



INFLATION REPORT

March 2015*

*Submitted by the technical staff to the Board of Directors for its meeting on April 24, 2015.

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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 growth in output near its long-term trend. Accordingly, the objectives of monetary policy combine the goal of price stability with maximum sustainable growth in output and employment. In this respect, 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 quantitative inflation targets for the current year and the next. BDBR policy initiatives are designed to meet each year's target and to provide for long-term inflation at around 3%. The annual change in the consumer price index (CPI) is the inflation measurement used.

THE DECISION-MAKING PROCESS

Monetary policy decisions are 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 targets. If the 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. For the most

part, this is done by changing the benchmark interest rate (charged by *Banco de la República* on short-term liquidity operations).

COMMUNICATION AND TRANSPARENCY

Decisions on monetary policy are announced after meetings of the Board of Directors. This is done through a press bulletin posted immediately on *Banco de la República's* website (www.banrep.gov.co).

Inflation reports are published quarterly and intended to give transparency to the Board's decisions. They also contribute to a better understanding of monetary policy and help to enhance its credibility. Specifically, these reports: i) let the public know how the Board of Directors and the Technical Governor of the Bank view recent and anticipated changes in inflation and its short- and mid-term determinants; ii) explain the implications of those determinants for monetary policy management within the scope of inflation targeting; iii) describe the context and analysis justifying monetary policy decisions made during the quarter; and iv) provide information that helps agents in the economy to form their own expectations about future developments with respect to inflation and growth in output.

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DEVELOPMENTS IN INFLATION AND MONETARY POLICY DECISIONS

Global growth in the first quarter was slower than anticipated. Economic activity in the United States was weak and is expected to recover during the second half of the year. Growth in the euro area and Japan was modest, the Chinese economy continues to decline and growth in several Latin American countries is low or at negative rates. Therefore Colombia's major trading partners are likely to see less average growth in 2015 than in 2014.

The strengthening of the dollar against most currencies has partially reversed and risk premiums for Colombia and other countries in the region have declined. This has eased upward pressure on the cost of the country's foreign financing. The oil market suggests that part of the accumulated decline in Colombia's terms of trade will be permanent and will have a negative impact on national income.

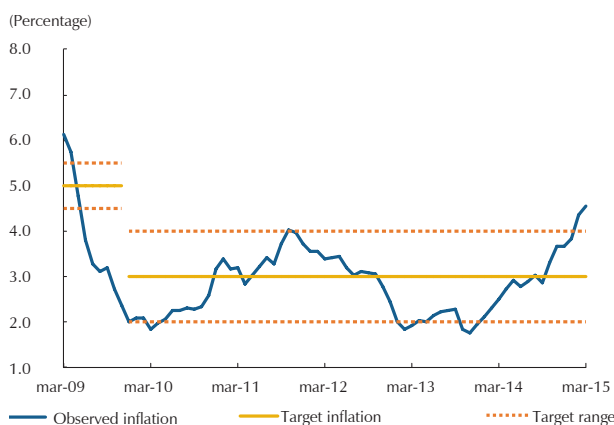
Given the international situation, the Colombian economy is adjusting to the new external conditions. Export revenues have declined, because of lower international prices for a number of export products, especially oil, and also due to the performance of industrial exports. As for domestic demand, consumption and investment have slowed in some sectors, consistent with the decline in national income and with fewer incentives to invest in the sectors producing natural resources. In view of this situation, the technical staff estimates economic growth during the first quarter of 2015 would be somewhere between 2.0% and 3.5%, with 2.7% as the most likely figure.

The forecast for the coming quarters is that the strength of the job market, the soundness of the financial system and the momentum in lending will help to temper the anticipated slowdown in consumption. Similarly, investments in civil works and construction should remain dynamic. Moreover, real devaluation of the peso is expected to have a positive impact on the performance of the export sectors and those that compete with imports. To

the extent that the impact of the oil shock dissipates, it is natural to expect the economy to return to its long-term trend.

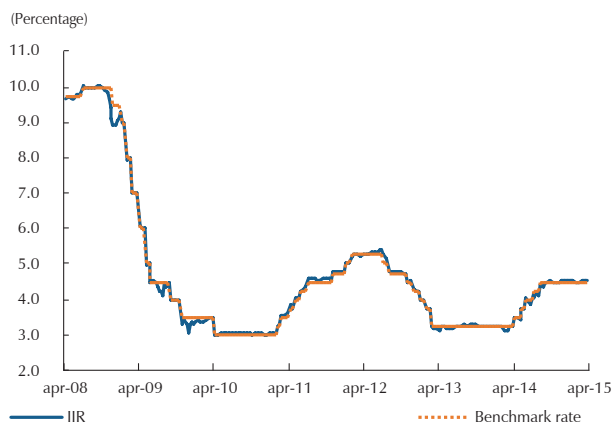
Taking all this information into account, *Banco de la República*'s technical staff estimates economic growth in the second half of the year will be higher than in the first six months and will be somewhere between 2.0% and 4.0% in 2015 as a whole, with 3.2% as the central forecast. This forecast range is consistent with a projected current account deficit that would be less in dollars and, as a percentage of GDP, would be in a range of 4.2% to 6.1%, with 5.3% as the most likely figure. Approximately 0.9 percentage points of this estimate are explained by the reduced value of GDP in US dollars, given the higher level of the exchange rate.

Graph A
Total Consumer Inflation



Sources: DANE and Banco de la República.

Graph B
Banco de la República's Benchmark Interest Rate and the Interbank Interest Rate (IIR) (2008-2015) ^{a/}



A/ The figures are data for business days; the last figure is for April 30, 2015. Sources: Colombian Superintendence of Finance and Banco de la República

As for prices, inflation continued to rise during the first quarter of 2015 and was 4.56% in March (Graph A), which is above the target range set by the Board of Directors of *Banco de la República* for 2014. This deviation from the central forecast is explained largely by the temporary increase in food prices and, to a lesser extent, by the pass-through of peso depreciation to domestic prices. The average of the core inflation measures increased as well and was 3.65%.

In the second half of 2015, inflation should start to converge towards the long-term goal, to the extent that the food supply returns to normal. Although the pass-through of peso depreciation to prices for tradable goods is expected to continue for some months, few demand-side pressures and lower production and transportation costs caused by the drop in oil prices will help to offset these increases. Consequently, the forecasts suggest inflation will end up near the ceiling of the target range in 2015 and will continue to converge towards 3% in 2016.

In this economic environment, the Board of Directors of *Banco de la República* decided, at its meetings in February, March and April 2015, that it was appropriate to hold the benchmark interest rate at 4.5% (Chart B). An analysis of the current economic situation and prospects for the future suggests the rise in inflation is largely temporary.

In view of the fact that part of the reduction in national income would be permanent, domestic spending in the economy will have to adjust to reduce vulnerabilities and to create the conditions required for sustained growth in the future. The Board of Directors indicated it will continue to monitor the magnitude of that adjustment and its coherence with the long-term income level, with sustainability of the external deficit and, in general, with macro-economic stability. It further reiterated its commitment to keep inflation and inflation expectations anchored to the inflation target, while recognizing there has been a temporary increase in inflation.

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I. EXTERNAL CONTEXT AND BALANCE OF PAYMENTS

In this report, the average growth forecast for Colombia's trading partners in 2015 was reduced. Growth is expected to be less than it was last year.

During the early months of the year, the price of oil was higher than expected in the previous edition of this report, which is why the forecasts were revised upwards.

In 2014, the current account deficit as a percentage of GDP widened as a result of external shocks to the merchandise trade balance. For 2015 the technical staff expects a less negative external balance in dollars, but similar as a percentage of GDP.

A. THE INTERNATIONAL CONTEXT

1. Real Economic Activity

Given the figures observed in the fourth quarter, the economic growth of Colombia's trading partners¹ in 2014 was consistent with what was expected in the central forecast outlined in the December edition of the *Inflation Report*. The expansion in this group of countries was 1.5%, which is less than the figure for 2013 (3.3%).

The slowdown experienced by our trading partners was due to less growth in the emerging market economies, especially in Latin America, which was offset partly by improved performance in the developed economies, particularly the United States. An important part of the reduction in Latin

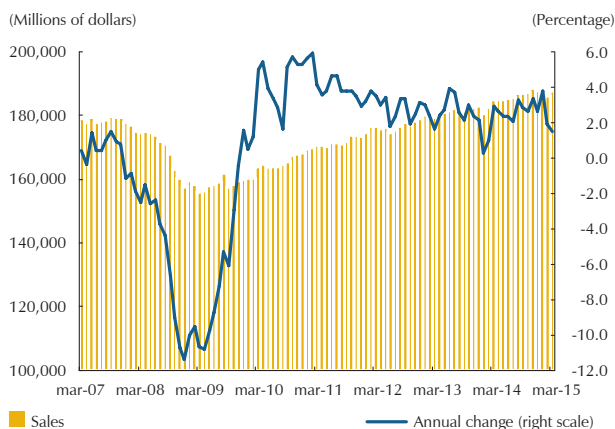
Average growth for Colombia's trading partners in 2014 was less compared to the year before.

¹ The growth of Colombia's trading partners is calculated as a weighted average, using each country's share in the destination of Colombia's non-traditional exports as the weighing factor. These factors were updated for this edition of the *Inflation Report*, which is why the values do not match those presented in previous editions.

America is explained by weaker external demand and the drop in terms of trade, as a result of lower prices for the key export commodities of these countries. The favorable performance of the US economy is due to the pace of growth in domestic demand, particularly consumption and non-residential investment.

The data available for the first quarter of 2015 suggest growth in the emerging economies would have remained weak, especially in the case of China, where there has been a stronger than expected slowdown. Meanwhile, the expansion in real economic activity in the developed countries was mixed. On the one hand, the United States economy has been less dynamic, primarily because of temporary factors; on the other, the upturn in consumer and business confidence in the euro area has led to a stronger than anticipated recovery.

Graph 1
Real Retail Sales in the United States



Source: Bureau of Economic Analysis.

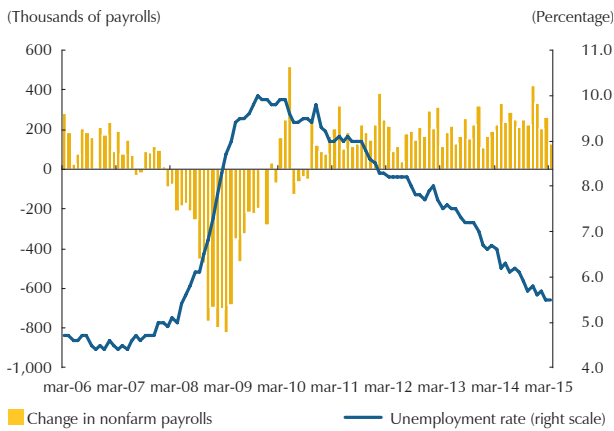
In the case of the United States, the harsh winter would have affected consumer spending in January and February, as observed in the reduction in annual retail sales growth (Graph 1). The first three months of the year also saw a significant decline in the growth of industrial production and exports, which would be explained by several temporary operational shutdowns at ports on the West coast and the adverse effect of the strengthening of the dollar relative to most of the world’s currencies. Despite this, the consumer confidence indicators and the non-manufacturing indexes in April were still high and suggest the US economy would recover during the second quarter.

As for the labor market, the slowdown in the economy during the first quarter would have lessened, to some extent, the recovery in job creation observed during the previous year. Consequently, the average monthly increase in non-farm payrolls went from 324,000 in the final three months of 2014 to 197,000 for the first quarter of 2015. Even so, the March figures show the unemployment rate remained low (5.5%) (Graph 2), while other indicators monitored by the Federal Reserve, such as long-term unemployment² and under-employment,³ have continued to

2 This is defined as the number of persons who have not found a job in more than 27 weeks, as a share of the total unemployed.

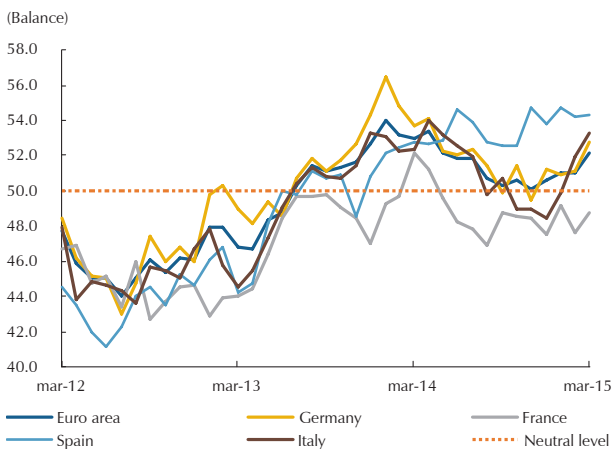
3 This refers to the total number of employed, employees with part-time jobs who want to work full-time, and those outside the labor supply who would be willing to work if they obtain a job (marginally linked to the job market), as a portion of the workforce and marginally attached to the job market.

Graph 2
Unemployment Rate and Non-farm Payrolls in the United States



Source: Bloomberg.

Graph 3
Purchasing Managers' Index (PMI) for Several European Economies



Source: Bloomberg.

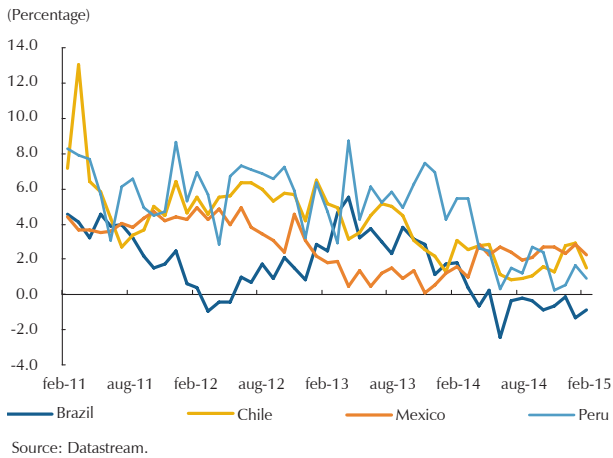
improve and suggest that excess capacity in the job market continues to decline.

In the euro area, the figures up to February indicate the economic recovery would be stronger than was anticipated in the previous edition of the *Inflation Report*. The monetary stimulus measures adopted by the European Central Bank (ECB) would have had a positive impact on consumer and business confidence and the demand for credit, which has begun to show some signs of recovery. Meanwhile, a weaker euro against the world's major currencies would be boosting exports. In fact, the figures up to February demonstrate favorable export growth. Additionally, the data for March show positive trends in the indicators of manufacturing activity and services for the euro area as a whole (Graph 3).

However, performance by country remains mixed. On the one hand, the Spanish economy continues to recover favorably, thanks to the improved competitiveness generated by the reforms adopted after the crisis. Similarly, the indicators for Germany also suggest good momentum in that country's economy, thanks to the added boost from domestic demand. On the other hand, the economies of France and Italy, although showing some signs of recovery, are still quite weak because of their continuing structural problems.

For most emerging market economies, the increase in gross domestic product (GDP) during the first quarter of 2015 was modest. In the case of China, its GDP rose 7.0% in annual terms during the first quarter, which was below the growth rate recorded three months earlier (7.3%) and in 2014 (7.4%). This slowdown occurred largely because of the moderation in investment in fixed assets, especially in real estate. Additionally, the yuan has gained strength against most currencies in the world, adversely impacting China's exports. The country's government and its central bank have adopted stimulus plans to curb the slowdown in the Chinese economy, which, however, will not resolve the imbalances in other sectors (real estate and financial).

Graph 4
Annual Growth in Monthly Economic Activity Indexes for Several Latin American Economies



In Latin America, the indicators of real activity for February suggest the countries in the region continued to exhibit very sluggish momentum during the first quarter (Graph 4). Overall, foreign sales remained weak as a result of low prices for major export commodities and somewhat less demand from trading partners. Similarly, household and business confidence is still at low levels, affecting decisions on investment and consumption.

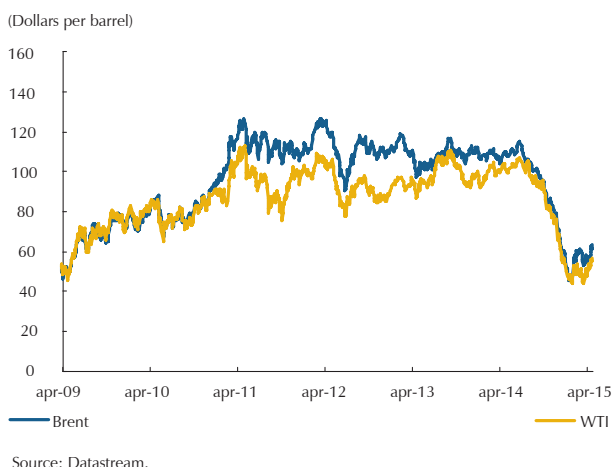
In addition to external shock and the shock to confidence, which are common for the countries in the region, several other idiosyncratic factors help to explain the low growth rate observed during the early months of the year. In Peru, for example, the climate

shock affecting the fishing sector since last year has yet to subside, which, given its important production linkages, has had adverse effects on the primary sector and on industry. Meanwhile, Brazil’s poor economic performance is explained partly by the fiscal consolidation that is underway and by low levels of investment. In the case of Ecuador, the weak performance in real economic activity is due largely to the reduction in national revenue caused by low oil prices and loss of export competitiveness following appreciation of the dollar.

2. Commodity Prices, Inflation and Monetary Policy

With regard to the prices of Colombia’s major export commodities, oil (Brent reference) ranged from USD 45 to USD 65 per barrel between January and April. However, it has trended upward slightly during the course of April (Graph 5). New outbreaks of geopolitical conflict in the Middle East, the prospect that output in the United States would begin to slow in the coming months and the recent weakening of the dollar partly explain this behavior. Despite this, global crude inventories are at historically high levels, so the downside risks persist.

Graph 5
International Oil Prices (Brent and WTI)



Despite this, global crude inventories are at historically high levels, so the downside risks persist.

For its part, the international price of coal remained low during the early months of the year, given less demand. This is mainly because of the slowdown in global economic activity and lower oil prices, which favor substitution.

International coffee prices fell sharply in February and remained low during March and April. Pros-

pects of a larger supply, thanks to relief from the climate factors that had affected production in Brazil, coupled with good harvests in Colombia, have influenced the price of this agricultural product.

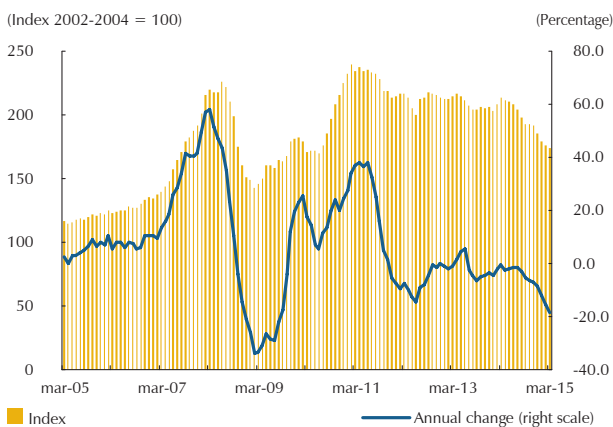
In terms of international food prices, the reductions that began in the middle of last year continued during the first quarter, as evidenced by a further annual decline in the food price index of the United Nations Food and Agriculture Organization (FAO) (Graph 6). In this case, the downward trend would be the result of an extensive global supply, which has resulted in large inventories.

This performance also is influenced by lower oil prices, which make the cost of transportation and certain input needed to produce these goods less expensive. The drop in oil prices also favors the substitution of biofuels for those derived from petroleum.

The country's terms of trade, with the figures at February and according to the commerce methodology,⁴ (Graph 7) were below those observed the year before, mainly due to low export commodity prices. This indicator is at levels that have not been witnessed since 2009.

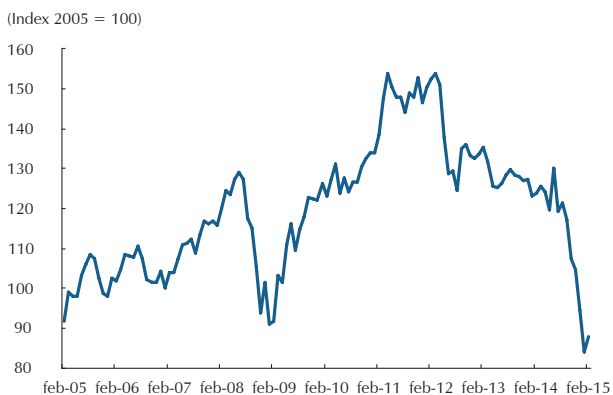
The reduction in commodity prices largely explains the declines in the consumer price index (CPI) observed in the developed countries during the last few months. Such is the case of the euro area, where annual inflation remained in negative terrain for the fourth month in a row and posted a decline of 0.1% in March. Meanwhile, annual inflation, excluding food and fuel, showed no significant changes and was 0.6%. In the United States, annual inflation dropped significantly in the first three months of the year, from 0.8% in December to -0.1% in March. Despite this, the measures of core inflation rose slightly during the first quarter, reaching 1.8%. Annual inflation in Japan declined as well but was still high, thanks to the consumption tax hike that took effect as of April 2014 (Graph 8).

Graph 6
International Food Prices



Source: United Nations Food and Agriculture Organization (FAO)

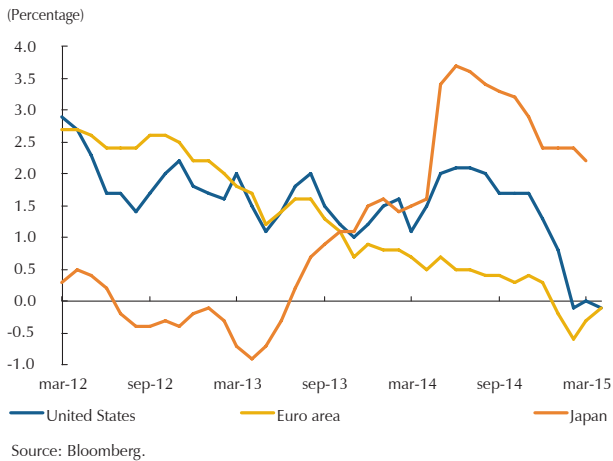
Graph 7
Terms of Trade Index for Colombia (Commerce methodology)



Note: See Box 2 in the September 2013 edition of the *Inflation Report* for more information on the methodology used.
Source: Banco de la República

4 With the commerce methodology, terms of trade are measured using administrative records as a source of data on exports and imports (DIAN and DANE). Pursuant to international recommendations (concerning the volatility of the series, the standardization of unit values, etc.), implicit prices are calculated for each tariff item and then weighed in a chained Paasche-type price index.

Graph 8
Annual Inflation in Several Developed Countries



With respect to monetary policy, the Fed kept its benchmark rate at 0.25%. The increase in this rate would be more gradual than was anticipated three months ago by the members of the Federal Open Market Committee (FOMC) at their meeting in March and by the market (derived from the futures curves). Meanwhile, in the euro area, the ECB launched a sovereign bond buying program to the tune of EUR 50 billion per month. It is expected to continue until at least September 2016.

In the Latin American economies, the outlook for inflation and the responses of monetary policy have been mixed. On the one hand, inflation in Brazil trended upward sharply, due to price increases for certain goods regulated under the country's fiscal consolidation plan. At its March meeting, the Central Bank of Brazil decided to raise its benchmark rate by 50 basis points (bp), placing it at 12.75% in a context where inflation expectations exceeded the target range.

Chile, on the other hand, has seen a moderation of the upward pressure on prices that had emerged early last year, mainly due to depreciation of the Chilean peso. This factor, coupled with inflation expectations anchored close to the central bank's target and an economy that remains weak, allowed the central bank to keep its interest rates low (3.0%). In Peru, some of the supply shocks that kept inflation high during the first half of 2014 have disappeared, allowing this indicator to converge towards the target set by the country's central bank (2.0%). As a result, and given the limited momentum in real economic activity, the Central Reserve Bank of Peru held its rates at 3.25% in April. Additionally, between January and March 2015, the Peruvian monetary authority registered approximately USD 2,790 million in net sales of foreign currency.

As for the emerging economies of Asia, annual inflation remained low in China, Korea, India, and Taiwan. In this context, the Central Bank of China adopted a more expansionary stance, reducing the deposit rate for banks by 100 bp and relaxed some of the regulatory terms in the mortgage market.

Inflation performance in the emerging economies was mixed. As for Latin America, inflation in Peru and Chile eased, but exhibited a sharp upward trend in Brazil. Inflation in the Asian countries has remained low.

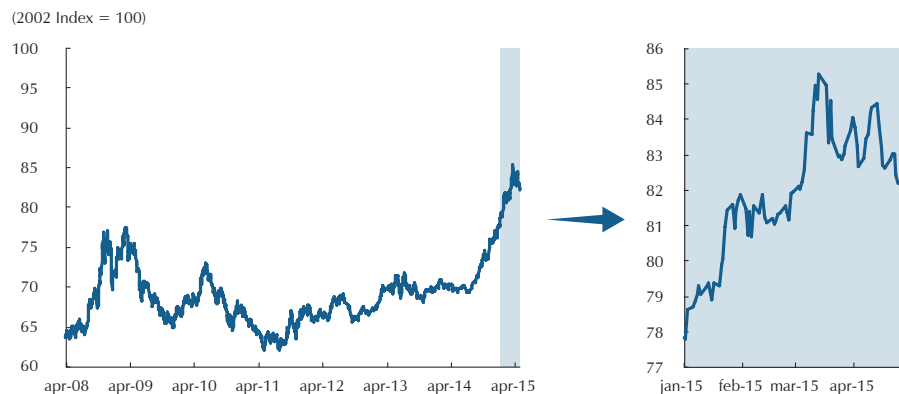
As for the emerging economies of Asia, annual inflation remained low in China, Korea, India, and Taiwan. In this context, the Central Bank of China adopted a more expansionary stance, reducing the deposit rate for banks by 100 bp and relaxed some of the regulatory terms in the mortgage market.

3. Financial Markets

The international financial markets showed mixed performance during the early months of the year. The risk aversion that began in the latter part of last year continued throughout January and February, accelerating apprecia-

tion of the dollar against the world’s major currencies (Graph 9), while most emerging economies saw an increase in their risk premiums. However, these trends were reversed in March and April and, as a result, there was a partial setback in the strengthening of the dollar and declines in risk premiums. This was due to changes in the market’s expectations concerning interest rate hikes in the United States following the Fed’s meeting in March, when it lowered its forecasts for the benchmark rate and economic growth.

Graph 9
Trade Weighted Dollar Exchange Rate Index (TWI)
(2002 Index = 100)



Source: Bloomberg.

In the United States, the rates on ten-year bonds rose during February. However, given the prospect of a slower-than-announced return to normal in monetary policy, a large part of this increase was reversed in March and April (Graph 10).

Graph 10
Interest rates for 10-year United States Government Bonds

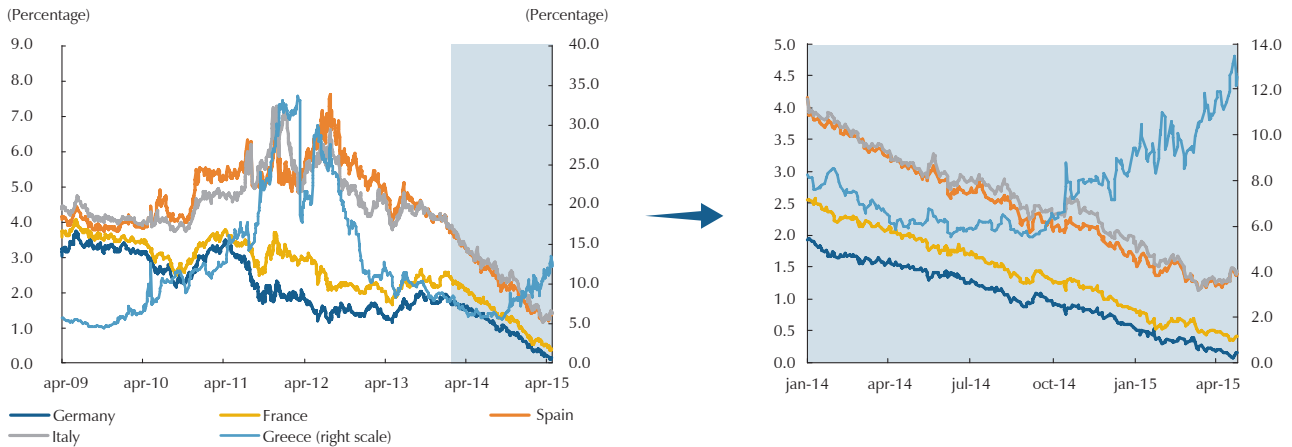


Source: Bloomberg.

