

B.   Millions of dollars

Source: *Banco de la República.*

bring out the importance of each in determining the current deficit and in the process of adjusting to the external shocks received since 2014.

This exercise follows the methodology proposed in López and Garavito (2013),[3] whose sector estimates indicate, as do the ones in this document, that the current-account deficit has been driven by the rest of the sectors in the economy while the mining-energy sector has offset this trend since it has presented surpluses in the balance of current transactions. For the 2000-2016 period, the average annual deficit was 6.1% of the GDP for the rest of the sectors
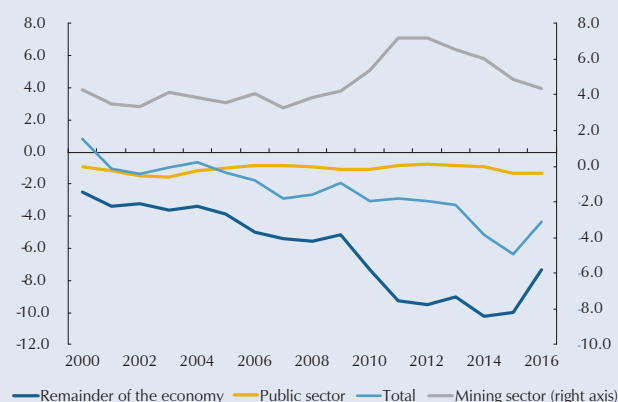
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* The authors are, respectively, a professional expert and a professional in the Technical and Economic Information Department. The views expressed and possible errors and omissions are not binding on the Bank or its Board of Directors.

1 This incorporates current flows from foreign trade, factor income, and transfers handled by public administration entities (ministries, military forces, and municipalities, etc.) and publicly-owned companies (not including *Ecopetrol*, Reficar, nor the *Federación Nacional de Cafeteros* (National Federation of Coffee Growers). Payment on interest associated with public debt securities and loans and the profits received from financial investments made abroad, including the profit from the reserve assets, is included in factor income.
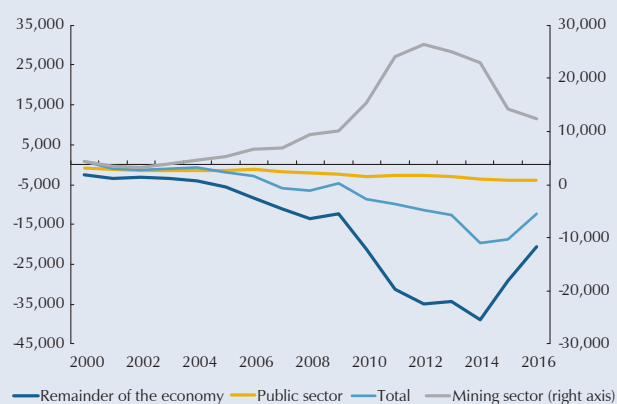
2 This includes the current transactions in the sectors of manufacturing industry, trade, restaurants and hotels, transportation, warehousing and communications, financial institutions, etc. It also includes net income from current transfers.
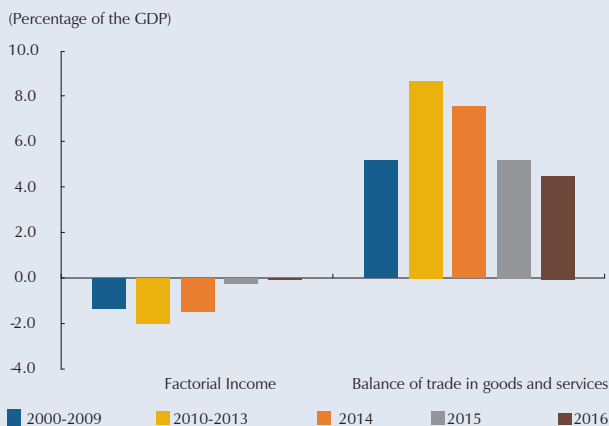

(Graph B1.1) while the surplus in the mining-energy sector has been 4.7% of the GDP.

The current surplus in the mining-energy sector has responded to the developments in the international prices for commodities as well as to the quantities exported. As a result, the positive balance of the current transactions for this sector increased between 2001 and 2009 as they went from 3.5% of the GDP (USD 3,436 b) to 4.2% of the GDP (USD 10,065 b) (Graph B1.1) spurred by both the high price quotes for petroleum and coal and the higher export volumes. This favorable environment for foreign sales of these products was enhanced over the next four years (2010 to 2013) thus making it possible to generate positive average balances in the current operations that were equivalent to 6.6% of the GDP (USD 22,755 b). Subsequently, the foreign shocks that have occurred since the second half of 2014 made exports from this sector more sluggish thus causing the notable reduction in the current surplus that reached 4.4% of the GDP (USD 12,354 b) in 2016.

When the current account of the mining-energy sector is divided between balance of trade and factor income (Graph B1.2), its change can be seen to have been determined mainly by the performance of foreign trade. In fact, the trade surplus has exceeded the deficit from factor income, or more specifically, the current income from exports has more than offset the pressure on the external imbalance generated by the profits of companies with foreign direct investment (FDI). Note that these two aggregates move in opposing directions throughout the price cycle for raw materials because of which one segment serves as a partial and automatic stabilizer of the other. Therefore, in a favorable global environment for exports of these types of products, the trade surplus rises at the same time that the deficit in the primary income account for the use of production factors that are owned by non-residents is increasing. When this environment becomes unfavorable and prices fall, the opposite happens.
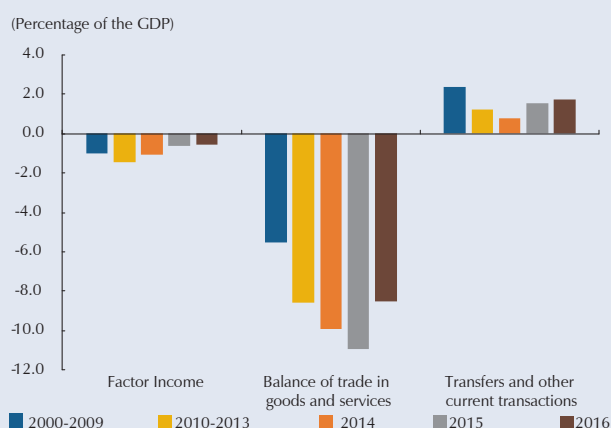
Due to the reason given above, the balance of trade and factor income in the mining-energy sector reached its highest numbers during the 2010-2013 period with a surplus of 8.6% of the GDP, on average, in the first case and a deficit equivalent to 2.0% in the second. With the terms of trade shock in 2014, there was a contraction in the balances of these two accounts which reached 4.4% of the GDP in 2016 in the case of the trade balance and the virtual disappearance of the deficit from factor income (Graph B1.2).

The surplus in the mining-energy sector has made it possible to finance the negative balance in the current account of the rest of the economy, which includes the deficit generated by the public sector. During the years from 2000 to 2016, the deficit balance of the public sector was, on average, 1.1% of the GDP and depended primarily on payments on the foreign debt interest (factor income) which, in turn, were determined by both the interest rates on the loans that had been acquired and the cumulative balance of the debt. Between 2000 and 2013, there was a slight declining trend that resulted from the combination of lower interest rates on contracted loans and the stability in the accumulated balances of the debt in dollars which went from 1.0% of the GDP (USD 951 m) to 0.8% of the GDP (USD 3,124 b). In contrast, starting in 2014, the deficit balance for the public sector has risen due, essentially, to the increased signing of new foreign loan contracts to the point that it stood at 1.4% of the GDP (USD 3,860 b) in 2016.

With respect to the current deficit of the rest of the economy, there was a growth trend between 2000 and 2016 which was notable for its marked acceleration during the 2009-2014 period and the contraction for the two years after that (2015-2016). Specifically, the current deficit of the rest of the economy doubled, going from 5.1% GDP (USD 12,180 b) in 2009 to 10.3% of the GDP (USD 38,865 b) in 2014 primarily as the result of the larger deficit in the balance of trade in goods and services (Graph B1.3). At the same time, in view of the reduction of the trade deficit and the increase in income from transfers in 2016, the deficit balance in the current account for these economic activities fell to 7.3% of the GDP (USD 20,730 b).

As has been made evident, trade balance in goods and services has been the main account for the current transactions of the rest of the sectors of the economy (Graph B1.3). Its balance sheet has been running a deficit and had reached average annual levels of 7.0% of the GDP for the 2000-2016 period. It rose progressively until it represented 11% (USD 31,911 b) in 2015 and, ever since then, it has been declining until it came to 8.5% (USD 24,074 b) in

Graph B1.2
Current Account Components
of the Mining-energy Sector

(Percentage of the GDP)

Source: *Banco de la República.*

(Percentage of the GDP)

| 2000-2009 | 2010-2013 | 2014 | 2015 | 2016 |

(Percentage of the GDP)

| 2000-2009 | 2010-2013 | 2014 | 2015 | 2016 |

2016. In contrast, the current transfers have partially offset the trade deficit since they presented an annual average surplus of 1.9% of the GDP between 2000 and 2016 of which the main component corresponds to workers' remittances sent to our country. It has been associated with the performance of the labor markets in the economies where the Colombian workers reside, a link that explains the high income received during the 2000-2009 period and their decline as a result of the lethargy in global economic growth. Finally, the net outflows due to factor income have decreased in recent years because of the lower profits registered by the companies with FDI belonging to the private non-mining-energy sector (Graph B1.3).

When the rest of the economy is broken down by economic sectors, the deficit of this group can be seen to be caused by the negative balances of the companies belonging to the manufacturing, commerce, transportation and communications sectors and partially offset by the surplus that the agricultural sector has shown (Graph B1.4). The change in the trend in 2016, the year when the different economic groups registered a reduction in their current deficit due to the downturn in the spending on imports and the effects that the slowdown in economic activity had on profits, should be noted.

In 2016, the adjustment of the Colombian economy to the external shocks meant a pronounced correction in the current account deficit of the rest of the economy. This contraction was due to the overall decline in imports in all economic areas (17% and USD 8,811 b) in spite of the fact that the decline in exports (13% and USD 4,894 b) minimized part of this effect (Graph B1.5). The sharp reduction in the value of imports arises largely from the
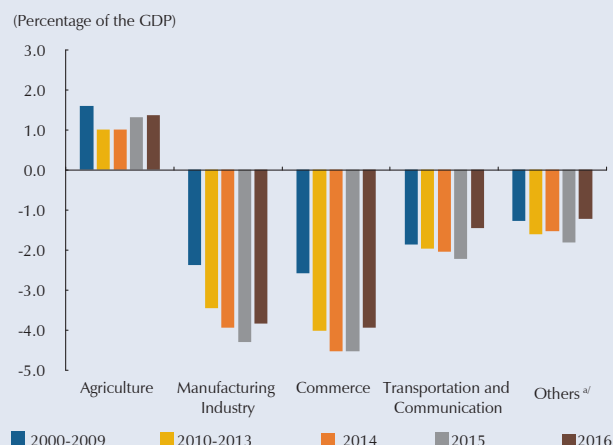
change in purchases abroad on the part of the rest of the sectors which saw a 14% (USD 6,268 b) decline compared to 2015 and, to a lesser degree, from the fall in imports for the mining-energy sector, which declined 23% (USD 4,988 b). With regard to exports, the mining-energy sector is the one that drives the declining trend due to both its relative importance and the 23% annual (USD 4,988 b) reduction in its sales abroad; in contrast, the rest of the sectors increased their exports by 1.0% USD 100 m).

In conclusion, the current account of the country's balance of payments has registered deficits between 2001 and 2016. The sector analysis indicates that the main determiner of the deficit has been the changes in the current balance of the group known as the 'rest of the sectors' due to the fact it has structurally presented net outflows. This is due to the fact that the spending on imports by this group has responded to the trend of domestic demand and, specifically, to the investment component. Furthermore, the mining-energy sector generated current surpluses that made it possible to offset the results of the rest of the economy (including the public sector) even though its current balance has deteriorated considerably due to the fall in the prices for raw materials. Last of all, the pattern of adjustment to the external shock that the Colombian economy suffered has mainly depended on the decline in spending on imports by the economy as a whole.

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Graph B1.5
Exports and Imports by Sectors Based on Balance of
Payments

A.   Exports

(Millions of dollars)   (Millions of dollars)

Remainder of the economy   Public sector
Mining sector (right axis)   Total (right axis)

B.   Imports

(Millions of dollars)   (Millions of dollars)

Remainder of the economy (right axis)   Public sector
Mining sector   Total (right axis)
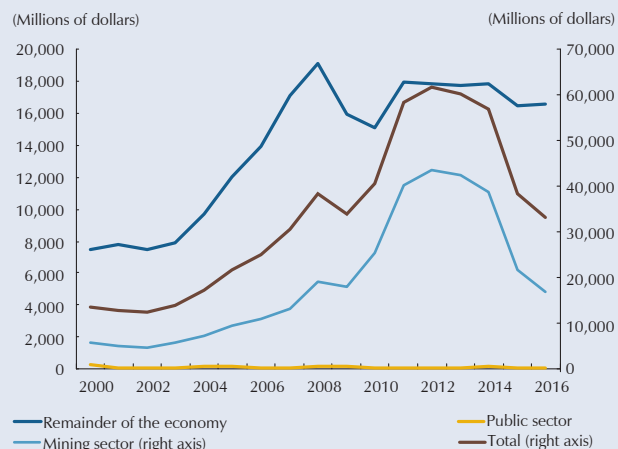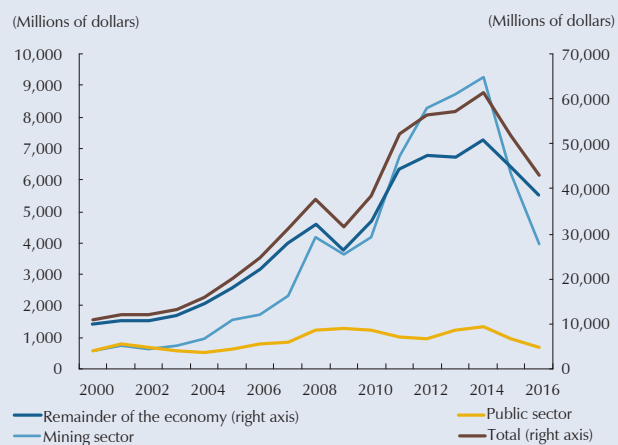
Source: *Banco de la República*.

Banco de la República (2015) "Box 2: Evolución de la
        cuenta corriente (2000-2014)", Informe de la Junta
        Directiva al Congreso de la República, julio, pp.
        87-91.

II. DOMESTIC GROWTH: CURRENT SITUATION AND SHORT-TERM OUTLOOK

The Colombian Economy slowed down more than predicted in the first quarter as it presented limited growth. This result occurred in a context in which domestic demand rose slightly and the international trade accounts contributed negatively to growth.

By branches of activity, agriculture and financial services were the most dynamic. In contrast, mining and transport showed setbacks.

The information available for the second quarter suggests that economic activity will probably continue to show low growth though slightly higher than what was seen in the first few months of the year. The economy is expected to be more dynamic in the second half of the year.

A. PERFORMANCE OF THE GDP DURING THE FIRST QUARTER OF 2017

Based on the most recent figures for the gross domestic product (GDP), published by the National Bureau of Statistics (DANE in Spanish) the Colombian economy grew 1.1% during the first three months of 2017 which is lower than the growth registered at the end of last year (Graph 11). This annual rate of growth was in the lower part of the forecast range presented in the previous Inflation Report (between 0.8% and 1.8% with 1.3% being the most probable figure). The above result meant a drop of -0.2% in the output level between quarters which, in annualized terms, corresponds to -0.9%.

The slowdown seen in the growth of the GDP during the first quarter of 2017 was the result of the confluence of various foreign and domestic factors. In principle, as was explained in Chapter I of this Report, the majority of our main trading partners continued to show a weak economic performance at the beginning of this year, which resulted in slug-

Graph 11
Gross Domestic Product
(seasonally adjusted)

(Trillions of 2005 pesos)   (Annual change)

GDP · Annual variation (right axis)

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

gish foreign demand. The international petroleum supply caused the price of crude oil to be highly volatile which, in spite of showing levels that are better than the average for all of 2016, did not change the fact that local oil production remained stagnant.
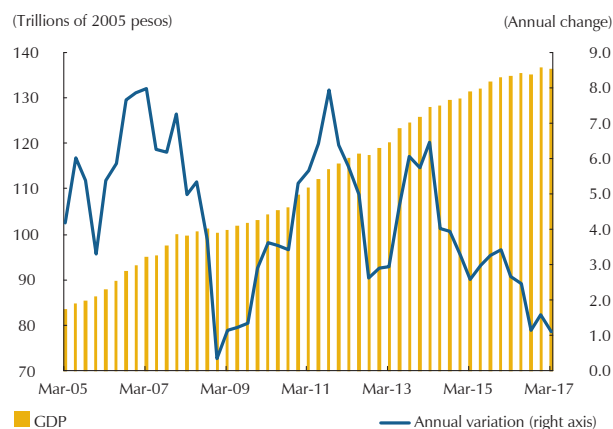
With respect to the domestic environment the deterioration in household confidence brought about a slowdown in private consumption. Furthermore, in spite of the fact that consumer price inflation continued to ease (partly because of the disappearance of the supply shock caused by *El Niño*), the accumulated depreciation of the peso kept on generating new changes in relative prices that fostered a reallocation of expenditures in favor of locally produced goods and services. Added to this is the fact that the relaxation of the monetary policy stance since the end of 2016 had not begun to be transmitted to the market rates at the beginning of the year. In addition, the increase in the value added tax (VAT) included in the tax reform lowered private spending ability as it diminished household purchasing power.

In this context, it can be said that the first quarter slowdown in economic growth was consistent with the cumulative effects of the shock on terms of trade that began towards the middle of 2014 and is extending into the present. The Colombian economy, in a context of macroeconomic policy adjustments and aided by a flexible exchange rate regime that has worked as an automatic stabilizer, has been responding to this reality with an orderly restructuring of expenditure.

In the above situation, domestic demand rose slightly in the first quarter (1.1%, Table 4) after the marked downward trend registered in recent years (in 2014, it grew 6.0%; in 2015, 3.6%; and barely 0.3% in 2016). This performance is due more to higher growth of investment than to any contribution from consumption as will be explained below. The foreign trade accounts, in turn, registered declines which were larger in the case of exports than they were in that of imports. Because of that the contribution of net exports to the expansion of the GDP was negative during the first quarter of 2017.

When the trend of the different segments that the GDP is composed of in the area of expenditures are analyzed in detail, private consumption is seen to grow at a slower pace than public consumption (1.0% compared to 2.1% respectively). In the first case, going by type of durability, the majority of the classifications registered a slowdown: consumption of semi-durable and durable goods, in particular, showed lower growth than it did at the end of last year which may

be due to the purchases made in advance by households which were reported for the fourth quarter of 2016 in response to the expected increase in prices for these types of goods because of the increase in VAT at the beginning of the year. The consumption of services also declined and even at a faster rate that the former (Table 4). That of non-durable goods maintained its rate of growth, a fact that may have been related to the improvement in the supply of agricul-

Table 4
Annual Real Growth of the GDP by Type of Expenditure

	2016				2016	2017
	Q1	Q2	Q3	Q4	Full year	Q1
Total Consumption	3.1	2.3	0.9	1.8	2.0	1.4
Household Consumption	2.9	2.1	0.9	2.1	2.0	1.0
Non-durable Goods	3.3	2.4	1.3	1.2	2.1	1.2
Semi-durable Goods	0.9	1.0	(1.4)	(0.4)	0.0	(3.1)
Durable Goods	(4.4)	(5.9)	(3.8)	11.4	(0.8)	4.0
Services	3.5	3.2	1.7	2.4	2.7	1.4
Final government consumption	3.9	3.1	0.2	0.2	1.8	2.1
Gross Capital Formation	(3.8)	(4.8)	(6.2)	(3.3)	(4.5)	0.2
Gross Fixed Capital Formation	(4.0)	(4.0)	(3.6)	(2.9)	(3.6)	(0.7)
Agriculture, Forestry, Hunting, and Fishing	6.0	7.4	4.2	(0.5)	4.2	3.9
Machinery and Equipment	(15.2)	(12.3)	(18.8)	(13.9)	(15.1)	(3.9)
Transportation equipment	(20.6)	(7.2)	(14.6)	(4.8)	(11.9)	10.1
Construction and Buildings	10.8	1.1	10.6	0.7	5.6	(7.5)
Public works	(1.1)	0.8	3.8	6.1	2.4	3.7
Services	3.1	(1.5)	4.4	1.3	1.8	3.7
Domestic demand	1.4	0.5	(1.1)	0.5	0.3	1.1
Total Exports	0.7	2.1	(3.0)	(3.3)	(0.9)	(3.6)
Total Imports	(5.8)	(3.5)	(10.9)	(4.3)	(6.2)	(0.4)
GDP	**2.7**	**2.5**	**1.1**	**1.6**	**2.0**	**1.1**

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

tural products and their subsequent effects on food prices. Public consumption, in turn, surged with respect to what had been seen in the fourth quarter of 2016 due to the increase in expenditures resulting mainly from the beginning of the regional and local governments' second year mandate.

