March 2018

INFLATION
REPORT

* Presented by the technical staff
to the Board
of Directors for its meeting on
April 27, 2018.

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

ISSN - 2145 - 6526

INFLATION
REPORT

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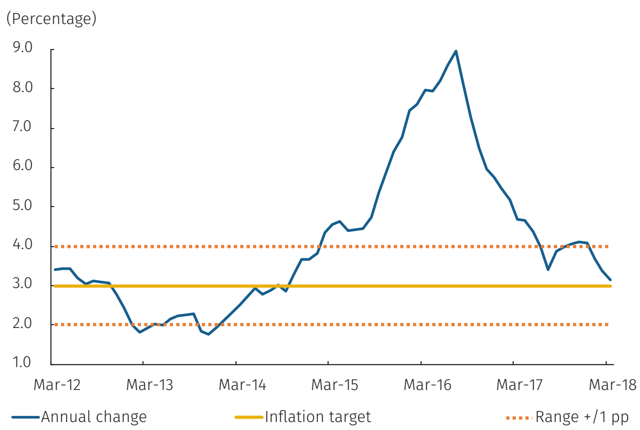
Graph A
Headline Consumer Inflation



Sources: DANE and *Banco de la República*.

In the first quarter of 2018, inflation and core inflation fell more than projected and accelerated their convergence to the 3.0% target. In March 2018, the annual variation of the CPI and the average of core inflation indicators stood at 3.14% and 3.64%, respectively. These figures were close to 1 pp lower than the records of last December (Graph A).

The favorable performance of inflation led to the reduction of expectations about future inflation. For example, the December 2018 and December 2019 survey to analysts suggests that inflation will stand at 3.37% and 3.16%, respectively. On the other hand, inflation expectations resulting from government bonds to 2, 3, and 5 years stands between 3.0% and 3.3%.

Several factors explain the favorable performance of consumer prices. One of them would be the wide food supply; another one, the reduction in the impact of the VAT; and another, perhaps, the reduction of the exchange rate and its impact on import prices.

Production continued to recover, but at a lower rate than the growth potential of the economy, therefore the spare capacity would have widened at the beginning of the year. This would also contribute to the convergence of inflation to the target. The dynamics of domestic demand would have improved, but would still be weak, and consumption and investment would register low growth rates.

The figures for the external balance show that the economy would be completing its adjustment process. In 2017, the current account deficit fell again, standing at 3.3% of GDP. This is explained by the recovery of revenue, and not by the fall of outflows as happened a year ago. Foreign trade data of the first two months of 2018 suggest that this behavior would have continued. In fact, exports in US dollars, both of commodities as well as services and non-traditional products, exhibited significant increases, favored by the recovery in the price of oil and the improving dynamics of external demand. In the same period, the value of imports exhibited a low rate of increase, partly due to the weakness of domestic demand.

Recent data from the external sector indicate some of the trends observed at the beginning of the year have accentuated, bringing significant effects on growth, inflation, and inflation expectations. External interest rates continued to increase slowly; the price of oil has recovered and remains above USD 70 per barrel; and the peso appreciated vis-à-vis the US dollar. This would be consistent with an improvement in the terms of trade and in national income, as well as with a low dynamics in the prices of tradable goods and services.

The unemployment rate exhibited a slow but steady increase. Estimates indicate that this labor market would be slacking, with low cost pressures on prices. Some wage increases such as those in heavy construction (3.8%) and home building (3.6%), decelerated significantly in March, registering increases that are more compatible with the inflation target. Other salaries, such as those of industry and retail, are still adjusting at rates far higher than 3.0%.

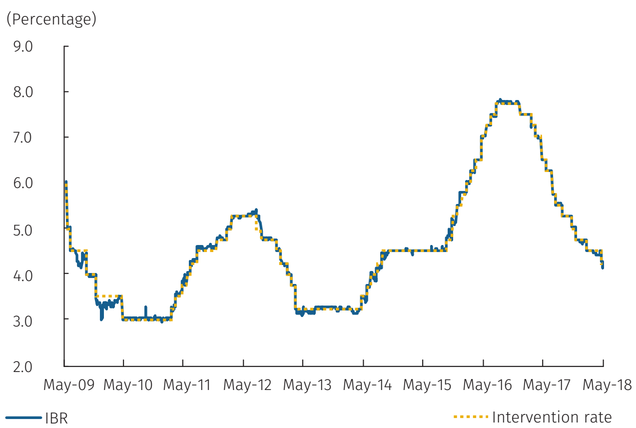
The commercial portfolio in real terms recorded rates that can be considered historically low. Something similar happened with household credit (consumer and mortgage). As a result of these trends, different measurements of the credit cycle suggest that the dynamics of the total portfolio is below its long-term trend. This has been observed since the beginning of 2016. The reductions in the policy interest rate continue to be transmitted to the interest rates on loans, mainly to commercial and mortgage loans, and to a lesser extent to consumer loans.

The technical staff maintained its growth projection for 2018 at 2.7%, assuming a more dynamic external demand than in previous years and higher terms of trade. Investment in 2018 would be driven by a greater implementation of civil works (particularly, 4G projects) and higher levels of foreign investment in the mining sector. The reductions in the policy interest rate carried out so far and a lower inflation should promote a better dynamics of credit, investment, and household spending. In any case, GDP growth will be lower than its long-term potential (3.3%); given this, the spare capacity of the economy will continue to widen. The dynamics of external income is expected to exceed that of expenses in 2018, and the current account deficit is expected to reduce to 3.1% of GDP.

Several factors would also contribute to the convergence of inflation to the 3.0% target. Firstly, the more sticky prices, as well as wages other than the minimum wage, are expected to become indexed to a lower inflation than the one observed in previous years. Additionally, a more negative output gap and a more slacking labor market would also contribute to reduce it. Naturally, there are risks such as an unexpected upturn in food prices, or a stronger-than-expected depreciation of domestic currency, with the subsequent effects on the prices of imported goods. However, uncertainty about these scenarios is high.

In summary, the lower inflation observed versus its forecast and the reduction in inflation expectations could lead to a faster convergence of inflation to the target. Economic growth remains weak, but is recovering, and the output gap Indicators suggest that the spare capacity would expand in 2018. In this environment, assessing the situation of the economy and the risk balance, the Board deemed appropriate to reduce the benchmark interest rate by 25 basis points in April 2018, placing it at 4.25% (Graph B).

Graph B
Banco de la República's Benchmark Interest Rate and Interbank Interest Rate
(2009-2018)[a/]



a/ The figures correspond to data from working days; the last figure corresponds to 10 May 2018.
Sources: Office of the Financial Superintendent of Colombia and *Banco de la República*.

The Board of Directors will continue to carefully monitor the behavior of inflation and the projections of economic activity and inflation in the country, alongside the international situation. Finally, the Board reiterates that monetary policy will depend on the new information available.

Juan José Echavarría
Governor

01

External Context and Balance of Payments

The forecast for the average economic growth of Colombia's trading partners showed few changes in this report. Again, a recovery in foreign demand is anticipated, although it is expected to be below the average levels observed prior to 2014.

The baseline scenario envisions an average price for crude oil in 2018 that is higher than the one in the previous report. Going into 2019, a reduction is anticipated which could be caused by the global supply responding to the higher prices.

The deficit in the country's current account is expected to continue to adjust as a percentage of the GDP in 2018. This is due the improvement in the terms of trade and the better growth of our main trading partners.

1.1 External Context

The foreign context that Colombia faces has improved continuously over the last few quarters. Based on the most recent information, the growth of our trading partners has exceeded the analysts' expectations. Added to that is a price for crude oil that, so far in 2018, is higher than what was seen on average for 2017 together with some favorable global financial conditions which, to date, do not seem to have been affected by the increases in the Federal Reserve's (Fed) policy rate.

For Colombia, the factor with the strongest favorable impact would be the persistence of oil prices at relatively high levels. During the first quarter, the average price per barrel was USD 67.23 (Brent), which represents a significant increase compared to the USD 54.79 seen, on average, during 2017.

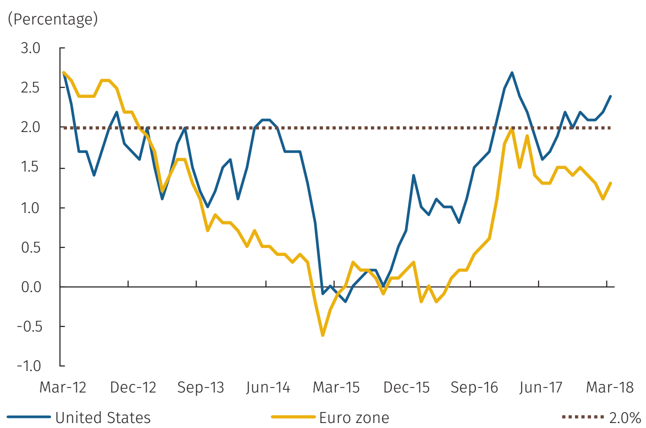
Thus, the baseline forecast scenario, which is presented below, assumes a foreign demand that surges in 2018 in comparison to the previous year although at levels below those seen, on average, before 2014. Regarding oil, higher prices are expected again for 2018 that will probably decline going into 2019 due to an increase in the supply in the United States in particular. In addition, the normalization process for monetary policy is expected to continue as a gradual one without significantly affecting the conditions for Colombia's foreign financing.

1.1.1 Productive Activity, Inflation, and Monetary Policy

New information points to economic growth continuing with a positive trend in the United States. At the statistical close of this Report, the fourth quarter growth of the United States' real Gross Domestic Product (GDP) was revised upward and went from 2.6% to 2.9% annualized quarterly. Thus, the GDP for 2017 as a whole could have grown 2.3%. The data seen in the first quarter suggest that this will continue, and this has been reflected in significant increases in the level of employment.

As for the euro zone, the growth of fourth quarter output was 2.7% yearly, and with this, the expansion for 2017 as a whole was 2.5%. This value is the highest in the last ten years and reflects the remarkable recovery of the union. The indicators available for the first quarter of 2018 suggest that economic activity in the euro zone remains in positive territory although there is evidence of some moderation.

Graph 1.1
Indicators of Annual Headline Inflation in the United States and the Euro Zone
(annual change)



Source: Bloomberg.

Inflation in the developed economies has remained relatively stable in recent months. In the United States, the annual variation of prices in March was 2.4% per annum, while the corresponding value in the euro zone was 1.3%. The respective values for core inflation were 2.1% and 1.0% (Graph 1.1). Upward pressure on salaries and inflation is expected to be generated by the current dynamic economy and the positive results of the labor market and this should be seen in the coming months.

1.1.2 Prices of Commodities

Regarding the prices of the commodities exported by Colombia, the persistence of the oil prices at relatively high levels stands out. During the first quarter, this remained at an average level of USD 67.27 per barrel for the Brent benchmark (Graph 1.2). This level is higher than what was seen on average for 2017 and what was expected in the previous Inflation Report. The increase seen in the first few months of 2018 could be mainly related to the higher demand in spite of the increases in production in the United States above all. The higher demand has been associated with the better growth data seen and the accumulated depreciation of the dollar. In addition, some geopolitical conflicts and the "super-compliance" with the agreed-upon production limits established by the Organization of Petroleum Exporting Countries (OPEC) have contributed to the increase.

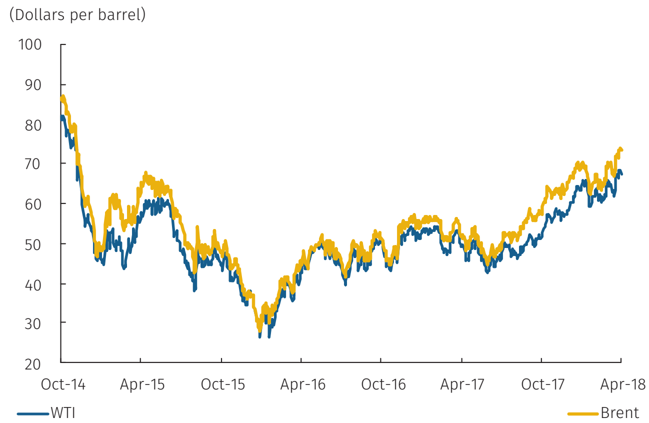
Due to the better prices for oil and the relative stability of the prices of other raw materials exported by the country, the terms of trade rose at the beginning of the year; however, they are still below the levels seen prior to 2014 (Graph 1.3). Furthermore, the prices for imported goods have not been affected by the increases in the price of crude oil and are remaining stable. This is in line with the low international inflation.

1.1.3 Financial Markets

During the first quarter, the long-term interest rates in the advanced economies have continued to rise gradually. This rise occurred in a context of higher expectations of economic growth. However, the volatility of the financial markets has risen since February. This is primarily due to a change in market expectations with respect to the rate at which monetary policy is normalizing in the advanced economies (Graph 1.4). Added to this are the recent announcements on the part of the governments of the United States and China of the possibility of restrictive international trade policies, which have also involved a moderate correction in the prices of some assets.

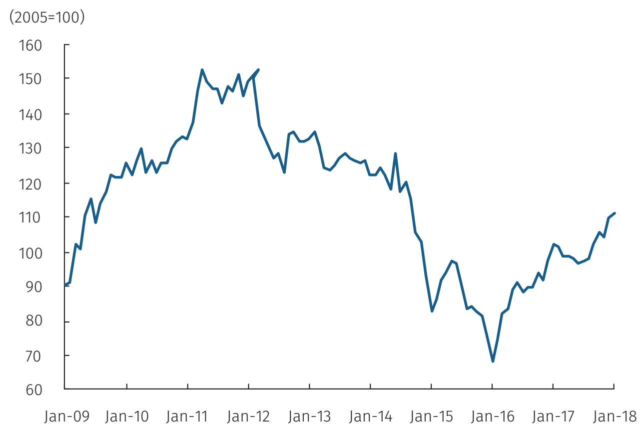
Nevertheless, the volatility indicators remain below their historical averages (Graph 1.5). Because of that, the demand for risk is staying relatively high. To date, the effect of the above in Latin America has been temporary and limited in size

Graph 1.2
International Price of Oil (Brent and WTI)



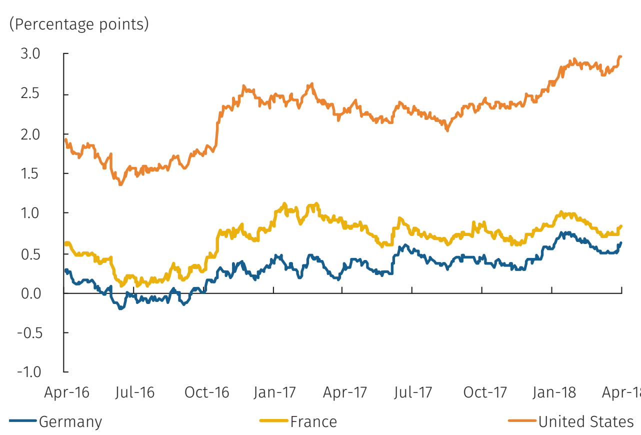
Source: Bloomberg.

Graph 1.3
Index of Terms of Trade
(foreign trade methodology)



Source: *Banco de la República*.

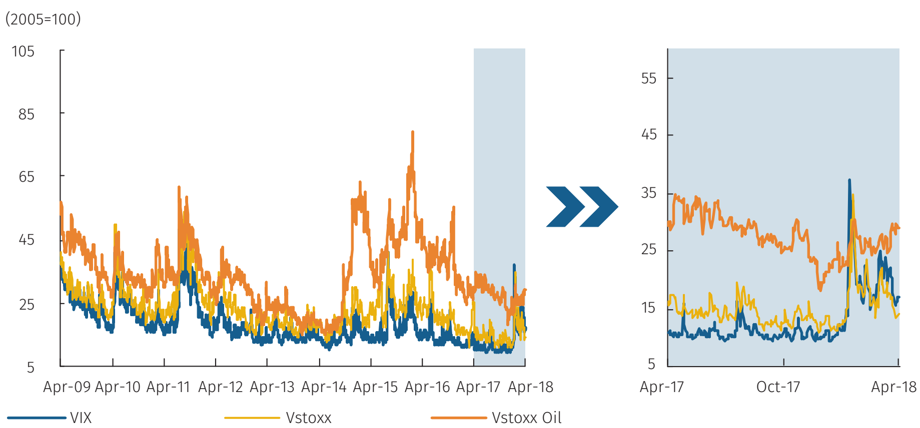
Graph 1.4
Interest Rates on 10-year Sovereign Bonds for Some Advanced Economies



Source: Bloomberg.

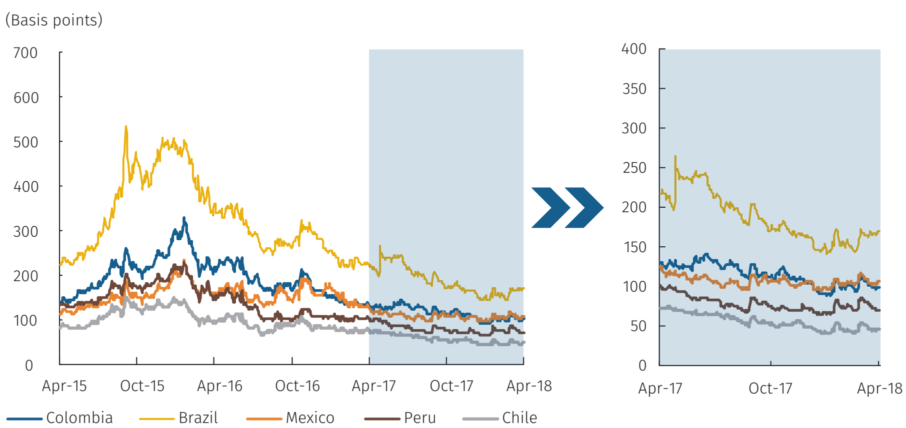
(Graph 1.6). In fact, this has been reflected in continuous capital flows into the region.

Graph 1.5
Financial Volatility Indices



Source: Bloomberg.

Graph 1.6
Five-year Credit Default Swaps (CDS) for Some Latin American Countries



Source: Bloomberg.

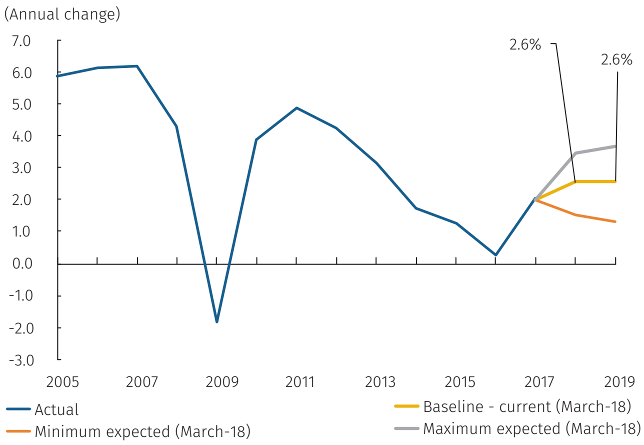
1.1.4. Forecasts by *Banco de la República*'s Technical Staff.

Considering all the information available, the forecast of economic growth for Colombia's trading partners throughout 2018 as a whole showed little change with respect to the December Report.

In the baseline forecast scenario, domestic demand will probably continue to drive growth for the advanced economies. A recovery will probably continue in the emerging economies supported by the more favorable prices for commodities and a more robust global demand.

An economic expansion (weighted by non-traditional trade) of 2.6% per annum for 2018 and for 2019 is projected for our country's trading partners (Graph 1.7). These figures represent an upswing *vis-à-vis* 2017

Graph 1.7
Average Growth of Trading Partners
(weighted by non-traditional trade)



Source: calculations and projections by *Banco de la República*.

when that growth was 2.0%. The following were the revisions to the individual forecasts in the baseline forecast scenario with respect to the previous report (Table 1.1).

- The forecast for economic growth in 2018 for the United States and the euro zone was revised upwards due to the fact that the latest data on economic activity have turned out to be better than expected.
- In Latin America, growth figures for Brazil, Ecuador, and Chile during 2018 were also revised upward because of the better results seen in the most recent indicators.
- The growth forecast for Peru and Venezuela in 2018 was lowered. In the first case, this was due to the weakness of the recent indicators on economic activity and the notable increase in political instability. In the second one, the downward revision of the forecast reflects the severe deterioration of the economic and social situation that the country continues to experience.

Table 1.1
Growth Projections for Trading Partners

Growth Projections for Trading Partners	2017	Projections for 2018 Scenario			Projections for 2019 Scenario		
		Minimum expected	Baseline	Maximum expected	Minimum expected	Baseline	Maximum expected
Main trading partners							
United States[a/]	2.3	2.0	2.8	3.6	1.4	2.4	3.4
Euro zone	2.5	1.9	2.4	2.9	1.0	2.0	2.6
Venezuela[b/]	-12.3	-10.0	-7.0	-4.0	-6.0	-3.0	0.0
Ecuador	3.0	0.5	1.8	3.0	0.0	1.5	3.0
China	6.9	5.8	6.5	7.0	5.5	6.3	7.0
Other trading partners							
Brazil	1.0	1.6	2.6	3.6	1.0	2.7	4.0
Peru	2.5	2.6	3.8	4.6	2.5	3.8	4.7
Mexico	2.0	1.3	2.2	3.0	1.0	2.3	3.5
Chile	1.5	1.7	3.0	3.7	1.0	3.0	4.0
Total trading partners (weighted by non-traditional sales)	2.0	1.5	2.6	3.5	1.3	2.6	3.7

a/ The data on GDP growth in the United States for the first quarter were published on the 27th of April. These data were part of the set of information used by the Board of Directors of *Banco de la República* for their April 27th decision. However, the forecasts presented here did not incorporate this new information.
b/ The 2017 data for Venezuela are an estimate for the Republic based on their decision on the 29th of January. However, the forecasts presented here did not incorporate this new information.
Sources: Actual data: Bloomberg. Forecasts and calculations: *Banco de la República*.

The baseline scenario envisions three additional increases in the Fed's policy rate for the remainder of 2018.

The baseline scenario for the forecasts described here includes an inflation in the advanced economies that will probably increase somewhat in 2018. This expectation is somewhat higher than the expectations in the December report.

In this environment, three additional increases in the Fed's policy rate are expected to be added to the increase in March. Because of this, towards the end of 2018, this rate will probably stand within a range of 2.25% to 2.50%. Nevertheless, even after the increase, it would still be low in historical terms. However, increases in the policy rate of the European Central Bank are not expected during 2018. This implies that monetary policy of the major economies in the world will probably continue to be lax and this could favor growth.

A positive effect on the economic growth of the United States derived from the tax reform adopted in December has been incorporated into the baseline scenario. However, significant effects on economic growth arising from possible restrictions on international trade were not considered.

As for raw materials, the forecast for crude oil in the baseline scenario was raised for 2018 (Table 1.2). This was because of the persistence of the level of international prices that have been seen for it in recent months. This forecast assumes that global economic growth is likely to continue to stimulate demand and that the production limits established by OPEC will probably still be complied with, at least until the middle of the year. An increase in the supply is expected as a response to high prices, which would lead to a reduction of those prices going into the second half of the year. This decline will probably continue into 2019, the year for which a lower price is expected.

Table 1.2
Forecasts for the Benchmark Prices of Commodities Exported by Colombia

	2017	Projections for 2018			Projections for 2019		
		Scenario			Scenario		
		Minimum expected	Baseline	Maximum expected	Minimum expected	Baseline	Maximum expected
Brent Crude (dollars per barrel)	54.79	59	65	71	50	63	70
Coal (dollars per ton)	70.32	55	72	85	50	72	90
Colombian coffee (ex dock) (dollars per pound)	1.52	1.30	1.46	1.90	1.20	1.65	2.00
Nickel London stock market (dollars per ton)	10,469	11,500	12,500	13,500	11,000	12,500	14,000
Gold[a/] (dollars per troy ounce)	1,258	1,500	1,300	1,100	1,600	1,300	1,100

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

The main downward risks considered in this report are:

- A faster tightening of monetary policy in the euro zone and the United States: if the monetary stimulus is withdrawn more rapidly than expected, the cost of financing could increase for emerging economies and put downward pressure on their growth.
- High levels of indebtedness: the levels of leverage continue to represent a risk for global financial stability. The possibility that this phenomenon could lead to a lower-than-expected growth cannot be ruled out.
- Policies that restrict international trade: it is possible that the recent announcements of tariffs on exports of certain products will materialize and, thus, trigger retaliation. This phenomenon could have an adverse effect on worldwide growth.
- A correction in the global financial markets: in the last few months, increases in volatility and reductions in the prices of some assets have been seen. If this phenomenon becomes stronger, it could affect confidence and growth.
- Less investment in the United States than in the baseline scenario: a large part of the expectations of greater growth in the U.S. rest on the assumption that the tax reductions will generate a stimulus for investment. However, this may not materialize or the effect could be some kind of substitution of nonresidential investment for residential investment that would not imply major growth in this sector.
- Adverse geopolitical events: again, a variety of events could have a negative effect on the growth of the country's trading partners. Some of them could be: a failed renegotiation of the North American Free Trade Agreement (NAFTA), and adverse news related to the negotiation of Brexit.

In this Report, a higher price is predicted for crude oil than in the previous report.

The main upward risk is:

- A higher price for oil than expected in the baseline scenario: if the price for crude oil remains at high levels, growth of the country's trading partners who export this product could be better than expected, while the growth of importers would likely be lower. Should this risk materialize, it could represent a positive impetus for Colombia's growth.

1.2 Balance of Payments

1.2.1 Results in 2017

The main upward risk is a higher oil price than envisioned in the baseline scenario.

During 2017, the country's current account deficit registered USD 10,359 billion (b) which is lower in US dollars than what it was a year ago when it stood at USD 12,129 b. As a share of GDP, it stood at 3.3%, which meant a 1.0 percentage points (pp) reduction compared to the 4.3% seen in 2016.

The lower current deficit in US dollars was primarily explained by the lower trade deficit in products (USD 4.393 b), which offset the increase in the net outflows due to factor income (USD 2.918 b) and the increase in the deficit in services (USD 504 m). The higher current transfers (USD 798 m) also contributed to the decline in the foreign deficit. The current account results for 2017 show that the lower foreign deficit was due to a growth in income that was close to 14%. This was higher than the 8.6% increase in expenses and largely resulted from the improvement in the country's terms of trade due to the increase in export prices.