In the euro area, the rates on ten-year sovereign bonds remained low for Germany, Spain, Italy and France, while Greek bonds continued on a clear upward trend (Graph 11). In the case of the latter, the increase was explained by the uncertainty about Greece’s fiscal sustainability, as a result of the lack of an agreement with the European Commission, the ECB and the International Monetary Fund (IMF) on the extension of the financing program for that country. However, so far there has been no contagion to the other economies in Europe. In fact, funding costs were low due to the onset of the ECB’s sovereign bond buying program.

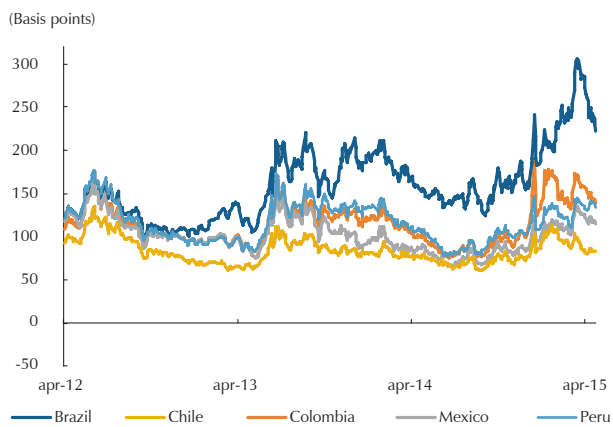
In the case of Latin America, risk premiums increased during the first two months of the year and

Graph 11
Interest Rates on 10-year Government Bonds of Several Countries in the Euro Area



Source: Bloomberg.

Graph 12
Five-year Credit Default Swaps (CDS) for Several Latin American Countries



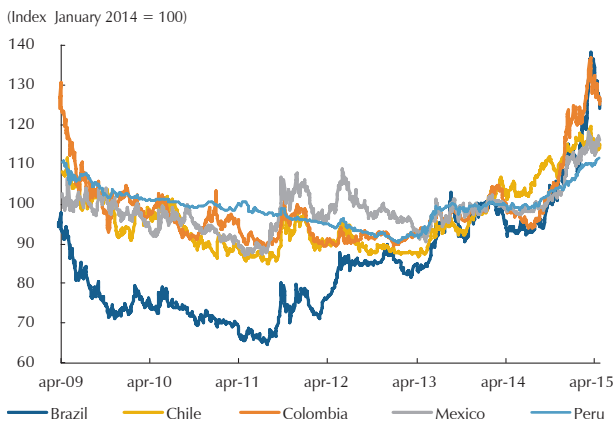
Source: Bloomberg.

then declined between March and April. Consequently, in April, five-year credit default swaps (CDS) fell from what was observed during the first quarter; however, they are still above the 2014 average (Graph 12). The Latin American currencies showed similar performance, since they continued to depreciate significantly in January and February before reversing some of this weakness in the two months thereafter (Graph 13). Despite the appreciation recently observed, the region's currencies have depreciated so far this year, particularly the Brazilian real, the Peruvian sol and the Colombian peso, which lost 11.1%, 5.2% and 3.2% of their value against the dollar, in that order (Box 1).

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

The average growth forecast for Colombia's trading partners was revised downwards in this report with respect to the estimate in the previous edition. This is due to a stronger than expected slowdown in China, continued weakness in the Latin American economies and the temporary shock to the United States economy. Therefore, economic expansion of the country's major trading partners is expected to be 1.3% for this year, which is lower than the forecast three months ago (1.9%) and the figure observed for the previous year (1.5%) (Table 1). However, our trading partners are expected to recover in 2016 and grow 2.4%.

Graph 13
Exchange Rate Indexes for Several Latin American Countries



Source: Bloomberg.

As for individual countries, the forecast for growth in the United States during 2015 as a whole was revised downward, reflecting the sluggishness observed during the first quarter. However, for the rest of the year and in 2016, the fundamental factors of consumption are expected to remain favorable. Therefore, household spending would gain strength and consolidate as the primary engine of growth. In addition, the positive impact of low oil prices on consumption would be greater than the adverse effect this shock would have on investment. However, exports continue to be affected by the strength of the dollar against the world's major currencies. In this context, growth would be 2.8% in both 2015 and 2016.

The figures for job creation in the United States would be consistent with the good performance forecast for the economy. Accordingly, the labor

Table 1
Growth Forecasts for Colombia's Major Trading Partners

Growth forecasts for trading partners	2014	Forecasts for 2015			Forecasts for 2016		
		Scenario			Scenario		
		Minimum forecast	Central forecast	Maximum forecast	Minimum forecast	Central forecast	Maximum forecast
Main partners							
United States	2.4	2.2	2.8	3.4	2.0	2.8	3.6
Euro Area	0.9	0.8	1.3	1.8	0.8	1.5	2.0
Venezuela ^{a/}	(4.0)	(7.0)	(5.0)	(3.0)	(2.0)	0.0	2.0
Ecuador	3.8	0.2	1.5	2.2	1.0	2.0	3.0
China	7.4	6.4	6.8	7.2	6.0	6.5	7.0
Other partners							
Brazil	0.1	(1.2)	(0.6)	(0.2)	0.3	1.0	1.5
Peru	2.4	3.0	4.0	4.7	3.0	4.5	5.5
Mexico	2.1	2.0	3.0	3.5	2.5	3.5	4.0
Chile	1.8	2.5	3.0	3.5	2.5	3.5	4.5
Total trading partners (non-traditional trade-weighted)	1.5	0.3	1.3	2.1	1.4	2.4	3.4
Developed countries ^{b/}	1.8		2.4		2.4		
Emerging and developing countries ^{b/}	4.6		4.3		4.7		
Total worldwide ^{b/}	3.4		3.5		3.8		

a/ There is no 2014 data available for Venezuela. The forecast published in the December edition of the *Inflation Report* is used to calculate the growth in trading partners.

b/ IMF forecasts at January 2015

Source: Calculations by Banco de la República

The Fed is expected to raise its benchmark rate during the third quarter of 2015 and to continue with gradual adjustments during 2016.

market recovery would persist, existing spare capacity would continue to be eliminated and there would begin to be some upward pressure on wages. Therefore, and because fuel prices are forecast to recover, inflation is expected to exhibit a growing trend towards 2016 and to converge towards the Fed's long-term goal (2.0%).

In terms of monetary policy, the foregoing predictions assume the Fed would increase its benchmark rate during the third quarter of 2015 and would continue to make adjustments throughout 2016. However, the increases would be more gradual than those anticipated in the previous edition of the *Inflation Report*. The slow withdrawal of monetary stimulus is not expected to generate significant volatility in the financial markets and should transmit correctly to market rates.

Economic recovery in the euro area would be stronger than anticipated in the previous edition of this report. The measures adopted by the ECB have allowed confidence to recover and have, to some extent, restored the credit channel, which would encourage private consumption and investment. Moreover, the weaker euro would continue to boost exports outside the European Union. Consequently, growth would be 1.3% in 2015 and 1.5% in 2016.

A breakdown, by country, shows the reforms adopted in several of the peripheral economies would allow their recovery to keep going. In addition, Germany is expected to continue to expand at a favorable rate. The economies of France and Italy would still face structural problems with respect to competitiveness, but would be favored by the recovery in confidence in the region and the weak euro.

Real economic activity in China would continue to slow during 2015 and 2016, as financial market liberalization and rebalancing towards an economy supported by private consumption gains ground. In this context, investment in fixed assets and lending are expected to continue to gradually reduce the momentum they exhibited in previous years and to make less of a contribution to growth. Moreover, the strength of the yuan would have an adverse effect on the competitiveness of Chinese exports, so foreign trade would contribute little to the expansion in economic activity. However, the slowdown in growth will be gradual, because China's government and its central bank would implement stimulus measures.

Real economic activity in China would continue to slow during 2015 and 2016.

In Latin American countries, mixed performance is expected for 2015 and 2016. On the one hand, Peru and Chile would recover somewhat, due to lower oil prices and the stimulus expected on the part of the public sector. Similarly, Mexico would be helped by a more dynamic economy in the United States. In contrast, Brazil's economy will shrink in 2015 because of

the fiscal consolidation that is underway in that country and the low levels of business and consumer confidence. However, some recovery is anticipated for 2016. In Ecuador, economic growth would be weak as a result of oil prices that should remain relatively low and the strong dollar. Meanwhile, Venezuela would continue contract due to structural problems, which have intensified with low international oil prices.

Regarding the price of oil (Brent reference), the average for the first four months of the year (USD 55.7 per barrel) has been higher than was anticipated in the December edition of *the Inflation Report*; accordingly, the forecast for all 2015 was revised upwards from USD 50 to USD 55 per barrel. Furthermore, there have been unforeseen geopolitical conflicts, and the slowdown in the production of unconventional deposits in the United States would be occurring much earlier than forecast. Despite the existence of factors that exert upward pressure on prices, the remainder of the year is expected to see volatility in crude oil prices, considering the significant downside risks posed by high inventory levels, a global supply of crude oil that remains elevated and weak demand. In 2016, the higher forecasts for global growth are expected to increase the demand for oil, which coupled with a drop in production of unconventional deposits, would favor a recovery in prices.

The prices of other commodities exported by Colombia are expected to drop during 2015 compared to those observed, on average, during 2014. On the one hand, coal prices continue to decline, following a worldwide substitution from coal to natural gas or petroleum derivatives to generate power. On the other hand, the price of coffee would be low due to the recovery of production in Brazil and because the supply in the Asian countries and in Colombia would remain high (Table 2).

As in previous quarters, the central forecast continues to present non-negligible downside risks. On this occasion, the main risk comes from the fact

Table 2
Benchmark Price Forecasts for Colombian Commodity Exports

Major products	2014	Forecasts for 2015			Forecasts for 2016		
		Scenario			Scenario		
		Minimum forecast	Central forecast	Maximum forecast	Minimum forecast	Central forecast	Maximum forecast
Colombian coffee (ex dock; dollars per pound)	1.97	1.60	1.80	2.00	1.60	1.90	2.20
Brent crude (dollars per barrel)	99.2	45	55	65	50	65	80
Coal (dollars per ton)	75.2	52	58	63	47	56	65
Nickel on the London exchange (dollars per ton)	16,898	13,465	15,484	17,504	12,118	14,811	16,830
Gold ^{a/} (dollars per troy ounce)	1,266	1,300	1,200	1,100	1,400	1,250	1,100

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 normalization of monetary policy in the United States could have an adverse effect on financial markets and confidence.

that normalization of monetary policy in the United States could adversely affect global financial markets and business and household confidence. This would have an impact on decisions regarding consumption and investment; it also would affect capital flows to emerging markets.

Another important risk originates from a possible Greek exit from the European Union, resulting in funding problems for its financial system and its government that might spread to other economies in the region.

Ultimately, a sharper slowdown in the emerging countries cannot be ruled out. In the case of China, this would happen mainly because of the problems associated with financial stability and a further decline in the country's real estate market. For the Latin American economies, the decline in international prices and low levels of confidence could have more of an impact on economic activity than what is forecast in the baseline scenario.

B. BALANCE OF PAYMENTS

The current account deficit came to 5.2% of GDP (USD 19,780 m) in 2014, increasing with respect to that observed in 2013 (3.2%, USD 12,330 m). The deterioration in the country's external balance was due to the sharp drop in the price of oil, the supply shocks registered for coal and refined petroleum products during the year, the slowdown in external demand, and the momentum in imports. The merchandise trade balance posted a deficit of USD 4,694 m in 2014, compared to a surplus of USD 3,180 m the year before. This reflects the reduction of 5.5% in total exports in dollars during 2014, while total imports in dollars were up by 8.0%.

The result for merchandise trade was accompanied by a larger deficit in the non-factor services account with respect to the one in 2013 (USD 657 m). The larger negative trade balance for goods and services was partly offset by a reduction in factor income in the amount of USD 1,319 m, primarily due to the sharp decline profits remitted from direct investment in Colombia, especially those related to the mining-energy sector. At the same time, revenue from current transfers was down by 5.2%, mainly because of a smaller amount of worker remittances from Venezuela.

In 2014, Colombia's external deficit was 5.2% of GDP, due to a sharp deterioration in the country's trade balance of goods.

In terms of financing the external balance, the capital and financial account in 2014 registered USD 23,949 m in net inflows, which was more than in 2013, when net capital inflows were valued at USD 18,782 m. This was associated, in particular, with increased flows of portfolio investment (USD 11,631 m) during the year, both in the local bond market (thanks to the increase in the weight of the country's peso-denominated securities in the JP

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

	2011	2012	2013(pr)	2014(pr.)	2015(proj.)
Current account (A+B+C)	(9,710)	(11,306)	(12,330)	(19,780)	(17,038)
Percentage of GDP	(2.9)	(3.1)	(3.2)	(5.2)	(5.3)
A. Goods and services	950	(843)	(2,749)	(11,280)	(13,016)
B. Primary income (factor income)	(15,494)	(15,042)	(14,175)	(12,857)	(8,469)
C. Secondary income (current transfers)	4,834	4,579	4,594	4,357	4,446
Financial account (A+B+C+D)	(8,921)	(11,748)	(11,836)	(19,512)	(17,038)
Percentage of GDP	(2,7)	(3,2)	(3,1)	(5,2)	(5,3)
A. Direct investment (ii-i)	(6,228)	(15,646)	(8,547)	(12,155)	(11,226)
i. Foreign investment in Colombia (FDI)	14,648	15,039	16,199	16,054	13,226
ii. Colombian investment abroad	8,420	(606)	7,652	3,899	2,000
B. Portfolio investment	(6,090)	(5,690)	(6,978)	(11,631)	(4,064)
C. Other investment (loans, other types of credit and derivatives)	(345)	4,181	(3,257)	(164)	(2,022)
D. Reserve assets	3,742	5,406	6,946	4,437	274
Errors and omissions (E & O)	789	(443)	495	268	0

(pr.) preliminary
(proj.): projected

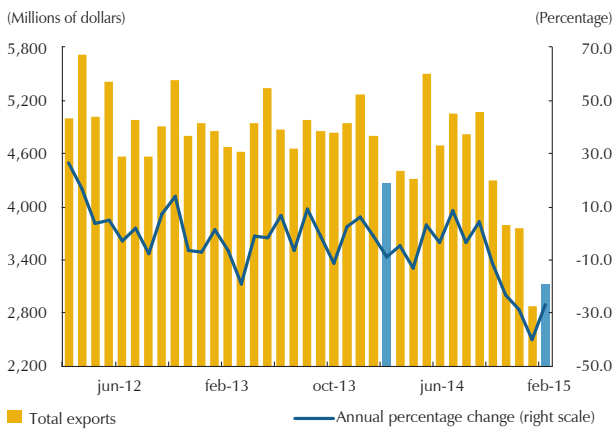
Observation: The results presented here follow the recommendations outlined in the sixth edition of the Balance of Payments Manual proposed by the IMF. For additional information and changes in methodology, see <http://www.banrep.gov.co/balanza-pagos>

Source: *Banco de la República*

Morgan government bond indexes for emerging markets – GBI) and in the sale of government bonds on international markets. Similarly, 2014 also saw an increase in net direct investment (USD 12,155 m). This was the result of foreign direct investment (FDI) at levels similar to those observed in 2013, coupled with a reduction in flows of Colombian investment abroad. During 2014, 40% of FDI resources were directed to the oil and mining sectors; the remaining 60% was registered in other sectors such as manufacturing (18.2%), financial and business services (15.4%), and transport, storage and communications (12.0%), among others. The increase in resources from direct and portfolio investments was offset partially by less revenue from other investment (loans and deposits). Moreover, *Banco de la República* accumulated USD 4,058 m in international reserves.

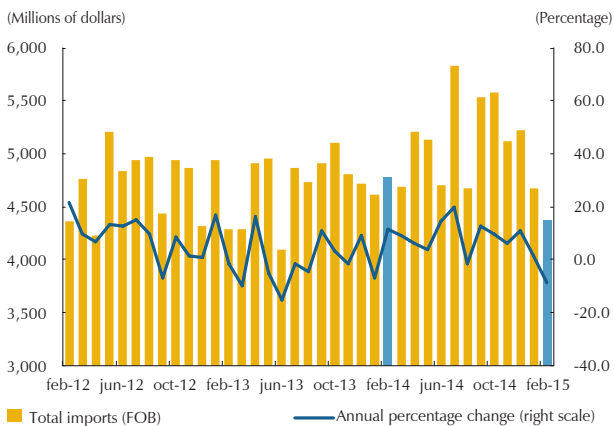
The current account deficit is expected to continue to widen during the first quarter of 2015. In fact, the available information on foreign trade in goods during January-February indicates the trade balance continued to deteriorate. During that period, total exports in dollars fell by 33.8% compared to the previous year (Graph 14), affected by lower international prices for

Graph 14
Total Exports
(Monthly)



Sources: DANE; calculations by Banco de la República

Graph 15
Total Imports (FOB)
(Monthly)



Source: DANE; calculations by Banco de la República

oil and coal, and less export value for industrial goods. Meanwhile, the value of imports FOB (free on board)⁵ declined at a rate of 3.7% in annual terms (Graph 15) (see shaded section, p. 29).

The larger estimated trade deficit would be offset, in part, by a reduction in net outflows of factor income, primarily associated with fewer profits in the mining sector and less of a service trade deficit, driven by the effects of peso depreciation. In addition, net income from transfers would be slightly higher than was the case during same period last year. This is consistent with a modest recovery in worker remittances, which had increased at an annual rate of 1.1% in March.

The available information on capital flows from the exchange market balance⁶ so far this year suggests a marked slowdown in the rate at which portfolio resources have entered the local market, even showing negative net values in March. Meanwhile, FDI flows to different sectors also declined in the first months of the year, especially those focused on oil and mining. This would be offset by portfolio resources obtained by the public sector in international markets, particularly those from the sale of USD 2,500 m in bonds by the central government and resources from an international loan secured by Ecopetrol during the first quarter of the year.

As in the previous edition of this report, different forecast scenarios for the balance of payments associated with the terms and the availability of foreign financing for the local economy were taken into account for 2015 as a whole. Given their uncertainty, these elements determine the extent of the forecast range for the current account deficit. These scenarios are constructed with the central assumptions for the external context that were outlined in the previous section and with different estimates for the financial account and domestic growth.

5 Unlike the balance of payments measurement, which takes into account imports FOB (free on board), the GDP calculation based on the national accounts considers imports CIF (cost, insurance and freight), which include the value of freight and insurance. The average total value of the latter, in dollars, came to USD 4,736 million in January-February 2015. This represents an annual decline of 3.3%.

6 Although the capital flows registered in the exchange market balance do not correspond exactly to what is registered in the balance of payments, since the former refer to the entry and outflow of foreign exchange, they do offer some idea of the trend.

EXPORTS AND IMPORTS IN US DOLLARS FOR 2014 AND SO FAR DURING THE FIRST QUARTER OF 2015

Total exports declined 5.5% in 2014 compared to the year before. This was due to fewer exports of mining and industrial goods, which fell by 9.8% and 4.8%, respectively. The first group saw generalized reductions in the value of exports of all products with the exception of coal. The strongest setback was in the group of refined petroleum products, with an annual variation of -34.6% due to the supply shock caused by the closure of Reficar.¹ Meanwhile, oil exports dropped 6.8% in annual terms, given the plunge in international prices, especially during the second half of the year, while gold and ferronickel posted respective annual reductions of 5.8% and 9.9%.

Industrial exports² were affected primarily by the slump in exports of meat, textiles, clothing, and vehicles. A breakdown by destinations, shows trade with Venezuela was impacted the most, with an annual decline of 7.0% in industrial exports to that country, while sales to Ecuador fell by 1.8%. In contrast, exports to the United States increased 5.0% during 2014. Those to other destinations posted an annual reduction of around 7.1%.

Agricultural goods saw 17.6% annual growth during the same period, due to a generalized increase in all products. Coffee exports, in particular, experienced a significant rise: 31.3% over 2014 as a result of higher prices on international markets and a significant increase in the volumes shipped.

In the meantime, imports rose 8.0% annually in 2014, driven generally by increases in all product groups. Foreign purchases of consumer goods saw 8.7% annual growth, with an increase of 11.5% in durable goods and 5.8% in non-durables. Imports of intermediate goods experienced an annual variation of 8.9%, with an important increase of 18.2% in fuels and lubricants associated with the closure of Reficar, while imports of

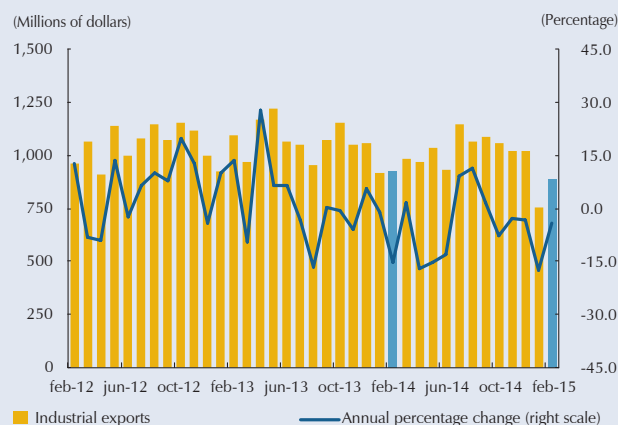
raw materials for agriculture and industry rose 2.9% and 6.1% respectively. Lastly, imports of capital goods rose 6.1%, with generalized growth in construction materials (2.4%), capital goods for industry and agriculture (6.2% and 2.3%), and transport equipment (6.9%).

Exports in dollars fell sharply during January-February 2015 (-33.8%), given the general reduction in foreign sales of mining products, especially oil and its derivatives (-50.8% and -67.9%, respectively). This was associated with the plunge in the international price of crude oil. Declines in exports of coal (-11.0%), ferronickel (-26.1%) and gold (-45.8%) were observed as well.

Industrial exports declined by 10.7% between January and February (Graph A). This reflects a reduction in non-traditional exports to all destinations, with the exception of the United States, where there was an annual increase of 2.6% (Graph B). Exports to the United States during the first two months of the year came to USD 243 m, accounting for 14.9% of industrial exports during that period. It is important to point out that the sharp decline in trade to Venezuela continues, with an annual drop of 47.4% during that period.

On the other hand, exports of agricultural goods posted an annual increase of 22.5% in those two months, fa-

Graph A
Industrial Exports and Others^{a/}
(Monthly)

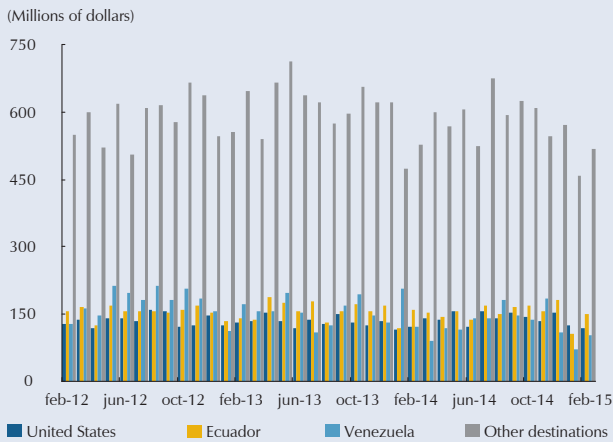


1 The decline in petroleum exports is explained, in part, by the shutdown of the Cartagena Refinery (Reficar) in early 2014 and also by the drop in oil prices.

2 These exports do not include petroleum or derivatives thereof, coal, ferronickel, gold, coffee, bananas or flowers and represent 27.4% of total exports during the period in question. Manufacturing exports account for 95.3% of this group.

a / Does not include oil or derivatives thereof, coal, ferronickel, gold, coffee, bananas or flowers. It does include other mining and agricultural goods.
Sources: DANE; calculations by Banco de la República.

Graph B
Non-commodity Industrial Exports to United States, Ecuador, Venezuela and Other Destinations^{a/}
(Monthly)

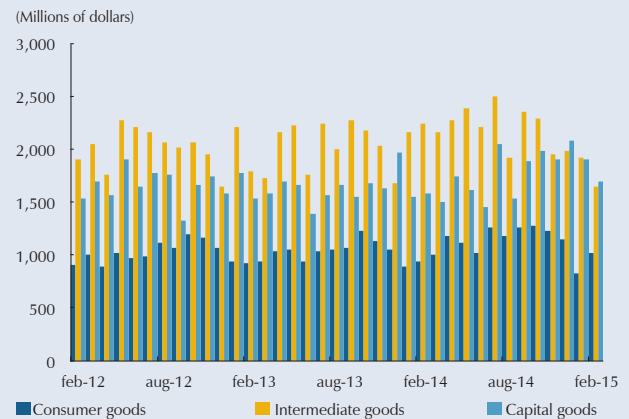


a/ Does not consider coffee, petroleum derivatives, ferronickel, gold, bananas or flowers.
 Sources: DANE; calculations by Banco de la República

vored particularly by foreign sales of coffee, which rose 55.7% annually during this period. In contrast, exports of bananas and flowers fell 13.0% and 1.6% during January-February 2015.

An annual contraction of 3.7% in FOB imports in dollars was reported during the same period. This was associated mainly with the annual drop in the value of exports of intermediate goods (-19.1%), particularly the 53.8% reduction in fuel imports. In contrast, imports of consumer and capital goods were up during this period by 1.4% and 15.0%; the latter was due particularly to aircraft imports (Graph C).

Graph C
Imports, by Type of Goods (FOB)



Source: DANE; calculations by Banco de la República

Compared to 2014, the central scenario for 2015 anticipates a slight rise to 5.3% in the current account deficit as a share of GDP. Although this would reflect a reduction in the current account deficit to USD 2,742 m, it would expand slightly as a share of GDP, due to a decline in the value of GDP in dollars, given the nominal depreciation that is expected for 2015. This effect on the current account deficit as a share of GDP is of approximately one percentage point (Table 3). The forecast includes the impact of falling oil prices on the different accounts in the external balance: on the one hand, the merchandise trade deficit is expected to widen as a result of a sharp decline in the value of major mining and agricultural exports, partially offset by a moderate recovery in other exports and a reduction of imports. Export performance would be affected by lower forecast for the price of oil (USD 55 / bl Brent) and coal, which would be offset somewhat by better prospects for products of agricultural origin, together with the recovery in exports of petroleum derivatives when Reficar resumes operations at the end of the year. As for all other exports, moderate growth of around 2% is anticipated,

The estimate for 2015 includes a reduction in the current deficit in US dollars, associated with a better external balance in the services accounts and less net outflow of factor income.

As for the financial account, there is expected to be less net income from direct investment, particularly because of fewer resources for the mining-energy sector.

bolstered largely by the effect of depreciation, despite the slowdown in external demand from our trading partners.⁷

Therefore, according to the central forecast, exports of major products would decline by about 34% (in dollars), while exports overall would be down 24%. Imports in dollars would decline compared to those observed in 2014 (-15.5% annually), given a sharp drop in imports of capital goods for the mining-energy industry, less momentum in domestic demand and the overall decline in international prices for imported goods, especially intermediate goods (mainly fuels).

On the other hand, a reduction in the service trade deficit and a decline in net outflows of factor income associated with fewer profits remitted from the mining-energy sector and the effect of peso depreciation on profits in the other sectors is anticipated. Current transfers could experience moderate growth compared to that observed a year ago, mainly because of the impact the recovery in the advanced economies (primarily the United States and Spain) would have on income from worker remittances.