With respect to the gross capital formation, in spite of the fact that this component of the GDP registered close to 0 in annual increases, they contrast with the declines seen in the previous five quarters. When the accumulated inventory is discounted, a fall in investment is evident although it is not as deep as the ones registered over the course of 2016. The smaller decline in gross fixed capital formation is mainly attributable to the expenditures on tradable capital goods as can be derived from the trend of investment in machinery and equipment and in transportation equipment. In the first case, the decreases that were registered were not as steep as the ones at the end of 2016 while a 2-digit annual rate (driven by the purchase aeronautic equipment) was seen in the second case.

In contrast, the investment in construction of both buildings and public works projects showed poor performance in the first quarter. In the first case, corresponding contractions were registered in part due to a high basis of comparison with the same period last year. In the second, the increase in expenditure by regional and local governments on various infrastructure projects as well as the

greater use of funds for the projects considered within the framework of fourth generation (4G) and tertiary roads may have allowed this item in the GDP to expand at a rate that is higher than that of the rest of the economy but below what was registered in the fourth quarter of 2016. Finally, and as has already been stated, net exports contributed negatively to the expansion of the GDP. Although imports fell a little, exports also underwent a reversal but one that was greater in magnitude. This performance was the result of poor production records and poor sales abroad of, primarily, crude oil and coffee. The sales of manufactured goods also showed poor performance which was partly due to the sluggishness of foreign demand seen over the course of the first quarter.

In the area of supply, the highest rates of growth in the first three months of the year were seen in the sectors of, respectively, agriculture (7.7%) and financial services (4.4%) (Table 5). In contrast, there were severe reductions in mining activity (9.4%) and construction (-1.4%). Commerce, transportation, and the provision of electricity, gas, and water had slight setbacks.

The positive performance in agriculture is the result of the strong production of coffee and other agricultural products. In the first case, according to the *Federación Nacional de Cafeteros* (National Federation of Coffee Growers), coffee bean production was, on average, 1,196,000 bags during the first three months of the year which represented a growth of 12.8%. In the case of the other agricultural products, both annual crops (23.1%) and perennial crops (8.6%) showed

Table 5
Annual Real GDP Growth by Branches of Economic Activity

	2016				2016	2017
	Q1	Q2	Q3	Q4	Full year	Q1
Agriculture, Forestry, Hunting, and Fishing	0.0	0.4	(0.5)	2.0	0.5	7.7
Mining and Quarrying	(4.7)	(6.9)	(6.5)	(8.2)	(6.5)	(9.4)
Manufacturing Industry	4.3	5.1	1.5	1.0	3.0	0.3
Electricity, Gas, and Water	2.9	(0.7)	(1.3)	(0.5)	0.1	(0.6)
Construction	5.3	0.8	6.8	3.5	4.1	(1.4)
Buildings	10.9	2.8	11.0	0.9	6.0	(7.1)
Public works	0.4	(0.4)	1.9	5.1	2.4	3.5
Commerce, Repairs, Restaurants, & Hotels	2.8	1.9	0.8	1.6	1.8	(0.5)
Transportation, Warehousing, and Communications	0.9	0.2	(1.5)	(0.1)	(0.1)	(0.3)
Financial, Real Estate, and Business Services	5.0	5.4	4.4	5.0	5.0	4.4
Social, Community, and Personal Services	3.5	3.2	1.3	0.9	2.2	2.2
Subtotal value added	2.7	2.2	1.3	1.5	1.9	1.0
Taxes minus subsidies	1.3	4.1	0.4	2.8	2.2	2.7
GDP	2.6	2.4	1.2	1.6	2.0	1.1

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

outstanding results. It should be noted that part of this recovery corresponds to the effect of a low basis for comparison with respect to a year ago when this part of agricultural production shrank due to the impact of *El Niño*.
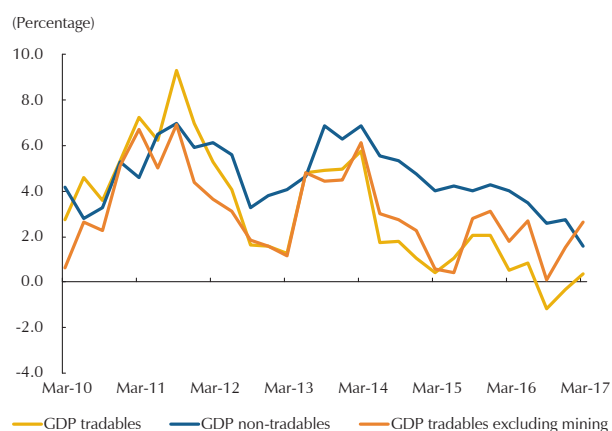
Within the financial services sector, those of financial intermediation (6.4%) and those provided to businesses, with the exception of financial and real estate services (4.3%) showed growth that was higher than that of the economy as a whole. Given the sector's large share of the GDP (20.7%) said activity contributed significantly to supporting the growth of the Colombian economy.

In the construction sector, the slump is mainly explained by the decline in the construction of buildings, both residential (-8.4%) and non-residential (-7.8%). The performance of construction in public works which registered a 3.5% growth rate on a yearly basis was insufficient to offset the decline in private building. In spite of the slowdown in that sub-branch in comparison to the last quarter of 2016 (when it grew 5.1%), the levels remain high and the stimulus from the road projects that are furthering the expansion of highway construction (12.3%) is continuing.

Finally, the contraction of the mining and quarrying sector was caused by the sharp drops reported for the sub-branches of crude oil and natural gas (-12.3%), metallic (-19.5%) and non-metallic minerals (-3.4%). The production of coal, in turn, grew 2.8%. Note that mining suffered a restructuring of its productive apparatus in response to the sharp fall in international prices for these products two years ago and the decline in foreign investment in long-term projects. Furthermore, in the case of coal, this sub-branch faces low worldwide demand.

In this situation, the GDP for non-tradable goods continued to slow down while the GDP for tradables showed a slight recovery (Graph 12). During the first quarter in 2017, in particular, the GDP for tradables presented a slight growth of 0.4% after having shown a contraction of 0.3% in the fourth quarter of 2016. However, when mining is excluded, the GDP for the remaining tradable sectors showed a larger expansion – one that is close to 2.6% annually for three months of the year. Last of all, the GDP for non-tradables showed a growth rate of 1.6% for the same period which is lower than the one seen a quarter ago (2.8%). It should be mentioned that the expansions for both the GDP for tradables and the GDP for non-tradables are below the averages they have had since the year 2000.

Graph 12
GDP of the Tradable, Tradable Excluding Mining, and Non-Tradable Sectors
(annual change)

(Percentage)

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

The most recent indicators of the performance of productive activity show that, between April and June of 2017, Colombia's productive capacity has probably expanded at a slow pace though one that is slightly better than what had been registered during the first quarter of the year.

## B.   THE GDP FOR THE SECOND QUARTER OF 2017

Based on the most recent indicators of the performance of the productive activity, the Colombian productive apparatus probably expanded at a slow pace between April and June of 2017, similar to that registered in the first quarter of the year (1.1%) but less than was implicit in the medium-term growth projections for the GDP presented in the Inflation Report a quarter ago.

The fundamentals of the foreign context relevant to the country's economy have shown mixed signals. On the one hand, in spite of the fact that the economic growth of our main trading partners has recovered recently, it remains low, especially for the countries in this region. This, in principle, could indicate weak foreign demand which would limit the possibilities of expanding the sales of local products abroad in spite of a more competitive exchange rate. Moreover, as was explained in Chapter I, a declining trend was seen in the international prices for petroleum in the second quarter. The above may have translated into additional pressure on national revenue. With respect to the domestic context, there were mixed trends: on one hand, inflation gave way during that period and continued its convergence with the upper part of the +/1 pp range around the target, which could have allowed for a somewhat greater demand. On the other hand, the recent monetary policy actions have not been fully reflected in the market rates, which indicates that there is pressure on the disposable income of households. Added to the above is an environment in which economic agents are still reporting low levels of confidence that may be constraining the possibilities for expanding demand.

In spite of the above, the projected growth of the GDP in the second quarter of 2017 anticipates an expansion of domestic demand supported by not only consumption but also investment unlike what happened in previous quarters. Total consumption may have grown at a rate similar to what was seen in the first three months of the year as a result of small rises in both the public and private component. Again, net exports may have subtracted from the growth of the GDP due to a reduction in the sales abroad (especially sales of commodities such as coffee and crude oil) and an increase in the actual imports.

The projected growth of the GDP in the second quarter of 2017 anticipates a somewhat greater expansion of domestic demand than was seen in the first quarter supported by not only consumption but also investment.

The forecasts presented here are closely related to the assumptions of growth in public consumption and investment in public works projects. In the first case, an expansion that is greater than what was seen over the course of the first three months of the year is anticipated partly as a result of a higher level of expenditure on the part of regional and local governments and the retroactive effects of the increase in public sector wages in June of this year. In the second, the recent performance of investment in exploration and drilling by various companies in the petroleum sector as well as the implementation of the funds for regional infrastructure projects and roads in the 4G framework will probably contribute to the expansion of this part of the economy.

Graph 13
Monthly Survey of Retail Trade
(total retail trade excluding fuel, seasonally adjusted)
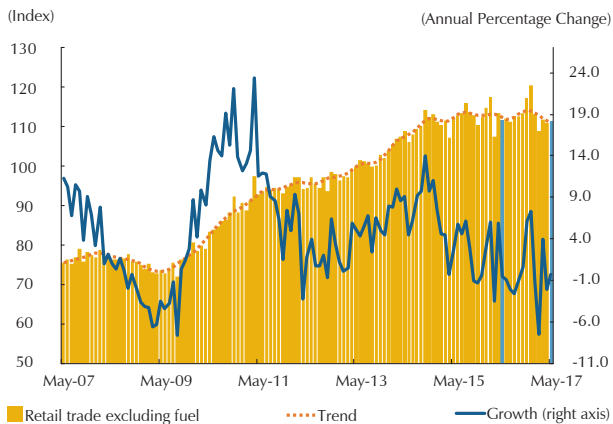
Source: DANE, Calculations by *Banco de la República*.

Graph 14
Monthly Survey of Retail Trade (total retail trade excluding fuel and automotive vehicles, seasonally adjusted)
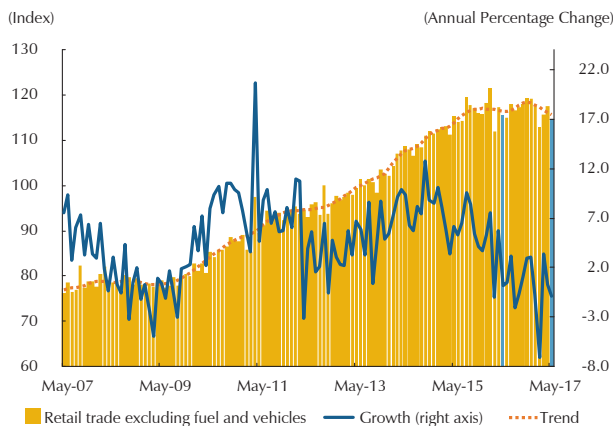
Source: DANE, Calculations by *Banco de la República*.

Graph 15
Monthly Survey of Retail Trade (retail trade in automotive vehicles, seasonally adjusted)
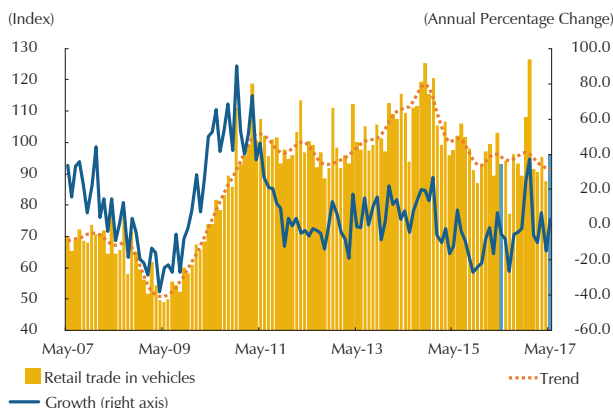

Source: DANE, Calculations by *Banco de la República*.

With respect to the forecasts for the rest of the components in the GDP, what has been reported by the different trend indicators has been closely followed. Regarding household consumption, the monthly retail trade survey (MRTS) with data as of May, reported a fall in retail sales of 0.3% in comparison to the same month in 2016 (Graph 13). The April-May 2-month period saw a 1.2% contraction which meant a small drop with respect to what was registered at the beginning of 2017 (-1.7% on a yearly basis). When sales of vehicles and motorcycles are deducted, the analysis of the remaining aggregate also revealed an annual decline of 0.9% (Graph 14). The decline was -0.3% in the 2-month period which contrasted with the -1.4% growth in the first quarter of the year. In both cases the trend of the series suggests a deterioration in private consumption.

The same source reported a 3.0% annual increase in vehicle sales in May (Graph 15). In spite of the above, the aggregate for the 2-month period fell 6.3% which represented a slowdown compared to what had been seen over the course of the first three months of the year in which the fall was -3.0% yearly. The above makes it possible to expect a mediocre performance in the consumption of durable goods during the first quarter. The numbers as of June in the Report from the Automotive sector published by the *Federación Nacional de Comerciantes* (National Federation of Merchants) (Fenalco) and the *Asociación Nacional de Empresarios* (National Association of Business Owners) (ANDI) confirm the above. During that month the number of registrations fell 3.7% on a yearly basis as a result of which the decline in the quarterly aggregate was -5.9% (vs. -1.0% for the first quarter).

Other auxiliary indicators also suggest that the performance of private consumption will probably continue to be poor although somewhat higher than it was in the first three months of the year. The consumer confidence index (CCI) for June rose a little compared to the levels in April and May but remains below its average as calculated since November 2001 (Graph 16). The average of the CCI for the second quarter of 2017 was somewhat higher than

Graph 16
Consumer Confidence Index and Quarterly Average

(Balance)

Consumer confidence Index · · · · · Historical average — Quarterly average
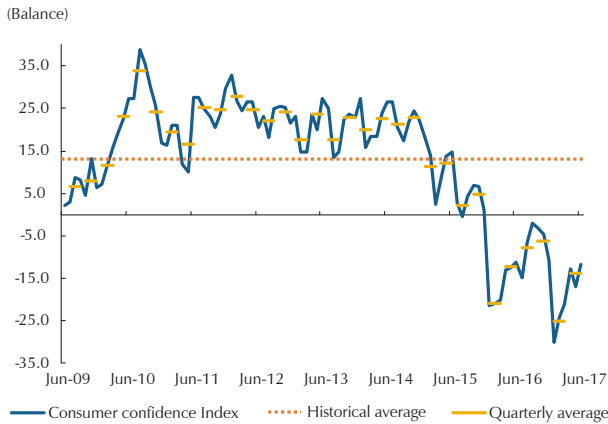
Source: *Fedesarrollo*.

the average for the first three months of the year. The recovery of the CCI levels was due to both to its component of expectations and the current economic conditions for households. The seasonally adjusted series of the balance of sales for May from *Banco de la República*'s monthly survey of economic expectations (EMEE in Spanish), in turn, also suggests that private consumption will probably have registered low rates of growth but not an additional decline in this segment of the GDP for the second quarter. The recent trend of the labor market indicators points in a similar direction (see the shaded section on the labor market below).

PERFORMANCE OF THE LABOR MARKET DURING THE SECOND QUARTER OF 2017

During the second quarter of 2017, the national unemployment rate (UR) remained relatively stable but continued to deteriorate in the thirteen most important metropolitan areas. Between April and June, the seasonally adjusted UR stood at 9.2% on average for the national total while it was 10.5% for the thirteen areas when these values had been 9.2% and 9.4% for the same quarter the year before (Graph A). The increase in the UR for the thirteen areas was due to a decline in the employment rate (ER) that was accompanied by the stable trend in the overall participation rate (OPR) over the past year (Graph B).

In the quarterly moving average ending in June, the national ER remained practically stable. However, in the thirteen areas this rate presented a significant annual upswing. The positive performance of the UR in rural areas, where it declined significantly, is notable (Graph C).

Employment in the national total continues to be unlike that of the thirteen areas. While the number of employees continues to grow annually in the national total and at the margin, it remains stagnant in the thirteen areas. In the quarterly moving average that ended in June, the number of employed grew 2.0% on a yearly basis in the national total and only 0.5% in the thirteen areas (Graph D, panels 1 and 2).
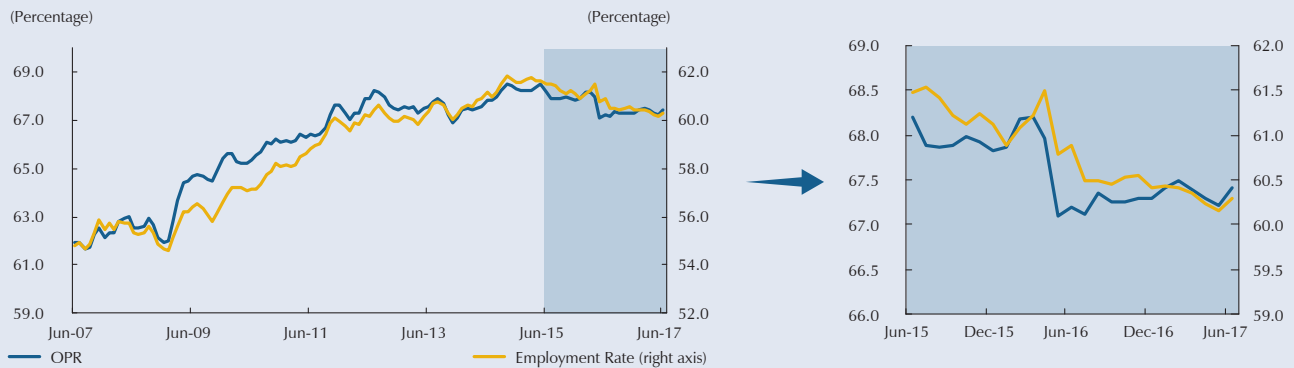
Graph A
Unemployment Rate (UR)
(Seasonally adjusted quarterly moving average)

(Percentage points)

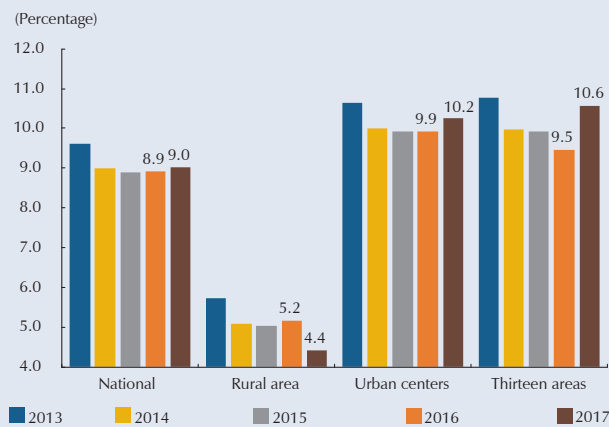—National —Thirteen areas

Source: DANE (GEIH).

With respect to quality of employment indicators, the number of non-salaried workers presented an annual decrease while wage-paying employment continued to grow though at a rate lower than what was registered in 2016. Specifically, during the April-June quarter, the moving average of the annual rate of growth for wage-paying employment was 1.2% while non-salaried employment declined 0.3% (Graph E). With figures from the quarterly moving aver-

Overall Participation Rate (OPR) and Employment Rate (ER)
(Seasonally adjusted, thirteen areas)

Source: DANE (GEIH).

Graph C
Unemployment Rate
(Quarterly moving average April-May-June)

Source: DANE (GEIH).

Graph D
Number of People Employed
(Seasonally adjusted and annual change)

1.   National Total

2.   Thirteen Main Metropolitan Areas

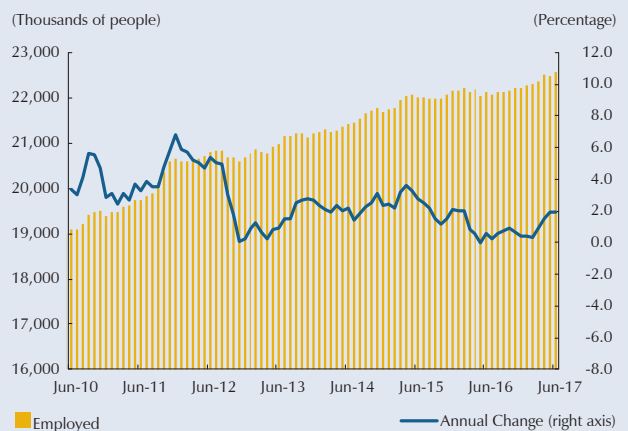Source: DANE (GELH) and Calculations by *Banco de la República*.

age ending in May, formal employment also registered an annual increase (2.1%) while informal fell yearly (-1.5%)[1] (Graph F).

