INFLATION REPORT

June 2016*

*Presented by the technical staff to the Board of Directors for its meeting on July 29, 2016.

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

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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 output growth 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. The 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 preset 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 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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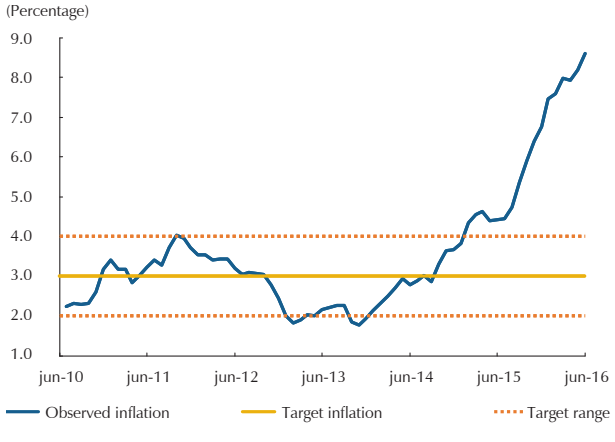
During the second quarter of 2016, annual consumer inflation and the average of core inflation indicators continued to rise, reaching 8.6% and 6.5% by June, respectively (Graph A). Meanwhile, inflation expectations in July were still above target; in fact, analysts predict 4.6% and 3.7% for one and two years ahead. Inflation expectations resulting from the quarterly survey applied to different economic sectors, within a two-year horizon, stood at 5.4%, while expectations derived from government debt bonds to two, three and five years are between 4.0% and 4.5%.

This behavior of consumer prices occurred in a context where economic activity continued to be affected by the decline in terms of trade and the subsequent deterioration in national revenue. A number of indicators suggest that output growth for the second quarter of 2016 would be similar to that of the first quarter. Consumption growth would be slower, while the drop in investment could be less. For all of 2016, the technical staff reduced its forecast for most likely growth from 2.5% to 2.3%, within a range of 1.5% to 3.0%.

Chart A
Total Consumer Inflation



Sources: DANE and Banco de la República.

The reduction in observed and expected domestic demand growth is compatible with the economy's adjustment to the shock to the terms of trade. However, despite the observed and expected slowdown in economic activity, Colombia still has a large external deficit. Moreover, in the wake of the oil shock, potential output growth is estimated to be declining as a result of the drop in gross capital formation, mainly in the oil and mining sector. In this context, the Colombian economy operated close to its productive capacity in 2014 and 2015, and some underutilization of that capacity began to emerge only as of 2016.

The international situation is still marked by the slowdown in external demand and low international interest rates. Global economic activity remained weak during the second quarter of this year, and the average rate of growth for Colombia's trading partners in all of 2016 is expected to be low and below what it was last year. Measurements of country risk continue to exceed the average observed in 2015, and monetary policy in the United States is likely to tighten slowly. If these trends continue during the rest of the year, the cost of external financing would remain low.

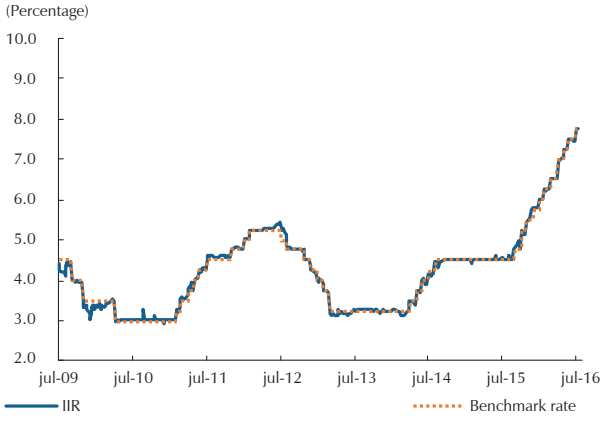
The country's terms of trade and the momentum in national revenue seem to have recovered in April and June compared to the decline witnessed during the first quarter of the year. This was due to an average international price for oil (USD 47 per barrel for Brent crude), which exceeded the low level registered in the first quarter (USD 35), but was still much less than the average price witnessed two years earlier (USD 110). Another contributing factor is the price drop in US dollars of a number of commodities imported by Colombia.

The performance of foreign trade can be explained largely by low oil prices, a higher exchange rate and weak external demand. The value of exports in US dollars fell 20% in the second quarter, mainly because of the drop in oil and mining exports (30% annually). Imports were down 18% during the two months between April and May. In terms of value, new data indicate that the trade imbalance continued to decline.

The observed and expected reduction in the external imbalance shows the economy's progressive and orderly adjustment to the lingering effects of the external shock. The technical staff anticipates a current account deficit relative to GDP of 5.3% for 2016 and 4.3% for 2017. This correction would reduce the country's external vulnerability, but the deficit would continue to exceed the levels observed in other economies with a risk rating similar to Colombia's.

For the second semester of this year, the technical staff expects that the normalization of food production, the stabilization of the exchange rate, and the effect of higher interest rates on domestic demand will all lead to a decline in inflation. The return of favorable weather conditions should prompt a reduction in food prices, primarily for certain perishables that were seriously affected by the prolonged drought. If the exchange rate does not trend sharply upward, there should be no additional external pressure on prices. Moreover, the negative output gap estimated for 2016 reduces the risk of demand-side inflationary pressures. In this setting, the technical staff's forecasts, which take into account an active monetary policy, suggest that inflation would be within a range of 6.5% to 7.0% by December, and would converge towards the target range of 2.0% to 4.0% by late 2017 with a prob-

Chart B
Banco de la República's Benchmark Interest Rate and the Interbank Interest Rate (IIR)
(2009-2016)[a/]



a/ The figures pertain to working days. The last figure is for August 12, 2016.
Sources: Financial Superintendence of Colombia and Banco de la República.

ability of 42.0%. This probability is less than was estimated in the December 2015 and March 2016 editions of this report (77.0% and 51.0%, respectively), given the sharp and prolonged inflationary pressure observed to date.

In summary, the current situation is characterized by an increasing core and aggregate inflation above the target, long-term inflation expectations over 3.0%, economic slowdown, and by a partial reduction of the external deficit. Annual CPI variation is expected to begin to decline during the second half of this year. The convergence of inflation towards the target during the projected horizon depends on there being enough of an adjustment in food prices, an absence of severe external shocks that might raise the exchange rate, and no expansion in the use of mechanisms for indexing prices and wages. Starting from low levels in mid-2015, the phase of policy interest rate hikes has led to real market interest rates which are now close to or narrowly exceed their historical averages. Despite the lower growth, the Colombian economy continues to operate near its productive capacity, the external deficit remains large, and the unemployment rate is at historically low levels. Given these circumstances, the Board of Directors analyzed the balance of risks and decided it was appropriate to raise the benchmark interest rate by 25 basis points at each of its meetings in May, June and July (Chart B).

José Darío Uribe
Governor

Inflation Report

Prepared by Programming and Inflation
Department of the Economic Studies Division

Technical Management
Hernando Vargas
Deputy Technical Governor

Economic Studies Division
Jorge Hernán Toro
Chief Officer

Programming and Inflation Department
Carlos Huertas
Department Head

Inflation Section (*)
Adolfo León Cobo
Section Chief

Juan Sebastián Amador
Édgar Caicedo
Camilo Cárdenas
Juan Pablo Cote
Camila Londoño
Daniel Parra

Macroeconomic Programming Section
Julián Pérez
Section Chief

Luis Hermán Calderón
Celina Gaitán
Sergio Restrepo
Jhon Edwar Torres

Programming and Inflation Department Assistant
Gloria Sarmiento

(*) This report was prepared with the help of Eliana González, Statistics Section Chief; Franz Hamann (Director), Jesús Antonio Bejarano (Section Chief), Carlos Leonardo Barreto Vargas and Joao Hernández of the Macroeconomic Models Department; Enrique López, Senior Researcher with the Research Unit; and Mariana Escobar, Daniel Leonardo Rojas and Juan David Torres, who are student interns.

I. The External Situation and the Balance of Payments

The growth forecast in this report for Colombia's trading partners in 2016 continues to be low and less than in 2015.

Brexit has had an impact on international financial markets, especially on the fixed income market, prompting a reduction in interest rates, even into negative territory in some cases. The monetary policies in the advanced economies have become more expansive in this situation.

The average price of oil (Brent crude) in 2016 is expected to be USD 43, which exceeds the forecast in the March edition of this report (USD 35).

The current account deficit was reduced during the first quarter of 2016, thanks to more of a contraction in current expenditure than in current income.

The external imbalance will continue to decline and is expected to be less during the whole of 2016 than in 2015, both in dollars and as a percentage of GDP.

A. THE INTERNATIONAL SITUATION

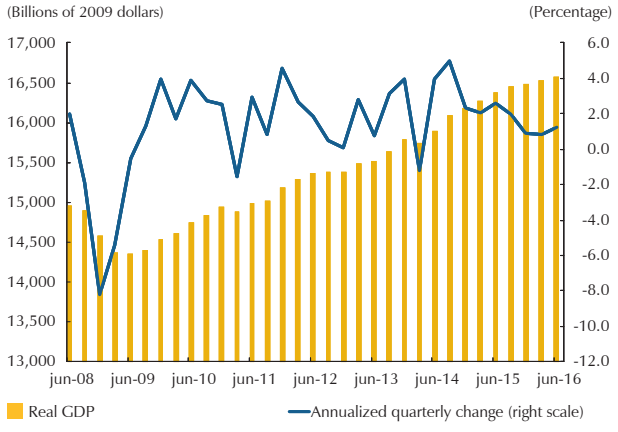
1. Real Activity, Inflation and Monetary Policy

The sector data at hand suggest Colombia's major trading partners continued to experience weak economic growth during the second quarter. The United States and the euro area probably saw their output increase slightly, while economic growth in Latin America would have been at historically low or even negative rates.

The latest figures in the United States point to a more dynamic GDP during this period than in the first quarter.[1] Growth, in this case, was led by household consumption, since retail sales continued to perform well and consumer confidence remained in positive territory. Industrial production

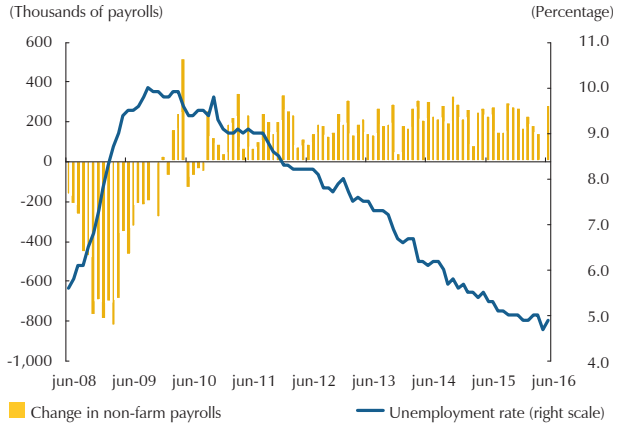
1 This report was written before the release of the official figure on second-quarter growth in the US economy. The initial estimate was released on July 29 and indicates GDP grew at an annualized quarterly (a.q.) rate of 1.2% during that period. This is well below what market analysts expected and came with a downward revision of first-quarter growth in 2016 from 1.1% to 0.8% a.q.

Graph 1
Real GDP in the United States[a/]



a/ This report was written before the official figure for the second quarter and the revision for the first quarter were released. Those figures were published on July 29, 2016.
Source: Bureau of Economic Analysis

Graph 2
Unemployment rate and Job Creation in the United States



Source: Bloomberg.

and business confidence also posted good figures in the second quarter (Graph 1).

The job market continued to grow at a good pace during the quarter, posting a monthly increase in non-farm payrolls that came to 147,000 new jobs, on average. This is reflected in an unemployment rate that is below 5.0% (Graph 2), which is near what analysts and members of the Federal Reserve (Fed) regard as the long-term equilibrium level for the US economy. The long-term unemployment rate[2] and the underemployment rate [3] also continued to show improvements over the previous quarter.

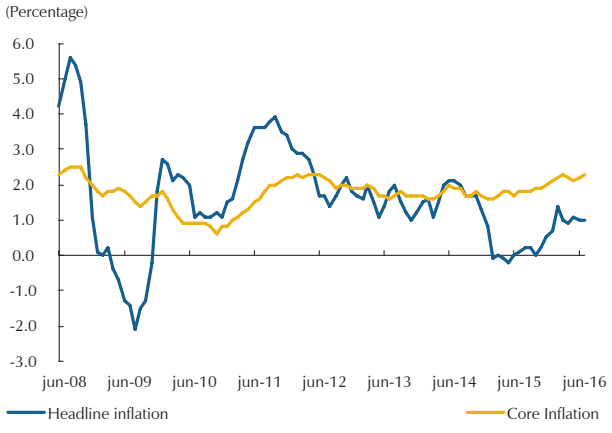
As for price changes in the United States, the headline inflation indicator reached 1.0% in June, which was somewhat higher than in previous months, but still well below the Fed's target (2.0%). Food prices declined during that month and were more than offset by the increase in prices for energy and other non-food and non-energy items. The indicator that excludes food and energy was near 2.2%, and showed slight annual increases compared to the previous two months (Graph 3). In this situation, the Federal Open Market Committee (FOMC) left its policy rate unchanged, within a range of 0.25% to 0.50%.

The latest figures on the euro area indicate second-quarter growth would have remained at rates similar to those witnessed during the first quarter (0.6% quarterly). The expectation is that investment and consumption are the components that led growth during this period, as was the case in previous quarters. Retail sales and industrial pro-

2 The long-term unemployment rate is a measure of the number of persons who have not found work in more than 27 weeks, as a proportion of the total number of unemployed.

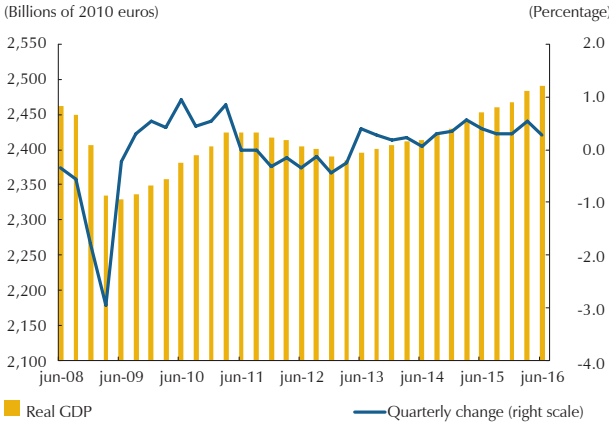
3 The underemployment rate is a measure of the total number of unemployed persons, employees with part-time jobs who want full-time work and those outside the labor supply who would be willing to work if they found a job (persons marginally linked to the job market), as a proportion of the labor force, and those marginally linked to the job market.

Graph 3
Annual Headline and Core Inflation indicators in the United States



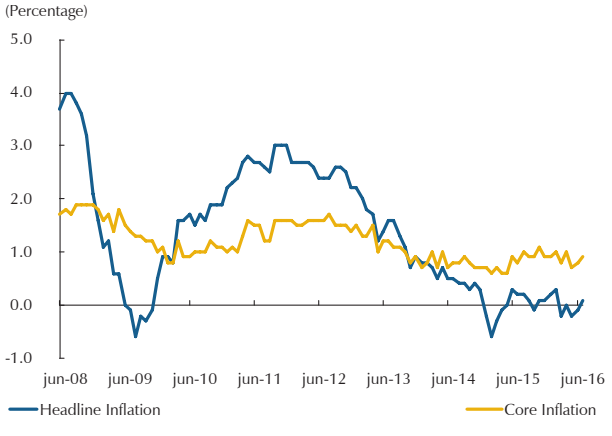
Source: Bloomberg.

Graph 4
Real GDP in the Euro Zone[a/]



a/ This report was written before the official figures for the second quarter were released. They were published on July 29, 2016.
Source: Eurostat

Graph 5
Annual Headline and Core Inflation indicators in Europe



Source: Bloomberg.

duction by May, and the results of the consumer confidence and manufacturing production surveys in June point in this direction[4] (Graph 4).

As for prices in the euro area, headline inflation rose slightly in June, compared to the previous two months, and reached 0.3%. Meanwhile, the indicator excluding energy and food came to 0.9%. This is near the levels registered in March (Graph 5).

Most of the difference between these two measures is explained by the drop in energy prices. Despite recent increases, inflation remains below the target set by the European Central Bank (ECB) (slightly under 2.0%).

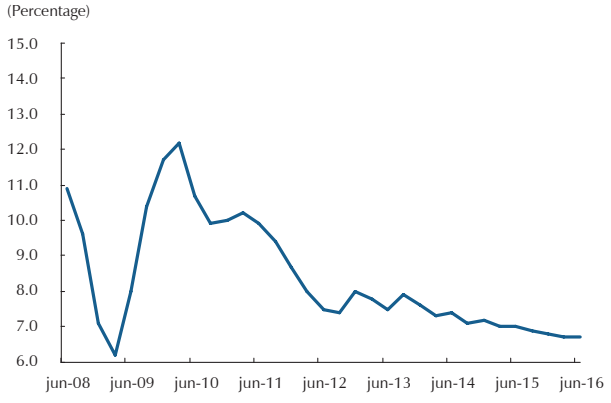
Due to low inflation and limited demand-side pressure on prices, the ECB announced at its July meeting that its expansionary monetary policy stance will continue and even be prolonged beyond what was budgeted. The ECB says it will maintain that position to make sure inflation is on a path consistent with its objectives.

Meanwhile, most of the emerging economies continue to report less momentum than in previous years. In the case of China, annual GDP growth in the second quarter was equal to that of the first: 6.7% (Graph 6). This is largely the result of a rise in retail sales, which would be offsetting the slowdown in growth in investment in fixed assets and in industrial production.

First-quarter GDP growth in Latin America showed mixed results, with many countries still negatively affected by the drop in their terms of trade. The pace of growth in the case of Peru was relatively high due to considerable expansion in

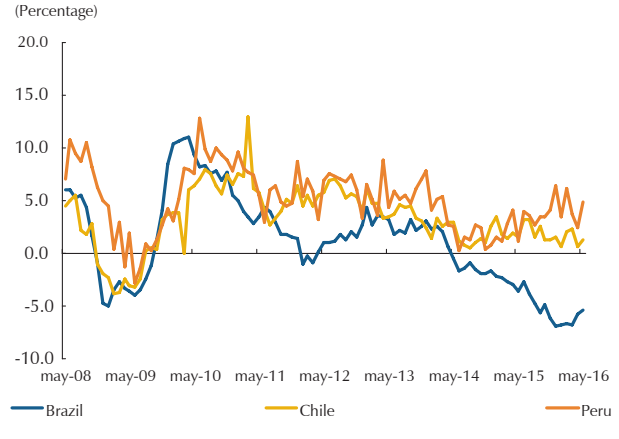
4 This report was produced without the official figure on second-quarter growth in the euro area. The initial estimate in that respect was released on July 29 and indicates the quarterly increase in GDP was 0.3% during that period, which is less than in the first quarter of the year (0.6%).

Graph 6
Real Annual GDP Growth in China



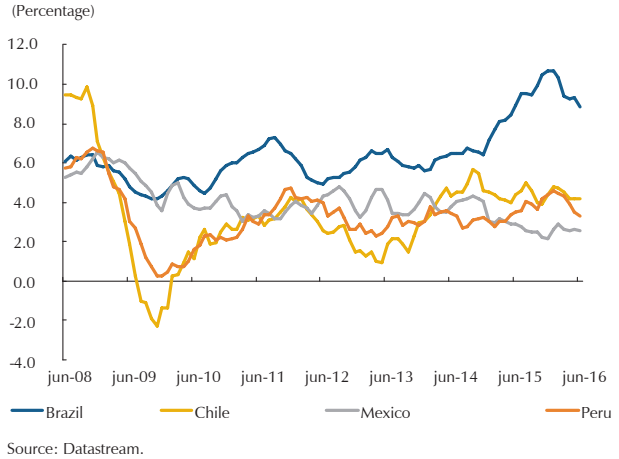
Source: Bloomberg.

Graph 7
Annual Growth in the Monthly Economic Activity Indexes of Several Latin American Economies



Source: Datastream.

Graph 8
Annual Inflation for Several Latin American Economies



Source: Datastream.

the mining sector. However, Chile and Mexico continued to grow at low rates, while the Brazilian, Ecuadoran and Venezuelan economies[5] suffered sharp setbacks. With respect to the second quarter of the year, the indicators of economic activity by May suggest the Chilean and Peruvian economies would be expanding somewhat less than in the first quarter, while the Brazilian economy seems to be bottoming out (Graph 7).

On the other hand, the June inflation figures for the Latin American economies reflect a continuation of the downward trend that began in January. However, inflation in Brazil is still high. Inflation in Chile and Peru is slightly above the upper limit of the target ranges set in those countries (Graph 8), while inflation in Mexico was in the lower part[6] of its range. In this environment, only Mexico witnessed benchmark rate hikes during the second quarter.

2. Commodity Prices

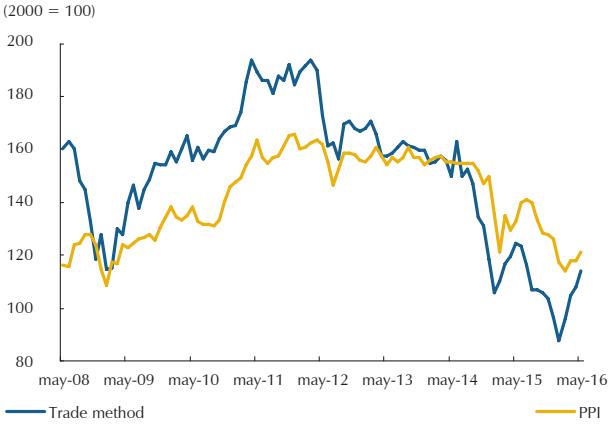
Prices for Colombia's major export products rose during the second quarter of 2016, after having falling to lows at the beginning of the year. Even so, they are still down relative to the prices on record in recent years (Graph 9).

For instance, the average price of oil (Brent reference) went from USD39.8 per barrel in March to USD49.9 in June, before declining slightly in the early weeks of July (Graph 10). The increase between March and June was due to a reduction in the worldwide oversupply of oil, which would be supported mainly by supply factors. The quarter also witnessed events beyond the intrinsic decisions made by crude oil producers, such as pro-

5 Although there are no figures on first-quarter growth in Ecuador and Venezuela, some indicators appear to show their economies continue to contract.

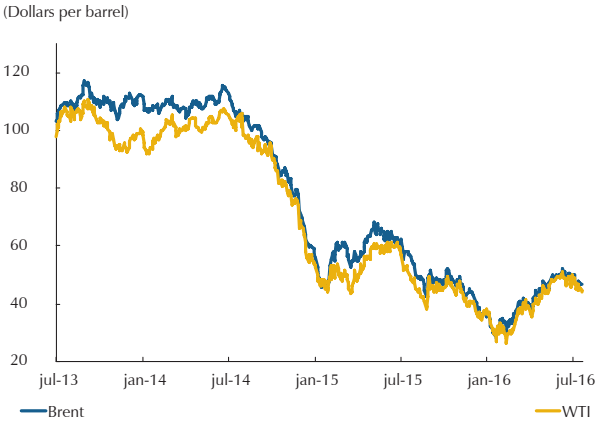
6 The target range for Chile and Mexico is 3.0% +/- 1.0%. It is 2.0% +/-1.0% for Peru.

Graph 9
Terms of Trade Index
(Trade Method & PPI)



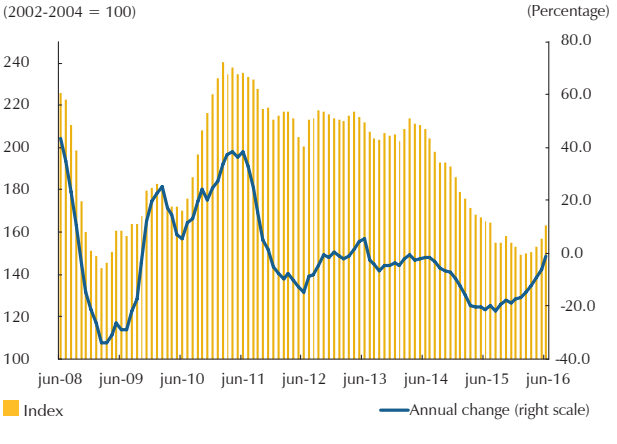
Source: Banco de la República.

Graph 10
International Oil Prices (Brent and WTI)



Source: Datastream.

Graph 11
International Food Prices



Source: United Nations Food and Agriculture Organization

duction cuts in Nigeria and Iraq as a result of terrorist attacks, disruptions in Canadian oil extraction due to forest fires, suspension of exports from Libya given problems at several ports, and a 50% decline in Kuwait's production due to a strike at its wells.

Besides these factors, production and investment in the United States oil sector has declined because of low observed and expected prices. US inventories also dropped a bit, but are still at historically high levels. Furthermore, less risk aversion in financial markets and fears that oil production in Venezuela is being affected by political problems could have brought additional pressure to bear on oil prices. Nevertheless, despite the improvements seen in recent months, the price of oil is still below the average for the whole of 2015 (USD53). This is an important point to bear in mind.

Nickel and other metals for industrial use that are exported by some of our trading partners also experienced price hikes during the quarter. The bulk of the increase was due to supply incidents in various parts of the world where either weather or regulatory problems reduced the production of these items.

The last four months also saw the international price of coffee increase as a result of growing global demand for this product and weather problems in several exporting countries. This situation resulted in a price during the second quarter than was higher than the average price in 2015.

There were important annual reductions in the FAO food price index during the second quarter, despite higher prices compared to the previous quarter (Graph 11). The minor hikes witnessed during those months were due largely to weather conditions that reduced harvests in different parts of the world. Since Colombia imports some food items, these increases somewhat slowed improvements in the terms-of-trade indicator. It is worth

noting that prices for corn, soybeans and wheat have declined considerably since the last week in June.

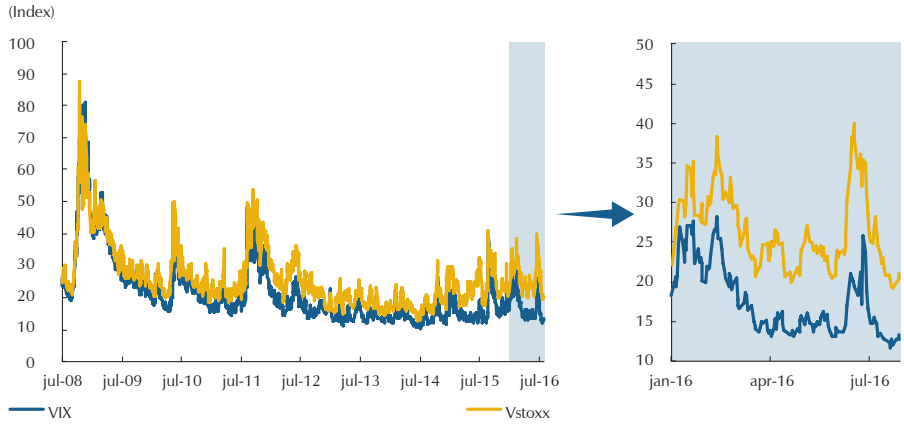
3. Financial Markets

Following a relative lull in April and May compared to the situation earlier this year, financial markets were battered in June by the outcome of the UK referendum in which the people of Britain voted to leave the European Union (known as Brexit). Volatility indicators rose sharply that month, but the volatility was short-lived and these indicators were back to low levels by early July (Graph 12). Nevertheless, the repercussions in specific markets, such as the fixed income and stock markets, continued during the first weeks of July.