The reduced current account deficit in dollars is consistent with a context of lower capital flows compared to those on record for 2014, affected by fewer FDI resources and more moderate inflows of foreign portfolio investment in a situation of better conditions for the developed economies and possible advances towards monetary normalization in the United States. In this respect, net FDI is expected to be less compared to the previous year (USD 11,226 m in 2015 versus USD 12,155 m in 2014), particularly because of reduced flows to the oil and mining sectors, coupled with moderation in the flows to other sectors. This is explained by the estimated slowdown in domestic demand and the lower value in dollars of proceeds from the reinvestment of profits in some sectors (especially non-tradables), given depreciation of the exchange rate. In particular, it is assumed that investment in oil will decline by 25%.

Fewer resources from portfolio investment are expected, due to a higher base of comparison in 2014, when significant flows of this type occurred as a result of the increase in the weight of Colombian government bonds in several emerging market benchmark indexes. This would be offset, in part, by added revenue from other investments (loans and deposits) and by the end of *Banco de la República's* program of purchasing international reserves.

⁷ An increase in export volume is anticipated for most commodities, consistent with the forecasts for increases in their production (3.2% for oil, 7.5% for coal and 5% for coffee).

The forecast range of 4.3% to 6.1% for the external balance relative to GDP in 2015 is associated with the uncertainty surrounding the terms for financing the financial and capital account.

A scenario of broader financing on foreign markets would generate a larger current account deficit in a context of stable spreads in risk premiums and financing costs. This would be accompanied by a better reaction from FDI in sectors other than oil, which would make it possible to support a higher current account deficit than the one in 2014. All of this would boost domestic demand, which would be less affected by the oil shock.

In contrast, a scenario where foreign resources are more costly, given less confidence in the emerging markets and an anticipated hike in interest rates by the Fed, could lead to a sharper adjustment in the external accounts and more constraints on domestic demand growth.

Given the above, the forecast range estimated for the current account deficit in 2015 is between 4.3% and 6.1% of GDP, with a downside bias due to the risk balance weighing on the international context, especially with respect to terms and conditions for foreign financing. This forecasts took into account the international prices for commodities exported by Colombia and the growth of its trading partners, as considered in the central forecast outlined in Part A of this chapter. However, as indicated in that section, the current situation also poses additional risks for global growth and for commodity prices. These risks were not considered within the range of the external account forecasts presented in this report, but constitute an additional framework of uncertainty that could affect the forecasts outlined herein.

Lastly, the forecast for the external balance in 2016 would be framed by an environment of improved momentum in global growth, characterized by consolidation of the recovery in advanced economies and a better outlook for Colombia's trading partners in the region, despite an additional slowdown expected for China. Good performance on the part of foreign demand would be consistent with a partial recovery in oil prices.

In this scenario, the country's exports are expected to be more dynamic, driven especially by a higher value of oil exports and good market prospects for industrial exports. Imports, on the other hand, would experience moderate growth in response to an increase in domestic demand, which would be higher than what is estimated for 2015. This implies a correction in the merchandise trade deficit, offset partly by increased remittances of profits from the mining-energy sector, due to better oil prices. Accordingly, it is estimated the current account deficit would be lower in 2016, with the central forecast being around 4.8%.

Box 1 - RECENT PERFORMANCE OF THE EXCHANGE RATE IN COLOMBIA

Jose Fernando Moreno
Juan Sebastian Rojas *

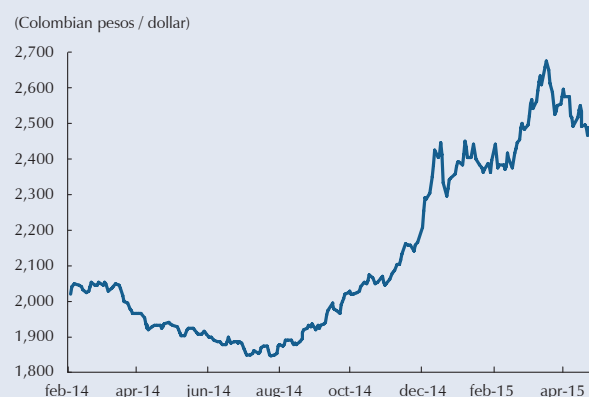
Introduction

The Colombian peso depreciated 39.4% against the dollar between July 2014 and March 2015. During that period, the exchange rate rose from a monthly average value of COP 1,858 per dollar to COP 2,591. In April, despite some turnaround in the weakening of the peso, the exchange rate was well above the levels observed in June 2014 (COP 2,496) (Graph B1.1). Given the importance of this variable to Colombia's economic performance and inflation rate, this section looks at several factors that can explain the behavior of the exchange rate in the latest period and verifies, through the use of statistical models, its relationship with those factors during the last decade.

Factors Recently Affecting the Exchange Rate

As illustrated in graphs B1.2 and B1.3, the exchange rate shows a close relationship with the movement in the price of oil and in the United States Trade Weighted

Graph B1.1
Exchange Rate of the Colombian peso against the Dollar



Source: Banco de la República.

* The authors are, specialized professional at the Operations and Market Development Department and professional at the Programming and Inflation Department. The opinions expressed in this article imply no commitment on the part of Banco de la República or its Board of Directors, respectively.

Dollar Index (USTWI), which compares the behavior of the US dollar to the currencies of the country's major trading partners. Both correlations have increased substantially since mid-2014.¹

As mentioned, the first factor that caused the peso to depreciate to such an extent against the dollar was the sharp drop in the price of oil.² For example, the Brent reference went from an average price of USD 112.2 per barrel (bl) in June 2014 to USD 59.8 / bl in April 2015, reaching its lowest average level since 2009 in January (USD 48.9 / bl). The bulk of this reduction is attributed to an increase in the global supply of oil, thanks to added production of unconventional extraction, especially in North America, since the Organization of Petroleum Exporting Countries (OPEC) decided not reduce quotas in an effort to preserve its share of the global market. This drop also would have been accentuated by less demand for oil, mainly due to the slowdown in the emerging economies.

The high correlation between the exchange rate and the price of oil is explained by the importance of the oil industry to the Colombian economy. Regarding the average figures for 2014, exports of oil and its derivatives account for approximately 50% of Colombia's total exports of goods, while foreign direct investment (FDI) in the Colombian oil sector accounts for approximately 30% of the total. Furthermore, both the current account and capital account in the oil sector have posted a surplus in recent years. This shows that a considerable proportion of the foreign currency that flows into the country is destined for the oil industry. In addition, national government revenue from this item represents about 14.7% of the total. This implies expectations of a possible fiscal downturn, which have led the government to adjust part of its budget and to raise its fis-

1 This behavior persisted during the course of April and part of May 2015, months when this report had not yet been published.

2 See Box 1: "Determinantes de la disminución reciente del precio del petróleo, evaluación de pronóstico y perspectivas" in the December 2014 edition of the *Inflation Report* and Box 1: "Comportamiento del precio del petróleo desde junio de 2014" in the April 2015 edition of the *Financial Markets Report*.

cal deficit forecasts for the coming years.³ Therefore, and because an important part of the drop in oil prices appears to be permanent, the country's risk indicators have deteriorated and foreign earnings are expected to decline. This caused the peso to lose value with respect to the dollar, which explains the high correlation that was observed between the price of oil and the exchange rate (Graph B1.2).

However, the evolution of the Colombian peso against the dollar cannot be explained entirely by the trend in oil prices. Between July 2014 and March 2015, the dollar appreciated against the vast majority of the world's currencies, not only against the Colombian peso or the currencies of oil-exporting countries. As a result, the USTWI index increased 19.8% in value (Graph B1.3).

This widespread gain in strength for the dollar is attributed largely to the difference between the stance of monetary policy in the United States and that of other developed countries. To begin with, improvements in the job market and positive signs for the performance of real activity in the United States have enabled the Federal Reserve (Fed) to indicate it soon will begin to normalize its monetary policy. The Fed also ended its buying program in October 2014 and is expected to

raise its benchmark rate during the second half of this year. This would be the first increase since the most recent global financial crisis. In contrast, the weakness of economic recovery in other developed countries and the risk of deflation in some of them have prompted their monetary authorities to implement a variety of expansionary measures. Accordingly, the European Central Bank (ECB) adopted a financial asset purchase program, including government bonds, which would continue at least until September 2016. It also cut its intervention rates to record lows and has provided liquidity to the banking system in an effort to revive the credit channel.

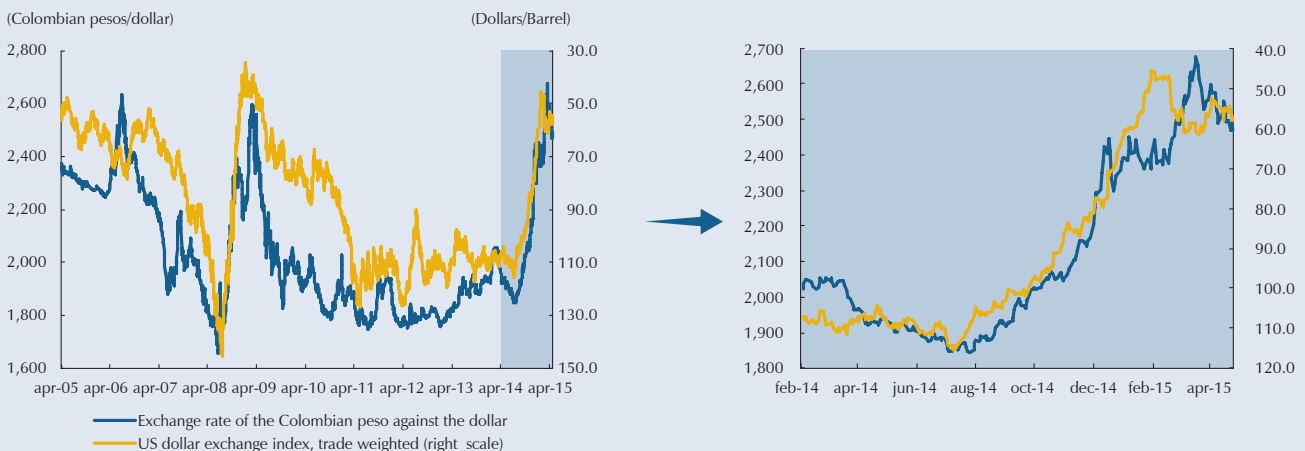
Some central banks, such as those of Switzerland, Canada, Norway and Australia, among others, also have taken their rates to historically low levels, even registering negative benchmark rates in some cases. In addition, the Central Bank of Japan has increased the amounts of financial assets it is prepared to acquire under its quantitative easing plan.

The Relationship between the Exchange Rate and the Price of Oil and the Global Performance of the Dollar in Recent Years

Graphs B1.2 and B1.3 show the correlations described herein were observed in previous periods as well, not just during the last twelve months. As of 2005, one sees a correlation with the price of oil and the USTWI, particularly during episodes where there are major changes in any of these indicators.

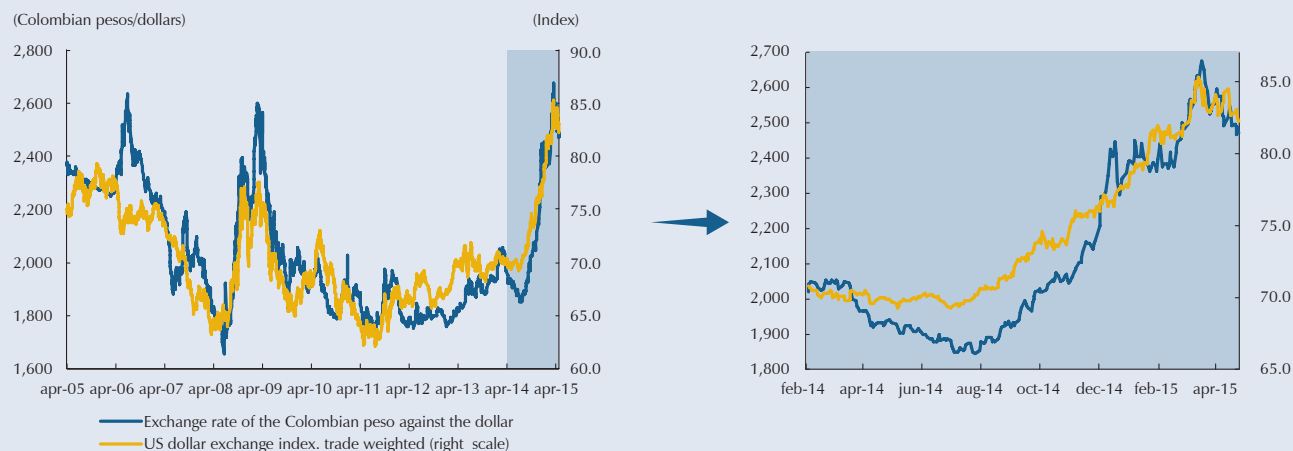
3 The government issued a decree on December 2, 2014 that eliminated approximately USD 6.2 billion from the general budget for 2014 and set the guidelines for an austerity plan. It also announced, on December 23, a revised version of the financial plan for 2015, which indicates the deficit for that year will amount to 2.8% of GDP. This is higher than the estimate outlined in the *Mid-term Fiscal Framework*, which was introduced in June 2014.

Graph B1.2
Price of Oil (Brent Crude) and the Exchange Rate of the Colombian Peso against the Dollar



Sources: Banco de la República and Datastream.

Graph B1.3
Exchange Rate of the Colombian Peso against the Dollar and the US Dollar Exchange Index (Trade weighted)



Sources: Banco de la República and Bloomberg.

The relationship between the exchange rate and the price of oil and the USTWI was estimated with different econometric models⁴ to arrive at a more precise analysis. The linear regression method is used, taking into account the effects of daily volatility,⁵ and a VARX-MGarch model⁶ is used with the aforementioned variables. Other variables that can affect the behavior of the exchange rate were controlled as well. In the first case, the VIX (a measure associated with international risk) and US Treasury bonds⁷ were added as exogenous variables. In the second model, we added credit default swaps (CDS), the net position in derivatives of foreign agents with local agents, and the own cash position⁸ of exchange market intermediaries as endogenous variables, along with the controls for the first exercise.

As expected, a statistically significant relationship was found between the exchange rate and oil prices and

the USTWI. In other words, a lower oil price and a general strengthening of the dollar depreciate the exchange rate. It also was found that the exchange rate responds more to the behavior of oil prices than to changes in the USTWI.

Conclusions

The recent behavior of the exchange rate was explained mainly by the movement in oil prices and by a stronger dollar. Statistical evidence for this correlation was found with data as of 2005. This being the case, it is important to monitor these variables in an effort to anticipate possible movement in the exchange rate and, therefore, in the principal Colombian macroeconomic variables that might be affected.

4 Specification tests were performed and, in general terms, no evidence of misspecification was observed.

5 Through Garch models.

6 For details on the model, see Melo & Rincón (2012), "Choques externos y precios de los activos en Latinoamérica antes y después de la quiebra de Lehman Brothers," *Borradores de Economía*, No. 704, Banco de la República.

7 Ten-year rates taken from <http://www.federalreserve.gov/pubs/feds/2006/200628/200628abs.html>

8 The own cash position of exchange market intermediaries is defined as the difference between all assets and liabilities denominated in foreign currency (External Regulatory Circular DODM-139 dated March 20, 2015).

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

The Colombian economy exhibited a slowing trend during 2014.

Still, the dynamic of domestic demand was good, and partly offset the poor momentum in the external accounts.

During the first quarter of 2015, GDP would have continued to decelerate. Domestic demand, especially investment, would have increased at a slower pace than in 2014.

As for the different branches of economic activity, manufacturing and mining showed mediocre performance earlier this year, which would have been offset partly by the performance of retail trade, social, personal and communal services, and construction.

A. GDP IN THE FOURTH QUARTER AND ALL OF 2014

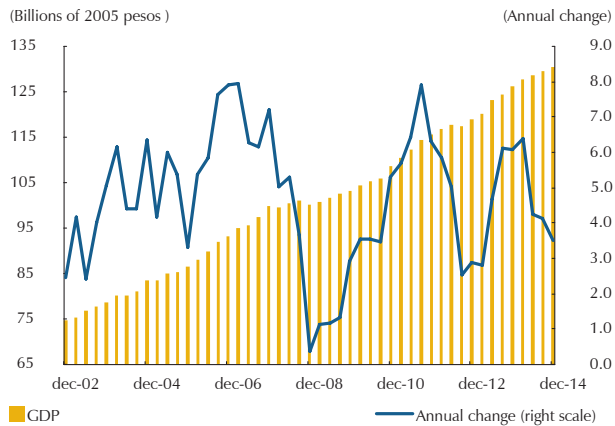
According to information released by the National Bureau of Statistics (DANE), the Colombian economy slowed during the fourth quarter, compared to the performance observed in the third, posting 3.5% annual growth with respect to the same period in 2013 (Graph 16). Therefore, GDP for all of 2014 rose at an annual rate of 4.6%. Both figures were at the bottom of the forecast ranges outlined in the prevision edition of the *Inflation Report*. It is important to point out that DANE revised annual growth for 2013 upward from 4.7% to 4.9%.

GDP was up by 3.5% in the fourth quarter. Growth for the entire year was 4.6%.

The dynamics in GDP during 2014 was mixed. Following a good first quarter, a gradual slowdown was observed during the rest of the year.⁸ Nonetheless, the slowdown occurred in a context of good performance in domestic demand. This item accelerated in 2014, compared to the rate for 2013 and ended the

⁸ GDP rose 5.3% annually during the first half of the year, while growth in the second half was 3.8% (3.5% in the fourth quarter). It is important to note that the figure for the first quarter (6.4%) and for the second (4.3%) were influenced by the statistical effect of a different number of working days during the same period in 2013, when the Easter holiday was in April. The comparisons of GDP momentum were done between six-month periods and not quarters, so as to avoid misinterpretation.

Graph 16
Gross Domestic Product
(Seasonally adjusted)



Source: DANE; calculations by Banco de la República

year with growth above the average since 2001. This was in contrast to the deterioration in the external environment, particularly during the second half of the year, when there was a drop in international oil prices, lower growth of Colombia's trading partners, reduced capital inflows for FDI and sharp nominal depreciation of the Colombian peso. All of these resulted in a negative contribution to growth from net exports, more than was reported for 2013.

Analyzing domestic demand by components reveals that investment played a particularly important role in 2014. Throughout the year and during the fourth quarter, private consumption posted good growth, close to its historical average, with

the contribution from spending on durable goods during the third and fourth quarters being a highlight (Table 4). In this regard, it should be noted that the XIV Automobile Show took place in late November and early December. This is a biennial event that boosts automobile sales every time it is held.

Table 4
Real Annual GDP Growth, by Type of Spending

	2013	2014				2014
	Full year	I Qtr.	II Qtr.	III Qtr.	IV Qtr.	Full year
Total consumption	5.0	5.4	4.4	4.3	4.8	4.7
Household consumption	3.8	4.3	3.8	4.1	5.1	4.4
Non-durable goods	3.2	3.8	3.2	3.8	4.5	3.8
Semi-durable goods	2.7	3.9	3.6	3.5	7.3	4.6
Durable goods	7.4	3.9	4.6	8.3	13.3	7.6
Services	4.3	5.0	4.1	4.0	4.0	4.3
Final government consumption	9.2	9.5	6.6	5.1	3.9	6.2
Gross capital formation	5.6	14.7	13.7	10.1	8.5	11.7
Gross fixed capital formation	6.0	13.3	8.6	11.8	10.1	10.9
Agriculture, forestry, hunting and fishing	(5.7)	2.6	2.3	5.3	8.6	4.6
Machinery and equipment	0.2	14.4	7.8	14.6	12.2	12.2
Transport equipment	(8.5)	5.2	11.1	14.9	16.6	12.1
Construction and buildings	11.1	7.1	1.3	15.3	7.5	7.8
Civil works	10.8	25.9	13.3	7.0	3.3	12.1
Services	4.1	6.0	1.3	4.9	1.7	3.5
Domestic demand	5.1	7.9	6.1	5.8	5.7	6.3
Total exports	5.3	3.2	(11.5)	4.9	(2.0)	(1.7)
Total imports	6.4	9.2	5.6	8.7	13.0	9.2
GDP	4.9	6.4	4.3	4.2	3.5	4.6

Source: DANE; calculations by Banco de la República

Growth in investment accelerated during 2014. The largest contributions in this item came from civil works and building construction.

Growth of the items that constitute gross capital formation accelerated in 2014. The major contributions to the good performance in this item originated from investment in construction, particularly civil works. As for this last component, the largest increase occurred thanks to progress in the building of infrastructure by local and regional governments, financed with the resources of the General System of Royalties. Added to this was the spending to modernize and upgrade airports and ports and the construction of various road projects throughout the country, sponsored by the national government.

Investment in building construction also saw annual growth above that of the rest of the economy, but less so than in 2013. This good performance was associated with the momentum in a number of construction projects for low-income housing being built by the national government. The acceleration in investment in machinery and equipment and in transport equipment was more than in 2014. The momentum in these items throughout the year was good, with increases at double-digit rates during the fourth quarter. Lastly, the cattle retention cycle and completion of the coffee-tree renewal process allowed for a significant expansion in agricultural investment throughout the year, particularly during the fourth quarter.

Import performance reflected the good momentum in investment. This component of GDP grew 13.0% annually in the fourth quarter, which meant an increase of 9.2% for 2014 as a whole. A breakdown, by type of goods, shows an important rise in the purchase of capital goods and intermediate goods. Imports of the latter were bolstered by fuel purchases, given the need to compensate for the cutback in domestic supply resulting from temporary closure of the Cartagena Refinery (Reficar) due to adjustments and upgrades at its plant. In contrast, exports posted an annual decline of 1.7% in 2014, partly because of the deteriorating economic conditions of Colombia's major trading partners. Added to this, first and foremost, are the various supply shocks in the mining sector and the statistical effect of a high base of comparison during the second and fourth quarters of 2013.

On the supply side, the most dynamic branches were construction, commerce, and financial services (Table 5). In contrast, performance in manufacturing and mining was weak and even exhibited annual declines during several quarters. Most of the sectors slowed during the second half of the year. In fact, momentum of different sectors in the fourth quarter was characterized by a general deceleration.

Construction, retail, and financial services were the most dynamic sectors during the year as a whole. Industrial and mining performance was weak.

Construction (9.9%) was the most dynamic sector throughout 2014, both of buildings (7.4%) and civil works (12.0%), for the reasons explained earlier. With regard to retail trade, the highlights were the important momentum in retail sales (11.2%) and, within this category, the good performance of

Table 5
Real Annual GDP Growth, by Branch of Economic Activity

Sector	2013	2014				2014
	Full year	I Qtr.	II Qtr.	III Qtr.	IV Qtr.	Full year
Agriculture, forestry, hunting and fishing	6.7	6.2	0.3	1.7	0.9	2.3
Mining and quarrying	5.5	6.1	(2.2)	(1.2)	(3.3)	-0.2
Manufacturing industry	0.6	4.1	(2.0)	(0.6)	(0.3)	0.2
Electricity, gas and water	3.2	4.4	3.7	4.0	3.1	3.8
Construction	11.6	14.2	8.4	11.1	5.9	9.9
Buildings	11.2	6.8	1.0	14.1	7.5	7.4
Civil works	12.1	24.8	14.3	7.1	3.8	12.0
Retail, repairs, restaurants and hotels	4.5	5.5	4.1	4.2	4.5	4.6
Transport, storage and communication	3.6	4.9	4.3	4.2	3.2	4.2
Financial, real estate and company services	4.6	5.4	5.5	4.5	4.1	4.9
Social, community and personal services	6.0	7.6	5.5	4.7	4.2	5.5
Subtotal – aggregate value	5.0	6.3	4.0	4.1	3.2	4.4
Taxes minus subsidies	3.9	7.5	8.2	7.4	8.3	7.8
GDP	4.9	6.4	4.3	4.2	3.5	4.6

Source: DANE; calculations by Banco de la República

vehicle sales (annual growth was 19.1%). Excluding vehicles, sales rose 9.7%. In all, the value added to the sector was 4.6%. Although the annual growth rate for the sector in the fourth quarter was higher than that of the economy as a whole, it slowed significantly compared to what was observed in the first three quarters (11.2%, on average, from January to September, and 5.9% from October to December).

The sector comprised of social, community, and personal services was also among the best performing. This branch maintained its momentum and was up 5.5%, thanks to sustained growth in public administration and defense (6.2%), and in social services and health (6.4%). Additionally, GDP in financial, real estate and business services continued to grow at a relatively high rate (4.9% in the year). Given its share of GDP (19.6%), this sector remained one of the largest contributors to economic growth (as has been the case for several years).

GDP of financial services continued to expand at a relatively high rate, and remained one of the largest contributors to economic growth.

Mining and manufacturing were the worst performing sectors in 2014. In fact, mining was the only sector that contracted (-0.2%) and was well below the figures observed in previous years (9.3%, on average, from 2008 to 2013). The decline was concentrated in oil production, which dropped 1.9% in 2014 due to several bottlenecks in petroleum transportation and problems with law and order (e.g., attacks on pipelines). Average annual production came to 987,000 barrels per day, which is less than the target set by the authorities at the start of the year (approximately 1,030,000 bpd). The decline in the mining sector

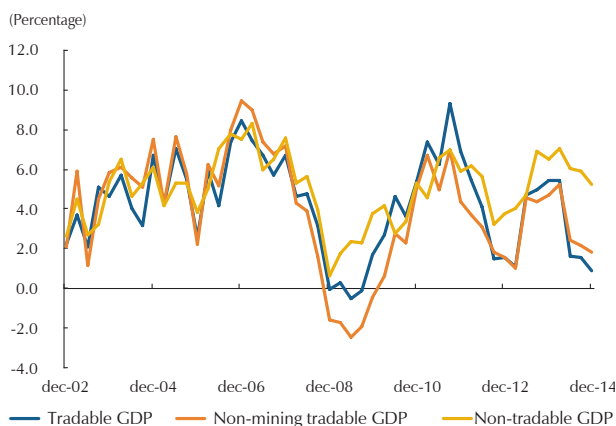
was more pronounced towards the end of 2014, largely due to the decline in coal production during the period from September to December 2014 (-17%).

Industrial growth was just 0.2% in 2014, with a slight decline observed during the fourth quarter (-0.3%). There were supply shocks that had a significant impact on the sector. For example, the temporary closure of Reficar, as of early 2014, took 0.6 percentage points away from industrial growth and 0.1 percentage point from GDP overall. Reficar shut down to expand and modernize its facilities and is expected to reopen by the end of 2015. Calculating the aggregate for industry excluding the production of refined

oil products, which is the sub-branch that includes Reficar, the increase for the entire year was 1.6%.

Colombia's economic growth in 2014 was led by the non-tradable sectors, which were up 6.0%. This is higher than the rate of the year before (5.5%). GDP in the tradable sectors exhibited less of an annual increase (2.3%) than growth in the economy as a whole and in 2013 (4.1%). When mining is excluded, other tradable sectors exhibited higher growth (2.9%). During the fourth quarter of 2014, both the tradable and the non-tradable GDP slowed considerably (Graph 17).

Graph 17
GDP in the Tradable, Non-mining Tradable and Non-tradable Sectors
(Annual growth)



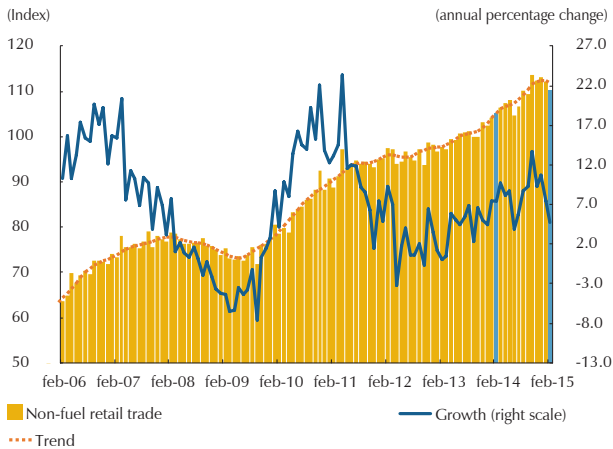
Source: DANE; calculations by Banco de la República

B. GDP IN THE FIRST QUARTER OF 2015

Available information on the various hard and sentiment indicators for the first quarter of 2015 suggests the rate of growth of output would have slowed with respect to the figure observed at the end of last year. This would have occurred in a context where the economies of Colombia's major trading partners and those of the region have seen poor results, the price of oil has remained low, at around \$ 55 per barrel, and capital inflows to the country have moderated. Private consumption and gross fixed capital formation would have declined compared to what was observed in the fourth quarter of 2014, as suggested by the indicators of household income and expenditures and of investment, which will be discussed in this section.