The stagnation of employment and the increase in the UR in urban areas is consistent with the observed economic slowdown; however, this has not resulted in a significant deterioration in the national UR. If economic activity remains weak, the sluggishness in the labor market could become accentuated.
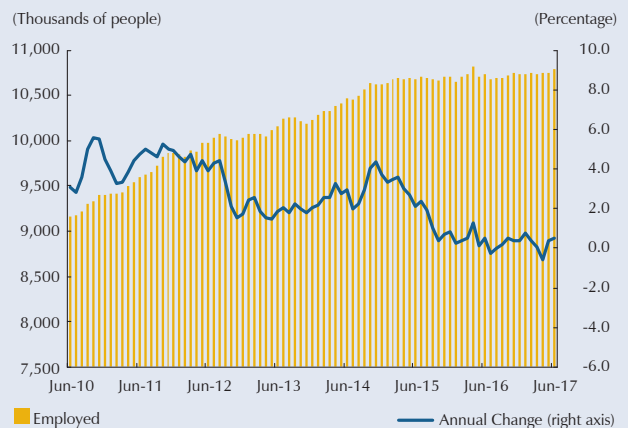
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1   Based on DANE's definition, which is founded on the resolutions of the International Labor Organization (ILO), which is affiliated with the United Nations, employers and workers in companies that have up to five workers, unpaid family workers, unpaid workers in other household companies or businesses, domestic workers, day laborers or peons, and independent workers who work in establishments that have up to five people with the exception of independent professionals are informal (DANE, 2009).

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

(Thousands of people)
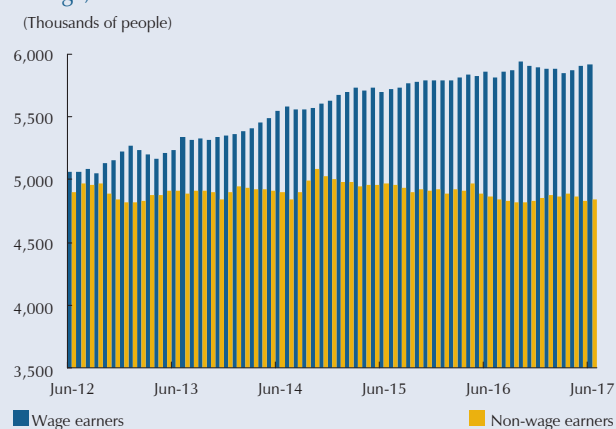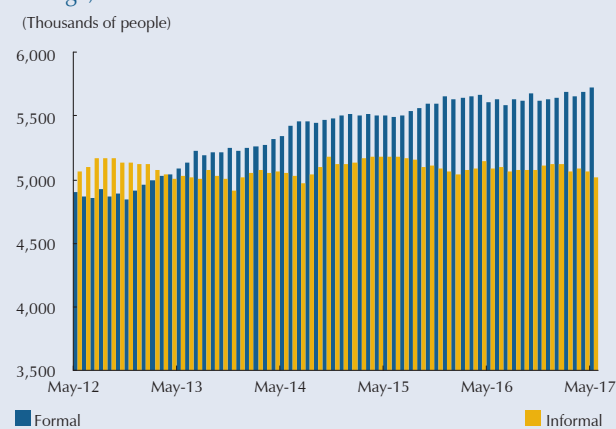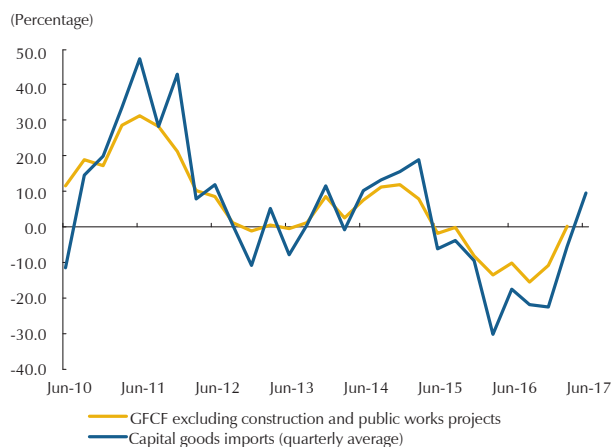

Source: DANE (GELH) and Calculations by *Banco de la República*.

Graph F
Employment by Formality
(Thirteen areas, seasonally adjusted quarterly moving average)

(Thousands of people)

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

Graph 17
Imports of Capital Goods (real) and GFCF Excluding Construction of Buildings and Public Works Projects
(Annual change)

(Percentage)

Note: figures converted to real terms. The data from March corresponds to a projection using the preliminary figures from DIAN.
Sources: DANE (National accounts and foreign trade) and DIAN, Calculations by *Banco de la República*.

With respect to the different construction investments, when the figures for imports of capital goods are converted to constant pesos, the results reveal that the aggregate of gross fixed capital formation in machinery and equipment and in transportation equipment may have grown during the second quarter of 2017 after having fallen for eight quarters (Graph 17).

The seasonally adjusted prospective balance of the May EMEE short-term investment also suggests that this part of the investment may have recovered during the second quarter of the year. This forecast assumes that the levels of this GDP aggregate remain relatively stable with respect to what was seen last year. This implies that part of the improvement could be related to a low basis for comparison with the same period in 2016.

In the case of the gross fixed capital formation in the construction of buildings, a negative annual rate of growth, although higher than the rate in the first quarter, is expected. In this respect, the excess supply of both non-residential and high-income residential construction will probably limit the scope for expansion in this area of investment.

Regarding foreign trade, the figures on the dollar-denominated exports as of May published by DANE and information from the bulletins issued by the National Revenue and Customs Bureau (DIAN in Spanish) as of June make it possible to project a real decline in this GDP segment between April and May. This trend would be consistent with the poor performance reported with respect to the quantities of petroleum and coffee produced. Moderate growth is anticipated for imports which is consistent with the forecasts for intensive domestic demand for goods coming from abroad.

By branches of activity, the available indicators suggest that the performance of economic activity was uneven during the second quarter of 2017, but they also point to a slightly higher growth of the GDP than was registered for the first three months of the year.

In services such as tourism, the figures are encouraging. Based on the data from the Ministry of Commerce, Industry, and Tourism, around 230,000 foreigners entered the country during May which implied a growth of 28.1% compared to the same month last year. So far this year, the number of international arrivals amounted to 1,178,132, which represents an annual expansion of 20%. In the January-May period, the number of passengers on international flights grew 7.82% while the number associated with domestic flights grew 2.5%. Furthermore, according to the *Asociación Hotelera y Turística de Colombia* (Hotel and Tourism Association of Colombia), the percentage of rooms occupied during that period was 54.0% and Bolivar, Antioquia, and San Andres and Providencia were the most popular destinations.

In contrast, the *Federación Nacional de Cafeteros* (National Federation of Coffee Growers) reported a significant deterioration in coffee bean production during the second quarter of 2017 as it contracted 17.3%. The difficulty in harvesting the beans caused by the rainy season partially explains this result (Graph 18). Cattle slaughter, in turn is continuing to deteriorate: it declined 6.3% as of May while it had fallen at a rate of -9.5% during the first quarter of 2017. The performance of other agricultural products will likely help offset the weakening of the two previous subsectors since this area has been growing at rates of close to 10%.

Graph 18
Coffee Production (quarterly and annual growth)
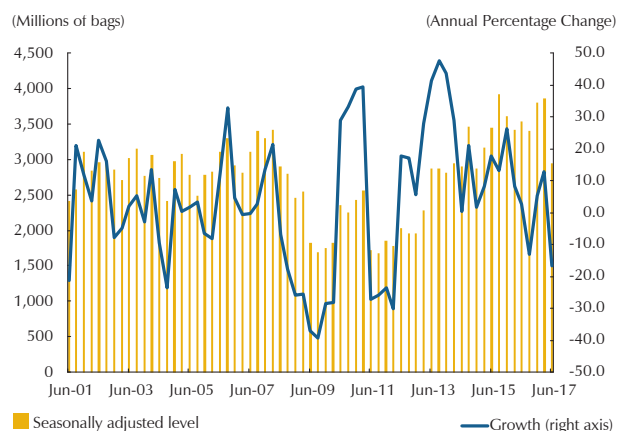
Source: Federación Nacional de Cafeteros (National Coffee-growers Association), Calculations by *Banco de la República*

The manufacturing industry, which had shown a favorable trend at the end of 2016, has been faced, in the first half of the year, with the lagged consequences of the sluggishness of domestic demand and the lower growth in our trading partners who demand industrial types of export goods. According to the DANE monthly survey of manufacturing (EMM), the total for the sector declined 0.6% in May and if oil refining is excluded, the fall for the rest of the manufacturing sector was 0.8%. So far this year, industry as a whole has contracted 1.3%
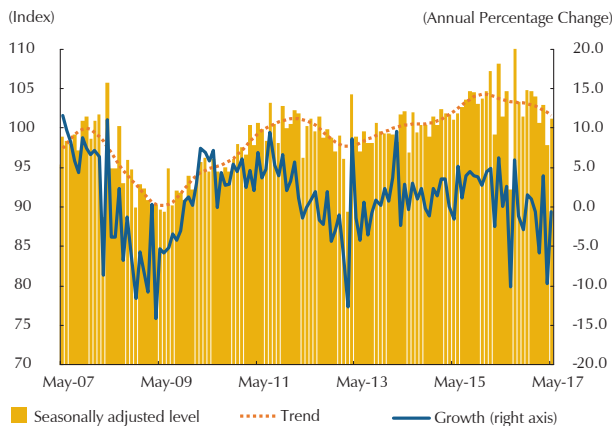
Graph 19
Indicators of Industrial Production

A. Total Real Industrial Production
(Seasonally adjusted, trend component, and annual growth)
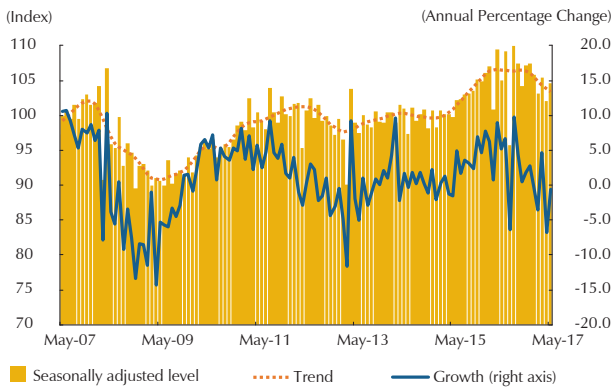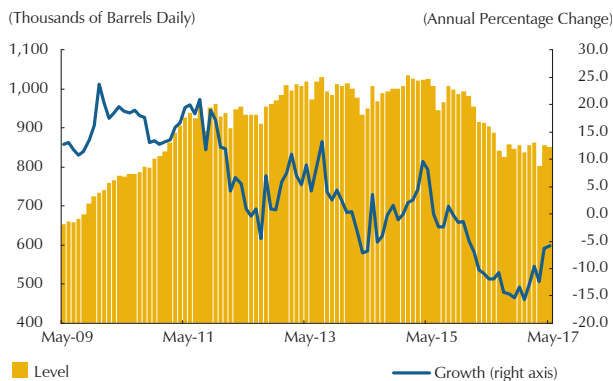

B. Real Industrial Production Excluding Oil Refining
(Seasonally adjusted, trend component, and annual growth)

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

Graph 20
Crude Oil Production
(Monthly and annual growth)

Source: ANH, Calculations by *Banco de la República*.

and excluding oil refining, it has fallen 3.0%. The trend in both shows a weakening of the sector (Graph 19).

In addition, even though the *Fedesarrollo* business opinion survey for the industrial sector with data as of June showed improvements in both the indicator for orders and in inventory, the averages for the second quarter were less favorable than those registered in the first three months of the year. Something similar has occurred with expectations for production three months from now. With all of that, industrial confidence during the second quarter continued to demonstrate a weakening in the sector. According to the ANDI business opinion survey, the industrialists are reporting the following as the main problems they have: low demand, the exchange rate, and the cost of raw materials.

With respect to mining, the figures point to unequal performance: while petroleum production continued to deteriorate significantly, the figures for coal exhibited significant strength. Using the figures from May, crude oil production was at 854 thousand barrels per day (tbd), which meant an annual decline of 6.0% (Graph 20). In contrast, it is estimated the production of coal will contribute positively to sector growth as the volume of exports grew 57% on a yearly basis in May and has grown 27.6% so far this year.

Concerning construction, the indicators show a marked deterioration. As of May, production and shipments of cement decreased 3.1% and 0.6% respectively. Furthermore, construction permits fell 0.3% in May and, as a result, are showing a decline of 7.7% so far this year. Something similar happens with heavy construction statistics.

All of the above makes it possible to project an annual expansion of the GDP for the second quarter of 2017 that is slightly higher than what was seen in the first three months of the year. The technical staff estimates that the growth of the GDP will probably have been between 0.7% and 1.7% with 1.2% as the most likely figure. The breadth of the forecast range is consistent with the uncertainty related to the performance of government consumption and public works projects as well as the different scenarios for the balance of payments.

III.   Recent Developments in Inflation

Annual consumer inflation continued diminishing during the second quarter and, in June (3.99%), it was within the +/1 pp range around the target established by the Board of Directors of *Banco de la República*.

Core inflation has also declined in the last few months, but more slowly and remained above 4.0%.

The fall in annual inflation during the quarter and over the course of the year continued to be the result of the prices for food and tradables returning to normal after the upward shocks caused by *El Niño* and depreciation.

Annual consumer inflation, which has fallen steadily since August of last year, closed the first half of this year at 3.99%, 176 basis points (bp) below what was recorded at the end of last year and for the first time below 4.0% This situation has not been registered since January 2015 (Table 6 and Graph 21).

The result, which was lower than had been anticipated in the March Inflation Report, is partly due to the recovery of the agricultural products once the effects of *El Niño* and the freight transportation strike last year disappeared. Likewise, the gradual disappearance of the upward shock due to the sharp depreciation of the Colombian peso between July 2015 and mid-2016 and a weak demand that must have limited increases for a wide range of prices also contributed to it.

The transitory upward effects that the tax reform which went into effect this year involved and the more permanent ones associated with indexing and salary adjustments at rates that were significantly higher than the target did not succeed in curbing the declining trend of total inflation although they did involve substantial increases in several segments, especially in the case of non-tradables as will be explained below.

Graph 21
Headline Inflation

(Percentage)
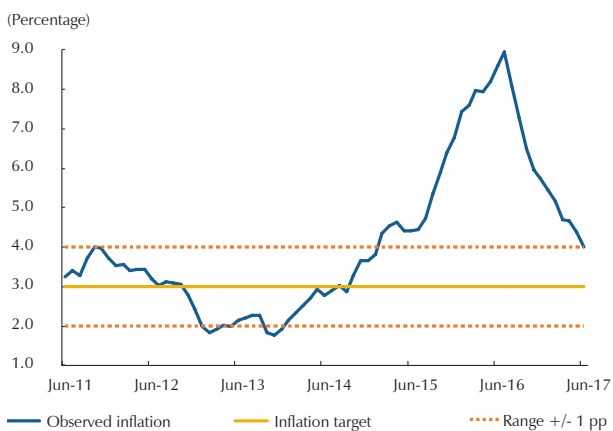
Sources: DANE and *Banco de la República*

Table 6
Consumer Inflation Indicators
(At June 2017)

Description	Weight	Jun-16	Sep-16	Dec-16	Mar-17	April-17	May-17	Jun-17
Total	100.00	8.60	7.27	5.75	4.69	4.66	4.37	3.99
Excluding food	71.79	6.31	5.92	5.14	5.13	5.60	5.35	5.12
Tradables	26.00	7.90	7.20	5.31	5.59	5.35	4.88	4.41
Non-tradables	30.52	4.97	4.85	4.85	5.33	5.22	5.25	5.21
Regulated items	15.26	6.71	6.19	5.44	4.05	6.75	6.24	6.01
Food	28.21	14.28	10.61	7.22	3.65	2.49	2.09	1.37
Perishables	3.88	34.94	6.66	(6.63)	(13.09)	(14.47)	(14.13)	(14.72)
Processed	16.26	12.09	12.56	10.74	6.28	5.12	4.39	3.29
Eating out	8.07	8.11	9.18	8.54	8.94	8.08	7.79	7.62
Core Inflation Indicators								
Excluding food		6.31	5.92	5.14	5.13	5.60	5.35	5.12
Core 20		6.82	6.73	6.18	6.01	5.84	5.59	5.31
CPI excluding perishable food, fuel, & utilities		6.77	6.65	6.03	5.61	5.37	5.29	5.07
Inflation excluding food and regulated items		6.20	5.84	5.05	5.44	5.28	5.09	4.87
Average of all indicators		6.52	6.29	5.60	5.55	5.52	5.33	5.09

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

In the case of wages, at the end of the first half of the year, they were consistent with the annual rates which were fluctuating between 4.0%, which coincides with ceiling of the +/1 pp range around the target, and 7.0%, which corresponds to the increase in the minimum wage decreed for this year. Specifically, wages in the manufacturing industry were in accordance with a nominal annual rate of 6.5% and in commerce with one of 5.3% in May, and in June, wages in housing and heavy construction were consistent with nominal annual rates of 5.7% and 4.4% respectively. These rates are relatively high with respect to the target of 3.0% and have resulted in spite of the relative weakness seen in the labor market, especially the labor market in the major urban areas (Graph 22).
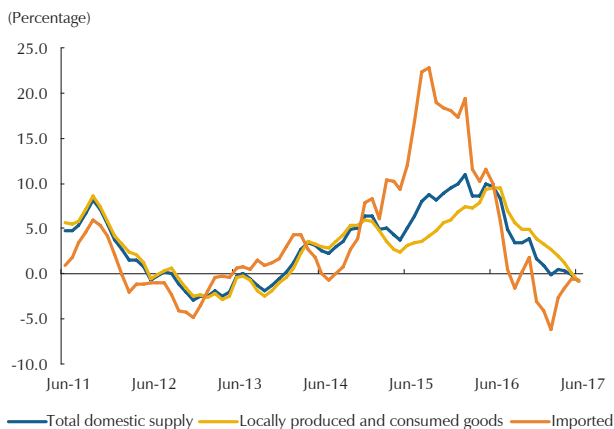
Graph 22
Nominal Wages
(Annual percentage change)

(Percentage)
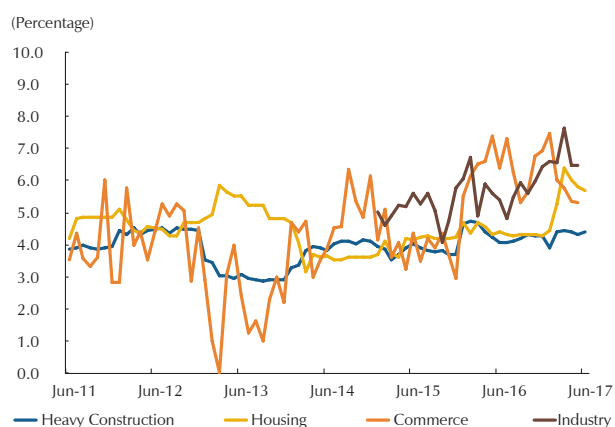
Source: DANE, Calculations by *Banco de la República*.

Non-labor costs, proxied by the annual change in the PPI for domestic supply (PPI for imports plus PPI for locally produced and consumed goods), did not present inflationary pressure during the first half of this year. In fact, like the annual consumer inflation, producer inflation also demonstrated a declining trend throughout the first half of the year as it fell from 1.62% last December to 0.55% in March and closed in negative territory in June (-0.83%) (Graph 23). This downward trend is due to the local component in which the annual adjustment went from 3.85 % in December to 2.01 % in March and to -0.91 % in June. In contrast, the an-

Graph 23
PPI by Origin
(annual change)

(Percentage)

Source: DANE.