In 2017, the country's current account deficit was 3.3% as a share of GDP, which is lower than the 4.3% registered in 2016.

The decline in the trade deficit in merchandise occurred because of the USD 5,395 b (15.8%) growth in exports, which more than offset the increase in imports (USD 1,002 b, 2.3%). The increase in foreign sales occurred in an environment of higher prices for main commodities, especially crude oil and coal. Moreover, sales of industrial products registered higher levels than the ones seen the previous year (+5.3%), which is in line with the better growth of our main trading partners. On the other hand, the increase in purchases from abroad was spurred by the higher imports of goods for industry (both raw materials and capital goods, which includes goods for the mining sector) and transportation equipment (particularly aircraft) and, to a lesser extent, by a recovery in the consumption of durable goods.

Regarding the account for services, the greater outlays associated with expenditures on insurance and financial services as well as the expenses of Colombian travelers abroad and payments for business and transportation services are the most outstanding ones in the area of imports. In exports, the increase in income from travel as well as from the sales of insurance and business services stands out. The income derived from tourism, which includes foreigners' spending on travel within the country and their payments on airline transportation, came to USD 5.788 b in 2017 which corresponds to an increase of 5.4% compared to 2016.

In 2017, in turn, there was an increase of USD 2,918 b in net outflows for factor income which is attributed, on the one hand, to the higher profits of the oil and mining companies in this country with foreign investment, and, on the other, to the higher interest payments associated with foreign loans and debt securities.

As for net current transfers, these rose 13.6% per annum due, above all, to the growth of workers' remittances. For this last item, the most significant increases were seen in remittances sent from the United States and some Latin American countries.

The reduction in the foreign deficit in 2017 was made possible largely due to the improvement in the terms of trade.

Regarding financing from abroad, net inflows of USD 9,694 b in capital were seen in 2017, which were lower than those from the previous year, when they stood at USD 10,682 b. During this period, net direct

In 2017, capital inflows came primarily from foreign direct investment.

investment (USD 10.828 b) rose 16% because of the higher inflows of foreign direct investment (FDI) and due to the lower outflow of Colombian investment abroad. The inflows received by companies belonging to the communications and mining-energy sectors were the ones that contributed the most to the increase in FDI.

The country received inflows of USD 7,793 b in foreign portfolio investments at the same time it set up USD 6.217 b in financial assets abroad. The funds received came mostly from the purchase of TES on the part of foreign investors and, to a lesser extent, from the placement of long-term debt securities, the majority of which were issued by the government on the international markets.

As for other capital flows, the country registered net outflows of USD 2,.166 b mainly as a consequence of the high debt repayments. During the period under analysis, the international reserves rose USD 545 m through balance of payment transactions largely due to the revenue from the net yield on the portfolio.

1.1.2 Forecasts

1.2.2.1 Estimates for the First Quarter of 2018

According to the information available, a reduction of the current account deficit, both in US dollars and as a share of GDP, is projected for the first quarter of 2018 compared to the same period in 2017. As a share of the GDP, this would be close to 3.2%, which is lower than the 4.8% for the same period a year before. Regarding foreign trade in goods, the data available show that in the January-February two-month period, the total value for dollar-denominated exports rose USD 762 m (13.9%) *vis-à-vis* the previous year (Graph 1.8) mainly due to the higher exported value of industrial products, coal, and crude oil. Regarding free-on-board (FOB) imports,[1] these rose USD 355 m (5.2% in annual terms) during that period due, to a large extent, to the increased purchases from abroad of chemical and mining products for industry as well as capital goods. The imports of non-durable consumer goods also contributed positively to the growth of total imports (Graph 1.9) (see the shaded portion on pg. 22-24).

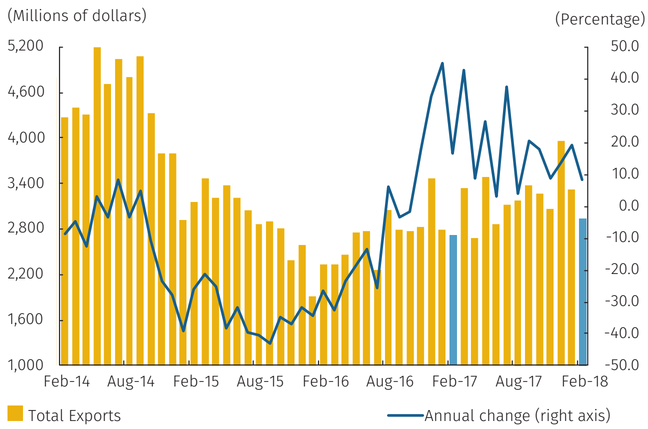
The trade deficit in goods is expected to continue to decline for the first quarter of 2018 mainly because of the growth of exports.

For the first quarter, the deficit of non-factor services, in turn, is expected to be higher than the records for the same period a year ago, and net outflows for factor income are expected to remain the same. The latter is spurred by the profits of companies with FDI which work

1 Unlike the measurement of the balance of payments, which takes into account the FOB value of imports, the calculation of the GDP based on national accounts considers the cost, insurance and freight (CIF) of imports, which include the value of the freight and insurance. During the January-February two-month period, CIF imports totaled USD 7.547 b, which represents a yearly 5.2% growth.

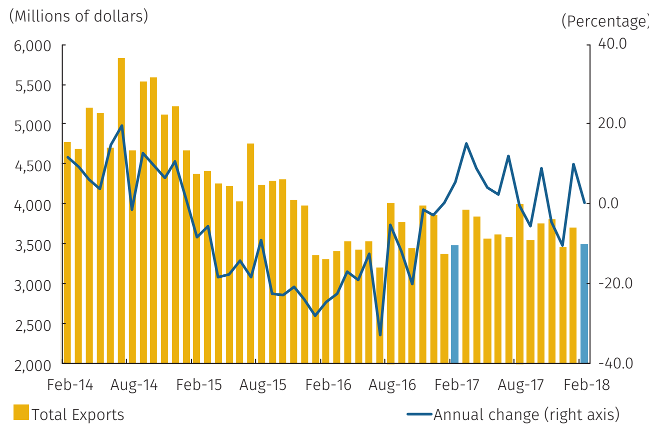
in the mining-energy sector. The payment of interest on loans and debt securities is also anticipated to continue being a significant source of pressure on the current deficit just as has been seen since 2016.

Graph 1.8
Total Exports of goods (FOB)
(monthly)



Note: The blue bars are total exports that correspond to February 2017 and 2018.
Source: DANE, calculations by *Banco de la República*.

Graph 1.9
Total Imports of goods (FOB)
(monthly)



Note: The blue bars are total exports that correspond to February 2017 and 2018.
Source: DANE, calculations by *Banco de la República*.

As for capital flows, during the first quarter of 2018, inflows of FDI funds are estimated to have been similar to those seen during the same period a year before as a result of the funds received by companies in the mining and oil sectors due to the better outlook for international prices. Furthermore, the information available on capital flows from the foreign exchange balance shows that between January and March there was an annual increase in foreign investment funds in the private sector portfolio.[2] Added to the above are the funds through foreign loans from multilateral banks obtained specifically by the government and other agencies in the public sector.

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

Dollar-denominated Exports and Imports for the first two-month period of 2018

First two-month period of 2018

During the first two-month period of 2018, total exports grew 13.9% supported by the expanded exports of the three types of products (Tables A and B). Exports of mining products were the ones that contributed the most to the total change (6.9 pp) followed by non-traditional exports (6.2 pp). The recovery of agricultural exports, which grew 5.4% after having decreased during the last period of the previous year, stands out. With that, these exports resumed their positive trend from the first 10 months of 2017 (Tables A and B).

The better international prices for exported mining products, especially oil and coal, continue to drive the sector.[1] Compared to 2017, the exported value of coal and crude oil grew 30.4% and 7.9%, respectively, in the first two months of the year. Note that these items contributed the most to the sector.

The non-traditional exports expanded again as they grew 24.9% in the first two-month period of 2018 and thus surpassed the 4.7% registered during the previous period (Graph A). By destination, the sales abroad of these types of goods grew for all destinations except Peru. The highest annual growth was seen in the sales abroad to Asia (43.1%), the European Union (36.6%), and the rest of Aladi[2] (32.2%). A recovery of exports to the United States, our main destination for exports, was observed. These grew 13.1% during the two-month period after having decreased 3.3% in 2017. Last of all, the positive change in sales abroad to Venezuela for the first time since 2015 stands out (Graph B).

Regarding traditional agricultural exports, the sales abroad of bananas and flowers grew 17.8% and 12.8%. At the same time, sales of coffee declined 2.0% in annual terms compared to 2017. The total change in exports for this group of products is explained by a 15.3% increase in the volume exported that was partially offset by an 8.7% decline in the price index.

Regarding FOB imports, a 5.2% expansion in annual terms was observed in the January-February two-month period along with growth in the three groups of goods, which have recovered after having fallen during the previous period (Graph C). The largest contribution to growth came from the group of capital goods (3.0 pp) which was mainly driven by more purchases abroad of capital goods for industry (12.1%) and by the recovery of imports of transportation equipment, which grew 12.3% (Table B).

In line with the above, within the group of intermediate goods, which accounts for 1.8 pp of the total growth of imports, there is a notable increase in imports of raw materials for industry (10.2%) which was partially offset by lower purchases abroad of fuel.

As for consumer goods, imports of non-durable goods grew (6.0%) supported by purchases of clothing and other textile products and by the recovery in purchases of tobacco. In contrast, purchases of durable goods fell 3.6% during the two-month period due to a 19.8% decrease in the purchases of vehicles for private transportation, an item that represents the highest share in the group.

1 The price index for mining products exported grew 21% in the first two-month period for 2018, compared to the same period in 2017.

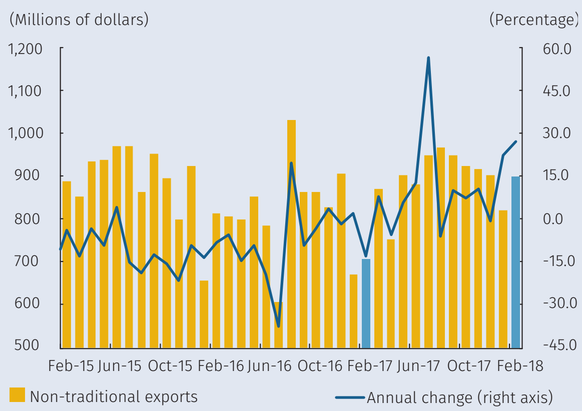
2 Latin American Integration Association (ALADI) excluding Venezuela, Ecuador, Perú, and México.

Table A
Dollar-denominated Exports and Imports of Goods for the Fourth Quarter 2017 (FOB)

Group	(annual change)	Items with important contributions to the annual variation	
		Item	Annual change of the item
Total exports			
Mining products	26.3	Coal, lignite and peat	
		Nickel-iron	23.7
Remaining exports[a/] (non-traditional)	5.5	Food, beverages, and tobacco (excluding coffee)	10.6
		Chemical products	
		To Ecuador	
		European Union	
		To Asia	17.5
Agricultural products	-19.7	Flowers	
		Bananas	-22.5
		Coffee	-27.4
Total imports	-2.4		
Capital goods	-3.0	Rolling stock for transportation	
		Office machinery and equipment	-0.3
Intermediate goods		Raw materials for industry	3.2
		Raw materials for agriculture	10.1
Consumer goods	-5.8	Durable Goods	-12.5
		Non-durable Goods	0.2

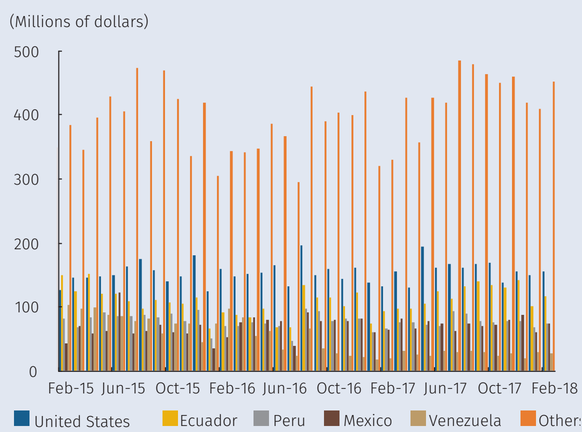
a/ This group does not include oil nor its derivatives, coal, nickel-iron, gold, coffee, bananas, nor flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, calculations by *Banco de la República*.

Graph A
Exports of Non-traditional Goods[a/] (FOB) (monthly)



Note: The blue bars are non-traditional exports (FOB) that correspond to February 2017 and 2018.
a/ Excluding oil and its derivatives, coal, nickel-iron, gold, coffee, bananas, and flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, calculations by *Banco de la República*.

Graph B
Exports of Non-traditional Goods by Destination: United States, Ecuador, Peru, Mexico, Venezuela, and others [a/] (FOB)



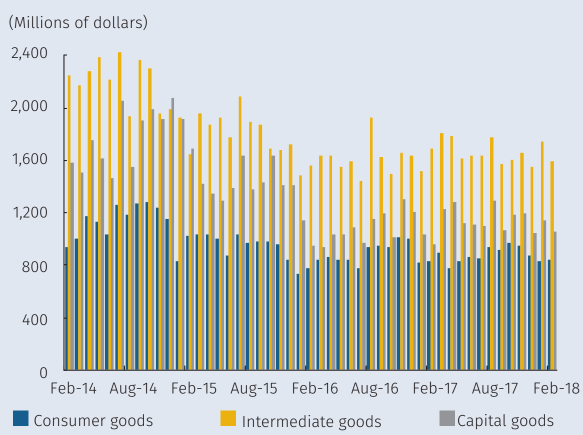
Source: DANE, calculations by *Banco de la República*.

Table B
Dollar-denominated Exports and Imports of Goods for the First Two-month Period in 2018 (FOB)

Group	(annual change)	Items with important contributions to the annual variation	
		Item	Annual change of the item
Total exports	13.9		
Mining products	11.3	Coal, lignite and peat	30.4
		Crude oil	7.9
Remaining exports[a/] (non-traditional)	24.9	Food, beverages, and tobacco excluding coffee	46.2
		Chemical products	23.9
		To the rest of ALADI	32.2
		To the rest of the destinations	25.9
		To Ecuador	30.2
Agricultural products	5.4	Flowers	
		Bananas	17.8
		Coffee	-2.0
Total imports	5.2		
Capital goods	10.4	Capital goods for industry	12.1
		Transportation equipment	12.3
Intermediate goods	3.9	Raw materials for industry	10.2
		Raw materials for agriculture	-4.3
Consumer goods	1.4	Durable Goods	-3.6
		Non-durable Goods	6.0

Note: This group does not include oil nor its derivatives, coal, nickel-iron, gold, coffee, bananas, nor flowers. It includes other mining and agricultural products. The majority are manufacturing exports.
Source: DANE, calculations by *Banco de la República*.

Graph C
Imports by type of goods (FOB)
(monthly)



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

1.2.2.2 Estimate for 2018 as a whole

Using the projections of growth for the country's trading partners and for the terms of trade presented in the first part of this chapter, the forecasts made for this Report indicate that, in terms of GDP, the current account deficit will probably continue to be adjusted in 2018. In the most likely scenario, the current deficit for the full year will probably stand around USD 10,605 b, which corresponds to 3.1% of GDP within a range between 2.8% and 3.4% (Table 1.3).

Table 1.3
Balance of Payments
Annual Flows (millions of dollars)

	2013	2014	2015	2016 (pr)	2017 (pr)	2018 (proj)
Current Account (A + B + C)	-12,504	-19,768	-18,586	-12,129	-10,359	-10,605
Percentage of the GDP	-3.3	-5.2	-6.4	-4.3	-3.3	-3.1
A. Goods and Services	-3,160	-11,862	-18,255	-12,767	-8,878	-8,108
B. Primary Income (factor income)	-14,230	-12,527	-5,761	-5,249	-8,167	-9,794
C. Secondary Income (current transfers)	4,887	4,622	5,430	5,887	6,685	7,297
Financial Account (A + B + C + D)	-11,739	-19,292	-18,263	-12,682	-9,694	-10,605
Percentage of the GDP	-3.1	-5.1	-6.3	-4.5	-3.1	-3.1
A. Direct Investment (ii - i)	-8,557	-12,268	-7,518	-9,332	-10,828	-9,589
i. Foreign in Colombia (FDI)	16,209	16,167	11,736	13,849	14,518	13,583
ii. Colombian Abroad	7,652	3,899	4,218	4,517	3,690	3,993
B. Portfolio Investment	-7,438	-11,565	-10,283	-3,718	-1,577	107
C. Other Investments (loans, other credit and derivatives)	-2,690	104	-877	202	2,166	-1,800
D. Reserve Assets	6,946	4,437	415	165	545	677
Errors and Omissions (E and O)	765	476	323	-553	665	0

pr: preliminary
proj: projected
Note: the results presented follow the recommendations of the IMF in its Balance of Payments Manual sixth version. For further information and methodological changes consult http://www.banrep.gov.co/balanza-pagos.
Source: *Banco de la República.*

For the entirety of 2018, the balance of trade in goods is anticipated to continue showing a deficit, albeit lower than the one registered in 2017, largely due to the higher exports of oil and industrial goods. The growth of sales abroad will probably be driven largely by the performance of the international price for crude oil and the effect of the recovery of demand on manufactured Colombian goods abroad.

As regards imports of goods, an annual growth of close to 7.0% is estimated for the entirety of 2018, thus continuing the recovery observed in 2017. This would be the result of the greater economic activity forecast for 2018, which encourages imports by all the sectors in general

An additional adjustment of the current account deficit of 3.1% of GDP is estimated for 2018.

due to the appreciation of the exchange rate over the course of the year.

Larger net outflows are expected in 2018 for factor income due to the increased profits earned by foreign companies operating in the mining-energy sector and consistent with the higher export prices. An improvement in the profits for companies working in the rest of the sectors consistent with the better growth anticipated for the economy is also expected. Higher payments for interest on the foreign debt due to the higher level of debt and to the increase in the foreign interest rates could be added to the above.

The deficit in services for 2018 is estimated to be at levels higher than it was last year. Regarding outflows, these will probably rise as a result of the higher spending of Colombians on trips abroad, the increased outlays on freight costs, and the growth of the technical oil services. Meanwhile, income will probably grow mainly due to the greater income from tourism, which is facilitated by the improvement in global growth.

Finally, higher net income from transfers is expected, especially due to how dynamic the worldwide economy has become (see section 1.1 in this chapter).

As for capital flows, direct investment is expected to continue to be the main conduit for foreign capital inflows in 2018. Additionally, a major reduction in loans (net disbursements) from multilateral entities and foreign banks is expected in contrast with net repayments in 2017. In regards to the portfolio investments, the baseline forecast scenario for 2018 assumes a more limited placement of bonds by the public sector, and that foreigners maintain their level of activity in the TES market.

Box 1

A New Exercise Disaggregating Real Exports

Miguel Arquez Abdala
José Franco Sepúlveda
Camilo Cárdenas Hurtado*

Based on the World Economic Outlook Report[1] of the International Monetary Fund, foreign demand was revitalized and there were significant increases in the prices of commodities throughout last year. This, added to relatively extensive conditions of foreign financing, contributed to the growth of most of the economies in the region, particularly the ones of the countries that export raw materials. The Colombian economy was not isolated in this context and, as a result, its foreign trade accounts benefited from better conditions on the global scenario. Thus, Chapter 1 and previous versions of this report explained how large part of the correction in the level of the current account deficit was primarily due to an increase in revenue that resulted from a better performance of dollar-denominated exports, which more than offset the increase in imports.

Indeed, the increase of sales abroad in 2017 (19.1%, in US dollars) was the result of increases in traditional exports (25%), non-traditional exports (5.9%), and services (8.5%). The former benefited from higher international prices for the main commodities, in particular oil and coal, while the second and third groups were driven by the higher growth of our main trading partners. These trends have been confirmed so far this year and are expected to continue in the medium term. In fact, the assumptions with regard to the foreign context for 2018, which are implicit in the forecasts for the balance of payments and the economic growth as presented in Chapters 1 and 4 of this Report, consider increases in the prices of the commodities exported by Colombia and expansions in the economies of our main trading partners. This makes it possible to anticipate a positive performance of both export areas in US dollars, which would continue contributing to the reduction of the trade deficit in 2018.

Despite the positive performance of the dollar-denominated sales abroad, this outcome was not equally clear with respect to the accounts denominated in constant pesos. Based on the information contained in the national accounts published by DANE, in 2017 real exports fell 0.6%. Although this figure revealed a recovery with respect to the -1.2% figure registered in 2016, this percentage is far from the results seen for the total dollar-denominated exports. This poses two challenges for analyzing and forecasting GDP. First, DANE does not break down the trade figures in the national accounts and, therefore, it is not possible to identify the origin of the outcome of real exports for last year. Second, given that the technical staff at *Banco de la República* assumes that improvement in the foreign context might act as a source of economic growth in 2018, it is important to understand the channels through which such an improvement translates into an impetus for exports denominated in constant pesos.

Due to the above, this Box analyzes the recent trends and forecasts for the main components of exports in real terms. The classification between traditional and non-traditional exports, measured in constant pesos, is relevant insofar as their trends would have different but complementary implications on GDP growth for the tradable sectors and on the productive linkages among them. Note that the results presented here correspond to the authors' own estimates rather than to official figures published by DANE, and that it is not the intention of the authors to duplicate precisely the methodology employed in the national accounts.

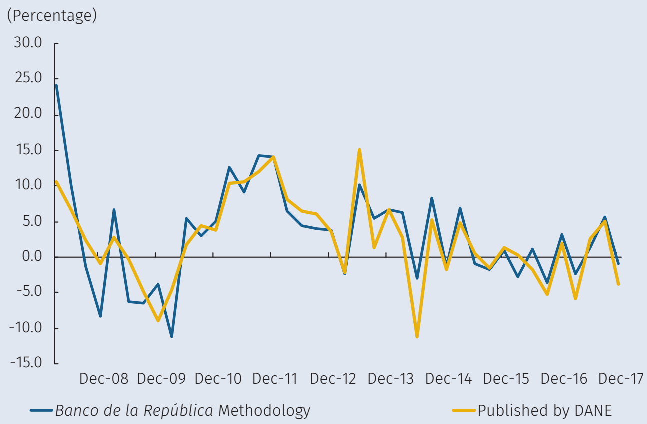
Using the updated version of the International Standard Industrial Classification, revision 3 (ISIC R.3 A.C.), for exports in FOB dollars published by DANE and the monthly average of the nominal exchange rate for the peso (COP) with respect to the US dollar (USD), historical series were calculated based on the proceeds from exports denominated in current pesos. Subsequently, an appropriate deflator was identified for every series using the PPI series (ISIC classification, revision 4, with December 2014 as the base) for each one of the products exported. In the cases of oil and its refined products, coffee, and coal, in particular, the implicit prices were used as a deflator and were calculated based on the series of exported value in pesos and the total quantities exported (in net kilograms) under ISIC classification R.3 A.C. In the case of services, the series in US dollars comes from the balance of payments and the deflator used is the CPI for services. The aggregate corresponds to the sum of each one of the real export series calculated by type of product. The period under analysis ran from January 2007 to December 2017. The results of this

* The authors are, as follows, trainees and a specialist professional in the Department of Macroeconomic Programming and Inflation. The opinions and results presented in this box do not represent those of *Banco de la República* nor its Board of Directors.

1 See the World Economic Outlook, published by the International Monetary Fund in April 2018 (accessed on line May 10, 2018).

exercise suggest a satisfactory approximation of the performance in the series of real exports used in the national accounts published by DANE (Graph B1.1).

Graph B1.1
Total Exports
(Constant pesos, annual change quarterly series)



Source DANE, authors' calculations.

An important contribution of this exercise is that it enables the analysis of real exports by groups. In addition to the traditional and non-traditional exports as well as services, it is possible to classify the sales abroad in constant pesos by type of product following the ISIC R.3 A.C nomenclature. In principle, the real exports of agricultural goods correspond to the products included in the ISIC R.3. A.C 011 to 050 accounts. In the case of mining, the products match the commodities in accounts 101 to 149. The category of "other exported products" corresponds to those included in accounts 00 and 401 to 930. The rest of the products have been classified in the category of real exports of manufactured goods (XM), in which the products listed in accounts 151 to 371 are included. It can be seen there that some of these products can be classified within the category of traditional goods although they have been transformed or are the result of some industrial process. This allows for the creation of two subcategories within the exports of manufactured products: real exports of traditional manufactured goods (XMT) and real exports of non-traditional manufactured products (XMNT). Within the latter, in turn, it is possible to distinguish three groups: agro-industrial goods, industrial products, and the rest. The accounts and the share of each one of these classifications within the total of real exports are shown in Table B1.1.

Table B1.1
Grouping of Manufactured Exports by ISIC Classification R.3 A.C and Share of the Total Exported (goods and services 2017)

Annual variation, actual exports in pesos, seasonally adjusted				2014	2015	2016	2017
Total Exports	Agricultural exports (5.38%)			-1.14	2.54	5.25	3.49
	Mining exports (38.75%)			10.08	-4.19	-10.24	2.49
	Manufacturing exports (37.08%)	Traditional (17.14%)	Preparation of coffee products (account 156) (7.04%)	13.50	14.99	3.38	-2.42
			Manufacture of oil refining products (232)	-25.49	-14.94	83.91	-23.46
			Basic iron and steel industries (account 271) (1.37%)	-17.98	-3.78	-7.48	11.17
			Basic precious metal and non-ferrous metal industries (account 272) (4.13%)	-23.17	-23.77	17.94	13.84
		Non-traditional (19.94%)	Agro-industrial manufacturing exports (accounts 151-155, 157-160) (3.68%)	13.33	-12.80	-4.33	14.14
			Industrial manufacturing exports (accounts 171-192, 210, 231, 233-269, 273-361) (15.38%)	-4.60	-1.00	-7.00	1.84
			Other non-traditional manufacturing exports (accounts 193-209, 221-223, 369, 371) (0.88%)	-9.22	-2.29	-8.13	-0.92
	Other (0.04%)			58.67	-49.29	-68.72	-25.61
	Services (18.75%)			5.39	36.93	9.18	-0.02

Source: DANE, authors' calculations.