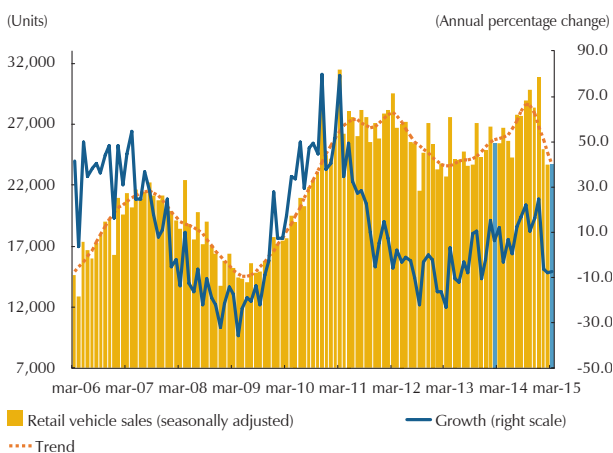
The results of the *Monthly Retail Trade Survey* (EMCM, in Spanish) published by DANE show lower momentum in retail sales. In February, the annual increase in retail sales was 4.8% (Graph 18) and growth for January-February was 6.1% (vs. 11.1% in the fourth quarter of 2014). However, when vehicle sales are excluded, the annual variations were 8.5% and 9.3% for the month and the two months, respectively; the latter is similar to the figure

Graph 18
Monthly Retail Trade Survey
 (Total non-fuel retail trade, seasonally adjusted)



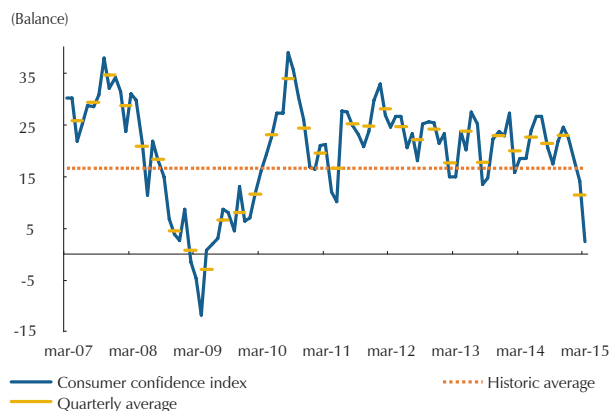
Source: DANE; calculations by Banco de la República

Graph 19
Motor Vehicle Retail Sales
 (Seasonally adjusted series)



Sources: ANDI, Fenalco and Econometría; calculations by Banco de la República

Graph 20
Consumer Confidence Index and Quarterly Average



Source: Fedesarrollo.

posted between October and December 2014, on average (9.4%). Meanwhile, vehicle sales exhibited negative growth throughout the year, falling 11.3% in February (-8.7% during the two months). This is in sharp contrast to the good performance observed towards the end of 2014 (when the XIV Automobile Show was held). Accordingly, the rate of growth in household consumption is expected to slow during the first quarter of the year, mainly due to the poor performance anticipated for durable goods consumption.

With respect to this last component of household consumption, the figures released by the Colombian Automotive Committee (comprised of ANDI, Fenalco and Econometrics) show an annual decline of 7.1% during the first quarter. The trend component of the series illustrates the poor performance of vehicle sales, which is likely to continue into the second quarter (Chart 19).

Another indicator that suggests a slowdown in household consumption is the consumer confidence index (CCI) published by Fedesarrollo. According to the latest publication, the CCI experienced a significant setback during the month, compared to the figure for February, and was well below its average since 2001. This is comparable to the levels witnessed as of mid-2009 (Graph 20). Given the correlation between this index and growth in private consumption, a lower increase in this GDP item is forecast for the first three months of the year.

There was a slight slowdown in the growth in consumer loans during January-March in nominal terms. On average, this portfolio expanded 12.9% annually during the first three months of the year, slightly below the 13.4% increase posted in December and 13.2% in November. The cost of access to this type of lending has remained stable in the margin, but does show some increase, on average, when comparing the first three months of 2015 to the fourth quarter of 2014. Taking into ac-

count the data to March, real interest rates on household loans were higher than those witnessed at the end of last year (Graph 21), despite the recent rise in inflation.

JOB MARKET PERFORMANCE IN EARLY 2015

The most recent performance of the job market indicators has been good and do not point yet to a slowdown in the pace of household spending in the future. However, employment is a macroeconomic variable that does not respond immediately to setbacks in economic growth. This is why a detailed monitoring of the job market in the coming months is crucial. During the first two months of 2015, the job market continued to exhibit the positive outlook described in the last edition of this report, with an unemployment rate (UR) that is still falling due to more formal and salaried employment.

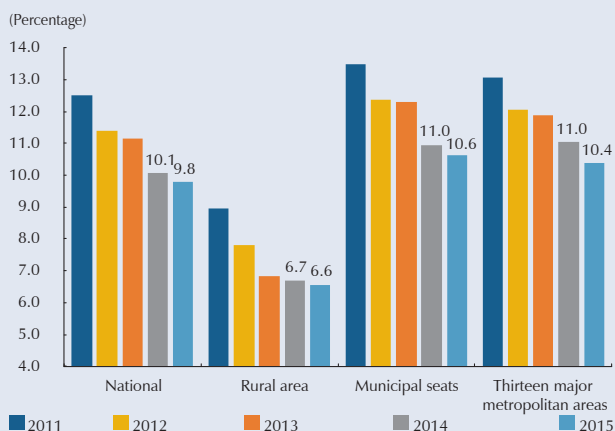
The UR declined annually in all geographic domains during the moving quarter ended in February, reaching a nationwide total of 9.8%: 6.6% in rural areas, 10.6% in urban seats and 10.4% in the thirteen major metropolitan areas (Graph A). Likewise, the seasonally adjusted UR se-

ries reveals a sustained downward trend, both nationally and in the thirteen major metropolitan areas (Graph B).

This performance is due to an increase in the number of employed, with 2.2% annual growth in the nationwide total during the December-February moving quarter. In this same period, the number of employed in the thirteen major metropolitan areas rose at an annual rate of 3.5% (Graph C, panels 1 and 2).

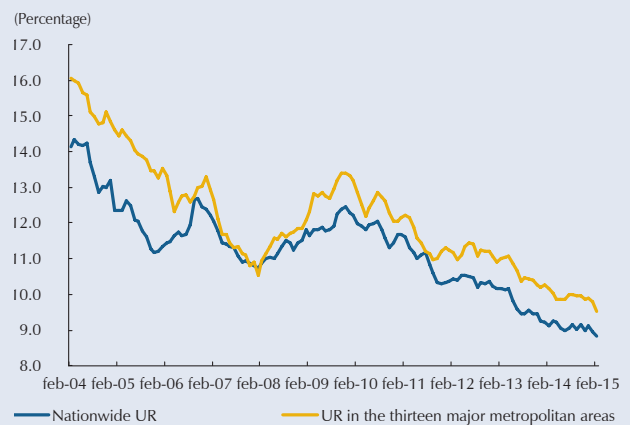
The growth in employment is due largely to more salaried employment, which increased in the thirteen major metropolitan areas at an annual rate of 2.8% in December-February, while non-salaried employment was up by 5.7% (Graph D). The formal segment of nationwide employment was 51.7% in December-February; this is an increase of 0.7 percentage points from the previous year.

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



Source: DANE (GEIH).

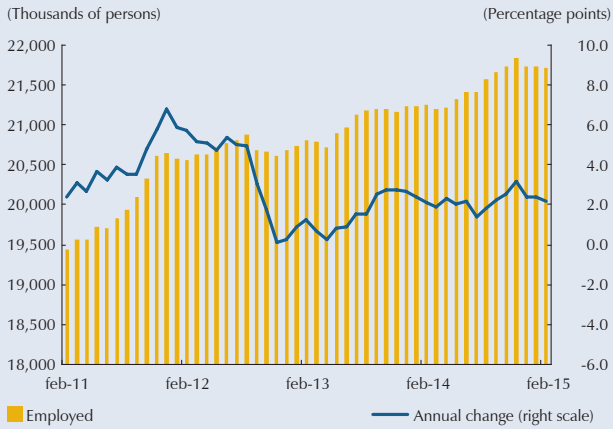
Graph B
Unemployment Rate (UR)
(Seasonally adjusted moving quarter)



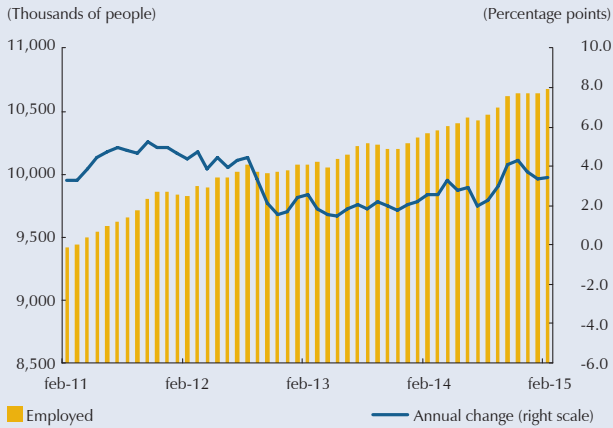
Sources: DANE (GEIH); calculations by Banco de la República.

Graph C
Number of Employed and Annual Change

1. Nationwide total

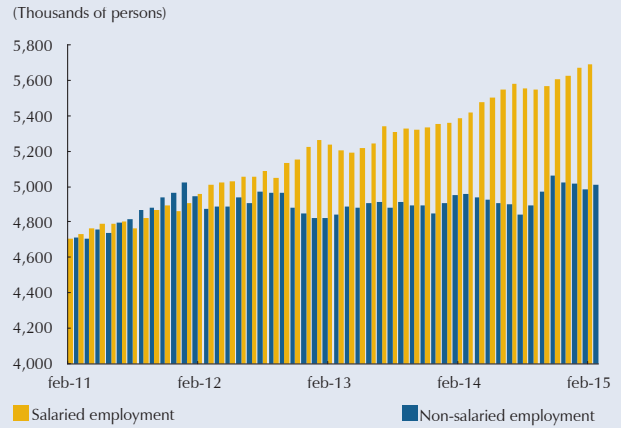


2. Thirteen major metropolitan areas



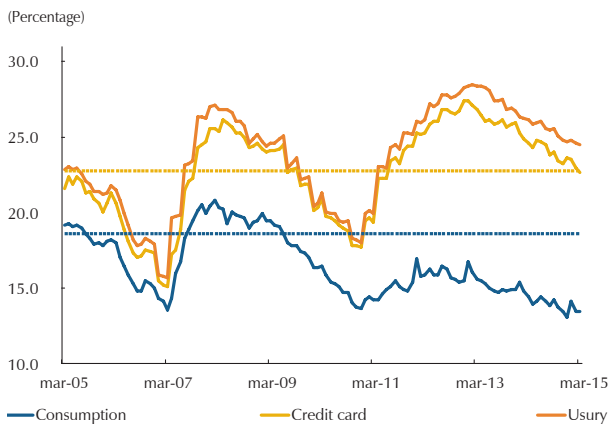
Sources: DANE (GEIH); calculations by Banco de la República

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



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

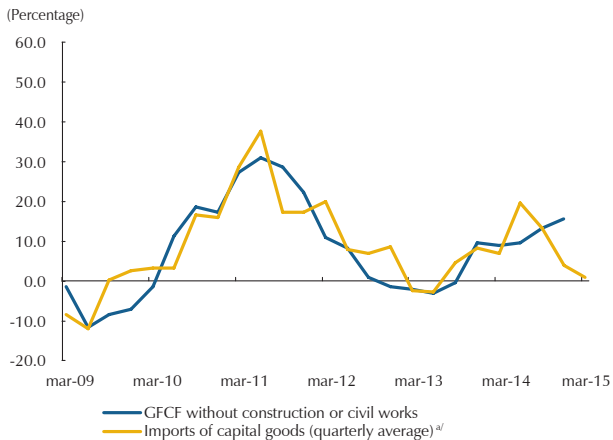
Graph 21
Real Household Interest Rates
(Non-food CPI deflated)



Sources: Financial Superintendence of Colombia; calculations by Banco de la República

As for gross fixed capital formation (GFCF), the balance of investment expectations reflected in *Banco de la República's Monthly Survey of Economic Expectations* (EMEE, in Spanish) and the recent momentum in imports of goods capital in constant pesos suggest investment in machinery and equipment, and in transport equipment during the first three months of the year would have grown at a slower pace than during the last three months. The performance of imports of capital goods in January-February (other than aircraft) was mediocre (Graph 22).

Graph 22
Imports of Capital Goods (Real) and GFCF Excluding
Construction of Buildings and Civil Works
(Annual change)

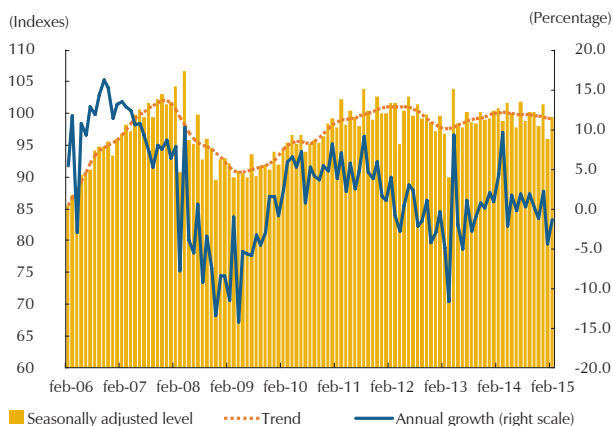


Note: The figures for the first quarter of 2015 pertain to the average for January and February.
a/ Figures expressed in real terms, through calculations by Banco de la República.
Sources: DANE (national accounts and foreign trade); calculations by Banco de la República

Finally, the balance for the foreign trade accounts would have been slightly less unfavorable than in previous quarters. On the one hand, somewhat of a recovery in exports in constant pesos is expected, based on the information published by DANE up to February, according to which exports would have been bolstered largely by growth in oil, coal and coffee. Exports of other products rose 1.1% in volume during the first two months of the year. On the other hand, the import figures in real pesos show less momentum than at the end of 2014. This seems to point to a slowdown in this component of GDP.

Most available indicators on the supply side suggest mixed economic performance. They also indicate the GDP growth rate could be less than in the final quarter of 2014. These forecasts take into account that production of refined oil products has continued to decline due to the temporary closure of Reficar. However, that impact would be less as of March, since Reficar was shutdown in March 2014 and the annual comparison would show no further reductions. In all, the industrial aggregate would continue to deteriorate in the early months of 2015. Less momentum is evident in activities related to the slaughter of cattle, the demand for energy and retail. In contrast, there is good news in other sectors such as coffee production, oil production, and construction, which would offset the setback in the aforementioned activities.

Graph 23
Total Industrial Production
(Seasonally adjusted series, trend component and annual growth)

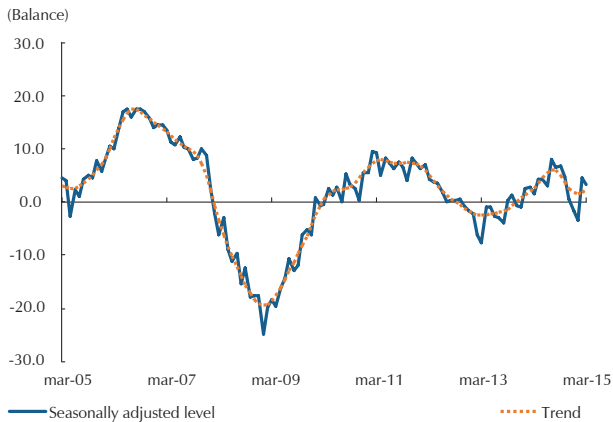


Source: DANE; calculations by Banco de la República

As noted, manufacturing industry continues to report a significant decline. Considering the February 2015 figures from the DANE Monthly Manufacturing Survey (MMM, in Spanish), the sector contracted 1.3% overall during the period. For the year to date, the setback is even greater: around 2.9%. Excluding oil refining (its implicit participation was 18.6% in February), the rest of industry would have grown at an annual rate of 2.4% by February and 1.0% so far this year. The trend component of industry as a whole has shown stagnation for several quarters (Graph 23). Something similar occurs when refining is excluded.

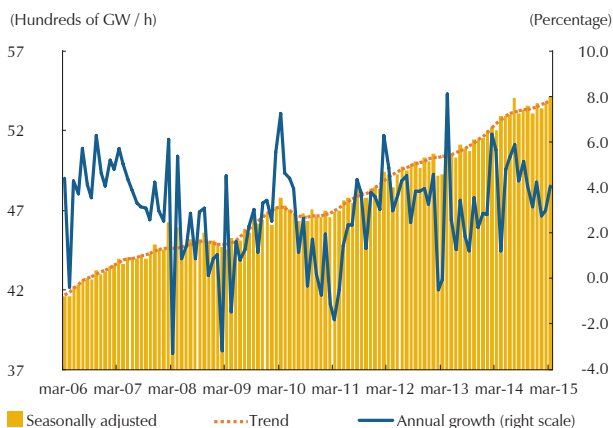
According to the survey by the National Association of Colombian Industrialists (ANDI), entrepreneurs sense an increase in competition on the domestic

Graph 24
Balance of the Industrial Confidence Index



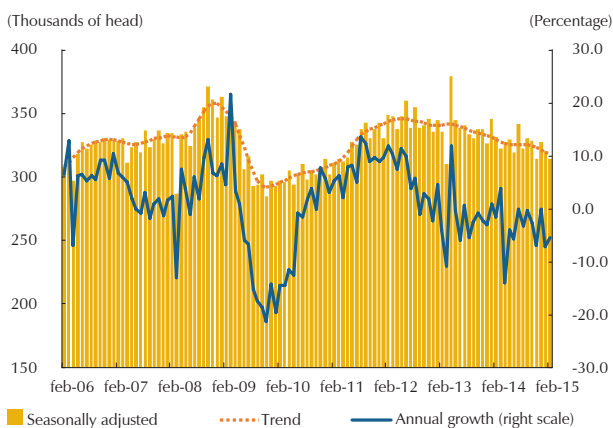
Sources: Fedesarrollo; calculations by Banco de la República

Graph 25
Total Demand for Energy
(Seasonally adjusted, trend component and annual growth)



Sources: XM; calculations by Banco de la República

Graph 26
Cattle Slaughter
(Seasonally adjusted, trend component and annual growth)



Source: DANE; calculations by Banco de la República .

market from imported goods throughout the year, although with some improvement in the demand for their products. Surprisingly, they also report devaluation of the exchange rate as being a major problem, possibly associated with the increased cost of imported input for productive activity.

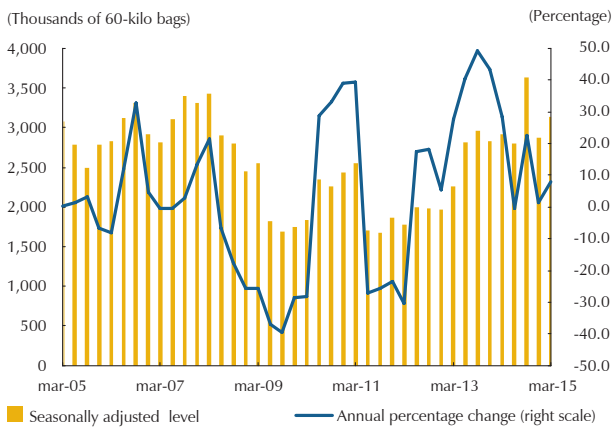
On the other hand, although the indicators of industrial orders and inventories improved slightly with respect to the third quarter, the information from the Fedesarrollo Business Opinion Survey at March indicates the trend components for each of them suggest a standstill. This is also the case with expectations three months ahead. Industrial confidence also shows a downward trend (Graph 24).

Retail has slowed significantly, according to the reduced momentum in retail sales mentioned earlier. Other sectors that have performed less favorably compared to the fourth quarter of 2014 are energy demand and cattle slaughtering. In the first case, growth went from 3.8% between September and December 2014 to 3.3% in the early months of the year. However, the trend component continued to show a positive slope (Graph 25). In the second case, the cattle retention cycle that has been ongoing for several months meant more of a decline in slaughtering, which contracted 6.2% in January-February (it was down 3.3 % in the fourth quarter) (Graph 26).

In contrast, the news on coffee production, oil, and building construction is more favorable. In the first case, according to figures released by the National Federation of Colombian Coffee Growers, production went from an increase of 0.5% in the fourth quarter to 7.5% in the first quarter of 2015 (Graph 27). Year to date production comes to 9,917,000 60-kg bags; this implies a higher level of production with respect to three months ago.

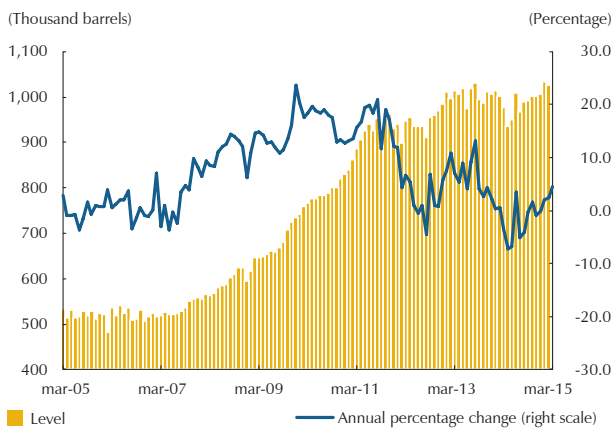
Some recovery is expected in the mining sector compared to the previous quarter, although its annual growth would remain moderate. Oil production during the first quarter stayed at around 1,027

Graph 27
Coffee Production
(Quarterly and annual growth)



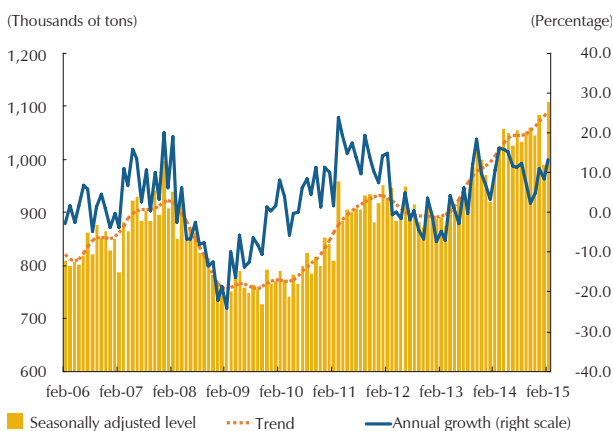
Sources: National Federation of Colombian Coffee Growers; calculations by Banco de la República

Graph 28
Oil Production
(Level and annual growth)



Sources: National Hydrocarbon Agency; calculations by Banco de la República

Graph 29
Cement Production
(Seasonally adjusted, trend component and annual growth)



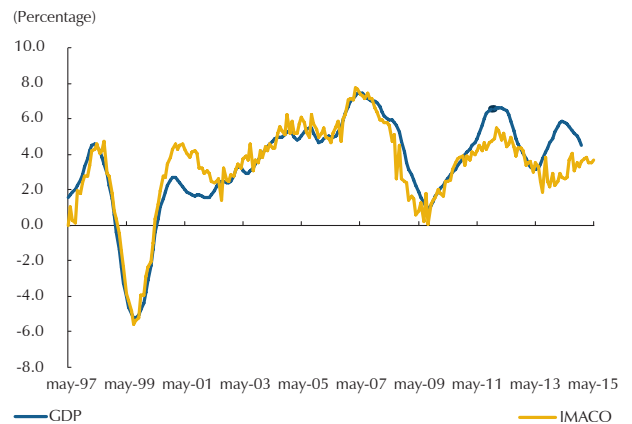
Source: DANE; calculations by Banco de la República.

thousand barrels per day (mbd), on average, implying a low annual growth rate of 3.0% for the period, following the poor performance witnessed three months earlier (0.21%) (Graph 28). With respect to coal, the figures on export volume published by DANE indicate an improvement in this activity from -1.3% in the fourth quarter to 5.7% in January-February.

Construction during the first quarter of 2015 is expected to grow at a higher rate than that of the economy as a whole, since the effects of government stimulus (culmination of the “priority interest” social housing program) should continue to contribute, although less so than in previous quarters. Taking into account the information at February, cement production and sales rose 10.8% and 10.3% during the first two months of 2015, maintaining growth above the historical averages (3.0% and 3.8% respectively). The levels observed, as well as the trend component, confirm the sector would continue to contribute to economic growth (Graph 29).

The IMACO leading indicator (Graph 30), calculated using several sector variables with information to February, points to twelve-month accumulated growth that is below the central fore-

Graph 30
IMACO: Leading Indicator for Five Months of GDP^{a/}



a/ Twelve-months accumulated annual growth
Source: Calculations by Banco de la República.

cast. This situation was considered when preparing the fan chart in Chapter IV of this report, which shows the balance of GDP forecasts. It is important to remember the IMACO methodology does not contain indicators for sectors such as construction and social services, which are making a positive contribution to growth. However, this information is considered in the central forecast shown in the fan chart; therefore, this indicator might be underestimating GDP growth in Colombia.

The foregoing leads to a forecast between 2.0% to 3.5% of GDP growth in Colombia during the first quarter of 2015, with the most likely figure being around the midpoint of that range. The forecast range contemplates a great deal of uncertainty about the performance of investment in civil works and government consumption.

III. RECENT DEVELOPMENTS IN INFLATION

In the first quarter of 2015, annual consumer inflation rose again and was above the ceiling of the target range for inflation (2% to 4%) established by the Board of Directors of *Banco de la República*.

The average of the core inflation indicators also increased, surpassing the long-term inflation target (3.0%).

The rise in food prices, particularly for perishables (potatoes) and some processed foods, such as rice, together with the pass-through of the peso depreciation to domestic prices, explained most of the increase in inflation during the first quarter.

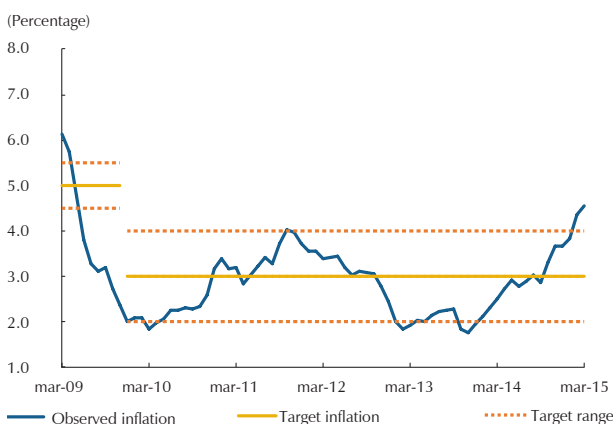
The non-tradable component of the CPI registered a moderate adjustment, with no perception of significant demand-pulled pressure on consumer inflation.

Annual consumer inflation maintained an upward trend in the first quarter of 2015, posting significant increases that exceeded market expectations and the forecasts outlined in the December 2014 edition of the *Inflation Report*.

By March of this year, inflation was 4.56%, which is above the level observed in December (3.66%) and the target range established by the Board of Directors of *Banco de la República* for 2015 (2.0% to 4.0%). Annual inflation in February also was above this range (Graph 31 and Table 6).

The build-up in annual inflation so far during 2015 was associated mainly with the behavior of food prices and, secondly, with tradable goods and services (excluding food and regulated items). In the first case, the upward pressure was focused on perishables, mainly potatoes, and certain processed foods, especially rice. The price of rice increased

Graph 31
Total Consumer Inflation



Sources: DANE and Banco de la República.