Graph 24
Core Inflation Indicators

(Percentage)
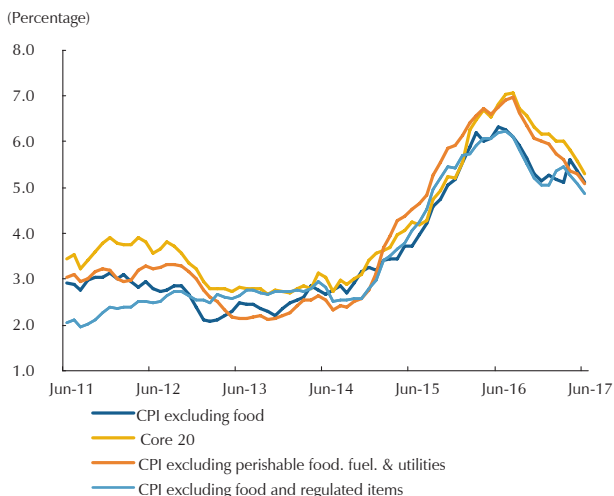
Source: DANE, Calculations by *Banco de la República*.

nual change in the PPI for imports did not change substantially between last December (-3.13%) and March (-2.66%), but it did rise with respect to June (-0.66 %). The recovery in the second quarter is linked to the increased cost of the US dollar in the last few weeks. Within the local component of the PPI, the slowdown was widespread since it included the PPI of agriculturally produced goods (-8.44% in June), the PPI of mining (-2.40% in June, especially for crude oil extraction) and the PPI of industry (1.16% in June).

A.   CORE INFLATION

After the relative stability between January and April, the average for the four core inflation indicators periodically monitored by *Banco de la República* declined over the next two months and ended the first half of the year at 5.09%. All of the core inflation indicators decreased during the second quarter of 2017 except for the CPI excluding food which closed in June at 5.12% (Graph 24).
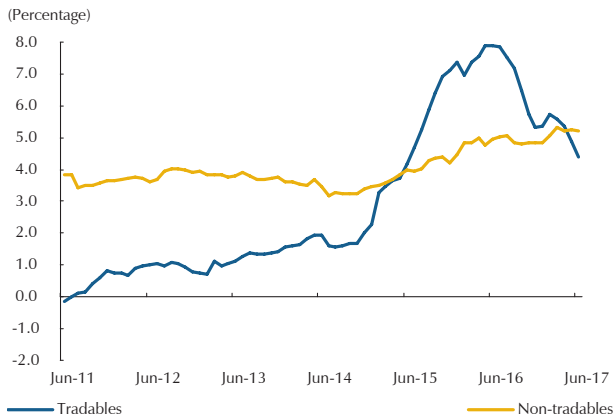
As of June all of the core inflation indicators remained above the 4.0% inflation ceiling (2.0% - 4.0%). The transitory disconnection of annual inflation expectations over the course of 2016, the indexing of the CPI for services, the inflationary impact of the most recent tax reform as well as that of the new liquor law hindered smaller adjustments in core inflation during the first few months of 2017. Once the previous shocks started to dissipate, the factors that put downward pressure on prices as well as the weakness of demand and the smaller adjustments in the costs of production have begun to bring core inflation down as has been seen in the last two months.

When the trend of the CPI excluding food is analyzed, two of the components of this sub-basket (tradables and non-tradables) showed decreases in their annual variation during the second quarter of 2017. The sharpest decline, which was greater than expected, was the annual change in the CPI for tradables which went from 5.59% in March to 4.41% in June (Table 6, Graph 25). Said indicator had registered a rise in the first quarter, which was to a large extent, related to the increase in indirect taxes derived from the tax reform and the liquor law.
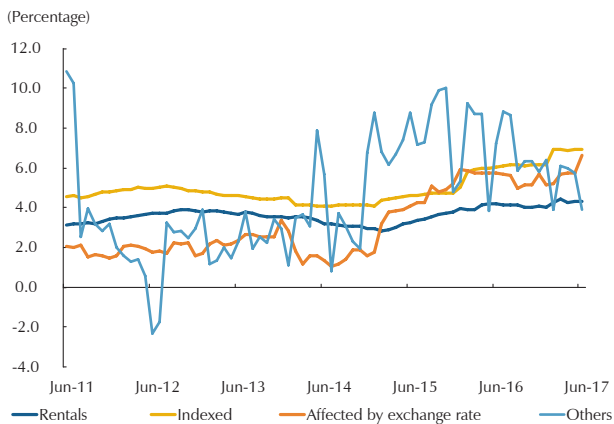
Thus, the trend of tradable goods excluding food and regulated prices in recent months resumed the downward direction seen in the second half of last year

(Percentage)

(Percentage)

(Percentage)
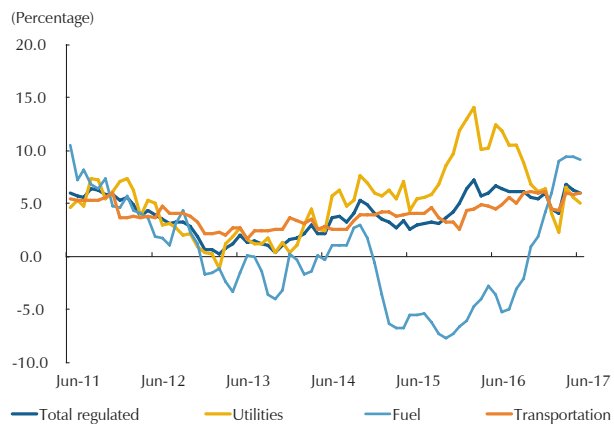
when the shock produced by the sharp depreciation of the peso accumulated between mid-2014 and the beginning of 2016 began to dissipate. The stability of the exchange rate for the majority of 2017 up to this point has allowed the effects of this shock to continue to gradually disappear from the annual variation of tradable goods to which the downward effects that the weakness of demand could be generating are added. Furthermore, the decline of this indicator starting in April also suggests that the bulk of the transmission of the increase in VAT and other indirect taxes was completed in the first three months of the year.

The annual change in non-tradables excluding food and regulated items continued to show relatively high levels during the second quarter even though there was a slight decrease to 5.2% during this period. For most of last year, the annual adjustments of this sub-basket remained stable around 4.9% and then went to 5.31% during the first quarter (Table 6, Graph 25).

As was mentioned in the previous report, the recovery as of March was associated with the upward pressure exerted by rentals (especially in Bogotá) and by other indexed items (largely health and educational services) for which the prices appear to have been updated at the beginning of 2017 considering both the 7.0% adjustment of the minimum wage and inflation from last year. Thus, the annual change in the indexed component of the CPI for non-tradables went from 6.16% in December to 6.91% in March, the level at which it remained during the second quarter. Note that, unlike tradable goods, the non-tradables, especially, the indexed ones were not affected very much by the increase in indirect taxes (Graph 26).

Regarding regulated prices, their annual change in June stood at 6.01% having risen with respect to what had been registered in the first quarter when they had contributed to reducing total Inflation (through utilities and transportation) (Table 6 and Graph 27). The upward pressure on regulated prices which had been to a large extent forecast in the previous report came from their main components.

Utilities went from 2.36% in March to 5.01% in June as a result of the upward adjustment for natural gas, energy, and water. Some of these fees may have been affected by the higher costs associated with the new investment needed to increase coverage for some of the cities around the country (above all in water and sewerage) and possibly by the depreciation of the peso over the last month and a half.

A large part of the increases in public transportation were due to the readjustment of mass transit fees in Bogotá during the second quarter. Note that there could be new increases in the transportation sector during the third quarter as a result of the introduction of a new digital billing platform in the case of taxi services starting in August.

In spite of some increases in the price of gas, the fuel sector did not present any substantial changes during the second quarter and closed the first half of the year with an annual growth in prices of 9.08%. The largest recovery in this component of the regulated items was registered between December (1.83%) and March (8.98%), which was primarily due to the green tax (which levied a 135-peso tax on gasoline).

In order to better understand the factors that were behind the decline in core inflation during the second quarter, the CPI excluding food and regulated items was also broken down into two new sub-baskets for this Report: the first one is flexible pricing and the second is sticky prices. Flexible prices, which are determined mainly by the trend of the exchange rate, were the ones that have fueled the decrease in inflation excluding food and regulated items in the last few quarters. Sticky prices, in turn, which have the property of isolating transitory shocks (such as food, regulated prices, and the exchange rate), presented a stable but relatively high annual variation that was at levels of 5.1% during the last few months after having risen at the beginning of the year. This sub-basket could operate as an indicator of the inflation tendency as well as providing information on consumer price expectations and future inflation.

B.   FOOD PRICE INFLATION

In the last three months, annual food inflation continued to decrease in line with the forecast and, in June, stood at 1.37%, its lowest level since January 2014 (1.2%) (Graph 28). Since the middle of last year, food has been leading the decline in total annual inflation to the extent that the effects of upward shocks caused by *El Niño* and the trucker's strike have disappeared.

Unlike what had been occurring up until the first quarter when the drop in the prices for perishable or fresh produce was the main cause for the decline in food inflation, at this time, the decline was primarily possible because of the favorable trend of the prices for processed food (Graph 29). The increase in

Graph 28
CPI for Food
(Annual change)

(Percentage)
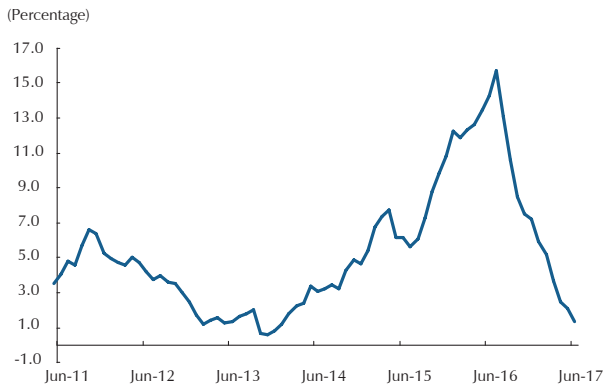
Source: DANE, Calculations by *Banco de la República*.

Graph 29
CPI for Food by Groups
(Annual change)

(Percentage)   (Percentage)

━━ Processed   ━━ Eating out   ━━ Perishables (right axis)
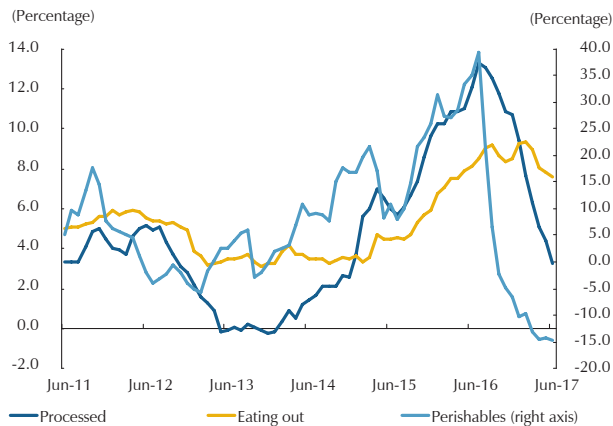
Source: DANE, Calculations by *Banco de la República*.

some international prices for agricultural raw materials and the depreciation of the peso against the US dollar in the past two months did not curb these reductions. As a result, the annual change as of June was 3.3% having declined significantly compared to the previous quarter because of the absolute reductions in the prices of various goods that weigh heavily in the consumer basket such as beef, pork, eggs, and rice, etc.

Be that as it may, although the prices of perishables did not fall in the second quarter, they did show a lot of stability and remained at very low levels in comparison to what had been seen in the same months last year with an annual variation of -14.7%. The annual change for eating out, in turn, which had continued to rise during the first quarter, has experienced a break in this trend in recent months and was at 7.6%, 132 bp less than what was registered in March. The weakness of demand, cheaper perishables, and the decline in the price for meat in the last few weeks have contributed to the smaller annual adjustments in the prices for this subgroup of food.

Juan Manuel Julio
Javier Gomez
Manuel Darío Hernandez*

Julio, Gómez and Hernandez (2017) calculated the inflation of "sticky" and "flexible" prices for Colombia. These new indicators are the aggregate inflation of the basic expenses, excluding food and regulated prices, the prices for which change with limited or great frequency depending on a threshold. This, 10.76 months, is the distribution median of the actual price durations between March and August 2006 obtained from Julio, Zárate and Hernandez (2010).

The classification of the basic expenditures in the consumer price index (CPI) excluding food and regulated prices based on the frequency of price changes produced a basket of sticky prices (which contained basically services) and one of flexible prices (which was mainly made up of goods). As a result, the baskets of sticky and flexible prices turned out to be similar to those of tradables and non-tradables respectively, and the basket of sticky prices was similar to the one proposed by Vargas (2016).

The importance of the inflation of sticky and flexible prices for the design and analysis of monetary policy is derived from the following facts. As a first step, the breakdown of inflation excluding food and regulated items into sticky prices and flexible prices brings out the importance of price stickiness as the most important source of the real effects of monetary policy (Keynes, 1936). Second, the fact that inflation of flexible prices is equated with that of tradables implies that the former is the component of inflation that is most closely related to variations in the exchange rate. As a result, this is the component of inflation that is most closely related to the transmission of the exchange rate to CPI inflation. And thirdly, Bryan and Meyer (2010) postulated that the inflation of sticky prices contains information about future inflation and expectations for it which are usually difficult to measure. These authors also suggest that the inflation of flexible prices contains information about the current state of the economy. These suggestions were validated both theoretically by Millard and O'Grady (2012) and Reiff and Varhegyi (2013) and empirically by Bryan and Meyer (2010), Millard and O'Grady (2012), Reiff and Varhegyi (2013) and Erlandsen (2014) for the United States, the United Kingdom, Hungary and Norway respectively.

Julio et al. (2017) show that Bryan and Meyer's (2010) postulates and the findings in the above mentioned countries are fulfilled in Colombia and, they get other results that could explain the monetary history of Colombia and some of which may be common to other small and open economies. These results are described below.

In order to describe the nature of the fluctuations these new indicators have, Graph B2.1 shows the changes in the inflation of sticky and flexible prices in comparison to inflation excluding food and regulated items. From this graph, the following should be noted: 1) the changes in the stationary state of inflation declined substantially after the adoption of a freely floating exchange rate in 1999 or the 1996-2002 deflation,

Graph B2.1

A. Annual Change in Rigid and Flexible Prices and Inflation Excluding Food and Regulated Items

(Annual percentage change)

B. Annual Change in Rigid and Flexible Prices and Inflation Excluding Food and Regulated Items, 2003-2017

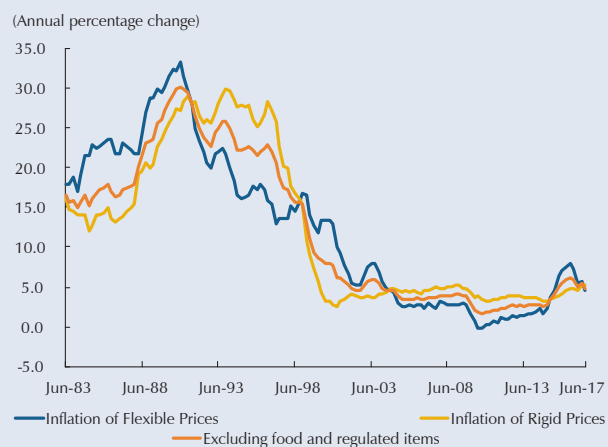(Annual percentage change)

Source: Julio et al. (2017).

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*   The authors are, respectively, senior researchers at *Banco de la República* and expert professional in the Technical and Economic Information Department. The views expressed and possible errors and omissions are not binding on the Bank or its Board of Directors.
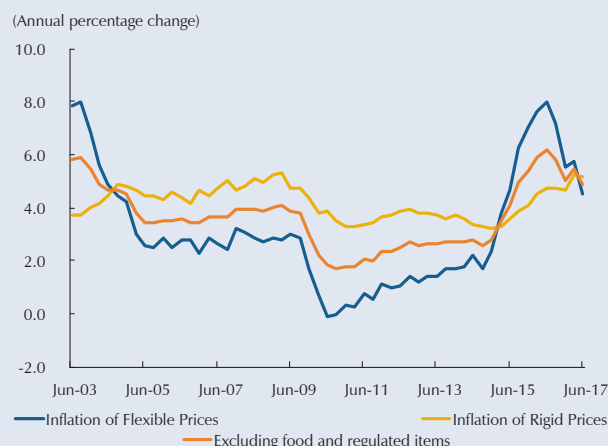
or due to both factors; 2) inflation of sticky prices is the most subtle component of inflation excluding food and regulated prices and, therefore, is the component that is most likely to transmit innovations that have long-term effects on inflation such as changes in expectations and the credibility of monetary policy; 3) the changes in inflation of flexible prices are predominantly cyclical which makes this the component with the greatest probability of transmitting transitory innovations such as, for example, those from the exchange rate and the output gap. As a result, inflation of the sticky prices could also be interpreted as a measurement of the long-term inflation trend that could indicate changes in expectations of future inflation and in the credibility of monetary policy.[1]

The relationship between the new inflation indicators and the output gap can be seen in Graph B2.2 which shows the development of the Hodrick and Prescott (1997) sticky price and flexible price inflation gaps in comparison to the output gap before and after 2003. This graph suggests that: 1) before 2003, the output gap preceded the sticky price inflation gap but, after 2003, this relationship weakened; 2) however, the relationship between the output gap and sticky price inflation did not end after 2003; 3) before 2003, no clear relationship between the flexible price gap and the previous output gap was seen but, after 2003, this relationship was reinforced to the point where it surpassed that of the sticky price gap.[2] As a result, a structural change seems to have occurred in the relationship of sticky price and flexible price inflation with output gap in which the results for the period

Graph B2.2
Gaps in Sticky Price and Flexible Price Inflation and Output Gap

A.   Sticky prices, 1983-2003
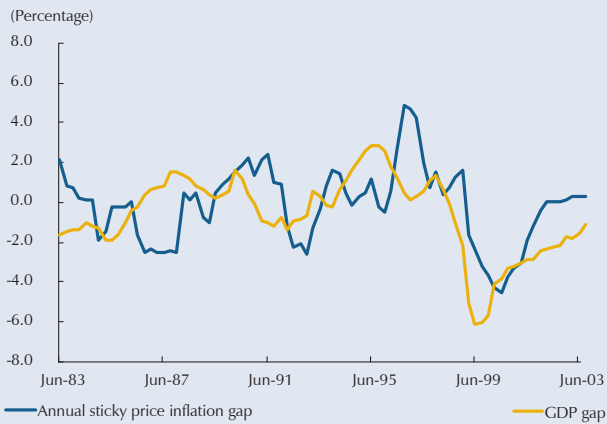
B.   Sticky prices, 2003-2017
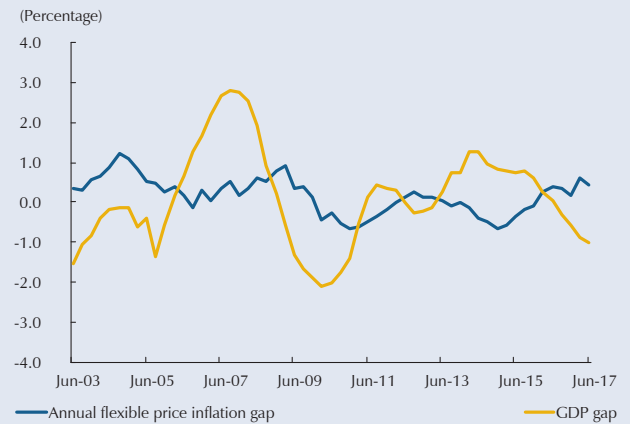
C.   Flexible prices, 1983-2003
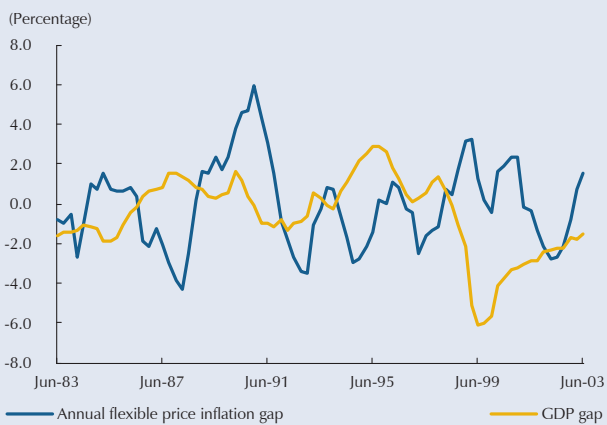
D.   Flexible prices, 2003-2017
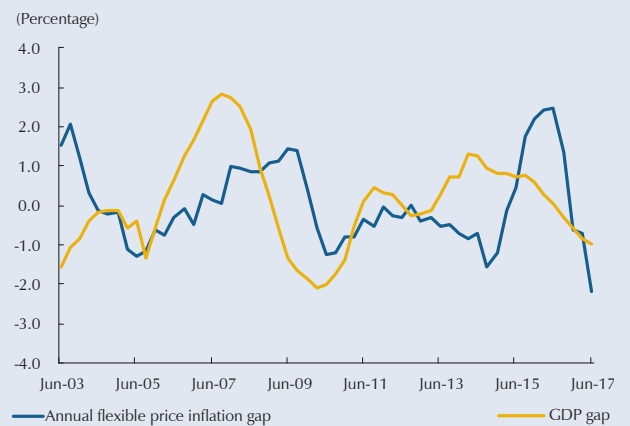
Source: Julio et al. (2017).