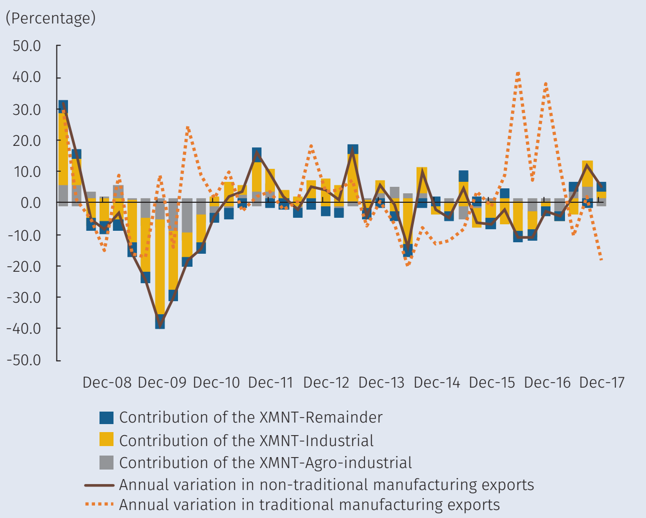
Furthermore, taking into account the fact that the technical staff forecasts greater growth for our main trading partners in 2018, the real XMs become especially significant due to the fact that their performance is closely related to that of the foreign demand. In addition, as is argued in economic theory, the XMs may also be favored (affected) by the profits (losses) of competitiveness that result from cumulative instances of depreciation (appreciation) of the exchange rate (both nominal and real), as was the case of the Colombian peso when the levels of the COP / USD rates are compared with those of mid-2014—the period prior to the shock to the terms of trade. That said, the question arises as to which of the two phenomena would have the greatest impact on the growth of the XM in 2018.

The empirical evidence suggests that the XMs have lost momentum in real terms during the last decade, which meant a reduction of their share in the total exports as they went from 53.8% in the first quarter of 2007 to 36.5% in the fourth quarter of 2017. This took place in a context where the growth of the worldwide economy, particularly that of the advanced economies, was severely battered by the effects of the international financial crisis of 2008 and it took several years to recover. Indeed, the XMs declined between the first quarter of 2008 and the last quarter of 2010 by an annual -5.78% on average, mainly due to the XMNT (-9.71%). It is just after the first quarter of 2011 that a recovery, albeit slow, of the XMs is seen and, it was supported by improvements in both the XMTs and the XMNTs. Since 2011, the average growth for these items has been 1.14%, 1.87%, and 1.07% respectively (Graph B1.2).

The combined analysis of XM growth, foreign demand, and the real exchange rate shows mixed results, even different from what was expected. On one hand, in recent quarters the XMs did not respond to the real depreciation as had been anticipated. After 2014, the real exchange rate index (RERI) depreciated 22.1% while the XMs barely grew 4.1% (9.9% for the XMTs and a drop of 0.23% for the XMNTs). On the other, it can be seen that the increases in the XMs, XMTs, and XMNTs are preceded by positive variations in the GDP of the trading partners (Graph B1.3).

In effect, an analysis of these variables using time series models suggests that positive variations in the foreign demand have a greater impact on the growth of the XMs, XMTs, and XMNTs than a depreciation of the real exchange rate would have. The variables are entered through annual variations (of the logarithm), and the specification tests of the models of autoregressive vectors (VAR) suggest a number of optimal lags equal to 1. In addition, they are stable, and the assumption of normality of residuals is met.

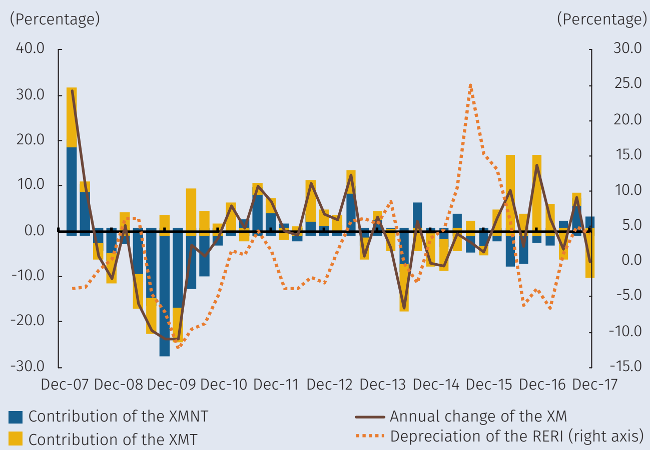
Graph B1.2
Performance of Disaggregated Non-traditional Manufacturing Exports



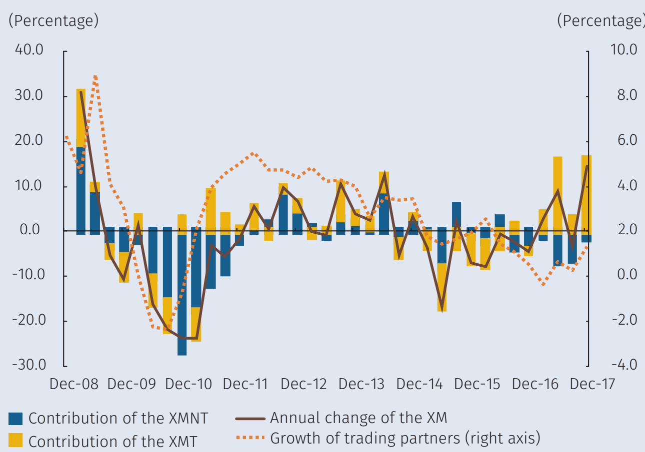
Source: DANE, authors' calculations.

Graph B1.3

A. Manufacturing Exports and Real Depreciation



B. Manufacturing Exports and Growth of Trading Partners



Sources: Bloomberg and DANE, authors' calculations.

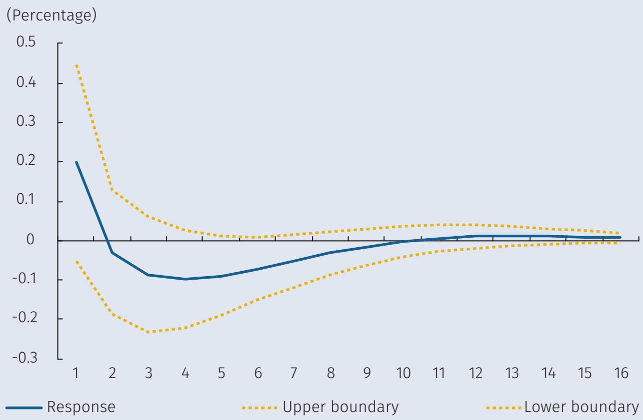
Graph B1.4 shows the responses of the XMs, XMTs, and XMNTs to positive shocks to our trading partners' growth and to a real depreciation. In every case, the answers move in the direction expected, but the results differ in magnitude and statistical significance. First, the foreign demand shock seems to be more important for the XMNTs than for the XMTs. Granger causality tests (not reported in this box) show significant results to the extent that foreign demand causes, in the Granger sense, growth of the XMs, XMTs, and XMNTs. In contrast, although its sign is the expected one, the response of these variables to a depreciation shock to the RERI is not significant. Furthermore, the same exercise suggests that the RERI does not have causal effects, in the Granger sense, on the growth of these types of exports.

In conclusion, an alternative calculation of the level of real exports is presented in this box. Using DANE information on export figures in US dollars by type of product—ISIC R.3. A.C classification—and applying appropriate deflators in each case, it is possible to achieve a fairly satisfactory approximation of the actual export figures given in the national accounts. In addition to the above, the methodology allows for a detailed breakdown of actual exports into their main components. The results for sales abroad of both traditional goods and manufactured products are presented. Exports of products from the areas of traditional manufactured, agro-industrial, industrial, and others are Included within the latter group.

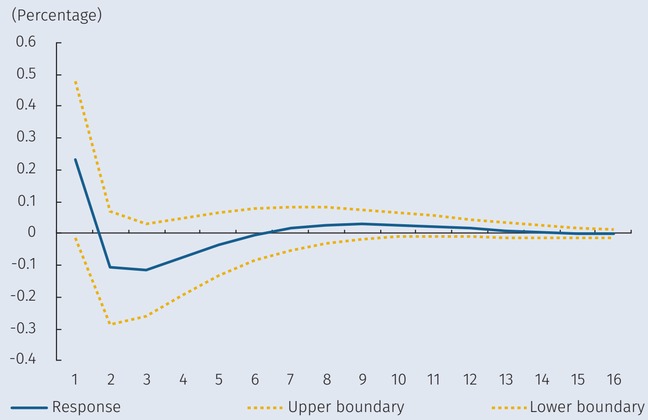
Moreover, the results of a time-series exercise that confirm the existence of a positive and significant relationship between the growth of trading partners and that of manufacturing exports are presented as well. A positive relationship between the growth of manufacturing exports and the depreciation of the real exchange rate is also confirmed, although in this last case the magnitude of the response is lower.

Graph B1.4
Impulse response functions of manufacturing exports with respect to 1.0% shocks to the growth of trading partners and the RERI

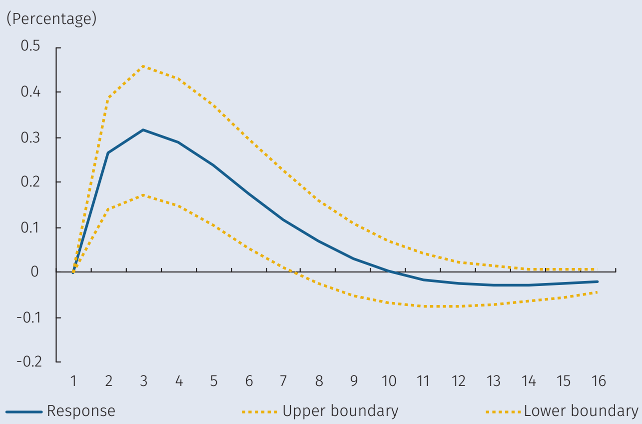
A. Response of-traditional manufacturing exports in the event of a shock to the growth of the trading partners.



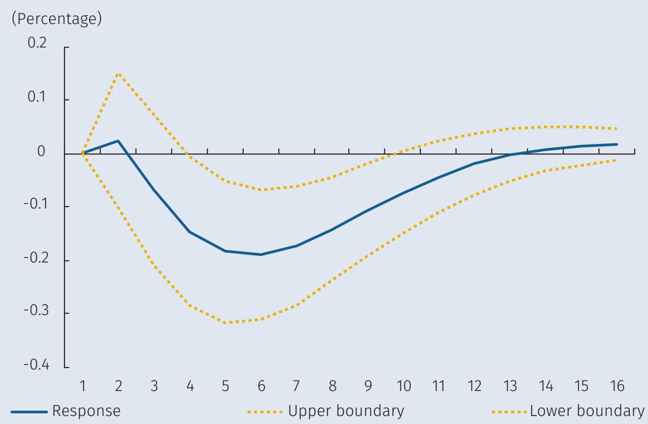
B. Response of traditional manufacturing exports in the event of a shock to the real exchange rate index.



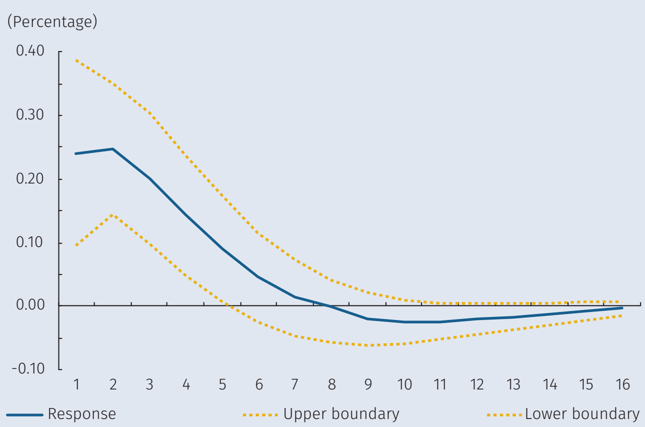
C. Response of non-traditional manufacturing exports in the event of a shock to the growth of the trading partners.



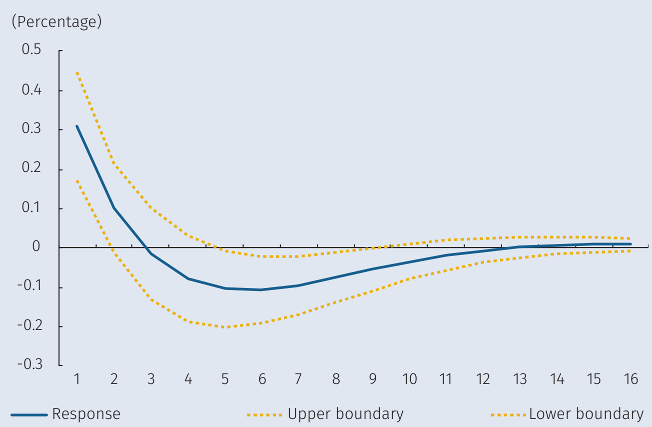
D. Response of non-traditional manufacturing exports in the event of a shock to the real exchange rate index.



E. Response of total manufacturing exports in the event of a shock to the growth of the trading partners.



F. Response of total manufacturing exports in the event of a shock to the real exchange rate index.



Source: authors' calculations.

02

Domestic Growth: Current Situation and Short-Term Outlook

The Colombian Economy expanded 1.6% in the fourth quarter, which implied a 1.8% growth for the entire year. The results for the full year took place in a context in which the domestic demand surged mainly due to the fact that investment stopped shrinking.

The agricultural sector and financial services stood out during 2017. In contrast, mining and the manufacturing industry showed setbacks.

The information available for the first quarter suggests that economic activity will probably show a better performance compared to what was seen at the close of 2017.

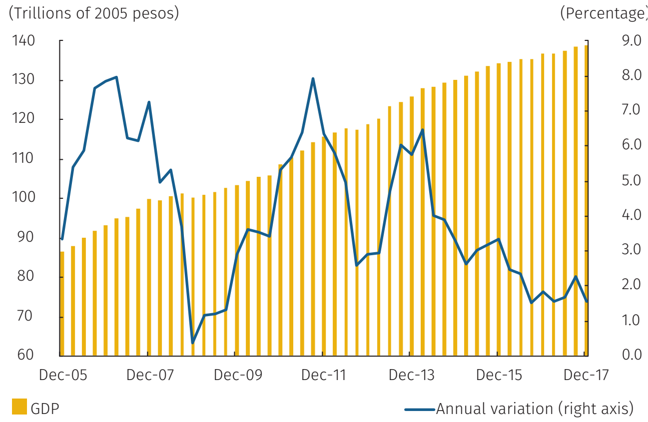
2.1 GDP Performance in the fourth quarter of 2017 and throughout 2017[3]3

According to the National Account figures published by the National Bureau of Statistics (DANE, in Spanish), GDP registered an annual 1.6% change during the fourth quarter of 2017 (Graph 2.1). This figure stood in the lower part of the forecast range presented in the previous Inflation Report (between 1.3% and 2.3%, with 1.8% as the most likely figure). The increase between quarters was 0.3%, which, in annualized terms, corresponded to 1.1%. Compared to 2016, the growth figure for the full year was 1.8%, which meant a slight slowdown in comparison to what had

3 At the time this report was written, DANE had not changed the base of the national accounts.

been registered during that year (2.0%). This result occurred in a context in which total consumption was mediocre (although it was somewhat better than in 2016), investment stopped falling, and the growth rates of the foreign trade accounts were almost null.

Graph 2.1
Gross Domestic Product
(seasonally adjusted)



Source: National Accounts base 2005, DANE, calculations by *Banco de la República.*

It should be pointed out that the results of GDP growth from the first to the third quarter of 2017 were revised upwards by DANE. On average, this revision was around 0.4% for each quarter. Despite these updates, the figures still suggest that the downturn of GDP bottomed out in the first half of 2017. This is in line with what the technical staff at *Banco de la República* reported in previous versions of this report. Nevertheless, during the second half of the year, the economy continued to expand at a pace that was below what would likely be its potential growth rate.

The economy's relative sluggishness during 2017 showed evidence that it has continued the adjustment process that began a couple of years ago as a result of the fall in the terms of trade. The moderate growth of expenditures and the closure of the current account deficit described in Chapter 1 of this Report point that direction. However, the surge in the second half of the year also suggests that that process has advanced significantly (growth in the second half of the year was close to 2.0% on average, while it was 1.6% during the first half). As will be shown below, the slowdown in the last few months of the year was due partly to a high basis of comparison as well as some supply shocks and, based on that, it should be temporary. Throughout the year, domestic demand climbed and registered an expansion of 1.6% compared to 2016 (the period in which the increase was barely 0.5% per annum, Table 2.1), although this rate was still low compared to its average growth since 2001 (4.6%). Analyzing each of the items that it consists of, the better performance of the absorption was, for the most part, due to the fact that investment did not register a decline. Aggregate consumption, in turn, grew at a rate that was slightly higher than the rate for the previous year. In this category, both the private and public components grew more than in the previous year, although the increase in the second case was greater. Added to the above is the slight decline in exports and the almost total sluggishness of imports—both in constant pesos. On balance, the level of the trade deficit measured in constant pesos was similar to what had been registered in 2016.

The downturn in growth in the fourth quarter will probably be temporary.

Examining the GDP accounts in detail, low household consumption was observed again in 2017. This can be attributed to the cumulative effects of the sluggishness of national income, the increase in the VAT at the beginning of the year, and the change in relative prices due

Table 2.1
Real Annual GDP Growth by Type of Expenditure

	2016	2017				2017
	Full year	Q1	Q2	Q3	Q4	Full year
Total Consumption	1.7	2.0	2.3	2.9	1.6	2.2
Household Consumption	1.5	1.6	2.0	2.5	0.9	1.7
Non-durable Goods	2.2	1.1	2.0	2.9	2.0	2.0
Semi-durable Goods	0.8	-3.6	-3.3	-1.5	-1.0	-2.4
Durable Goods	-1.0	7.1	-1.7	6.7	-8.2	0.7
Services	2.6	2.7	2.6	1.9	1.1	2.1
Final government consumption	2.4	3.8	3.5	4.4	4.2	4.0
Gross Capital Formation	-3.3	-0.9	0.7	-0.0	0.5	0.1
Gross Fixed Capital Formation	-2.7	-1.7	1.5	0.3	0.3	0.1
Agriculture, Forestry, Hunting, and Fishing	6.0	1.9	-4.9	-2.2	3.4	-0.5
Machinery and Equipment	-8.2	-0.9	4.3	6.7	4.5	3.6
Transportation equipment	-31.3	-3.6	-2.1	-0.2	-13.1	-5.0
Construction and Buildings	6.4	-8.0	-8.2	-15.9	-13.1	-11.3
Public works	-0.4	3.5	7.2	9.1	8.7	7.1
Services	-2.7	-3.1	1.4	0.9	4.2	0.8
Domestic demand	0.5	1.4	1.8	2.1	1.3	1.6
Total Exports	-1.2	-5.9	2.6	5.0	-3.8	-0.6
Total Imports	-7.3	-1.1	4.4	1.9	-4.0	0.2
GDP	2.0	1.5	1.7	2.3	1.6	1.8

Source: National Accounts base 2005, DANE, calculations by *Banco de la República.*

to a reduction in prices for non-tradable goods compared to tradable goods (a result of the accumulated depreciation of the peso). These factors limited the growth of the consumption of durable and semi-durable goods in particular. Added to that is a high basis of comparison towards the end of 2016, especially in the case of durable goods consumption. All this caused both components to show their lowest records within household spending.

The growth of the consumption of non-durable goods and services, in turn, slowed down in 2017, although to a lesser extent. Regarding that, the increased agricultural supply (after *El Niño*) and its effect on the decline in food prices over the course of the year may have prevented the consumption of non-durable goods from slowing down even more compared to what had been registered in 2016. In addition, towards the end of the year, consumption of services was probably affected by the supply shocks in the airline transportation sector, which led to lower growth in this sub-component during the second half of 2017.

Regarding public consumption, its upturn in 2017 was largely the result of a positive level in the implementation of spending on the part of regional and local governments, which had probably more than offset the gradual expenditure adjustment process on the part of the national central government (NCG). This category of GDP in particular registered a 4.0% growth for 2017, which contrasts with the 2.4% for 2016 (Table 2.1).

The investment in public works and in machinery and transportation equipment registered a significant expansion in 2017.

As for gross fixed capital formation (GFCF), there was a 0.1% expansion, almost zero, in 2017 compared to 2016. The performance of the components in this item was mixed. On the one hand, investment in public works and in machinery and equipment registered significant expansion; on the other, investment in the construction of buildings and in transportation equipment declined.

In contrast, investment in construction of buildings was rolled back.

In principle, the positive growth of the GFCF for public works (7.1%) was associated with an increase in disbursements by regional and local governments for the implementation of different engineering projects (stadiums, parks, hospitals, etc.) as well as with the increased investment in exploration and production by companies in the oil sector. Based on the figures from DANE's indicator of investment in public works, the expenditures on highways, both tertiary roads and fourth-generation (4G) projects, did not contribute significantly to the expansion of GDP for 2017.

In contrast, construction of buildings rolled back 11.3%. This was the consequence of the poor performance of the non-residential sector, which seemed to have been affected by the excess supply and weakening of demand for offices and commercial premises as well as the demand for high-income housing. For investment in transportation equipment (-5.0%), the accumulated depreciation of the exchange rate, the accumulated stock for this type of capital, and the high basis of comparison towards the end of 2016 contributed to its poor performance.

As for foreign trade accounts, the outcome of real exports and imports in 2017 suggests that the correction in the trade deficit was a result of an increase in the international prices for raw materials exported by our country (as was reported in Chapter 1 of this Report), rather than a reduction in spending on foreign purchases or an increase in sales abroad. Indeed, in 2017, the annual growth rates for exports and imports in constant pesos were -0.6% and 0.2%, respectively. In the first case, these results were linked primarily to the weak performance of crude oil, coal, and coffee production. In the second case, this performance would have been consistent with the intensive purchase of capital goods from abroad for gross capital formation.

By branches of activity, the performance of social, personal and community services (3.7%) and that of financial services (3.4%) stood out in the fourth quarter. In contrast, industry (-1.4%) and transportation (-1.0%) showed setbacks. It should be noted that public works (8.7%) was offset by the significant downturn in the category of buildings (-12.4%) and, as a result, the aggregate for construction declined 0.6%.

For 2017 as a whole, the sectors that grew the most were agriculture (4.9%) and financial services (3.8%). In contrast, mining (-3.6%) was the branch that showed the greatest reduction, followed by industry (-1.0%), construction (-0.7%), and transportation (-0.1%) (Table 2.2).

Table 2.2
Real Annual GDP Growth by Branches of Economic Activity

	2016	2017				2017
	Full year	Q1	Q2	Q3	Q4	Full year
Agriculture, Forestry, Hunting, and Fishing	1.6	8.6	4.0	6.3	1.0	4.9
Mining and Quarrying	-7.0	-8.5	-4.9	-1.0	0.5	-3.6
Manufacturing Industry	3.4	1.2	-3.1	-0.9	-1.4	-1.0
Electricity, Gas, and Water	-0.8	-1.1	1.4	2.0	2.3	1.1
Construction	4.5	-1.4	0.9	-1.8	-0.6	-0.7
Buildings	6.0	-7.1	-7.6	-14.7	-12.4	-10.4
Public works	2.6	3.4	7.2	9.1	8.7	7.1
Commerce, Repairs, Restaurants, & Hotels	2.6	0.4	1.9	2.2	0.3	1.2
Transportation, Warehousing, and Communications	0.6	-0.6	0.8	0.5	-1.0	-0.1
Financial, Real Estate, and Business Services	4.4	3.9	3.9	4.0	3.4	3.8
Social, Community, and Personal Services	2.0	3.2	3.3	3.6	3.7	3.4
Subtotal value added	2.2	1.4	1.4	2.0	1.3	1.5
Taxes minus subsidies	0.6	2.5	3.9	5.2	3.9	3.9
GDP	2.0	1.5	1.7	2.3	1.6	1.8

Source: National Accounts base 2005, DANE, calculations by *Banco de la República*.

Agriculture exhibited a favorable performance after suffering shocks such as *El Niño* and the trucker's strike that affected the agricultural supply during a large part of 2016. Within this branch of activity, the strength of the other agricultural products, which is explained by the increase in annual (8.1%) and perennial (8.9%) crops, was emphasized. In addition, livestock production and hunting grew 4.1% with the support of areas related to milk, poultry, and eggs. In contrast, there was a 1.7% annual decline in coffee production, which, according to the trade association, was due to problems in harvesting the coffee beans caused by the increase in rainfall towards the end of the year.

Although financial services continued to expand more than the rest of the sectors, there was a downturn in those services as they went from

4.4% in 2016 to 3.8% in 2017. Considering its high share of the GDP (21.2%), this sector has remained one of those that has contributed the most to the expansion of the economy. Within this area of business, the growth of financial intermediation (6.7%) and of real estate and housing rental (2.8%) stands out.

The manufacturing industry had a poor performance in 2017.