Table 6
Consumer Inflation Indicators
(At March 2015)

Description	Dec-13	Mar-14	Jun-14	Jul-14	Aug-14	Sep-14	Dec-14	Jan-15	Feb-15	Mar-15
Total	1.94	2.51	2.79	2.89	3.02	2.86	3.66	3.82	4.36	4.56
Excluding food	2.36	2.62	2.66	2.75	2.84	2.70	3.26	3.20	3.41	3.46
Tradables	1.40	1.65	1.94	1.60	1.57	1.59	2.03	2.28	3.26	3.46
Non-tradables	3.76	3.55	3.45	3.17	3.29	3.26	3.38	3.47	3.50	3.56
Regulated items	1.05	2.21	2.14	3.60	3.83	3.25	4.84	4.01	3.47	3.25
Food	0.86	2.23	3.11	3.26	3.47	3.25	4.69	5.41	6.77	7.37
Perishables	(0.16)	3.17	8.92	9.18	8.91	7.61	16.74	16.78	19.68	21.57
Processed	(0.24)	0.92	1.44	1.66	2.09	2.14	2.54	3.70	5.62	5.99
Meals outside the home	3.26	4.13	3.52	3.45	3.47	3.23	3.51	3.60	3.34	3.59
Core inflation indicators										
Excluding food	2.36	2.62	2.66	2.75	2.84	2.70	3.26	3.20	3.41	3.46
Core 20	2.72	2.86	3.04	2.73	2.98	2.89	3.42	3.58	3.62	3.70
CPI excluding perishable foods, fuel and utilities	2.19	2.53	2.53	2.33	2.42	2.39	2.76	3.12	3.69	3.95
Inflation excluding food and regulated items	2.74	2.74	2.81	2.51	2.56	2.55	2.81	2.97	3.40	3.52
Average of all the indicators	2.51	2.69	2.76	2.58	2.70	2.63	3.06	3.22	3.53	3.65

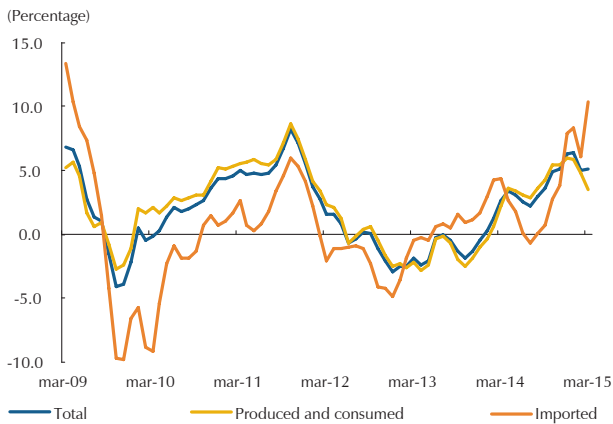
Source: DANE; calculations by Banco de la República

considerably in the last four months due to a low supply in local markets. It should be noted that about 85.0% of the acceleration in annual consumer inflation during the first three months of the year is explained by the rise in food prices overall.

The tradable CPI has been affected especially by pressure stemming from depreciation of the peso. Although this depreciation started last July, it was not until the end of the year that it began to pass-through, to some extent, to consumer prices, gaining strength so far in 2015. This shows somewhat more of a lag than usual in pass through of the exchange rate to prices, which normally takes one to two quarters.

The same upward pressures that have affected consumer prices have influenced producer prices and, therefore, non-labor production costs. There has been an upward trend in the annual change of the PPI since August 2014 (2.96%); it eased off slightly during the first quarter of this year, but that was due more to the high statistical base of comparison, than to a decline in monthly increments. Accordingly, the annual change in March (5.1%) was still relatively high, although somewhat lower than in December 2014 (6.3%) (Graph 32).

Graph 32
PPI, by Origin
(Annual change)



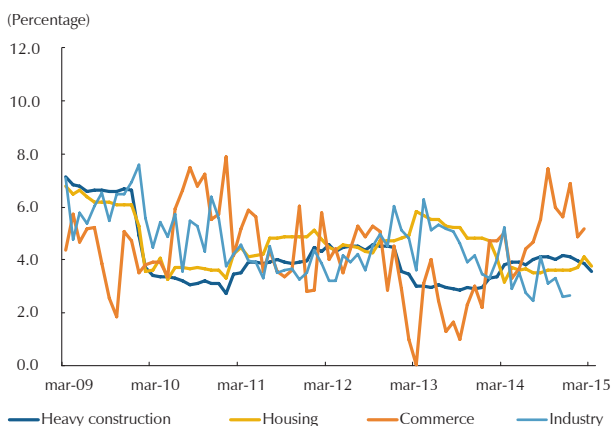
Source: DANE.

During the first three months of 2015, most of the upward pressures in the PPI were concentrated on the imported component. Its annual growth has accelerated sharply since the final quarter of last year and was 10.3% in March (Graph 32). This performance is closely related to the depreciation in the exchange rate, having an impact on the prices of several agricultural commodities (such as grains, legumes and cocoa, among others) and certain manufactured goods (such as dairy products and metal casting). The pass-through of movement in the exchange rate to producer prices is much faster than in the case of consumer prices, since a large part of the PPI tradable basket is set directly in dollars.

The upward pressure on producer prices and, therefore, on non-wage costs has been offset partly by fuel price reductions. This allowed for a decline in the annual variation of the local PPI from 6.0% in December to 3.5% in March, mainly because of reductions in the PPI for mining products (especially crude oil extraction).

As for wage costs, upward pressure is still low. So far this year, the information at hand indicates wage adjustments are compatible with the inflation target. In nominal terms, wages in industry were raised at an annual rate of 2.6% in January (according to the latest data available).⁹ With the figures at February, the annual hike in construction wages came to about 5.0%, which is less than the adjustment in previous months. In retail, the pace of wage

Graph 33
Nominal Wages
(Annual percentage change)



Source: DANE; calculations by Banco de la República

hikes exceeded the inflation target range for several months, but has shown a decline so far this year. The higher level of adjustments seems to be due to changes in the methodology used for the retail survey (Graph 33).

Judging from the behavior of prices for various goods and non-tradables, demand-pull pressures would have been low. This is consistent with the signs of economic slowdown perceived since late last year (see Chapter 2) and points to an output gap that would be in negative terrain, as explained in Chapter 4 of this report. However, the price adjustments for certain non-tradable services could

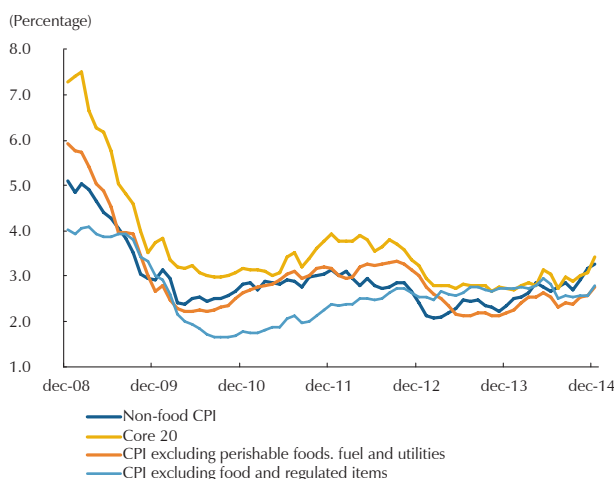
9 Due to a change in methodology, subsequent data was not available at the time this report was written.

be in response to the relatively high rate of inflation in late 2014, via different indexing mechanisms that continue to exist.

A. CORE INFLATION

During the first quarter, the average of the four core inflation indicators monitored regularly by *Banco de la República* remained on an upward trend for the sixth consecutive month, replicating the rising performance of inflation overall. This average, which was 3.7% in March, surpassed the average of 3.1% in December and was the highest observed since October 2009. The average of these indicators has stayed above the long-term target for inflation (3.0%) since December 2014.

Graph 34
Core Inflation Indicators



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

Among the different indicators of core inflation, the CPI excluding staple foods, fuel and public utilities is the indicator that accelerated the most and was the highest (4.0%) between January and March of this year. In contrast, non-food inflation (3.5%) accelerated the least and registered the lowest level, increasing by only 20 bp with respect to the figure on record last December. Core 20 ended the first quarter at 3.7%, and inflation excluding food and regulated items was 3.5%. As illustrated, all the indicators were above the long-term target for inflation (Table 6, Graph 34).

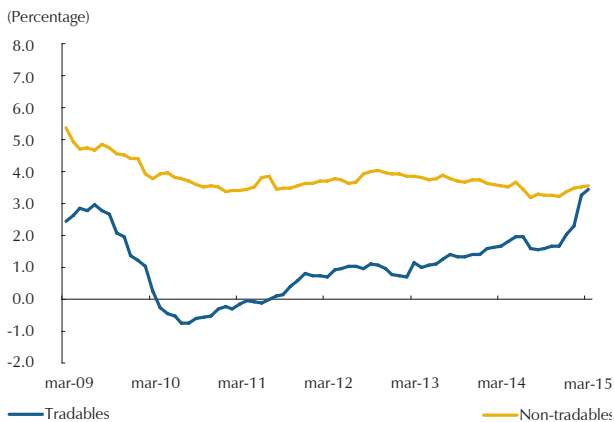
The generalized surge in core inflation indicators during the last six months is linked to the depreciation of the peso since July of last year and to the increase in production costs shown by the PPI.

The deterioration witnessed this year in several indicators of demand could begin to exert downward pressure on core inflation, partly offsetting the upward momentum generated by the exchange rate on the PPI.

In the first quarter of the year, the build-up in the annual variation in the non-food CPI was determined largely by the upward trend of the tradable component of the household basket and, to a lesser extent, by a slight increase in the annual adjustment in non-tradable goods (Table 6, Graph 35). In contrast, the regulated segment of the basket exerted downward pressure on consumer inflation.

The tradable component of the household basket, excluding food and regulated items, began to boost consumer inflation as of last December, with a lag of several months, since the phase of peso depreciation against the dollar began

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



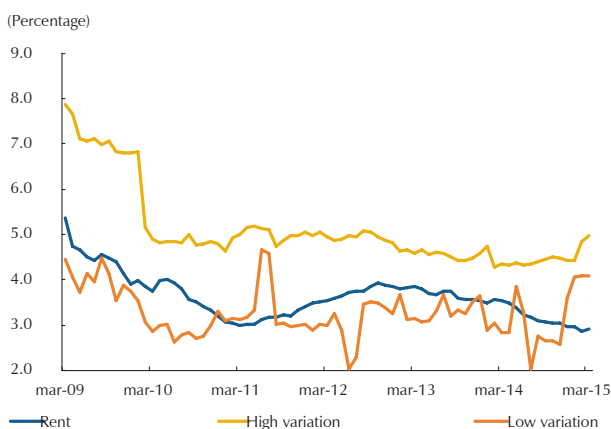
Source: DANE; calculations by Banco de la República.

last year, in July. Given the lag in the impact of peso depreciation on the CPI in the immediate future, new inflationary pressure from tradables is expected (see also Box 2). Accordingly, inflation in the tradable component went from 2.0% in December 2014 to 3.5% in March (Table 6, Graph 35). Although the price hikes for tradables have been generalized, the most pronounced inflationary pressures come from the areas that are most affected by the higher price of the dollar, such as airfares and the purchase of mobile phones and vehicles. The latter, which is the third largest category in the household basket, after rent and meals outside the home, with a weight of 4.4%, has accumulated a variation of 7.3% since October of last year.

Similarly, the non-tradable segment of the CPI excluding food and regulated items continued on an upward trend in the first three months of 2015, but less than the trend observed in tradables, increasing from 3.4% in December to 3.6% in March (Graph 35). The moderate upward momentum in this group during the first quarter is a sign of the absence of low demand-side pressures. These have begun to be apparent during the course of 2015, as suggested by the deterioration in local confidence, the slower growth in household loans, and less dynamic sales.

However, there also are signs of increases in this segment of the household basket, given the indexing generated by the rise in inflation late last year. Education and health services are the subgroups that would be affected the most by this phenomenon; they are part of the so-called “high variation” group, with annual inflation that went from 4.4% in December to 5.0% in

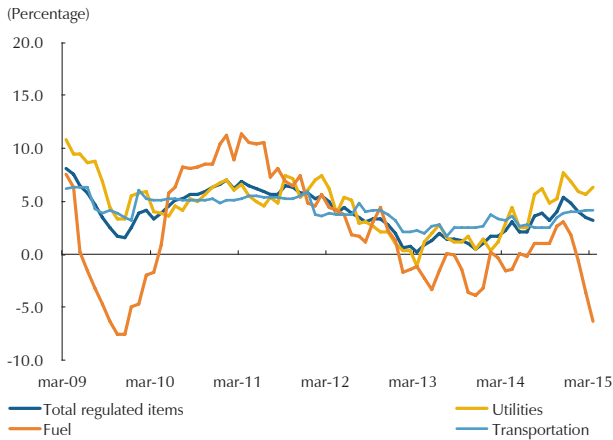
Graph 36
Annual Inflation in Non-tradables
(Annual change)



Source: DANE; calculations by Banco de la República .

March (Graph 36). On the other hand, the annual adjustment in the “low variation” group (with less indexing) accelerated to 4.1% in March, from 3.6% in December, likely as a result of temporary shocks rather than demand-side pressures (Graph 36). The higher costs of tickets for the different soccer championships being disputed since late last year explains the increase in this non-tradable subgroup. Pressure contrary to that of the aforementioned groups came from the rental sub-basket, which declined from 3.0% in December to 2.9% in March. Increases in the supply of real estate properties for the upper income brackets, with less dynamic demand and a steady slowdown

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



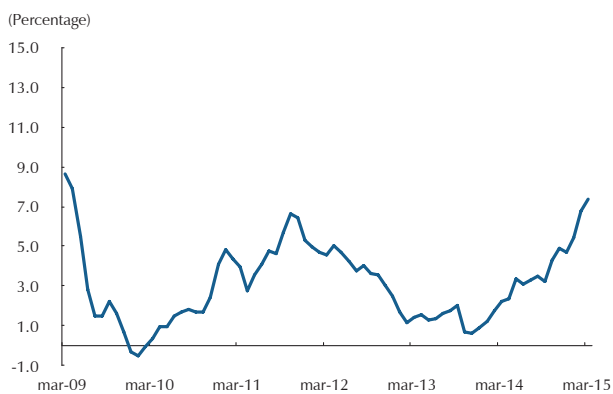
Source: DANE; calculations by Banco de la República

in mortgages since mid-2014, could explain this performance (Graph 37).

So far in 2015, the regulated component of the non-food CPI basket was the only one to exhibit a downward trend, going from 4.8% in December to 3.3% in March (Graph 37). Fuel was the driving force that triggered the contraction in this group, as anticipated by market analysts and the technical staff at *Banco de la República*. In fact, the successive reductions in gasoline prices decreed by the national government, especially the latest (300 pesos), applied in late February, explain the more than 6.0% decline in the price of fuel so far this year, bringing the annual change to -6.4% in March as opposed to 1.8% last December.

The annual variation in the subgroup comprised of utilities also declined, in this case from 6.9% in December to 6.3% in March, mainly because of the slowdown in annual inflation in energy, which went from 9.0% in December to 7.6% in March. Even so, it is important to note that, within this subgroup, the rate for gas rose 7.0% during the first quarter of 2015. The analysts of this sector anticipate high levels in the rates for this item during the remainder of the year, not only due to deregulation of the La Guajira market, but also because of the higher costs associated with the limited transport capacity of the country's gas pipelines. In the case of water, an upward trend was observed during the first three months of the year, with inflation climbing from 3.6% in December to 4.5% in March. This increase is explained by the fact that rates began to be adjusted in February, due to the accumulation of another 3.0% in annual inflation. This obeys a ruling imposed by regulators in the sector, activating new increases.

Graph 38
Food CPI
(Annual change)



Source: DANE; calculations by Banco de la República

The only regulated subgroup that saw increases in its inflation rate from 4.0% in December to 4.2% in March was transport. This upswing is explained by several local adjustments (in Pereira) in fares for taxi service and urban transport.

B. FOOD INFLATION

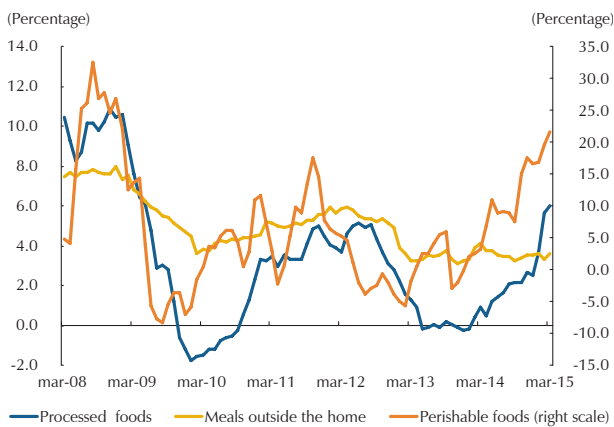
The annual variation in food prices has been on the rise since last year, going from 0.9% in December 2013 to 4.7% last December and 7.4% in March

(Graph 38). This outcome was higher than was anticipated by the market and by the analysts at *Banco de la República*. Food inflation during the better part of 2014 and so far in 2015 was affected by supply factors and only to a lesser degree by the depreciation of the peso. Additionally, the recent strike by truckers made food more expensive between February and March.

As of 2014, prices for perishable foods have exerted upward pressure on consumer inflation, jumping from negative terrain in December 2013 (-0.2%) to 16.7% in September 2014 and 21.6% in March.

Although in general terms the supply of perishables has declined compared to last year, it is the shortage in the supply of potatoes that has concentrated the hikes in this sub-basket. In fact, the annual adjustment in potato prices was 71.8% in March. This was due to a decline in planted area, partly because of speculation about the negative impact of *El Niño* weather as of the second quarter of last year.

Graph 39
Food CPI by Groups
(Annual change)



Source: DANE; calculations by Banco de la República.

The processed food segment is also exerting a significant pressure on annual food inflation, having gone from 2.5% in December to 6.0% in March (Graph 39). This upward trend is mainly due to rice; its price increase reached 35.6% so far this year and 36.6% in the last twelve months. Several facts explain this variation. One is the drop in production prompted by the fear of possible *El Niño* weather, as well as the low prices witnessed in the recent past. Added to this is the retention of grain inventories by some millers and more costly imports, due to the depreciation of the exchange rate.

Moreover, the bulk of the items that comprise this segment of the food basket (especially eggs, cereals, oils and flour) have incorporated the rise in the dollar and might continue to increase, despite the downward pressure stemming from lower international prices. Peso depreciation against the dollar also has propelled, with some force, the prices of other imported processed foods (such as flour, oil and legumes, among others).

Meals outside the home have yet to incorporate the generalized rise in food prices, closing out the third quarter with an annual increase of 3.6%. This is only 10 bp above the variation at December.

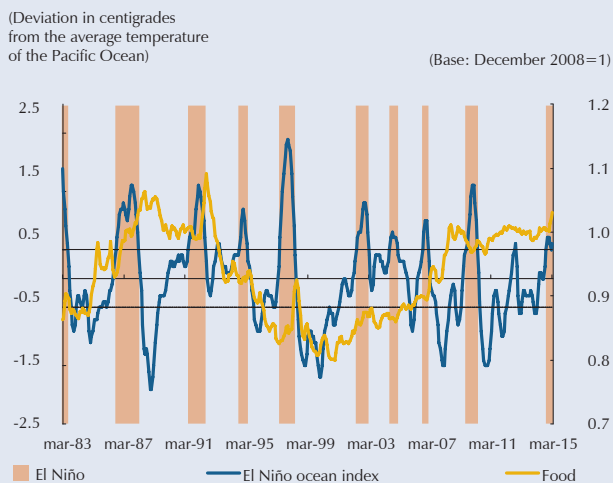
Box 2

WHY THE RISE IN FOOD PRICES AND WHERE ARE THEY HEADED?

Edgar Caicedo G.
Joan Camilo Granados C.
Nicolas Martinez C. *

Since early last year relative food prices has shown an upward trend, which has not reverted yet (Graph B2.1). In annual terms, food inflation has risen almost steadily since December 2013, the month when it reached 0.9%, before jumping to 4.7% a year later and ending the first quarter of 2015 at 7.4% (see Graph 38 in Chapter III). Will food prices continue this upward drift or will they drop? Before answering this question, let us look at the causes behind this raise and then analyze how these prices might perform during the rest of the year.

Graph B2.1
El Niño Weather and Food Prices in Relation to the Non-food CPI



Sources: DANE; authors' calculations

What explains the surge in food prices?

There is a consensus among industry analysts that the increase in food prices stems largely from the indications that emerged during the second quarter of last

year concerning the appearance of a new bout of *El Niño* weather, without knowing exactly when it would start date or how intense it would be. This early announcement put farmers on alert and, as a result, they would have modified their investment decisions, cut-back on the amount of land planted with a wide variety of crops or delayed investing in land improvement, inputs, machinery and equipment, among other things.

Only in March of this year was the development of *El Niño* weather confirmed and consolidated. The forecasts, in principle, indicate it would last most likely until the end of summer in the northern hemisphere and its intensity would be weak.¹ However, in anticipation of this event, due to previous announcements, farmers already had taken steps that meant less supply and a subsequent rise in food prices.

As a reflection of this pessimism, agricultural GDP increased less in 2014 (2.3%) than in 2013 (6.7%). Likewise, farm production loans made with Finagro resources were down 17.5% in 2014 compared to 2013. In fact, even these loans continue to show no improvement, having declined during the first quarter of this year by more than 9.0%. However, it is important to note that total lending, which includes resources approved for investment, payment of existing liabilities and working capital (includes production lines), did increase by 17.6% between January and March.

Another factor that has pushed up food prices in recent quarters, although less significantly, is the depreciation of the peso against the dollar. The most recent ascending phase in the price of the dollar, which began in late July 2014, generated some upward pressure on certain imported foods, particularly cereals, oils-fats, and flour.

* The authors are, respectively, expert professional on inflation, specialized professional, and student intern at the Inflation and Programming Department of *Banco de la República*. The opinions expressed in this section imply no commitment on the part of *Banco de la República* or its Board of Directors.

1 See <http://www.climate.gov/news-features/blogs/enso/march-2015-Enso-discussion-the-ni%C3%B1o-here>. The presence of *El Niño* weather is confirmed only after five consecutive periods, in which each period is a moving average of three previous months, during which the temperature in zone 3-4 of the equatorial Pacific Ocean exceeds the historic average temperature of the last thirty years by 0.5 degrees centigrade. This trend was confirmed in March 2015, when the intensity of this climate episode still was regarded as weak.

Rice led the gains, with an annual hike of 36.6%, which explains 10.7% of total inflation accumulated in the last twelve months and 23.5% of food inflation. The increase in the price of rice was associated with the drop in production, the appraisal of inventories by some millers, and more costly imports to satisfy local demand, which became more expensive thanks to the appreciation of the dollar.

The crisis in the profitability of certain crops during the past year, together with the fears about the presence of *El Niño* weather, triggered a significant reduction in the amount of land planted in crops, especially perishables, bringing upward pressure to bear on this component of food CPI. Accordingly, the annual adjustment in this segment went from negative terrain in December 2013 (-0.2%) to positive terrain a year later (16.7%), ending the first quarter of 2015 at 21.6%. Within this group, potatoes have been hit the hardest by these factors, suffering price hikes that reached 71.8% in the last twelve months. These increases account for 8.0% of total inflation and approximately 16.0% of food inflation.

In addition, for much of last year, the upsurge in producer inflation would signal that farmers have faced higher production costs, because the cost of input, raw materials and agricultural machinery and equipment has become more expensive. This would have discouraged production. Finally, several protests by peasants and the strike by truckers, which caused temporary shortages in the country's wholesale food markets, boosted prices between February and March of this year.

Where are food prices headed?

To answer this question, several statistical exercises are outlined in this section to determine the path food prices might follow during the remainder of 2015. However, first, it is important to note the bout of *El Niño* weather and peso-dollar depreciation, which explain much of the rise in food prices, would decline or disappear between the second half of 2015 and early 2016, as the market expects. This would help to slow annual food price hikes. After peaking, a typical episode of *El Niño* weather it tends to disappear completely in the third quarter. This is precisely what meteorologists anticipate, considering the information at March. In other words, the weather would return to normal once summer ends in the northern hemisphere. Meanwhile, the dollar has slowed its upward trend since mid-March,

which means increases in the food component of the tradable CPI should not extend beyond this year, considering it takes one or two quarters for changes in the exchange rate to affect consumer inflation.

A look of the typical behavior of the food CPI indicates one might expect prices to decline in the coming months. In this respect, we use the procedure outlined by Bry and Boschan (1971) to characterize the inflationary cycles of these food groups as of 2000. This methodology consists of an algorithm that removes outliers from the data series and then determines the breakpoints in the cycles of a time series. For this, local maximums and minimums are sought in a moving window all along the series, to which a set of constraints is applied. With these, the phases of the cycles (ascending and descending) are alternated, which makes it easier to determine the duration of each cycle and also gives every phase and cycle a minimum duration. Although that duration is selected by the researcher, this exercise follows Harding (2008), with the selected minimum length of each phase and cycle being five and nine months, respectively. Graph B2.2 shows the results and Table B2.2 presents the statistics describing the length of these cycles for the prices analyzed.

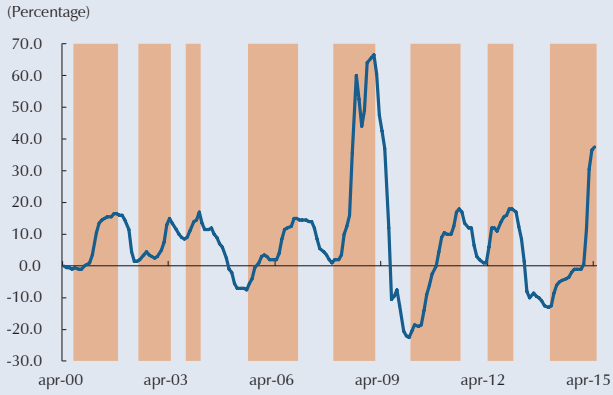
According to the results, the ascending portion of the annual cycle of changes in the CPI for rice is more prolonged than the descending phase; i.e., rice inflation increases over a longer period of time and then is followed, on average, by a rapid reversal in prices. On the other hand, if it is found that the magnitude of the change in this product and for potatoes is much higher than for other foods taken into consideration, a sharp slowdown in inflation for these products might be seen in the coming quarters.

The other foods exhibit longer inflationary cycles, but more symmetrical (Table R2.1); in other words, the duration of each phase is similar. For most, it is confirmed that prices are in an upward phase. However, by April 2015, several had already exceeded the average ascending duration of their cycles or would be close that point (Table B2.2), which means they could unwind towards the fourth quarter.