1   These results are also based on spectral analysis that shows the frequencies that dominate the fluctuations of inflation of sticky prices, flexible prices, and of CPI excluding food and regulated items, which are found in Julio et al. (2017).

2   These observations were corroborated using the estimated functions of cross-correlation for the sticky price and flexible price inflation to the GDP gap found in Julio et al. (2017).

after 2003 are consistent with Bryan and Meyer's (2010) postulates and with the findings for other countries.

This structural break can be corroborated with Graph B2.3 which shows the changes in the gap of the variation in the relative price of flexible prices to sticky prices compared to that of output. As can be seen from this graph, the GDP gap precedes the movements in the variation of relative prices inversely until 1998, dovetails with the trend between 1998 and 2003, but this relationship is not clear after 2003. As a result, the aforementioned structural change is also reflected in the relationship between the changes in the relative price of flexible prices to sticky prices and to the output gap.

This structural change may possibly be the result of the improvement in the credibility of monetary policy due to the 1996-2002 deflation and the adoption of the floating exchange rate, which complemented the framework of inflation targeting in Colombia (Hammond, 2012).
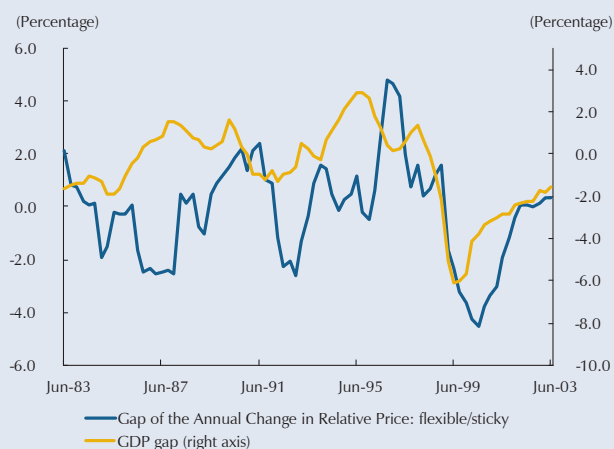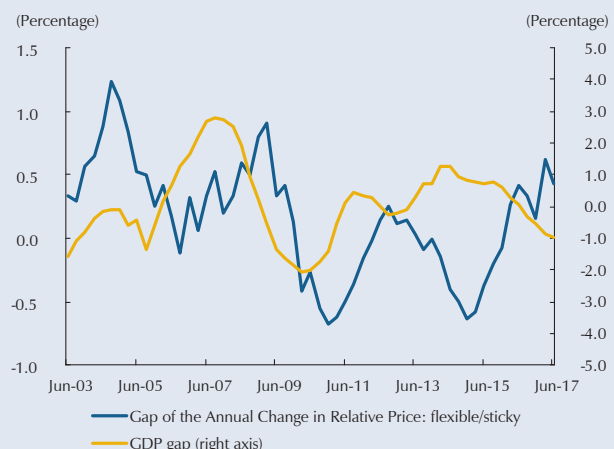
Likewise, the relationship of the real depreciation of the peso to the inflation of flexible prices and to the changes in the relative price of flexible prices to sticky prices can be deduced from the four panels in Graph B2.4. Panel A shows the changes in the inflation gap of flexible prices compared to the gap of the real, annual rate of depreciation of the peso. Panel C, in turn, shows this same relationship since 2003 but, in this case, without eliminating the inflationary trend of the flexible prices. Panels B and D, in turn, show the inflation in the relative price of flexible prices to sticky prices for both the whole period and after 2003 respectively. From this graph the following can be inferred: 1) a clear relationship between the real contemporary and lagged depreciation and inflation of flexible prices measured as a deviation from its trend; 2) another equally clear relationship between the real depreciation of the peso and inflation of flexible prices, without eliminating their trend, after 2003, and 3) an equally strong relationship between the changes in the relative price of flexible prices to sticky prices and real depreciation.[3] These results give clear evidence of the transmission of changes in the real exchange rate to inflation.

Julio et al. (2017) also show evidence that would indicate that: 1) now that the variations in the stationary state of inflation have decreased substantially, the shocks that contribute to changes in inflation are, as follows, shocks to food, flexible prices, and regulated prices while shocks to sticky prices make a comparatively small contribution, and 2) the inflation of sticky prices contains information on future inflation and expectations for it.

Julio et al. (2017) also present a sticky price model (SPM) that proposes a formalization of mechanisms for transmission to inflation rates for sticky and flexible prices. In the SPM, inflation of both sticky prices and flexible ones depend on inflation expectations, the output gap, and the exchange rate.

Based on the SPM impulse-response exercises, sticky price inflation responds more to inflation expectations and less to the output gap and the exchange rate in comparison to flexible price inflation.

As a result of the historical breakdown exercises, inflation of sticky prices is explained more by shocks to expectations than flexible price inflation is and less by shocks to the exchange rate and the shocks related to the output gap.

Graph B2.3
Gap of the Annual Change in Relative Price of Flexible Prices to Sticky Prices and Output Gap

A.   1983-2003

B.   2003-2017

Source: Julio et al. (2017).

_____

3   These observations were corroborated using the estimated functions of cross-correlation for the flexible price inflation and the changes in the relative price of flexible prices to sticky prices including the rate of depreciation of the peso, which is found in Julio et al. (2017).

Graph B2.4

A.   Flexible Price Inflation Gap, 1983-2017

(Percentage)   (Percentage)

— Annual flexible price inflation gap
— Real annual depreciation (right axis)
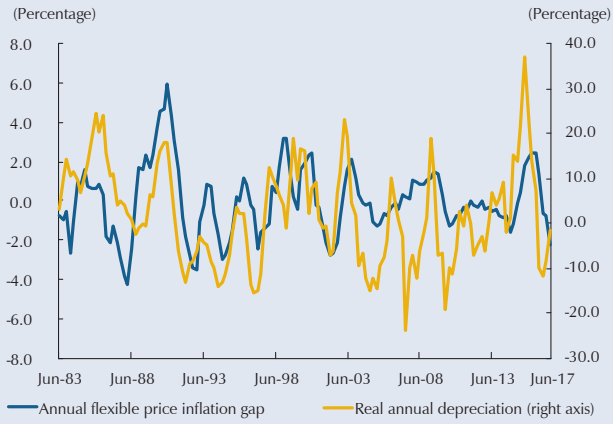
B.   Changes in the Relative Price of Flexible Prices to Sticky Prices, 1983-2017

(Percentage)   (Percentage)

— Annual change in relative prices: flexible/sticky
— Real annual depreciation (right axis)

C.   Flexible Price Inflation

(Percentage)   (Percentage)

— Annual inflation of flexible prices
— Real annual depreciation (right axis)

D.   Changes in the Relative Price of Flexible Prices to Sticky Prices, 2003-2017

(Percentage)   (Percentage)

— Annual change in relative prices: flexible/sticky
— Real annual depreciation (right axis)

Source: Julio et al. (2017).

Both impulse-response exercises and SPM historical break-down exercises show that the reduced response of sticky price inflation to the exchange rate manages to 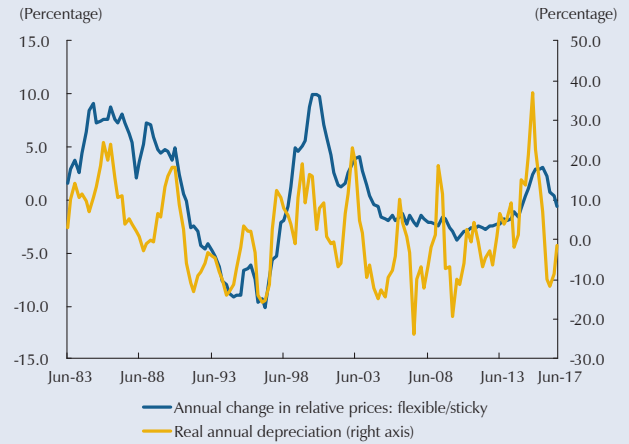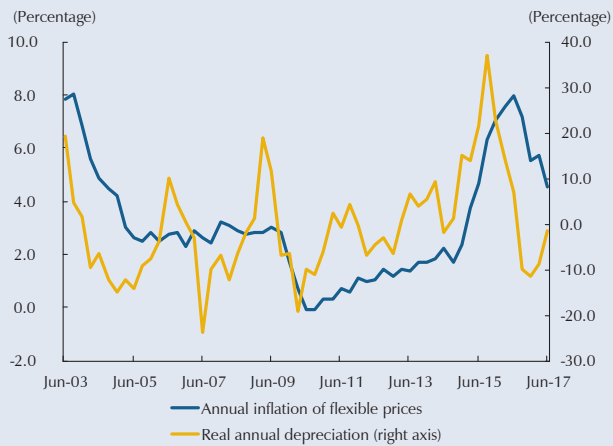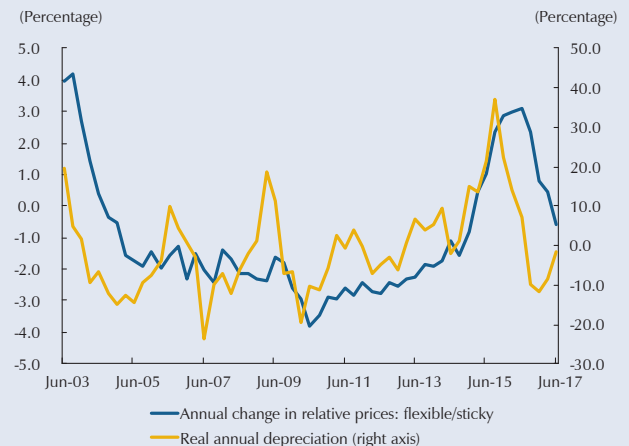explain part of the changes in sticky price inflation. In fact, the effect of the exchange rate on sticky price inflation is a second round effect. The first round consists of the effect of the exchange rate on flexible price inflation while the second is the effect of total inflation as a limit on increases in rental contracts, which is an important component of sticky price inflation.

Based on the results of Julio et al. (2017) the analysis and formulation of monetary policy could be carried out as fol-lows. Annual inflation excluding food and regulated prices, $\pi_{C,t} = p_{C,t} - p_{C,t-4}$, is the weighted sum of sticky price $\pi_{Rig,t}$ and flexible price inflation $\pi_{Flex,t}$

$$\pi_{C,t} = \alpha_{Rig}\,\pi_{Rig,t} + \alpha_{Flex}\,\pi_{Flex,t} \tag{1}$$

After a simple adjustment, this equation can be expressed as the sum of the sticky price inflation and the differential between flexible price inflation and sticky price inflation with the latter being multiplied by the weight of the flex-ible prices on inflation excluding food and regulated items, like this:

$$\pi_{C,t} = \pi_{Rig,t} + \alpha_{Flex}\,(\pi_{Flex,t} - \pi_{Rig,t}) \tag{2}$$

If we also take into account the fact that this differential in inflation is not just an accounting item but, on the contrary, is equal to the change in the relative price of the flexible/sticky prices, , we get:

$$\pi_{C,t} = \pi_{Rig,t} + \alpha_{Flex}(q_{Flex,t} - q_{Rig,t-4}) \tag{3}$$

As a result, equation (3) breaks down inflation exclud-ing food into the long-term inflation trend and a cyclical

component. The trend, which is inflation of sticky prices, is related to expectations about future inflation and may indicate changes in the credibility of monetary policy. The cyclical component, which is the change in relative prices, is related to the variations in the real exchange rate and to the GDP gap. This breakdown is shown in Graph B2.5.

Graph B2.5 shows that inflation excluding food and regulated items fell during 1998-1999 due to a sharp displacement of sticky price inflation while the cyclical component buffered the effect of this displacement on inflation excluding food and regulated prices. Indeed, inflation of the sticky prices was abruptly shifted as a result of the breakdown in inflation expectations for 1998-1999 which was generated by news related the interest rates, the change in the trend of loans and housing prices, and the increase in the country risk premium. However, the change in relative prices went from negative territory to positive during the period in accordance with the real depreciation of the peso. As a result, while inflation excluding food and regulated prices declined gradually, the trend of the changes in relative prices hid the sudden jump in sticky price inflation; or, in other words, in expectations.

The importance of the effect of the changes in the relative price of flexible prices to sticky prices during this episode also had to do with the duration of their cycles. Graph B2.5 shows that the development of sticky price inflation was hidden by negative changes in relative prices for the eight years between 1991 and 1999. This shows that the cyclic component has a highly persistent trend. In fact, Graph B2.5 shows only two cycles in the sample both of which are related to the exchange rate (see also Graph B2.4). Consequently, the cyclical component shows an average duration of seventeen years.

Graph B2.5
Breakdown of Inflation Excluding Food and Regulated Prices

(Percentage)

Sticky price inflation   Change in relative prices: flexible/sticky
Inflation excluding food and regulated items
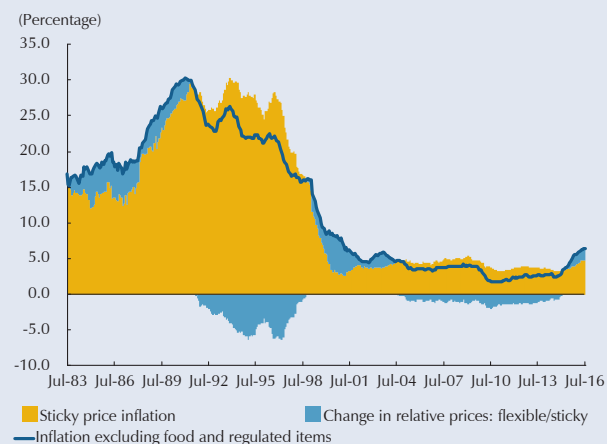
Source: Julio et al. (2017), authors' calculations

In conclusion, inflation depends on both the long-term trend and the cyclical component. The former is due to the public's expectations while the latter is the result of the exchange rate and the output gap. All of these elements, and the horizon over which they act, are important for the formulation of monetary policy.

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IV. MEDIUM TERM FORECASTS[4]

In the most probable central scenario projected by the technical staff, the most likely growth for 2017 as a whole is anticipated to be 1.6% within a range of 1.0% to 2.0%.

The slowdown of the economy may have touched bottom in the first half of the year, and it is expected to recover in the second, thus converging towards its potential in the medium term.

Annual inflation could show a transitory recovery **in the next few months.** However, it should resume a declining trend at the beginning of 2018 to converge with 3.0% in the coming quarters.

The disappearance of the shock from the increase in indirect taxes that occurred at the beginning of 2017 and the moderate growth of demand, etc. should contribute to the decline in annual inflation.

A. ECONOMIC GROWTH FOR THE REMAINDER OF 2017 AND IN 2018

The results seen in the first half of the year for the different economic activity indicators suggest that the process of the Colombian economy's adjustment to the shock to income (the product of the fall in the terms of trade) has probably made significant progress during this period. The orderly closing of the current account deficit which has persisted since the beginning of 2016 is evidence of the above and, it is expected to continue throughout the rest of this year and next. In view of this, economic growth is expected to begin to gain in strength gradually in the second half of the year and get back on track to convergence toward its potential level.

The economic slowdown may have hit bottom in the first half of 2017.

In spite of that, the forecasts presented in this Report suggest that the growth of the GDP for the entirety of 2017 will be lower than what was seen in 2016 and even below what the technical staff at *Banco de la República* had contemplated in previous versions of this report. These predictions assume that the economic slowdown may have hit bottom in the first half of the year, specifically in the first quarter and that something of a recovery is expected in the second. An addition surge in the expansion rate of the economy is anticipated for 2018.

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4   The forecasts made by the technical staff that are presented in this report were based on information available as of July 2017.

The fundamentals for growth for this year (and the forecasts for the next) support this outlook. In principle, what has been seen in recent months makes it possible to give more weight to some downside risks in the international context and, this supports a reduction in the forecast for GDP growth in 2017. As was presented in Chapter I, in spite of the fact that foreign demand is surging in comparison to 2016, its growth will probably continue to be relatively low. In addition, although the prices today of the majority of the raw materials exported by Colombia are higher than last year's average, their levels and the level of the terms of trade were revised downwards in comparison to what was considered in the previous Report. Furthermore, even though the risk premia for Colombia and the rest of the countries in the region have remained relatively stable, the outlook of the stricter monetary policy stances in the advanced economies could mean an upward risk for the cost of financing in the short- and medium-term. As usual, the rest of the assumptions about the foreign context used in the GDP forecasts presented here are consistent with the scenarios for the 2017 and 2018 balance of payments.

The projected growth for 2017 and 2018 incorporates the consequences of the increases in direct and indirect taxes due to the tax reform on the GDP as well as the effects on consumption and investment plans of economic agents that the current low levels of confidence could have. It also assumes that consumer price inflation will end the year at a figure close to the ceiling of the range of +/1 pp around the *Banco de la República*'s target of 3.0% in 2018. This would prevent a new deterioration in the purchasing power of household income like what happened in 2016 with the rise in inflation. For the remainder of the year and the next one, the recent monetary policy actions are expected to have favorable effects on productive activity. Specifically, there will probably be a greater transmission of the reduction of the benchmark rate to the market rates that would make financing cheaper, thus freeing up income for consumption and energizing credit.

In addition, public consumption that is somewhat above what had been registered in 2016 is anticipated mainly due to a higher level of expenditure on the part of the regional and local governments and in consideration of the central national government's (CNG) use of resources that is consistent with what is included in the Medium-Term Fiscal Framework (MFMP in Spanish). Additional growth in this area of the GDP is projected for 2018 in line with what has been presented in the most recent versions of the documents for the Proposed General Budget of the Nation and of the MFMP. Significant growth in public works projects is also predicted for both years due, in large part, to the increased investment on the part of various companies in the petroleum sector and to the use of resources on regional infrastructure projects and highways within the 4G framework. Note that there is a great deal of uncertainty about the trend of this area of demand because of which downward risks are assigned to this assumption.

Given the above, an expansion of domestic demand is anticipated for 2017 as a whole with more homogeneous components than in previous years, but it

will likely be lower than those registered last year. This scenario expects that the process of substituting for imports that has been seen since 2015 and was accentuated in 2016 will probably attenuate in 2017 and 2018. That is the reason the expansion of domestic demand in the medium term would be based on the use of not only the domestic provision of goods and services but also the imported supply with greater intensity than what transpired after the petroleum shock that led to abrupt changes in relative prices.

This being the case, a slight slowdown in private consumption compared to what was seen last year is projected for 2017 as a whole. This lower performance would be due, among other things, to the impact of the increase in the VAT on the purchasing power of household income as well as on the low levels of confidence. The recent trend in the labor market does not allow any expectation of an additional boost to this sector of the GDP due to job creation either. This component of output, the one with the largest share of demand, is expected to grow at a modest pace in 2018 and below its average as calculated since 2001 (3.7%) although higher than the rate that was seen in 2017.

With respect to investment in capital goods, especially in industrial machinery and transportation equipment, a positive contribution to the growth of the GDP is anticipated in 2017. It should be noted that the growth of these sectors will probably remain significantly lower than their historical average due to the accumulated depreciation of the nominal exchange rate and the lag with which changes in stance of monetary policy operate on the productive sector. An additional rebound is expected for next year due, to some degree, to the reduction in the tax burden on firms which is included in the tax reform.

Gross capital formation in construction of buildings, in turn, will probably make a negative contribution this year. Even though the CNG's different low-income housing plans will probably give impetus to it as will the expansionary effect of the interest rate subsidies for the purchase of new housing for the lower and middle socioeconomic status (SES), an accumulated excess supply and real estate prices that may be stagnating could limit the possibilities of expansion for the sector.

Finally, the projected growth of the GDP in 2017 assumes a contribution to the foreign trade accounts that is close to zero. The recovery of sales of commodities abroad is projected for the rest of this year, especially of oil and coffee. In that scenario, the amounts of these products exported may close at levels similar to those seen in 2016. In the case of non-traditional goods and services, expansion is expected although less than what had been considered a quarter ago. Both components, traditional as well as non-traditional are likely to contribute positively to the growth of the GDP in 2018. Imports, in turn, will probably grow at a moderate pace both this year and next but significantly more than the decline seen last year. The above would be consistent with more dynamic sectors where demand for goods from abroad is more intensive as has been explained before.

With respect to supply, the estimates made by the technical staff at *Banco de la República* suggest that, in 2017 and 2018, the production of tradable goods and services will probably continue to recover partly because of the effects of the accumulated depreciation and the recovery of our trading partners.

The manufacturing industry could have positive but very low growth in 2017. Its performance will depend on the recovery of domestic demand and of the demand from our trading partners that buy industrial goods. At the same time, agricultural work will probably enjoy better weather conditions and favorable prices and, as a result, better performance can be expected. However, given the high levels seen in the second half of 2016, the significant rebound observed in the first quarter of 2017 (7.7%) cannot be expected to repeat itself. In 2018, the recovery of our trading partners and the competitiveness derived from the accumulated devaluation is likely to encourage sectorial growth.