In the case of the former, investors have increased their demand for bonds, presumably in search of safer assets. As a result, rates on securities in the United States and Europe have fallen, even to negative levels in some instances (Graph 13). Moreover, risk premiums in Latin America have continued to decline after the highs witnessed in February (Graph 14). For Colombia, five-year credit default swaps (CDS) dropped from a high of 326 basis points (bp) on February 11, to 184 bp in mid-July.

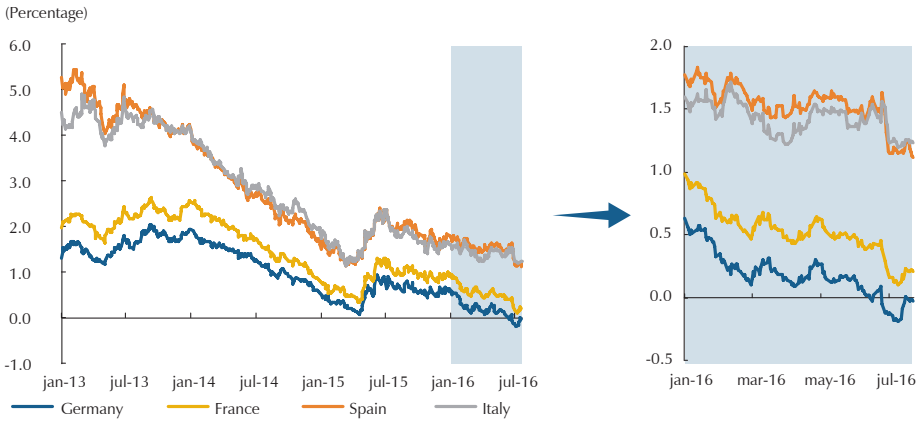
The performance of stock market indexes in different parts of the world after the declines associated with Brexit has been mixed. While there have been increases in the United States and in the emerging economies, the stock indexes in Europe and Japan have yet to return to the levels observed prior to Brexit (Graph 15).

Graph 12
Financial Volatility Indexes



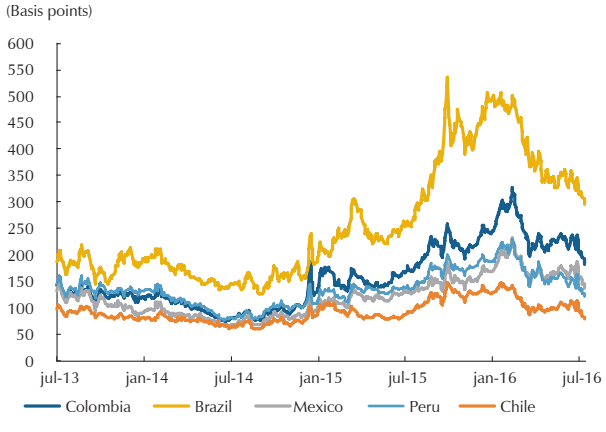
Source: Bloomberg.

Graph 13
Interest Rates on Certain 10-Year Sovereign Bonds



Source: Bloomberg.

Graph 14
Five-year Credit Default Swaps (CDS) for Several Latin American Countries

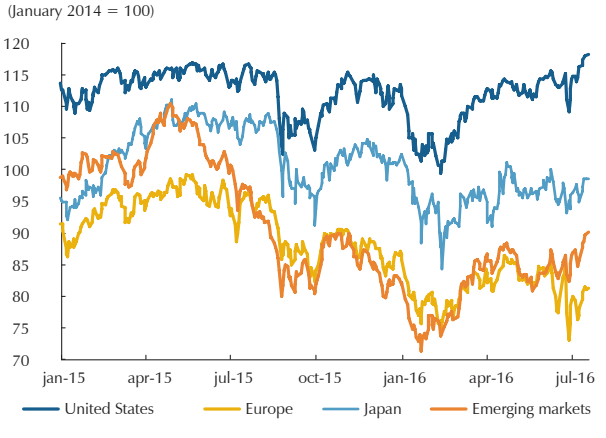


Source: Bloomberg.

In terms of currencies, the US dollar has appreciated against most of the world's currencies since the UK referendum, but has yet to reach the highs witnessed at the beginning of the year (Graph 16). Meanwhile, exchange rates for the Latin American currencies remained relatively stable against the dollar, with Brazil and Chile registering minor appreciation (Graph 17). The average rate for the Colombian peso was COP 2,986 between April and July, compared to COP 3,251 in the first quarter.

On July 22 Fitch Ratings announced it had revised the outlook on Colombia's debt to negative from

Graph 15
Global Stock Indexes

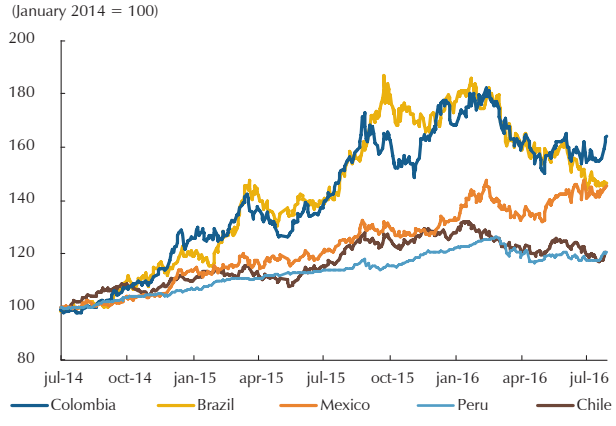


Source: Bloomberg.

Graph 16
US Dollar Exchange Rate Index
(Trade-weighted average)

Source: Bloomberg.

Graph 17
Exchange Rate Indexes of Several Latin American Countries



Source: Bloomberg.

stable. This downgrade sparked increases in the risk premium and in the exchange rate.

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

The 2016 growth forecasts for Colombia's trading partners (trade-weighted) remained relatively stable. Current projections suggest 0.6% growth for the year, slightly above the forecast three months ago (0.5%). GDP growth estimates were revised downward for the United States and Ecuador, and upwards in the case of China and Peru (Table 1). Although some recovery is expected in 2017, compared to this year, our trading partners would continue to experience very low growth in light of what was observed in the last decade (Graph 18).

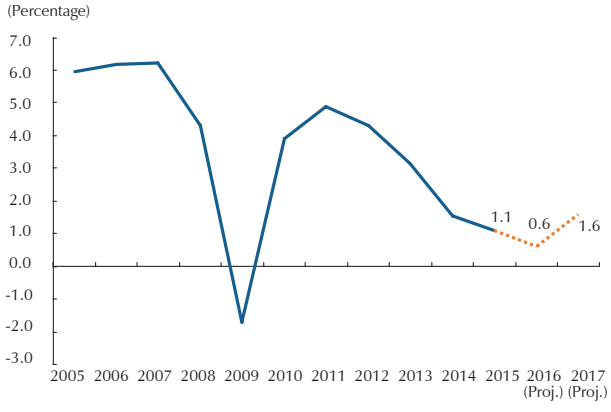
The forecasts for the United States were revised downward from 2.2% to 1.9%, because first-quarter GDP and consumption were less than what main market analysts and the technical staff at Banco de la República had anticipated. Even so, household consumption is expected to gain force as that

Table 1
Growth Forecasts for Colombia's Trading Partners

Growth forecasts for Colombia's trading partners	2015	Forecasts for 2016			Forecasts for 2017		
		Scenario			Scenario		
		Minimum forecast	Central forecast	Maximum forecast	Minimum forecast	Central forecast	Maximum forecast
Main partners							
United States	2.4	1.3	1.9	2.3	1.2	2.2	2.6
Euro Area	1.7	0.8	1.6	2.0	0.0	1.2	1.8
Venezuela	(5.7)	(10.0)	(7.0)	(4.0)	(7.0)	(4.0)	
Ecuador	0.3	(5.0)	(3.0)		(3.0)		1.0
China	6.9	6.2	6.6	6.9	5.2	6.2	6.6
Other partners							
Brasil	(3.8)	(4.5)	(3.5)	(2.8)	(0.5)	0.7	2.0
Peru	3.2	3.0	3.8	4.2	3.0	4.2	5.0
Mexico	2.5	1.8	2.4	2.8	1.8	2.7	3.3
Chile	2.1	1.2	1.8	2.2	1.5	2.5	3.5
Total trading partners (non-traditional trade-weighted)	**1.1**	**(0.4)**	**0.6**	**1.4**	**0.4**	**1.6**	**2.5**
Developed countries[a/]	**1.9**		**1.8**			**1.8**	
Emerging and developing countries[a/]	**4.0**		**4.1**			**4.6**	
Total worldwide[a/]	**3.1**		**3.1**			**3.4**	

a/ IMF forecasts at July 2016. Update of the central forecasts in the April edition of the WEO Report.
Source: International Monetary Fund (IMF) and projections by Banco de la República

Graph 18
Average Growth of Colombia's Trading Partners (Non-traditional trade weighted)



(Proj.) Projected
Source: International Monetary Fund (IMF); calculations and projections by Banco de la República

economy's growth engine, since the fundamental factors of household spending are still favorable. Residential investment is expected to provide an additional boost through this same channel. On the other hand, nonresidential investment should cease to detract from growth, given the fact that oil prices have stabilized. However, it is not seen as a source of growth in the current context, which is one of considerable economic and financial uncertainty and relatively low prices relative to those registered in the last fifteen years. In the end, appreciation of the dollar and weak global demand will pose an obstacle to US exports.

In light of these circumstances, the US job market is expected to continue to recover and the unemployment rate should remain near its long-term levels. Inflation is expected to keep moving slowly towards the target set by the Fed, which means it would not be reached during 2016. The outlook, in these circumstances, is for the Fed to raise its benchmark rates by 25 bp at the end of 2016 or in early 2017.

The economic recovery in the euro area would progress sluggishly, as anticipated in the previous edition of this report. The EU indicators observed to date would allow, in principle, for an increase in the forecasts for the rest of the year and in 2017. However, the uncertainty sparked by Brexit and the impact it might have on Europe have darkened the outlook for the region. Accordingly, the scenario in this report remains characterized by low inflation and limited demand-side pressures, with the ECB maintaining a highly expansive policy that would favor economic recovery supported mainly by consumption and investment. Exports are not expected to be a source of growth, given the weak momentum in world demand

In the case of China, its economy is expected to continue to expand at a pace similar to the one witnessed so far this year and somewhat higher than what was the forecast in the March report. The shift toward an economy in China supported more by private consumption should persist; consequently, investment and export growth rates would continue to decline.

In Ecuador, the estimate for economic growth in the whole of 2016 was revised downward by half a percentage point (pp) to -3.0%. This is due partly to Ecuador's fiscal adjustment to deal with the severe terms-of-trade shock and to finance reconstruction after the earthquake in the first quarter. In this regard, a hike in taxes is anticipated, which would reduce consumers' disposable income. This, in turn, would mean less aggregate consumption. The

The current forecasts for growth of Colombia's trading partners suggest a 0.6% increase for the whole of 2016.

loss of competitiveness that comes with a stronger dollar would continue to affect the country's economic performance, particularly by hammering exports.

The perception in Brazil is that the economy bottomed out between the first and second quarters. Consequently, a reduction in the pace of economic contraction is already in sight. In fact, exports were quite high during the first quarter, thanks to depreciation of the Brazilian real.

Mexico and Chile are expected to experience low growth relative to the last ten years, while the forecasts for Peru exceed the growth rates anticipated three months ago by Banco de la República's technical staff. This major expansion would happen thanks to more of a contribution from mining and fishing.

The central scenario described above continues to pose important downside risks. The main one stems from Brexit and the huge uncertainty over how it might impact the financial sector, the UK economy and the euro area, not to mention its possible effect on incipient growth in the rest of the world. The risks in terms of the political actions that could be triggered by the UK's withdrawal from the European Union are significant as well.

Another important risk is the vulnerability of Italy's banking sector and the consequences that might arise in other countries of the European periphery if these problems become worse. As for China, there is still the risk of more of a slowdown than estimated and that it might occur in the midst of growing financial instability. The risks in the United States are derived from the political elections scheduled for late 2016.

Regarding the prices of Colombia's main commodity exports, those for oil and coffee in 2016 were revised upward in this report. However, coal and nickel prices were revised slightly downward (Table 2).

Table 2
Benchmark Price Forecasts for Colombia's Commodity Exports

Major products	2015	Forecasts for 2016 Scenario			Forecasts for 2017 Scenario		
		Minimum forecast	Central forecast	Maximum forecast	Minimum forecast	Central forecast	Maximum forecast
Colombian Coffee (ex *dock*) (dollars per pound)	1.51	1.40	1.55	1.70	1.30	1.60	1.90
Brent crude (dollars per barrel)	52.9	38.00	43.00	47.00	35.00	50.00	60.00
Coal (dollars per ton)	60.1	40.00	47.00	54.00	35.00	50.00	60.00
Nickel on the London exchange (dollars per ton)	11,877	7,696.30	8,682.09	9,667.88	7,892.02	9,472.16	11,026.25
Gold[a/] (dollars per troy ounce)	1,160	1,450.00	1,300.00	1,200.00	1,550.00	1,250.00	1,100.00

a/ This is assumed to be a haven value, because the price of gold increases when there is more uncertainty (a pessimistic scenario).
Sources: Bloomberg; calculations by Banco de la República

The prices of some of Colombia's main raw material exports were revised upward, particularly those of oil and coffee.

In the case of oil prices, the central forecast for 2016 is USD 43 per barrel, higher than USD 35 in the previous edition of this report. This forecast anticipates a reduction in the oversupply of oil, since the current production cuts in Nigeria would continue, oil production in Canada would remain depleted in the wake of the forest fires, and production in the United States would stay low. The momentum on the demand side is expected to continue, since China would maintain high output growth rates. These supply and demand forces will keep the market in balance, despite increased production in Iran and inventories that are still large.

B. THE BALANCE OF PAYMENTS

The terms-of-trade shock to the Colombian economy as of mid-2014, as a result of the sharp drop in international prices for oil and other raw materials, has meant less momentum in national income and more moderate external funding flows. These circumstances occurred at a time when the country was trending towards broader external imbalances. In fact, the current account deficit as a proportion of GDP increased from 3.2% in 2013 to 4.4% in the first half of 2014 (prior to the shock).

In line with the price shock, the trade deficit in goods rose sharply during 2015, mainly because of the plunge in oil exports. However, the current account deficit in dollars was reduced (USD 734 m)[7] compared to the 2014 figure, thanks to fewer imports and reduced net outlays for services and factor income, as well as more income from transfers.

The current account in the balance of payments for the first quarter of 2016 showed less of a deficit with respect to the same period in 2015, thanks to more of a contraction in current outlays than in income.

1 First-quarter Results for 2016

The current account deficit in Colombia's balance of payments came to USD 3,381 m in the first quarter of 2016, which is USD 1,809 m less compared to the deficit registered a year earlier. As a proportion of GDP, it amounted to 5.6%, implying a reduction relative to the first quarter of 2015 (7.0% of GDP). This was due to a greater contraction in current outlays than in income. The foregoing is consistent with the slowdown in domestic demand at the beginning of the year (see Chapter II of this report), which indicates the economy is adjusting to the new path of national income. Additional current transfers also contributed to lower the deficit.

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7 The current account deficit in 2015, as a proportion of GDP, came to 6.4%, which represents an increase of 1.3 percentage points versus 5.1% in 2014. Therefore, the rise in the deficit as a share of GDP does not reflect the smaller absolute value of the current account deficit in dollars, but is explained by the reduction in the current GDP in dollars, due to 37% depreciation of the peso against the US dollar during that period.

The annual decline in the deficit during the first quarter is explained by less of a trade deficit in goods and services, reduced factor income outlays and more income from current transfers.

The behavior of the external balance in dollars was characterized by a reduction in the trade deficit (goods and services), by lower net factor income outlays and by added income from current transfers, particularly a sizeable 12.4% increase in worker remittances over the same period last year. The decline in the trade deficit in goods (USD 324 m) was the result of a major drop in imports (-24.5%), which came to USD 3,309 m. This more than offset the USD 2,984 m decline in exports (-29.7%) in an environment of further price reductions for major commodities and the consequences this had for some of our most important trading partners.

There also was less of a deficit in factor income (USD 762 m) and a reduction in net expenses for service (USD 571 m), compared to the figure registered the year before. In both cases, this is the result of a sizeable reduction in current outlays associated with these items.

As for the adjustment in the balance of services and in net factor income outlays, these reductions were more than anticipated by Banco de la República's technical staff. The overestimate was due to a more pronounced cutback in profits remitted by companies with foreign direct investment (FDI) compared to what was expected, and to more of a decline in imported transportation, travel and business services for the oil and mining sector.

In terms of external financing during the first quarter of 2016, USD 3,240 m in net capital inflows were reported , which is less than the amount observed a year earlier (USD 5,289 m). Specifically, net direct investment (USD 3,594 m) was up by USD 668 m the first quarter compared to the year before, thanks to an increase in FDI resources that was offset partly by more Colombian direct investment abroad. The added inflow of FDI resources was concentrated in the electricity, gas and water sector, and is explained largely by the sale of Isagen. In contrast, all the other sectors combined saw investment flows drop by 32% year on year.

Net capital inflows during the first quarter of 2016 were USD 2,049 m less than those registered a year earlier, primarily because of fewer resources from portfolio investment.

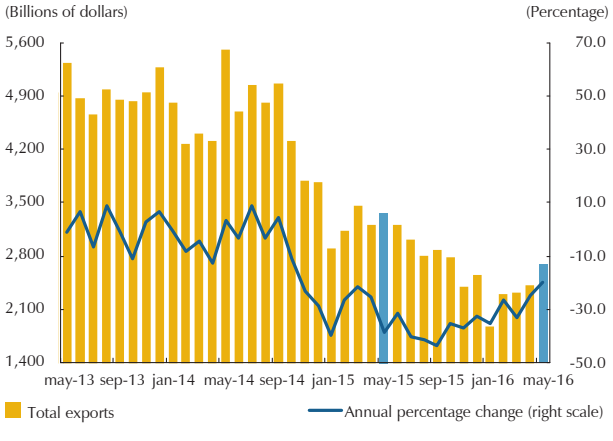
Meanwhile, the country received USD 2,169 m in foreign portfolio investment during the first quarter of 2016 compared to USD 1,892 m a year earlier, mainly because of fewer resources channeled to the public sector (bonds and local debt). In terms of other capital flows, the country constituted USD 2,060 m in assets abroad, particularly in deposits by public sector entities. This amount contrasts with USD 1,733 m in net payments received during the first quarter of 2015. International reserves were up by USD 98 m in the first quarter of the year.

2. Forecasts

The forecast exercises developed for this report indicate the current account deficit will continue to adjust during the remaining three quarters of 2016, compared to the same periods in 2015. This trend is favored by a scenario of higher raw material prices estimated for the second half of the year, above what was forecast in the previous edition of this report. In this sense, the trade balance in goods is expected to show less of a deficit during the second quarter of 2016 than in the second quarter of 2015 and the first of 2016, thanks partly to a recovery in most of the reference prices for the country's export commodities.

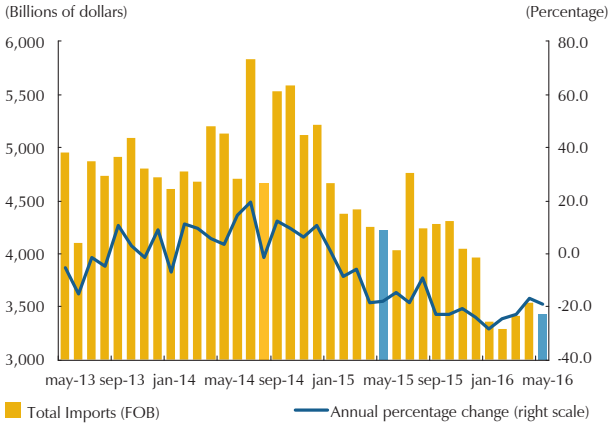
The available figures on foreign trade in goods during April and May tend to confirm this projection. Total exports in dollars dropped by USD 1,463 m (-22.3%) during that period when comparing to the year before (Graph 19), shaken by international commodity prices. Although these prices recovered somewhat during that period, they are still low compared to what they were a year ago. Total exports also were affected by a lower export value for industrial goods. Meanwhile, imports FOB,[8] in dollars, declined by USD 1,518 m (17.9% in annual terms) (Graph 20) (see shaded section on page. 28).

Graph 19
Total Exports
(Monthly)



Source: DANE; calculations by Banco de la República .

Graph 20
Total Imports (FOB)
(Monthly)



Source: DANE; calculations by Banco de la República .

8 Unlike the balance-of-payments measure, which takes into account imports FOB (free on board), GDP calculated according to the national accounts considers imports CIF, which include freight and insurance. The average total value of the latter in dollars, during April and May 2016, came to US 3,482 m, which implies an annual reduction of 17.9%.

EXPORTS AND IMPORTS IN US DOLLARS DURING THE FIRST QUARTER OF 2016 AND THE SECOND QUARTER TO DATE

First Quarter:

Total exports fell by 31.7% in the first quarter of 2016 with respect to the previous year, given fewer mining, agricultural and industrial exports, which contracted annually by 44.9%, 18.5% and 8.9%, in that order. The predominant event in the first group was the annual reduction in oil exports, which came to 55.3%, mainly due to the drop in international oil prices (they were 35.1% lower during this period than the average price in 2015). Meanwhile, the decline in exports of agricultural goods reflected reduced foreign sales of coffee and flowers (30.4% and 7.4%, respectively). However, banana exports rose 2.0% during the quarter.

Industrial exports [1]were affected primarily by the decline in exports of vehicles, chemical products, and rubber and plastic. In terms of export destinations, trade with Ecuador was the most negatively affected, dropping 35.1%. Sales of goods to Venezuela, in turn, were down 5.5%. In contrast, first-quarter industrial exports to the European Union and the United States rose 17.4% and 7.6%, respectively.

On the other hand, imports in dollars were down by 25.1% annually in the first quarter as a result of reduced foreign purchases in all product groups. Imports of intermediate goods declined by 15.4% annually, mainly because of reductions in the value of raw materials purchased for agriculture (-15.8%) and fuels and lubricants (-13.2%). Imports of consumer goods declined by 19.1% annually, with a drop registered in durable and non-durable goods (28.0% and 10.4%, respectively). Meanwhile, imports of capital goods experienced a 39.4% annual decline explained by the drop in purchases of transport equipment (-62.5%), building materials (-16.9%) and capital goods for industry and agriculture (-26.7% and -16.9% respectively).

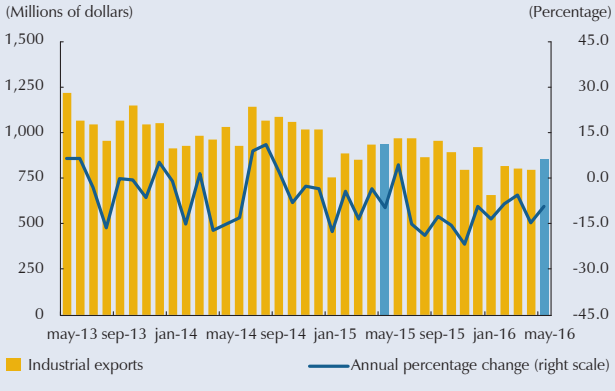
1 These exports do not include oil or derivatives thereof, coal, ferronickel, gold, coffee, bananas or flowers and represent 35.1% of all exports during the period in question. Industrial manufacturing exports account for 95.0% of this group.

April-May:

Exports in dollars experienced another major decline during April-May 2016 (-22.3%) due to a reduction in exports of mining and industrial goods. The sharp setback in mining exports (-34.5%) is explained by low international oil prices, which led to a 52.0% drop in the value of oil exports during those two months. This contrasts with the increase in exports of refined oil products (15.4%) in the same period.

Industrial exports registered an annual decline of 11.9% between April and May (Graph A), reflecting the significant drop in non-traditional exports to Venezuela (-37.5%) and Ecuador (-33.8%) (Graph B). However, sales of industrial products to the European Union and the United States rose by 29.5% and 4.4%, respectively.

Graph A
Industrial and Other Exports[a/]
(Monthly)

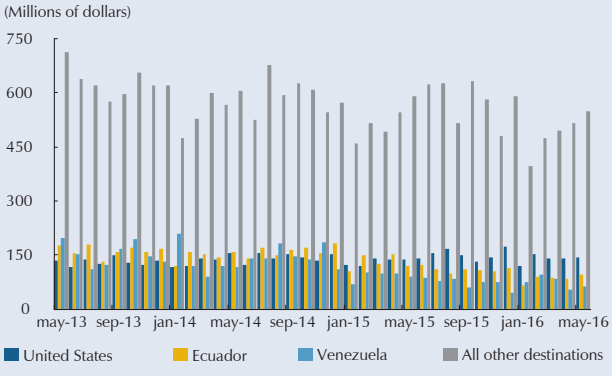


a/ Excludes oil and derivatives thereof, coal, ferronickel, gold, coffee, bananas and flowers. Includes other mining and agricultural exports.
Source: DANE; calculations by Banco de la República

Exports of agricultural goods rose 13.2% annually during that two-month period, fueled by value increases in banana exports (43.6%), flowers (5.1%) and coffee (18.1%).

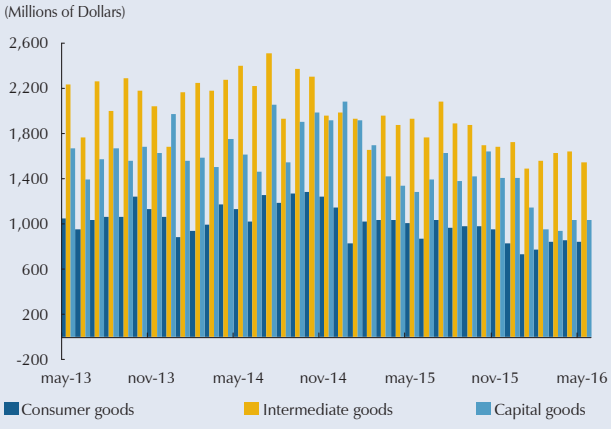
FOB imports in dollars were down 18.0% annually during this same period. This cutback is associated with weakening export value for all types of goods. Foreign purchases of consumer goods were down by 16.9% annually, a fact explained by the 25.2% contraction in durable goods and 8.2% in nondurables. The behavior

Graph B
Non-commodity Industrial Exports to the United States, Ecuador, Venezuela and All Other Destinations[a/]
(Monthly)



a/ Excluding coffee, oil derivatives, ferronickel, gold, bananas or flowers.
Source: DANE; calculations by Banco de la República

Graph C
Imports by Type of Goods (FOB)



Source: DANE; calculations by Banco de la República .

of durable goods imports is explained largely by the decline in vehicles (-23.9%) and devices for domestic use (-19.0%), while the reductions in wearing apparel (-28.4%) and food products (-3.0%) were what contributed the most to non-durable import performance. Imports of intermediate goods fell by 16.4% due to fewer imports of fuels and lubricants (-36.8%) and raw materials for agriculture (-18.0%) and industry (-9.9%). Imports of capital goods dropped by 21.7%, given the setbacks in transport equipment (-19.0%), capital goods for industry (-22.5%) and construction materials (-25.4%) (Graph C).