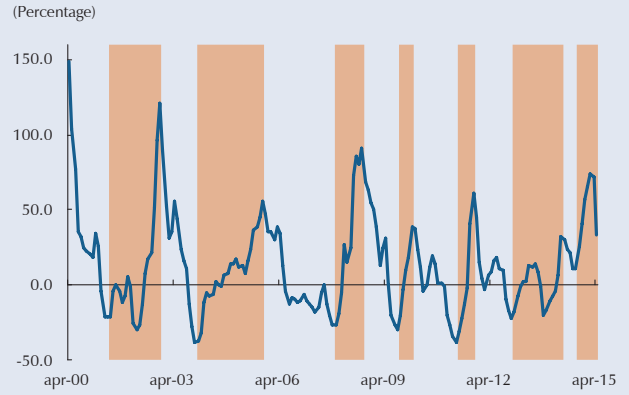
On the other hand, Table B2.3 illustrates how the importance of food to total inflation in the years with *El Niño* weather tends to fall off significantly in the second half, compared to the years with normal weather. While perishables account for 117% of inflation in the first half of the year, their contribution is negative (-17.0%) during the

Graph B2.2
Annual Price Cycles for Certain Foods

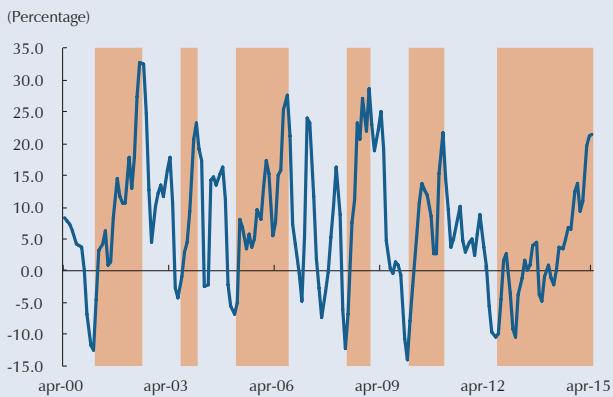
A. CPI for rice



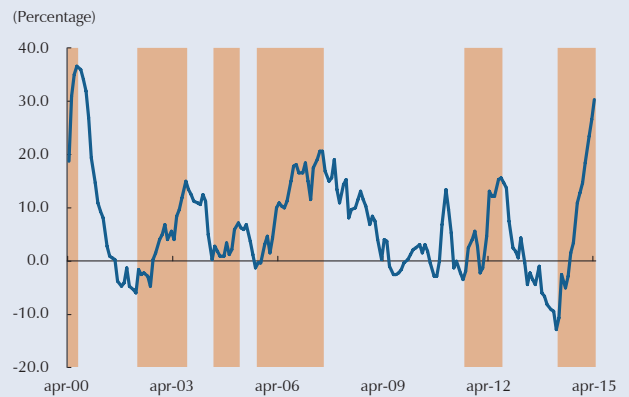
B. CPI for potatoes



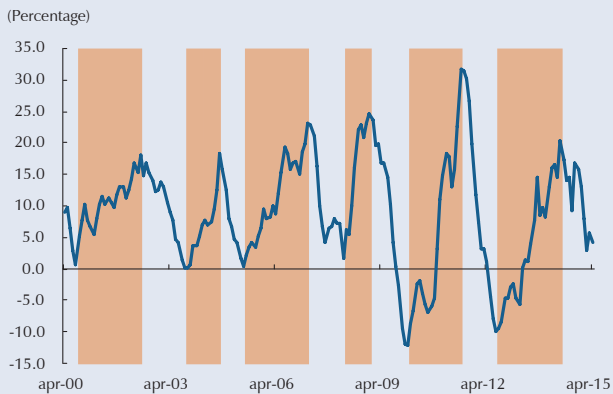
C. CPI for vegetables and Legumes



D. CPI for tubers excluding potatoes



E. CPI for fruits



Note: The shaded areas denote upward phases in the annual changes analyzed.
Sources: DANE; authors' calculations

second half. The same applies to the total food group; its share in the second half (5.0%) is much lower than in the first (95.0%). Moreover, given the important weight of food in the household basket (28.2%), this behavior is reflected in total inflation, although with less intensity.

In conclusion, given the data at March, meteorologists and exchange market analysts expect food prices to begin to ease up as of mid-2015. This is confirmed by the statistical exercises, which indicate a sharp drop in relative food prices during the same period. On the other hand, the technical staff at *Banco de la República* anticipates no intensification of *El Niño* weather and does not expect it to last longer than initially forecast. At the same time, the dollar is expected to be relatively stable. This would suggest the anticipated drop in food prices will be more than enough for annual consumer infla-

Table R2.1
Annual Food Price Cycles

Annual percentage change	Cycle (in months)				Descending phase				Fase descendente			
	Average duration	Deviation	Minimum	Maximum	Average duration	Deviation	Minimum	Maximum	Average duration	Deviation	Minimum	Maximum
Rice	23	4	16	29	13	4	5	17	10	4	5	16
Potatoes	27	11	19	47	13	7	5	23	14	6	5	24
Tubers	36	18	18	61	16	6	9	23	20	17	6	48
Vegetables	27	8	19	38	12	5	6	18	15	3	13	20
Fruits	29	7	20	37	18	6	9	22	12	3	8	15

Sources: DANE; authors' calculations

Table R2.2
Current Phase of Food Price Cycles

Annual percentage change	Current phase and duration	
Rice	Ascending	16
Potatoes	Ascending	7
Tubers	Ascending	13
Vegetables	Ascending	33
Fruits	Descending	11

Sources: DANE; authors' calculations

Table R2.3
Inflation Generation: 1950-2014

Description	Average semester share (percentage)	
	I	II
Food inflation		
Years with <i>El Niño</i> weather ^{a/}	95.0	5.0
Years without <i>El Niño</i> weather	56.0	44.0
Inflation in Perishables (excluding 2013)^{b/}		
Years with <i>El Niño</i> weather ^{a/}	136.0	-36.0
Years without <i>El Niño</i> weather	101.0	
Total inflation		
Years with <i>El Niño</i> weather ^{a/}	76.0	24.0
Years without <i>El Niño</i> weather	66.0	34.0

a/ *El Niño* weather as of the second year

b/ Excluding data from 2013, which was an atypical period

Sources: DANE and National Oceanic and Atmospheric Bureau (NOAA); calculations by Banco de la República

tion to return to the target range by the end of 2015. If not, the possibility of inflation expectations breaking away from the target would increase, with high costs for the credibility of the inflation targeting regime and for the economy overall. *Banco de la República* has said it is vigilant and is taking an active position to ensure the inflation target is met.

References

- Bry, G. ; Boschan, C. (1971). *Cyclical Analysis of Time Series: Selected Procedures and Computer Programs*, NBER Books, National Bureau of Economic Research, Inc.
- Harding, D. (2008). "Detecting and Forecasting Business Cycle Turning Points," MPRA Paper, No. 33583, University Library of Munich, Germany.

IV. MEDIUM-TERM FORECASTS

There is still considerable uncertainty about growth in 2015, due to the magnitude of the external shocks experienced by the Colombian economy.

The most likely forecast for current-year growth was revised downward slightly in this report (to 3.2%), within a range of 2.0% to 4.0%.

Projected annual inflation rose again, pressured by temporary food supply shocks and by the pass-through of depreciation to domestic prices.

Annual inflation is expected to begin to decline, mostly in the second half of the year and to converge towards 3.0% between 2016 and 2017.

A. ECONOMIC GROWTH IN 2015

The economic growth forecasts outlined in this report were revised downwards from those published last quarter. The estimates developed by *Banco de la República's* technical staff suggest the slowdown in the Colombian economy could be somewhat more pronounced than initially thought. This is due to lower economic forecasts for our major trading partners and neighbors in the region, as well as a less favorable international outlook for the Colombian economy. Added to this are the trade shocks registered so far this year, which had not occurred when the previous edition of this report was being written. Moreover, the first quarter saw domestic demand exhibit signs of a larger-than-expected slowdown and witnessed a significant shock to the confidence and expectations of Colombian households.

Colombia's trading partners are not expected to perform as well economically, compared to earlier forecasts, and domestic demand has slowed somewhat more than anticipated.

Overall, this report continues to reflect uncertainty about the external context, particularly with respect to capital flows into the country. So, the high, medium and low GDP growth forecasts presented herein are consistent with the different degrees of availability of external financing. The central GDP

The forecast for growth in 2015 assumes the price of oil will be average around USD 55 per barrel.

forecast, in particular, assumes a reduction in FDI, as outlined in the balance of payments section of Chapter I, concentrated mainly in FDI intended for the oil sector. Likewise, international crude oil prices are expected to average around USD 55 per barrel. This is not much different from the forecast in the previous *Inflation Report* (USD 50 pb); so, the extent of the negative impact the collapse in oil prices would have on terms of trade in 2015 is similar to what was forecast last quarter.

All of the foregoing points to a slowdown in domestic demand during 2015. The category affected the most would be gross capital formation, especially private GFCF and that for the mining-energy sector, where a contraction is anticipated. With respect to all other investment, particularly spending on building construction and civil works, positive increases are anticipated, as will be explained later. Growth in private consumption would slow slightly more than was forecast last quarter. In terms of government consumption, the prospect of good performance in this segment of GDP continues, although the forecast is for less government consumption than in 2014.

However, it is important to point out that there is a significant amount of uncertainty about the momentum in this aggregate. In principle, good performance in government spending should be the result of higher budget execution at regional and local levels, which is usually seen during the last year in office of mayors and governors. Moreover, regional elections themselves are expected to represent a major source of government spending. The country's macroeconomic strength and sound management of its fiscal policy in recent years give the national government a certain amount of leeway to deal with a situation like the one at present. One example of this is the favorable demand for recent government bond issues, which were marketed at historically low rates and longer maturities and would continue to represent an important source of funding for the government. Another possible source of funds is associated with the sale of Isagen. If it happens, the government would have additional resources to satisfy its spending and investment needs.

Investment would be the worst performing category, especially private investment and investment in the mining-energy sector. Private consumption would slow somewhat more than contemplated last quarter.

In contrast, the downside risks are related to less revenue from royalties. The recent drop in oil prices negatively impacted the budget set for 2015 and 2016, particularly in the regions. As a result, these payments had to be postponed and expenditure on some spending and investment projects had to be cut back. Moreover, the effect of wage adjustments in the sector and the commitments the national government made to various productive sectors in 2013 will dissipate in 2015.¹⁰ Lastly, compliance with the

¹⁰ This includes those derived from wage hikes in the judicial branch of government and the commitments made to the agricultural sector, among others.

In addition to the risks considered already in the previous edition of the Inflation Report, is the potential for a setback in household confidence and a decline in expectations for the future.

law on electoral guarantees is expected to ease some of the momentum in government spending during the second half of the year.

As for private consumption, a slowdown in household spending is expected, mainly due to less consumption of durable goods. In addition to how this item might be affected by factors such as: 1) lower the terms of trade; 2) less available financing given reduced capital flows into the country, and 3) eventual detriment to the purchasing power of household income given the sharp depreciation of the peso against the dollar (all of which were included in the forecasts a quarter ago), there is the risk of a potential setback in household confidence and a decline in household expectations for the future of the Colombian economy. Retail sales have slowed so far this year, while sales of automobiles and motorcycles have declined. Even so, the latest job market indicators have not deteriorated, and job creation has been concentrated in salaried and formal employment, which is why no further slowdowns in household consumption are expected.

With regard to gross capital formation, the poor performance of this item is expected to be caused largely by less investment in the mining sector. Accordingly, by 2015, the momentum in spending on capital goods would be the lowest in the last five years. This poor performance would be offset only in part by the performance forecast for other investments. Spending on construction of civil works and building construction would expand more than all other investment, but less so than in 2014. Good performance, in the first case, would be due to the spending of resources already earmarked for highway and airport infrastructure projects that are being developed throughout the country. In addition, the first payments for infrastructure construction projects that are part of the so-called fourth-generation concession program (4G) would be disbursed. It should be noted that compliance with the law on electoral guarantees could restrict the payment for some investment projects during the second half of the year. In the case of building construction, the momentum would be explained primarily by the programs being carried out by the national government to build low-income housing, without ignoring the effect of other buildings, which also would contribute to GDP growth.

Traditional and non-traditional exports are expected to grow at a good pace, contrary to an eventual drop in imports.

The outlook for the foreign trade accounts in constant pesos is mixed: exports are expected to perform well, while sharp cutbacks in imports are forecast. In the first case, the growth in traditional exports would reflect the anticipated increase in the amount of coal, coffee and oil produced, as discussed later. Non-traditional exports (which include services) would benefit from the accumulated depreciation in the nominal exchange rate, despite weak external demand. In the case of imports, poor performance would reflect the anticipated slowdown in domestic demand and, particularly, the decline in private investment in capital goods (which have a high imported component). The possibility of imported demand being replaced by local

Construction, financial services, and community and personal services would be the sectors that contribute the most to GDP growth in 2015.

demand is considered as well, given the higher costs associated with the depreciation of the peso.

On the supply side, the sectors that would contribute most to GDP growth would be construction, social, community and personal services (consistent with the situation described above), and financial services. Sectors such as mining and industry, which suffered supply shocks last year, are expected to see higher growth rates than in 2014. Generally speaking, the forecasts for the other the sectors point to some slowdown, especially in the case of non-tradables.

Financial services, in particular, would continue to contribute actively to Colombia's economic growth, thanks to this sector's high participation (19.6%) and to loan portfolio growth, which continues to perform well despite some slowdown in its pace. Furthermore, real interest rates remain relatively low compared to the historical averages.

In this report, the outlook for the mining sector includes a continued recovery in coal production throughout the rest of 2015, following problems with transport and law and order that complicated the coal production chain in 2013 and 2014. The new forecast anticipates coal production will grow more than the entire Colombian economy in 2015 as a whole, with a prediction of about 95 million tons. The assumption for oil production three months ago is maintained, with an average of approximately 1,020,000 barrels daily. It is important to point out that, despite recent price indicators for both oil and coal, the investments made in previous years in transport infrastructure for these products should help to improve their growth rates. However, it is estimated that annual growth will be lower than the two-digit rates observed between 2008 and 2011 (11.4% on average).

Industry is expected to recover during 2015, thanks to the investment made in previous years, diversification in terms of products and markets, and the competitiveness gained through peso depreciation.

Industry is expected to recover in 2015, based on investments made in previous years, the diversification of export products and markets and the contribution recent depreciation of the peso makes to the sector's competitiveness. Furthermore, Reficar is scheduled to reopen during the second half of the year. This would mean a major surge in the production of oil products, whose share of industry GDP is about 12.5%. Yet, some branches would continue to face competition from imports; this is according to the perception reported by employers in the ANDI surveys.

Mixed performance is expected in the agriculture sector for 2015. Coffee production would continue to contribute significantly to growth in the sector's aggregate value, although less so than in 2014. Coffee production is expected to reach 12.6 million 60-kilo bags. This is similar to the volume predicted by the National Federation of Coffee Growers (Fedecafé) and would mean

A shift in growth between tradable and non-tradable activities is expected; namely, an acceleration in tradables and less growth in non-tradables.

an anticipated increase of 5.0%. In contrast, cattle slaughter would offset this momentum, due to continuation of the cattle retention cycle.

Based on the foregoing, the forecast for GDP growth in the most probable scenario is around 3.2% for 2015, with the likely range being 2.0% to 4.0%. As in the report last quarter, this range remains wide, since the domestic and international contexts are highly uncertain. A shift in growth between tradable and non-tradable activities is expected, with acceleration in the first and lower growth in the latter. The floor and ceiling of the forecast range are related to the low and high scenarios for the international context, as outlined in Chapter I, and would be associated with a greater or lesser degree of access to external financing. Moreover, on this occasion, the breadth of the ranges also includes the possible effects the drop in oil prices might have on national revenue.

Downward biases predominate in the forecast exercise (Table 7), as evidenced in the balance of risks shown in the growth fan chart, although this time they are less than they were three months ago (graphs 40 and 41). The main ones are associated with lower levels of consumption and public investment, as well as slower growth for our main trading partners. More of an impact on national revenue and investment caused by falling oil prices, compared to the provisions in the central forecast, is contemplated as well.

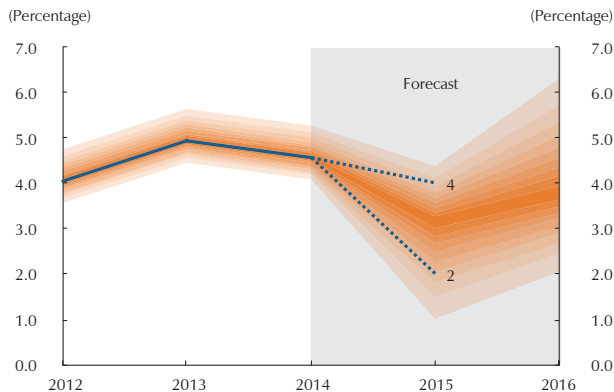
Despite considerable uncertainty about the balance of risks (Graph 40), the forecast for 2016 points to somewhat higher economic growth. In principle, a recovery in the growth of our major trading partners is anticipated, as is partly better momentum in international oil prices. This would have a positive impact on domestic demand. Household consumption is expected to grow more than would be observed in 2015, and the increase in exports (traditional and non-traditional) should be good. However, there is no certainty about how public consumption and investment in civil works will perform,

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

Range	2015	2016
< 3.0	65.0	28.0
3.0-4.0	29.0	30.0
4.0-5.0	6.0	24.0
5.0-6.0	0.0	12.0
6.0-7.0	0.0	4.0
> 7.0	0.0	1.0
Between 3 and 5	35.0	54.0
Between 2 and 4	65.0	51.0

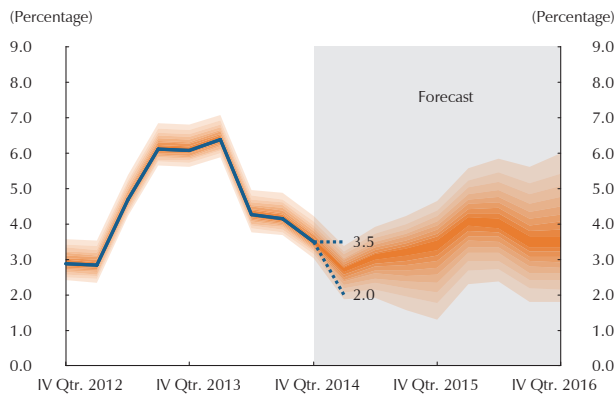
Source: Calculations by Banco de la República

Graph 40
Fan Chart of Annual GDP Growth



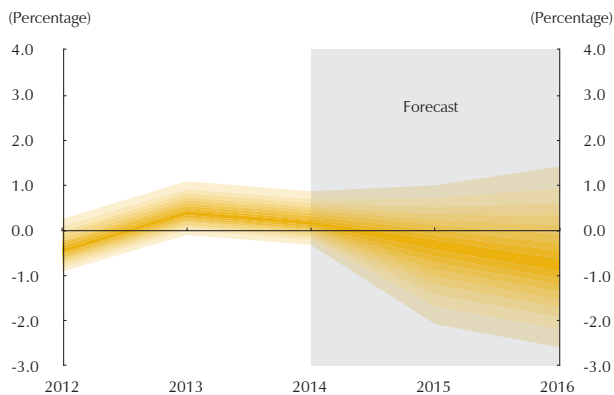
Source: DANE; calculations by Banco de la República

Graph 41
Fan Chart of Annual Growth in Quarterly GDP



Source: DANE; calculations by Banco de la República

Graph 42
Fan Chart of the Output Gap



Source: DANE; calculations by Banco de la República

although the latter (particularly spending on road and airport infrastructure) is expected to contribute to GDP growth.

The latest estimates for the output gap in the central forecast suggest it would have been positive in 2014 and would be in negative in 2015. The current gap, compared to the one outlined in the December edition of this report, is slightly more positive in 2014 and more negative in 2015. The high degree of uncertainty associated with this estimate must be taken into account. Therefore, according to the balance of risks shown in Graph 42, the gap would have been positive in 2014, with a probability of 76%. By 2015, this probability is only 30%. It is important to note these estimates contemplate a temporary reduction in potential GDP growth associated with the shock to terms of trade (see Box 3).

Banco de la República's models suggest the unemployment rate in 2014 would have been quite close to the non-accelerating inflation rate of unemployment (NAIRU). However, given the economic downturn, there is a risk the UR might cease to decline, which is why this indicator might be above the NAIRU in 2015.

For these reasons, inflationary pressures stemming from aggregate demand and the job market would have been low during 2014, and are expected to remain so in 2015.

B. INFLATION

1. Forecasts

The central forecast for inflation in the coming quarters was adjusted upward quite significantly in this report, according to the two principal models used by *Banco de la República* (MMT and Patacon). Inflation would peak between March and June of this year, before falling slightly in the quarters thereafter, then returning to the long-

The pass-through of depreciation is expected to continue to bring upward pressure on the price of tradables in 2015.

term target (3.0%) between 2016 and early 2017. The increase in the forecast is explained largely by higher inflation expectations for the tradable and food components of the consumer basket. Consequently, the central forecast for consumer inflation reflects a significant upward revision of the annual adjustment in the tradable CPI excluding food and regulated. As in the previous report, the pass-through of peso depreciation is expected to continue to drive up prices for tradables throughout 2015, but particularly during the first three quarters, given the usual lag in this pass through (one to two quarters) and the rise in the exchange rate included in the forecast models. Annual growth in the segment of the consumer basket that includes tradables without food and regulated items should be above 3.0% throughout 2015, posting substantially higher levels than those observed in the past five years, but with declines in 2016.

The increase in the exchange rate, which was included in the models for the rest of 2015 and for 2016, is due partly to the higher-than-expected levels observed for this variable so far this year, as well as the forecast of a higher current account deficit in the balance of payments. The latter would be associated with a larger trade deficit compared to the one considered in the previous report (see Chapter I). All this brings upward pressure to bear on the forecasts, even though the central forecast assumes the pass-through of movement in the exchange rate to the CPI will be low. According to the latest estimates, it would be 4% (10% depreciation, all else being constant, implies an increase of 40 basis points in annual inflation in the medium term).

The higher prices expected for food constitute the second factor that explains the increase in the core inflation forecast. The prices for this basket surged in the first months of the year, associated with a narrower range of foods (perishables and semi-finished products) than was observed in 2014. This supply shock is partly because planting was postponed as a result of uncertainty about by the possibility of *El Niño* weather. This had a negative impact on production, which would continue for a few more months (see Box 2). Similarly, in the past two years, low prices for some perishables (potatoes, other tubers, certain vegetables) and rice exacerbated this effect on crops during the first half of 2015, triggering a phase of high prices that could continue into the second half of the year. The next few quarters could see food production costs increase due to a rising dollar, particularly for imported agricultural input. However, these pressures would be offset, in part, by lower international prices for agricultural commodities, which would be influenced by the drop in oil prices.

The effects of negative supply shocks to food would continue for a few more months.

In this sense, the annual change in food is expected to peak between the first and second quarters of 2015 and would decline during the remainder of the year. However, it would stay above 5.0%. This downward trend would persist in 2016, bringing the annual change in food to levels near the midpoint

of the target range in the first half of the year, where it would remain during the second half.

Due to the higher forecast for the tradable CPI, the remainder of the year is expected to see an additional surge in core inflation measured by the non-food CPI (according to the MMT). The prices in this basket also would be bolstered by the effects of higher indexing than in previous years, generated by the rise in inflation recorded in December 2014 and by increases in the production costs captured in the movements of the PPI. These are still high and driven by peso depreciation, despite having eased in recent months. This being the case, non-food inflation would continue to increase in the next two quarters, with a slight contraction at the end of the year.

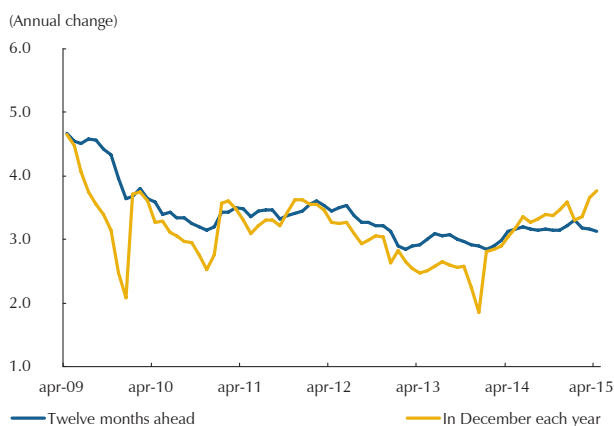
The shocks to the food supply and to the exchange rate contemplated in the central forecast would affect annual consumer inflation in a temporary way, which is why the forecasts for this variable are not expected to diverge significantly from the target range. It is important to point out that a prolonged rise in inflation expectations, above the long-term target, could lead to a revision of prices and wages, which could be incompatible with that target (see the balance of risks).

In this respect, the expectations revealed in *Banco de la República's* monthly survey of financial market analysts between April and December of this year stood at 3.8%, which is higher than the figure anticipated last quarter. According to market agents, the same survey shows the expectation for inflation twelve months out is 3.1%; this is 9 bp less than the figure obtained in the previous report (Graph 43). As of December 2014, this same survey also includes information two years forward, with an expectation of 3.2% for April 2017. *Banco de la República's* quarterly business survey shows inflation twelve months ahead is expected to be 3.9%, compared to 3.6% in the previous survey (January 2015) (Graph 44).

Finally, the estimates inferred from Colombian sovereign bonds (TES) interest rates at different maturities indicate that, by late April, inflation at two, three and five years was expected to be 3.68%, 3.53% and 3.45%, respectively (Graph 45).

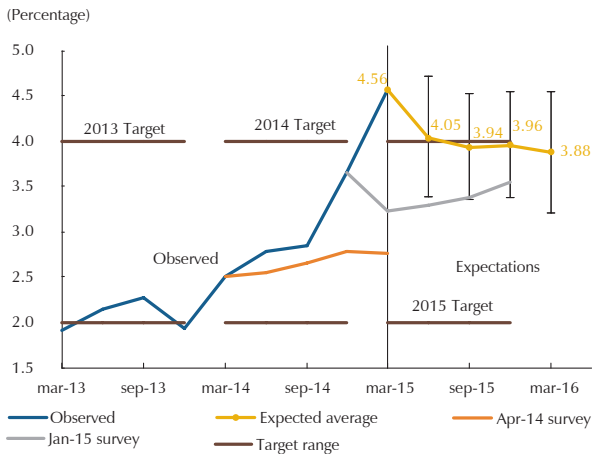
Downward pressures were noted in that report, given the sharp drop in domestic fuel prices, particularly the reduction ordered by the government in late February, which came to 300 pesos. As a result, the central forecast includes an important decline in the price of gasoline to consumers

Graph 43
Annual Inflation Forecasts by Banks and Brokerage Firms



Source: Banco de la República.

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



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

Graph 45
Breakeven Inflation (At two, three, five and ten years)
(Monthly average)^{a/}



a/ Nelson and Siegel method
Source: Bank of the Republic

throughout 2015, but it would be concentrated on the first half of the year. In light of the foregoing, the annual variation forecast for the regulated CPI declined compared to the forecast outlined in the previous edition of this report. Annual growth in the regulated CPI is expected to continue to slow during the next three quarters to below 3%, largely in response to a drop in the price of local gasoline, which is presumed to be 10% for all 2015.

The previous forecast also contemplates a possible upward adjustment in rates for residential natural gas during the remainder of 2015, since the new contracts signed in 2014 include sizeable adjustments for the year. This reflects the decline in reserves, deregulation of the Guajira market, structural difficulties in transporting this product and the impact of *El Niño* weather on the availability of natural gas to meet increased demand for thermal power generation.

In terms of electricity, the estimates for 2015 still assume the increase will be less than in 2014 (9.0%), considering the hydroelectric generation system has very little surplus production capacity, given the forecasts for demand. This is even after Hydro-Sogamoso began operating in 2014.

The downward revision in the GDP forecast for 2015 led to a more negative estimate of the output gap, as shown at the start of this chapter. Consequently, the forecast indicates little demand-side pressure in 2015 and even downward pressures at

a horizon beyond one year. The output gap presented in this report contemplates a permanent decline in oil prices, affecting observable and potential GDP.

According to these estimates, the forecast for the variable most susceptible to changes in demand; namely, the non-tradable CPI excluding and regulated items, indicates it would experience some stability at around 3.6% until the third quarter of 2015, then fall slightly towards the end year. These levels are somewhat higher than those presented in the previous edition of the *Inflation Report*. This downward trend would continue in 2016, but on a course higher than the one obtained three months ago and slightly

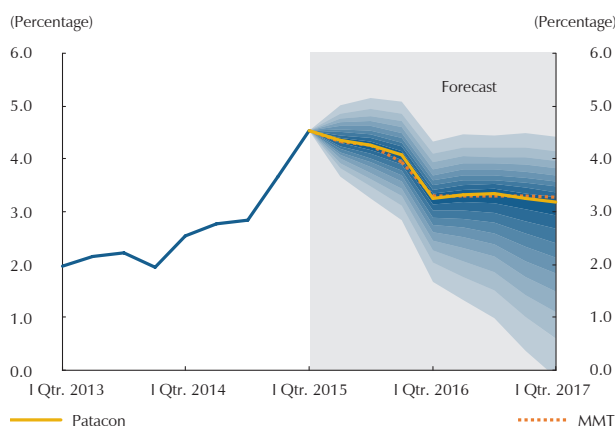
above the midpoint of the target range. It is important to remember that demand shocks affect consumer prices in Colombia with a lag of three to six quarters.

Finally, the new central forecast contains little cost pressure in general. As for labor costs, the decline in economic performance forecast for 2015 would lead to a less dynamic job recovery compared to what was observed in the recent months, limiting wage adjustments. As for other costs, the remainder of this year is expected to see relative stability or even a drop in international prices for imported or locally-produced raw materials, partly offsetting pressure from a more expensive dollar. Likewise, transport costs would decline due to the lower price of local fuel and because the DANE index of freight costs during the first quarter of this year was already signaling annual adjustments (0.4%) below those observed during the same period last year (1.48%).