With respect to the GDP for mining, a new contraction is expected for 2017 as a whole although one that is smaller than the one in 2016. This is because the declines in petroleum production during the second half of the year will probably be lower than those in 2016 and in the first half of 2017. The production of coal, which demonstrated a lot of dynamism in the first half of 2017, may partially offset the falls in crude oil. A modest expansion in mining is expected for 2018 based on somewhat higher prices for petroleum and on the investment projects to be implemented in 2017.

Furthermore, the expected growth of the 4G public works projects will continue to stimulate non-tradable production and contribute significantly to the growth of the GDP this year and next. It is important to note that this sector has productive links with sectors such as industry and transportation which significantly contribute to the expansion of the national aggregate.

That being the case, the forecasts for output in the most likely scenario are around 1.6% for 2017 with a projection range that is between 1.0% and 2.0%. The recovery process for the Colombian economy will probably continue in 2018 and it is predicted that the GDP will grow about 2.4% with a forecast range of between 1.0% and 3.0%.[5] The balance of risks is biased downward due to the high uncertainty in the international context and the fact that investment could show more sluggishness than was considered in the central scenario, particularly, in relation to the timetables for the fourth generation public works projects. In contrast, the main upward risk is related to a lower US dollar price for imports (Graphs 30 and 31, and Table 7).
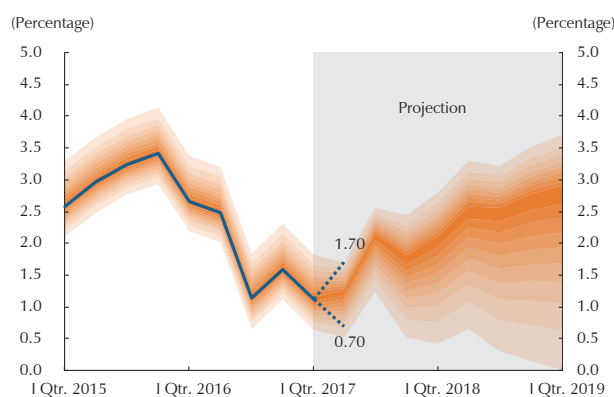
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5   The technical staff's forecasts which are presented in this report were based on information available as of July 27, 2017.

Graph 30
Fan Chart of Annual Growth of the GDP
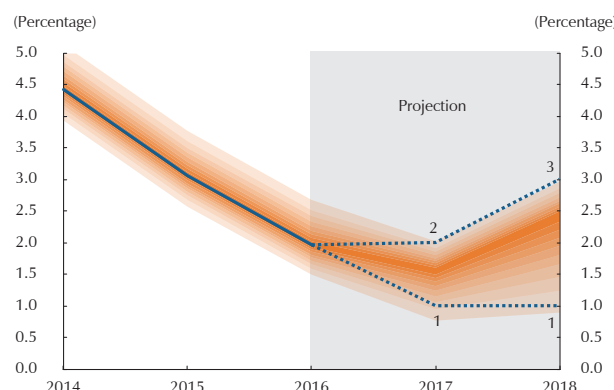
Graph 31
Fan Chart of Annual Growth of the Quarterly GDP

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

B.   INFLATION

1.   Forecasts

The PATACON model is used for this report just as it was for the March report. However, for this report, slight adjustments were made to the model that do not alter its fundamental features. As a result, the core model used in this document is a micro-founded dynamic stochastic general equilibrium model which has the CPI excluding food and regulated items as its indicator of core inflation. In this respect, the projections shown below are easily comparable to the ones presented in March.

Given the above, the central forecast for annual consumer inflation anticipates a trend similar to the one presented three months ago though with a level that is somewhat higher for a horizon of three or more quarters. The forecast for inflation excluding food and regulated items was also revised upwards but with a greater magnitude for both the second half of 2017 and the coming six quarters after that.

In this Report, total annual inflation is still expected to remain slightly above 4.0% in the second half of the year, especially towards the end of the third

Table 7
Fan Chart of the Probability Ranges for Annual GDP Growth
(Percentage)

Range	2017	2018
<-1.0	0.00	0.02
-1.0 - 0.0	0.07	0.72
0.0 -1.0	15.15	8.74
1.0 - 2.0	80.48	38.10
2.0 - 3.0	4.30	50.35
3.0 - 4.0	0.00	2.07
> 4.0	0.00	0.00
Between 3 and 5	0.00	2.07
Between 2 and 4	4.30	52.42
Between 1.5 and 3	43.45	74.20

Source: Calculations by *Banco de la República*.

quarter and during the fourth. This performance does not exclude the possibility that said indicator could temporarily reach a minimum towards the month of July that would be well below that level due to the high basis of comparison entailed by the trucker's strike the same month last year. However, just as in the March report, annual inflation is expected to resume a downward path in 2018 that will lead it to converge with the BDBR target of 3.0% at the end of the second half of that year and in the coming quarters.

Inflation excluding food and regulated items, in turn, should remain at a level that is similar to what was seen in the second quarter over the course of the second half of this year and close December at a level that is clearly higher than 4.0%. Nevertheless, starting at the beginning of next year, this indicator should return to a sharp downward trend that will allow it to approach 3.0% towards the end of that year and the beginning of 2019. Around the beginning of next year, in particular, a significant decline in this annual inflation should be seen since the effect of the increase in indirect taxes (VAT, mainly) caused by the tax reform and by the Liquor Law that went into effect at the beginning of 2017 is likely to disappear.

In general terms, the determining factors for inflation which make it possible to foresee its convergence towards 3.0% in the medium term were maintained in this report with respect to those identified in the March Inflation Report.

First of all, the role of monetary policy stands out with the 295 bp increase made in the *Banco de la República*'s intervention interest rates between September 2015 and July of 2016. This decision has made it possible, with something of a lag, to maintain the credibility of the monetary authority's price stabilization policy in the eyes of economic agents and thus reduce inflation expectations.

In fact, these expectations, which did not succeed in rising above 4.9% at different horizons, continued to decline slowly during the second quarter and approached 3.0%. Such is the case with the measurements obtained from the monthly survey of financial market operators done by *Banco de la República*, which show that, at the beginning of July, the inflation expected for one and two years from now is 3.60% and 3.38%. These values are lower than those collected a quarter ago (3.65% and 3.40% respectively), and than those obtained at the beginning of the year (Graph 32). This same survey shows that, for December 2017, inflation is expected to be 4.28% which is lower than what was reported in the previous report.

The quarterly survey of business owners, academics, etc. done by *Banco de la República* also shows a lowering of expectations although, in this case, the results display higher levels.
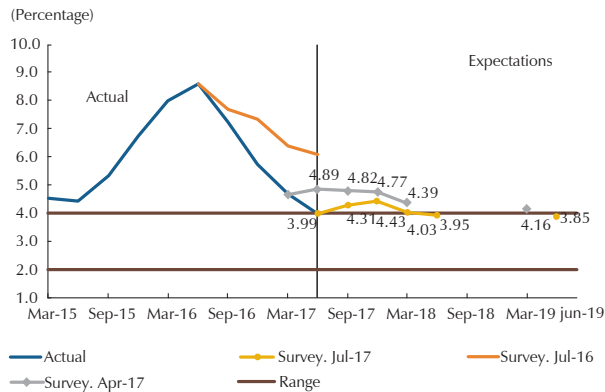
Graph 32
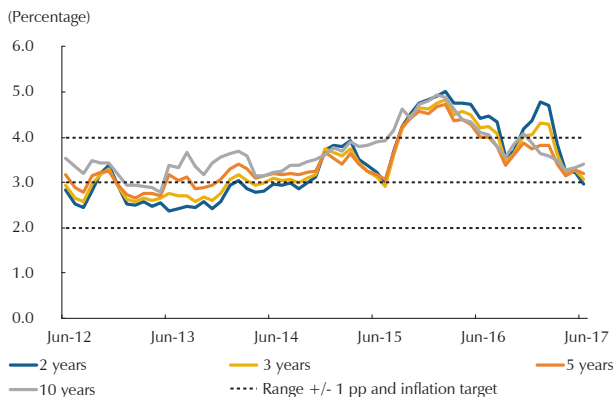Banks' and Stock Brokers' Forecasts of Annual Inflation
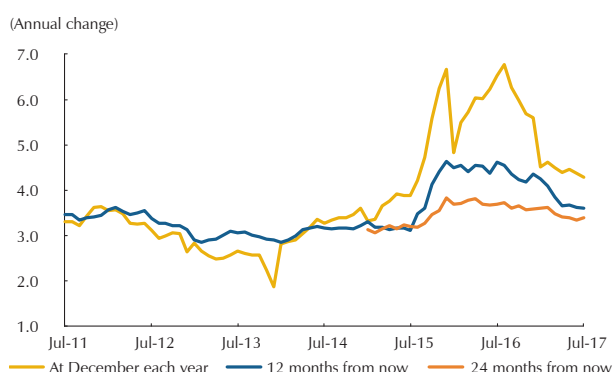
(Annual change)

Source: *Banco de la República*.

(Percentage)

(Percentage)

Specifically, the survey at the beginning of July shows that inflation as of twelve and 24 months from now is expected to be 3.95% and 3.85% respectively compared to some figures of 4.39% and 4.16% obtained at the beginning of April (Graph 33).

With respect to expectations based on the TES (break-even inflation: BEI), these remained within the range of 2.0% to 4.0% and very close to 3.0 % at various horizons as has been the case for three months. Thus, for example, inflation expected for two years from now based on this methodology is 2.93% in accordance with the information provided by the TES from the first few weeks of July (Graph 34).

The monetary policy adjustment in the past has also allowed a moderation in the growth of expenditures in an environment of lower terms of trade compared to what had been seen at the beginning of the decade in spite of the improvements that have been reported for 2017. This situation, which probably implies a growth of the GDP for 2017 and for 2018 that is below its potential, could attenuate the price adjustments by neutralizing some of the upward pressure. As was mentioned in the March report, the estimates made by *Banco de la República* suggest that, at present, the growth potential of the economy is within a range of 3.0% to 4.0% with a greater probability that it will be in the lower part of this range.

Both expectations that it will gradually approach 3.0% and the low growth of demand are circumstances that facilitate the convergence of inflation to its target in the next few quarters. These factors, for example, reduce the magnitude of the pass through of the depreciation of the peso seen in recent months to consumer prices. They also contribute to deactivating the indexing mechanisms or to diminishing the impact that the adjustments to wages could have on prices that is higher than the inflation target.

However, the stability that is anticipated for inflation, in spite of the presence of the two factors listed, indicates that, in addition to the VAT, indexing as well as increases in wage costs (which surpassed 6.0%) will be exerting significant upward pressure throughout the rest of 2017. These will only begin to clearly give way at the beginning of 2018 thus allowing inflation to decline, especially core inflation (or excluding food and regulated items) but also the CPI for regulated.

Likewise, at the beginning of next year, the upward shock that affected annual consumer inflation and, especially the prices for tradable goods due to the increase in VAT and other indirect taxes, at the beginning of 2017 should reverse itself. In previous reports, this impact was estimated to have been close to 50 bp on total annual inflation. Therefore, the central forecast includes a decline similar in magnitude during the first three months of 2018.

The central forecast assumes a foreign interest rate that adjusts very slowly. In this context, relative stability in the international financial markets and some capital flows that continue to enter the emerging economies in the region, including Colombia, is anticipated. This would guarantee stability in the exchange rate and, hence, limited inflationary pressure on this front for both for the remainder of this year and 2018.

Finally, note that according to the central forecast, the food shock caused by *El Niño* completely reversed in the first half of the year. Therefore, during the second half of the year and, in particular, starting in August (when the economy has completely overcome the full impact of the trucker's strike mentioned earlier) the prices of food will tend to return to normal. This, in the presence of some relatively low prices, will imply a transitory but moderate upturn in the annual change in the CPI for food, which will not hinder consumer inflation from converging to 3.0% in 2018.

2.   Balance of Risks

The balance of risks for Headline Inflation and for inflation excluding food and regulated items is given in the fan charts in Graphs 35 and 36. In this Report both fan charts show a slight bias downward for the second half of 2017 and an upward bias starting in the second quarter of 2018. The balance of risks for total inflation, like that for inflation excluding food and regulated items, was constructed on the basis of the central path for this variable derived from the

Graph 35
Fan Chart of Headline Inflation
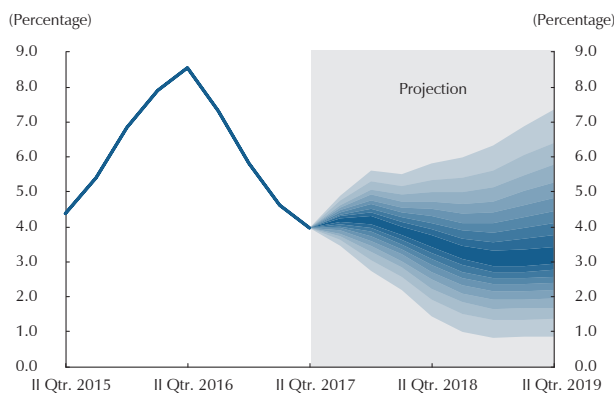
Source: DANE, Calculations by *Banco de la República*.

Graph 36
Fan Chart of Inflation Excluding Food and Regulated items
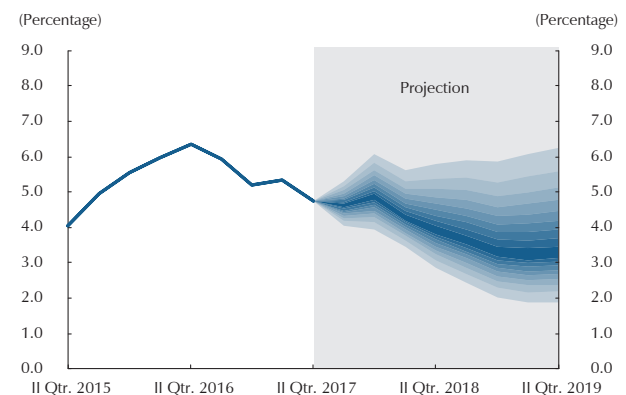
Source: DANE, Calculations by *Banco de la República*.

A downside risk for
the inflation forecast is
a lower than expected
growth in demand.

PATACON model to which adjustments were made with respect to what was used in the previous quarterly report. The risks considered in the construction of the fan chart are presented below.

The main downward risks are:

Changes in food prices that are lower than expected in the second half of 2017 in view of favorable prospects for supply: The central forecast includes an increase in the annual change in the CPI for food starting in the middle of the third quarter that would take it to levels closer to the inflation target and from the very low ones to levels it was expected to reach in July. However, circumstances such as the large increase in the cultivated area which has been seen in previous months cannot be ruled out as well as the good climatic conditions over the course of the year will allow the agricultural supply to continue to expand at a high rate as it did during the first half of the year. This would generate additional downward pressure on the prices of food which was not considered in this report. Annual changes that are below what is expected for the second half of the year, in addition to having effects on the actual inflation, could have a favorable impact on the inflation expectations of agents and thus, on core inflation. This analysis, however, does not take into account possible upward risks for the price of beef and its substitutes due to the recent outbreaks of foot-and-mouth disease in various regions around the country.

A domestic demand that grows less than expected, especially investment: The central forecast has implied some expansion of investment in 2017 in large part because public works are expected to be remarkably dynamic and have an even better performance in 2018 due to the potential effects of the tax reform. Nevertheless, delays and problems in implementation of public works, including the 4G, cannot be ruled out as has been seen in the past with various projects. There is also the risk of overestimating the effect of the tax reform on the investment decision amounts and the speed with which these are made. A downward risk in the area of investment and domestic demand in general translates into a downside risk for total inflation which would help this to converge to the target more rapidly.

The upward risks considered are:

More indexing of prices and wages which bring about an increase in inflationary inertia: the central forecast could be underestimating the role of price and wage indexing and, with them, inflationary inertia. At present, wages for a significant subset of workers (among which are those who earn minimum wage) are in line with rates that are well above the actual inflation rate and of the +/1 pp range around the target. Something similar could happen in 2018 if inflation ends up, as expected, above the +/1 pp range around the target. In addition, there are many active indexing mechanisms that tend to generate greater inflationary inertia which would continue to generate it next year. This could bring

Indexation and
inflationary inertia
are upward risks that
weigh on the central
inflation forecast.

about price adjustments that would be above the target and, thus, put significant pressure on the annual inflation during the second half of 2017 but even more so in 2018; this could delay the convergence of inflation to the target.

Inflationary pressure from the exchange rate: various factors could exercise upward pressure on the nominal exchange rate in addition to the ones already included in the central forecast for inflation. Among them the most notable is the high vulnerability of the financial system in China. Greater financial instability in this economy could have adverse repercussions on their economic performance and on worldwide financial stability and thus affect the perception of risk in emerging economies such as Colombia, which could lead to a greater than expected depreciation of the peso. A drop in the price of petroleum with respect to what is projected in the central forecast cannot be ruled out either. This fall would likely be associated with the inventory levels which remain high, a possible increase in the supply from countries that do not belong to OPEC, and the possibility that some of their members renege on the agreement they signed to cut back on the supply. Furthermore, although a gradual normalization of monetary policy in the United States is expected, the chance that an increase in the interest rate on the part of the Fed could occur at a faster pace than anticipated cannot be ruled out or, even if this does not happen, that the market rates rise as a result of the announced cut in liquidity levels related to a reduction in the Fed's balance sheet (Chapter 1). This would affect the capital flows to emerging economies and put pressure on the depreciation of the exchange rate.

A major depreciation would generate upward risks on inflation, especially through the CPI for tradable goods.

In line with the set of risks presented, the balance sheet suggests that the probability that total inflation will be below 4.0% in 2017 is 42.1% and that it will rise in 2018 is 62.2% (Tables 8 and 9). Graph 37 shows that the most probable value in the inflation forecast for March 2017 remained virtually unchanged with respect to the December 2016 report. It should be noted that the range of the function of forecast density that is shown in Graphs 35 and 36 only includes the 90% of this based on the shaded area. These results, just like the central forecast, assume an active monetary policy in which the policy rate is adjusted in order to guarantee that the target is reached.

Table 8
Estimated Probability that Inflation will stand between 2.0% and 4.0% in December 2017
(Percentage)

December 2016 Report	40.2
March 2017 Report	
June 2017 Report	41.45

Source: Calculations by *Banco de la República*.

Table 9
Fan Chart Range of Probability for Headline Inflation
(Percentage)

Range	2017	2018
<2.0	0.68	17.54
2.0-2.5	2.18	9.96
2.5-3.0	6.22	11.59
3.0-3.5	13.03	11.87
3.5-4.0	20.03	11.23
>4.0	57.85	37.81
Between 2 and 4	41.46	44.65

Source: Calculations by *Banco de la República*.

Graph 37
Cross-section of the Fan Chart of Headline Inflation for
December 2017

(Density function)

June 2017 Report — March 2017 Report ••••• December 2016 Report
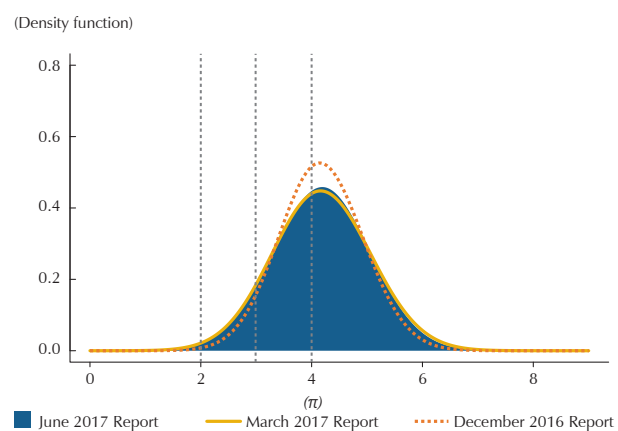
Source: *Banco de la República*.

V. RISKS TO MACROECONOMIC STABILITY

The Colombian economy is in the final stage of its macroeconomic adjustment process with respect to the multiple shocks, both foreign and domestic, that has received in recent years.

The central scenario proposed in this Report projects an orderly adjustment of the economy in both the foreign and domestic domains.

The possibility that the projected recovery process of the Colombian economy could face some risks cannot be ruled out.

As was mentioned in the previous report, the Colombian economy is in the final stage of its macroeconomic adjustment process with respect to the multiple shocks, both foreign and domestic that it has received in recent years. Among the first are the unexpected and abrupt reduction in petroleum prices which resulted in a negative shock to the terms of trade; also, the economic slowdown in the trading partners, and the higher costs of external financing associated with the increase in the risk premia and the depreciation of the currency. In the domestic domain, *El Niño* and the trucker's strike increased production costs and affected inflation.