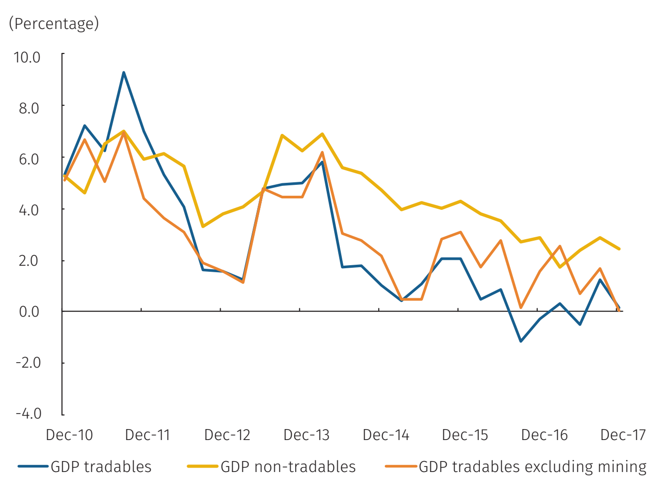
In contrast, mining showed a sharp decline in 2017 (-3.6%), after having dropped 7.0% the previous year. In this segment, both oil and coal production showed setbacks that were caused by the adjustment process that the sector went through after the fall of international prices for these products and the subsequent decrease in the levels of mining-energy investment. In fact, how this sector went from growing 9.3% on average between 2008 and 2013 to falling to 2.9% on average between 2014 and 2017 should be noted. However, it should be mentioned that a positive growth of 0.5% had already been seen in the fourth quarter.

The manufacturing industry as a whole reported a poor performance during 2017, as it fell 1.0%. Excluding oil refining, it fell 2.5%. According to the National Association of Colombian Business Owners (ANDI), business owners attributed this decline to both a low domestic and foreign demand and the rising cost of imported production supplies. These factors could have offset the positive effect that the accumulated depreciation should have had. Likewise, even though several trade agreements have been signed in the past few years and a search for new markets has been stimulated, there currently are limitations on the expansion of sales abroad due to the low foreign demand and the firms' difficulties in taking advantage of a competitive exchange rate.

Last of all, as was mentioned, construction had a setback that was mainly due to the deterioration of building construction, which counteracted the impetus of public works. Furthermore, the GDP for transportation showed a 0.1% decline. It should be noted that this activity declined 1.0% in the fourth quarter, a fact that is explained by the adverse effect of the labor strike that hampered airline transportation and led to a sharp reduction in the GDP for this sector (-5.5% in the fourth quarter).

In this environment, the GDP for tradable goods showed a 0.5% expansion in 2017, which was similar to the one registered the year before (0.4%). However, excluding mining, the GDP for those activities grew 1.3% (2.2% in 2016). In addition, the GDP for the branches of non-tradable goods also showed a downturn as it went from 3.1% in 2016 to 2.6% in 2017 (Graph 2.2).

Graph 2.2
GDP of the Tradable, Tradable Excluding Mining, and Non-Tradable Sectors
(annual change)



Source: National Accounts base 2005, DANE, calculations by *Banco de la República.*

2.2 Estimate of GDP Growth in the First Quarter of 2018[4]4

The growth forecast for the first quarter of 2018 that is presented in this Report corrects for the effect of the presence of Easter Week in March.

Based on the performance of the short-term indicators published recently, GDP growth in the in the first quarter of 2018 appears to have surged compared to the growth registered in the fourth quarter of last year and to the aggregate for 2017. Despite this recovery, the economy's annual rate of expansion will probably remain lower than what its long-term natural output level is estimated to be and, as a result, convergence with this rate will probably continue to be gradual. Note that the forecast for the first quarter presented in this Report corrects for the calendar effects related to the fact that Easter Week was in March and not in April (as was the case in 2017). This causes irregularities in the seasonal adjustment and distorts the analysis of the economic series. In addition, the figure projected by the technical staff at *Banco de la República* assumes that the effects of the implementation of the VAT during the same period last year have probably faded completely by now.

During the first quarter, the foreign context favored growth in Colombia.

During the first three months of the year, the macroeconomic environment was characterized by the positive performance of the fundamentals in the international context. As was stated in Chapter 1 of this Report, the advanced economies and those of our major trading partners have continued to report positive and growing rates of expansion, which are associated with the better performance of Colombia's foreign demand. Likewise, the international prices for the major commodities exported by the country registered increases and this has probably meant a boost for the terms of trade and national income. Particularly, the average price of crude oil for the quarter was USD $67.27 per barrel, a price that is 23% higher than a year ago. It is also relevant to mention the fact that capital flows entering the country remained elevated even in spite of the progress in the normalization of monetary policy in developed countries such as the United States.

As for the domestic environment, two facts that were felt during the first quarter of the year and that support internal growth can be emphasized: 1) inflation continued to decline and stood, for the first time in several years, within the range of +/- 1 percentage points (pp), which is close to the long-term target of 3.0%, and 2) a monetary policy that is favorable to growth with a benchmark interest rate and some slightly expansionary market rates that continued to decline, and that, in most cases, stood below their historical averages. The combination of these two factors could have contributed to the fact that domestic demand probably registered a better performance at the beginning of this year than in previous quarters.

4 At the time this report was written, DANE had not changed the base of the national accounts.

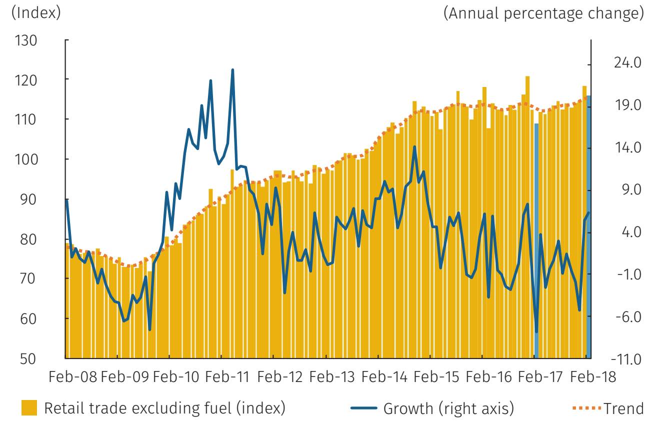
In this context, the GDP for the first quarter of 2018 should be characterized by an upswing in absorption, mainly resulting from a recovery in investment. The situation observed in the fourth quarter for the main components of the fixed GFCF would have likely remained the same at the beginning of the year. Regarding consumption, the information available suggests that the private component surged while the public one probably expanded at a slower pace. The foreign-trade accounts have shown a mixed performance. While real exports have probably registered satisfactory increases, imports seem to have remained stagnant at a level similar to the one registered a year ago. In this regard, the forecast for GDP growth in the first quarter of 2018 assumes a positive contribution from foreign demand.

Several short-term indicators from the beginning of the year support the earlier predictions regarding consumption. For example, the index of total retail sales (excluding fuel) from the DANE Monthly Survey of Retail Trade (EMCM in Spanish) registered a 6.4% increase in February *vis-à-vis* the same month in 2017 (Graph 2.3). Based on that, the January-February two-month period grew 5.9%, a figure that contrasts significantly with the -3.0% for the fourth quarter last year. Deducting vehicle sales, the remaining aggregate expanded 3.9% (Graph 2.4). This also suggests that these types of sales performed better when compared to the results from the previous quarter (-0.5%).

As for vehicle sales, the EMCM index of these sales showed an annual increase of 12.2% in February and of 19.0% for the two-month period aggregate (Graph 2.5). These increases contrast the annual 15.9% fall reported during the fourth quarter of 2017. Note, however, that the poor performance of the previous quarter occurred, to a large degree, because of the high basis of comparison with the same period in 2016, when the 15th Automobile Exhibition was held in Bogotá.

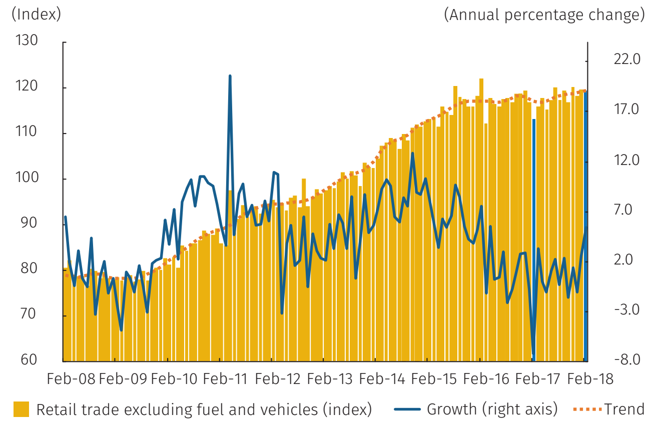
Other auxiliary indicators also make it possible to project a better performance of private consumption for the beginning of the year. The Consumer Confidence Index (CCI) published by *Fedesarrollo* reported improvements during the first

Graph 2.3
Monthly Survey of Retail Trade
(total retail trade excluding fuel, seasonally adjusted)



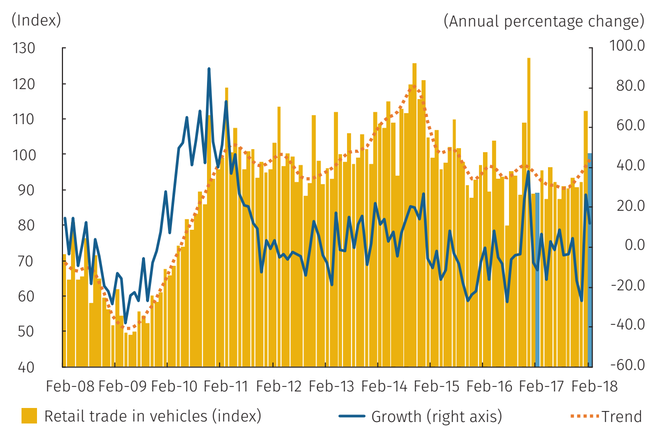
Source: DANE, calculations by *Banco de la República*.

Graph 2.4
Monthly Survey of Retail Trade
(total retail trade excluding fuel and automotive vehicles, seasonally adjusted))



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

Graph 2.5
Monthly Survey of Retail Trade
(retail trade in automotive vehicles, seasonally adjusted)



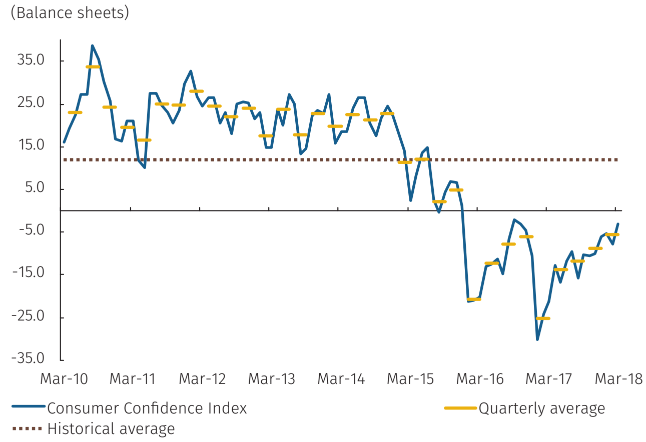
Source: DANE, calculations by *Banco de la República*.

three months of the year compared to the records from previous months. Specifically, the average for the aggregate of the first quarter was higher than the one for the fourth quarter in 2017 and for the average aggregate for last year. In spite of that, its level remains negative and below the average that has been calculated since November 2001 (Graph 2.6). Furthermore, note that the seasonally-adjusted balance of sales from *Banco de la República*'s *Monthly Survey of Economic Expectations* (EMEE in Spanish) suggests that the performance of household spending during January and February was positive. Added to this is the fact that the recent performance of the labor market has shown its resilience and its recent deterioration may not be translating into the behavior of private consumption yet (see the shaded portion on pgs. 41-42).

The growth estimate for gross fixed capital formation in the first quarter of 2018 includes the information on dollar-denominated imports published by DANE and DIAN (in both cases converted to constant pesos). The results of the official figures observed in January and February, together with the preliminary data from the DIAN as of March, make it possible to think that investment other than construction of buildings and public works had probably grown at a higher rate than towards the end of last year. This upswing is mostly due to the positive performance of machinery and equipment (Graph 2.7, panel A) since the records for transportation equipment would have declined because of the high basis for comparison with the same period last year (Graph 2.7, panel B).

Within domestic demand, the aggregate with the least favorable performance in the first quarter is still the investment in construction, specifically construction of buildings, for which a new downturn is anticipated. Activity in this subsector is probably still being affected by the reduced number of projects started in the second half of 2017, a situation that would not have changed much during the first few months of the year since the excess supply in the non-residential and high-income housing segment remain the same. In contrast, positive growth is expected in

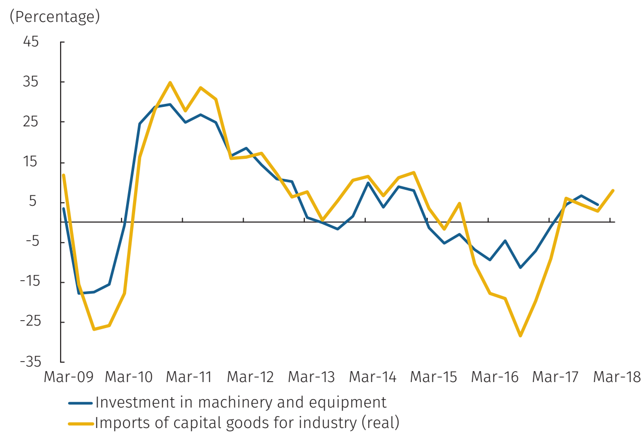
Graph 2.6
Consumer Confidence Index and Quarterly Average



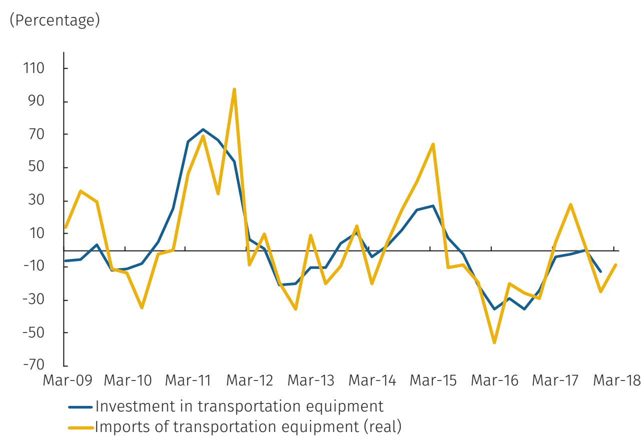
Source: Fedesarrollo.

Graph 2.7
Imports of Capital Goods (real) and GFCF in Machinery and Equipment, Transportation Equipment
(annual change)

A. Imports of Capital Goods for Industry and GFCF in Machinery and Equipment



B. Imports of transportation equipment and GFCF in transportation equipment

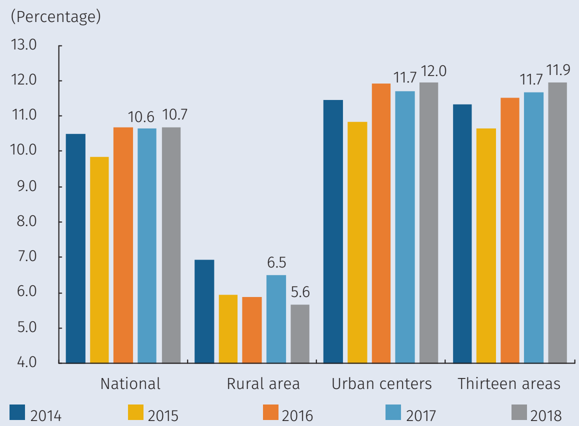


Note: The data from March correspond to a projection using the preliminary figures from DIAN; figures that were converted to real terms through the calculations done by *Banco de la República*.
Sources: DANE (foreign trade and National Accounts) and DIAN, calculations by *Banco de la República*.

Labor Market Performance during the first quarter of 2018

The unemployment rate (UR) continued to deteriorate in the first quarter of 2018. This is true for both the national total and for the thirteen major metropolitan areas *vis-à-vis* the same period in 2017 (Graph A). Nonetheless, examining the seasonally adjusted series (quarterly moving average), the deterioration compared to that at the end of 2017 was minor: the national UR stood at 9.5% on average between January and March and at 10.7% for the thirteen areas. These correspond to the same values registered between October and December of 2017 (Graph B).

Graph A
Unemployment Rate
(January - February - March quarterly moving average)



Source: DANE (GEIH).

The recent stability in the UR for the thirteen areas was due to a situation that is similar to the one in the employment rate (ER) and the overall participation rate (OPR) over the past few months (Graph C). However, during the past year, both the OPR and the ER have fallen significantly, although the latter has done so to a greater extent.

Graph B
Unemployment Rate
(seasonally adjusted quarterly moving average)

Source: DANE (GEIH).

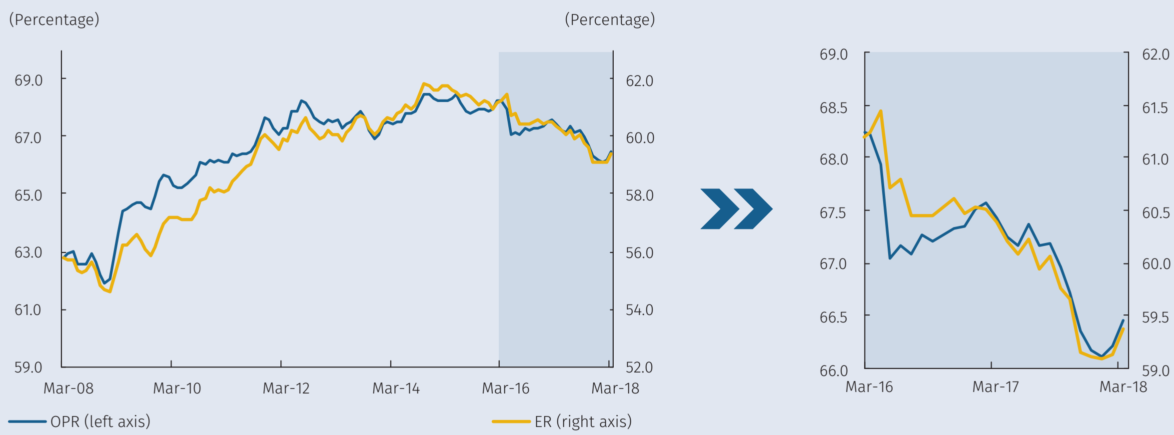
Regarding employment, the seasonally adjusted figures for the last few months indicate that, on the margin, the number of people employed has risen for the national aggregate while in the thirteen areas, employment remains stagnant. The increases in employment at the national level are primarily due to the recent activity in districts other than the thirteen areas. For the quarterly moving average ending in March, employment registered an annual 0.4% growth for the national total and a 0.3% reduction in the thirteen areas (Graph D, panels A and B). Even so, it should be noted that employment at the national level has grown very slowly since the first half of 2016.

The indicators of employment quality presented a slight deterioration in the thirteen areas during the first quarter of the year. The number of salaried workers declined marginally during this period, while the number of formal employees[1] 1 remained practically stable. During this same quarter, an increase in non-wage employment were registered. In annual terms, the rate of growth for wage-paying employment was 1.0% in the quarterly moving average which ended in March while the rate for non-salaried employment was -1.9% (Graph E). For the quarterly moving average ending in February, formal and informal employment registered annual reductions of 1.1% and 0.8% respectively (Graph F).

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

The moderation in the deterioration of the labor market conditions, especially at the national level, is consistent with the economic recovery projected for 2018. Nevertheless, employment in the thirteen areas remains weak and the UR continues to rise in this geographical domain. In spite of that, the better growth forecast for this year should contribute to better labor market indicators.

Graph C
Overall Participation Rate and Employment Rate
(thirteen areas, seasonally adjusted)

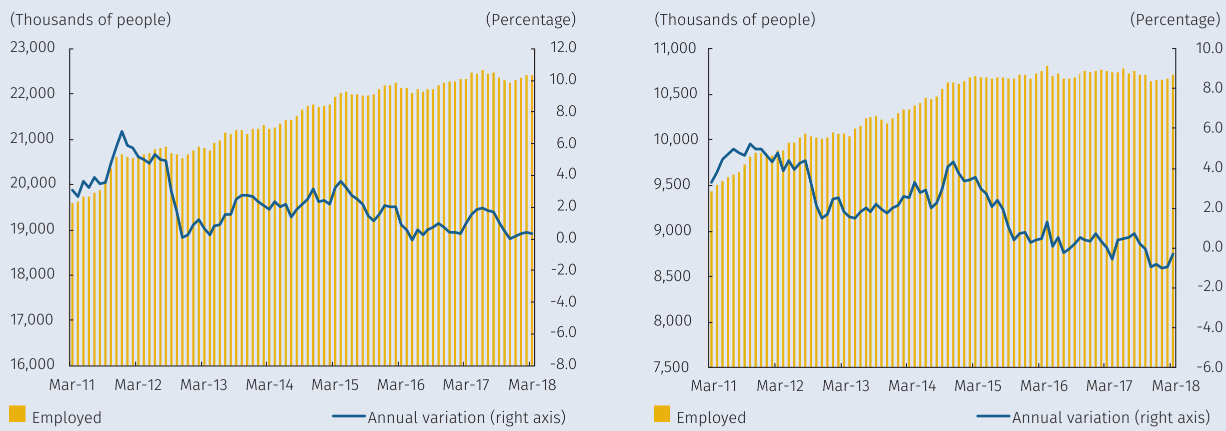


Source: DANE (GEIH).

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

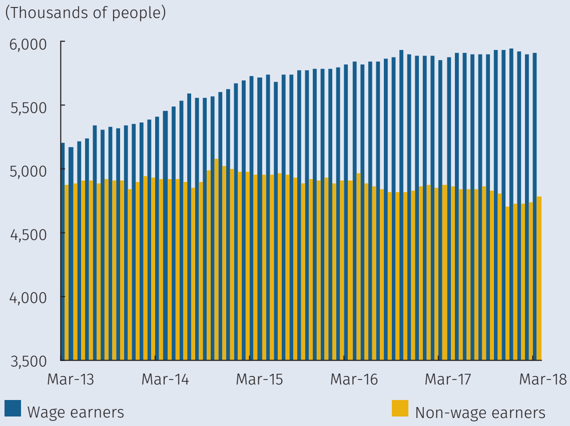
A. National Total

B. Thirteen Main Metropolitan Areas



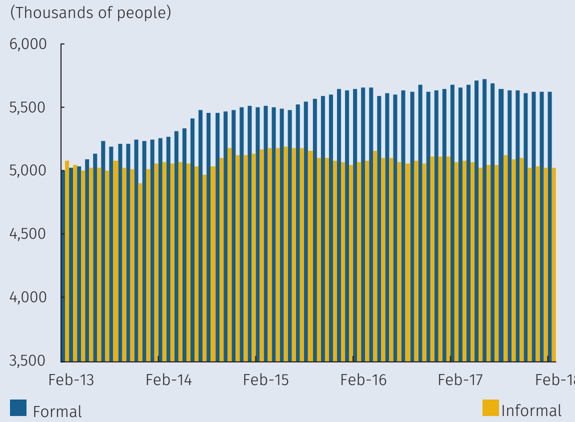
Source: DANE (GELH), calculations by *Banco de la República.*

Graph E
Employment by Type of Occupation
(thirteen areas, seasonally adjusted quarterly moving average)



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

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



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

public works, similar to what was registered in the previous quarter. This could be related to a positive level of implementation of resources for various infrastructure projects on the part of regional and local governments. Those for tertiary roads and for 4G highways could contribute, although albeit to a lesser extent.

Regarding the forecast for exports and imports, which is included in the calculation of GDP for the first quarter presented in this Report, it was obtained from the results of the figures on dollar-denominated foreign trade published by DANE, which are converted to real pesos while keeping in mind the various appropriate deflators. Based on this information, exports would have registered a positive growth rate at the beginning of the year not only with respect to mining exports (primarily coal and crude oil), but above all to exports of manufactured products and services, where a significant increase in line with the upswing and positive performance of foreign demand would have been observed. The stagnation of imports, in turn, could have been related primarily to the reduction in transportation equipment and durable goods. Thus, foreign demand will probably have contributed positively to the expansion of GDP during the first quarter.

By branches of activity, although the available indicators suggest that the performance of economic activity was uneven during the first quarter of 2018, the figures also point to a greater expansion of GDP than in the last quarter of 2017. The news about GDP for trade, restaurants, and hotels is favorable. The agricultural and manufacturing sectors exhibit mixed results. In contrast, an unsatisfactory performance for the mining industry is anticipated.

In the first case, the figures for retail sales described point to a surge in commercial activity at the beginning of the year. This situation should be reinforced by a significant growth in hotel and restaurant business, as suggested by the various tourism indicators.

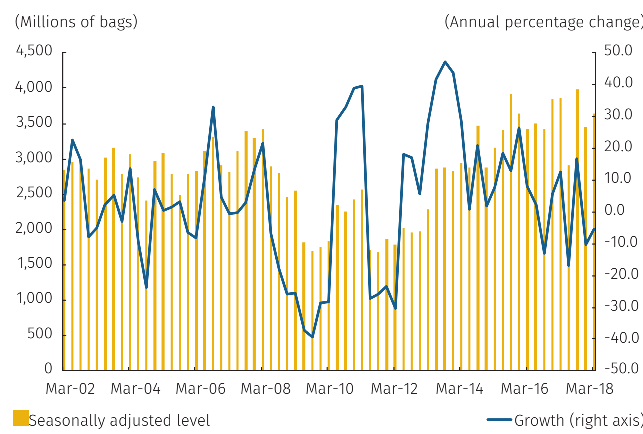
Regarding the agricultural sector, it is expected to continue its moderate growth in the first quarter of 2018. This is supported above all by the positive performance of the subsector of live animals and animal products, which have likely continued to grow at rates that are above its historical average. The performance of this sector may offset the poor performance expected in GDP for the coffee sector, since, according to the *Federación Nacional de Cafeteros* (National Federation of Coffee Growers), the production of coffee beans dropped 5.5% during this period partly due to the effects of the heavy winter rainfall at the end of the previous year. This downturn, however, did not represent a reduction in the seasonally adjusted production in quarterly terms (Graph 2.8).

The manufacturing industry, which showed decreases throughout a large part of 2017, has grown slowly in the first few months of 2018. According to the DANE Monthly Manufacturing Survey (EMM in Spanish), the sector total grew 1.5% in February. Excluding oil refining, the rest of the sector expanded 0.8%. In spite of that, the trend component for both series still reveals weak performance at the beginning of the year for this industry (Graph 2.9).