2. Risk balance

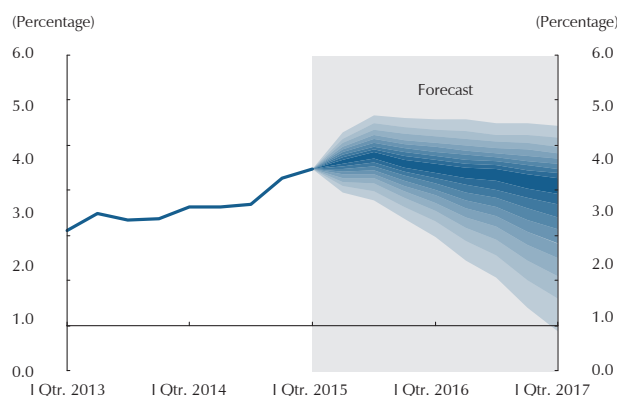
The fan charts (Graphs 46 and 47) show the balance of risks estimated for total consumer inflation and non-food inflation. On this occasion, the amplitude of the previous balance is maintained, because it considers the high degree of uncertainty related to the economic performance of Colombia's trading partners, the dynamics of domestic demand and food prices, among others factors. As mentioned earlier, some of the upside risks identified in the previous edition of this report have materialized in recent months. In addition, the central forecast for inflation increased considerably. This justifies a change in the bias for 2015, which is downward, as it is for 2016.

Graph 46
Fan Chart of Total Inflation



MMT: Transmission Mechanisms Model
Patacon: Policy Analysis Tool Applied to Colombian Needs (dynamic stochastic general equilibrium model)
Source: Banco de la República

Graph 47
Fan Chart of Non-food Inflation



Source: Banco de la República.

The international environment continues to generate downside risks for demand, which also implies a risk to prices.

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

- Less external demand than anticipated in the central forecast: An important downside risk associated with less dynamic global economic performance is included in this report, with particular emphasis on the countries of the region. Consequently, although the baseline scenario already takes into account a sizeable reduction in economic growth for our trading partners in 2015 and 2016, risk factors are still perceived that could lead to even less momentum in the economies of our trading partners.

To begin with, the impact of the drop in commodity prices on the terms of trade for countries in the region might be greater than expected, particularly if the downward trend in prices becomes more pronounced. There are major downside risks looming over other economies as well. In the case of China, for example, operation of the shadow banking sector and the impact this could have on the performance of the housing market, as well as the weak performance of the country's trade balance, could generate a more pronounced economic slowdown than anticipated.

Likewise, economic activity in the United States has yet to show positive momentum so far this year. As noted in Chapter 1 of this report, the main indicators for the US economy reveal a decline in its growth rate; if extended, this could mean less momentum than is considered in the central forecast. Finally, as was the case last quarter, the euro area would continue to exhibit a moderate downside risk associated with the uncertainty created by Greece's debt problems and doubts about its sources of external financing.

If these risks materialize, they would lead to weaker global economic performance than what is considered in the baseline scenario. For Colombia, this could translate into weaker external demand and less confidence among investors and consumers, thereby affecting the force of domestic demand and bringing downward pressure to bear on consumer inflation.

- Less domestic growth than forecast in the central scenario, due to internal factors: Although the central forecast for growth in 2015 assumes the momentum in public and private consumption will be less than in 2014, these aggregates continue to support growth of the economy to a large extent. However, a significant downside risk looms over this forecast. First, lower oil prices have a serious impact on government revenue, which will fall substantially. This, in turn, could imply cutbacks in resources for a number of government projects. If this is coupled with the possible risk of less external financing, even for the new investment assumptions considered in the baseline scenario, it might be difficult to obtain the expected resources. Private investment also could decline more than anticipated, because of the

The decline in oil prices affects government revenue and could lead to cuts in spending and downward pressure on inflation.

Weaker demand could be accompanied by a lower output gap.

reduced outlook for domestic growth and an eventual shock to the confidence indicators.

On the other hand, less momentum in demand could be accompanied by a more negative output gap, partly due to factors such as the sizeable reductions in terms of trade.

Even so, in the event this risk materializes, there might be some advantage to lower pass-through of exchange rate depreciation to consumer inflation, if one considers that pass-through depends entirely on the phase of the economic cycle the economy is in.

The materialization of all these risks could imply a slowdown in domestic demand and a more negative output gap. This would reduce demand-side pressure on prices, more so than expected, and particularly on the non-tradable CPI.

- *Lower food prices compared to those anticipated:* As mentioned, food prices have suffered major supply shocks so far this year, which have led to sharp price increases. These variations were much higher than predicted, especially for perishables and certain processed foods. This largely explains the increase in the central forecast shown in the fan chart. However, given this performance, it is possible that prices might reverse to a large extent in the final quarter of this year and in early 2016.

Moreover, an important to consider that all these shocks would occur in the midst of *El Niño* weather. Even if mild, it can intensify the decline in food prices towards the second half of the year, as has been the case in previous situations (see Box 2, pp. 55-58). Therefore, a sizeable drop in food prices towards the end of 2015, sharper than contemplated in the central forecast, is possible.

The following are some of the upside risks considered in this report:

- *Unanchoring of inflation expectations:* Inflation rose significantly during the last quarter and was above the ceiling of the long-term target range. In addition, as mentioned, it is likely to continue at these levels for much of the current year. Although the increases in inflation are due to temporary shocks, there is the risk that agents might perceive them as lasting and overreact by considerably raising their expectations. This would create permanent upward pressure on prices that has not been contemplated in the central forecast in this report.

Market agents might overreact to inflation hikes and change their price expectations as a result.

Less of a decline in regulated services than anticipated cannot be ruled out.

-A lower drop in prices for regulated goods and services than anticipated in the central forecast: The sharp downward trend in oil prices as of late June 2014, together with the impact it would have when passed through to fuel prices, led to the assumption that the CPI for this last category would decline by 10% in 2015 as a whole. This considers the fact that the projected decline in oil prices (down 50%, on average, between June 2014 and March 2015) would largely outweigh the upward pressures from the exchange rate anticipated in this report. In this sense, consideration is given to the fact that the domestic price of gasoline depends on international prices, which react, in turn, to changes in oil prices. However, the recent momentum in the price of crude and its higher forecast (see Chapter I) make it less likely that we will continue to see reductions in domestic gasoline prices. Furthermore, there is a lot of uncertainty about the net effect the variation in crude prices will have on local prices for fuel, once the upward impact generated by the depreciation of the exchange rate is discounted. Therefore, a lower decline in these prices than is contemplated in the central forecast cannot be ruled out.

Inasmuch as fuels account for about 3% of the consumer basket and are also important input for many sectors of the economy, a less-than-expected drop in this product could prompt a higher central forecast for inflation than the one outlined in this report.

Finally, it also is important to note that, as a counterbalance to this risk, rates for garbage collection, water and sewage likely will be reduced in 2015 when the new pricing framework for the sector takes effect. This is according to an announcement by the Ministry of Housing, City and Territory. The central forecast does not fully account for these reductions.¹¹

Considering all of the above, after weighing the different risks in the fan chart, it is estimated the probability that overall inflation will be within a range of 2% to 4% in 2015 and 2016 is 50% and 57%, respectively (Table 8). It is important to point out that the central forecast in this report assumes an active monetary policy, with interest rates that are adjusted to ensure compliance with the inflation target in the long run.

It is still quite likely that that inflation will be between 2% and 4%.

11 See Resolution CRA 710/2015.

Table 8
Probability Ranges in the Fan Chart for Total Inflation
(Percentage)

Range	Dec-15	Dec-16
< 2,0	0,3	33,4
2,0-2,5	1,7	13,5
2,5-3,0	6,5	15,2
3,0-3,5	16,1	15,7
3,5-4,0	26,1	12,7
> 4	49,2	9,6
Between 2 & 4	50,4	57,0

Source: Calculations by Banco de la República

Box 3

A LASTING SHOCK TO OIL PRICES: IMPLICATIONS FOR MONETARY POLICY IN GENERAL EQUILIBRIUM MODELS

Franz Hamann
Jesus Bejarano
Joao Hernández *

The macroeconomic consequences of the recent plunge in international oil prices pose a challenge to an inflation targeting strategy in small, open economies that export this commodity. On the one hand, there would be a negative impact on economic activity, national revenue, and aggregate demand, as manifest in a lower rate of growth. On the other, we would see depreciation of the exchange rate and its upward effect on prices and inflation.

One question prompted by the drop in international prices is whether it is expected to be temporary or permanent, since the implications for monetary policy are different with permanent shocks compared to those resulting from temporary shocks.

The macroeconomic effects of temporary shocks tend to be offset by countercyclical policies and are well documented in the literature on economic cycles. These shocks do not imply a long-term adjustment in the economy and, consequently, their occurrence does not change long-term prices and quantities. However, permanent shocks do prompt long-term changes in prices and quantities, so their effects are less understood.

Considering the possibility of a persistent shock to the price of oil and the limited documentation about its effects, it is crucial to assess its implications in general equilibrium models, which allow for capturing all the channels the shock can pass through. With that in mind, the results of three macroeconomic models of monetary policy in an oil economy are summarized in this section. The models were developed by *Banco de la República* and calibrated with data for Colombia.

* The authors are, respectively, head, section officer and professional at the Macroeconomic Modeling Department. The opinions expressed in this section imply no commitment on the part of *Banco de la República* or its Board of Directors.

The first, known as Fisco,¹ is a fiscal and monetary dynamic stochastic general equilibrium model designed for Colombia. One of its main features, besides the existence of nominal price rigidities and incomplete exchange rate pass-through to inflation, is that the mining sector generates revenue for the private sector and the government. Moreover, in the economy represented by the model, the central bank and the government are independent agents. The central bank's objective is to meet a core inflation target, and the interest rate is the instrument used to that end. The government's goal is to maintain a certain level of structural fiscal balance (as percent of GDP). To do so, it has multiple instruments such as tax rates and government spending. The government covers its expenses with taxes levied on the private sector, with mining revenue, and with internal and external borrowing. The government's operating expenses have an impact only on aggregate demand, while government investment affects aggregate demand as well as the production of companies, since public capital is a factor of production.

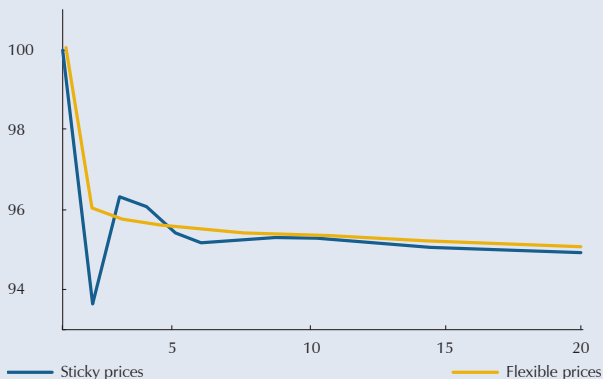
As shown in Graph B3.1, with a persistent drop in international oil prices, the Fisco model predicts a permanent GDP reduction, under both flexible prices² and sticky prices, due to the permanent reduction in household income level. Real depreciation and a deficit in the current account of the balance of payments are observed as well. In the case of sticky prices, the drop in GDP is even greater, since prices of goods will take longer to adjust, causing a further contraction in demand and, therefore, a negative output gap. In this case, since GDP at sticky prices experiences more of a decline than GDP at flexible prices, more depreciation is required at sticky prices to adjust the current account. The decline in demand means less consumption of all goods (domestic and imported) and, therefore, a reduction in their respective price. However, depreciation causes the price of imported goods to

1 Rincón, H.; Rodríguez, D.; Toro, J.; Tellez, S. (2014). "Fisco: modelo fiscal para Colombia," *Borradores de Economía*, Vol. 855, *Banco de la República*.

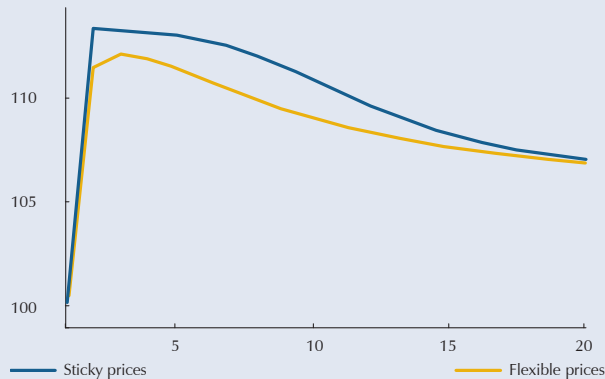
2 GDP at flexible prices is the output obtained if all prices and wages in the economy were flexible and no real rigidities existed. Within the framework of general equilibrium models, it can be understood as potential GDP. For further details, See "ReTable 2: El producto potencial, su uso y métodos de estimación en Colombia," *Informe al Congreso*, *Banco de la República*, March 2014.

Graph B3.1
Effects of a Permanent Drop in International Oil Prices with the Fisco Model

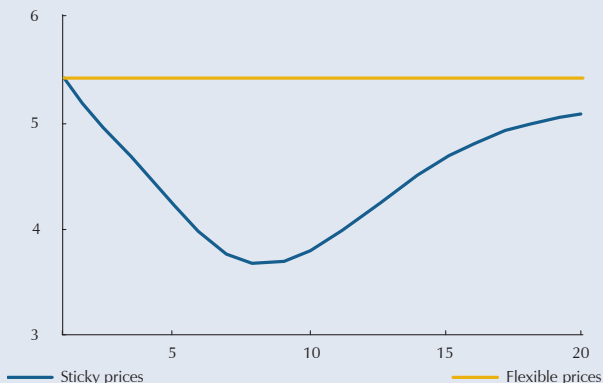
A. GDP



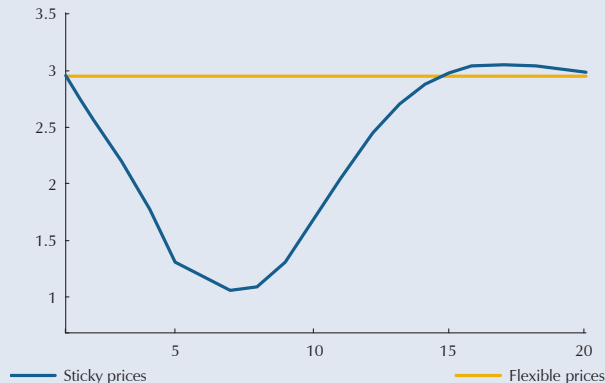
B. TReal exchange rate



C. Policy interest rate



D. Total inflation



Sources: Banco de la República; authors' calculations

increase, creating an ambiguous effect on the consumer price index (CPI). In the case of Fisco, the econometric estimates imply a greater share of domestically produced goods in the consumer basket, which generates a dominant effect for their prices within the CPI and, consequently, a decline in total inflation. As a result, the central bank responds to the drop in output and the reduction in total inflation by lowering its interest rate.

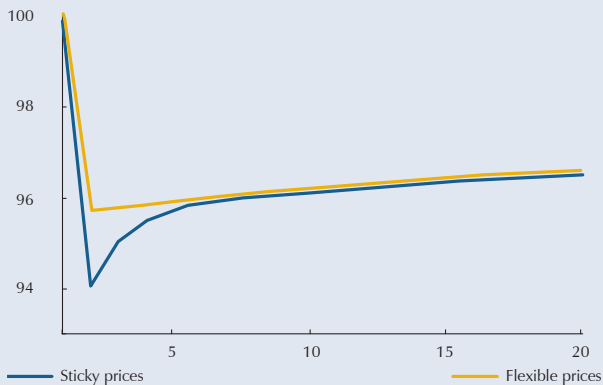
The second model is a simple Keynesian model of an open economy. It assumes oil is an extractable resource, and emphasizes the importance of the real exchange rate channel and the role of risk premiums.³ One of the main features

of this model is that the economy can be financed in international markets and has oil reserves. It optimally extracts a certain amount of those reserves for export to the international market for crude oil, at a specific price. External sales represent a source of income for families. The non-oil economy consists of two sectors: tradables (fixed supply, but one that households demand at international prices, which are presumed to be flexible) and non-tradables (this sector uses labor and “fuel” to produce non-tradable services for which there is a household demand). The Central Bank uses a Taylor rule that is intended to stabilize inflation around a long-term target. All prices in the economy are denominated in pesos, so the model captures both the effect of rising inflation generated by nominal depreciation (pass through), as well as the increase in the value of net exports in pesos. The interest rate confronting agents in international markets depends not only on the ratio of external debt to GDP, but also on the value of the oil reserves. The

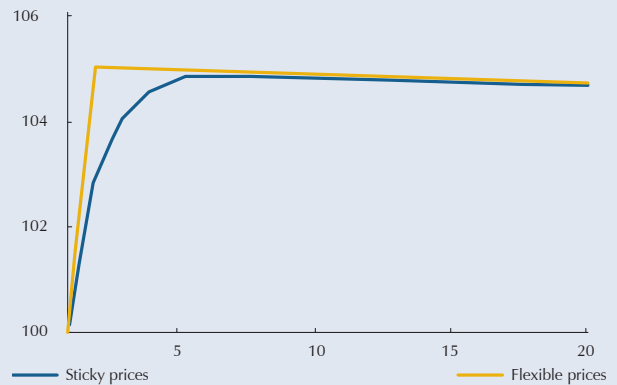
3 Bejarano, J. ; Hamann, F. ; Rodríguez, D. (2015). “Monetary policy implications for an oil-exporting economy of lower long-run international oil prices,” *Borradores de Economía*, 871, Banco de la República.

Graph B3.2
Effects of a Permanent Drop in International Oil Prices with the Simple Neo-Keynesian Model

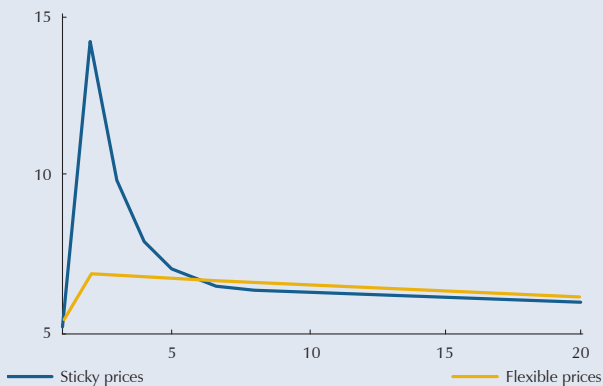
A. GDP



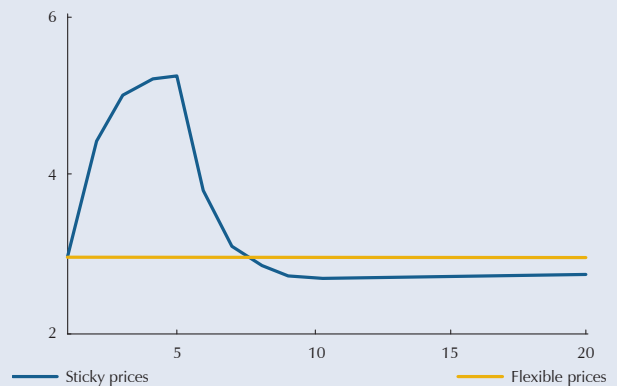
B. TReal exchange rate



C. Policy interest rate



D. Total inflation



Sources: Banco de la República; authors' calculations

labor supply in the non-tradable sector depends entirely on the real wage.

As shown in Graph B3.2, the simple Keynesian model, like Fisco, predicts a permanent decline in household income caused by the drop in international oil prices, which leads to a permanent reduction in GDP under flexible and sticky prices. Similarly, there is real depreciation. In this case, it is caused not only by the decline in the economy's external debt, but also by the drop in the level of prices for non-tradable goods, generated by the decline in aggregate demand. Likewise, there is a negative output gap that responds, as with Fisco, to the rigidity of prices; in this case, from the non-tradable sector. As for inflation, the prediction in the neo-Keynesian model is radically different from that of Fisco, due to the extent of pass-through in the economy. With this model, although there is a drop in the level of prices for non-tradable goods and services, the increase in the

price level of tradable goods predominates, because of real depreciation and perfect pass through (since there are no nominal rigidities in the tradable-goods sector). Accordingly, the central bank faces a dilemma when deciding on monetary policy, as it is confronted with a scenario where there is a drop in output, but an increase in the overall level of inflation. Therefore, its response depends on the relative importance of these variables in its policy rule. With the neo-Keynesian model, this rule depends exclusively on the behavior of total inflation, which is why the model proposes an increase in the interest rate.

The third, a neo-Keynesian model that includes the financial sector, abides by the previous model but also assumes a variable supply of tradable and non-tradable consumer goods and the existence of production of tradable and non-tradable capital goods. Employment can vary freely between both sectors. Additionally, there are some finan-

cial intermediaries that capture household savings and can channel them to companies in the form of loans to tradable and non-tradable sectors. The remaining elements of this model are identical to the previous one, except for gasoline as production input.

In this model, as shown in Graph B3.3, the drop in international oil prices has the same effect on GDP and on real depreciation as in the other two models, given the pass-through mechanisms described earlier. As for inflation and the policy interest rate, there is an increase in both of these variables, because in this model, as in the simple neo-Keynesian model, there is a dominant effect of pass through and a policy rule that depends solely on inflation.

Three main conclusions can be drawn from the results of the three models, where it is presumed the oil shock will be permanent. First, a permanent reduction in the level of household income implies a drop in GDP at flexible prices

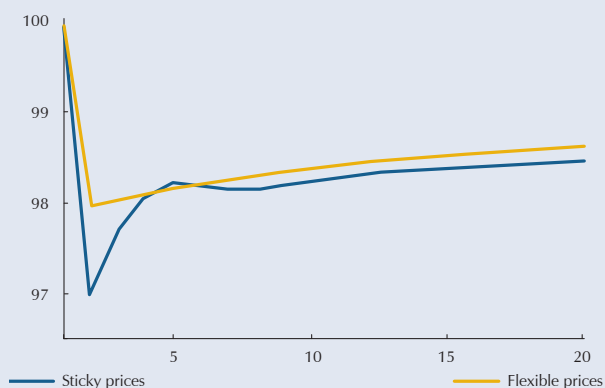
es in the economy. In other words, there is a contraction in potential GDP. In the short term, the slow adjustment in prices implies more of a drop in aggregate demand, causing negative output gaps and, consequently, declines in the level of prices for local goods.

Secondly, the current account deficit and the drop in prices for non-tradable goods would bring about real depreciation. This depreciation leads to an increase in prices for imported goods in the Fisco model and tradables in the case of the simple neo-Keynesian model and the neo-Keynesian model including the financial sector.

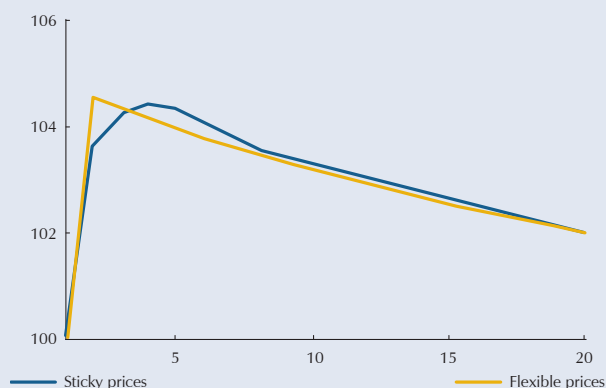
Third, the ultimate effect of the shock to inflation will depend on the dominant mechanism between the increase generated by nominal depreciation (pass through) and the reduction in prices for domestically produced goods. In the case of the two neo-Keynesian models, pass through is the dominant effect, which implies an increase

Graph B3.3
Effects of a Permanent Drop in International Oil Prices with the Neo-Keynsian Model, including the Financial Sector

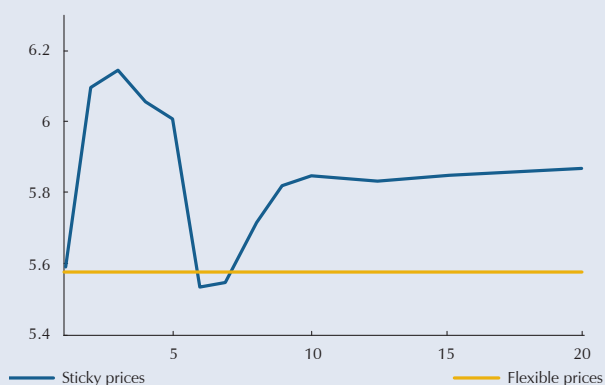
A. GDP



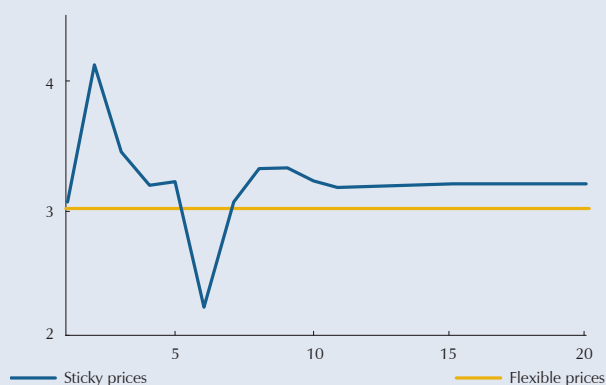
B. Real exchange rate



C. Policy interest rate



D. Total inflation



Sources: Banco de la República; authors' calculations

in inflation. On the contrary, the dominant effect in the Fisco model is a reduction in the level of prices for goods produced locally, in which case inflation declines.

Lastly, as a result of this shock, the central bank pays attention to a negative output gap, which could pose a policy dilemma, depending on the dominant effect between the change in price for tradable goods and that of non-tradables. If inflation in tradable goods is high and dominates the decline in prices for non-tradable goods and services, the bank will have to take action to deal

with inflation that exceeds its long-term target. The policy response will depend on the importance the central bank gives to price stability and economic growth. Since this is the scenario contemplated by the two neo-Keynesian models, and assuming the central bank only cares about total inflation, then the policy recommendation with this model is to raise the interest rate. Conversely, if inflation in tradables is dominated by inflation in non-tradables, there would be no dilemma and, therefore, the policy response would be to reduce the interest rate. The latter is precisely the situation illustrated by the Fisco model.

V. MACROECONOMIC STABILITY RISKS

The drop in oil prices and the decline in average growth for our trading partners will affect economic activity.

Given the momentum in national revenue, economic activity would have to adjust accordingly. This would help to prevent macroeconomic imbalances from forming or intensifying.

The country has a macroeconomic policy framework that allows it to deal successfully with this type of external shock. The inflation targeting regime, with exchange rate flexibility, is a highlight in this respect. The same can be said of the fiscal rule and a policy that seeks to maintain adequate levels of external liquidity (foreign reserves and a flexible line of credit with the IMF), as well as regulations to promote the stability of the financial system.

The recent drop in oil prices was a surprise and considerable in magnitude. While there is still significant uncertainty about the future dynamics of this variable,¹² industry analysts say a good portion of that decline will likely persist for several years. Given the characteristics of this external shock and the importance of the oil sector to certain aspects of the country's economic growth, the negative impact on national income could be lasting.

As discussed in previous editions of the *Inflation Report*, this shock can affect economic growth through various channels (terms of trade, confidence, financing costs, expected return on investment, etc.). A lower oil price that is lasting would generate a structural decline in national income, forcing an adjustment in public and private spending. In that situation, the power of monetary policy is limited (see Box 3, pp. 73-77).

Colombia has a macroeconomic policy framework that allows it to deal successfully with external shocks, such as the drop in oil prices.

12 For further details on the drop in prices for oil and prospects for the future, see Garavito, A.; Rojas, J.; & Torres, J. (2015). "Determinants of the recent Decline in Oil Prices, Forecasts and Assessment of Prospects," Box 1, *Inflation Report*, December 2014, *Banco de la República*.

An orderly and timely adjustment in domestic demand helps to prevent macroeconomic imbalances from forming or deepening.