As is to be expected in a period of correction like the one the country's economy is going through, the aggregate demand requires a moderation that would make it more consistent with the sluggishness of national revenue. In spite of that the central scenario proposed in this Report projects an orderly adjustment of the economy in both the foreign and domestic domains.

In this adjustment, the relative stability of the exchange rate after the actual depreciation, the process of inflation converging to the long-term target, the risk premia returning to lower levels, access to foreign financing, and the reduction of the deficit in the current account together with a projected recovery in domestic demand are all highlighted. This accommodation of the economy has been the result of a

solid economic policy framework that includes inflation targeting by means of a floating exchange rate, sustainability criteria in the management of public finances through the implementation of the fiscal rule, regulations that seek the stability and reinforcement of the financial system, an increase in the level of the international reserves, and access to a flexible credit line with the IMF.

Going forward, the possibility that the projected recovery process of the Colombian economy could face some risks cannot be ruled out. In the foreign sector, there is a need to maintain the pace of current income, one that is enough to offset an international investment position that has become more negative and a possible upturn in the cost of foreign financing due to the projected increase in international interest rates.

Although the generation of new sources of current income is a gradual process, the positive trend for exports of services and remittances from workers are signs that this process is underway and that it may continue to contribute to the orderly adjustment of the current account deficit. In contrast, the shipments of industrial products abroad remain stagnant and, therefore, the sales of commodities abroad continue to play an important role in the country's income from abroad. In this context, additional reductions in the prices of raw materials that are exported would have a negative impact on external adjustment. The risks are also related to the uncertainty about the speed with which monetary policy will return to normal in the developed countries and the perception of the risk regarding emerging economies.

Regarding the financial sector, the soundness of the credit institutions that have sufficient loan-loss provisions is maintained.

Moreover, the economy is not exempt from a downturn that could be more pronounced than would be consistent with the deterioration seen in national revenue. This downside risk scenario could be plausible in the case of an intensifying decline in the confidence of firms and households due to the economic growth of our trading partners that was much weaker than projected and by the large and unanticipated increases in the cost of foreign financing.

Regarding the financial sector, the soundness of the credit institutions that have sufficient loan-loss provisions is maintained. However, an economic slowdown that goes farther than expected could be accompanied by a deterioration in employment and adversely affect the financial situation of households and firms. With respect to that, the fact that the level of indebtedness in the economy remains close to its historical peak and that the most recent data show declines in loan portfolio quality must be borne in mind. Thus, additional deterioration on the part of the financial sector could lead to an extension of the economic cycle downward.

In the rest of this chapter, recent evolution and some perspectives and considerations regarding the current account, the real exchange rate, indebtedness, and housing prices, which are variables that the literature has identified as relevant for identifying possible macroeconomic imbalances and understanding the adjustment process, will be presented. The Index of Macroeconomic

Imbalance (IMI),[6] which combines the estimated imbalances for each one of these variables, is also included.

A.   CURRENT ACCOUNT AND REAL EXCHANGE RATE

In the first quarter of 2017, the negative balance in the current account maintained its declining trend and went to 4.4% of the GDP, which is a lower figure than what had been registered during the same period of the previous year (5.9% of the GDP) (Graph 38). This trend is expected to continue for the entirety of 2017 and, as a result, the annual deficit will probably come to 3.7% of the GDP. The slow but continuous recovery of our trading partners, the interest rates abroad that are staying low, the liquidity in the international financial markets, and the accumulated depreciation and stability of the exchange rate will likely be contributing and may continue to favor the adjustment of the foreign imbalance.

The process of reducing the current deficit expected for the whole of 2017 assumes a generalized increase in income, a fact that, if it should materialize, would reduce the country's external vulnerability. This increase in income could be explained by: 1) the larger exports of mining products resulting from the recovery in the terms of trade (Graph 39); 2) the rise in sales of services abroad that have been favored by the real depreciation of the peso; 3) the greater profitability of Colombian investments abroad, and 4) the upswing in remittances from workers that are possibly being stimulated by, in addition to other factors, the better economic conditions in the countries in which Colombian migrants reside.
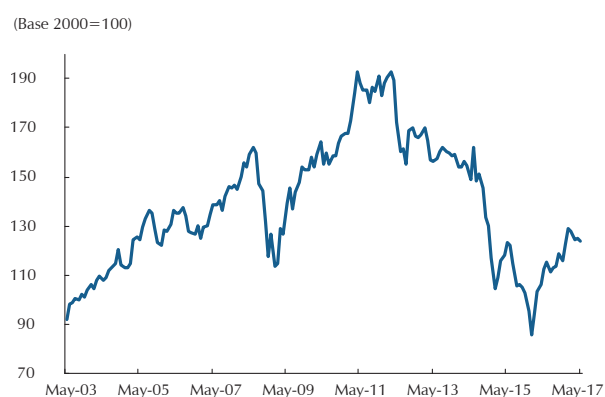
The disbursements abroad, in turn, will probably also grow in 2017 although at a slower pace than income and could be spurred by the higher profits earned by mining and petroleum companies using foreign capital due to the improvement in the international prices for these types of raw materials. At the same time, a recovery in imports is expected, especially of intermediate and capital goods, a fact that is consistent with a better trend for domestic demand.

Graph 38
Current Account Deficit

(Millions of US dollars)   (Percentage of the GDP)

■ Level   ── percentage of GDP (right axis)
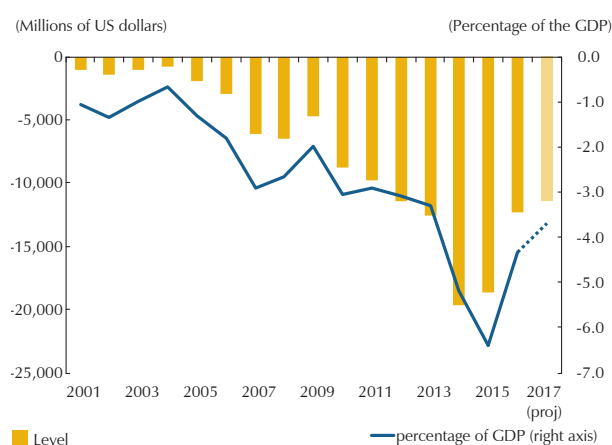
(proj): projected.
Source: *Banco de la República*

Graph 39
Terms of Trade Index[a/]

(Base 2000=100)

a/ Foreign trade methodology.
Source: *Banco de la República*

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6   See Arteaga, Huertas and Olarte (2012). "Índice de desbalance macroeconómico" (Index of Macroeconomic Imbalance), *Borradores de Economía* No. 744, *Banco de la República*.

The above contrasts with what was seen in 2016, the year in which the decline of the current deficit was the result of a larger reduction in expenditures compared to foreign income. The latter contracted in a context of low levels in the terms of trade and slow economic growth for our trading partners. The reduction in foreign expenses, in turn, was the result of the response on the part of agents, especially in the private sector, to the accumulated depreciation of the peso, the downturn in national income, and the reduction in the expectations for economic growth in the country, factors that affected the demand for imported goods and services. Even though this adjustment favored the sustainability of the external sector, it had a negative impact on the Colombian economy and, especially on the gross capital formation.

The projected process of adjusting the current account, which is necessary to reduce the country's foreign imbalance, could face some risks. Specifically, the rebound in sales of goods abroad is still strongly related to the trend in the export prices for petroleum and mining products. Thus, unexpected declines in the international prices for these raw materials could generate additional pressure on the country's current account balance. Shipme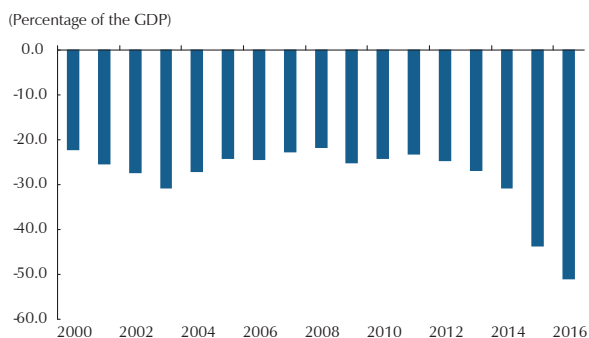nts abroad of industrial goods, in turn, which have remained stagnant in spite of the real depreciation of the peso, could be affected by the slow economic growth in our trading partners in the region, by a lower than expected recovery in the industrialized economies, and by the implementation of protectionist measures that would affect global trade in goods. The future dynamism of this current income becomes especially relevant due to the increase in the negative balance of the net foreign assets (Graph 40).

Graph 40
Net Foreign Assets

(Percentage of the GDP)

Source: *Banco de la República*.

Access to foreign financing has been basic to the orderly correction of the current deficit. It has been characterized by FDI going to sectors other than mining and petroleum and inflows of capital directed towards the public sector. The risks on this front are related to the uncertainty about the speed and effects of the normalization of monetary policy in the United States. In addition, although the accumulated macroeconomic imbalances in the country are being corrected, their negative effects on the cost of foreign financing could still be felt.
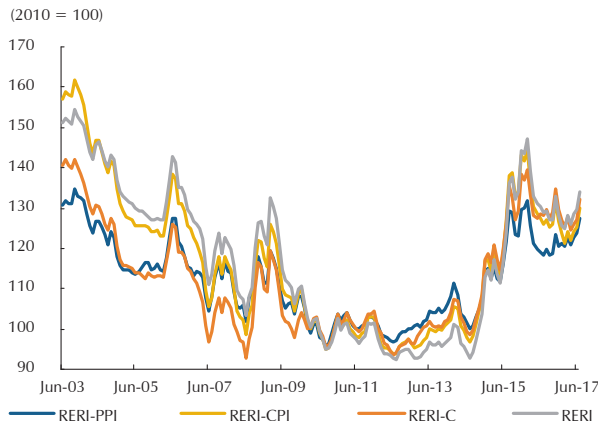
The real exchange rate (RER), in turn, has shown relative stability in the last few months (Graph 41). Hereafter, if the expected recovery of the terms of trade materializes, it will probably contribute to a real appreciation. However, this could be counteracted by the monetary policy in the United States returning to normal more rapidly which would increase international interest rates and could affect the liquidity in the international markets. Changes in the perception of risk in the emerging markets could also affect the trend of the RER.

(2010 = 100)

Note: The RERI is the index of the nominal exchange rate of the Colombian peso with respect to the currencies of our main trading partners.
The RERI-PPI and the RERI-CPI compare the purchasing power of the Colombian peso with respect to our main trading partners using the PPI and CPI, respectively, as deflators. With the RERI-C (or competitiveness), a comparison is made to our main competitors in the United States in the coffee, banana, flower, and textile markets.
Source: Banco de la República

Graph 42
Real Annual Change in Indebtedness[a/]

(Percentage)
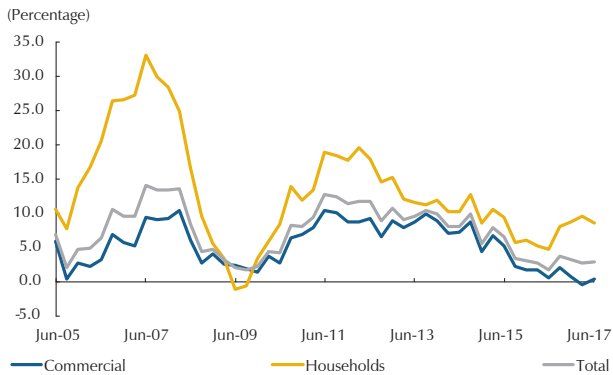
a/ This includes bank loans in national and foreign currency, placement of bonds on the domestic market as well as foreign direct financing. Financing registered in dollars is adjusted to deduct the foreign exchange effect on the change in the commercial portfolio. The deflator of aggregate demand was used.
Sources: Office of the Financial Superintendent of Colombia and Colombian Stock Exchange

B.   INDEBTEDNESS

The slowdown in economic activity and the deterioration in the quality of the loan portfolio have been reflected in the performance of credit. As of June 2017 and in real terms, the total debt grew at a low rate (2.9%) which is similar to the rate a year ago. Household debt has registered a higher growth rate (8.6 %) while commercial debt was relatively stagnant (Graph 42). In spite of the sluggishness of the loan portfolio, indebtedness with respect to GDP remained at historically high levels and similar to those seen two years ago (Graph 43).

So far this year the quality of the loan portfolio has continued deteriorating. There was an annual increase in the non-performing loan portfolio of 39% and in the risky portfolio[7] of 40% as of May that was higher than the ones seen at the end of 2016. In the commercial portfolio, the loans to companies in the transportation and utilities sectors will probably be the ones that contributed the most to the growth of the non-performing loan portfolio. For households, the housing portfolio is the one that has presented the greatest deterioration in its quality due to default although it is not far from the defaults registered by the consumer portfolio. In spite of the rise in the non-performing and risky loan portfolios, their levels with respect to the total are far removed from the maximums seen in 1999 (Graph 44). In addition, loan-loss provisions cover more than 100% of the non-performing loan portfolio and the system's capital adequacy and liquidity indicators remain weak with respect to regulatory limits.

In what remains of the year, additional downturns in credit or greater deterioration in the quality indicators of the loan portfolio cannot be ruled out. First of all, even if the reductions in the policy interest rates have been transmitted to the commercial loan rates, the downturn in this category suggests a weak demand for loans on the part of businesses. In this context, if the confidence levels of industry and of commerce do not recover or if the investment plans remain sluggish, the demand for loans could stay low.

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7   In other words, all of the loan portfolio that has a rating other than A.

Graph 43
### Indebtedness as a Share of the GDP[a/]

(Percentage)
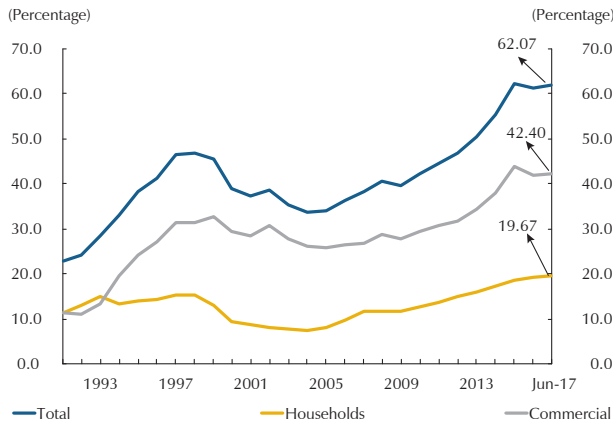
a/ Includes bank loans in national and foreign currency, securitization of mortgage loans, bond issues, and foreign direct financing.
Sources: DANE, DNP, *Banco de la República*, Office of the Financial Superintendent of Colombia

Graph 44
Loan Portfolio Quality

A.   Default Indicator
    (Non-performing loans/total loan portfolio)

(Percentage)
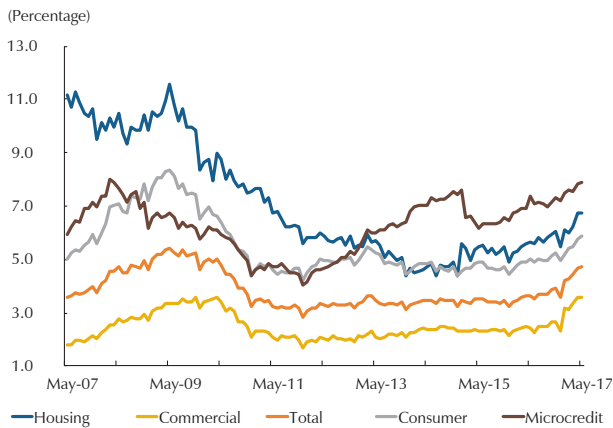
B.   Loan Portfolio Risk
    (Portfolio with B to E ratings/total loan portfolio)

(Percentage)
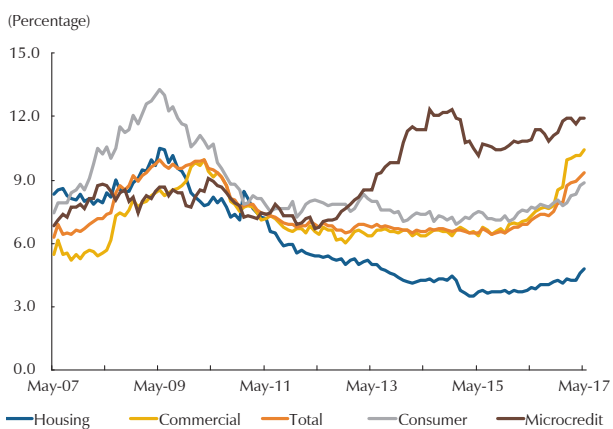
Sources: Banking Superintendency, calculations by the Financial Stability Department

In addition, even though the labor market has shown resilience to the sluggishness of the economy and wages continue to grow at high rates, an increase in unemployment could occur in the next few months, and with it, rises in the loan portfolio default indicators. All of this is at a time when household debt is at historically high levels with respect to the GDP.

Additional deterioration in the quality of the loan portfolio could motivate a restructuring of the credit entities' assets. In a scenario like this, the probability is that the requirements for granting a loan will rise,[8] and with that, the loan portfolio will become more sluggish. As a result of this, the financial system could also increase their investments in public debt securities (Graph 45) or intensify the slowdown in the expansion of their assets and liabilities which may have adverse effects on the credit supply. A significant increase in credit risk could also delay the transmission of the cuts in the policy rate to the interest rates for loans, and with that, the recovery of the economy will probably be slower and weaker.

Graph 45
Loan Portfolio, Investments, and TES Held by the Financial System

(Percentage of the assets)
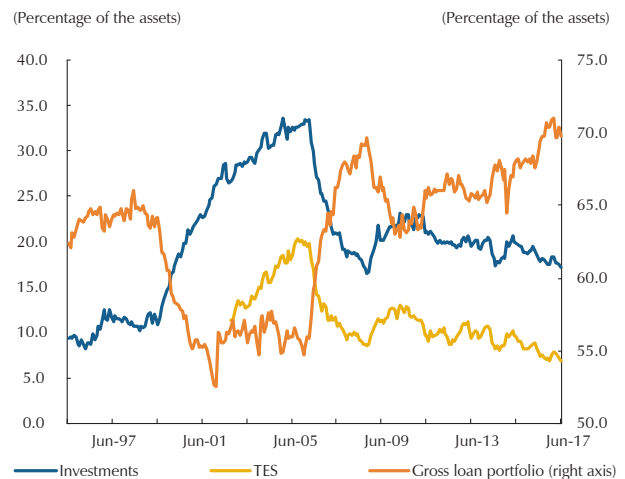
Source: Office of the Financial Superintendent of Colombia, Calculations by *Banco de la República*

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8   Based on observations in the Report regarding the credit situation in Colombia that *Banco de la República* issues quarterly. For more information see http://www.banrep.gov.co/es/encuesta-credito-jun-2017.

Graph 46
Housing Prices in Colombia (relative to the CPI)

(2005=100)
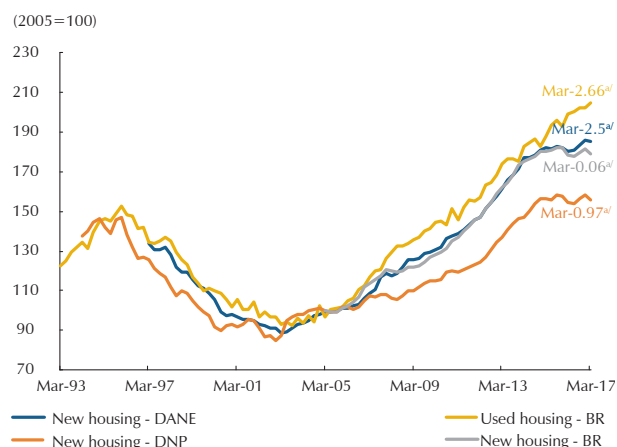
a/ Annual changes in the quarterly index.
Sources: DANE, DNP, and *Banco de la República*

C.   HOUSING PRICES

As the most recent data suggest, the housing market is still registering a downward adjustment in both prices and quantities, a fact that is mainly associated with the trend of the economic cycle. In fact, during the first quarter of 2017, the average of the indices for new housing prices relative to the CPI registered an annual upswing of 1.18%. This figure is composed of the annual changes in the indices calculated by DANE (2.5%), DNP (0.97%), and *Banco de la República* (0.06%). The actual index of prices for used housing also moderated its rate of growth in the first quarter of 2017 as it reached 2.66% (Graph 46). This has certain similarities with what was seen in Chile and Peru after the shock to the terms of trade that also affected these countries.