As was observed in the first three months of 2016, the second quarter is expected to see further reductions in the non-factor service deficit (reflecting fewer expenses associated with international trade) and in net factor income outlays. The latter would be due to the impact of low prices for oil and mining products continues to have on the remittance of profits, as well as peso depreciation and prospects for a less dynamic economy. In addition, net income from transfers would be higher than during the same period last year. This is consistent with an increase in worker remittances, which have risen during the second quarter at a rate similar to that of the first (12.5% annually), thanks to a slight recovery in resources from the United States and the euro area.

In terms of financing, FDI flows to the oil and mining sector are expected to decline during the second quarter of 2016 compared to the same period last year, given the price outlook for the sector. The figures at hand on capital flows from the foreign exchange cash balance [9] show an increase in foreign portfolio investment flows to the private sector during the second quarter

9 The capital flows in the foreign exchange cash balance do not coincide exactly with what is registered in the balance of payments, since they refer to cash flows only. However, they do offer some idea of the trend.

It is estimated the current account deficit for the whole of 2016 would be around 5.3% of GDP and amount to approximately USD15 b.

relative to the first three months of the year, which implies external funding levels in the entire first six months that are similar to those on record a year earlier for this type of investment. Added to the foregoing are the funds from bond issues and foreign loans obtained by the non-financial public sector and the private sector.

As in the previous edition of this report, various balance-of-payments forecast scenarios associated with the terms and availability of external financing for the domestic economy were considered for the whole of 2016. Given their uncertainty, these elements determine the extent of the projected range for the current account deficit. These scenarios are constructed using the central assumptions for the external environment that were outlined in the previous section and with different estimates for the financial account and domestic growth.

The projection of the current account deficit for all of 2016 is less than was forecast three months ago. This implies more of an adjustment in the external balance compared to 2015, both in dollars and as a percentage of GDP. Therefore, the current account deficit, in the most likely scenario, would be around USD 15 b or 5.3% of GDP (Table 3). This forecast considers the impact low reference prices for export commodities has on different accounts in the external balance, as well as the effects of a slowdown in Colombia's economy. In that respect, the large trade deficit in goods is expected to continue, although it would be less than in 2015, amidst a contraction in traditional and nontraditional exports offset by a significant reduction in imports. This scenario would be accompanied by a lower deficit in the balance of services and in factor income, plus an additional contribution from current transfers, given the increase in worker remittances observed in recent months. Also, taking into account the maximum and minimum scenarios anticipated for the external variables (see section A in this chapter), the deficit is expected to be within -4.6% to -5.8% of GDP.

The trade deficit in goods is expected to remain large, but would be less than in 2015 and accompanied by a reduction in the deficit in the balance of services and in factor income.

Compared to the forecast outlined last quarter for the external balance in the whole of 2016, less of a decline in traditional exports is expected, particularly given the upward revision in the price of oil from USD 35 to USD 43 per barrel (Brent). On the other hand, the export growth forecast, excluding major products (all others), was revised downward because of an added slowdown in these exports so far this year compared to what was anticipated. Furthermore, the forecast for imports is somewhat less compared to what it was of three months ago, considering the way imports have behaved so far this year and taking into account the estimated slowdown in domestic demand in all of 2016, particularly due to more of a drop investment that requires imports.

Table 3
Balance of Payments
Annual Flows (Millions of US dollars)

	2012	2013	2014 (pr.)	2015 (pr.)	2016 (proj.)
Current account (A+B+C)	**(11,271)**	**(12,355)**	**(19,489)**	**(18,755)**	**(14,978)**
Percentage of GDP	**(3,0)**	**(3,2)**	**(5,2)**	**(6,4)**	**(5,3)**
A, Goods and services	(860)	(2,764)	(11,298)	(18,062)	(15,253)
B, Primary income (factor income)	(14,989)	(14,184)	(12,549)	(5,809)	(5,208)
C, Secondary income (current transfers)	4,579	4,594	4,358	5,117	5,483
Financial account (A+B+C+D)	**(11,754)**	**(11,848)**	**(19,836)**	**(18,948)**	**(14,978)**
Percentage of GDP	**(3.2)**	**(3.1)**	**(5.2)**	**(6.5)**	**(5.3)**
A, Direct investment (ii-i)	(15.646)	(8.559)	(12.426)	(7.724)	(8.437)
i, Foreign investment in Colombia (FDI)	15.039	16.211	16.325	11.942	11.937
ii, Colombian investment abroad	(606)	7.652	3.899	4.218	3.500
B, Portfolio Investment (1+2) Portfolio Investment	(5.690)	(6.978)	(11.654)	(9.531)	(1.463)
C, Other investment (loans, other types of credit and derivatives)	4.176	(3.257)	(193)	(2.107)	(5.610)
D, Reserve assets	5.406	6.946	4.437	415	533
Errors and omissions (E & O)	(483)	507	(347)	(193)	0

(pr.) preliminary; (proj.): projected
Observation: The results presented in this table follow the recommendations outlined in the sixth edition of the Balance of Payments Manual proposed by the IMF. For additional information and changes in methodology, see http://www.banrep.gov.co/balanza-pagos
Source: Banco de la República

Export performance would continue to be affected by lower price forecasts for all major export products compared to last year, despite the upward revisions relative to the *Inflation Report* three months ago. This would be offset, in part, by the recovery in petroleum products, since Reficar would begin operating at full capacity as of mid-2016. A 7.0% reduction is anticipated for all other products, mainly due to the slowdown in external demand from our trading partners and despite the impact depreciation might have on Colombia's export competitiveness.

Accordingly, the central scenario suggests major exports would decline by about 25.2% throughout the year, while total exports in dollars would be down by 17.6%. The drop in imports, in dollars, would come to -15.6% compared to 2015, mainly because of far fewer imports of consumer durables and capital goods for the oil and mining industry. The factors behind this drop in imports include, among others, less momentum in domestic demand, fuel import substitution due to the start-up of operations at Reficar, and additional price cuts on imported items, especially intermediate goods.

The forecast for the whole of 2016 also points to a further reduction the service trade deficit compared to 2015, given the impact of depreciation on the net balance of certain items such as corporate and tourism services,

Capital flows in the whole of 2016 are expected to be less than those observed in 2015, due to fewer resources from foreign portfolio investment in response to the increase in risk aversion on international financial markets.

and the decline in prices for import services such as shipping. Net factor income outlays also are expected to decline, mainly because of fewer profits being remitted in the oil and mining sector and in all others, given lower prospects for growth. In both cases, the reduction in the service deficit and in factor income is less than what was estimated last quarter, due to the effect the oil price recovery has on freight charges and profits in the oil and mining sector.

As for financing the deficit, capital flows in 2016 are expected to be lower than the estimate for 2015, since a decline in foreign portfolio investment resources is anticipated as a result of increased risk aversion on international financial markets. Specifically, the estimates point to less income from government and private bond sales on international markets, as well as more moderate foreign investment flows to the domestic government debt market.

Part of the decline in portfolio resources would be offset by larger net inflows from direct investment and foreign loans. Net direct investment, in particular, is expected to be more than it was the year before, thanks to proceeds from the sale of ISAGEN and an expected drop in Colombian investment abroad. These flows would more than offset the anticipated reduction in FDI resources for all sectors in general, but more so in the case of oil and mining. The increase in resources from foreign loans would be associated with more central government borrowing from multilateral banks and with other loans from the rest of the nonfinancial public sector. The 4G infrastructure projects also would require some additional financing.

The current account deficit is expected to be smaller in 2017 (4.3% relative to GDP), both in dollars and as a share of GDP. For the most part, this would be associated with a lower trade deficit in goods, thanks to factors such as a better outlook for the prices of Colombia's major export products, some economic recovery in our most important trading partners, and a further reduction in the service deficit. In 2017, the balance of services is expected to continue to help close the external balance, thanks to investments made in past years in tourism and corporate services. Coupled with a competitive exchange rate, this guarantees service exports can continue to grow.

II. Domestic Growth: the Current Situation and Short-Term Prospects

The Colombian economy grew by 2.5% in the first three months of the year, as forecast in the March edition of the *Inflation Report*.

Given the severe terms-of-trade shock and the behavior of national income, the actual adjustment in domestic demand during the first quarter of 2016 is still moderate.

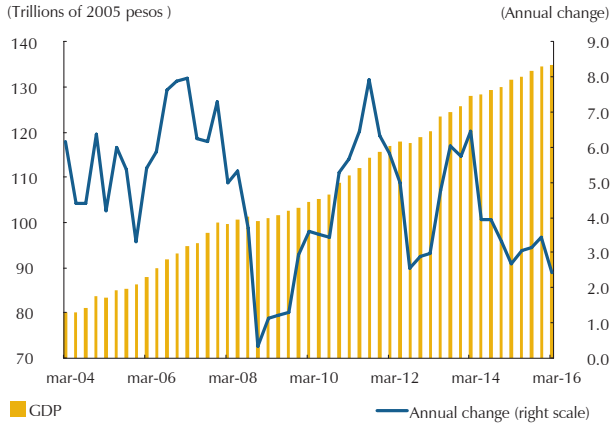
The most dynamic sectors, by March, were industry, construction and financial, real estate and corporate services. In contrast, mining declined.

The figures at hand for the second quarter suggest the economy appears to have grown at a pace similar to that registered in the first three months of 2016.

A. FIRST-QUARTER GDP IN 2016

The latest figures on gross domestic product (GDP), published by the National Bureau of Statistics (DANE by its acronym in Spanish), indicate the Colombian economy grew at an annual rate of 2.5% during the first three months of the year (Graph 21). This is the same rate forecast by Banco de la República's technical staff in the March *Inflation Report* and reflects a slowdown compared to the growth reported in the fourth quarter of 2015 (3.4%). This figure was influenced by the calendar effects of the Easter holiday in March (not in April, as occurred in 2015) and by more working days in February. Therefore, the variation from one quarter to the next was 0.2%, which implies a quarterly annualized change of 0.6%.

Graph 21
Gross Domestic Product
(Seasonally adjusted)



Source: DANE; calculations by Banco de la República .

The country's major trading partners posted weak economic performance during the first quarter of the year.

In addition to the calendar effects (which the technical staff estimates took about 0.4 percentage points off the growth rate), there are a variety of other domestic and external factors that explain Colombia's economic slowdown. To begin with, the economies of our main trading partners and those of the other countries in the region posted weak performance, and terms of trade remained low relative to the same period in 2015, as explained in Chapter I. This situation continued to jeopardize disposable national income and, therefore, had a real impact on domestic demand.

Moreover, the increase in consumer inflation observed during the first quarter of 2016 weakened the purchasing power of household income and unquestionably affected the consumption and investment plans of agents in the economy. Simultaneously, accumulated exchange-rate depreciation would have led to a change in relative prices in favor of non-tradables and to the detriment of tradables. The decline in domestic demand for imported goods also is evidence of this situation and will be discussed later.

The slowdown in growth in domestic demand during the first quarter was due to the combined effect of less momentum in income and the change in relative prices, as mentioned earlier. The adjustment in domestic demand was largely the result of less investment, particularly for the purchase of industrial machinery and transport equipment. On the other hand, the increase in total consumption was similar to the respective growth rate observed at the end of 2015. Although private consumption accelerated slightly, dominated primarily by less of a contraction in the consumption of durable goods, government consumption fell significantly due to a reduction in public spending, which is typical of the first year in office for regional and local administrations. It also reflects the government's continuing efforts at fiscal adjustment in response to the drop in international oil prices (Table 4).

Gross capital formation has been affected by accumulated exchange-rate depreciation and by the transmission of benchmark interest rate hikes.

As for gross capital formation, the setback in this item was consistent with the impact accumulated peso depreciation against the dollar had on domestic prices for imported goods and with policy interest rate hike transmission to market rates. The reductions in items such as transport equipment and machinery and equipment are evidence in that respect, as is – to a lesser extent - the investment in agriculture. An important part of the contraction in investment would have been in the oil and mining sector, because the drop in raw material prices in recent years has made these activities less profitable. In contrast, investment in construction registered more growth than investment in the rest of the economy, thanks to the momentum in both residential and non-residential building. The increase in civil works was low, mainly because of a high base of comparison for the same period in 2015.

Table 4
Real Annual GDP Growth, by Type of Expenditure

	2014 Full year	2015				2015 Full year	2016 I Qtr.
		I Qtr.	II Qtr.	III Qtr.	IV Qtr.		
Total consumption	4.3	4.4	3.7	4.3	3.3	3.9	3.2
Household consumption	4.2	4.7	3.7	4.2	2.8	3.8	3.4
Non-durable goods	3.2	4.3	3.9	4.6	3.7	4.1	3.9
Semi-durable goods	3.1	5.9	2.8	6.8	3.2	4.6	3.9
Durable goods	13.5	10.5	2.4	(7.0)	(11.9)	(2.0)	(4.6)
Services	4.7	4.4	4.1	4.5	3.7	4.2	3.8
End government consumption	4.7	2.2	2.3	3.1	3.8	2.8	1.6
Gross capital formation	11.6	6.5	0.6	3.2	0.4	2.6	(3.7)
Gross fixed capital formation	9.8	7.4	3.3	0.4	0.3	2.8	(4.8)
Agriculture, forestry, hunting and fishing	1.5	(5.9)	(2.8)	0.4	2.9	(1.5)	(0.2)
Machinery and equipment	7.1	0.7	(1.9)	(0.3)	(5.4)	(1.8)	(10.1)
Transport equipment	10.0	41.2	6.0	3.3	(5.2)	9.4	(32.9)
Construction and buildings	7.7	2.2	10.1	(8.2)	8.1	2.7	11.4
Civil works	14.0	3.4	6.4	7.0	4.2	5.2	0.4
Services	11.0	1.4	4.7	(3.8)	1.5	0.9	1.4
Domestic demand	6.0	4.7	3.1	4.1	2.5	3.6	1.3
Total exports	(1.3)	4.2	0.4	(4.8)	(2.1)	(0.7)	2.1
Total imports	7.8	11.7	0.3	8.0	(3.6)	3.9	(1.5)
GDP	4.4	2.7	3.1	3.1	3.4	3.1	2.5

Source: DANE; calculations by Banco de la República .

The net foreign trade accounts contributed positively to the GDP growth in the first quarter. Exports in constant pesos rose again, after dropping during the second half of 2015. This behavior is attributed largely to good performance for sales of non-traditional goods and services. The depreciated exchange rate would have meant competitive gains on international markets for Colombian firms that produce such goods and services. In contrast, the drop in commodity exports, particularly from the oil and mining sector, was sizeable. Oil and coal production were cut back in response to low international prices and less external demand.

Imports fell in line with in the slowdown in domestic demand. Capital goods saw the biggest reductions, particularly imports of industrial machinery and transport equipment. Imports of consumer durables also fell during the first three months of the year relative to the same period in 2015.

On the supply side, the sectors that grew the most during the first quarter of 2016 were industry (5.3%), construction (5.2%) and financial services (3.8%), in that order. Mining and quarrying was the only branch that

contracted (-4.6%). In general, most branches of the economy experienced slowdowns compared to the fourth quarter of 2015 (Table 5).

Table 5
Real Annual GDP Growth by Branch of Economic Activity

	2014 Full year	2015				2015 Full year	2016 I Qtr.
		I Qtr.	II Qtr.	III Qtr.	IV Qtr.		
Agriculture, forestry, hunting and fishing	3.1	2.2	2.4	3.0	5.8	3.3	0.7
Mining and quarrying	(1.1)	0.4	4.2	(0.5)	(1.5)	0.6	(4.6)
Manufacturing industry	0.7	(2.0)	(0.1)	3.2	3.9	1.2	5.3
Electricity, gas and water	3.4	2.5	1.6	3.8	3.8	2.9	2.9
Construction	10.5	3.1	8.1	0.2	4.6	3.9	5.2
Buildings	8.1	1.4	9.0	(7.9)	7.1	2.1	10.9
Civil works	13.4	4.7	6.5	7.1	3.2	5.4	0.4
Retail, repairs, restaurants and hotels	5.1	4.6	3.5	4.7	3.8	4.1	2.7
Transport, storage and communication	4.7	2.6	0.4	2.2	0.7	1.4	1.8
Financial, real estate and corporate services	5.7	4.8	3.8	4.2	4.3	4.3	3.8
Social, community and personal services	5.2	2.4	2.5	3.4	3.5	2.9	1.7
Subtotal –value added	4.3	2.5	2.9	3.0	3.4	3.0	2.5
Taxes minus subsidies	5.6	4.1	4.0	4.6	3.4	4.0	2.3
GDP	4.4	2.7	3.1	3.1	3.4	3.1	2.5

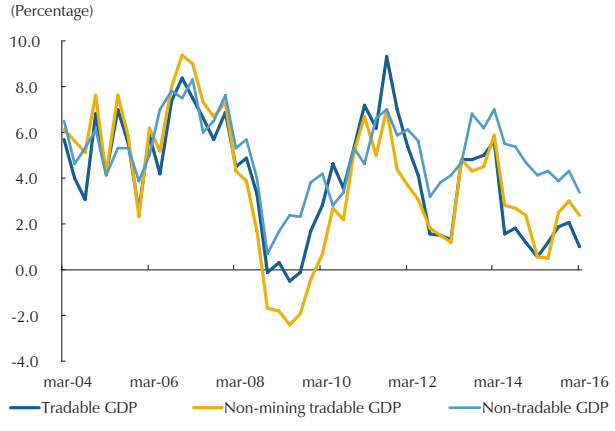
Source: DANE; calculations by Banco de la República .

Industry performed well (better than the rest of the economy combined), largely because of the increase in oil refining (20.6%). Although Reficar is still not operating at full capacity, this sub-branch contributed positively to the growth in manufacturing industries and GDP. Beverage production also posted a double-digit increase (16.5%), thanks to more domestic demand for products of this type during the high temperatures brought on by El Niño weather. Other sub-branches, such the manufacture of coffee products and coffee processing (8.1%), basic metal products (8.4%) and furniture production (7.6%), also rose significantly. It is worth noting that performance in the sector is extremely mixed: cutbacks were observed in eight out of twenty-eight subsectors, such as machinery and equipment manufacturing (-8.0%), other manufactured goods (-6.0%) and the manufacture of textile products (-2.6%).

Building construction was the best performing part of the construction industry (10.9%), with important contributions from both the residential (13.6%) and non-residential (10.5%) segments. The annual increase in civil works was just 0.4%. Yet, despite the slowdown in this sub-branch compared to the figure observed at the end of 2015, its levels are still high.

The performance of other sectors mirrored the shocks that hit the Colombian economy during the first three months of the year. In fact, the slowdown in agriculture, due to less growth in coffee products (7.9%) and a decline in the output of other agricultural goods (-2.9%), occurred in a situation where harvests and the supply of a number of agricultural products were affected by El Niño weather. The contraction in mining and quarrying was the result of reported cutbacks in the segments producing coal (-7.3%) and crude oil and natural gas (-5.9%).

Graph 22
GDP in the Tradable, Non-mining Tradable and Non-tradable Sectors
(Annual growth)



Source: DANE; calculations by Banco de la República .

Hence, tradable and non-tradable GDP slowed in this environment, the former more so than the latter. The annual increase in tradable GDP went from 2.1% in the fourth quarter of 2015 to 1.0% in the first quarter of 2016. When mining is excluded, growth in the other segments of tradable GDP comes to 2.4% (vs. 3.0% the quarter before). Non-tradable GDP increased at an annual rate of 3.4% in the first three months of 2016, following a 4.3% rise towards the end of last year (Graph 22).

B. SECOND-QUARTER GDP IN 2016

The figures at hand for the second quarter suggest the Colombian economy would have continued to adjust in a gradual and orderly manner to the decline in terms of trade and national income. In this report the forecast for GDP annual growth during the second quarter is similar to what it was registered in the first. This would have occurred in a context where terms of trade would have remained low, but somewhat higher than they were earlier this year, and the exchange rate appreciated relative to the level observed during the first quarter. It is important to point out that the forecasts presented in this report include the positive impact of the calendar effect on GDP growth, given a higher number of working days in that quarter and the Easter holiday in March, as noted already. While the second-quarter GDP growth forecast presented in this report is less than the increase registered in 2015 and the average calculated since 2001, the job market indicators at hand show no serious deterioration in employment or working conditions (see the shaded section on page xx).

The Colombian economy's gradual and orderly adjustment to lower terms of trade and less growth in national revenue seems to have continued during the second quarter.

The second-quarter growth forecasts for 2016 point to somewhat more of an increase in domestic demand than during the first quarter. A breakdown of the components of domestic demand shows investment would have declined year on year, but less so than in the first three months of 2016.

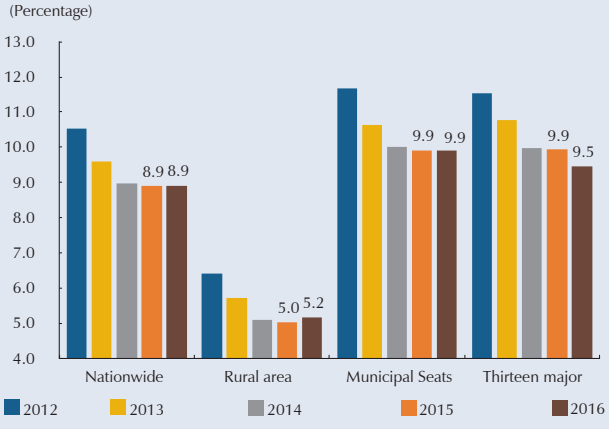
The increases in the unemployment rate (UR) during the first quarter were reversed in the second. However, the UR reductions were based on a drop in job market participation.

The UR in the moving quarter ended in June remained constant relative to the same period last year: 8.9% nationwide and 9.9% in the country's urban areas. The rural UR rose slightly to 5.2% during the same period, while the rate in the thirteen major metropolitan areas declined to 9.5% (Graph A).

When discounting the seasonal effect to the moving quarter ended in June, both the nationwide UR and the UR in the thirteen major metropolitan areas registered declines during the second-quarter (Graph B). The reduction has been particularly pronounced in the thirteen major metropolitan areas, with the UR at June being similar to the lows reached in late 2014 and early 2016. However, the UR nationwide is still trending slightly upward.

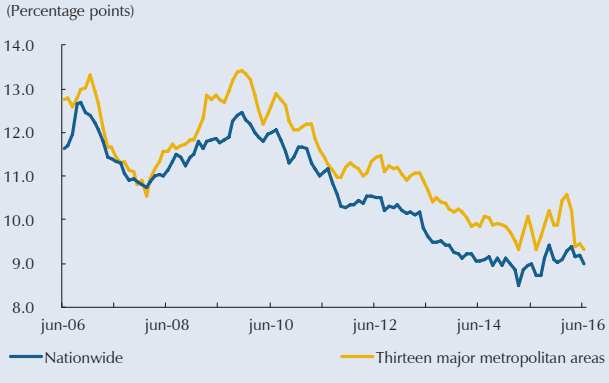
The recent drop in the UR is due to less labor participation, as represented by the overall labor force participation rate (OPR). Although the employment rate (ER) is down as well, it has declined more slowly than the OPR, thereby resulting in a lower UR (Graph C). The ER reduction is explained by less growth in the number of employed, which came to 0.6% annually nationwide and 0.5% in the thirteen major metropolitan areas during the moving quarter ended in June (Graph D, panels A and B).

Graph A
Unemployment Rate
(January-February-March moving quarter)



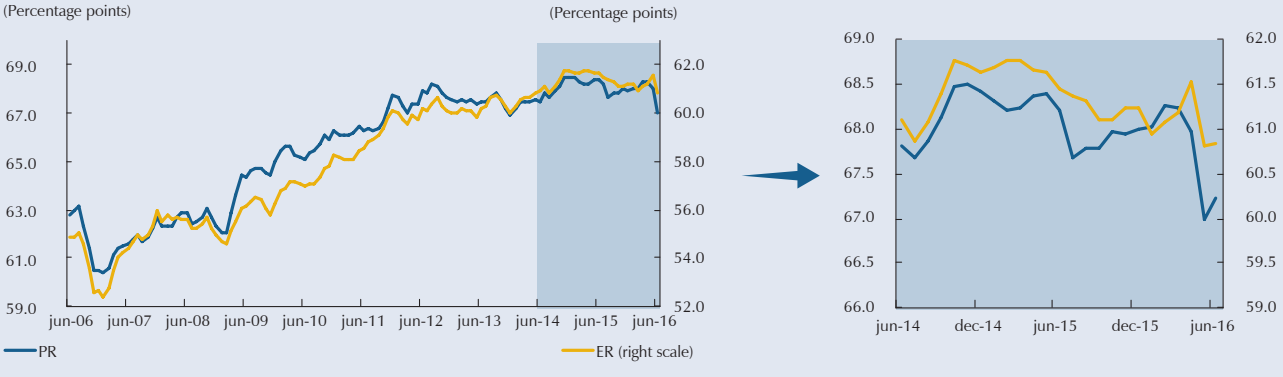
Source: DANE, Fedesarrollo; calculations by Banco de la República.

Graph B
Unemployment Rate
(Seasonally adjusted moving quarter)



Source: DANE (GEIH).

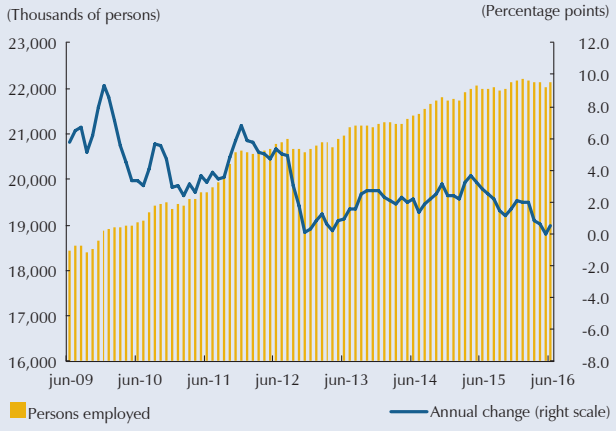
Graph C
Participation Rate (PR) and Employment Rate (ER)
(Seasonally adjusted, thirteen major metropolitan areas)



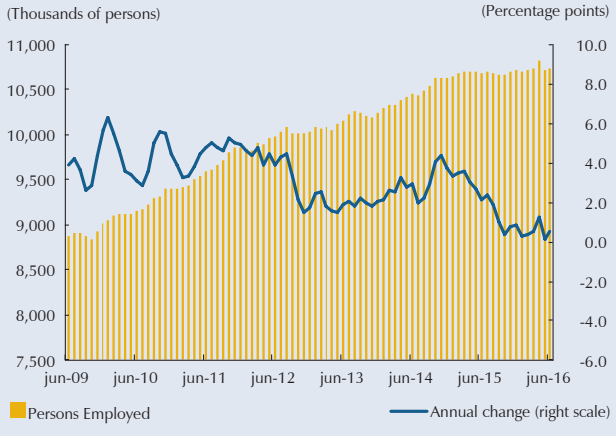
Sources: DANE (GEIH); calculations by Banco de la República

Graph D
Number of persons Employed and Annual Change

1. Nationwide Total

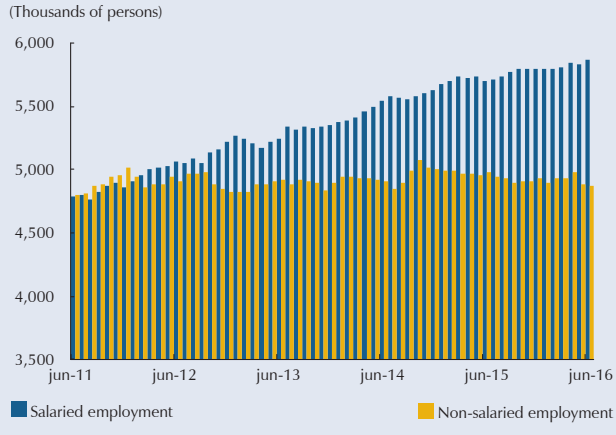


2. 13 Major Metropolitan Areas



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

Graph E
Employment, by Type of Occupation
(Thirteen major metropolitan areas, seasonally adjusted moving quarter)



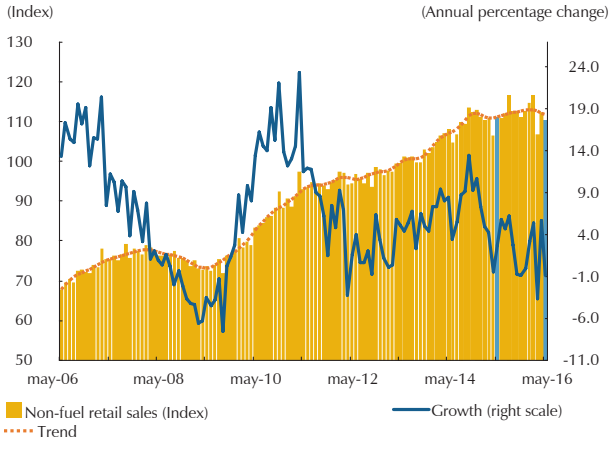
Sources: DANE (GEIH); calculations by Banco de la República

The lower employment growth rate is due to unsalaried workers, since salaried employment continued to increase. In fact, it rose at an annual rate of 2.9% during the April-June moving quarter, while non-salaried employment was down by 2.2% (Graph E).