Faced with a shock of this magnitude, an orderly and timely adjustment in domestic demand, consistent with lower external revenue, helps to prevent the formation or intensification of macroeconomic imbalances and possible abrupt corrections in growth and external financing. This includes fiscal policy actions to correct the reduction in tax revenue from the oil industry.

In this context, exchange rate flexibility is an element of the policy framework that also helps to deal with shocks of this type. The real depreciation observed at present should have a positive impact on domestic producers of tradable goods and services, including those that export as well as companies that sell at home and compete with imports. The devaluation also eased the drop in oil tax receipts that are valued in dollars and received in pesos. All this, combined with more moderate domestic demand, helps to reduce the current account deficit.

The other elements of the policy framework that give the country the strength to face this shock are: the inflation targeting strategy, which seeks to maintain the purchasing power of Colombia's currency and aims for growth in output and sustainable employment in the long term; a higher level of international reserves and a flexible credit line with the IMF, which enable the country to deal with international liquidity problems; the fiscal rule, which seeks to maintain the sustainability of public finances; and the regulatory framework, which aims for financial stability.

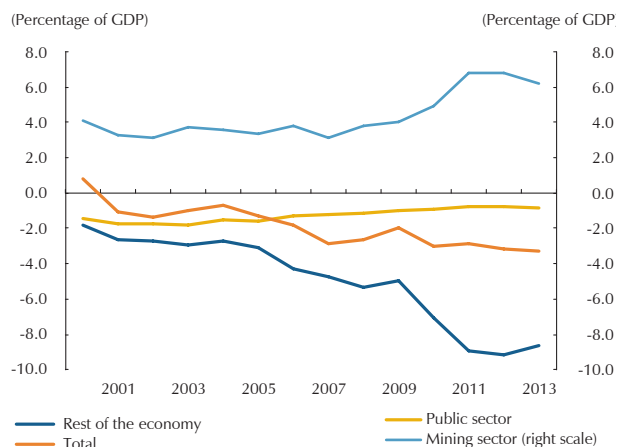
As illustrated in the following sections, one of the main features in the set of risks that could aggravate the effects of a persistent oil shock is reduced access to external financing or more costly external financial, which partly would determine how the economy adjusts to the new environment of less revenue from exports. The impact less growth of our trading partners would have on overseas shipments of industrial products constitutes another significant factor, one that would delay restructuring of the export basket and generate a minor adjustment in the current account. Moreover, a possible overreaction in consumer and investor confidence could aggravate the slowdown in domestic demand, beyond what is consistent with the reduced momentum in income. Finally, there are downside and upside risks to oil prices, which could alter market expectations, as has happened in the past.

There is a set of risks that could aggravate the negative effects of a persistent shock on crude oil prices.

On the other hand, if a good portion of the drop in price is structural and the economy does not adjust, there will be more risk of macroeconomic imbalances accumulating or deepening. Given all these factors and considerations, it is crucial to monitor signs of any possible formation of external and internal imbalances that can place the country's macroeconomic stability at risk. Therefore, this chapter takes a look at the recent behavior of the current account, the real exchange rate, borrowing and housing prices. These are the variables that are identified in the literature as being crucial

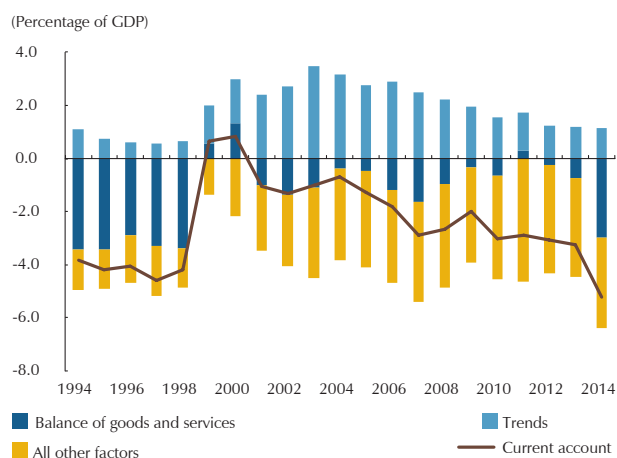
to detecting possible macroeconomic imbalances. An indicator of the aggregate imbalance (known as the macroeconomic imbalance index or MII)¹³ is presented as well. It combines the imbalances estimated for the aforementioned variables into a single indicator.

Graph 48
Sector Current Account



Source: Banco de la República.

Graph 49
Current Account and Main Components



Source: Banco de la República.

A. THE CURRENT ACCOUNT AND REAL EXCHANGE RATE

The current account deficit exhibited a moderate upward trend prior to the oil price shock (2010-2013) and was 3% relative to GDP in 2013. This increase was mainly the result of higher rates of investment,¹⁴ as reflected in added in foreign purchases of capital goods and, in general, an increase in absorption. The build-up in investment was driven, in part, by better terms of trade, increased capital flows, favorable foreign borrowing terms (low interest rates, reduced risk premiums and availability of resources), and peso appreciation, which lowered the cost of investments in imported machinery and equipment. In sector terms, the growing trend towards a negative balance in the current account was explained by a widening deficit in non-oil and mining activities, which were only partially offset by the surplus in the mining-energy sector¹⁵ (Graph 48).

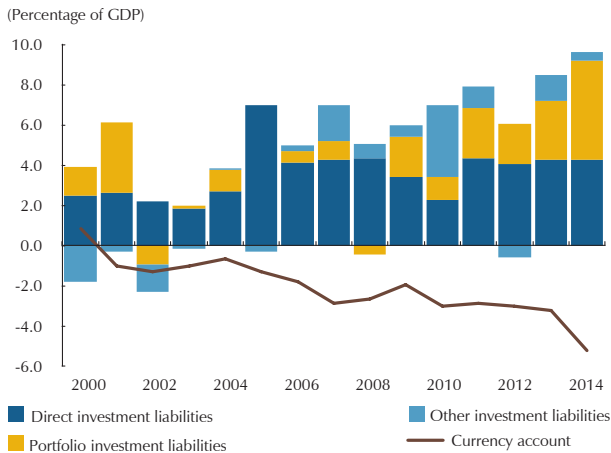
The current account deficit accelerated in 2014 to 5.2% of GDP, with an annual increase of 2 pp (Graph 49). The increase last year was due mainly to a higher trade deficit, associated with a reduction in mining and oil exports and with the rise in imports of goods and services. This momentum was accompanied by broad external financing, which was characterized by a standstill and

13 See Arteaga, C.; Huertas, C.; Olarte, S. (2012). “Índice de desbalance macroeconómico,” *Borradores de Economía*, Vol. 744, Banco de la República.

14 Cardenas, C.; Solano, N. (2014). “Caracterización de la formación bruta de capital fijo en Colombia: comportamiento y dinámica en años recientes,” Box 2, *Informe sobre Inflación*, December 2013, Banco de la República.

15 For more details on the sector current account, specifically its evolution and financing, see: López, D.; Garavito, A. (2013). “Evolución sectorial de la cuenta corriente de Colombia y su financiación,” *Reportes del Emisor*, No. 166, March 2013, Banco de la República.

Graph 50
Current Account and Foreign Capital Inflows (Liabilities)



Source: Banco de la República

sector shift in foreign direct investment, and by increased inflows of other types of capital, such as portfolio investment in the local market and external debt (Graph 50).

As mentioned in Part B of Chapter 1 of this report, the 2015 forecast is for a lower current account deficit in dollars¹⁶ in a scenario where the decline in net income from the oil sector would be more than offset by the reduction in the deficit in dollars for the other sectors. As a percentage of GDP, the forecast for the current account (5.3%) would be similar to the figure registered in 2014, partly because of a higher exchange rate, which reduces the value of output in dollars.¹⁷ In any case, there is considerable uncertainty about how

the current account will behave going forward, as it depends a great deal on the evolution in international prices for crude oil.¹⁸

There is considerable uncertainty about how the current account will perform in the future, as it depends heavily on the evolution of international oil prices.

With respect to the exchange rate, as the international price of oil began to decline, nominal and real peso appreciation increased. Accordingly, average nominal depreciation of the peso in 2014 was 7.1% as opposed to 3.6%¹⁹ in real terms. During the course of 2015 up to March, these figures were 23.3% and 11.2%, respectively, compared to the average for the previous year. Consequently, these indicators returned to levels not seen since 2009 (Graph 51).

As has happened in the past, when the current account deficit reaches a high level, there is a risk that adjustment will occur abruptly and in a disorderly way.

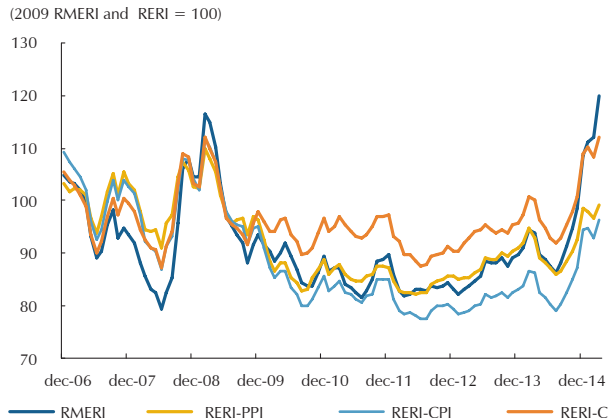
¹⁶ It is estimated the current account deficit would go from USD 19,780 m in 2014 to USD 17,038 m in 2015.

¹⁷ Nominal depreciation leads to a reduction in the value of GDP expressed in dollars. Consequently, some indicators may be impacted by this accounting effect. For example, although the value of the current account deficit is expected to decline in 2015, it would be greater when calculated as a percentage of GDP. Something similar might be observed in indicators such as those for the external debt and the international investment position, among others.

¹⁸ The assumption for the price of oil in 2015 was set at USD55 / b for the Brent reference, on average. In the two previous price shocks to crude oil, it was found the changes in the trend of this price were not anticipated by the market, they were of considerable magnitude and were influenced by several factors that changed over time. In addition to the recent high volatility, this makes it difficult to forecast the evolution of this price. In fact, market analysts have missed their forecasts in the past and this might happen again, since the upside risks are just as many as the downside risks in the dynamics of international crude oil prices.

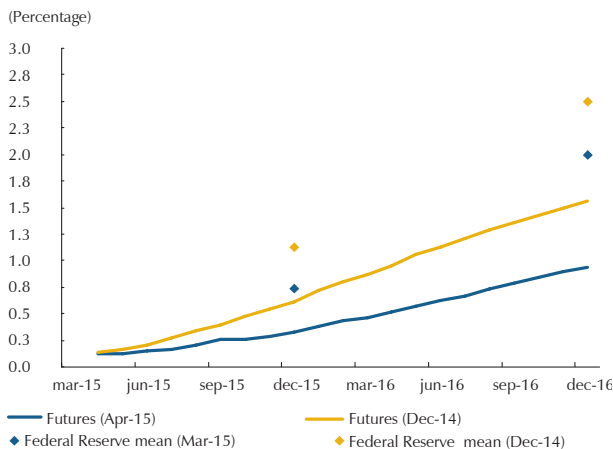
¹⁹ Average depreciation concerns the following indicators. The RERI-PPI and RERI-CPI compare the purchasing power of the Colombian peso against the currencies of our twenty major trading partners, using as a deflator the PPI and CPI, respectively. In the RERI-C, or competitiveness, the comparison is made against our main competitors in the United States in the markets for coffee, bananas, flowers, and textiles.

Graph 51
Representative Market Rate and Real Exchange Rate



RMERI: Representative Market Exchange Rate Index.
 RERI: Real Exchange Rate Index
 PPI: Producer Price Index
 CPI: Consumer Price Index
 C: competitiveness.
 Note: The RERI -PPI and the RERI-CPI compare the purchasing power of the Colombian peso against the currencies of twenty of the country's major trading partners, using the PPI and CPI as respective deflators. In the RERI-C, for competitiveness, the comparison is to our main competitors in the United States in the markets for coffee, bananas, flowers and textiles.
 Sources: Colombian Superintendence of Finance and Banco de la República

Graph 52
Policy Rate Implicit in Futures and in the Forecasts of Federal Reserve Members



Source: Bloomberg.

Additional unanticipated reductions in the price of oil, sharp increases in the country risk premium, or high and unexpected foreign interest rate hikes (Graph 52) could cause that risk to materialize, a situation that would be accompanied by a deterioration in external financing or by sharp increases in its cost. In such circumstances, the slowdown in domestic demand could be more pronounced, even beyond what is expected from the effects of less revenue associated with the oil shock.

An alternative context is one where, despite less national revenue, the current account does not adjust and continues using of higher levels of foreign savings to finance itself. A postponement of interest rates normalization in the United States, along with a more expansionary monetary policy in Europe and Japan, could create such a scenario, in which macroeconomic imbalances that imply mid-term risks could form or deepen. Sizeable capital inflows, in particular, could delay the adjustment required in response to less revenue from the oil sector. Broad external financing, in turn, would mitigate real depreciation and, therefore, lessen the effect of the exchange rate to buffer or absorb the adverse oil shock. Similarly, there could be an increase in risk in the event that external financing originates mainly with foreign debt and portfolio investment or encourages an excessive increase in consumption or investment in non-tradable sectors.

Certain circumstances can delay external adjustment and keep the current account deficit high. To begin with, external demand for Colombian goods could be affected by a further economic slowdown

in the case of our trading partners. For example, commodities account for a high share of the export basket in some of these countries (Peru, Ecuador, Venezuela, Brazil, Mexico and Chile). So, they also have been affected negatively by the commodity price shock. Secondly, it is important to consider the constraints to improving Colombia's competitiveness that still exist, due to shortcomings in its infrastructure, among other reasons. Added to this is the fact that appreciation of the dollar is a global phenomenon that also benefits other countries that compete with Colombian goods in the world market. Lastly, foreign companies operating in the country are concentrated mainly in

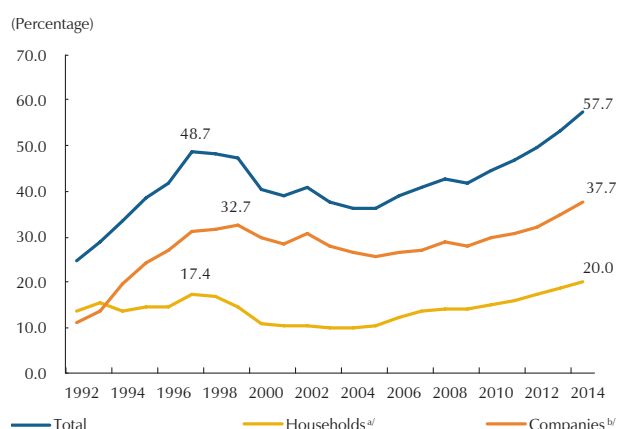
mining and in the local market for non-tradable goods and services. So, in the short-term, these facts do not favor an increase in industrial exports.

B. INDEBTEDNESS

Overall, the latest indicators point to the soundness of the financial system in dealing with the current situation. During 2014, the risk indicators showed that default was still low and provisioning for non-performing loans (NPL) was high. However, the NPL portfolio grew more than the gross portfolio, particularly in the case of commercial lending. This coincides with an increase in the requirements for new loans from some banks, according to the March 2015 edition of the *Report on the Credit Situation in Colombia*.

As for the change in external conditions, particularly the drop in oil prices and depreciation of the peso, their impact on the financial system so far has been limited. To begin with, the financial system's exposure to firms in the oil sector is low (accounting for about 3.7% of the commercial portfolio as of December 2014). With regard to peso devaluation, an analysis of a set of firms with foreign exchange exposure shows a low percentage for this group in the balance of the commercial loan portfolio of credit institutions. Stress tests to determine the solvency of institutions to withstand gradual deterioration in the loan quality of these borrowers confirm that none of them has indicators below the regulatory minimums.

Graph 53
Debt/GDP



Note: Includes the portfolio with credit institutions, the National Savings Fund (FNA), credit unions and employee funds; bonds issued by companies in the real sector; and direct foreign borrowing.

a / Includes consumption and mortgage lending, the conventional portfolio and leasing. Also includes mortgage securitizations and the FNA portfolio.

b / Pertains to commercial loans and micro-credit (all entities considered), direct foreign borrowing, and bonds.

Sources: Financial Superintendence of Colombia, Office of the Superintendent of Solidarity, Fogacoop and Banco de la República

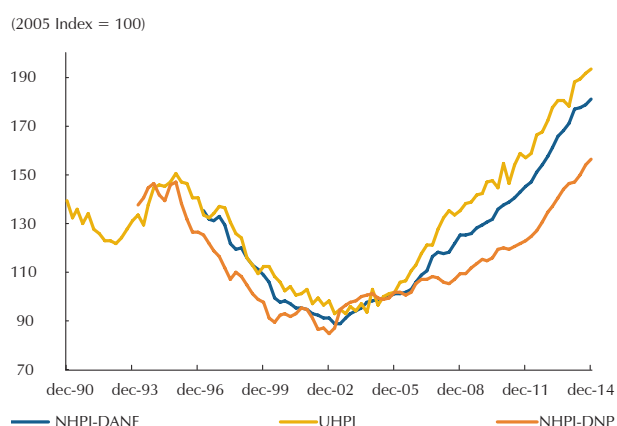
Despite earlier signs of calm, it is important to bear in mind that the loan portfolio relative to GDP is at historically high levels (Graph 53). Given the potential for financial deepening in the country, it is natural that this indicator stayed on an upward trend. However, it is important to monitor its momentum, since a rapid increase in borrowing by firms and households can substantially increase the vulnerability of the financial system and the economy. In such circumstances, if there is a sharp economic slowdown and a brusque decline in employment, the quality of financial system assets might be affected. In turn, an increase in risk aversion on the part of financial intermediaries or decreased lending capacity could fuel the economic slowdown.

Real interest rates, for the time being, remain below the averages observed since 2005. However, as noted in previous editions of this report, higher

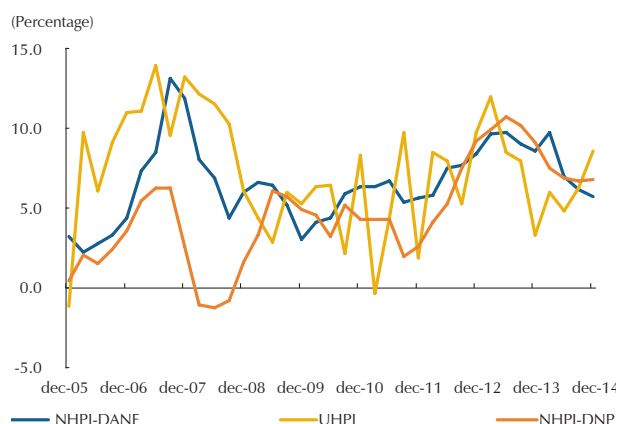
costs or more restrictions on access to external financing could prompt large companies to look for more domestic sources of funding. This would drive up local interest rates, especially if other agents maintain their demand for resources. On the contrary, favorable terms for foreign financing could sustain the high increase in borrowing. This would contribute to the dynamics of the economy in the short term, but could generate macroeconomic imbalances, given the high extent of leveraging.

Graph 54
Home Prices in Colombia (Relative to the CPI)

A. Indexes



B. Annual change



Sources: DANE, DNP and Banco de la República

C. HOUSING PRICES

Housing prices during 2014 continued to rise above the rate of inflation. In the case of new housing, the slowdown observed since the second half of 2013 was confirmed, and real growth rates between 6% and 7% were observed by the end of 2014 (Graph 54). According to DANE, this small increase was observed in several cities, including Bogota and Medellin.

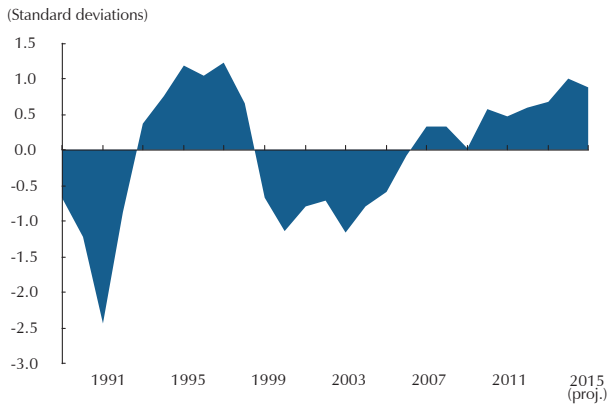
As mentioned in previous editions of this report, certain demand factors may be contributing to the lower increase in prices for new homes. The end of certain subsidies is a case in point and raises the acquisition cost for a particular segment of the market. Added to this are factors that can affect the perception of profitability, such as the lower annual rate of growth in rent, the downturn in prices, which affects anticipated appreciation, and expectations of peso depreciation, making investments in foreign currency more appealing.

As to quantities, according to figures from the Colombian Chamber of Construction (Camacol), the decline observed in previous months in the number of units sold other than low-income social housing (not VIS) continued during the first quarter of 2015, accounting for approximately 60% of the market overall. At the same time, the increase

in available units has continued, although the period analyzed did witness a slowdown below the averages observed in the last three years.

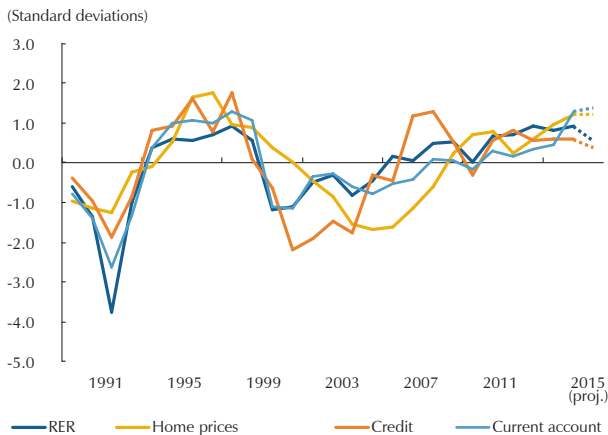
In the international context, the countries in the region that also faced external shocks to their terms of trade continue to registered real growth in home prices. In effect, Chile and Peru posted low economic growth in 2014 (1.8%

Graph 55
Macroeconomic Imbalance Index



Proj: Projected
Source: Calculations by Banco de la República

Graph 56
Gaps in the Current Account, Real Exchange Rate, Home Prices and Credit^{a/}



a/ 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 so that, in all cases, positive imbalances indicate gaps.
Source: Banco de la República

and 2.4%), contrary to the annual increase in real home prices observed in the fourth quarter of that year (11.0 % and 8.6%).

D. THE MACROECONOMIC IMBALANCE INDEX (MII)

In 2014, the estimates made by technical staff at *Banco de la República* suggested an annual increase in the MII (Graph 55). This momentum is due to an increase in the gaps with respect to long-term values, mainly in the current account and, to a lesser extent, in housing prices (Graph 56). As noted throughout this chapter, the current account deficit in 2014 came to 5.2% of GDP, which is 2 pp higher than the year before, and housing prices continued to rise above inflation. These movements distanced these variables from their long-term values.

Preliminary estimates for 2015 show an annual decline in the MII (Graph 55), although the indicator remains above that observed in 2013 and is relatively high with respect to the values witnessed in the past fifteen years. However, the MII would be less than it was before the crisis during the late nineties.

The estimated decline in the MII for this year is due to less of a deviation in relation to the long-term values of the REER and, to a lesser extent, of credit (Graph 56). On the other hand, the gap in the current account is relatively stable, since 2015 is expected to see a current deficit, relative to GDP, similar to the one last year.

ATTACHMENT

MACROECONOMIC FORECASTS BY LOCAL AND FOREIGN ANALYSTS

The latest forecasts by local and foreign analysts concerning the major economic variables for 2015 and 2016 are summarized in this section. At the time they were consulted, the analysts had data up to April 12, 2015.

1. Forecasts for 2015

The local analysts expect the economy to grow 3.3%, on average, which is 50 basis points less than the forecast in the *Inflation Report* of the previous quarter. The foreign agencies consulted also forecast 3.3% GDP growth, on average.

Table A1
Forecasts for 2015

	Real GDP Growth (Percentage)	CPI Inflation	Nominal exchange rate end of:	Nominal DTF (Percentage)	Fiscal deficit (Percentage of GDP)	Unemployment Rate in the Thirteen Major Metropolitan Areas (Percentage)
Domestic Analysts						
Alianza Valores	3.00	3.55	2,800	3.45	2.90	10.0
ANIF	3.40	3.70	n.d.	4.90	1.60	9.3
Banco de Bogotá	3.30	3.60	2,525	4.56	n.d.	9.3
Bancolombia	3.40	3.85	2,700	5.12	2.80	9.1
BBVA Colombia ^{a/}	3.10	3.60	2,450	4.60	2.90	9.4
BGT Pactual	3.10	3.60	2,450	n.d.	2.80	9.0
Corficolombiana	3.60	3.60	2,150	4.25	2.90	n.d.
Corpbanca ^{b/}	3.46	3.65	2,600	4.45	n.d.	n.d.
Corredores Davivienda ^{c/}	3.10	3.99	2,650	n.d.	n.d.	n.d.
Credicorp Capital ^{d/}	3.70	3.60	2,500	4.30	2.90	9.0
Davivienda ^{a/}	3.10	3.99	2,450	3.91	3.00	8.3
Fedesarrollo ^{a/}	3.50	3.70	2,475	4.70	2.90	n.d.
Ultrabursátiles	3.50	3.70	2,460	4.30	n.d.	9.1
Average	3.33	3.70	2,517.5	4.41	2.74	9.2
Foreign Analysts						
Citi	3.50	3.50	2,700	4.50	2.90	10.0
Deutsche Bank	3.50	3.70	2,760	n.d.	3.00	n.d.
Goldman Sachs	3.00	3.80	2,600	n.d.	2.80	n.d.
JP Morgan	3.30	3.60	2,350	n.d.	3.20	n.d.
Average	3.33	3.65	2,602.5	4.50	2.98	10.0

n. d.: Not available

a/ The projected deficit pertains to the national government.

b/ Formerly Banco Santander

c/ Formerly Corredores Asociados

d/ Formerly Correal

Source: Electronic survey

Source: encuesta electrónica.

Table A2
Forecasts for 2016

	Real GDP Growth (Percentage)	CPI Inflation	Nominal Exchange Rate End of:
Domestic Analysts			
Alianza Valores	2.00	3.30	2,900
ANIF	3.40	3.10	n.d.
Banco de Bogotá	3.60	3.00	2,600
Bancolombia	3.70	3.12	2,590
BBVA Colombia	3.60	3.20	2,310
BGT Pactual	2.80	3.10	n.d.
Corficolombiana	3.60	3.00	2,150
Corpbanca ^{a/}	3.80	3.20	2,650
Corredores Davivienda ^{b/}	2.70	n.d.	n.d.
Credicorp Capital ^{c/}	3.00	3.00	2,300
Davivienda	2.80	n.d.	n.d.
Fedesarrollo	3.70	3.30	2,520
Ultrabursátiles	3.80	3.20	2,500
Average	3.27	3.14	2,502.2
Foreign Analysts			
Citi	3.00	3.00	2,500
Deutsche Bank	3.30	2.30	2,850
Goldman Sachs	3.40	3.00	2,652
JP Morgan	2.50	3.00	n.d.
Average	3.05	2.83	2,667.3

a/ Formerly Banco Santander
b/ Formerly Corredores Asociados
c/ Formerly Correval
n. d.: not available
Source: Electronic survey

As for inflation forecasts, the local analysts anticipate 3.7% inflation, a figure shared by the foreign analysts. These percentages are within the target range set by the Board of Directors of *Banco de la República* for 2015 (between 2.0% and 4.0%).

In terms of the exchange rate, the local analysts expect the representative market exchange rate (TRM) to end the year at COP2,518, on average, compared to COP2,335 forecast in the previous edition of this report. The foreign analysts forecast a TRM close to COP2,603 for the end of the year.

With respect to the interest rate on time deposits (DTF), the local analysts forecast 4.4%, on average. They also expect 9.2% unemployment.

2. Forecasts for 2016

The local analysts forecast 3.3% economic growth in 2016, while the foreign analysts are forecasting 3.1%. As for inflation, the local and foreign analysts are predicting 3.1% and 2.8%, respectively. In terms of the nominal exchange rate, the local analysts expect it to average COP2,502; while the foreign analysts forecast an average of COP2,667.

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