The numbers listed by the Colombian Chamber of Construction (Camacol)[9] show that for the 12-month aggregate up until May 2017, the downturn in the supply[10] of housing is continuing, especially in the segment other than low-income (non-LIH). This trend could be reflecting a market adjustment to the lower demand for housing (measured as units sold). In fact, in the 12-month aggregate with a cut-off date of May 2017, the non-LIH units sold experienced an annual fall of 7.0% while, during the same period, the units in the 'placement on the market' and 'start up construction' stages declined 15.1% and 4.4% respectively. With respect to the segment that includes the subsidies for the interest rate within PIPE, 2.0,[11] a reduction in new units placed on the market has been seen in a situation in which sales are stagnating (Graph 47). In contrast, low income housing (LIH) other than priority housing showed positive results in all of its indicators.

Given the major importance of this sector for employment and GDP growth, the adjustment seen in the housing market is one of the factors that has contributed to a downturn in economic activity. Going forward, the outlook for the sector could be improved by the reduction of interest rates as a result of the recent monetary policy measures, the fall in inflation that would improve the purchasing power of Colombian households, and the subsidy programs proposed

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9   Corresponds to the information for the 13 regions: Antioquia, Atlantico, Bogotá y Cundinamarca, Bolivar, Boyaca, Caldas, Huila, Nariño, Norte de Santander, Risaralda, Santander, Tolima y Valle.

10   The supply corresponds to the units available for sale that are held by the builder. These units may be in pre-sale, in construction, or finished.

11   Corresponds to 2.5 pp over the interest rate applicable to new housing the price of which is between 135 and 335 SMMLV
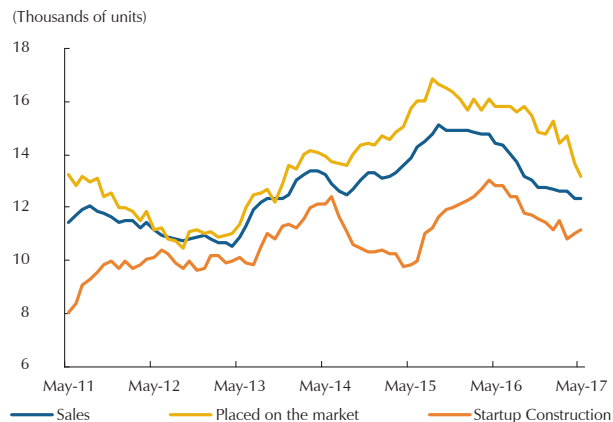
Graph 47
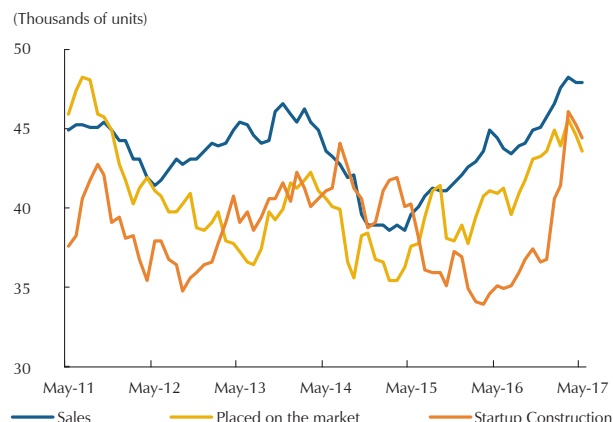New Housing: Sales, Placed on the Market and Start up Construction (12 months cumulative)[a/]

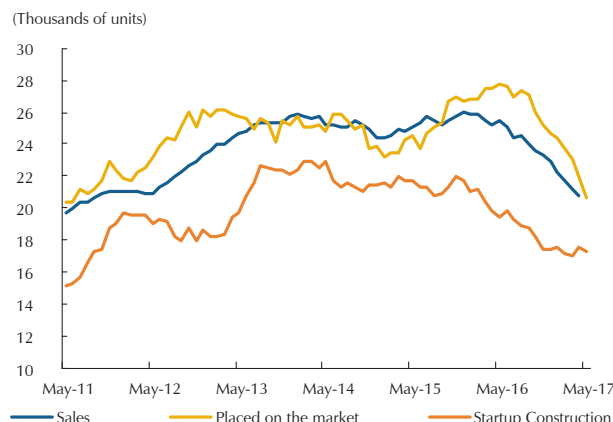A.   Price Lower than or Equal to 70 SMMLV

(Thousands of units)
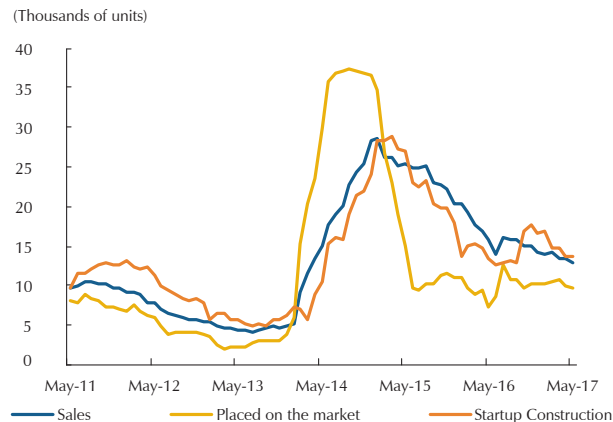
D.   Price Greater than 335 and Less than or Equal to 435 SMMLV

(Thousands of units)

B.   Price Greater than 70 SMMLV and Less than or Equal to 135 SMMLV

(Thousands of units)

E.   Price Greater than 435 SMMLV

(Thousands of units)

C.   Price Greater than 135 SMMLV and Less than or Equal to 335 SMMLV

(Thousands of units)

SMMLV: minimum legal monthly salary in effect
a/ Includes information on the 13 regional areas
Source: Camacol, Calculations by *Banco de la República*.
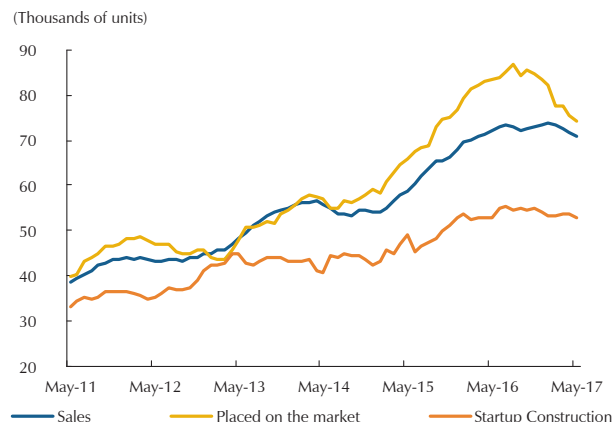
by the government which include a broader range of new housing in accordance with their prices.

D.   INDEX OF MACROECONOMIC IMBALANCES

The available information plus the technical staff's projections for 2017 suggest that the deficit in the current account will probably continue to close, indebtedness is likely to continue slowing down, and the housing market, as was anticipated in the previous report, could maintain a slower pace of growth.

Graph 48
Gaps in the Current Account, the Real Exchange Rate, Housing Prices, and Credit[a/]

(Standard deviations)

— RER   — Housing Prices   — Loans   — Current Account
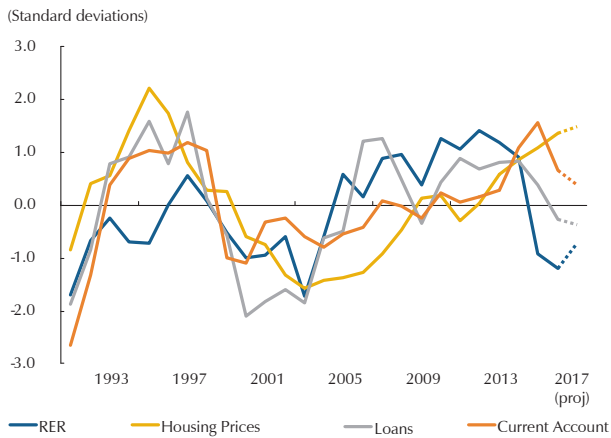
(proj): projected.
a/ Gaps are calculated as the difference between the actual value and the estimate of the long-term value.
The negative value is given for the RER such that imbalances are indicated in all cases of positive gaps.
Source: *Banco de la República*

Graph 49
Index of Macroeconomic Imbalances

(Standard deviations)

(proj): projected
Source: *Banco de la República*

According to the IMI, the sum total of the imbalances was revised downwards for 2017 (Graph 48), even though they continue to reflect levels similar to those registered in 2016. The gap in the current account will probably continue closing even though, as has been mentioned previously, at a slower pace than it did a year ago. The recovery of the terms of trade in the first few months of 2017, after the low levels it registered in 2016, could generate an appreciation of the actual exchange rate. Credit, in turn, is maintaining positive growth rates though it is still a little sluggish due to which a gap like the one in 2016 is expected. Last of all, prices remained stable in the housing market due to which the correction will be minor (Graph 49).

A NEW ESTIMATE OF A SUSTAINABLE CURRENT ACCOUNT IN COLOMBIA

Jhon Edwar Torres
Juan Pablo Cote*

The results of the calculation of a sustainable level for the current account carried out by Cote and Torres (2017) is presented in this Box. This sustainable level was derived through the estimate of a long-term ratio between the current account and a group of determinants that are commonly used in the related literature (see, for example, Gosse and Serranito, 2014). The determinants considered are the net foreign assets as a percentage of the gross domestic product (NFA/GDP), the petroleum balance sheet[1] as a percentage of the GDP (PB/GDP), public debt as a percentage of the GDP (Debt/GDP), private sector loans as a percentage of the GDP (Credit/GDP), the interest rate differential with respect to the United States (IRD),[2] the ratio of demographic dependency (Reldep in Spanish) and the GDP per capita relative to that of the United States (Lpib-pcap in Spanish).

In order to calculate the sustainable current account, the estimate of the following relationship between the variables is carried out by levels:

$$cc_{it} = \alpha_i + x'_{it}\beta + u_{it} \qquad \forall\, i=1,\ldots,21 \qquad \forall\, t=1980,\ldots,2015$$

Where cc_{it} is the current account of country i[3] at time t, and x'_{it} is the set of fundamentals included in the estimate. Before the estimate, unit root and cointegration tests for the variables considered were done (not reported here). In general, the unit root tests show evidence of non-stationarity of the variables by levels and the Kao cointegration test rejects the null hypothesis of non-cointegration. Given these results, the estimates of the ratio posited above

were done by means of econometric methodologies[4] which made it possible to obtain the estimate of the cointegrating vector.

The results of the estimates are shown in Table B3.1.[5] The estimate with the DOLS methodology does not show significant ratios between the majority of the fundamentals included and the current account. The estimates using FMOLS and ARDL generally result in coefficients with the expected signs and, the magnitudes of these coefficients between these estimates are quite close. However, given that the main interest for calculating this estimate is to work out a standard for the current account, we opted to take the cointegrating vector that results from the estimate using FMOLS to the extent that these results seem more plausible. Specifically, with the FMOLS estimate, the actual current account fluctuates around the estimated sustainable level while this does not happen in the case of the estimate with ARDL.

The selected estimate shows a positive correlation between the current account and the petroleum balance sheet, which indicates that the net exporting countries should have lower deficits in the current account or higher surpluses in the event that the current account balance sheet is positive. The correlation of the above with public debt does not turn out to be significant while, in the case of loans to the private sector, the sign is negative. The latter is related to the fact that a larger share of the credit-to-GDP ratio is associated with a greater degree of financial depth and, thereby with larger capital inflows, which would be consistent with a higher deficit in the current account. Given that a higher number of dependent people leads to a lower potential for savings in the economy, the negative sign of the variable of demographic dependency corresponds to the one expected. As a result, one would tend to see an imbalance in the current account that is either less positive or less negative. The negative sign of the relative per capita output is related to the fact that this variable is included as a proxy for productivity and an increase in this variable is associated with higher capital returns, higher investment, and a lower

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*   The authors are, as follows, a professional expert and a professional in the Department of Programming and Inflation at *Banco de la República*. The views expressed are the sole responsibility of the authors and are not binding on the Bank or its Board of Directors.

1   Understood as the difference between the production and consumption of oil in each country.

2   Defined as ij iUSA for country j.

3   The countries in Latin America and the Caribbean included in the estimate are: Bahamas, Barbados, Belice, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Granada, Guatemala, Guiana, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, Trinidad and Tobago, and Uruguay.

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4   Fully Modified Ordinary Least Squares (FMOLS), Dynamic Ordinary Least Squares (DOLS) and Autorregressive Distributed Lag (ARDL) in the panel versions.

5   In Table 3.1 the results of the estimates of the estimators' pooled versions is presented. The estimates with heterogeneous coefficients do not show significant results or did not result in current account norms in accordance with the Colombian historical economic context.

current account balance. Last of all, the sign for the net foreign assets (with a one period lag) is positive, and may be embodying the fact that those economies that have persistent deficits will face higher levels of net outflows abroad, especially as a result of the payment of interest on liabilities.

The normative or sustainable current account estimated with the selected methodology is presented in Graph B3.1. This indicates a sustainable current account level of around -2.0% of the GDP for 2016, the year in which the exercise ended and when the actual deficit was 4.4% of the GDP. It should be noted that, considering the confidence intervals for the estimated sustainable levels of the current account, even a deficit of 3.0% of the GDP was sustainable that year. Furthermore, the normative level obtained implies that the actual deficits during the crisis in the late 1990s and between 2010 and 2016 were significantly distant from the sustainable level.

These results indicate that between 2010 and 2016, one of the sources of macroeconomic imbalance was the deficit in the current account as has been mentioned in the previous Inflation Reports. The recent trend of this deficit would suggest the ongoing nature of its closure during 2017 and, consequently, its approach to estimated sustainable levels under the methodology presented here.

Graph B3.1
CC and Normative CC as a Percentage of GDP

(Percentage of the GDP)
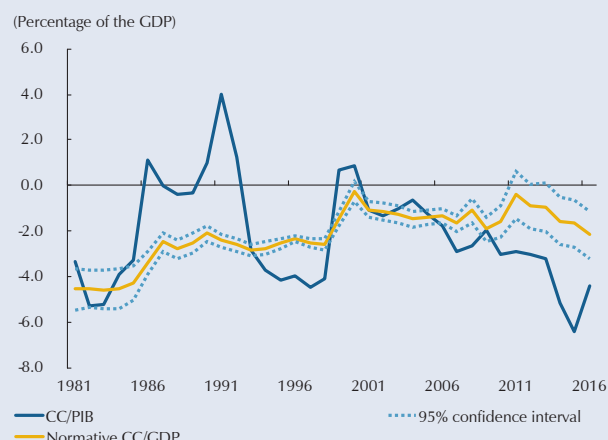
Source: authors' calculations

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Gossé, J.; Serranito, F. (2014). "Long-Run Determinants of Current Account in OECD Countries: Lessons for IntraEuropean Imbalances", Economic Modelling, no. 38, pp. 451

Table B3.1
Estimate of the Long-term Correlation (external balance)

Dependent variable: CC/PIB			
	DOLS (p)	FMOLS (p)	ARDL(4.3)
PB/PIB	0.826***	0.493***	0.611***
	(0.151)	(0.088)	(0.058)
Debt/ GDP	-0.016	-0.007	-0.029***
	(0.010)	(0.008)	(0.007)
Credit/GDP	0.011	-0.054***	-0.005
	(0.024)	(0.015)	(0.015)
IRD	-0.004	0.004	-0.054***
	(0.004)	(0.002)	(0.020)
Reldep	0.027	-0.075**	-0.085***
	(0.043)	(0.031)	(0.027)
Lpibpcap	-0.201	-3.047*	-1.614
	(2.531)	(1.835)	(1.671)
NFA/PIB[-1]	0.026*	0.019**	-0.028***
	(0.015)	(0.009)	(0.010)
Observations	672	735	714
Number of countries	21	21	21

Note: the dependent variable in the case of the ARDL(4.3) model is ΔCC/GDP. Significant at * 90%, ** 95%, and ***99%. Standard errors in parenthesis.
Source: authors' calculations

APPENDIX

MACROECONOMIC FORECASTS BY LOCAL AND FOREIGN ANALYSTS.

A summary is presented in this Appendix of the most recent projections by local and foreign analysts for the main variables of the economy for 2017 and 2018. At the time they were consulted, the agents had information up to July 28, 2017.

1. Projections for 2017

On average, the local analysts expect an economic growth of 1.8% in comparison to the 2.2% estimate in the Inflation Report from the previous quarter. Moreover,

Table A1
Projections for 2017

	Growth of the Real GDP	CPI Inflation	Nominal Exchange Rate	Nominal TDR	Fiscal deficit	Unemployment Rate in thirteen cities
	(Percentage)		end of	(Percentage)	(Percentage of GDP)	(Percentage)
Local analysts						
Alianza Valores[a/]		4.3	3,050	4.8	4.0	10.5
ANIF	2.2	4.2	n. d.	5.4	3.0	10.1
Banco de Bogotá[a/]	1.8	4.4	3,000	5.3	3.6	9.8
Bancolombia[a/]	1.7	4.2	3,055	5.4	3.8	10.4
BBVA Colombia[a/]	1.5	4.3	3,047	5.4	3.6	10.6
BTG Pactual[a/]	1.8	4.1	3,060	n. d.	3.6	9.6
Corficolombiana		3.9	3,050	5.5	3.7	9.5
Corredores Davivienda[a, c/]	1.7	4.3	3,150	5.3	3.8	9.9
Credicorp Capital[d/]	1.9	4.3	2,800	5.1	3.0	10.4
Davivienda[a/]	1.7	4.3	3,150	5.3	3.8	9.9
Fedesarrollo[a/]	2.0	4.3	n. d.	n.d.	3.6	n.d.
Itaú[a, b/]	1.6	4.2	3,130	5.3	3.7	11.0
Ultraserfinco[a, e/]	1.8	4.5	2,900	5.6	3.6	10.5
Average		**4.3**	**3,036**	**5.3**	**3.6**	**10.2**
Foreign analysts						
Citibank-Colombia[a/]	1.8	4.0	3,057	5.3	3.3	10.7
Deutsche Bank	2.0	4.3	3,016	n. d.	3.9	9.7
Goldman Sachs	2.0	4.4	2,767	n. d.	3.6	n. d.
JP Morgan	1.8	4.0	3,100	n. d.	3.6	n. d.
Average	**1.9**	**4.2**	**2,985**	**5.3**	**3.6**	**10.2**

a/ The deficit forecast is from the CNG
b/ Formerly Corpbanca - until June 2017
c/ Formerly Corredores Asociados
d/ Formerly Correval
e/ Formerly Ultrabursatiles
n.a.: not available
Source: *Banco de la República* (electronic survey)

Table A2
Projections for 2018

	Growth of the Real GDP	CPI Inflation	Nominal Exchange Rate end of
	(percentage)		
Local analysts			
Alianza Valores	2.5	3.5	3,100
ANIF	2.8	3.3	n. d.
Banco de Bogotá	2.8	3.4	3,050
Bancolombia	2.6	3.5	2,995
BBVA Colombia	2.0	3.2	2,950
BGT Pactual	3.0	3.3	3,150
Corficolombiana	3.1	3.5	2,900
Corredores Davivienda[b/]	2.5	n.d.	n. d.
Credicorp Capital[c/]	2.5	2.9	2,800
Davivienda	2.5	n.d.	n, d,
Fedesarrollo	2.8	3.5	n, d,
Itaú[a/]	2.5	3.8	3,200
Ultraserfinco[d/]	2.6	3.5	2,900
Average	**2.6**	**3.4**	**3,005**
Foreign analysts			
Citibank-Colombia	2.8	3.1	2,986
Deutsche Bank	3.0	3.7	3,052
Goldman Sachs	2.7	3.5	2,900
JP Morgan	3.0	3.9	n. d.
Average	**2.9**	**3.6**	**2,979**

a/ Formerly Corpbanca - until June 2017
b/ Formerly Corredores Asociados
c/ Formerly Correval
d/ Formerly Ultrabursatiles
n.a.: not available.
Source: *Banco de la República* (electronic survey)

the foreign entities who were consulted projected an average expansion of 1.9% for the GDP.

As regards prices, local analysts estimate that at the end of the year inflation will be at 4.3% while foreign analysts are predicting a figure of 4.2%; both forecasts are outside the target range set by the Board of Directors of *Banco de la República* (BDBR) for 2017 (between 2.0% and 4.0%).

With respect to the exchange rate, national analysts expect the market exchange rate (MER) to end the year at an average value of COP 3,036 compared to the COP 2,999 estimated in the survey mentioned in the previous report. The foreign analysts forecast a MER that is close to COP 2,985 for the end of the year.

Local analysts are projecting average values of 5.3% for the rate for fixed term deposits (FTD). In addition, they expect the unemployment rate to be at 10.2%.

2. Projections for 2018

National analysts expect an economic growth of 2.6% for 2018 while foreign analysts expect one of 2.9%. With respect to inflation, local and foreign analysts estimate that it will be 3.4% and 3.6% respectively. Regarding the nominal exchange rate, national entities expect the values to average COP 3,005 and COP 2,979 respectively.