The *Fedesarrollo* Business Opinion Survey for the industrial sector also allows to predict a surge, although a moderate one, in this business. Based on information from January and February, additional improvements were seen in both the indicator of orders and in the one for production expectations three months ahead. Likewise, the inventory indicator (counter-cyclical) declined with respect to its value a quarter ago. In addition, the confidence of the business owners in the manufacturing sector improved during the first two months of the year.

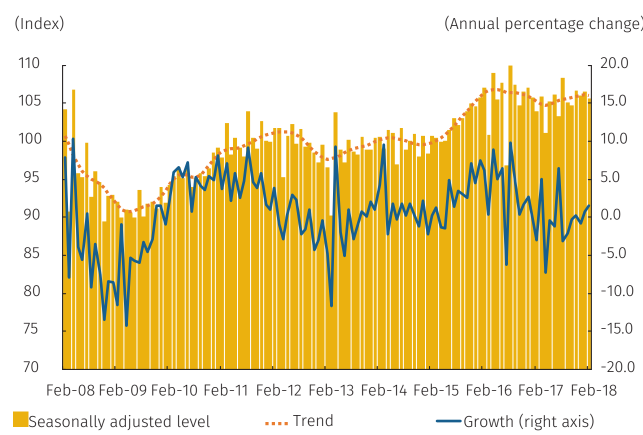
It should be noted that Easter Week was in March in 2018, while in 2017 it was in April. This means that March had fewer working days in 2018 than it did the previous year, and this can affect the annual growth figure for March. Thus, even though an upswing is expected in the annual growth of

Graph 2.8
Coffee Production
(quarterly and annual growth)



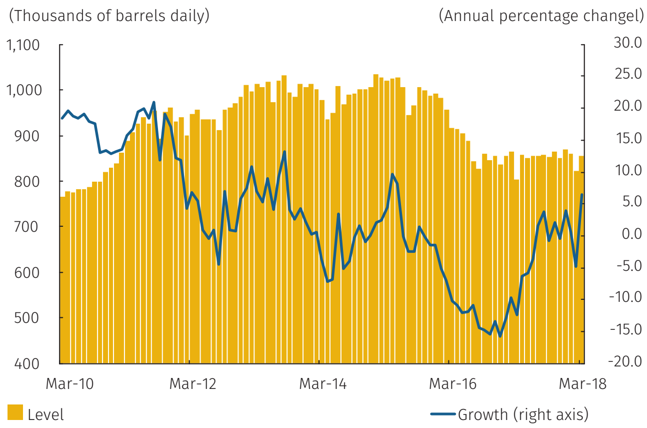
Source: Federación Nacional de Cafeteros (National Federation of Coffee Growers), calculations by *Banco de la República*.

Graph 2.9
Total Real Industrial Production
(seasonally adjusted, trend component, and annual growth)



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

Graph 2.10
Oil Production
(monthly and annual growth)



Source: Nacional Hydrocarbon Agency (ANH in Spanish), calculations by *Banco de la República.*

the sectoral GDP in the first quarter, this will probably be limited due to a still modest rate of expansion.

Regarding mining, a low expansion, similar to the one at the end of 2017, is expected for the first quarter based on the weak growth in the production of crude oil: 0.8% during the first quarter of the year. In fact, that production presented a significant setback in quarterly terms due to the fact that it was 846.6 million barrels per day (mbd) compared to 861.7 mbd in the last quarter of 2017 (Graph 2.10). This largely due to the law and order problems that affected the functioning of the pipelines, especially during February.

Moreover, the transportation sector is still being affected by the consequences of the labor strike in the airline industry during the second half of 2017. Based on data from Civil Aeronautics, the total number of passengers traveling by air decreased 0.4% during the January-February two-month period *vis-à-vis* the same period in 2017, especially due to the 4.4% drop in domestic passengers. The number of international passengers, in contrast, grew significantly (7.4%). This points to a rising tourism business and should also have had a positive impact on the performance of other sectors such as the hotel industry.

The technical staff estimates that GDP growth in the first quarter will probably have been between 1.8% and 2.8%, with 2.3% as the most likely figure.

Regarding construction, the available information does not allow us to expect much from this sector as a whole. In the first two-month period, production and shipments of cement decreased 3.3% and 2.8% respectively. These declines were -1.7% and -0.6% during the last quarter of 2017. Furthermore, construction licenses presented an annual 12.0% decrease in February. The result so far this year is a 3.6% decline, which implies, however, an improvement in comparison to a quarter earlier (-17.2%). Finally, the statistics for concrete show that the deterioration in the production of this material for buildings persisted at the start of 2018.

Based on the above figures, the technical staff estimates that GDP growth for the first quarter of 2018 will probably stand between 1.8% and 2.8%, with 2.3% as the most likely figure. The scope of the forecast range is consistent with the uncertainty related to the performance of consumption by the government and by the public works projects as well as to the different balance of payments scenarios. Note that, at this time, the projections are facing a significant margin of error since, over the next few months, DANE will be thoroughly revising the historical series of GDP and the weight of its various components in accordance with a new base for the national accounts.

03

Recent Developments in Inflation

Annual consumer inflation showed a significant decline in the first quarter of 2018, and stood close to the long-term inflation target (3.0%).

Core inflation also fell significantly in this period.

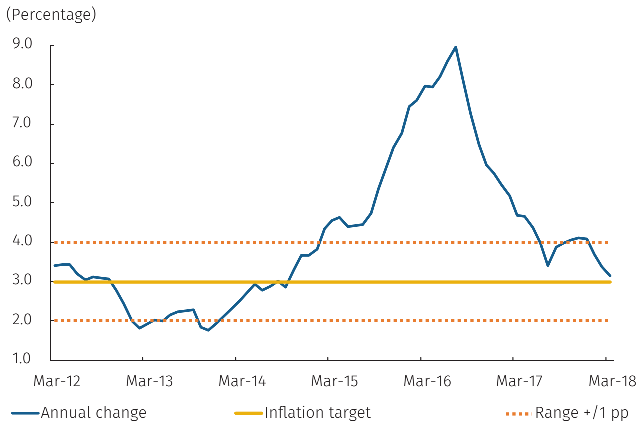
The positive performance of annual inflation during these months is explained partly by the disappearance of the shock associated with the increase in indirect taxes at the beginning of last year and by a food supply that is still wide.

Nevertheless, other factors that limited price increases at the beginning were the appreciation of the peso and the still weak domestic demand.

Annual consumer inflation exhibited a substantial decline during the first quarter of 2018 and stood at 3.14% in March, which is the lowest level since September 2014. Thus, inflation reverted to the range of 2.0% to 4.0% and is very close to the long-term inflation target of 3.0% established by the BDBR (Graph 3.1 and Table 3.1). Although a fall in annual inflation was anticipated in the previous reports for the first few months of this year, the results for March were significantly lower than expected.

The convergence of inflation with the long-term target should help to anchor expectations and reduce the inflationary inertia. These two variables tended to

Graph 3.1
Consumer Price Index



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

rise in the previous years when inflation significantly surpassed its target. Some lower expectations and more limited inertia should facilitate the conduct of monetary policy in the future.

Several factors account for the significant reduction in annual inflation during the first three months, many of which were identified in previous reports. Perhaps the most important one had to do with the disappearance of the effect caused by the increase in the value added tax (VAT) and other indirect taxes that were levied at the beginning of last year when the recent tax reform went into effect. This effect, which was transitory in nature, was calculated to be about 50 to 60 bp above annual inflation at that time.

Another important factor which has exerted downward pressure on inflation has been the appreciation of the peso since mid-2016. In this case, the downward pressure has been manifested, above all, in the prices for tradable goods and services as was expected, and has made it possible to counteract the upward pressure from the increases in the international price of oil and other imported raw materials.

Table 3.1
Indicators of Consumer Inflation
(as of March 2018)

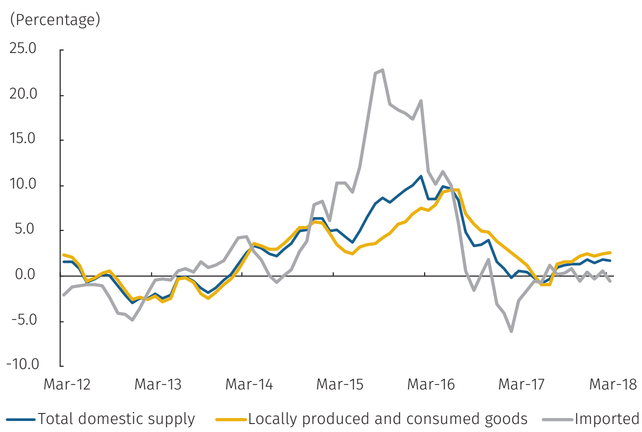
Description	Weight	Mar-17	Jun-17	Sep-17	Dec-17	Ene-18	Feb-18	Mar-18
Total	100.00	4.69	3.99	3.97	4.09	3.68	3.37	3.14
Excluding food	71.79	5.13	5.12	4.71	5.01	4.61	4.40	4.05
Tradables	26.00	5.59	4.41	3.41	3.79	3.16	2.50	1.80
Non-tradables	30.52	5.33	5.21	5.21	5.49	5.37	4.95	4.76
Regulated items	15.26	4.05	6.01	5.68	5.86	5.27	6.14	6.01
Food	28.21	3.65	1.37	2.22	1.92	1.49	0.94	0.98
Perishables	3.88	-13.09	-14.72	-0.32	5.84	6.50	5.86	7.13
Processed food		6.28	3.29	0.84	-0.91	-1.27	-1.81	-2.01
Eating out	8.07	8.94	7.62	6.01	5.21	4.05	3.51	3.32
Core Inflation Indicators								
Excluding food		5.13	5.12	4.71	5.01	4.61	4.40	4.05
Core 20		6.01	5.31	4.87	4.87	4.72	4.27	4.04
CPI excluding perishable food, fuel, & utilities		5.61	5.07	4.31	4.02	3.68	3.26	2.99
Inflation excluding food and regulated items		5.44	4.87	4.44	4.76	4.42	3.91	3.49
Average of all indicators		5.55	5.09	4.58	4.66	4.36	3.96	3.64

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

Added to the previous factors is the weakness of demand and the persistence of excess production capacity, which may have continued to limit the increase of a substantial range of prices including those for the group of non-tradables. This could have occurred in spite of a surge in the growth rate forecast for aggregate demand and the GDP at the beginning of this year, as discussed in Chapter 2 of this report. This will probably remain modest compared to the country's growth potential.

The performance of agricultural supply was favorable for this time of year, which has enabled the prices for perishable food to rise moderately. Some very good climate conditions, the weakness of demand, and the appreciation of the peso have probably contributed to keeping food price inflation very low, as will be explained below.

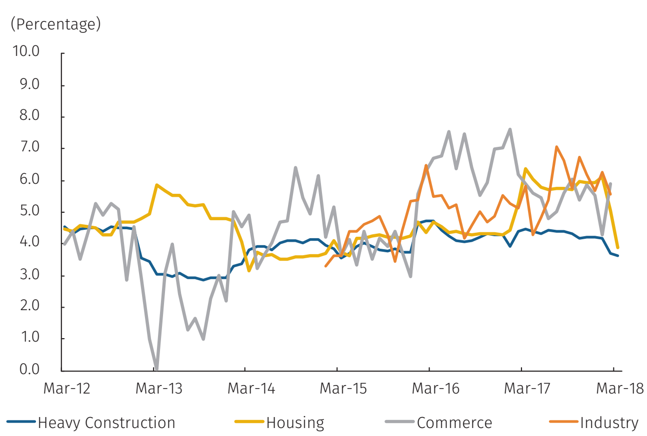
Graph 3.2
PPI by Origin
(annual change)



Source: DANE.

Non-labor costs have also generated limited inflationary pressure. This is evident from the performance of the producer price index (PPI) for domestic supply (PPI for imports plus PPI for domestically produced and consumed goods), for which the annual change in March continued to be very low (1.65% compared to 1.85% in December 2017) (Graph3.2). This was primarily due to the performance of the PPI for imports, for which the annual variation in March was negative (-0.56%) and below the one in December (0.38%) largely because of the appreciation of the peso. The segment of local producer prices tended to increase between December (2.50%) and March (2.61%).

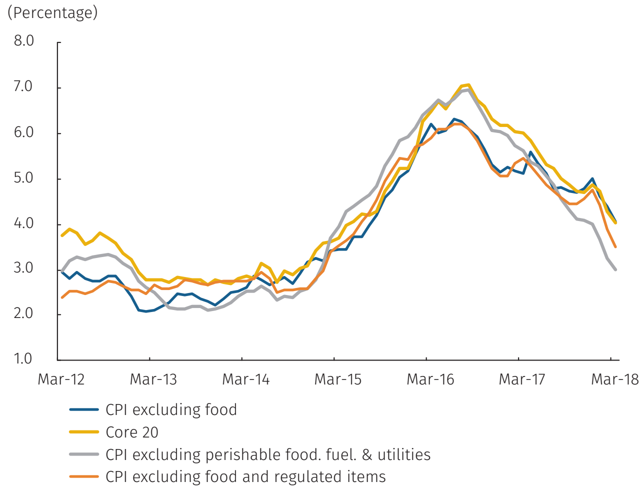
Graph 3.3
Nominal Wages
(annual change)



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

Labor costs continued to show a mixed performance and have been adjusting at rates above the inflation target so far this year. The annual change in salaries in the commercial sector increased between December (5.5%) and February (5.9%), while those in the industrial area (5.6%) did not exhibit any significant changes during the same period. Salary adjustments in March for housing construction (3.9%), in turn, fell with respect to December (5.9%) as did the ones for heavy construction, which went from 4.20% in December to 3.64% in March. Given the current slackness in the labor market, no upward pressure on salaries is expected in the coming months (Graph 3.3).

Graph 3.4
Core Inflation Indicators
(annual change)



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

3.1 Core Inflation

Core inflation also declined significantly in the first quarter of 2018 and to a degree that was greater than what had been expected in the previous Inflation Report. Thus, core inflation resumed the downward trajectory it had been on since mid-2016 and which was interrupted briefly at the end of last year due to some transitory supply shocks and increases in the prices of regulated items.

The average for the four indicators regularly monitored by *Banco de la República* stood at 3.64% in March, which is close to 1 pp less than the one registered in December 2017 (Table 3.1). It should be noted that this average has not been below 4.0% since May 2015.

Analyzing the various indicators, there are several facts to highlight (Graph 3.4). The first is that the CPI excluding staples, fuel, and utilities, which had been falling without interruption since September 2016, stood at 2.99% in March (practically at the long-term target, 3.0%). The second is that the rest of the indicators rebounded at the end of last year, but have been falling without interruption so far this year with the CPI excluding food and regulated items declining the most between December (4.76%) and March (3.49%). The third fact is that only two core inflation indicators are still close to the 4.0% boundary: the CPI excluding food (4.05%) and Core 20 (4.04%).

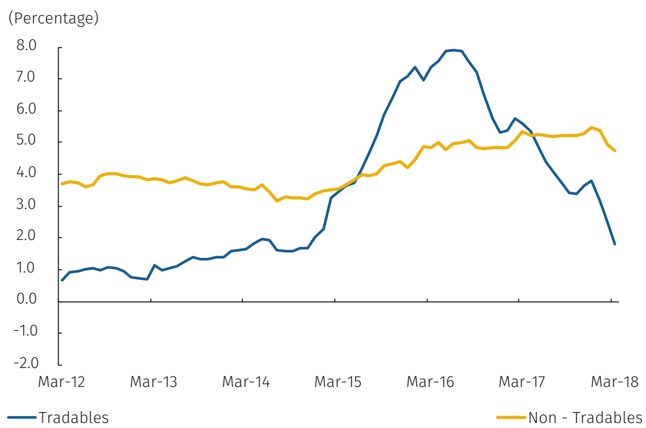
The decrease in all of the core inflation indicators during the first quarter of this year is closely related to the weak demand. This has been discouraging price adjustments through the recent appreciation of the exchange rate, which, in turn, reduces production costs as suggested by the low level of producer inflation (1.65%) and the disappearance of the upward shock caused by the increase in indirect taxes at the beginning of 2017.

Regarding the CPI excluding food, its decline so far this year has been driven by the tradable component and, to a lesser extent, by the non-tradable one. The CPI for regulated prices is the only sub-basket that generated upward pressure during this period.

The CPI for tradable items (excluding food and regulated items) was significantly reduced and by a larger proportion than was anticipated between December (3.79%) and March (1.80%) (Table 3.1, Graph 3.5). A very important factor that explains this trend is the disappearance of the effect of the increase in the VAT and other indirect taxes, since this sub-basket was the most affected by the tax reform which went into effect last year. This reform is estimated to have temporarily had an upward impact on the annual change of the CPI for tradable goods (excluding food and regulated items) that was somewhat more than 100 bp (assuming the absence of other pressures). This effect had, in large part, been diluted at the beginning of 2018. A second factor has been the recent appreciation of the peso against the US dollar. The relative stability of the exchange rate during the second half of last year made it possible to anticipate limited pressures on the prices for tradable goods at the beginning of this year with a decline in the annual change in the corresponding CPI. However, the appreciation seen in the first quarter may have reinforced this trend. Finally, the weakness of domestic demand would have also played a role in the slower pace of the adjustment of these prices.

Another significant decline, although smaller in magnitude and more in line with expectations was the one in the annual change in the CPI for non-tradable goods: from 5.49% in December to 4.76% in March. These changes took place after a period of great stability in the trend of this indicator at levels that were somewhat higher than 5.0% throughout almost the entirety of 2017, which still indicated relatively high indexation and inflationary inertia. So far in 2018, these two factors are still present as suggested by the high adjustments that persist in areas such as education and health (which are incorporated within the group of "indexed," with 6.10% in March compared to 6.96% in December) (Table 3.1, Graph 3.5). Nevertheless, they may have begun to weaken a little helped by the decline in headline inflation and the limited demand pressure as suggested by the decrease in the adjustments to rentals (from 4.28% to 3.91% between December and March), which is the sharpest one in many quarters.

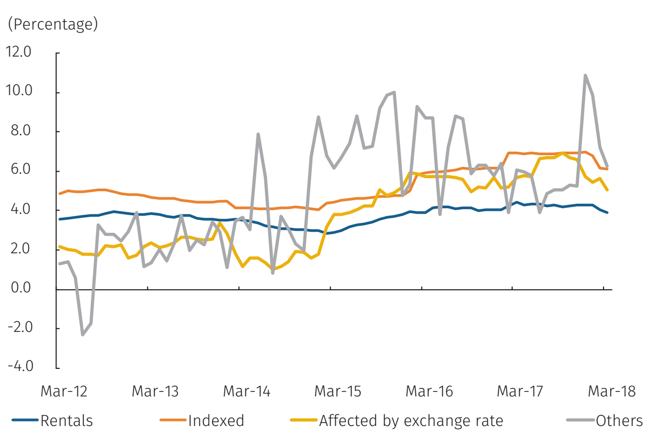
Graph 3.5
CPI for Tradable and Non-tradable Goods, Excluding Food and Regulated Items (annual change)



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

The fall in the annual change in non-tradable items during these months was also made possible by the reversal of the shock to indirect taxes, although the contribution of this factor to this sub-basket was more limited than in the case of tradable goods. In addition, as was expected, a substantial part of the upward shock at the end of last year associated with the increases in the prices for soccer tickets reversed. The latter was reflected in the decline of the annual variation of the group called "remainder" within non-tradable goods (Graph 3.6).

Graph 3.6
CPI for Non-tradable Goods, Excluding Food and Regulated Items (Annual change)

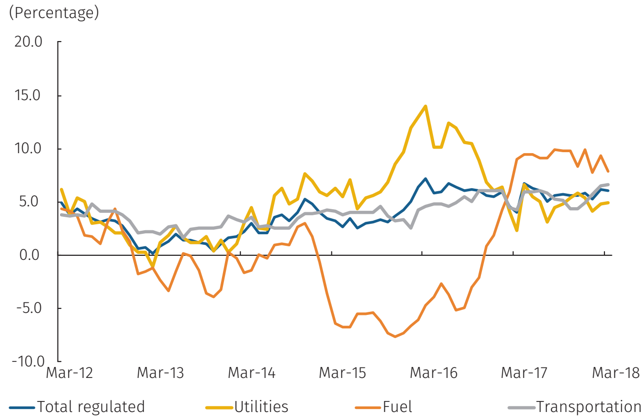


Source: DANE, calculations by *Banco de la República*.

Nonetheless, the close to 6.0% increase in the minimum wage for this year may have also induced high adjustments in non-tradable services such as education and health, etc. with respect to the target. The appreciation, in turn, also exerted some downward pressure on this sub-basket (Figure 3.6).

Unlike what happened with the tradable and non-tradable components of the CPI (excluding food), the adjustment of the group of regulated prices rose as was expected during the first quarter (from 5.86% in December to 6.01% in March). This increase continued to be seen in the midst of the high volatility in the different prices that this basket is made up of and which makes it difficult to forecast and identify the causes and trends (Table 3.1 and Graph 3.7).

Graph 3.7
CPI for Regulated Items and Their Components
(Annual change)



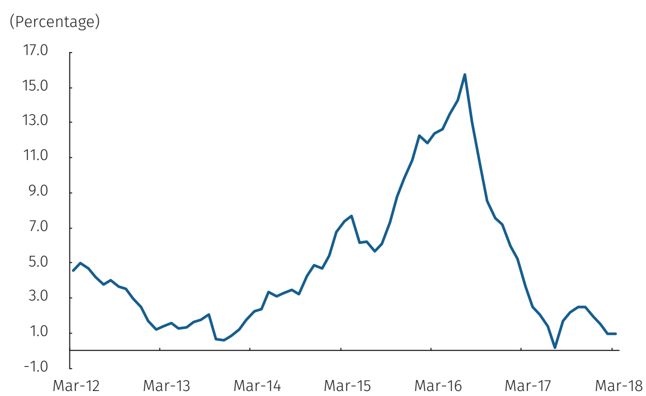
Source: DANE, calculations by *Banco de la República*.

At this time, the increase in the annual change in the CPI for regulated prices was concentrated in the segment of urban transportation services (from 4.92% in December to 6.63% in March). A major part of this upturn is a result of the adjustment in the mass transportation fees in Bogotá (*Transmilenio* and SITP) starting in February. The annual adjustment for fuel, in turn, decreased, going from 9.94% in December to 7.86% in March. This can be attributed to the appreciation of the peso that could have been offsetting the increase in the international prices for fuel in recent quarters. Added to that is the disappearance of the upward effect of the green tax on carbon (135 pesos per gallon of gasoline), which was put into effect at the beginning of last year once the most recent tax reform was approved.

3.2 Food Price Inflation

Contrasting the expectations, annual food price inflation continued to decline in the first few months and stood at 0.98% in March compared to 1.92% the previous quarter (Table 3.1 and Graph 3.8). Thus, the indicator returned to the declining trend it had been on for more than seven quarters, but that had been interrupted between July and November 2017 by the effect of a low basis of statistical comparison rather than a shortage in food supply.

Graph 3.8
CPI for Food
(annual change)

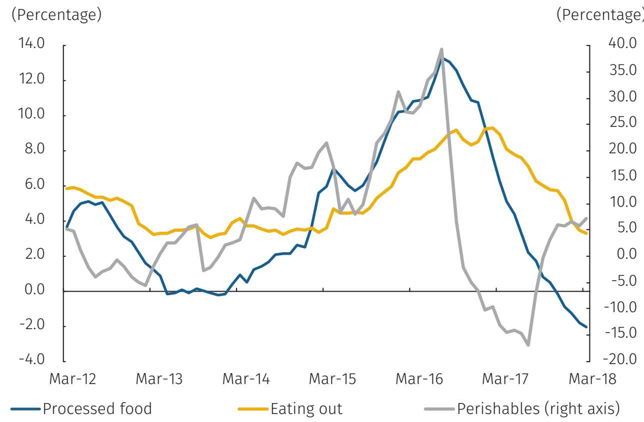


Source: DANE, calculations by *Banco de la República*.

As was stated in the previous reports, the declining trend in this indicator that was seen until the middle of last year was a response to the recovery of the production of food staples and other semi-processed food after the climatic shocks caused by *El Niño*. This has enabled a high availability of these products in the country's supply centers, a fact that may not have been fully incorporated into the models of the technical staff at *Banco de la República* and of the market. The fall of the annual variation in these prices has been underestimated. However, in the last few months, a factor such as the appreciation of the peso is also exerting downward pressure on the prices of processed and imported food that goes beyond what was expected. The appreciation may be offsetting the increase in some of the prices of imported agricultural products or raw materials.

Because of that, the downward trend of the subgroups of processed food for which the annual change became even more negative between December (-0.91%) and March (-2.01%) stood out during the first quarter. The annual adjustments for eating outside the home have also been contributing to the lower food price inflation as it went from 5.21% in December to 3.32% in March. This correlates with the lower pressure on costs although the role that the weakness of domestic demand may have played cannot be ruled out (Graph 3.9).

Graph 3.9
CPI for Food by Groups
(annual change)



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

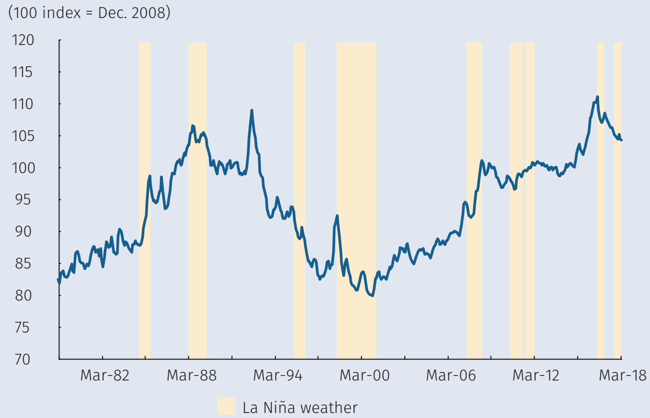
The only food group that has put upward pressure on annual inflation in the last three months was the one of perishables. Annual growth of this item has been rising slowly since the middle of last year, although this trend became stronger in March (7.13%). This upward pressure is explained particularly by a very low statistical basis of comparison at the beginning of 2017 and increases in some prices.