Private consumption appears to have increased at a slightly lower rate than in the first quarter, given the drop in the durable component of household consumption and somewhat of a slowdown in the nondurable and service components. The rise in inflation would have continued to erode the purchasing power of household income, thereby affecting private consumption in real terms.

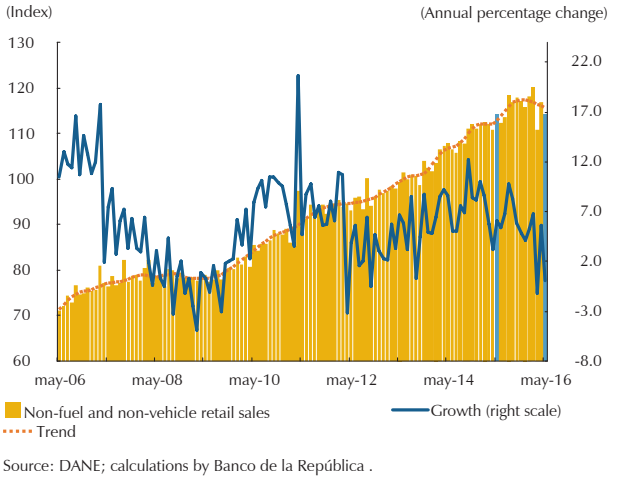
Government consumption would have experienced low growth, similar to the rate observed in the first quarter. This would be consistent with the adjustments in the national government's fiscal accounts and with the increase in local and regional government spending, which remains limited. Net exports would have contributed to the rise in GDP: the growth in exports would have benefitted from the increase in foreign sales of nontraditional goods and services, while imports would have declined in keeping with the behavior forecast for consumer durables and investment in tradable capital goods.

Graph 23
Monthly Retail Trade Survey
(Total Non-fuel Retail Sales, Seasonally Adjusted)



Source: DANE; calculations by Banco de la República .

Graph 24
Monthly Retail Trade Survey (Total Non-fuel and Non-vehicle Retail Sales, Seasonally Adjusted)



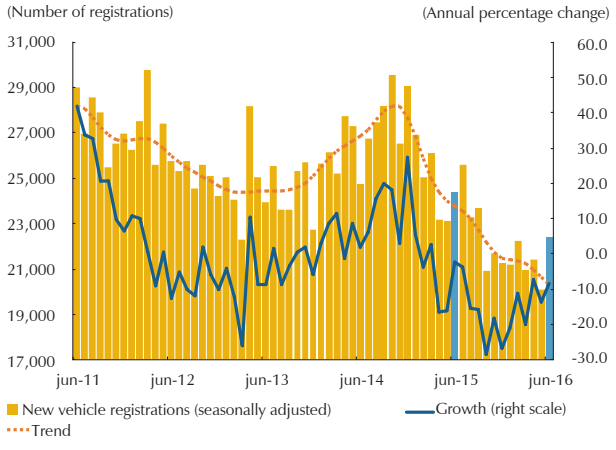
Source: DANE; calculations by Banco de la República .

This outlook is based on short-term indicators. The non-fuel retail sales index from the DANE Monthly Retail Trade Survey (EMCM by its acronym in Spanish) was down 0.8% relative to the same month in 2015. The April-May aggregate rose 2.3% year on year, accelerating from 1.5% in the first three months of 2016 (Graph 23). Discounting vehicle sales, the annual increase in the index for the rest of the aggregate came to 0.1% during the same month and 2.7% in April-May, which is less than the first-quarter growth in the aggregate, when the index rose by 3.5% annually.

In May, the increase in automobile sales was almost nil. The vehicle retail sales index from the EMCM rose by only 0.1% annually during that month. The aggregate for the two months fell -0.3% relative to the same period last year, which meant better performance compared to -9.3% in the first quarter of the year. The automobile registration figures published by the Colombian Automotive Committee [10] verify the drop in vehicle sales.

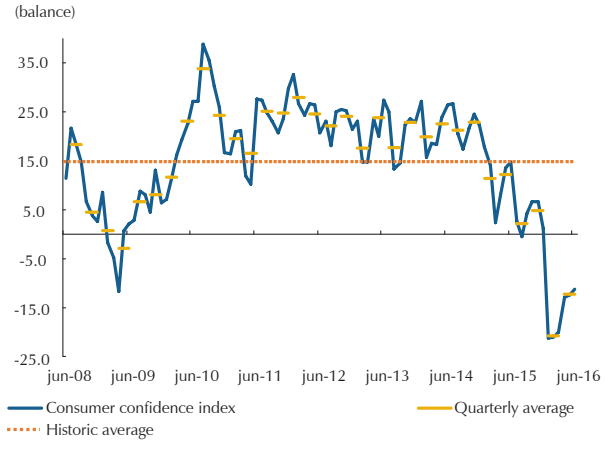
10 Comprised of the National Confederation of Merchants (Fenalco), the National Business Association of Colombia (ANDI) and Econometría S.A., which is a consulting firm.

Graph 25
New Vehicle Registrations
(Seasonally adjusted series)



Source: Colombian Automotive Committee (ANDI, Fenalco and Econometría); calculations by Banco de la República

Graph 26
Consumer Confidence Index and Quarterly Average



Source: Fedesarrollo.

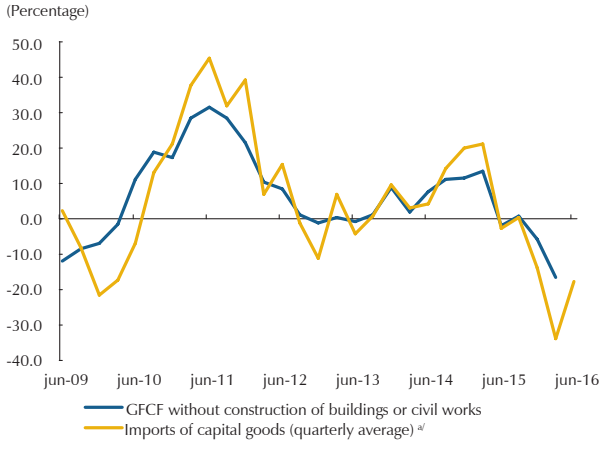
Indeed, vehicle registrations were down 8.4% annually by June (Graph 25), bringing the decline in the aggregate to -9.8% during the second quarter, which is less of a reduction than the decline observed in the first three months of 2016 (-17.5%). It is important to point out that these reductions applied to private vehicles (consumer durables) as well as those for commercial use (investment in transport equipment), but were higher for this last market segment.

At the same time, other auxiliary indicators that are somewhat related, in principle, to household consumption growth point to a slowdown in this GDP component during the second quarter. In fact, the June consumer confidence index (ICC by its acronym in Spanish) published by Fedesarrollo showed no significant changes relative to the index in May and April (Graph 26). Although the aggregate was slightly higher in the second quarter than in the first, it is still well below the average calculated for the series since November 2001. Even though the correlation between the two has weakened in recent quarters, the foregoing would suggest the growth in household consumption during the second quarter would have stayed below the figure observed in the first quarter and been less than the average for 2015.

The results of the May edition of Banco de la República's the monthly survey of economic expectations (EMEE by its acronym in Spanish) imply something similar. The sales balance in that survey points to a slight slowdown in private consumption during the second quarter of 2016.

The slower growth in household consumption anticipated for the second quarter might also be explained by the deceleration in lending and the rise in interest rates. Indeed, consumer loan portfolio growth (real) was 3.22% between April and June, which is less than the figure observed at the start of 2016 (3.67% growth in the first quarter). The cost of consumer loans increased as well. Interest rates, in real terms (deflated by the consumer price index), rose in the margin. These circumstances, in a situation of rising inflation, limit the increase in real disposable household income.

Graph 27
Imports of Capital Goods for Industry and Transport Equipment (Real) and GFCF Excluding construction of buildings and Civil Works
(Annual change)



Note: The figure for March is a projection based on preliminary data obtained from DIAN.
a / Figures expressed in real terms, as calculated by Banco de la República.
Sources: DANE (national accounts and foreign trade)

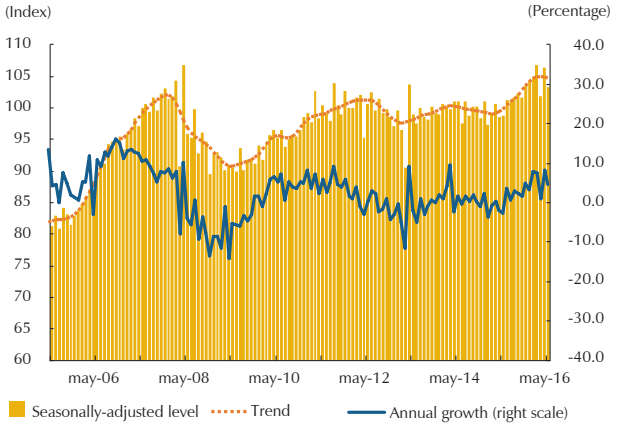
As for gross capital formation, the indicators at hand suggest investment (other than building construction and civil works) would have decline slightly less than during the first quarter. In principle, the import figures on capital goods, in constant pesos, make it possible to anticipate less of a contraction in investment in machinery and equipment and in transport equipment during the second quarter of 2016 (Graph 27). This seems to have occurred in a context where, despite less acute annual declines in the terms of trade, investment decisions in the oil-mining industry and in other sectors continued to be affected by low international prices for Colombia's export commodities and by nominal depreciation in the exchange rate.

The forecast for investment in buildings and civil works points to more growth than would have been observed for the other GDP items. In the first case, despite less spending by local and regional governments (due to the effect of the political cycle), the base for the same period last year is relatively low. In the second case, the trend in building permits suggests this item performed well during the second quarter.

With respect to foreign trade, real exports are expected to increase during the second quarter, as suggested by the export figures in dollars, once expressed in constant pesos. Exports cataloged as non-traditional would partially offset the poor performance of traditional exports, particularly in the mining sector. Moreover, service exports would have remained buoyant during this quarter, as was the case in the first three months of the year. In terms of imports, one sees reductions in the aggregate for the second quarter when the figures on imports in dollars are expressed in constant pesos. These declines would have been mainly in capital goods and consumer durables, consistent with the way non-construction investment and the consumption of durables would have behaved during the period.

On the supply side, the indicators at hand suggest second-quarter performance in the various branches of the economy this year has been mixed, which would indicate growth similar to what was witnessed in the first three months of year. The best news comes from the manufacturing industry, while agriculture and retail have shown less momentum. Mining, in contrast, continued to deteriorate considerably.

Graph 28
Total Real Manufacturing Industry Production
(Seasonally adjusted series, trend component and annual growth)



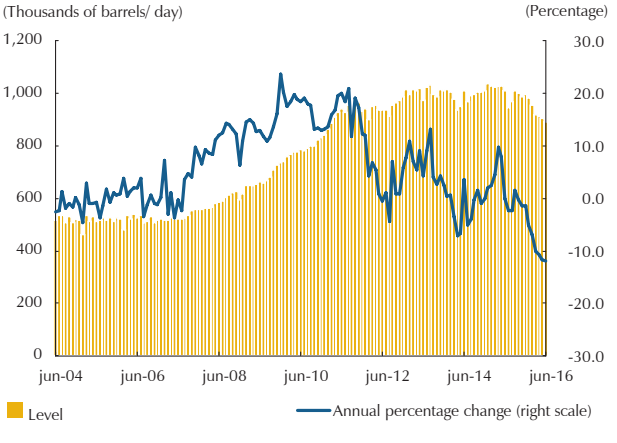
Source: DANE; calculations by Banco de la República .

The performance of manufacturing has been outstanding and well beyond the growth of the economy as a whole. However, this situation was due mainly to the reopening of Reficar.

When oil refining is excluded, industry grew as well but at a lower annual rate. It is important to mention the effect accumulated depreciation of the peso has had on tradable sectors such as readymade apparel, textile products and leather goods. According to the DANE Monthly Manufacturing Survey (MMM by its acronym in Spanish), the sector as a whole grew 4.5% in May and, if oil refining is excluded, growth for the rest of manufacturing was 0.7%. The increase in manufacturing overall and manufacturing without oil refining came to 6.3% and 3.2%, respectively, in the two-month period from April through May. So far this year, industry as a whole would have grown 5.8% as opposed to 2.8% without oil refining (Graph 28).

Including the data up to June, the Fedesarrollo Business Opinion Survey for the industrial sector showed further improvements in the indicator of orders and in inventories. The indicator of expectations rose in quarterly terms, but dropped in June. It is worth noting that the volatility of the indicator has increased in recent months; coupled with the latest drop, this makes it difficult to decipher the trend in the series. In all, industrial confidence rose during the second quarter compared to the level observed in the first three months of the year. Something similar is clear from the Business Opinion Survey conducted by the National Business Association of Colombia (ANDI by its acronym in Spanish), which shows use of installed capacity is near its historical average and the business climate has improved. In this last source, industries reported their major problems are the exchange rate, raw material costs and less demand.

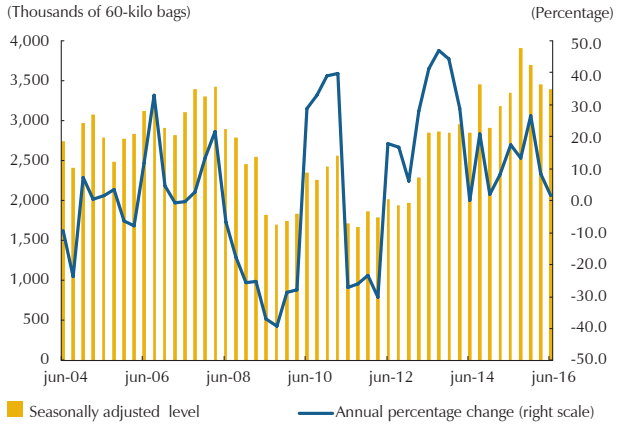
Graph 29
Oil Production
(Level and annual growth)



Sources: Agencia Nacional de Hidrocarburos (ANH); calculations by Banco de la República

According to figures released by the Colombian Mining Association (ACM by its acronym in Spanish), coal production during the course of the year to June came to 38 million tons, which implies an annual contraction of approximately 9.4%. In quarterly terms, the drop in the sector would be around 11%. At the same time, oil production continued to decline at a faster rate and

Graph 30
Coffee Production
(Quarterly and annual growth)



Sources: Federación Nacional de Cafeteros; calculations by Banco de la República

to levels below a million barrels per day: 902 thousand barrels per day (mbd) as opposed to 951 mbd and 993 mbd in the immediately preceding quarters. In quarterly terms, crude oil production was down by 11.5%. In June, it reached the lowest level on record since 2011 (Graph 29).

According to the National Federation of Coffee Growers (Federación Nacional de Cafeteros), the expansion in coffee production slowed from 8.9% in the first three months of 2016 to 1.1% in the second quarter. However, it says the sector continued to exhibit good growth, with monthly production averaging over one million sacks (Graph 30). Livestock slaughter continued to show weak performance, having increased by 0.3% in April-May, after a slight contraction of 0.1% in the first three months of the year. Furthermore, the impact of El Niño weather on transitional crops is uncertain.

Considering all of the foregoing factors, annual GDP growth in the second quarter of 2016 is likely to be slightly higher than the figure on record for the aggregate in first three months of the year. The technical staff at Banco de la República expects economic growth to be somewhere between 2.0% and 3.2%, with 2.6% being the most likely figure. This broad forecast range is consistent with the uncertainty surrounding the performance of government consumption and civil works, among other factors.

III. Recent Developments in Inflation

Annual consumer inflation continued to rise during the second quarter and exceeded the forecasts outlined in the previous edition of the *Inflation Report*.

The average of the core inflation indicators also continued to trend upward and stayed above the target set by the Board of Directors of Banco de la República.

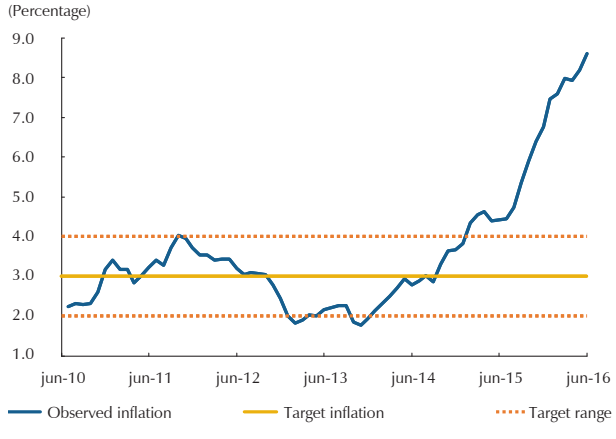
Food prices remained affected by supply shocks that were stronger than anticipated in previous editions of this report.

Although there were no major changes in the exchange rate, the depreciation witnessed in previous quarters continued to push up consumer prices during the second quarter of 2016

The activation of various indexation mechanisms also was a source of inflationary pressure.

Annual consumer inflation during the second quarter remained on an upward trend that was more pronounced than anticipated in the previous quarterly report and exceeded the average rate forecast by market analysts. The figure for June was 8.60% (62 basis points more than in March), while the increase accumulated in the first six months came to 5.10% (Graph 31 and Table 6).

Graph 31
Total Consumer Inflation



Sources: DANE and Banco de la República.

As has been the case since last year, consumer inflation during the second quarter continued to be affected by supply shocks in the agricultural sector and by the pass-through of accumulated peso depreciation. In addition to these factors, which generally have transitory effects on inflation, there are more permanent pressures derived from these phenomena, as a result of rising expectations and the activation of various indexation mechanisms.

Table 6
Consumer Price Index (CPI) and Core Inflation Indicators
(Annual change)
(At June 2016)

Description	Weigh	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
Total	100.00	6.77	7.45	7.59	7.98	7.93	8.20	8.60
Non-food	71.79	5.17	5.54	5.88	6.20	6.02	6.07	6.31
Tradables	26.00	7.09	7.39	6.97	7.38	7.57	7.88	7.90
Non-tradables	30.52	4.21	4.46	4.86	4.83	5.00	4.78	4.97
Regulated items	15.26	4.28	5.02	6.35	7.24	5.78	6.00	6.71
Food	28.21	10.85	12.26	11.86	12.35	12.63	13.46	14.28
Perishables	3.88	26.03	31.31	27.42	27.09	28.62	33.44	34.94
Processed	16.26	9.62	10.22	10.26	10.83	10.89	11.04	12.09
Eating-out	8.07	5.95	6.78	7.09	7.53	7.53	7.92	8.11
Core inflation indicators								
Non-food		5.17	5.54	5.88	6.20	6.02	6.07	6.31
Core 20		5.22	5.56	6.25	6.48	6.69	6.55	6.82
CPI excluding perishable foods, fuel and public utilities		5.93	6.13	6.41	6.57	6.72	6.61	6.77
CPI excluding food and regulated items		5.42	5.69	5.75	5.91	6.08	6.08	6.20
Average of all the indicators		5.43	5.73	6.07	6.29	6.38	6.33	6.52

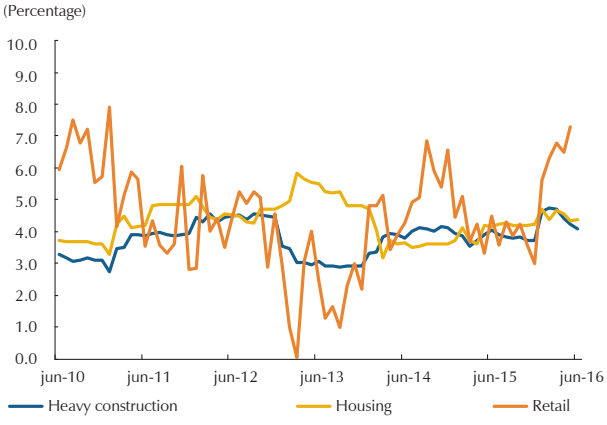
Source: DANE; calculations by Banco de la República .

The past three months saw an increase in inflationary pressures that were concentrated, once again, on food. Prices for these products were affected primarily by the latest episode of El Niño weather, which reduced agricultural yields and delayed investment decisions in the farming sector. There were other shocks as well, such as the recent truckers' strike and the livestock retention cycle. Their effects were not included in the central forecast presented in the March quarterly report.

Although the peso appreciated during the second quarter relative to the levels observed earlier this year, annual peso depreciation remained high (17.1% in June) and continued to pass through to consumer prices in Colombia. Accordingly, it was still the number two source of upward pressure. Given the lag with which pass-through operates and its impact on costs, the price hikes attributed to this phenomenon have been felt in a wide range of goods and services in the CPI, not only in the tradable sub-basket.

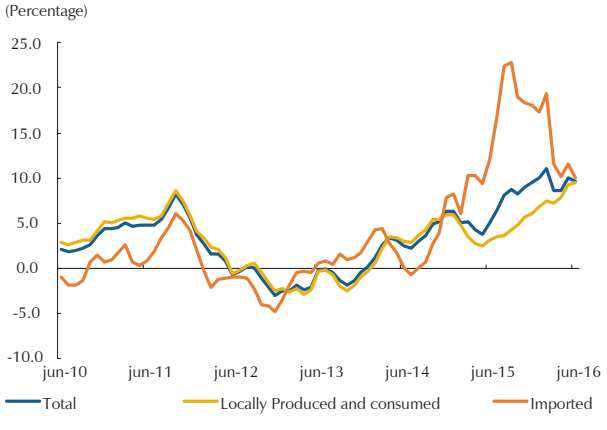
The third-ranking factor behind the acceleration in inflation during the last three months was price and wage indexing to match past inflation. These increases can be interpreted as second-round effects of the supply shocks mentioned earlier. Identifying the extent to which indexing raises inflation is not easy, since the price hikes it generates are intertwined with increases

Graph 32
Nominal Wages
(Annual change)



Source: DANE; calculations by Banco de la República .

Graph 33
PPI, by Origin
(Annual change)



Source: DANE.

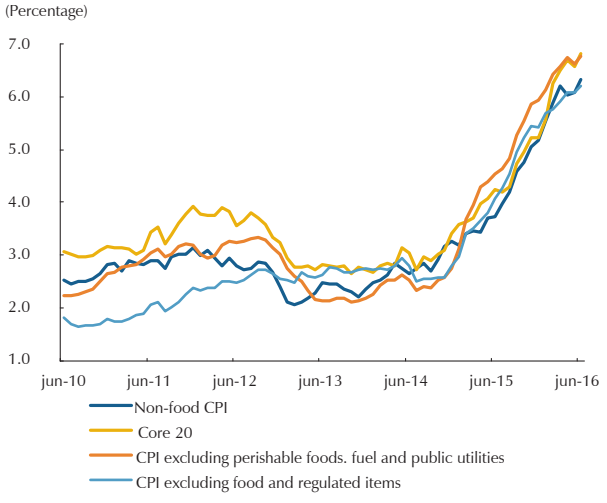
attributed to other causes. However, the set of products affected by indexing can be described as large. Various non-tradable services (excluding food and regulated items) such as education, health and leases are affected the most, although the impact of indexing also is perceived in the prices of tradables (excluding food and regulated items), regulated items and food.

In the case of wage costs, the information at hand suggests they have begun to adjust so far this year and in some sectors at higher rates than in previous years, which is consistent with the hike in inflation and the minimum wage. As a result, the figures at May show an annual increase of 7.3% for wages in retail and 6.0% for those in the manufacturing industry. However, in the case of construction, the June figures indicate the pace of adjustment remained relatively low: 4.1% for heavy construction and 4.4% for housing (Graph 32). Given the foregoing, it is so far impossible to rule out the possibility that a portion of the consumer price hikes witnessed in recent months stem from a rise in wage pressures.

Non-labor cost pressures tended to increase during the second quarter of 2016, in line with the annual change in the PPI for domestic supply (the prices of goods produced and consumed inside the country and imports), which reached 9.64% in June. This is near what it was last December (9.57%), but higher than in March (8.56%) (Graph 33). The new rise in annual producer inflation was concentrated in the IPP for goods produced and consumed inside the country (with an annual variation that went from 7.27% in March to 9.49% in June). This increase was mainly a result of price hikes for agricultural products and, to a lesser extent, products of industrial origin. In contrast, the change in the PPI for imports during the last twelve months declined from 11.50% in March to 9.99% in June, reflecting appreciation in the exchange rate between March and May.

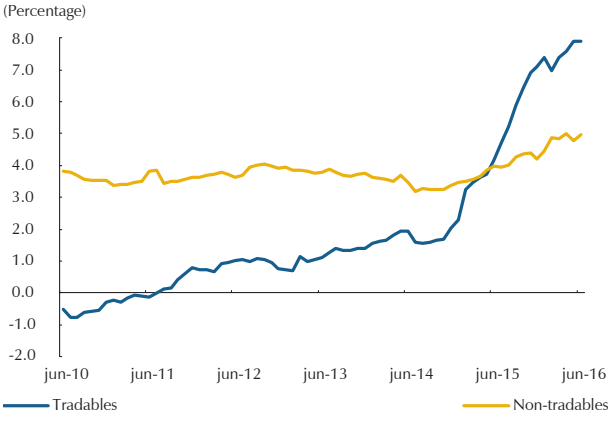
Demand-side pressures on prices were contained during the second quarter, as in the first. Domestic demand has slowed down so far this year and its growth rate is below its average for the past twelve years, as explained in Chapters II and IV of this report. Moreover, estimates show the output gap would have entered into negative territory during the first half of 2016, which indicates the economy is more likely to begin to exhibit a certain amount of excess of productive capacity.