Despite the latter, the prices for perishables and other food groups remain low in relative terms since there is still an ample supply, as has already been noted (see Box 2, pg. 53). The agricultural supply has also been driven by a low intensity *La Niña* weather that has increased the rainfall right in the middle of the dry season at the beginning of the year over a large part of the national territory. The current climate cycle has already started to weaken due to which, normal weather and atmospheric conditions are expected starting in the second quarter of this year based on the most recent reports from the major meteorological agencies in the world.

Box 2
The Recent Drop in Food Prices

Edgar Caicedo García
Isleny J. Carranza Amórtegui*

Graph B2.1
CPI for Food
(relative to the CPI excluding food)



Sources: DANE and National Oceanic and Atmospheric Administration (NOAA), authors' calculations.

As of March 2018, annual inflation (3.14%) was approaching the long-term inflation target established by the Board of Directors at *Banco de la República* (3.0%). News as remarkable as this had not been seen since September 2014 (2.86%). After this date, an upward trend in the relative prices of food began. This trend lasted until July 2016 (Graph B2.1), the same month in which the annual food-price inflation (15.71%) and headline inflation (8.96%) reached their highest recent records. This inflationary upswing was especially attributed to the latest *El Niño*. Based on the NOAA's historical information, this phenomenon, which was the longest in history, lasted from November 2014 to May 2016.[1]1 Once this weather disturbance was over, two new unexpected shocks emerged and ended up pounding the already battered food supply: the truckers' strike and the strike in the agricultural sector, both of which lasted until mid-July 2016.

In addition to the above, food prices also rebounded due to the nominal peso-dollar exchange rate, which accumulated a 59.49% depreciation between mid-2014 and July 2016 and affected, in particular, processed food (mostly tradable goods).

Once these various inflationary shocks—which had a damaging effect on the entire CPI spectrum of the food sector—were overcome in mid-2016, a downward trend in the annual food price inflation began. This inflation dropped to a level close to 0% in July last year and then reached a level close to 1.0% at the end of the first quarter of this year. The relative prices of food, in turn, have been falling since the third quarter of 2016 (Graph B2.1). An effort will be made in what follows to shed light on the reasons behind this, introducing historical evidence to determine if there is still some room for the relative prices of food to continue falling.

1. Weather factors and productive expansion

Institutional policies such as the replacement of illicit crops and the expansion of the productive area, supported by the private sector, have increased the food supply over the last two years. This was also favored by the latest abnormal rainfall. Indeed, the stylized facts show that the *La Niña* weather (higher level of rainfall) favors, on average, a greater level of agricultural production by increasing the crop yield. In this respect, the latest *La Niña* weather, which began last October, is also contributing to an expansion of the availability of products from the primary sector, which has led to a downward trend in food prices for both producers and consumers (Graph B2.1).

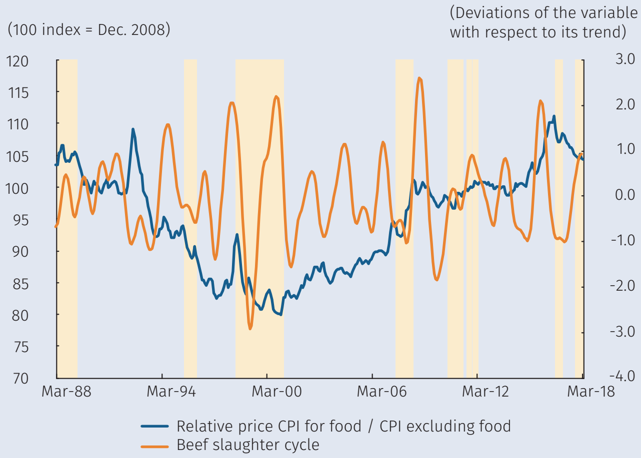
In addition, the production of beef and milk has been encouraged by the increase in the level of rainfall throughout almost the entirety of the national territory for six months now. This has been enhancing the current upward phase in the beef processing cycle, which has been characterized by increased slaughter of cattle (supply) with a decrease in the prices of meat (Graph B2.2).[2]2 Reflecting the above, the relative price of beef has fallen 9.33% since July 2016.

* The authors are, as follows, a specialized professional and an intern at the Department of Macroeconomic Programming and Inflation. The opinions expressed and the results presented are not binding on *Banco de la República* nor its Board of Directors.

1 See: http://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php. The United States National Oceanographic and Atmospheric Administration (NOAA). This climate condition has been the most extensive one together with the *El Niño* episode that spanned the period between August 1986 and February 1988.

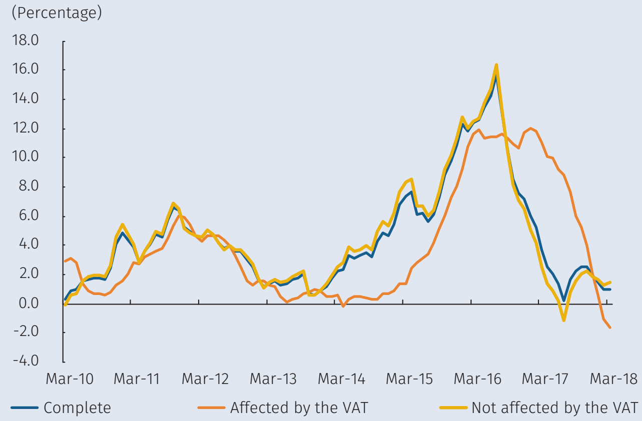
2 The price list published by the Medellín Livestock Fair as of 2016 was taken as the base for the price series. Since 2017, these prices have changed along with the PPI for cattle.

Graph B2.2
Beef slaughter cycle



Sources: DANE and National Oceanic and Atmospheric Administration (NOAA), authors' calculations.

Graph B2.3
Annual Change in the CPI for Food



Sources: DANE and the Ministry of the Treasury and Public Credit, authors' calculations.

2. Other domestic factors

Several internal events have been favored by more moderate adjustments in the prices of food for several quarters. The first one is that the GDP has been growing below its potential and with a clear weakness in demand for almost two years. The effect of this has been to restrict additional increases, especially regarding eating out and for some processed foods (see Chapter 4 of this Report). The second internal factor has to do with the continuous decline of inflation over the last three years. This has anchored inflation expectations at increasingly lower levels and has made a lower level of indexation possible, thus enabling smaller adjustments in the prices of those foods that show certain inflationary inertia such as eating out. This went from 9.31% in February 2017 to 3.32% in March 2018. It should be noted that the annual adjustments of these prices only began to recede after the additional increase that the latest tax reform (Act 1819/December 29, 2016)[3]3 levied on some food prices.

Moreover, the prices of eating-out were indirectly driven by the rise in the value of some groceries when the increase in indirect taxes went into effect with this reform. As shown in Graph B2.3, the inflation of food items affected by the VAT tax increase has been falling more sharply than that of the rest of the food items over the last quarter as a consequence of the base effect of statistical comparison caused by the tax reform going into effect at the beginning of 2017.

Last of all, non-labor costs[4]4 have, to some extent, been a reduction factor in setting producer prices in the agricultural sector since the end of 2015, as can be seen in Graph B2.4. As in the case of non-labor costs, marketing margins[5]5 have played a contractionary role in the relative prices of food. This narrowing of the gap between food prices for producers and those charged to consumers has been ongoing since the beginning of 2017, as shown in Graph B2.4.

3. External factors

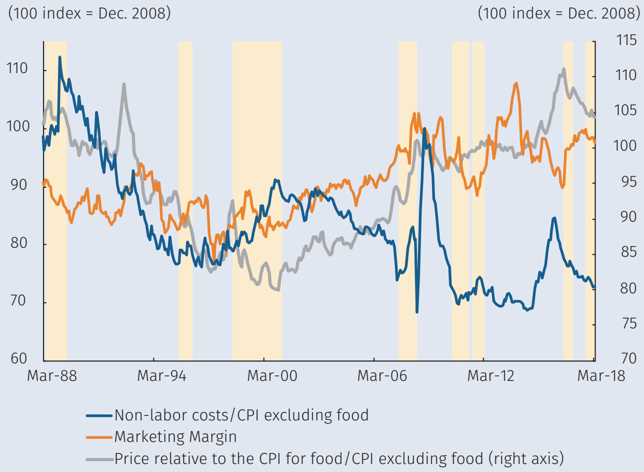
During the last few months, several external shocks have caused a slowdown in the level of food price inflation as well as a decline in their relative prices. For one thing, since July 2016, the performance of the nominal exchange rate of the peso with respect to the US dollar has maintained a downward trend to the point that its average reached COP 2,852.6 in March 2018, the lowest value that has been registered since July 2015. As a result, the index of the exchange rate in pesos relative to the CPI excluding food has been dropping for more than two years (Graph B2.5). The dollar lost value with respect to other currencies during that period in response to the uncertainty about the economic policies of the United States government and, more recently, to the upward trend in the price of crude oil. Likewise, the relative price of international prices in pesos has driven the relative prices of food into a downward trend, as can be seen in Graph B2.5. However, this trend could reach an end in the coming months given

3 Among the most important innovations introduced through the tax reform are the following: the increase in the rate of the value-added tax on goods and services from 16% to 19%; the creation of a national tax on carbon emissions; and the modifications in the tax on gasoline, ACPM, and tobacco.

4 The proxy of non-labor costs was calculated as a weighted average between the PPI of domestic availability of agricultural supplies (fertilizers and pesticides, insecticides, fungicides, herbicides, and disinfectants) and that of agricultural machinery.

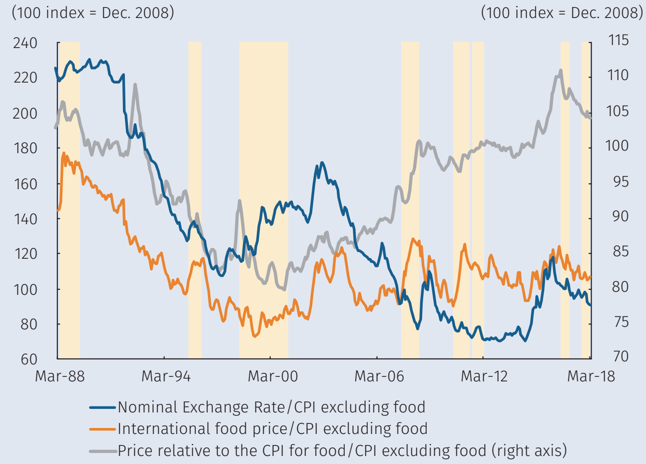
5 The marketing margins correspond to the ratio between the CPI for agricultural products and the PPI of the livestock sector (domestic supply).

Graph B2.4
Marketing Margin and Non-labor Costs
(relative to the CPI excluding food)



Sources: DANE and National Oceanic and Atmospheric Administration (NOAA), authors' calculations.

Graph B2.5
International Food Price Index and the Nominal Exchange Rate Index
(relative to the CPI excluding food)



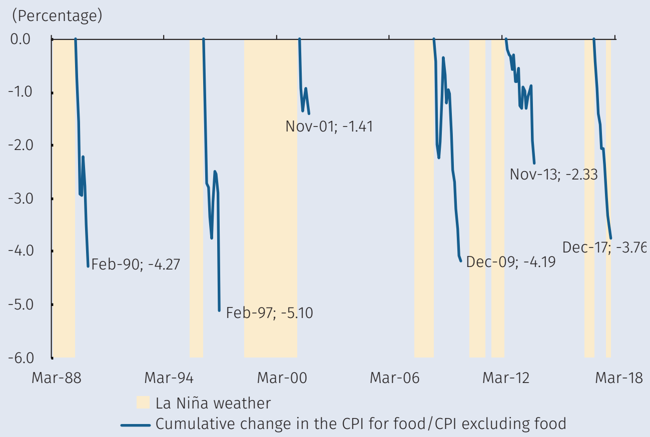
Sources: DANE (CPI), National Oceanic and Atmospheric Administration (NOAA), *Banco de la República* (TCN) and International Monetary Fund (IMF, authors' calculations.

that the international prices of food started to rebound at the beginning of this year due to increased demand generated by the positive performance of the global economy.[6]6

In conclusion, the decline in the relative prices of food since mid-2016 is the result of the interaction of multiple domestic and international factors including the weather and the economic cycle. With this in mind, future trends in the prices of food items rely on the assumptions about and forecasts regarding these variables. However, setting aside the above, a further reduction in the relative prices of food is still feasible given that these tend to decline as soon as *La Niña* weather event reaches its end, as illustrated in Graph B2.6. Evidence of this is that after the latest *La Niña*, the relative prices of food dropped 3.5%, on average.

Thus, it is possible that the relative prices of food will maintain their downward trend for a few more months once the current *La Niña*, which began in October last year, ceases, as expected at the close of the first quarter of this year. In addition, this declining trend in the relative prices of food could be stronger or weaker depending on future changes in the expansionary phase of the beef-slaughter cycle and the exchange rate.

Graph B2.6
Relative Price of Food after *La Niña*



Sources: DANE and National Oceanic and Atmospheric Administration (NOAA), authors' calculations.

6 See: World Bank, Commodity Markets Outlook, April 2018.

04 Medium Term Forecasts

For what remains of 2018 and for 2019 inflationary pressure should be limited and, therefore, inflation will probably remain close to 3.0%.

The baseline forecast for GDP growth in 2018 and the ceiling of the range remained at 2.7% and 3.5% respectively, but the most recent risk analysis made it possible for the technical staff to raise the floor to 2.0%

The rising outlook for growth is related to the behavior of international prices for crude oil and their direct and indirect effects on the Colombian economy. The downside risks, in turn, with a lower demand from abroad and more sluggish investment.

4.1 Economic Growth for 2018

In this Inflation Report, the technical staff at *Banco de la República* maintained the baseline forecast and the ceiling for the growth range for 2018 and revised the floor of the low forecast scenario upwards. Thus, for the current year, an annual 2.7% GDP growth is projected, with a few low and high expansion scenarios of 2.0% and 3.5% respectively (compared to the 1.5% and 3.5% in the last Report), which are consistent with the balance of payments scenarios presented in Chapter 1 of this Report. These projections suggest a slight upward bias associated with the recent performance of crude oil prices and the improvement of the conditions on the international scene. Furthermore, it also assumes that the Colombian economy has made significant progress in the adjustment required as a result of the shock to the terms of trade in 2014-2015, and consequently, domestic spending could be better in 2018 than it was in 2017.

As was mentioned in previous chapters, the technical staff anticipates a recovery of economic growth for our main trading partners in 2018 *vis-à-vis* 2017,

For 2018, a positive contribution of foreign demand to growth is expected.

especially due to more dynamic economies in the advanced countries, but also to a recovery of growth in much of Latin America, although on a smaller scale. This would make it possible to expect a positive contribution of foreign demand to output growth.

In a similar vein, international prices for the major raw materials exported by the country, especially oil, higher than what was observed in 2017 are projected, on average. Note that, despite the registered increases in the price of crude oil over the course of the first few months of the year, these are expected to be largely transitory and therefore, the forecast for the 2018 average (USD 65 per barrel) implies lower price levels in the coming months (for the rest of the year, it should be close to USD 64 per barrel, on average).

The higher prices for oil in 2018 compared to the average for 2017 imply not only an impetus for drilling and production work on the part of the main companies in the oil sector, but also a higher national disposable income, especially in the public sector. The combination of a better performance of foreign demand and recovery in the international prices for raw materials exported by Colombia could contribute positively to the performance of exports in US dollars and in constant pesos.

Better growth projections for the Colombian economy in 2018 also assume that the country will continue to have ample access to savings abroad throughout the year. Based on the forecasts for the balance of payments, a positive flow of capital into the country, which could finance an expansion of domestic demand, should continue this year. It should be noted that there are some risks associated with the normalization of the monetary policy stance in the advanced economies, which, in turn, could entail an increase in the cost of foreign loans.

The growth forecast for 2018 assumes an investment in public works similar to the one in 2017.

Regarding domestic fundamentals, public spending and investment in public works are expected to continue making a positive contribution to the expansion of GDP in 2018. In the first case, a growth figure somewhat lower than in 2017 is expected for NCG spending. This would be partially offset by an increase in the implementation of available resources on the part of the regional and local governments. Regarding public works, the forecast for GDP growth for this year assumes an expansion of this type of expenditure like the one seen in 2017. This result would be consistent with 1) increased spending on public works and infrastructure by the regional governments; 2) positive expectations for exploration and development work in the mining sector; and, to a lesser extent, 3) the planned investments in tertiary roads and other fourth-generation (4G) highways.

Likewise, the GDP for this year should be facilitated by the convergence of inflation with the 3.0% target as well as by recent monetary policy actions. Both of these factors will probably contribute to the real disposable income in the economy, and with it, to aggregate expenditure. It should be noted that, in this area, there are downside risks since the forecasts assume that the market interest rates will continue reacting to the movements accumulated to date of *Banco de la República*'s benchmark interest rate. Nevertheless, this transmission has been slow in the case of credit cards rates and consumer loans, which affects private consumption. Furthermore, the high levels of indebtedness of agents in the economy and the recent deterioration in quality indicators for the loan portfolio could act as constraints on an expansion of demand.

The actions of monetary policy should encourage the GDP this year.

With all of the above, the forecasts of economic growth in 2018 presented in this Report assume a surge in the expansion rate of domestic demand. This would mainly be a result of a recovery of gross capital formation. Specifically, and in addition to the already mentioned expansion of public works, greater growth in expenditures on industrial machinery is expected, while investment in transportation equipment will probably stop registering negative growth rates. In contrast, investment in construction of buildings is likely to continue reporting a mediocre performance associated with an excess supply in the building sector (commercial premises, offices, and high-income housing). This excess is expected to remain throughout the year, but will probably be surmounted slowly in the future as has happened in downward cycles for construction in the past.

The GDP forecast outlined here assumes that private consumption is likely to expand at a somewhat better rate than last year. When broken down by components, upswings in all categories will probably be observed. This would be particularly true in the case of consumption of durable and semi-durable goods.

Regarding the foreign trade accounts, sales abroad should be driven by the better performance of both commodities and the goods classified as non-traditional. Exports of services, particularly in the tourism sector, could also play an important role. Imports could also register positive growth rates due to a greater expansion of an intense domestic demand for goods and services from abroad.

From the sector standpoint, the recovery of domestic demand will probably facilitate the production of tradable and non-tradable goods and services at the same time, as stronger trading partners could make it possible to stimulate the tradable productive apparatus, and with it, the gradual adjustment process that the Colombian economy has been going through in recent years in response to the change in relative prices that started in mid-2014 may be consolidated. Additionally, the still competitive level of the real exchange rate for 2018 as a whole should also assist in this process.

In 2018, the production of tradable goods and services could be favored by the recovery of domestic demand.

The performance of the agricultural sector will probably be facilitated by better climatic conditions and higher international food prices.

Regarding agriculture, the forecasts by international agencies such as the National Oceanic and Atmospheric Administration (NOAA) point to better climatic conditions, which makes it possible to expect a favorable performance for the sector. Likewise, the forecasts for international food prices in 2018 indicate somewhat higher levels than those seen in 2017, which would also stimulate the cultivation of such products. The improvement in security conditions in the rural areas should contribute to this. However, the decline in relative domestic prices for food seen in 2017 will tend to discourage growing certain agricultural products and will reduce somewhat the expansion rate of GDP for this sector.

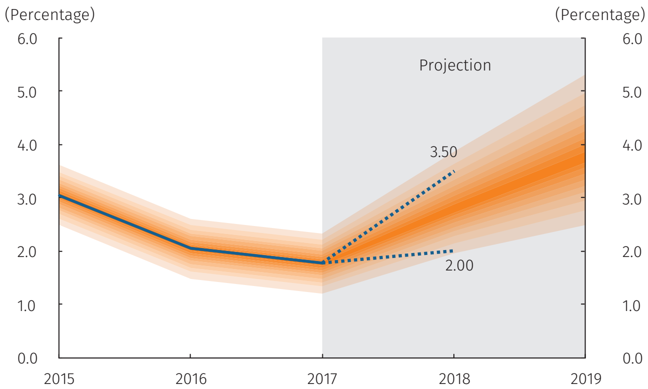
As for the GDP for mining, in turn, an expansion stimulated by the higher oil and coal prices is estimated for 2018 as a whole after two years in which production decreased as a result of the fall in their international prices. Due to that, flows into mining-energy investment are expected to grow in 2018, which will make it possible to anticipate a better performance for this type of investment compared to the previous year.

Regarding the manufacturing industry, a significant portion of the sub-groups that it is made up of are expected to recover in 2018 in line with the projections for better domestic demand and for demand by our trading partners who purchase industrial goods. All of that is likely to occur in a context in which the exchange rate may remain stable so that business owners are able to: 1) take advantage of elements of competitiveness with respect the foreign demand, and 2) plan and get access to imported capital goods and production supplies. Last of all, given the projected growth for the construction of public works which will continue to contribute to the expansion of the GDP for non-tradable items both this year and next, investment in public works for the mining industry is expected to play an important role in the build-up of this branch. This would result from the productive linkages that this item has with industry and other sectors such as transportation, which should also be favored in 2018.

The main sources of uncertainty about the baseline forecast for growth are related to the international situation and the performance of the public consumption.

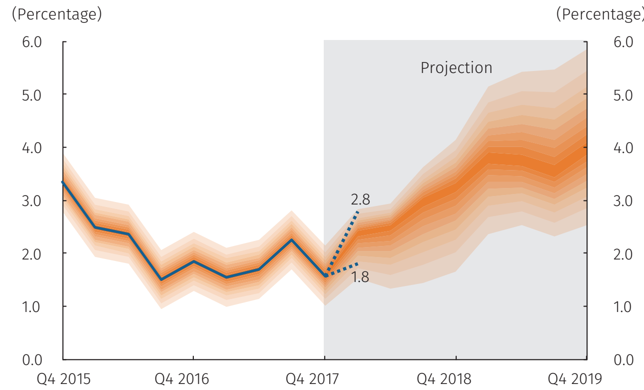
The central point and forecast range for GDP growth for 2018 (2.7%, between 2.0% and 3.5%) are within the fan chart of economic growth derived from the medium- and long-term models of the technical staff at *Banco de la República*. At this time, the breadth of the intervals remains high and, as can be seen in Graphs 4.1 and 4.2, the trends are slightly upward. The situation in the international context and the likely performance of public consumption and public works are the main sources of uncertainty about the central forecast. As can be seen in Table 4.1, the probability is nearly 52% that economic growth will be between 2.0% and 3.0% in 2018.

Graph 4.1
Fan Chart of the Probability Ranges for Annual GDP Growth



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

Graph 4.2
Fan Chart of Annual Growth of the Quarterly GDP



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

Table 4.1
Fan Chart of the Probability Ranges for Annual GDP Growth (percentage)

Range	2018	2019
<-1.0	0.00	0.00
-1.0 - 0.0	0.00	0.00
0.0 -1.0	0.01	0.02
1.0 - 2.0	4.84	1.05
2.0 - 3.0	52.27	13.75
3.0 - 4.0	39.00	41.23
> 4.0	3.87	43.95
Between 3 and 5	42.83	74.69
Between 2 and 4	91.28	54.98
Between 1.5 and 3	56.71	14.65

Source: calculations by *Banco de la República*.

The primary upward risks are related to some of the prices for oil and other raw materials that are higher than those considered in the baseline scenario. Regarding the prices for crude oil, if these prices manage to remain at levels close to USD 70 per barrel for a majority of the year, this could end up stimulating production and investment in this sector much more than was expected in the baseline forecast (USD65). Likewise, the effects that this behavior could have on national income and the treasury could stimulate domestic demand much more than envisioned.

The primary downward risks to growth are associated with greater sluggishness of global trade and its effects on worldwide demand arising from the recent changes in the trade policy of the United States and the responses of major participants such as China. Furthermore, public investment could be more sluggish than was contemplated in the baseline scenario, and this will depend on the efficiency in implementation, particularly with respect to the schedules for fourth generation public works. Something similar could occur in the trend of public consumption, which could be affected by the *Ley de Garantías* ("guarantee law") going into effect and by the forthcoming elections.

At this time, an additional factor for uncertainty is the one related to the publication of the new base for the national accounts by DANE.

Last of all, another factor for uncertainty, which is no less important, is the one related to the publication by DANE of the new base for the national accounts in the coming months. On previous occasions, these reviews have involved discrepancies in the values for the years that are close to the change of base in terms of the magnitudes of the yearly changes and of the participation of the components (branches of activity and type of expenditure). All of this may also involve changes in the projections published in the next quarter.

4.2 Inflation

The information available as of March suggests that the inflationary pressure continued to yield over the course of the year. According to the forecasts presented below, these pressures will be limited for the remainder of this year and into 2019, as a result of which, inflation, both headline and core inflation, should remain very close to the 3.0% target with a few minor fluctuations between the ending months of this year and the beginning ones of next year.

As was mentioned in Chapter 3 of this Report, during the first quarter, annual consumer inflation and core inflation performed better than expected. During these months, both indicators approached the 3.0% target faster than had been anticipated in the December 2017 Inflation Report, and the figures observed in March 2018 were significantly lower than projected.

Among the factors that explain this sharp decline, the appreciation of the peso, which exceeded the estimates used in the previous forecasts, and its rapid pass-through to consumer prices, especially to the ones for tradable goods stands out. Added to the above is the food supply, which is more ample than usual for this time of the year and is, perhaps, supported by optimal climatic conditions as well as by the appreciation of the peso, which translates into very moderate price increases. These circumstances reinforced the already significant decline that was expected as a result of the disappearance of the indirect tax shock and of the weak demand.

Inflation in the coming quarters will probably continue to be determined by limited pressure on the exchange rate and changes in the food prices.

Given the above, inflation in the next few quarters will continue to be determined by the limited pressure on the exchange rate (which, in fact, is lower than what had been anticipated a few months ago), and the changes in food prices from relatively low levels. As a result, the central forecasts for headline inflation and core inflation (excluding food and regulated items) declined with respect to what was included in the December 2017 Report.