Graph 34
Core Inflation Indicators



Source: DANE; calculations by Banco de la República .

Graph 35
CPI for Tradables and Non-tradables Excluding Food and Regulated Items
(Annual change)



Source: DANE; calculations by Banco de la República .

A. CORE INFLATION

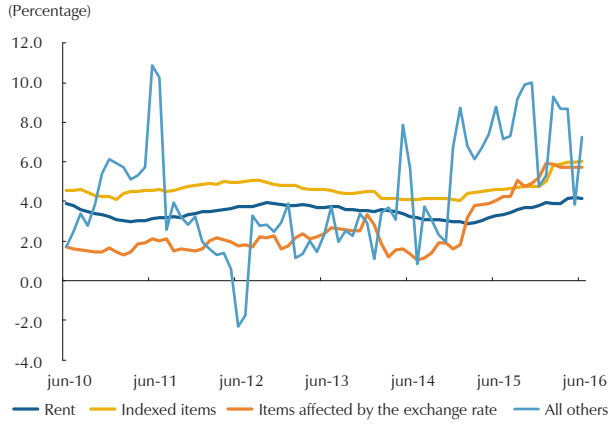
Core inflation was still on the rise at the end of the second quarter of 2016, continuing the upward trend that began in late 2014; however, the increase was less pronounced than during the first quarter. By June 2016, the average of the four indicators monitored by Banco de la República came to 6.52%, as opposed to 6.29% in March. The largest increase was in the Core 20 (6.82%); the lowest was in the CPI excluding food and regulated prices (6.20%). The non-food CPI ended the first half of the year at 6.31% compared to 6.20% in March (Table 6, Graph 34).

The rise in the non-food CPI during the last three months was due mainly to increases in the tradable CPI excluding food and regulated items. This index posted an annual variation of 7.90% by June (Table 6, Graph 35). The higher level indicates accumulated depreciation in the exchange rate continued to pass through to consumer prices during the past year and a half, despite the appreciation observed throughout much of the second quarter.

As acknowledged in a number of studies, it tends to take two to three quarters for exchange-rate volatilities to pass through to the CPI in Colombia. The peso depreciated 80.67% against the US dollar during the period from July 2014 up to the ceiling reached by the exchange rate in February 2016, while the cumulative increase in the tradable CPI excluding food and regulated items through June 2016 came to 12.53%. This is equivalent to an elasticity of 16.0% in prices of tradable goods to the exchange rate. Accordingly, pass-through to these prices has been greater in the current episode of depreciation than during the episodes in 2006 and 2008-2009, but less than during the episode between 2002 and 2003.

Non-tradables excluding food and regulated items was the other sub-basket that pushed up the non-food CPI, although to a lesser extent than tradables. The annual variation in this index was 4.97% by June, compared to 4.83% in March (Table 6 and Graph 34). The performance of the main components of this sub-basket was mixed. Leases, the only component that increased, reached 4.17% in June (27 bp more than in March) (Graph 36). In this case, the indexation mechanism based on past inflation likely is beginning to operate (Article

Graph 36
Annual Non-tradable Inflation
(Annual change)



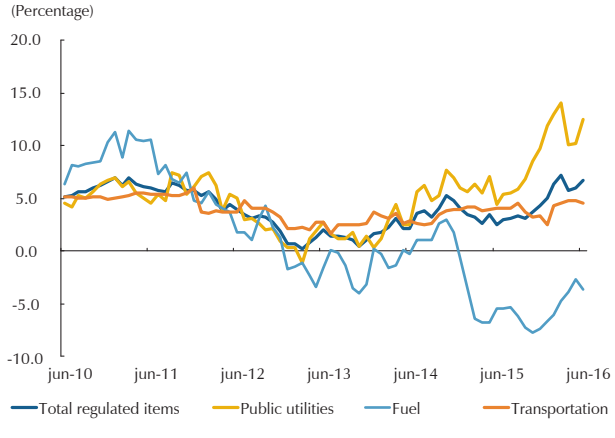
Source: DANE; calculations by Banco de la República .

20 of Law 820 dated July 10, 2003), something that was not evident in the first quarter of the year. The sub-groups comprised of indexed items (6.02%) and those affected by the exchange rate (5.75%) saw no significant changes in the past three months.

Besides indexation, another explanation for the acceleration in the non-tradable CPI is accumulated depreciation, which has raised some prices, either directly or indirectly (through costs). On the other hand, as mentioned earlier, the hikes in this segment of the CPI during the year to date occurred in the absence of significant demand-side pressures, except perhaps those that could have been registered in the cities bordering Venezuela and Ecuador, given the large influx of buyers from those countries in recent months.

Contrary to the situation with tradables and non-tradables excluding food and regulated items, the annual change in the regulated CPI declined in the most recent quarter, from 7.24% in March to 6.71% in June (Table 6 and Graph 37). This drop, which was not forecast in the previous report, was led by utilities (with an annual adjustment of 12.5% in June versus 14.0% in March), particularly by cuts in the domestic price of natural gas for residential use and, to a lesser extent, in electricity prices. These reductions are associated mostly with the fact that problems in the energy sector were overcome, specifically those caused by El Niño weather and by a halt in operations at several hydroelectric plants, which reduced the demand for natural gas to generate thermal energy and lowered the rates charged to households. In the case of electricity, the decline in the pace of price adjustments also includes the rate reductions granted to households through the energy-saving program being promoted by the national government.

Graph 37
CPI for Regulated Items and Components Thereof
(Annual change)

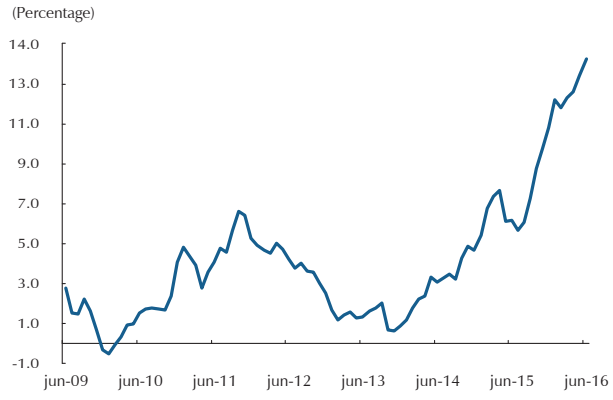


Source: DANE; calculations by Banco de la República .

Even so, water, sewage and garbage collection rates did increase as a result of indexation. They were readjusted in the second quarter, as soon as the amount of consumer inflation accumulated since the last rate hike reached 3.0%.

The other two components of the regulated CPI (gasoline and public transportation) had little impact on inflation during the quarter. However, in the case of gasoline and contrary what happened in the first quarter, some price hikes did occurred

Graph 38
Food CPI
(Annual change)



Source: DANE; calculations by Banco de la República .

that might be associated with the increase in international fuel prices during this period (Graph 37).

B. THE FOOD CPI

The annual change in the food CPI has been trending upward since August 2015, and the second quarter of 2016 was no exception. At the end of the first half of 2016, the annual adjustment in this group (14.28%) exceeded figure in March (12.35%) (Graph 38). Once again, the outcome surpassed the projections outlined in the previous edition of this report.

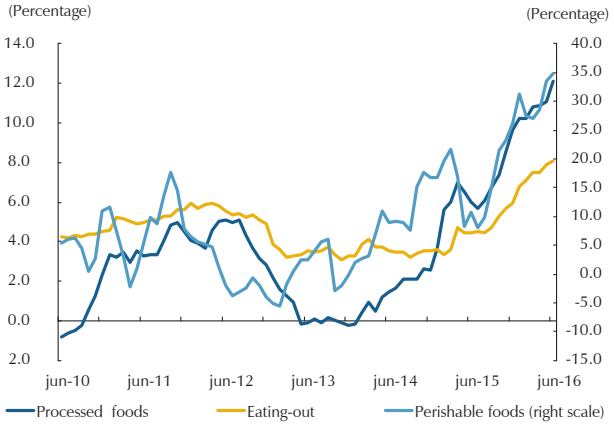
As in the two previous quarters, food prices continued to rise during the period in question, largely because of the effects of El Niño weather, which were felt between the third quarter of 2015 and the second quarter of 2016. This phenomenon, one of the strongest on record, lowered productivity in the agricultural and cattle sectors and delayed decisions on planting new crops, all of which had more of an impact on prices than anticipated.

Other unanticipated supply shocks, in addition to El Niño, occurred in the last three months. Such is the case of the farmers' strike in early June and particularly the truckers' strike, which lasted for more than a month, up until the third week of July. Both strikes further jeopardized the supply of food in Colombia's major cities, which was already undermined by El Niño weather.

During the second quarter, the main effect of these supply shocks, including El Niño weather, was again felt in the CPI for perishable foods (vegetables, fruits and tubers). The annual change in this index came to 34.9% in June versus 27.1% in March (Table 6, Graph 39).

El Niño and the truckers' strike affected other prices as well, such as those for beef, which is part of the processed food sub-basket. The rise in the CPI for beef in recent months has been substantial (11.36% in the second quarter) and can be attributed to reduced livestock productivity, as a result of less rainfall due to El Niño, and to the decline in available supply in urban centers because of the truckers' strike. There also is information that suggests the Colombian cattle industry is in a holding phase, which usually is characterized by sharp reductions in livestock slaughter that generate price hikes during several quarters.

Graph 39
Food CPI, by Groups
(Annual change)



Source: DANE; calculations by Banco de la República .

Accordingly, the processed food sub-group raised the food CPI significantly, not only during the second quarter but also so far this year. The annual change in the CPI for processed food increased from 10.8% in March to 12.1% in June. In addition to the factors mentioned already with respect to beef, this upward trend also was fueled by peso depreciation and by some of the hikes in international food prices witnessed during part of the second quarter this year. Both these variables pushed up the prices of food imported by Colombia or food with a high percentage of imported input, predominately fats, oils and cereals.

The price hikes for food and utilities, the wage increases and a degree of indexation have kept up the pressure on the CPI for eating out items, which is an important component of the consumer basket and the food CPI (accounting for 8.07% and 28.61%, respectively). The annual change came to 8.1% in June versus 7.5% in March (Table 6 and Graph 39).

Box 1
EXCHANGE-RATE AND INFLATIONARY DISTURBANCES IN COLOMBIA[1]

[1] Hernán Rincón-Castro
and Norberto Rodríguez-Niño*

1. Introduction

Abrupt and sudden movements in the exchange rate are a cause for concern among monetary authorities, because they can jeopardize compliance with the inflation target as a result of higher import and other prices in the economy, and given their impact on inflation expectations. This concern has been evident since July 2014, when the peso depreciated sharply. That depreciation peaked in February 2016 and coincided with the collapse of oil prices. Between those two dates, the representative market exchange rate (TRM by its acronym in Spanish) increased 81% and the consumer price index (CPI) rose 11%.

It is, therefore, essential to look at how, how much, and in what time frame disturbances in the exchange rate are passed through to prices all along the distribution chain in the economy. In other words, it is important to analyze what is referred to in the literature as "exchange rate pass-through" on prices, and to assess what variables affect the degree of that pass-through. Consequently, given the significance of this issue for Banco de la República, the purpose of this section is to answer these questions through the use of advanced econometric techniques and monthly statistics on the Colombian economy for the 2002-2015 period.

Recent theoretical and empirical literature highlights the fact that the degree of exchange-rate pass-through to prices is less than proportional, because it depends on the market power of importing companies and producers in the domestic market, the degree of price rigidity in the economy, the sign, size, volatility and nature of fluctuations in the exchange rate (temporary versus permanent), and the state of the economy. To control for the latter, we use measures of the output gap, the degree of real exchange-rate misalignment, the degree of economic openness, accelerating inflation, etc. Then, we define two regimes (high and low) for each of them, and estimate the degree of pass-through in each case.

2. Channels of Exchange-rate Pass-through on Prices

Fluctuations in the peso exchange rate are passed through on prices all along the distribution chain. This occurs through at least three channels: two direct and one indirect (Diagram B1.1). The first channel operates via the direct impact of exchange-rate disturbances on the prices of imported goods (input and capital goods) and, from there, on producer costs and prices, which ultimately affect the CPI.

The second direct channel acts on the prices of imported consumer goods (imported consumer channel), which press directly on the CPI. This channel also manifests itself through an increase in demand for domestic goods that compete with imported ones. This raises their prices and, eventually, will exert upward pressure on CPI inflation.

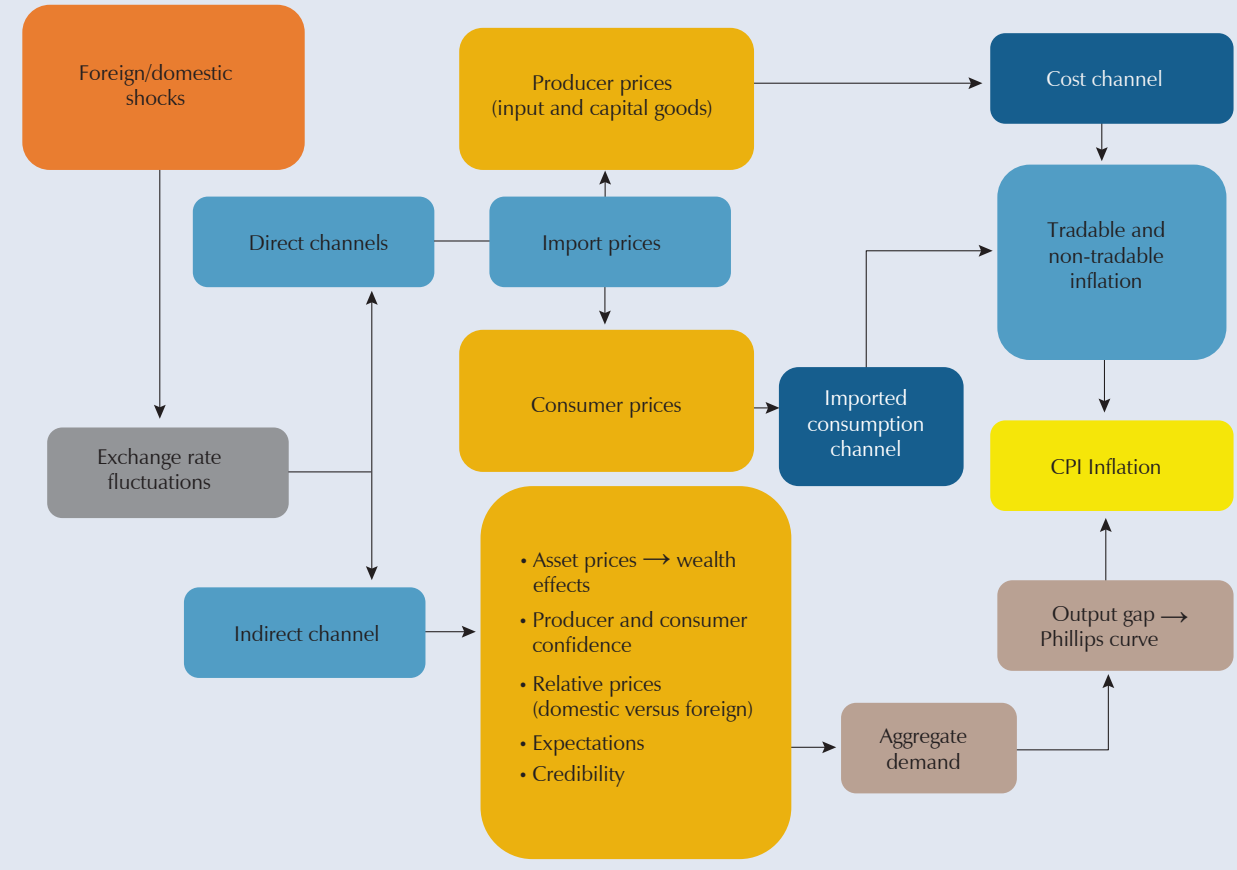
As mentioned, the degree of pass-through by way of these channels will depend on factors such as the market power of importing companies and producers in the domestic market and how fast and expensive it would be for them to change prices, since the higher the cost, the less frequent these changes are.

The indirect channel operates through multiple mechanisms and disturbances that affect aggregate demand and, with it, aggregate supply and the CPI (the Phillips curve mechanism). These mechanisms include asset prices, relative domestic prices versus external ones, business and consumer confidence, and business and consumer expectations in the face of these changes. Obviously, the behavior of these variables and their impact on CPI inflation is subject to the way monetary authorities react in an effort to comply with their inflation target.

* Mr. Rincón-Castro is a senior researcher with the Research Unit at Banco de la República. Mr. Rodríguez-Niño is an econometrist with the Department of Macroeconomic Models at Banco de la República. The opinions expressed in this section are those of the authors and imply no commitment on the part of Banco de la República or its Board of Directors.

1 This box summarizes the main results of a paper by Hernán Rincón-Castro and Norberto Rodriguez-Niño entitled "Pass-Through of Exchange Rate Shocks on Inflation: A Bayesian Smooth Transition VAR Approach" published in *Borradores de Economía*, No. 930, Banco de la República, 2016.

Diagram B1.1
Pass-through channels of exchange rate shocks on prices



Source: Rincón-Castro & Rodríguez-Niño (2016).

3. Estimate of Exchange-rate Pass-through on Prices

Charts B1.1 and B1.2, B1.3 and B1.4, B1.5 and B1.6, and B1.7 and B1.8 show the respective estimated degree of accumulated exchange rate pass-through of positive and negative variations (depreciation and appreciation) of 1.0% and 10% on import prices, producer prices, prices of imported consumption goods and the CPI, the time path (columns) and states (regimes) for the different macroeconomic variables (rows). Notice that pass-through is estimated not with respect to movements in the TRM, but by movements in the nominal effective exchange rate for the peso (nominal multilateral exchange rate for the peso, weighed by imports from our major trading partners). Each number in the tables should be read as the accumulated percent response of the i-th price to the disturbance (shock) in the exchange rate, relative to the accumulated percent response of the exchange rate to the disturbance itself up to the period indicated in the columns. Note that, when correcting by the endogenous response of the exchange rate to its own variation, the possibility of overestimating the degree of pass-through is avoided.

The first conclusion to be drawn from the results reported in the tables is that the degree of pass-through is not one to one, neither in the short and medium term, nor for all prices, including import prices. For example, the first number in the upper left corner of Table B1.1 shows that import prices in response to a sudden depreciation of the peso by 1.0%, increased by 50% of that depreciation (50 basis points) the first month after the shock. Note that, to facilitate reading the results, all the values reported in the tables are positive, regardless of the sign of the change in the exchange rate. Consequently, when there is a negative fluctuation in the exchange rate; that is, when the peso appreciates, the reported values should be interpreted as negative values.

From the results, we can summarize the estimated historic minimum and maximum degrees for the accumulated exchange rate pass-through on prices at each of

the distribution stages and at each point in time, given the "regimes" of each of the macroeconomic variables (known technically as "transition variables").Thus, the accumulated pass-through on import prices of a 1.0% positive shock in the exchange rate ranges between 48% and 52% in the first month and between 55% and 67% in the first year. The equivalent figures on producer, imported consumer and total consumer prices range from 18% to 27%, 8.0% to 14%, 6.0% to 11% in the first month, respectively, and from 27% to 46%, 19% to 42%, and 13% to 21% in the first year. The degree of minimum and maximum accumulated pass-through to the same prices in the fourth year is 43% and 76%, 20% and 65%, 25% and 68%, and 13% and 40%, respectively. When the magnitude of the disturbance increases to 10%, the results are counterintuitive, since the pass-through degree declines, except for import prices. For example, the estimated pass-through on the CPI now ranges between 2.0% and 3.0%, 5.0% and 13%, and 13% and 33% for the same periods. Finally, it is worth noting that the results clearly show the degree of pass-through takes longer and is lower the further down the distribution chain one goes.

The second conclusion is the dependence (endogeneity) of pass-through on the state of the economy (measured by the different macroeconomic variables). In other words, pass-through is "state-dependent". This link means the degree of pass-through changes with the macroeconomic situation over time.

The third conclusion points to the nonlinear nature of exchange-rate pass-through. For example, if the volatility of the exchange rate is low, 9.0% of the 1.0% depreciation of the peso is passed through on the CPI in the first month and 20% in the first year (see the fifth row in Table B1.7). On the other hand, if volatility of the exchange rate is high, the pass-through increases from 7.0% to 18% in the same period and for a disturbance of the same size.

The fourth conclusion is that pass-through generally responds differently to the sign of the exchange rate shock. In other words, the pass-through is asymmetric. Notice that the degree of asymmetry is quite low though-. This result can be illustrated by reviewing the estimated degree of pass-through on import prices when deviation from the inflation target set by Banco de la República is "high" (the third row in Table B1.1). The results show the degree of pass-through is slightly higher when the peso appreciates, than when it depreciates.

4. Conclusions

The pass-through of sudden exchange-rate shocks on prices is incomplete, endogenous, non-linear and asymmetric. In general, pass-through is greater when inflation increases, when it is high and its volatility is low, when depreciation increases and exchange-rate volatility is low, when the output gap is positive and the interbank interest rate (operating variable of monetary policy) is low.

The estimated degree of historical pass-through of a 1.0% positive exchange-rate shock to import prices, producer prices, imported consumption prices and the CPI ranges between 48% and 52%, 18% and 27%, 8.0% and 14%, and 6.0% and 11% in the first month, respectively, and between 55% and 67%, 27% and 46%, 19% and 42%, and 13% and 21% in the first year. The minimum and maximum degrees of accumulated pass-through to the same prices in the fourth year are between 43% and 76%, 20% and 65%, 25% and 68%, and 13% and 40%, respectively. When the size of the disturbance increases to 10%, the estimated pass-through to the CPI ranges between 2.0% and 3.0%, 5.0% and 13%, and 13% and 33%, for the same periods.

Table B1.1
Estimated Pass-through on Import Prices

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 4 years	1 month	6 months	1 year	4 years
Change in inflation		Inflation increase							
	1	50	62	65	68	49	62	65	69
	10	50	62	62	64	50	62	63	65
		Inflation decline							
	1	49	62	65	68	49	62	64	67
	10	50	62	62	65	50	62	62	65
Inflation volatility		High inflation volatility							
	1	49	66	67	71	49	67	69	71
	10	50	67	68	70	50	68	68	70
		Low inflation volatility							
	1	51	59	62	74	49	57	62	76
	10	51	58	60	74	50	57	59	74
Deviation from the inflation target		"High" inflation							
	1	50	62	65	71	50	62	65	71
	10	50	61	63	66	50	62	63	66
		"Low" inflation							
	1	51	62	65	70	50	61	66	70
	10	50	61	63	65	51	62	63	65
Variation in the change in the exchange rate		Peso depreciation/appreciation increases							
	1	49	62	65	72	50	63	66	74
	10	51	63	63	70	51	62	63	69
		Peso depreciation/appreciation decreases							
	1	50	62	64	72	51	62	65	72
	10	51	63	63	68	51	63	63	68
Exchange-rate volatility		High exchange-rate volatility							
	1	50	60	62	64	51	61	63	64
	10	50	62	60	61	50	61	60	62
		Low exchange-rate volatility							
	1	48	60	64	66	50	60	63	64
	10	49	59	61	64	49	60	62	65
Real exchange-rate imbalance		Undervalued Real exchange rate							
	1	48	64	65	72	48	64	64	72
	10	49	65	65	73	49	65	65	72
		Overvalued Real exchange rate							
	1	48	62	62	64	49	62	62	64
	10	48	61	60	60	49	62	60	61

Source: Rincón-Castro & Rodríguez-Niño (2016)

Table B1.2
Estimated Pass-through on Import Prices

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 **month**	6 **months**	1 año	4 years	1 **month**	6 **months**	1 año	4 years
Output gap		Positive							
	1	49	58	55	47	53	60	56	47
	10	51	59	55	43	52	61	56	52
		Negative							
	1	49	57	54	45	50	57	55	45
	10	50	59	55	43	50	59	55	44
Economic openness		High openness							
	1	50	65	66	64	51	66	65	64
	10	51	65	63	62	51	65	63	63
		Low openness							
	1	50	65	67	75	50	65	66	74
	10	51	65	67	76	50	65	66	75
Change in commodity prices		High							
	1	49	62	63	69	50	63	63	70
	10	51	62	61	66	50	62	61	67
		Low							
	1	51	63	64	70	49	63	63	70
	10	50	62	61	67	50	62	61	67
Interbank interest rate		"High"							
	1	49	60	63	56	50	59	63	56
	10	49	61	64	54	50	61	64	54
		"Low"							
	1	50	60	60	66	50	60	59	66
	10	50	59	57	65	50	59	57	64
Trend		Since April 2009							
	1	50	64	65	65	51	65	66	65
	10	51	65	64	64	51	65	64	64
		Prior to April 2009							
	1	51	66	67	74	53	67	67	74
	10	51	65	66	72	52	66	66	72

Source: Rincón-Castro & Rodríguez-Niño (2016)

Table B1.3
Estimated Pass-through on Producer Prices

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Change in inflation		Inflation increases							
	1	22	31	33	43	22	32	33	43
	10	15	23	22	32	15	23	22	31
		Inflation decreases							
	1	20	30	33	43	21	31	33	43
	10	15	23	22	33	16	23	22	32
Inflation volatility		High inflation volatility							
	1	21	29	31	59	18	28	30	56
	10	16	22	21	45	15	22	22	44
		Low inflation volatility							
	1	22	32	36	57	21	32	36	56
	10	16	24	26	50	16	24	26	50
Deviation from the inflation target		"High" inflation							
	1	21	30	33	48	19	29	33	49
	10	14	22	23	37	14	23	24	37
		Inflación "baja"							
	1	21	30	34	48	19	29	32	45
	10	15	22	23	34	15	22	23	35
Variation in the change in the exchange rate		Peso depreciation/appreciation increases							
	1	21	30	33	46	23	32	35	47
	10	16	23	23	34	16	23	23	34
		Peso depreciation/appreciation decreases							
	1	23	33	34	44	23	32	33	45
	10	15	23	23	33	15	23	23	33
Exchange-rate volatility		High exchange-rate volatility							
	1	23	33	35	63	20	28	27	45
	10	18	24	24	40	16	22	22	35
		Low exchange-rate volatility							
	1	23	38	46	58	21	35	43	57
	10	17	29	33	47	17	29	36	48
Real exchange-rate imbalance		Undervalued Real exchange rate							
	1	22	30	28	30	21	29	28	29
	10	15	21	20	24	15	22	20	23
		Overvalued Real exchange rate							
	1	22	30	32	41	23	33	35	42
	10	16	23	23	30	17	24	23	31

Source: Rincón-Castro & Rodríguez-Niño (2016).

Table B1.4
Estimated Pass-through on Producer Prices

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Output gap		Positive							
	1	27	33	29	43	25	31	30	42
	10	16	22	21	32	17	24	23	42
		Negative							
	1	21	28	30	33	21	30	28	30
	10	15	22	20	23	16	23	21	26
Economic openness		High openness							
	1	23	32	32	30	21	31	30	28
	10	15	22	21	22	17	24	21	22
		Low openness							
	1	25	31	35	43	24	30	33	44
	10	17	23	25	35	17	22	25	35
Change in commodity prices		High							
	1	25	33	32	44	24	32	31	43
	10	17	23	22	34	17	24	22	34
		Low							
	1	24	32	31	44	25	32	31	45
	10	17	24	22	33	17	23	22	34
Interbank interest rate		"High"							
	1	19	27	27	35	17	25	26	33
	10	14	22	22	33	14	22	22	32
		"Low"							
	1	22	30	32	65	21	29	32	63
	10	16	22	24	58	17	22	24	56
Trend		Since April 2009							
	1	17	28	28	27	23	34	35	28
	10	15	23	21	20	16	24	23	21
		Prior to April 2009							
	1	24	30	33	42	24	30	33	43
	10	17	22	25	33	17	22	24	33

Source: Rincón-Castro & Rodríguez-Niño (2016).

Table B1.5
Estimated Pass-through on Prices for Imported Consumer Goods

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Change in inflation		Inflation increases							
	1	11	23	30	55	11	22	30	54
	10	4	14	22	45	4	14	22	45
		Inflation decreases							
	1	11	23	31	55	10	21	28	53
	10	5	14	22	47	4	14	22	46
Inflation volatility		High inflation volatility							
	1	11	21	31	58	11	21	31	60
	10	4	14	23	51	4	13	23	51
		Low inflation volatility							
	1	10	22	34	66	10	22	33	66
	10	4	16	27	64	4	16	27	62
Deviation from the inflation target		"High" inflation							
	1	12	24	33	61	11	22	32	61
	10	5	14	23	51	5	14	23	52
		"Low" inflation							
	1	10	22	31	58	11	23	32	59
	10	4	14	22	50	5	14	23	50
Variation in the change in the exchange rate		Peso depreciation/appreciation increases							
	1	12	22	32	58	11	23	33	59
	10	4	15	24	49	5	15	24	49
		Peso depreciation/appreciation decreases							
	1	11	22	32	56	12	23	33	57
	10	5	15	24	46	4	14	24	47
Exchange-rate volatility		High exchange-rate volatility							
	1	8	18	25	36	8	22	29	42
	10	4	14	21	32	4	13	21	31
		Low exchange-rate volatility							
	1	10	21	28	53	9	20	27	53
	10	4	14	22	46	4	14	22	44
Real exchange-rate imbalance		Undervalued Real exchange rate							
	1	10	21	28	48	11	20	27	48
	10	4	13	19	37	5	13	19	37
		Overvalued Real exchange rate							
	1	11	21	30	49	10	21	30	48
	10	4	13	22	38	4	14	22	38

Source: Rincón-Castro & Rodríguez-Niño (2016).

Table B1.6
Estimated Pass-through on Prices of Imported Consumer Goods

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Output gap		Positive							
	1	11	20	28	57	12	20	27	53
	10	5	10	16	49	4	15	24	55
		Negative							
	1	11	17	21	48	12	17	21	45
	10	5	10	14	42	4	10	14	42
Economic openness		High openness							
	1	8	15	21	42	10	16	22	44
	10	4	10	16	34	3	10	16	37
		Low openness							
	1	9	25	35	53	8	25	35	51
	10	4	18	28	45	4	18	28	44
Change in commodity prices		High							
	1	9	21	32	60	11	22	33	61
	10	4	16	26	55	4	16	26	55
		Low							
	1	11	22	32	61	11	22	32	60
	10	4	16	26	55	5	16	26	56
Interbank interest rate		"High"							
	1	14	17	20	31	12	15	19	32
	10	5	9	11	27	5	8	11	27
		"Low"							
	1	11	27	42	68	10	25	42	68
	10	4	21	37	67	4	21	38	66
Trend		Since April 2009							
	1	9	14	19	32	8	14	19	33
	10	3	9	14	25	3	9	13	24
		Prior to April 2009							
	1	9	22	32	44	9	22	31	43
	10	4	16	25	36	4	17	25	36

Source: Rincón-Castro & Rodríguez-Niño (2016).

Table B1.7
Estimated Pass-through on the CPI

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Change in inflation	Inflation increases								
	1	8	13	16	28	8	13	16	28
	10	3	6	7	17	3	6	7	17
	Inflation decreases								
	1	8	13	15	29	8	12	15	27
	10	3	6	7	18	3	6	7	18
Inflation volatility	High inflation volatility								
	1	8	12	15	38	8	12	15	39
	10	3	6	8	25	3	6	8	24
	Low inflation volatility								
	1	6	12	17	40	7	13	18	43
	10	3	6	10	33	3	6	10	32
Deviation from the inflation target	"High" inflation								
	1	9	13	16	32	8	13	16	33
	10	3	6	8	20	3	6	8	20
	"Low" inflation								
	1	8	12	15	30	8	13	16	32
	10	3	6	8	18	3	6	8	20
Variation in the change in the exchange rate	Peso depreciation/appreciation increases								
	1	8	14	17	32	8	13	17	33
	10	3	6	8	18	3	6	8	19
	Peso depreciation/appreciation decreases								
	1	8	13	16	29	9	14	17	31
	10	3	6	8	18	3	7	8	19
Exchange-rate volatility	High exchange-rate volatility								
	1	7	13	18	36	9	13	15	23
	10	3	7	8	19	3	6	8	17
	Low exchange-rate volatility								
	1	9	15	20	36	8	14	18	37
	10	3	8	10	23	3	7	9	23
Real exchange-rate imbalance	Undevalued Real exchange rate								
	1	8	11	13	27	8	12	14	28
	10	3	5	6	18	3	5	6	18
	Overvalued Real exchange rate								
	1	7	12	15	30	8	12	16	31
	10	3	6	8	17	3	6	8	18

Source: Rincón-Castro & Rodríguez-Niño (2016).

Table B1.8
Estimated Pass-through on the CPI

Variable	Shock (% points)	Peso Depreciation				Peso Appreciation			
		1 month	6 months	1 year	4 years	1 month	6 months	1 year	4 years
Output gap		Positive							
	1	8	17	20	32	7	14	18	29
	10	3	8	10	23	3	10	13	27
		Negative							
	1	11	15	17	29	10	14	15	25
	10	3	7	8	20	3	7	9	21
Economic openness		High openness							
	1	8	11	12	28	8	11	14	25
	10	3	5	6	17	3	5	6	15
		Low openness							
	1	7	15	21	34	7	15	21	34
	10	3	9	13	24	3	9	13	24
Change in commodity prices		High							
	1	7	12	15	30	8	12	15	30
	10	2	6	8	20	2	6	9	20
		Low							
	1	7	12	14	30	7	12	15	30
	10	2	6	8	20	2	6	8	20
Interbank interest rate		"High"							
	1	10	12	12	23	9	11	11	20
	10	3	5	5	21	3	5	5	19
		"Low"							
	1	7	14	19	33	6	14	19	33
	10	2	8	12	26	2	8	12	27
Trend		Since April 2009							
	1	8	12	14	21	8	11	15	23
	10	2	5	6	13	3	5	6	12
		Prior to April 2009							
	1	7	15	21	35	7	15	21	35
	10	3	9	13	24	3	9	12	23

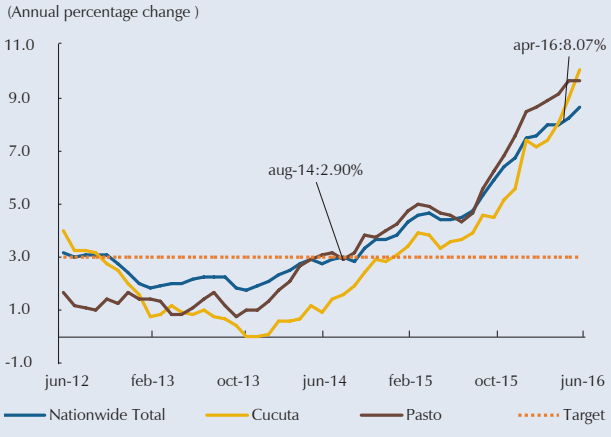
Source: Rincón-Castro & Rodríguez-Niño (2016).

Box 2
CONSUMER INFLATION IN COLOMBIA'S BORDER CITIES

Edgar Caicedo G.
Daniel Leonardo Rojas A.
Juan David Torres R. *

Consumer prices in Colombia trended upward in the past two years. This section is an attempt to show to what extent this performance is explained by the price hikes in the border cities of Cucuta and Pasto. The annual price increases in those cities have exceeded the national average for months (Graph B2.1).

Graph R2.1
Yearly National Inflation for Cúcuta and Pasto



Source: DANE.

1. Cúcuta

The economy in the metropolitan area of Cucuta is going through a difficult and complex period, aggravated by the fact that Venezuela closed its border with Colombia on August 19 2015 and there is no clarity as to when it will reopen once and for all. The Cucuta Chamber of Commerce says a number of economic sectors have been hard hit by the border closure, particularly hotels and tourism, agribusiness, coal and currency-exchange agencies. [2] Therefore, the economy in Norte de Santander, and especially in its capital city, being cut off from the Venezuelan economy, has been forced to adapt to the pace of the Colombian economy, which is confronted, in turn, with macroeconomic imbalances (see Chapter V) that also affect the region's economic performance.

Despite the fragile economic situation in Cucuta, the city's inflation rate has been above the headline inflation (nationwide) since April 2016, ending the first half of the year at 10.06%, which is 146 basis points (bp) above nationwide inflation rate (Table B2.1). According to the region's economic analysts, the reasons for this increase are associated mainly with El Niño weather, a stronger dollar and, more recently, the temporary reopening of the border with Venezuela and the agricultural and truckers' strikes.

The agricultural strike occurred in late May and lasted about two weeks. It was almost parallel to the truckers' strike in early June, which lasted 46 days. These strikes seriously affected the food supply in many Colombian cities, and Cucuta was no exception. The shortages in Venezuela also exerted pressure on prices in Cucuta. The Colombian-Venezuelan border was opened temporarily on July 10 and July 16, attracting thousands of Venezuelans looking to purchase massive amounts of staple goods such as food, medicine, fuel and personal hygiene items.[3]

As illustrated in Graph B2.1, annual inflation in Cucuta during the last three months began to surpass inflation nationwide. Table B2.2 shows the price hikes were concentrated mainly in food (which accounts for 35.4% of the CPI in Cucuta). In fact, the percent contribution of food to consumer inflation came to 45.1% between April and June 2016. The annual change in food prices in Cucuta was 18.8% in June 2016. This is far higher than the June 2015 figure, which was 5.5%. Housing and transportation also fueled the rise in inflation in Cucuta during the second quarter of this year, although to a lesser extent. In this case, the increase is related to indexation and the depreciation of the peso.

* Mr. Caicedo is a senior expert with the Programming and Inflation Department at Banco de la República. Mr. Rojas and Mr. Torres are assigned to the same department as student interns. The opinions expressed in this section are those of the authors and imply no commitment on the part of Banco de la República or its Board of Directors.

2 See Cámara de Comercio de Cúcuta, Informe de Gestión, 2015.

3 It is worth mentioning that the temporary reopening of the bo 0re in Cucuta during July.

Table B2.1
Headline Inflation With and Without the Border Cities

Data at June	Quarterly Inflation to Date	Year to Date Inflation	Annual Inflation
Total CPI	1.49	5.10	8.60
CPI Cúcuta	3.15	6.83	10.06
CPI Pasto	1.26	4.83	9.60
CPI Cúcuta & Pasto	2.50	6.14	9.90
Without Cucuta	1.45	5.06	8.56
Without Pasto	1.50	5.10	8.59
Without Cucuta & Pasto	1.45	5.06	8.55

Source: DANE; Banco de la República's calculations

Table B2.2
Contribution to Inflation in the Border Cities
(Percentage)

CPI Items	Cucuta		Pasto	
	Weight	Aug.16/Jun.16	Weight	Aug.14/Jun.16
Food	35.04	45.12	31.32	54.83
Housing	30.53	20.85	26.22	16.66
Transportation	10.42	12.83	13.05	10.09
Other expenses	6.78	7.59	7.19	6.45
All Others	17.22	13.61	22.22	11.97

Source: DANE; Banco de la República's calculations

2 Pasto

This city has experienced price hikes above the national average since August 2014 (Graph B2.1). Consumer inflation in Pasto received a strong push from the tradable component of the consumer basket of goods and services. This was felt as soon as the peso began to depreciate against the dollar in the third quarter of 2014, which not only raised costs but also meant a significant increase in the flow of buyers from Ecuador to the border area, including Pasto. Ecuadorians are taking advantage of the higher value of the dollar to shop in Colombia. On the other hand, although the added influx of buyers from Ecuador stimulates Pasto's economy, it also has pushed up domestic prices, particularly when combined with El Niño weather and the truckers' strike in June. According to regional analysts, food prices were affected not only by El Niño, but also by peso depreciation, which has made fertilizers and farm machinery more expensive.

As a reflection of this situation, nearly 55.0% of the increase in consumer inflation in Pasto between August 2014 and June 2016 was due to hikes in food prices. The contribution to accumulated inflation between August 2014 and June 2016 from the other CPI groups was not unusually high.

The border cities clearly were hit with higher price hikes than the other Colombian cities in the CPI sample. While some indexation mechanisms, El Niño weather, the exchange rate, the truckers' strike and the agricultural strike boosted consumer prices in general, the CPI in the border cities was affected by other shocks as well, such as the dramatic shortage of basic essentials in Venezuela (in the case of Cucuta) and the massive influx of buyers from Ecuador (in the case of Pasto).

Even so, the combined impact of both these cities on headline inflation (nationwide) is minimal. As shown in Table B2.1, annual inflation was 8.60% in June. Excluding the impact of prices in the border areas, annual inflation nationwide would have been 8.55%. In other words, the contribution from these two cities comes to only 5 bp: 4 bp from Cucuta and 1 bp from Pasto. Headline inflation is 5.10% for the year to date; without Pasto and Cucuta, it would be only 4 bp less (5.06%). This is not surprising, since the weight assigned to these cities in the national CPI basket is relatively low: 2.53% in the case of Cucuta and 1.35% for Pasto.

IV. Medium-Term Forecasts

The forecast for GDP growth in 2016 was revised downward in this report. GDP is expected to increase by 2.3% annually, within a range of 1.5% to 3.0%.

Whether or not inflation will converge towards the target will depend on there being enough of an adjustment in food prices, no renewed upward pressure on the exchange rate, and no added indexation.

A. ECONOMIC GROWTH DURING THE REMAINDER OF 2016 AND IN 2017

The 2016 forecasts for economic growth presented in this report were revised downward slightly with respect to the estimates presented last quarter. The figures at hand suggest some of the risks mentioned in the past have materialized, particularly those in the domestic context. Then again, several projections in this edition, with respect to the international environment and raw material prices, were revised as well. For instance, domestic demand is expected to be less dynamic in 2016 than the year before, amidst an environment of relative volatility on international financial markets and even lower raw material prices than those witnessed in 2015, despite the increases observed in recent months.

Changes in the international financial environment in recent weeks have sparked some degree of uncertainty about how the emerging economies will perform. As yet, it is not clear what medium and long-term effect Brexit will have on the economies in the region, particularly in the case of Colombia. International liquidity levels are expected to remain high, partly due to slower than anticipated normalization of US monetary policy, in addition to

Domestic demand is expected to be less dynamic in 2016 than in 2015.

the prevalence of negative interest rates in other advanced economies (see Chapter I). However, one cannot rule out the risk of some sort of adverse impact on the Colombian economy during the second half of the year and in early 2017, especially from capital flows and terms of trade.

It also is important to note, as outlined in Chapter I of this report, that the growth forecast for our trading partners (non-traditional trade-weighted) did not change significantly with respect to the projections outlined last quarter. While the forecast for economic growth in the United States was revised downward, the one for China was revised upward. Nevertheless, the economic outlook for Venezuela, Brazil and Ecuador remains pessimistic. Therefore, considering all these factors, it is possible to predict that weak external demand is likely to continue to predominate during the remainder of 2016.

A lower current account deficit compared to what was forecast last quarter is anticipated in the current edition of the *Inflation Report*. This reduced use of foreign savings is consistent with less financing from portfolio investment and FDI in the mining sector. The other side of this decline in funding would be a lower trade deficit resulting from fewer imports, consistent with the expected slowdown in domestic demand, real depreciation of the peso, and the anticipated decline in intensive investment in imported capital goods.

The prospect of lower prices for Colombia's commodity exports also is maintained in this report with respect to the average for 2016 compared to 2015, although at higher levels than expected last quarter. Specifically, the forecasts in most likely scenario assume the international price of oil (Brent reference) would average about UDS 43 per barrel in 2016, which is higher than the forecast last quarter (USD 35), but lower than in 2015 (USD 53). Even with these new projections, setbacks in terms of trade are expected, but they should be less that those witnessed throughout the past year. The drop would have a real effect on the dynamism in disposable national income, which would impact, in turn, the performance of government spending and investment, particularly in oil and mining, as suggested by situation reports from different companies and institutions in the sector.

The rest of the year is expected to see positive growth in investment in construction, more so than in the other items that make up gross fixed capital formation.

This report continues to forecast less momentum in domestic demand than during 2015, mainly due to a further decline in gross capital formation than was predicted in earlier editions. The remainder of the year would continue to see this GDP component affected by the economic slowdown, by accumulated nominal depreciation in the foreign exchange rate, and by further transmission of intervention rate hikes to market rates. Specifically, it forecasts significant declines in items such as transportation equipment and machinery for industry.

Private consumption would decelerate to the extent forecast in the previous edition of this report.

Positive growth is forecast for investment in construction, more so than the increase anticipated for the other items that make up gross fixed capital formation, although slightly below the prediction last quarter. Building construction would continue to boost thanks to the residential component, which still would benefit from the national government's low-income housing plans and from the positive impact of subsidized interest rates for new home purchases in the low and middle income brackets. Civil works also are expected to see positive growth, but less than was anticipated last quarter. This revision is due partly to less-than-expected regional and local government spending on civil works throughout the first half of the year.

A slowdown in private consumption is expected, similar to what was predicted in the last edition of this report. The increase in inflation would take away some of the purchasing power of household income. Added to this is the effect of the recent interest rate hikes and a possible further slowdown in employment. Together, these factors should discourage the demand for consumer loans.

On the other hand, the first-quarter results showed less expansion in government spending than was forecast originally. Therefore, the assumption for growth in government consumption was revised downward in this report, given consolidation of the fiscal adjustment planned for 2016.

Net exports, in real terms, are expected to make a positive contribution to GDP growth. The outlook for traditional export performance is pessimistic (based on the projections for oil, coal, and coffee production), but the reductions would be offset by non-traditional goods and particularly services. This is assuming export growth will be positive in 2016, although slower than the average calculated since 2001. In the case of imports, steady declines are anticipated in light of real peso depreciation and the performance of the items of domestic demand that are import intensive; namely, durables consumption and investment in industrial machinery and transport equipment. In addition, having Reficar operating at full capacity should encourage some degree of fuel import substitution

Real net exports would contribute positively to Colombia's economic growth in 2016.

On the supply side, accumulated depreciation of the peso is expected to continue to stimulate production in several tradable sectors of the economy, especially manufacturing. In this case, the remainder of 2016 is expected to see more growth that in 2015. The gradual reopening of Reficar should continue to be reflected in high growth rates for in the production of petroleum products. The other industrial subsectors also are expected to grow at a good pace, with figures similar to those on record for the first half of the year. This forecast is supported by the effect accumulated depreciation should be having on the competitiveness of domestic products, largely through import substitution.

Accumulated depreciation of the peso would continue to stimulate production in a number of tradable sectors, particularly manufacturing.

Given all these factors, the estimates made by the technical staff at Banco de la República suggest industry will grow at a higher rate than the other sectors combined.

Performance in the agricultural sector is expected to be moderate, following the major boost it proved to the Colombian economy in past years, especially with the plantation renovation process that increased coffee crop productivity. In principle, less coffee would be produced than in 2015, as was anticipated in the previous *Inflation Report*. This is due to the adverse consequences El Niño would have had on the volume of coffee produced in Colombia, even despite the productivity gains from the coffee plantation renewal process and from the investments made in past years. Specifically, coffee production is expected to be higher than the average on record for the last ten years, but less than the 14.2 million 60 kg bags produced in 2015. As for other agricultural products and the group comprised of live animals and animal products, the slowdown in these sub-branches during the first quarter is expected to increase. This also would be due to the delayed impact of El Niño on the agricultural supply and to the effect the cattle retention cycle has on livestock slaughter.

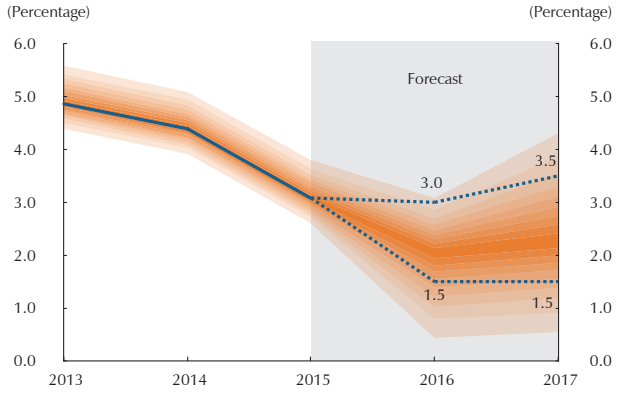
Finally, mining would see major declines in the second half of 2016, similar to those observed so far this year. Despite the recent recovery in international oil prices, there is still the prospect of a cutback in oil production to around 920,000 barrels per day, on average. It is important to note that cumulative production was down 9.5% annually by June. Coupled with the announcement that some companies in the sector plan to invest less in extraction and exploration, this would appear to portend poor performance by this sub-branch during the remainder of 2016. In the case of coal production, the drop in international prices and less global demand for this product allow us to predict the setback observed in the first half of the year is likely to continue during the final six months.

The agricultural sector would register moderate performance in 2016, partly due to the accumulated effects of El Niño weather. Reductions would be observed in mining, pursuant to the forecast for oil and coal production.

Based on the above, the projection for output growth in the most likely scenario is around 2.3% for 2016 (Graphs 40 and 41), which is within a forecast range of 1.5% to 3.0% (Table 7). On this occasion, the balance of risks is tilted toward a high probability of a further slowdown in GDP growth for the current year.

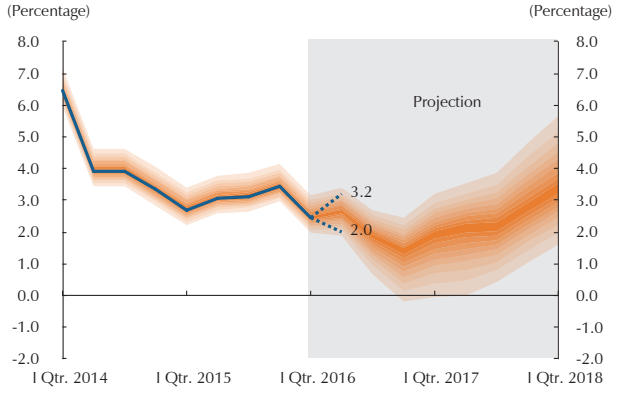
In this respect, the main downside risks are associated with weaker growth for our trading partners than is anticipated in the central forecast. An additional impact on non-traditional exports would be expected in the next two years, if this risk materializes. Another downside risk in 2016 is associated with the execution of civil works, including the 4G concession contracts. Their payment schedule has been affected recently. Something similar could happen in terms of government consumption. Finally, there is

Graph 40
Fan Chart of Annual GDP Growth



Source: DANE; calculations by Banco de la República .

Graph 41
Fan Chart of Annual Growth in Quarterly GDP



Source: DANE; calculations by Banco de la República .

the downside risk associated with the possible impact an eventual tax reform could have on disposable household income and household spending.

The main upside risk is related to the way tradable production behaves. Its reaction to accumulated depreciation and to the current exchange rate might be faster than expected, which would imply even more import substitution than is anticipated in the central scenario or added momentum in non-traditional or service exports.

Likewise, according to the economic growth forecasts, the estimate of the output gap suggests it would have been in positive territory by the end of 2015 and would have gone slightly negative at the beginning of 2016. The forecasts suggest this negative gap would continue to widen this year and in 2017.

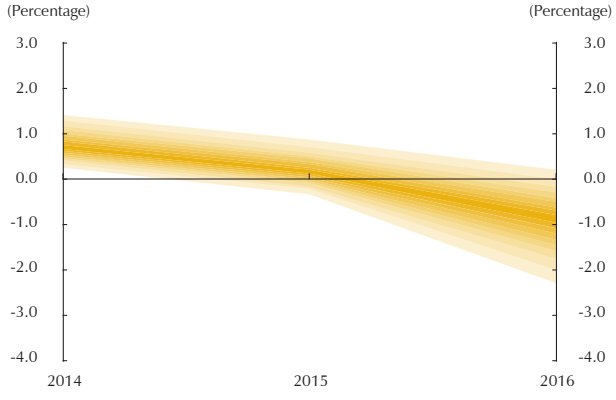
In this report, the average gap estimated for 2016 is narrower than it was last quarter, because the slowdown in investment (particularly in the oil and mining sector) implies a lower estimate for potential growth. In other words, the output growth that is now sustainable over time is less than it was in years prior to the oil shock. For 2016, the probability of the output gap being negative by end of the year is 92%, slightly more compared to the previous report. By 2017, the same probability is 90% (Graph 42). Consequently, the results for the output gap indicate there would have been little inflationary pressure coming from aggregate demand, which would continue to be the case this year and the next.

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

Range	2016	2017
< 3.0	95.1	70.0
3.0-4.0	4.8	21.2
4.0-5.0	0.1	7.3
5.0-6.0	0.0	1.4
Between 3 & 5	4.9	28.5
Between 2 & 4	41.2	54.4
Between 1.5 & 3	59.9	48.6

Source: Calculations by Banco de la República.

Graph 42
Fan Chart of the Output Gap



Source: DANE; calculations by Banco de la República .

B. INFLATION

1. Forecasts

Given the figures available up to June on prices and economic activity, the Bank's models suggest consumer inflation would peak between June and September, as estimated in the March edition of this report. However, for a variety of reasons, including the unanticipated supply shocks in recent months, this tipping point would be higher than previously expected.

Coupled with an increase in inflation inertia due to the activation of several indexation mechanisms, this means inflation has been somewhat slower to converge towards the 3.0% target than was suggested in the previous report. As will be explained, the probability of inflation convergence depends on the speed of the adjustment in food prices and other goods and services that were affected by the supply shocks last year. It also depends on there being no external shocks that might renew pressure on the exchange rate and, above all, no expansion in the use of price and wage indexation mechanisms.

As outlined in the March report, the central inflation forecast on this occasion assumes the transitory shocks that pushed up inflation in previous quarters would being to fade during the second half of 2016 and this downward trend would gain strength in early 2017.

According to a number of national and international meteorological agencies, El Niño is over and rainfall in Colombia returned to normal during the second quarter. This ensures the recovery of productivity in the countryside and, together with high prices, should be a motivating factor for planting and production. Some of this is beginning to be seen in products such as rice, which is expected to have a record harvest.

The truckers' strike, which was longer and more widespread than others in past years, was on the way to being resolved by the end of July. It apparently affected supply in the major urban areas, especially of perishables and other semi-processed goods (such as meat and milk), and halted the decline in certain food prices that had begun in May. The prices that rose because of the strike should return promptly to their pre-strike levels once this problem is resolved.