The more limited depreciation of the peso is related to the revision of the forecast for the international price of oil given its recent performance, as was indicated in previous chapters. A higher average price for this year and next as is envisaged in the central trajectory of this Report gives greater stability to the exchange rate for the remainder of the year and 2019 based on the Bank's forecasting model and a lower depreciation for the average of these two years. In the baseline scenario, it is also assumed that the country continues to enjoy ample access to foreign financing, which is still cheap and which should not be disturbed by a gradual normalization of monetary policy in the United States and the euro zone. That should also contribute to the stability of the exchange rate.

As a result of the revision of the oil-price forecast, a lower depreciation of the peso is anticipated in this Report.

Under these conditions, the inflationary pressure caused by the exchange rate considered in this report will remain low and even below the ones that were identified in the December 2017 report. In the baseline forecast, the main effect of these minor pressures falls on the prices of tradable goods and services, which should register adjustments that are lower than expected. Furthermore, there could be an effect on the non-tradable component of the group of consumer goods via lower costs and prices for food and regulated items. In the first case, this would be due to the importance of imported food and, in the case of regulated items, it would be because of the influence that the behavior of the exchange rate has on the domestic price of fuel.

Regarding the latter, the upward pressure resulting from the higher international prices for crude oil used in the central trajectory are expected to be offset by the appreciation of the peso seen over the course of the year and by the stability anticipated going forward. In the current Report, the combination of these factors resulted in a decrease in the cost adjustments projected for the CPI for fuel for the rest of the year. That made it possible to reduce the forecast for regulated items as a whole, something that will also contribute to making inflation approach the target.

However, for the remainder of the year and into 2019, the annual change in the CPI for regulated prices will continue to surpass 3.0%, although it will maintain a gradual downward trend. That assumes that there will be some increases in electricity rates all over Colombia in the coming months on account of the new regulatory framework that modifies the fee for distribution of electricity.

Upward pressure is expected on headline inflation due to food prices.

Food prices, in turn, reached relatively low levels in the first quarter of the year for various reasons (see Box 2, pg. 53). In the current baseline forecast, changes in this situation are not envisioned in the second quarter due to the appreciation of the exchange rate in recent months and a relatively substantial supply in the case of some perishable foods. However, in line with the usual agricultural cycle, the low prices at present are expected to undermine the food supply, and this should bring about increases in these after the middle of the year.

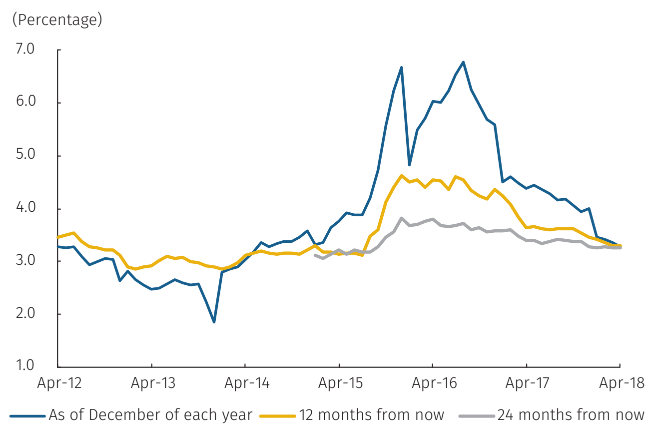
Thus, for the second half of the year and beginning of 2019, food prices will exert upward pressure on headline Inflation directly and on core inflation through a slight impact on expectations. Starting in the second or third quarter of 2018, the annual change in the food CPI should rise from the low levels reached in March to close the year at about 3.0% and surpass this level temporarily at the beginning of 2019. The trajectory in question is somewhat higher than the one in the December Report.

The rest of the factors that have been crucial for inflation in Colombia should continue to contribute to keeping this low and close to the 3.0% target over the next eight quarters. As for demand pressure, this will continue to be limited to the extent that the growth of the economy remains below its potential for the remainder of 2018 and during part of 2019. Throughout this period, the economy will continue to have spare capacity despite the projected recovery of growth.

Expectations, in turn, have continued to decline in line with the decrease in inflation. At the time this report was prepared, they were not much different from the target. This should contribute to synchronizing the price adjustments at around 3.0% in the coming months. Thus, the information gathered in *Banco de la República's* monthly survey of financial market agents at the beginning of April indicates that the expected medium- and long-term inflation is around or below 3.3%. Specifically, the inflation expected for December 2018 is at 3.27% compared to 3.47% from the survey at the beginning of January (Graph 4.3).

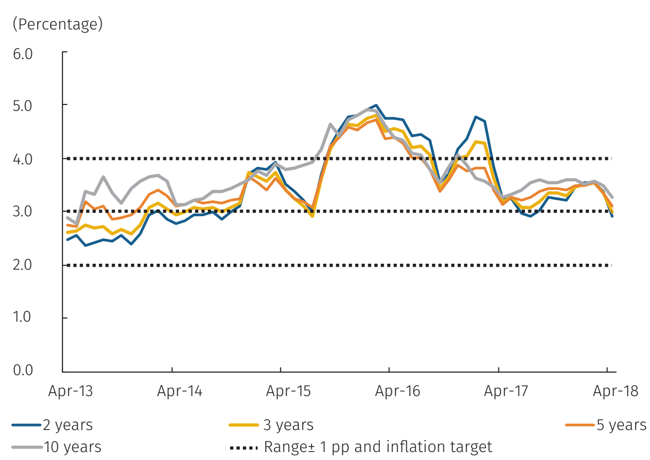
Something similar is suggested by the information obtained from the TES interest rates (break-even inflation) which notes that, in mid-April, inflation expectations at lengthy horizons (two, three, and five years) were at levels of 2.9%, 3.0%, and 3.1% respectively. Going into mid-January, these expectations slightly exceeded 3.5% (Graph 4.4). The Bank's quarterly survey of business owners, unions, and academics, in turn, which was done at the beginning of April, shows some inflation expectations that are somewhat below 3.6% twelve and twenty-four months ahead. This is close to 25 bp, a figure below what was obtained at the beginning of January (Graph 4.5).

Graph 4.3
Banks' and Stock Brokers' Forecasts of Annual Inflation



Source: *Banco de la República.*

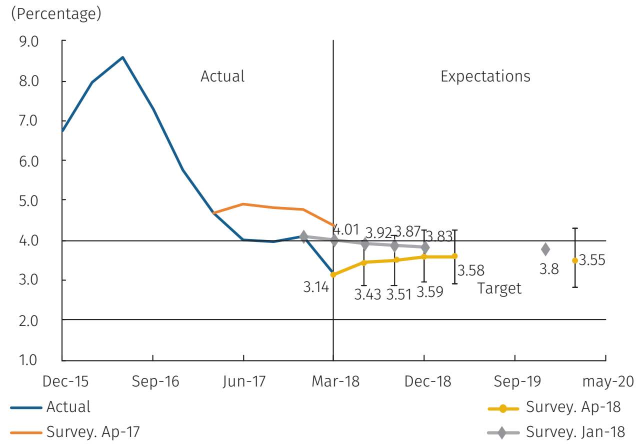
Graph 4.4
TES-derived Annual Inflation Expectations (two, three, five, and ten years from now)
(monthly average)[a/]



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

For the next few quarters, upward pressure on inflation coming from the labor market is not anticipated either. In fact, the effect that the increase in the minimum wage (of close to 6.0% for this year) and similar readjustments in a few sectoral salaries could have had on some prices of services is expected to diminish (see Chapter 3). At the beginning of the year, the labor market remained weak with an unemployment rate that was possibly higher than its non-inflationary level (Nairu). Given the growth rate projected for this year, a change in this situation should not be expected, as explained in the first part of this chapter. This will ensure that the salary adjustments will tend to be moderate going into the future and more compatible with the 3.0% target. This would apply for both the remainder of 2018 and for part of 2019, although, as the trend of economic recovery is confirmed, the labor market should be more dynamic going into the second year.

Graph 4.5
Actual Annual Inflation and Inflation Expectations
(Three, six, nine, twelve, and twenty-four months ahead)



Note: The respective standard deviation is presented for each expectation.
Sources: DANE and *Banco de la República* (the quarterly survey of expectations).

Finally, the change in non-wage costs will depend to a large degree on what happens to the international prices of raw materials, oil above all, and how this impacts the exchange rate. In principle, the increase in the forecasts of these prices tends to put upward pressure on production and transportation costs; nevertheless, the accumulated appreciation of recent months together with the relative stability expected for the exchange rate tends to offset these pressures. It should be noted that a significant percentage of production costs is from imports, and its impact on consumer prices also depends on the performance of the exchange rate. That being the case, non-wage costs should not be a source of significant inflationary pressure in the medium term.

Given the above, the baseline forecast presented in this Report indicates that total annual consumer inflation will probably remain very close to 3.0% over the course of the next eight quarters. The movements that it shows around this figure will depend on the fluctuations in food prices, mainly, and secondly on regulated items.

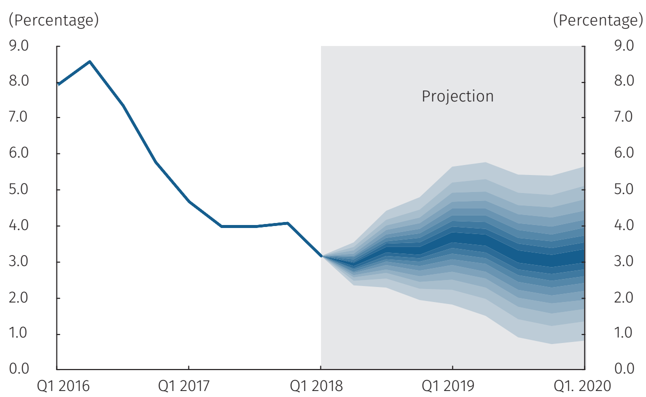
Consequently, an additional decline in annual inflation is expected for the second quarter of this year hand in hand with a drop in the annual change of regulated prices. However, an increase is expected for the second half of the year that will probably extend into the first quarter of 2019 and will be explained by higher temporary adjustments in food prices. Starting in the second quarter of next year, annual inflation should recede and end the year very close to 3.0%. Over the next eight quarters, inflation should remain below 4.0%.

Core inflation, in turn, as measured by the CPI excluding food and regulated items, should decline over the next three quarters and approach 3.0% at the end of 2018. Going into 2019, a slight upturn will probably be seen associated with the indirect effect of the increase in food price inflation via expectations and indexation, etc. Starting in the second quarter, it will return to a downward trend, closing the year again very close to the 3.0% target. It is not too much to say that this is strongly dependent on favorable foreign conditions that are assumed in the baseline forecast, both with regard to prices for crude oil and foreign interest rates as well as to a suitable flow of capital entering the country from abroad, all of which would translate into limited pressure on the exchange rate.

4.3 Risk Balance

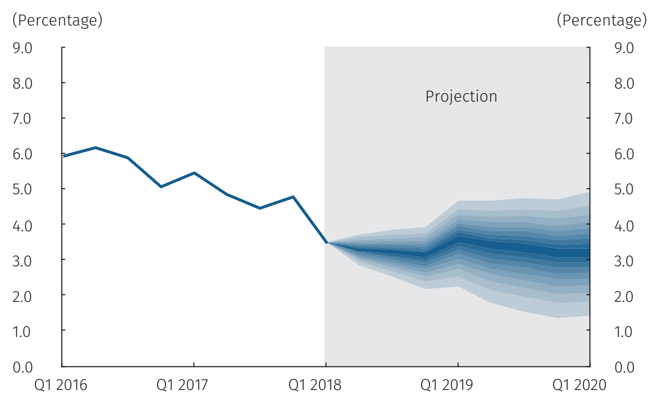
The balance of risks for total annual consumer inflation and for annual inflation excluding food and regulated items is given in the fan charts in Graphs 4.6 and 4.7. For this Report, a fan chart for a more balanced headline inflation than the one presented in the December 2017 report is estimated. However, it retains a slight upward bias. As is normal, the balance of risks was built on the basis of the baseline forecast for total annual inflation and for inflation excluding food and regulated items, both of which are derived from the Patacon model. The risks considered in the construction of the fan chart are presented below.

Graph 4.6
Fan Chart of Total Annual Inflation



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

Graph 4.7
Fan Chart of Annual Inflation Excluding Food and Regulated Items



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

The main upward risks are:

Variations in food prices that are above the projections in the baseline forecast: after the important downward correction that has occurred in food prices since 2017 (in nominal and relative terms), especially due to the positive performance of supply, the baseline forecast envisions increases in this variable starting in the second half of 2018. These upswings are related to the usual cycle of agricultural

Increases in the prices for food and the costs of foreign financing that are higher than those considered in the baseline forecast of this Report are not ruled out.

production, which should lead to a more sluggish supply in the coming quarters in comparison to previous quarters. This is a reaction to prices that have been relatively low (a cobweb effect that is characteristic of these goods).

Despite the above, the baseline forecast could still be underestimating these increases at some point in the projected trajectory given that a moderate upturn in the relative prices of food is assumed. In the past, there have been events with stronger reversals in this indicator that, if they were to be duplicated, could mean an inflation—both food and headline inflation—going into the second half of this year and the first half of 2019, higher than expected in this Report.

Higher-than-expected costs of foreign financing: given the inflationary pressure that has begun to arise in advanced economies due to the improved economic performance and the increase in the international price of fuel, the baseline forecast in this Report assumes that the normalization of monetary policy in these economies, especially in the United States, will continue. Nevertheless, there is a possibility that the Fed might raise its policy interest rate faster than what was considered in the baseline forecast thus generating pressure that could lead to the depreciation of the currencies of small economies such as Colombia's and affecting consumer inflation by going through the exchange rate (pass-through). In addition, there is uncertainty associated with Colombia's country risk since its levels are historically low, and it is possible that some shocks could lead to an increase in the risk and intensify the loss of value of the Colombian peso, thus causing an upward impact on the prices in the economy.

Should some of these risks materialize, it would affect the performance of headline inflation not only directly, but also indirectly and permanently through the impact that these events could have on expectations and the activation of indexation mechanisms.

The main downward risks considered in this Report are:

The high prices for oil could be maintained for a longer period of time than what was envisioned, with downward consequences for inflation.

A price for crude oil that is higher than what was projected in the baseline forecast: in the last few months, the performance of the international price for crude oil has been marked by an upward trend that reached prices close to USD 75 per barrel at the time this Report was being prepared. This level is higher than the one used in the baseline forecast (USD 65 per barrel - Brent crude). The latter level assumes that part of the increase in the last few months is transient. Nevertheless, the possibility that the prices could remain high longer than anticipated (or even continue to increase) cannot be ruled out considering that what the global demand is showing today (supported by the significant growth in several big economies) surpasses the availability of the supply. This situation, which is also largely explained by the discipline that OPEC and other countries such as Russia have demonstrated in complying with production quotas, could be reinforced by the cutback in production in countries such as Venezuela and by the bottlenecks in transportation that production in the United States seems to be facing. Added to all of the above is the delicate geopolitical situation in some Middle Eastern countries.

Domestic demand would likely be below what is forecast, should construction become more sluggish due to its extensive linkages.

The main impact of a higher price would be the greater pressure on the appreciation of the peso with respect to what was considered in the baseline forecast. This could make a faster-than-expected convergence of inflation with its target possible, especially due to the downward pressure that it would generate for the prices of tradable goods and services.

Domestic demand that grows less than expected: the baseline forecast assumes a positive performance for public works in 2018. However, the difficulties related to the highway projects that the sector has faced (delays and financing problems) could lead to more sluggishness in this area. In addition, although levels similar to those seen in the second half of 2017 (in other words, when the fall that the sector had gone through had bottomed out) are expected in construction of buildings, the construction cycle is long and the backlog can take quite a while to decrease, especially when it comes to offices and commercial premises. In these situations, a downturn in this sub-sector that is greater than expected could occur. Given the ample productive chains and the important role that both public works and construction of buildings play in generating employment, more sluggishness at this level could significantly batter domestic demand and push it below the projections.

In line with the set of risks presented, the fan chart suggests that the probability that headline inflation will stand below 4.0% in 2018 is 77.0% and that it will decline marginally in 2019 is 74.6% (Tables 4.2 and 4.3). The balance of risks for the end of 2018 maintains and highlights the risks present in the previous report. It should be noted that the range of the function of forecast density that is shown in Graphs 4.8 only includes 90% of this based on the shaded area. These results, just like the central forecast, assume an active monetary policy in which the policy rate of interest of *Banco de la República* is adjusted in order to guarantee that the target is reached.

Table 4.2
Estimated Probability that Inflation will stand between 2.0% and 4.0% in December 2018
(percentage)

Report	Probability
June 2017 Report	44.65
September 2017 Report	47.59
December 2017 Report	53.27
March 2018 Report	71.39

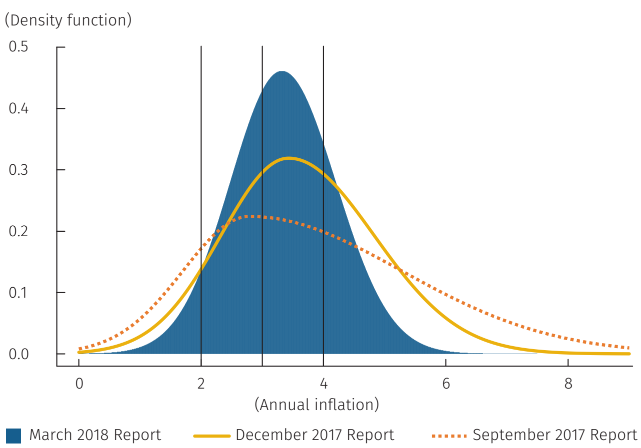
Source: calculations by *Banco de la República*.

Table 4.3
Fan Chart Range of Probability for Total Inflation
(percentage)

Range	2018	2019
<2.0	5.60	22.91
2.0 - 2.5	10.30	11.99
2.5 - 3.0	18.14	13.67
3.0 - 3.5	22.63	13.75
3.5 - 4.0	20.31	12.28
>4.0	23.01	25.40
Between 2 and 4	71.39	51.69

Source: calculations by *Banco de la República*.

Graph 4.8
Cross-section of the Fan Chart of Total Annual Inflation for December 2018

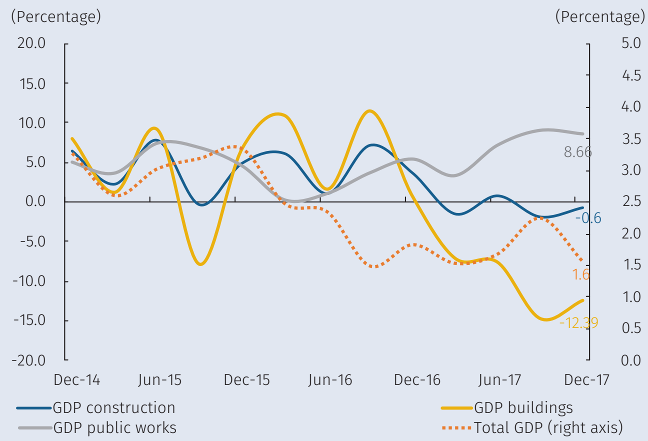


Source: calculations by *Banco de la República*.

Box 3
GDP of the Construction Sector in 2017: some stylized facts and disparities

Daniel Parra
José Franco*

Graph B3.1
Gross Domestic Product
(annual change)



Source: DANE.

Construction, as one of the most important non-tradable sectors, has not been isolated from the adjustment that the Colombian economy has shown since 2014. Although the GDP for construction increased 2.5% between 2015 and 2017 and it is higher than the total GDP for those years, it is significantly lower than the average it has registered since 2000 (7.5%). In addition, the weakening of this sector was more strongly experienced in 2017 when the GDP for construction declined 0.7% while the Colombian economy grew 1.8%. This was a reversal, since this branch had grown more than the economy as a whole over the last decade. Likewise, it should also be noted that the disparity within this sector has increased significantly since the end of 2016 (Graph B3.1).

In general, the changes in the GDP for the construction sector depend to a large extent on the total area which is licensed for both residential and non-residential construction along with the payments made for public works at the national level. Based on the national accounts published by DANE, the deterioration in this sector in 2017 is mainly explained by the performance in the building construction subsector, which fell 10.4% and canceled out the positive performance of the GDP for public works, which grew 7.1%. The heterogeneity that prevailed in the country's construction sector during 2017 is explored below.

Disaggregating building construction, the GDP for residential and non-residential construction showed a reduction of 6.2% and 16.2%, respectively.[1] When the two groups are compared, a disparity in their performance also becomes evident. For example, while the residential building subsector reached two peaks, one in December 2014 and the other in December 2015, the non-residential one hit a maximum in the second half of 2016. Although, the levels of completed construction fell, in both cases, in 2017, this decrease was much more acute for non-residential construction (Graph B3.2). In particular, while the completed residential constructed area dropped 0.83% in the fourth quarter of 2017, the non-residential one showed a significant reduction of about 18%.

The deterioration of both residential and non-residential construction in 2017 was largely seen in the total area that was either still in process or completed. It should be noted that residential construction holds the greatest weight within the total of both stages of construction.[2] The heterogeneity in the results becomes even more obvious when they are analyzed by region (Graph B3.3). According to CEED, when the data is broken down by stage of construction and for a total of sixteen areas, it can be seen that the cities that showed the greatest decrease in terms of total constructed area completed were as follows: Cúcuta, Popayán, Bogotá, Medellín, Cundinamarca, and Barranquilla.

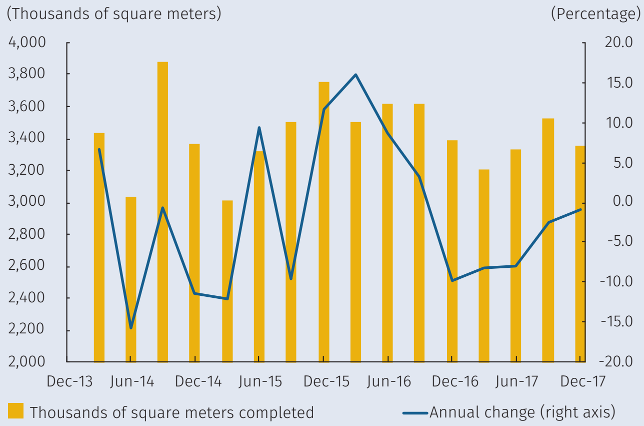
* The authors are, as follows: a junior researcher and a student intern at the Department of Programming and Inflation. The opinions expressed here are the sole responsibility of the authors and do not imply any commitment on the part of *Banco de la República* or its Board of Directors.

1 The main source of information for calculating the GDP for the building construction subsector is the Building Census (CEED) published by DANE. This census contains both residential and non-residential information classified by city, socioeconomic class, stage of work (completed, in-process, or delayed) and phases of construction (excavation and foundation, structure and roofing, masonry and plastering, and finishing levels I, II, III).

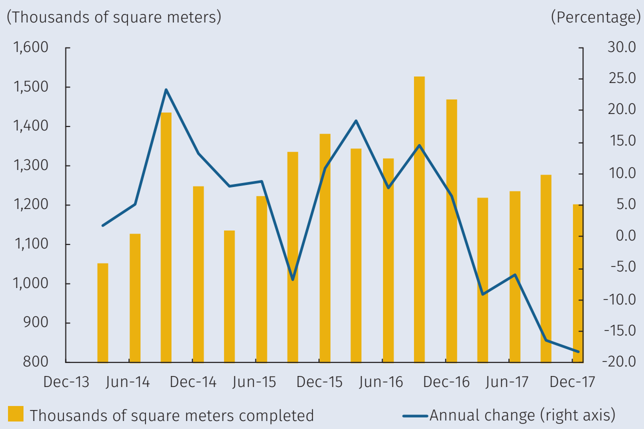
2 The share of residential construction stands at 72.30% for completed area, 69.28% for area in process of construction, and 70.24% for area in delay. As for the non-residential share, in turn, it fluctuates at around 30% for each one of those stages of work.

Graph B3.2
Construction Completions

A. Residential

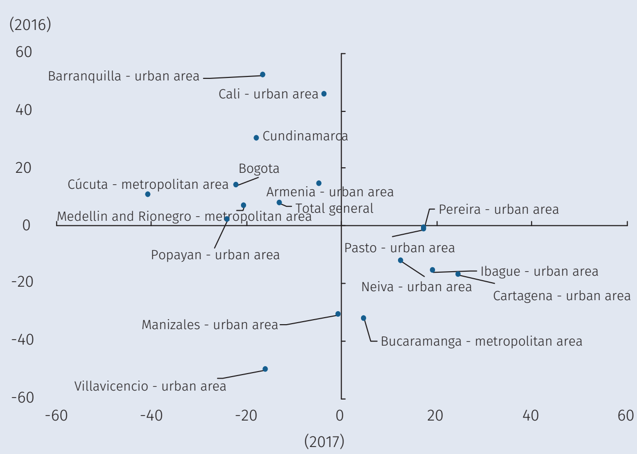


B. Non-residential



Source: DANE, CEED, authors' calculations.

Graph B3.3
Area of Construction Completed by Region
Annual variations in 2017 and 2016, percentage



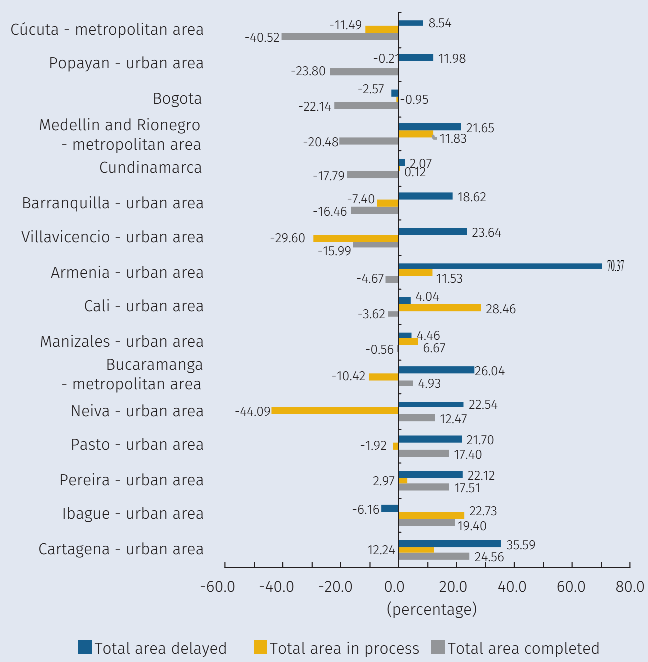
Source: DANE, CEED, authors' calculations.