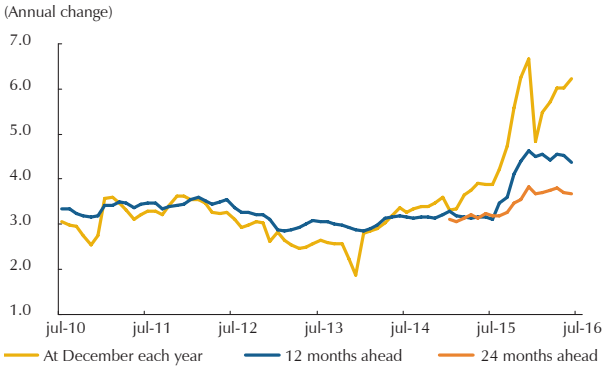
With respect to pressure from the exchange rate, which is the other major temporary shock to inflation, the central forecast expects it will subside gradually between the second half of 2016 and the first half of 2017. The pass-through of accumulated depreciation of the peso during the past eighteen months should come to an end in the next two quarters, judging by the lag with which it occurs. Moreover, as explained in Chapter I of this report, the exchange rate during the rest of the year is expected to remain near levels similar to those observed in the second quarter, which means this variable would not be source of additional inflationary pressure. So, the rise in prices for tradable goods, food and some non-tradable items should be tempered as a result.

Although the two main sources of inflationary pressure should disappear in the coming months, helping to reduce annual inflation as a result, the high level of inflation and the fact that it might end the year above target (as shown below) have created a situation where inflation inertia might have increased. This is feasible because of high inflation expectations, which exceed the target set by the BDBR, and also because active indexation mechanisms are playing a more prominent role than in past years.

In terms of expectations, Banco de la República's monthly survey shows financial market analysts are predicting 6.53% inflation by December of this year, on average, which is more than they expected in March (5.72%). The same survey also shows analysts anticipate an important decline in inflation as of 2017, with 4.61% and 3.68% at 12- and 24-month horizons. These are similar to the predictions outlined in the previous report (Graph 43).

According to Banco de la República's latest quarterly survey of employers and labor unions, which was conducted at the start of July, the inflation expected at different horizons has increased and it is relatively high. Inflation is expected to be 7.36% be December of this year, as opposed to 6.09% and 5.40% at 12 and 24 months ahead, respectively (Graph 44).

Graph 43
Annual Inflation Forecasts
by Banks and Brokerage Firms

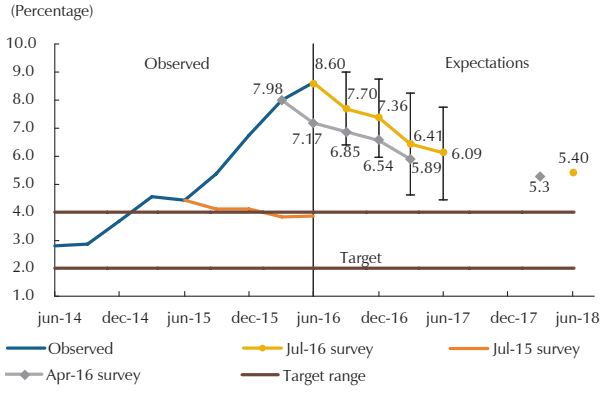


Sources: Banco de la República.

TES-derived expectations have declined in recent months, but are still above 4.0% at various horizons (Graph 45). In this case, however, it is possible the results are being influenced by other factors and the actual decline might be lower than estimated.

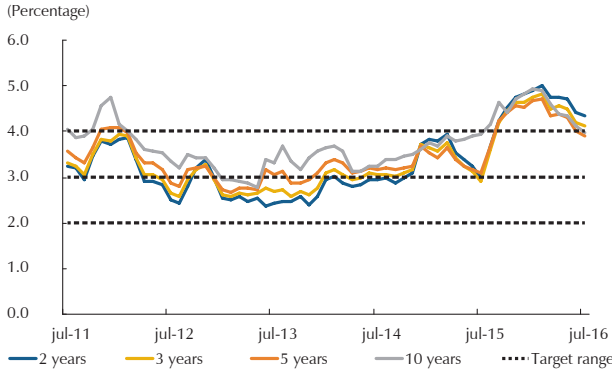
This being the case, the developments in inflation expectations and other factors such as high core inflation and active indexation mechanisms (as indicated below) make it impossible to conclude,

Graph 44
Observed Inflation and Inflation Expectations
(At three, six, nine and twelve months)
(Annual inflation)



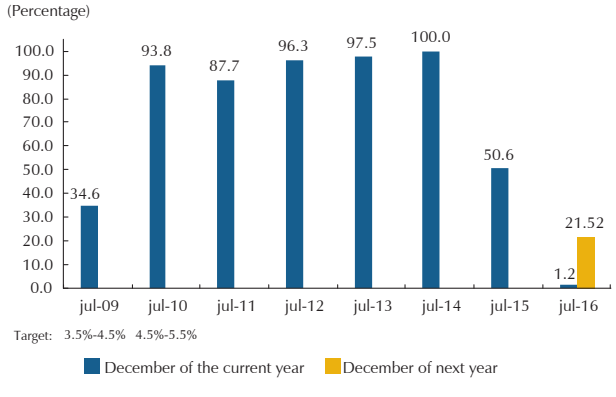
Note: Each expectation is presented with its respective standard deviation.
Sources: DANE and Banco de la República (Quarterly Survey of Expectations).

Graph 45
Break-even Inflation Expectations
(At two, three, five and ten years)
(Monthly average)[a/]



a/ Nelson & Siegel Method
Source: Banco de la República

Graph 46
Percentage of Credibility in the Inflation Target from 2009 to 2016
(Survey conducted each year in July)



Source: Banco de la República (Quarterly Survey of Expectations)

with any certainty, that Colombian businesses and households expect inflation to converge towards the 3.0% target in the period announced by the JDBR. The quarterly survey of expectations summarized earlier offers evidence to that effect; it shows that only 21.5% of those who responded to the survey believe the inflation target for 2017 will be met (Graph 46).

In fact, as explained in Chapter III of this report, indexation during the course of the year increased and prolonged the effects of the transitory price shocks brought on by El Niño weather and peso depreciation. According to Banco de la República's models and the central path of the forecast, this situation will continue for the rest of the year.

Indexation has affected wage hikes, as mentioned already (Chapter III), and will continue to do so in 2017. However, it is important to bear in mind that the unemployment rate has not increased, despite the economic slowdown. This is because employment continues to rise (although less so than in past years), and because labor force participation ceased to increase, and even declined somewhat in in cities such as Bogotá (see Chapter II of this report). It is, therefore, unlikely the country will see wage hikes below the actual rate of inflation.

Accordingly, wage cost increases at rates above the target for inflation will be a factor in price formation in the coming quarters. This situation jeopardizes the possibility of a quick reduction in price adjustments for a number of items in the CPI for tradables and non-tradables, particularly in the case of labor-intensive services.

The central path of headline inflation, particularly its decline as of the third quarter, is marked by the developments anticipated for the food CPI. Annual inflation in this basket of goods should begin to weaken in the third quarter and that trend would accentuate at the start of 2017. The recovery in agricultural supply should lead to lower prices for perishables in the next six months. Moreover,

The lower central path of inflation hinges on food prices declining as expected.

imported processed foods are not expected to see many price hikes, given the stability forecast for the exchange rate and favorable levels for international prices. Meat prices would be the exception. They would continue to increase because of the cattle retention cycle, which is expected to continue throughout the rest of the year. The path forecast for the food CPI increased versus what it was last quarter, partly for this reason.

Core inflation, which is measured by the non-food CPI, would also decline in the third quarter, but more slowly than food inflation. This is according to Banco de la República's model. Core inflation would approach the upper ceiling of the target range (from 2.0% to 4.0%) at the end of 2017 and more distinctly in 2018. This reflects the role of wage and price indexation, which prevents the annual changes in tradables and non-tradables from declining more quickly, even though pressure from the exchange rate and demand is expected to be low.

It is important to point out that inflation convergence by the end of 2017 and in 2018 is critically dependent on inflation expectations not deviating from the target for an extended period of time and there being an increase the credibility of compliance with the target. This would undermine the prominence of wage and price indexation. Otherwise, the monetary authority will have to set interest rates high for some time to make sure inflation converges towards its target, with the resulting cost this implies for economic activity.

2. Risk Balance

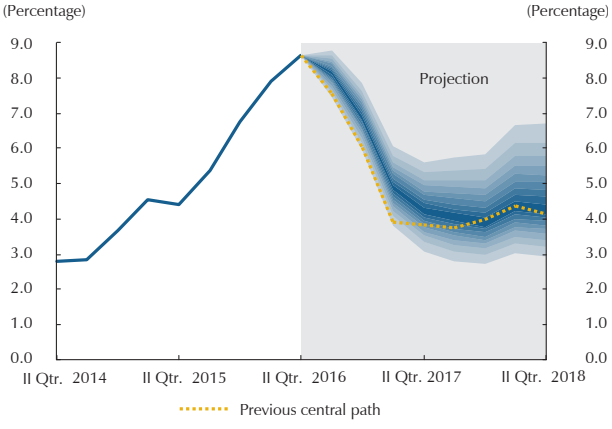
The balance of risks with respect to total consumer inflation and non-food inflation is shown in fan charts 47 and 48. The forecast in this report points to a balanced fan chart for the remainder of 2016 and in early 2017, with an upward bias thereafter. As explained, the central path of the inflation forecast is higher on this occasion than in the previous report (Graph 49). In addition, the upside risks at a horizon of more than one year are more important in this report.

Inflation convergence by the end of 2017 depends on inflation expectations not deviating from the target for a long time and there being an increase the credibility of compliance with the target for next year.

The central forecast for inflation and the risk balance presented in this report do not include the potential effects of the tax reform announced by the government. Nevertheless, and for that reason, the broad scope of the fan chart (which measures the uncertainty that accompanies the forecasts) was maintained, especially relative to government and private consumption. Added to this is what was considered already in previous reports with respect to the external environment and food inflation.

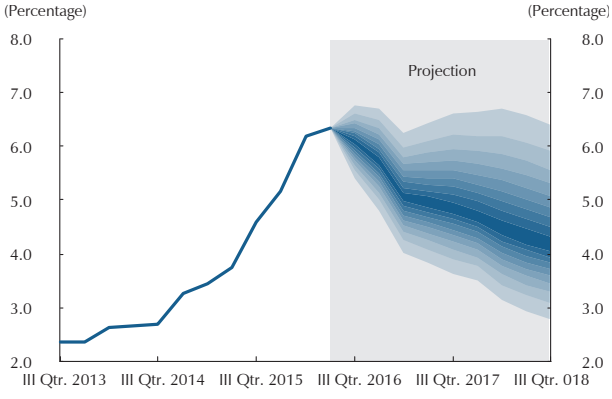
The following are the upside risks considered in this report.

Graph 47
Fan Chart of Headline Inflation



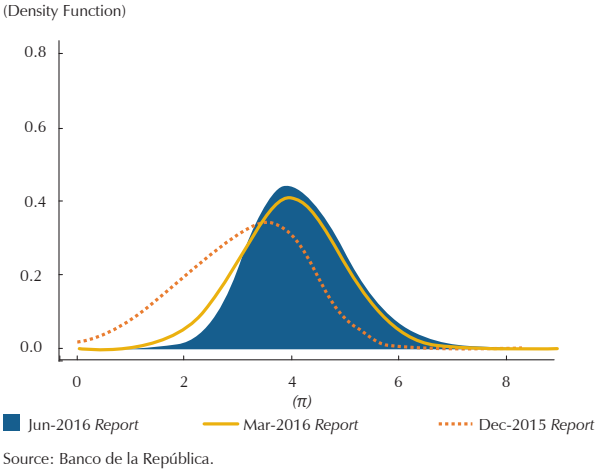
Source: Banco de la República.

Graph 48
Fan Chart of Non-food Inflation



Source: Banco de la República.

Graph 49
Cross-section of the Fan Chart for Headline Inflation for December 2017



Source: Banco de la República.

- Added depreciation and pass-through to inflation: A variety of circumstances could lead to a path for the exchange rate in the next two years that is higher than the one considered in the central inflation forecast. For example, the amount of anticipated depreciation is related to a higher oil price during the remainder of the year and in 2017 compared to the price considered in the previous report. This is based on what is expected to be a narrower oil supply in the medium term. However, the risk that these less dynamic supply conditions might not be verified is still important insofar as crude inventories remain large, among other factors. In this case, the oil price could drop and the peso could tend to depreciate more than expected. Moreover, although it is taken for granted the Fed will not raise its benchmark interest rate until later this year, the possibility of a hike before December cannot be ruled out. If that were to happen, it could mean fewer capital inflows and more depreciation. There is also the possibility that pass-through coefficient from depreciation to prices inherent in the models is less than the real one. So, even with the exchange rate path considered in this report, consumer inflation would tend to be higher than projected. The occurrence of any of these events or a combination thereof ultimately would be mirrored in higher annual variations in the CPI for tradables and in the total CPI relative to the central forecast.

-Activation of wage and price indexation mechanisms: The fact that headline inflation is still high and is likely to exceed the target range again in 2016 makes it feasible for wage adjustments in the coming quarters to be

The activation of indexation mechanisms implies a risk of higher inflation inertia, which makes compliance with the target more protracted.

well above 3.0%. For the same reason, and given the various indexation mechanisms that still operate in the Colombian economy, it is possible that price- forming agents might make automatic price adjustments based on the behavior of headline inflation. Both these circumstances can result in more inflation inertia than was considered in the forecast models used to produce the central path outlined in this report. It should be noted that these models were estimated and calibrated during periods when inflation was lower than at present and there was less inflation inertia. Consequently, there is the risk of underestimating the path of inflation, especially for 2017. There is also the risk that inflation will be slower to converge towards the target than anticipated in this report, due to the activation of indexation mechanisms.

-*Unexpected food price hikes due to the weather and other supply shocks:* The likelihood of La Niña occurring in late 2016 and early 2017 is around 60%. While this weather pattern usually has no major impact on inflation, an extremely intense episode could affect it. Empirical evidence suggests a severe bout of La Niña weather increases the likelihood of higher prices for certain foods during a period of several months, either because production suffers or because food transport and distribution are affected. An additional upside risk weighing on food prices is what appears to be a current retention cycle in the Colombian cattle industry. The outlook in this report is that the cycle will continue to impact meat prices until the end of the year; however, the retention phase might last until 2017, in which case prices for beef and its substitutes could continue to raise inflation beyond what is contemplated in the central forecast.

It should be noted that the upside risks weighing on food (La Niña and the cattle cycle) are important, particularly by 2017. In the shorter term, the risks to food prices lean more towards the downside, as explained below.

The following are the main downside risks considered in this report.

As for 2017, there are upside risks associated the possible effects of La Niña weather and a longer livestock retention cycle.

-*Less external demand than anticipated in the central forecast:* Although it is highly uncertain how Brexit will affect the global economy, the biggest risks are to the downside, since it is not unlikely that investment and consumption decisions will be impacted, mainly in Europe but also in other advanced and emerging economies. This could happen through various channels. A slight negative impact from Brexit on economic growth in several countries is contemplated in this report (see Chapter I); however, that impact could end up being more pronounced. Ultimately, its extent would be conditioned by the manner and speed with which trade relations between the UK and the euro area are reshaped. Moreover, the global economy continues to face the risks that can come from eventual financial instability in China. This is still a latent threat. However, if it material-

There is the risk of more of a slowdown in external demand than anticipated.

izes, the growth targets set by China's authorities would be jeopardized and the country's transition to an economy largely supported by domestic consumption would be hindered, with negative implications of various kinds for the global economy. In the region, a great deal of uncertainty remains about how the economies in countries such as Venezuela and Ecuador will perform. The increased uncertainty and confrontation prevailing in the US political arena pose risks as well. If some or a number of these risks materialize, there could be less external demand for Colombian goods and services, and investor and consumer confidence in the country could decline. All this would have a negative impact on domestic demand, which would tend to exert downward pressure on consumer inflation.

-*A more-than-expected drop in perishable food prices:* The disappearance of El Niño weather by mid-2016 should usher in a downward phase in food prices that would eliminate much of the pressure this basket has exerted on headline inflation. Nevertheless, and although this type of behavior was included in the central path of the forecast for the remainder of 2016, the drop in perishable food prices could be more than anticipated, while the agricultural supply might react to high prices more favorably than expected. Consequently, convergence toward the target might be faster, especially if it is accompanied by a positive response from inflation expectations and by less of an impact from indexation. In this respect, the downside risk is concentrated between the second half of 2016 and first six months in 2017.

In summary, despite the economic slowdown and the partial correction in the current account deficit, as observed and as predicted for the coming quarters (see Chapters I and V), an analysis of the balance of risks suggests the probability of inflation ending 2017 within the target range set by the JDBR (between 2.0% and 4.0%) has declined compared to what it was in the December and March editions of this report (Table 8), even considering the anticipated effects of the policy action taken up to the second quarter. Graph 49 shows the most likely forecast for headline inflation by December 2017 increased between the December 2015 edition of this report and the one in June 2016. It also shows the distribution shifted to the right, indicating a decline in the likelihood of inflation being between 2.0% and 4.0% by the end of 2017.

The probability of inflation converging with the target in 2017 has declined in this report.

In fact, according to the fan chart in this report, there is an estimated 42% probability of headline inflation being within the target range in 2017 (Tables 8 and 9). This likelihood is less than the estimate obtained in March 2016 and in December 2015. It should be noted that the extent of the density function of the forecasts that is shown in graphs 47 and 48, according to the shaded area, only includes 90% of it. These results, like the central forecast, assume there will be an active monetary policy, with the benchmark rate being adjusted to ensure the target is met.

Table 8
Estimated Probability of Inflation between 2.0% and 4.0% by December 2017
(Percentage)

December 2015 Report	58.7
March 2016 Report	48.6
June 2016 Report	42.0

Source: Calculations by Banco de la República.

Table 9
Probability Ranges in the Fan Chart of Headline Inflation
(Percentage)

Range	2016	2017
< 2.0	0.0	0.3
2.0-2.5	0.0	1.6
2.5-3.0	0.0	6.0
3.0-3.5	0.0	14.1
3.5-4.0	0.0	20.3
> 4.0	100.0	57.7
Between 2 & 4	0.0	42.0

Source: Calculations by Banco de la República.

Box 3
How to explain the increase in inflation between July 2014 and June 2016 by looking at the different CPI components?

Edgar Caicedo
Juan David Torres
Paola Andrea Jaramillo
Daniel Leonardo Rojas*

One way to explain the rise in inflation from 2.89% in July 2014 to 8.60% in June 2016 is to analyze the contribution from each component of the CPI. This period was selected because it was when the peso began to depreciate sharply against the dollar. During that period the exchange rate increased from COP 1,858.5 per dollar in July 2014 to COP 3,357.5 in February 2016, followed by a decline to COP 2,991.7 in June. However, it is important to point out that this method is a partial analysis, as it does not consider second round effects. It cannot be interpreted as a cause-effect approximation..

The impact of depreciation has been felt in first place in the tradable component of the CPI, in non-tradable goods via rising costs because of a more expensive dollar, and in the domestic price of gasoline. However, the impact on gasoline was more than offset by the plunge in international oil prices.

In chorus with depreciation, the strong bout of El Niño weather had a sharp negative impact on yields in the agricultural sector and on decisions about new planting. El Niño also caused fee hikes in public utilities.

Meanwhile, high inflation last year and the increase in the minimum wage triggered indexation in some segments of the basket, generating upward pressure on consumer inflation. Also, higher inflation expectations and the possibility that they might become unanchored from the target (3.0%) would be having undesirable second round effects on inflation via, for example, the minimum wage hike in 2016.

Table B3.1 shows to what extent the main baskets in the CPI contributed to the increase in inflation. In order to break up inflationary pressures during the period of analysis, the CPI basket of goods and services is divided between the food CPI (comprised of a tradable subgroup and a non-tradable subgroup) and the non-food CPI. The latter, in turn, was divided into regulated items (public utilities, fuel and transportation), tradables and non-tradables (comprised of leases, indexed items, those affected by the exchange rate, and all others).

The following conclusions can be drawn:

1. The increase in inflation during the period in question is explained mainly by the food CPI (55.7%), and secondly by the non-food CPI (44.3%).
2. Tradables are the group in the non-food CPI that contributed the most to inflation rise during the period under consideration, accounting for 25.7%. This may be associated, in large part, with the pass-through of accumulated depreciation on consumer prices.
3. All the CPI items that might be affected more clearly by depreciation (tradables excluding food and regulated items, non-tradables affected by the exchange rate, and tradable foods) account, on the whole, for somewhat less than 53.0% of the upsurge in inflation.
4. Non-tradables excluding food and regulated items are responsible for slightly more than 10.0% of the increase in headline inflation during the period in question. The major contribution within the group came from indexed items and leases; their combined share amounts to about 6.4%. This proportion might be associated with the contribution to the acceleration in inflation that comes from indexation.
5. In the non-food CPI, regulated items were the segment that contributed the least. This group explains about 8.50% of the inflation acceleration.
6. However, public utilities contributed the most to price increases inside regulated items sub-basket, with 8.36%. This was due mostly to the impact of El Niño on utility rates, especially those for natural gas and electricity. In addition, the Guatape hydroelectric power plant was out of operation between February and mid-year, and there was relatively less of a supply of natural gas, given the bottlenecks in the transport system in that sector. In the case of water and sewage rates, the automatic price increase mechanism was reactivated during

* Mr. Caicedo is a senior expert with the Programming and Inflation Department at Banco de la República. Mr. Torres, Ms. Jaramilllo and Mr. Rojas work with the same department as student interns. The opinions expressed in this section are those of the authors and imply no commitment on the part of Banco de la República or its Board of Directors.

the first quarter of 2016, after accumulated consumer inflation reached 3.0%.

7. As for the regulated CPI, fuel was the only component of the basket that helped to slowdown annual inflation. The drop in international oil prices explains this behavior.

8. For food inflation (which accounted for nearly 56% of the increase in inflation during the period in question), the biggest contribution came from non-tradable food; this item accounted for 30.3% of the increase in inflation. Tradable foods contributed slightly less than 26.0% to the boost in inflation. In the case of tradable foods, depreciation of the peso offset the decline in international food prices, pushing up prices, especially for cereals, oils and fats.

9. Finally, the segment of non-tradable food that was affected by the weather was the one that most explains the change in inflation during the period under study (with 16.2%). This food subgroup had the highest cumulative inflation (36.9%) between July 2014 and June 2016; however, its contribution to the acceleration in inflation was not the biggest one, because of its low weight in the CPI basket (4.22%). Eating out items were the second component of the non-tradable food sub-basket that contributed to higher inflation, with 7.26%. Prices of this subgroup have risen considerably in recent months, thanks to increasing food prices, higher rates for public utilities, and the hike in the minimum wage. The rest of the non-tradable food group (especially meats) contributed less than eating out, accounting for 6.8% of the upsurge in inflation between July 2014 and June 2016.

10. In summary, 53.0% of the acceleration in inflation between July 2014 and June 2016 is associated with price hikes in the CPI sub-baskets that were severely affected by depreciation. Slightly more than 6.4% of this increase is associated with the baskets that were seriously affected by indexation. Nearly 25.0% would be explained by the items that were influenced directly or indirectly by El Niño, public utilities, and non-tradable foods affected primarily by the weather. The remaining 15.6% of the increase in inflation during the period in question would be associated with other factors, such as adjustments in prices for some shows or events (such as soccer games), rate increases for urban transportation in certain cities, and the impact the reduced-slaughter phase has on beef prices.

Table B3.1
Inflation and Contributions to Inflation between July 2014 and June 2016

Description	Weight	Inflation Jun-16/Jul-14	Percentage point contribution to the acceleration in inflation between Jul-14 and Jun/16	Percent share of the acceleration between Jul/14 and Jun/16
Total	100.00	13.40	5.71	100.00
Non-food	71.79	10.27	2.53	44.27
Tradables	26.00	12.40	1.47	25.71
Non-tradables	30.52	9.14	0.58	10.09
Rent	18.59	7.58	0.19	3.24
Indexed items	8.14	10.93	0.18	3.18
Affected by the exchange rate	2.29	10.05	0.10	1.80
All others	1.51	16.66	0.11	1.87
Regulated items	15.26	9.43	0.48	8.47
Public utilities	6.31	14.03	0.48	8.36
Fuel	2.91	(4.67)	(0.12)	(2.09)
Transportation	6.04	4.54	0.13	2.20
Food	28.21	21.36	3.18	55.73
Tradable food	12.10	22.48	1.45	25.46
Non-tradable food	16.11	20.62	1.73	30.28
Non-tradables – affected by weather	4.22	36.93	0.93	16.23
Non-tradables – all others		18.82	0.39	6.79
Non-tradables – Eating out	8.07	12.92	0.41	7.26

Source: DANE, Banco de la República's calculations

V. Risks to Macroeconomic Stability

After the drop in the terms of trade, the Colombian economy has registered a period of orderly adjustment. This negative shock was faster and more severe than the one faced by other Latin American countries.

The exchange rate adjusted quickly to the shock. Other variables, such as the current account deficit, borrowing and home prices, have posted moderate corrections from historically high levels.

Going forward, the process of adjustment is expected to continue gradually amidst weak global demand and added uncertainty about sources of external funding.

After the global financial crisis, international prices for Colombia's major export commodities in the mining sector resumed their upward trend and remained at historically high levels. That period, from 2010 to mid-2014, saw high terms of trade, important growth in national income and significant nominal and real peso appreciation. The rate of growth in investment was high (mainly for the oil and mining sector and construction) and consumption accelerated, all of which sparked an increase in domestic demand that surpassed the growth in output and national income. This rise in spending required the use of foreign savings, as reflected by a considerably larger current account deficit. At the same time, bank lending grew at significant rates, while household and corporate debt rose to high levels in relation to GDP. Housing prices continued to trend upward and posted a record high each year.

The reduction observed in the external imbalance and the decline anticipated for this year and the next are far from being a drastic and disorderly correction.

The sharp and swift drop in oil prices, as of the second half of 2014, caused a severe decline in the country's terms of trade. It also undermined the momentum in national income and led to a period of adjustment for the Colombian economy. As a result, some macroeconomic imbalances that had accumulated before the oil shock began to be corrected in the midst of a situation where liquidity levels in the United States were returning to normal and our trading partners, on average, were experiencing an economic slowdown.

Employment remains robust and domestic demand shows no loss in momentum beyond the lower growth in national income.

The first and fastest correction was in the exchange rate. Between July 2014 and June 2016, the Colombian peso depreciated 61% against the dollar, in nominal terms, and 31% against the currencies of our main trading partners, in real terms.[11] The current account deficit in dollars reached its highest point in late 2014, and then trended downward. The correction, as a percentage of GDP, occurred as of the fourth quarter of 2015. In 2016 and 2017, it is expected to be 5.3% and 4.3%, respectively.

The reduction observed so far in the external imbalance and the decline anticipated for this year and the next are far from being drastic and disorderly, and reduce the economy's external vulnerability. However, it is not enough yet to achieve external deficits of the size witnessed in countries with similar risk ratings.[12]

After the oil shock, the loan growth rate continued to slow, with no major signs indicating strong supply constraints. In real terms, total borrowing,[13] which rose by about 9.0% in mid-2014, slowed to a growth rate near 3.0% in June 2016. The loan portfolio in foreign currency declined and was substituted, in part, by loans in domestic currency. By June 2016, the debt relative to GDP, for both households and companies, reached record highs, similar to the levels registered a year earlier.

The home price indices relative to the CPI continued to trend upward, but at a lower growth rate after the plunge in international oil prices. The most recent records at hand already show a slight decline in the margin (except for the existing houses index, IPVU, by its acronym in Spanish), but are still at levels near the highs of the series.

Colombia still has access to external financing in an environment of ample international liquidity.

As shown in previous sections of this report, despite the sharp negative shock to the Colombian economy, employment remains robust and the external deficit has not closed abruptly. This has occurred in a context where international liquidity is ample and Colombia continues to enjoy access to external financing. However, the rating agencies have issued several alerts during the course of the year concerning the country's prospects, [14] which may involve more difficulties in using foreign savings in the future.

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11 That is, if the CPI is used as a deflator.

12 See Box 1, "Disminución de los precios de los productos básicos y sus efectos sobre la economía de Chile, Perú y Colombia", *Informe de la Junta Directiva al Congreso de la República*, June 2016.

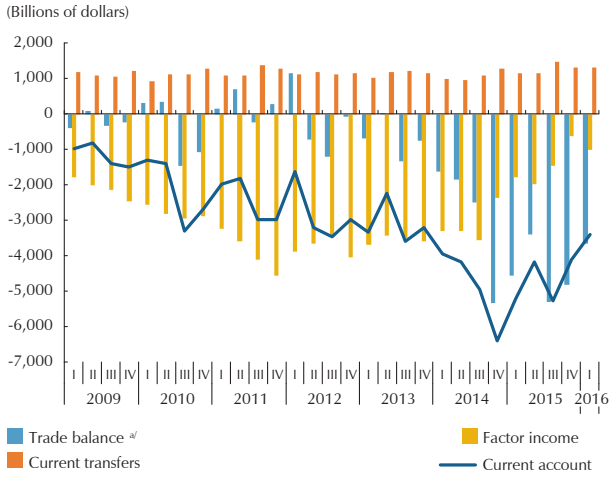
13 Includes bank loans (in domestic and foreign currency), mortgage portfolio securitization, bond issues and foreign direct funding. Dollar funding is adjusted to eliminate the exchange-rate effect. The indicator is deflated with the implicit domestic demand price index.

14 Specifically, Standard and Poor's and Fitch Ratings.

This chapter looks at the recent developments in the current account, the real exchange rate, borrowing and home prices. An aggregate indicator (the macroeconomic imbalance index (MII) is included as well. It combines all the imbalances estimated for each of these variables. [15]

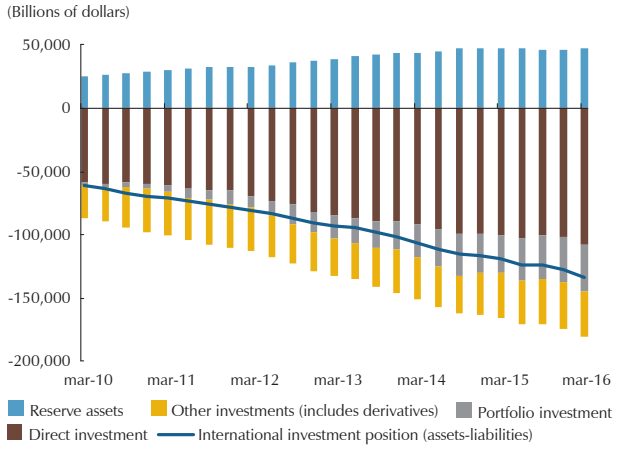
A. THE CURRENT ACCOUNT AND THE REAL EXCHANGE RATE

Graph 50
Current Account, by Component



a/ Includes goods and services.
Source: Banco de la República

Graph 51
International Investment Positions, by Components



Source: Banco de la República.

The current account deficit declined during the first quarter of the year, as explained in Chapter 1. This was due to a smaller trade deficit (explained, in turn, by a decline in imports) and to a reduction in factor income outlays (Graph 50).

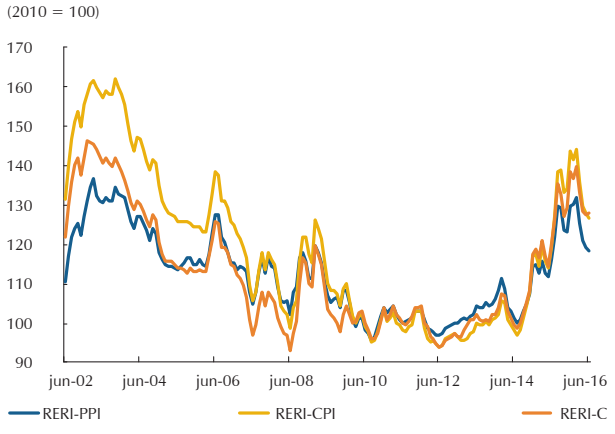
Preliminary estimates suggest the decline in the current account deficit is due mainly to a lower rate of investment, particularly in oil and mining, relative to the boom years for that sector (between 2004 and 2014, nearly half of all FDI in Colombia went to oil and mining, fueled by high international prices for products of this type). This investment was cut in response to the drop in prices. Investment in other sectors has suffered as well, because of the anticipated economic slowdown. However, the main source is still direct investment (Graph 51).

Exchange flexibility plays a key role in the adjustment. Between July 2014 and June 2016, the peso depreciated 61% against the dollar. In real terms, it depreciated 18.3% compared to the group of Colombia's major trading partners, if deflated with the PPI, and 30.8%, if the CPI is discounted. As to our competitors in the US market for coffee, bananas, flowers and textiles, real peso depreciation was 30.0% during the same period (Graph 52).

Depreciation stimulates exports and makes imports more expensive, thereby improving the trade balance and, consequently, the external balance. However, despite sharp nominal and real de-

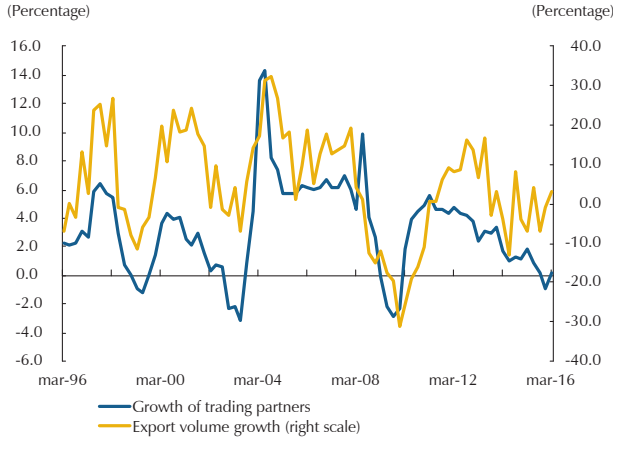
15 *See* Arteaga, Huertas and Olarte (2012). "Indice de desbalance macroeconómico," *Borradores de Economía,* No. 744, Banco de la República.

Graph 52
Real Exchange Rate Indexes



Source: Banco de la República.

Graph 53
Growth in Export volume (Excluding Mining and Major Agricultural Exports) and Growth in Colombia's Trading Partners



Source: Banco de la República.

preciation, weak external demand is a factor that has not allowed for a recovery in non-commodity exports (Graph 53). On the contrary, imports are down, both in value and volume, mainly those of capital and consumer goods.

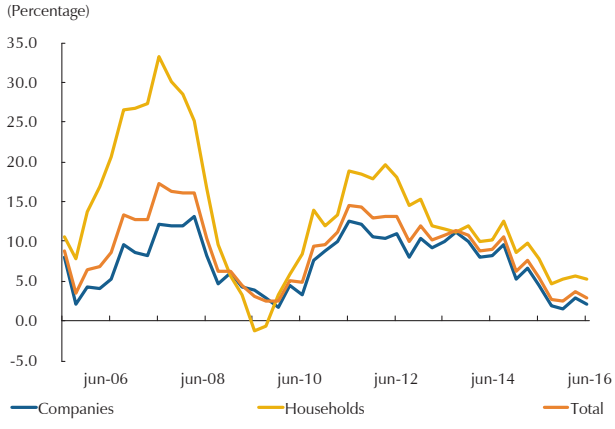
Depreciation mitigates the deterioration in foreign earnings of Colombian companies when they are converted into pesos. It also eases pressure on the external imbalance by reducing the amount of profits remitted by foreign companies that have earnings in pesos. In addition to that, there is the drop in profits transferred by oil companies, because of the decline in oil prices.

The foreign trade data available for the second quarter suggest the correction in the current account deficit continues. This process is expected to move forward gradually, in a situation marked by weak global demand and added uncertainty about sources of external financing. To the extent this current account adjustment continues in an orderly fashion, Colombia will be less vulnerable to negative shocks on the world's financial markets. However, if the correction is postponed, there is more of a risk of the current account closing abruptly, due, for example, to a sharp rise in the cost of external financing or to restrictions on its supply. If this last scenario materializes, the negative effects on output and employment could be considerable.

B. BORROWING

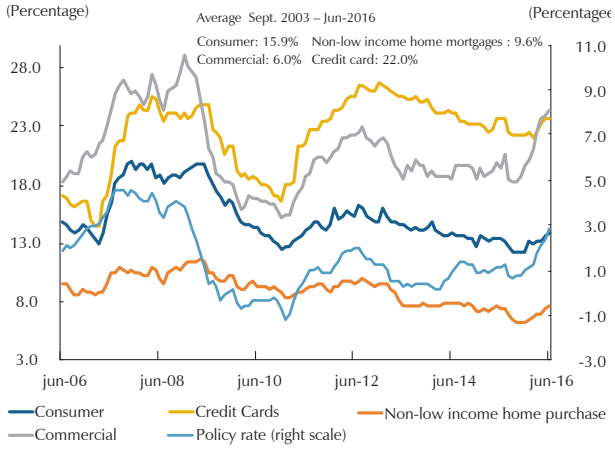
Real borrowing increased at a moderate pace (3.3%) during the first half of 2016, similar to the rate observed in the second half of 2015 (2.8%). This stabilization in real borrowing growth applies to both corporate and household loans (Graph 54). However, each sector has different tendencies. In the case of companies, there is still a preference for replacing loans in foreign currency with domestic debt, particularly with loans in domestic currency from the banking sector. In the case of households, the consumer portfolio has lost momentum, a fact that has been offset by the added growth in mortgages.

Graph 54
Household and Corporate indebtedness [a/]
(Annual real change)[b/]



a/ Includes bank loans in domestic and foreign currency, mortgage securitizations, bond issues and foreign direct financing. The debt denominated in foreign currency was adjusted to eliminate the effect of fluctuations in the exchange rate.
b/ The domestic demand deflator was used. It was assumed this deflator accelerated the same as the CPI in the second quarter.
Sources: Superintendencia Financiera de Colombia; calculations by Banco de la República

Graph 55
Real Interest Rates, Ex Ante[a/]



a/ Average monthly rates, except the policy rate for which the date of the meeting of the Board of Directors is taken into account. The average of various measures of inflation expectations is used as the deflator (one year ahead obtained from the monthly survey of financial analysts, one year ahead obtained from the quarterly survey of economic expectations, the break-even at two and three years and the forward break-even at two to three years).
Source: Superintendencia Financiera de Colombia; calculations by Banco de la República.

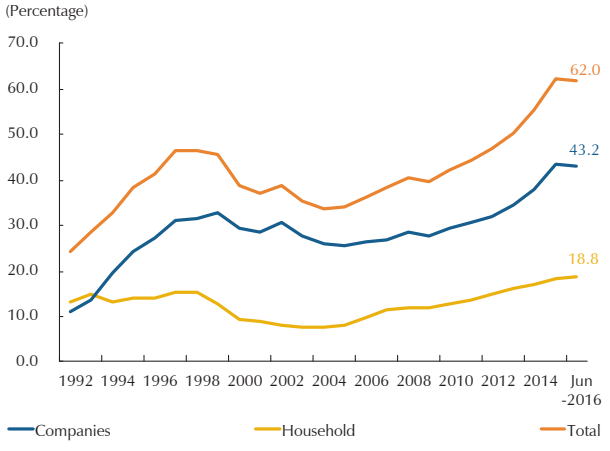
Some of this behavior is explained by the higher cost of financing. In the case of foreign currency loans, this rise is due to the uncertainty surrounding peso depreciation and to higher country risk premiums versus what was observed in 2015. As for loans in pesos, interest rates have increased, partly in response to the benchmark rate hikes. In real terms (deflating with inflation expectations) interest rates on loans to households and businesses are at levels near the historic averages calculated since 2003 (Graph 55).

Other aspects of supply and demand have also affected the trends in borrowing. The second-quarter results of Banco de la República's survey of the credit situation show lending institutions perceive less demand for all types of loans (except home mortgages). In the same survey, the intermediaries say they have increased requirements merely for consumer loans. In spite of this, the real rate on consumer lending was below its average since 2003, and less benchmark-rate hike transmission to the interest rates in type of loans (compared to other types of credits) suggests there are no major supply constraints.

As for commercial loans, lenders say they have increased the supply of funds. Furthermore, the performance in the different sources of funding for companies indicates the tendency to substitute foreign currency loans continues, in an effort to avoid currency risk. It is worth noting that the rates on corporate loans are the ones that have increased the most since the current cycle of policy rate hikes began.

The moderation in real portfolio growth has been from a high debt level relative to GDP, both for households and businesses (Graph 56). Moreover, according to the latest information, the default and risk indicators are at low levels, but are showing some signs of deterioration in the margin. So, the slowdown in real growth in lending is likely to persist, and the default and risk indicators might continue to worsen, even though the labor market remains robust and corporate demand for loans in domestic currency is still dynamic.

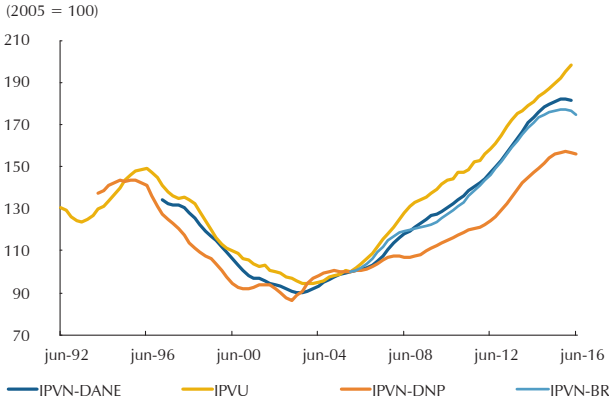
Graph 56
Household and Corporate indebtedness[a/]



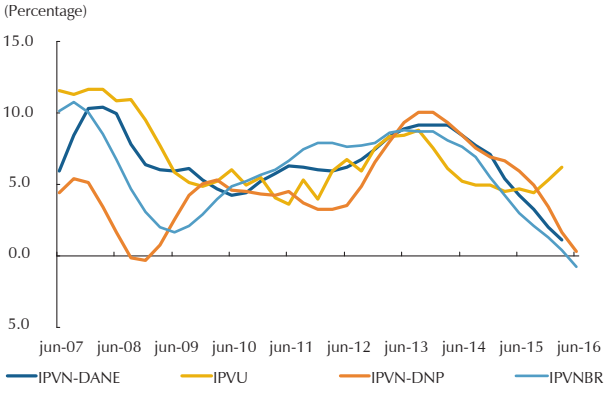
a/Includes bank loans in domestic and foreign currency, mortgage securitizations, bond issues and foreign direct financing.
Source: Superintendencia Financiera de Colombia; calculations by Banco de la República

Graph 57
Home prices in Colombia (Relative to the CPI)[a/]
(four quarters moving average)

A. Indexes



B. Annual change



a/ Data up to the first quarter of 2016 for the IPVN-DANE and the IPVU. For the IPVN-DNP and the IPVN-BR the latest figure is for the second quarter of 2016.
Sources: DANE, DNP and Banco de la República

C. HOME PRICES

The data at hand for the first half of 2016 show new home prices relative to the CPI continued the slowdown begun several quarters earlier. As for the moving average of the last four quarters, the DANE new house price index relative to the CPI (IPVN-DANE) grew 1.1% annually (by March) and the DNP's index(IPVN-DNP) rose by 0.3% (data at June), while Banco de la República's index (IPVN-BR) fell 0.8% (data at June). In contrast, Banco de la República's existing home price index (IPVU by its acronym in Spanish) continues to show significant real increases (Graph 57).

New home sales also appear to be less dynamic than in past years. The sales that increased are those for medium-income families, with prices between 135 to 335 times the minimum monthly wage (SMMLV). Apparently, these sales are being bolstered by government programs. Sales of more expensive homes (over 335 SMMLV) have fallen slightly, but are still high (Graph 58). In terms of supply, the number of units available for sale has increased in the non-low income segment subject to subsidies. However, it has stalled in the segment over 335 SMMLV and declined in the low income segment (Graph 59).

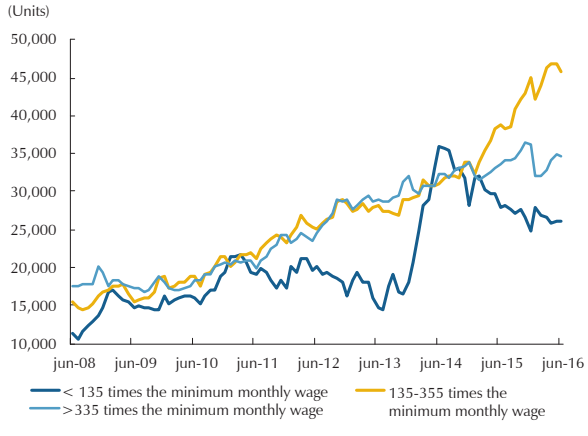
The behavior of prices, coupled with the standstill in sales at historically high levels, suggests the adjustment in the housing market is gradual and orderly. Other variables also point to some deterioration, but without implying systemic risk. To begin with, delinquent mortgage payments have increased considerably,[16] but the pace has slowed and starts at historically low levels. Similarly, mortgages account for a small share of the loan portfolio of the financial system. On the other side, the increase in delinquent payments suggests a weaker financial situation for house-

16 By May, non-performing loans of this type were up 20% annually, after increasing 37%, on average, in 2015.

Graph 58
New Home Sales, by Price Range[a/]:
Cumulative for January-June

a/ Includes data on thirteen regional areas.
Source: Camacol.

Graph 59
New Housing Units Available for Sale, by Price Range[a/]



a/ Includes data on thirteen regional areas.
Source: Camacol.

holds. However, in recent years, most mortgages have been disbursed in pesos (and not indexed to CPI).[17] Therefore, the financial burden of borrowing should not have been affected by the rise in inflation.

As for construction companies, figures from La Galería Inmobiliaria show the inventory of new finished houses still held by these firms has increased as well, but it is less than 6% in the major cities. The current scheme, whereby most sales occur before construction starts,[18] not only mitigates growth in this type of inventory but also helps to put less pressure on builders' balance sheets and on real estate prices. Furthermore, other indicators such as the turnover in housing have stayed at levels similar to those of past years.

The housing market in the coming quarters is likely to see moderate growth in prices and in the number of homes constructed. This adjustment in the sector, which is intensive in labor and financing, is compatible with its long-term sustainability.

D. THE MACROECONOMIC IMBALANCE INDEX (MII)

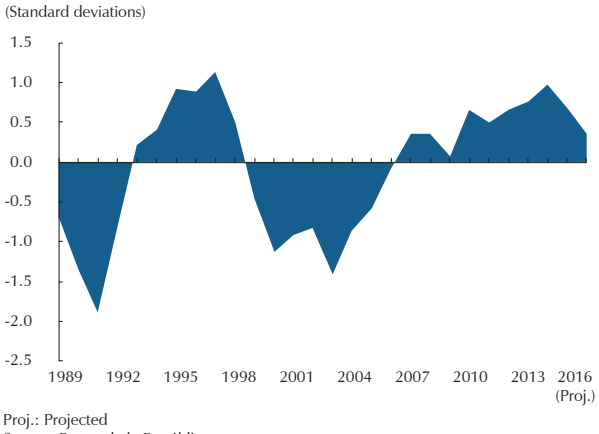
According to the projections outlined in the previous chapters and the methodology used to construct the MII,[19] the estimates suggest the aggregate imbalance in the economy has continued to decline in 2016, more so than in 2015 (Graph 60). The correction this year would come from adjustments in all the variables, particularly the current account deficit and housing prices. In these two cases, the data at hand suggest the reduction in the imbalance is more significant than was anticipated in the last quarterly report. As for the real exchange rate, the long-term estimate points to more

17 Since 2007, more than 80% of the disbursements for home purchases are in pesos.

18 According to figures from Camacol, the percentage of sales before construction starts varies across regions, ranging between 54% (Boyacá) and 91% (Cesar). The largest markets (Bogotá, Cundinamarca, Antioquia and Valle) have presale levels above 75%.

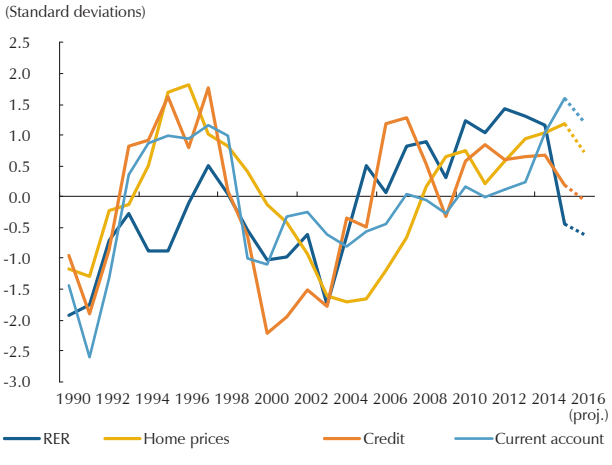
19 A macroeconomic imbalance is an unobservable variable. Therefore, its estimate is subject to considerable uncertainty that is not measurable. In this context, there may be other methodologies apart from the MII that produce different results.

Graph 60
Macroeconomic Imbalance Index



Proj.: Projected
Source: Banco de la República.

Graph 61
Gaps in the Current Account, Real Exchange Rate, Home prices and Credit[a/]



(Proj.) Projected
a / The gaps are calculated as the difference between the observed value and the estimated long-term value.
In the case of the RER, its negative is presented. This means positive gaps, in all cases, indicate imbalances.
Source: Banco de la República.

appreciation due to the recent partial recovery in terms of trade. This was not considered in the last edition of the *Inflation Report* (Graph 61).

Attachment

Macroeconomic Forecasts By Local And Foreign Analysts

The latest forecasts developed by domestic and foreign analysts for the major economic variables in 2016 and 2017 are summarized in this attachment. At the time they were consulted, the analysts had access to data up to July 13, 2016.

1. Forecasts for 2016

The domestic analysts expect the economy to grow by 2.48%. This is one basis point less than was estimated in the *Inflation Report* for the previous

Table A1
Forecasts for 2016

	Real GDP Growth (Percentage)	CPI Inflation (Percentage)	Nominal exchange rate end of:	Nominal fixed-term deposit rate (DTF) (Percentage)	Fiscal deficit (Percentage of GDP)	Unemployment Rate in the Thirteen Major Metropolitan Areas (Percentage)
Local Analysts						
Alianza Valores	2.00	6.70	3,600	7.50	4.10	10.80
ANIF	2.50	6.50	n. d.	7.80	2.90	10.20
Banco de Bogotá[a/]	2.80	6.20	2,900	7.76	3.90	9.50
Bancolombia[a/]	2.40	6.50	3,063	7.80	4.00	10.30
BBVA Colombia	2.40	6.90	3,100	8.09	3.90	10.30
BTG Pactual	2.30	6.65	3,160	n. d.	3.90	n. d.
Corficolombiana	2.70	5.90	2,750	7.00	3.60	9.30
Corpbanca[b/]	2.40	6.85	3,025	7.57	3.90	9.30
Corredores Davivienda[a/c/]	2.60	6.91	3,000	7.25	4.00	9.55
Credicorp Capital[d/]	2.30	5.80	2,850	7.10	2.50	10.10
Davivienda[a/]	2.60	6.91	3,000	7.25	4.00	9.55
Fedesarrollo[a/]	2.50	6.70	n. d.	n. d.	2.30	n. d.
Ultraserfinco[e/]	2.70	6.29	3,000	7.75	3.90	10.50
Average	**2.48**	**6.52**	**3,040.73**	**7.53**	**3.61**	**9.95**
Foreign Analysts						
Citibank-Colombia	2.40	5.20	2,953	7.60	3.90	9.60
Deutsche Bank	2.40	6.20	3,253	n. d.	4.00	9.70
Goldman Sachs	2.00	5.90	3,100	n. d.	3.80	n. d.
JP Morgan	2.20	6.40	3,100	n. d.	3.60	n. d.
Average	**2.25**	**5.93**	**3,102**	**7.60**	**3.83**	**9.65**

a/ The projected deficit pertains to the national government.
b/ Formerly Banco Santander
c/ Formerly Corredores Asociados
d/ Formerly Correval
e/ Formerly Ultrabursátiles
n.d. Not available.

Table A2
Forecasts for 2017

	Real GDP Growth	Inflation - CPI	Nominal Exchange Rate End of:
	(Percentage)		
Local Analysts			
Alianza Valores	2.80	5.50	3,900
ANIF	3.40	3.80	n. d.
Banco de Bogotá	3.20	4.00	2,900
Bancolombia	2.70	3.70	3,168
BBVA Colombia	3.00	4.60	2,800
BGT Pactual	3.10	3.94	3,255
Corficolombiana	3.20	3.70	2,500
Corpbanca[a/]	3.40	4.10	2,930
Corredores Davivienda[b/]	3.20	5.48	n. d.
Credicorp Capital[c/]	3.00	3.50	2,600
Davivienda	3.20	5.48	n. d.
Fedesarrollo	3.00	4.30	n. d.
Ultraserfinco[d/]	2.70	4.60	2,900
Average	**3.07**	**4.36**	**2,994.8**
Foreign Analysts			
Citibank-Colombia	3.00	3.70	2,900
Deutsche Bank	3.10	4.00	3,155
Goldman Sachs	2.70	3.80	3,400
JP Morgan	3.20	n.d	3,200
Average	**3.00**	**3.83**	**3,164**

a/ Formerly Banco Santander
b/ Formerly Corredores Asociados
c/ Formerly Correval
d/ Formerly Utrabursátiles
n.d. Not available
Source: Banco de la República (electronic survey)

quarter. The foreign analysts who were consulted are forecasting 2.25% GDP growth, on average.

As for prices, the domestic analysts estimate 6.52% inflation and foreign analysts expect it to be 5.93% by the end of the year. Both forecasts are outside the target range set for 2016 by the Board of Directors of Banco de la República (JDBR) (between 2.0% and 4.0%).

In terms of the exchange rate, the domestic analysts expect the representative market rate (TRM by its acronym in Spanish) to end the year at COP 3,040.73, on average, versus COP 3,098.64 estimated in the survey considered in the previous report. The foreign analysts expect the TRM to be around COP 3,101.50 by the end of the year.

Regarding the interest rate on fixed-term deposits (DTF by its acronym in Spanish), the domestic analysts expect it to average 7.53%, which is 47 bp more than was estimated in the *Inflation Report* for the previous quarter. They also expect the unemployment rate to be 9.95%.

2. Forecasts for 2017

The domestic analysts are forecasting 3.07% economic growth in 2017, while the foreign analysts are expecting 3.00%. As for inflation, the domestic and foreign analysts are forecasting 4.36% and 3.83%, respectively. In terms of the nominal exchange rate, the Colombian institutions are expecting it to average COP 2,994.76, while the foreign ones are forecasting COP 3,163.75.

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