These are precisely the ones that hold the greatest relative weight within that category. In contrast, Cartagena, Ibagué, and Pereira showed strong levels of growth that were still not enough to neutralize the generalized decline over a large part of the country. In the case of the area in the process of construction, Cali, Ibagué, and Medellín stood out and these were counterbalanced mainly by Neiva, Villavicencio, and Cúcuta (Graph B3.4).

Regarding the construction phases, which are associated with the construction stages of the projects, the phases of structure and roofing (35.4%) and masonry and plastering (17.3%) have the greatest share within the total. Thus, while the first dropped 7.3% during 2017, the second grew 1.7%. The rest of the phases showed significant reductions such as in the case of finishing, levels II and III (Graph B3.5). Finally, when analyzed by socioeconomic class and area in the process of construction, the declines were concentrated in strata 1, 5, and 6, with annual changes of -35.8%, -4.5%, and -1.6%, respectively. Those strata hold a 33% share within the total.

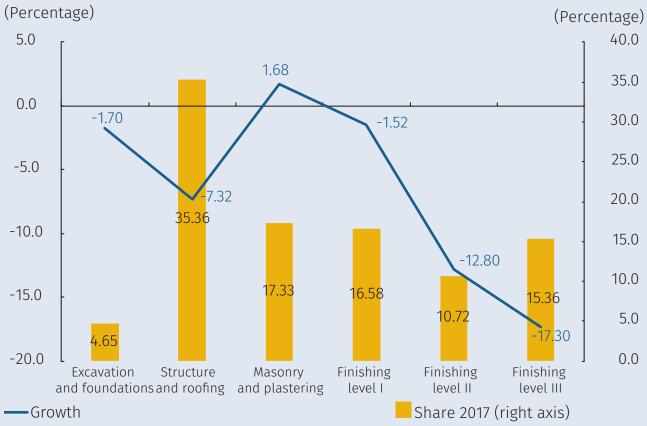
The outlook is not very encouraging going forward due to the decline in the issuance of licenses that continued during 2017. However, the sharp falls registered that year are not expected to repeat. In particular, the trend registered in the total licenses granted last year is due to a downturn in licenses for housing construction, which fell 8.8%, and in those for other types of construction, which declined 15.1%. In the case of residential construction, the licenses for low-income housing (LIH) fell to 24.1% and

Graph B3.4
Construction starts, 2017 and 2016 aggregate[a/]



a/ Figures that correspond to the area of housing starts
Source: DANE, CEED, authors' calculations.

Graph B3.5
Construction Completions, based on construction phases
Total sixteen areas



Source: DANE, CEED, authors' calculations.

those for non-LIH (which has an average weight within the total for housing that is above 70%) decreased by 3.1%.

Despite the significant GDP growth for public works during 2017 (7.1%), this growth is not unrelated to the heterogeneity in the results. While the subsectors of public works for mining and other engineering projects showed a significant performance, the subsectors of railways and waterways fell significantly (Table B3.1). Roads, in turn, decreased slightly (-0.1%) and this was partially associated with the delays in schedules and financial closures of some 4G projects as well as with the problems related to Odebrecht that might somehow affect the payments for certain projects. It should be noted that the performance of the GDP for public works was maintained thanks to the high share held by the work projects for mining (close to 50% within the indicator) and which expanded 10.9% in 2017. By type of entity, the entities at the territorial level were found to have contributed the most to national outcome in 2017.

As described in Chapter 4, a risk to the economic growth going forward is the uncertainty with respect to the expenditures on highway and mining projects. Although it could be expected that the investment in public works for mining would continue due to the current prices for crude oil, the political uncertainty regarding the presidential election could stop the expenditures at least during the first half of the year. Something similar might happen in the case of other types of investment projects such as road construction.

Table B3.1
Public Works by Type
(percentage)

Code	Type of work	Weight	Annual changes	
			2016	2017
4001	Construction of highways, streets, roads, bridges, elevated roads, tunnels, and underground construction	27.83	8.7	-0.1
4002	Railways, runways and mass transportation systems	2.6	75.7	-20.2
4003	Waterways, ports, dams, and other port construction.	11.45	4.6	-7.5
4004	Construction for mining and pipelines for long and short distance transportation, lines of communications and energy	50.87	-17.0	10.9
4008	Other engineering projects	7.25	14.4	30.1

Source: DANE.

05

Risks to Long-term Macroeconomic Stability

The partial correction of some macroeconomic imbalances and National Account figures for 2017 suggest that the Colombian economy is probably at the culmination of an adjustment process with respect to the different shocks faced since mid-2014.

The correction of macroeconomic imbalances faces some risks. Some of them are the elevated uncertainty about the price of oil, worldwide demand, and the changes in the conditions of foreign financing.

The partial correction of some macroeconomic imbalances and national account figures for 2017 suggests that the Colombian economy is probably at the culmination of an adjustment process with respect to the different shocks faced since mid-2014. As was mentioned in previous reports, when the fall in the terms of trade, generated by the significant reduction in the price of oil is added to the slowdown in foreign demand and *El Niño* weather condition, together they had an adverse impact on the growth of economic activity and moved inflation away from its target (3.0%). By the size and persistence of the effects of these shocks, monetary policy focused on redirecting inflation towards the target with a trajectory for the convergence that sought to minimize the cost in terms of employment and economic activity. In order to deal with the fall in oil revenue, the national government reduced its pace of spending, expanded financing from abroad, and carried out a tax reform. The private sector, in turn, lowered its investment rate and adjusted its pace of consumption, particularly that of tradable goods.

The current account deficit (as a percentage of GDP) during 2018 will probably present an additional closing, but one that is lower than the one seen a year ago.

As a result, the current account deficit declined again in 2017, while the real exchange rate, which reached its highest record for the last twenty years at the beginning of 2016, appreciated in 2017, but remained at historically high levels. Total loans have slowed down and housing prices have moderated their pace of increase. The GDP showed signs that its rate of expansion may have bottomed out in the first quarter and domestic demand began to recover in the second half of the year. In addition, inflation and its expectations continued on their trajectory towards the 3.0% target.

In the baseline forecast scenario for 2018, the current account deficit as a share of the GDP will probably present an additional closing, but smaller than the one seen in 2017. Likewise, GDP is expected to show an expansion that will allow it to approach a level of full employment in an environment in which domestic demand has recovered. Dynamic economic activity should generate more favorable conditions for the markets such as the labor, loan, and housing markets. Also, the convergence of inflation with the long-term target, which has been occurring at a rate that is somewhat better than what had been estimated in the first three months of the year, is expected to continue. Lastly, the baseline forecast scenario assumes that risk premia, financing, and global trade will remain at favorable levels, and this would contribute to maintaining the above-mentioned forecasts and with them, an additional adjustment in the macroeconomic imbalances.

Despite the previous positive signs and the projected rebound in the Colombian economy, the correction of the macroeconomic imbalances faces some risks. Regarding the adjustment expected in the current account, the elevated uncertainty about the trend of oil prices, global demand, and the changes in the foreign financing conditions play a relevant role in the continuation of the adjustment process. In addition, the trajectory that the exchange rate could take with respect to these risk factors is uncertain, and with that, the effects on the breakdown of consumption and production of imported tradable goods compared to local goods.

The indebtedness in the economy remains at historically high levels, and the loan portfolio continues to show reductions in its quality.

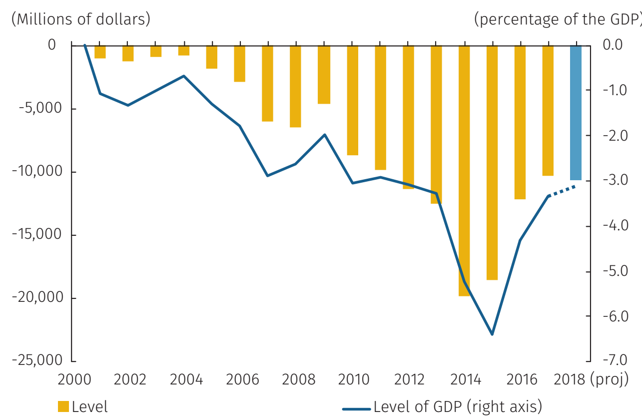
In the domestic context, although the indicators of household and business confidence have shown a recovery, they are still at low levels. At the same time, labor-intensive economic sectors such as the construction of housing show a deterioration. In addition, industry and commerce are demonstrating favorable performances, but remain below their potential. If this trend becomes accentuated, the level and quality of employment could deteriorate and affect other markets such as credit. It is notable that the indebtedness in the economy remains at historically high levels and that the most recent loan portfolio data continue to show declines in their quality. In conclusion, additional deterioration could mean obstacles to the recovery process of the economy through mechanisms that may halt the transmission the monetary policy or restrict the credit supply.

In the rest of this chapter, recent developments and some perspectives and considerations regarding the current account, the real exchange rate, indebtedness, and housing prices (which are variables that the literature has identified as relevant for identifying possible macroeconomic imbalances and understanding the adjustment process) will be presented. The Index of Macroeconomic Imbalance (IMI), which combines the estimated imbalances for each one of these variables, is also included.

5.1 Current Account and Real Exchange Rate

The results of the balance of payments for 2017 and the forecast for 2018 indicate that the adjustment of the external sector has continued and the current account is likely to continue converging at levels that could be sustainable in the long term. Indeed, in 2017, the current account deficit as a share of the output declined 1 pp and stood at 3.3% and, the estimates of the technical staff indicate that it will probably stand at 3.1% in 2018 (Graph 5.1).

Graph 5.1
Current Account Deficit



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

The adjustment of the current account in 2017 was due to the recovery of income rather than to the decrease in expenditures as was the case the previous year. Regarding revenue, the real depreciation registered after the oil shock, the better foreign demand, and the recovery in the price of crude oil and the terms of trade (see Graph 1.3) were factors that contributed to spurring dollar-denominated exports of commodities, non-traditional products, and services. The increase in remittances from workers was another item that contributed, although to a lesser extent, to the recovery of income. Regarding outlays, the value of imports registered a low rate of increase that was largely due to the weakness of domestic demand. This trend in foreign trade was reflected in a smaller deficit in the trade balance and the current account in 2017. Income is also expected to surpass expenditures in 2018, and therewith the foreign deficit as a share of the output will be reduced again.

Income is expected to surpass expenditures in 2018, and therewith the foreign deficit as a share of the GDP will be reduced again.

When the current account is broken down by economic sectors (Graph 5.2), the group entitled remainder, which excludes the mining industry and the public sector[5] from the total, was the one that explained the adjustment in 2017. Indeed, a less negative trade balance and better transfers were registered in the rest of the sectors. As a result of this,

5 This includes the current flows due to foreign trade, factor income, and transfers made by entities in public administration (ministries, military forces, and municipalities, etc.) and state-owned companies (not including Ecopetrol, Reficar, nor the *Federación Nacional de Cafeteros* [National Federation of Coffee Growers]). The payment of interest associated with debt securities and loans, and the profits received from financial investments abroad including the profit from the reserve assets are included in factor income.

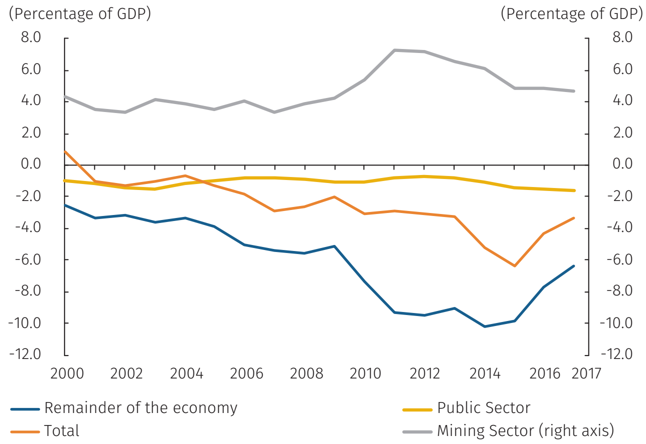
the current deficit for this group approached the average calculated since 2000 (-6.1% of GDP). The current surplus from the mining industry tended to stabilize and stood at 4.7% of the GDP in 2017, in an environment of recovery in the terms of trade due to better crude oil prices. The increase in the payment of interest abroad on public debt (securities plus loans), in turn, was reflected in the higher current deficit of this group.

Another indicator that suggests that the adjustment of the foreign sector observed between 2015 and 2017 originated in the private sector is the estimate of the balance between savings and investment built on the basis of the national accounts. These figures indicate that the private sector's investment rate has slowed down more than its savings rate in the last two years, which could have caused a lower external deficit for this group. In the public sector, the savings rate fell during the same years and the investment rate remained relatively stable. These facts could have expanded the current deficit.

Regarding the Real Exchange Rate (RER), after the sharp fall in crude oil prices that was registered between mid-2014 and mid-2016, this indicator recorded a significant depreciation (Graph 5.3). In fact, during that period, all of the RER indices accumulated increases that were somewhat in excess of 30%. Subsequently, this trend reverted, albeit at levels that still remain well-above the average observed in the last twenty years. In the first quarter of 2018, the different RER indices appreciated in an environment of the recovery of the international oil prices and nominal depreciation of the US dollar with respect to the major currencies of the world.

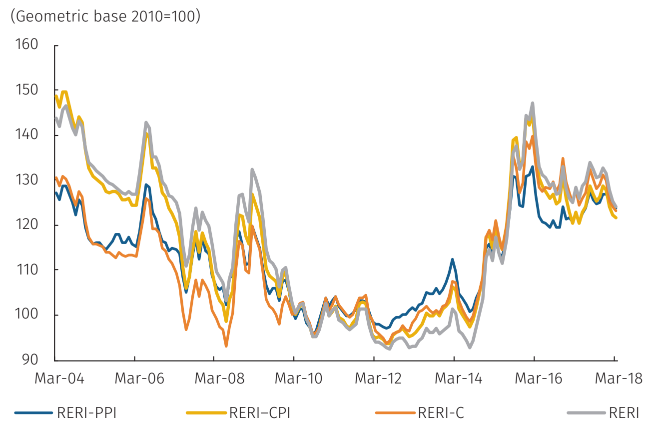
To summarize, the reduction of the current deficit registered since 2016 and which is expected to continue in 2018 is the result of an economy that is probably completing its process of adjustment to the deterioration of national income caused by the fall in crude oil prices in mid-2014.[6] In spite of this shock, the ample international liquidity contributed to the fact that the Colombian economy was able to finance itself with savings abroad directed mainly to the public sector. The private sector,

Graph 5.2
Current Account Deficit Based on Economic Sectors as a share of GDP



Source: *Banco de la República.*

Graph 5.3
Multilateral Exchange Rate Indices (nominal and real)



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

6 After the shock, the terms of trade fell, the country's national revenue deteriorated, and there was a sharp nominal and real depreciation. Consistent with the foregoing, the expenditure also deteriorated.

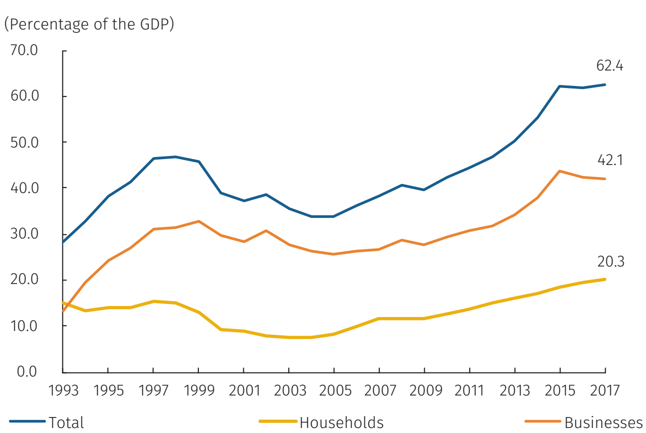
in turn, lowered its investment rate, moderated its consumption (mainly tradable items), and recently registered a recovery of foreign income from the increase in non-traditional exports and services. Thus, the foreign financing of the public sector, the sluggishness of private spending, the flexibility of the exchange rate, the recent recovery of demand from abroad, and the prices of crude oil contributed to easing the impact of the adverse oil shock and to maintaining an orderly adjustment of the current account and of the economy as a whole.

Going forward, the performance of oil prices and the changes in the conditions of global financing will be crucial for the adjustment of the external sector. For example, an increase in the international interest rates larger than the market's expectations together with declines in the prices for crude oil could be reflected in nominal and real depreciation of the peso and in the figure at the final closing of the account (as a share of GDP) that is higher than what was estimated in this Report. Should such a risk materialize, the expected recovery of the economy could be affected.

In contrast, there is the risk that the country's economic recovery process may be accompanied by an adjustment abroad that could interrupt or reverse it. Indeed, the reduction of the current deficit relative to GDP foreseen for 2018 assumes, in part, a gradual substitution of nationally produced products for consumption of imported tradable goods as well as a recovery of a supply of exportable products. However, another possibility is a surge in domestic demand caused by increased spending on tradable goods produced abroad. If this rise is not accompanied by an increase in income, the economic recovery could imply an expansion of the current deficit to levels that could be perceived as unsustainable.

5.2 Indebtedness

Graph 5.4
Indebtedness of households and companies as a share of GDP

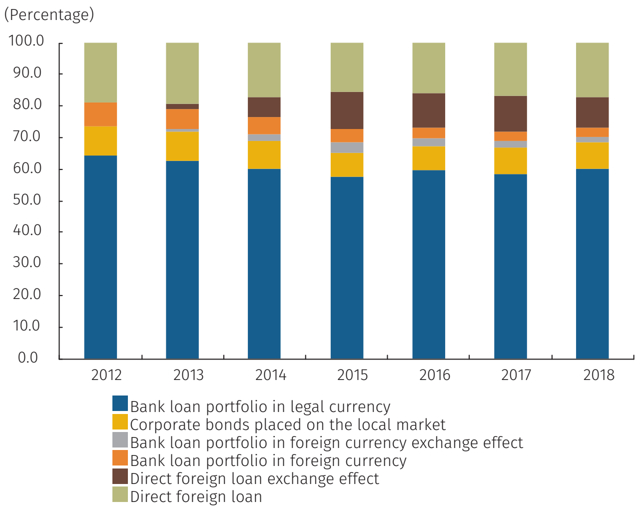


a/ Includes bank loans in national and foreign currency, securitization of mortgage loans, bond issues, and foreign direct financing.
Sources: Office of the Financial Superintendent of Colombia, Colombian Stock Market, DANE, and *Banco de la República*, calculations by *Banco de la República*.

The adjustment faced by the Colombian economy has also been reflected in the performance of household and business debt. Indeed, after growing for almost a decade, indebtedness as a share of output has registered a certain stability and stood at historically high levels in the last two years. Between 2016 and 2017, business indebtedness relative to output dropped, while household debt continued rising, albeit more slowly (Graph 5.4). At the same time, portfolio default and quality indicators indicate an increase in credit risk.

The downturn of the indebtedness held by companies registered in 2016 and 2017 occurred as a response to a number of factors. One of these in

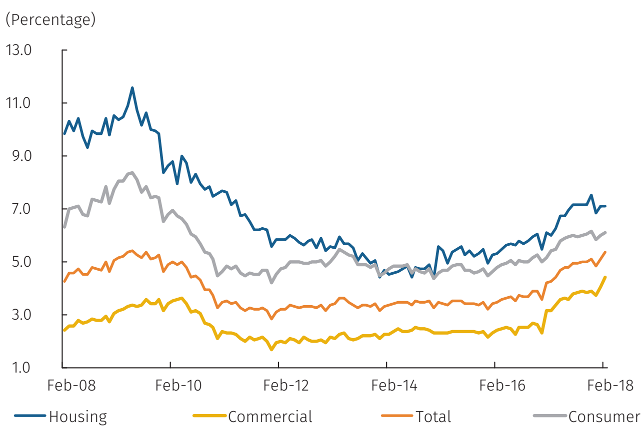
Graph 5.5
Indebtedness of Firms by Sources Separating the Exchange Effect[a/]



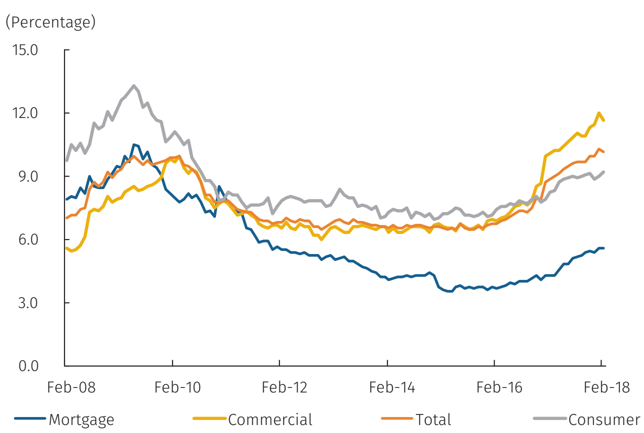
a/ Exchange effect with a fixed exchange rate in Dec. 2012: COP 1,768 per dollar
Sources: Office of the Financial Superintendent of Colombia, Colombian Stock Market, DANE, and *Banco de la República*, calculations by *Banco de la República*.

Graph 5.6
Indicators of Non-performing Loan and Risky Portfolios

A. Default: non-performing loans/total loan portfolio



B. Risk: portfolio rated between B and E/total portfolio



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

the foreign context was the negative impact that the depreciation of the peso had on the balance of the debt in foreign currency[7] and which discouraged the demand for these types of loans. Indeed, due to the accumulated increase in the exchange rate between 2012 and 2015, the total balance of the debt of companies rose by close to 12% (Graph 5.5). In 2016 and 2017, this exchange rate impact on the commercial loan portfolio declined partly due to the appreciation of the peso against the US dollar registered during those years. In the domestic context, the weakness of economic activity was reflected in a reduced demand for loans required to finance imports of raw materials, capital goods, and companies' investment projects. Another fact was the deterioration in the loan portfolio quality indicators (Graph 5.6), partly focused on specific sectors such as mass transportation, electricity, and infrastructure.[8] These increased the perception of risk and affected the supply of credit for these sectors.

In the portfolio geared towards households, the slowdown started as of mid-2017. This trend is more pronounced in consumer loans. The weakness of consumer spending, the deterioration in labor market indicators, the lower expectations of increases in housing prices, and the upswing in the loan portfolio default may be some of the factors that could explain the slowdown in the granting of consumer loans and loans for housing.

In the first quarter of 2018, the consumer and mortgage loan portfolios continued slowing down, but maintained growth rates that were higher than inflation and than the increase in the nominal GDP (Graph 5.7). Loans to companies, in turn, have registered better growth rates—primarily direct borrowing in foreign currency, placement of bonds, and to a lesser extent, commercial loans in national currency. This trend in credit has been observed in an environment

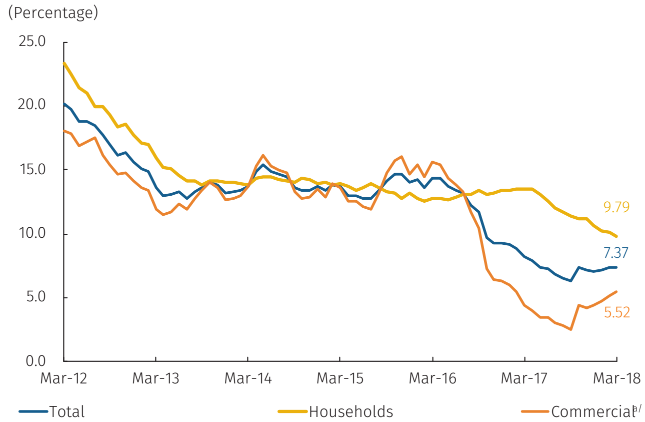
7 F/C: owed to national banks as well as directly to other entities or foreign companies.

8 Especially affected by the loans to the *Ruta del Sol* concession.

in which the reductions in policy interest rates have been transmitted to the interest rates on loans, especially to commercial loans and mortgages, and to a lesser degree, to consumer loans.

Going forward, various supply and demand factors could weaken the loan market. For one thing, additional deterioration in the labor market, low levels of consumer and business confidence, a weaker recovery of the country's trading partners, and an unanticipated increase in international interest rates could negatively affect the demand for credit. Regarding supply, additional deterioration in the quality of the loan portfolio or a weak economic activity could discourage the granting of loans on the part of the credit institutions, increase the requirements for providing loans, or encourage the purchase of other types of assets by the financial sector.

Graph 5.7
Gross Loan Portfolio in National Currency (M/N)
(percentage of annual variation of monthly averages)



a/ The commercial loan portfolio includes microcredit.
Source: *Office of the Financial Superintendent of Colombia*, calculations by *Banco de la República*.

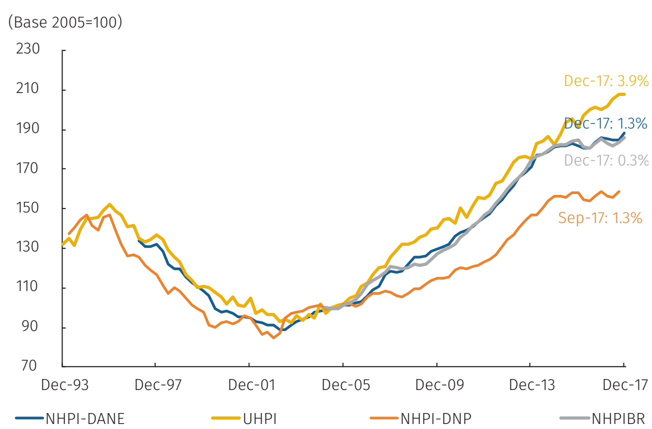
5.3 Housing Prices

The housing market has also been making adjustments that are consistent with the new conditions of the Colombian economy after the fall in the price for oil in 2014. As was mentioned in previous chapters, the national accounts registered a significant decrease in the group of "Buildings" in 2017. Despite the deterioration in the demand of this sector, primarily among the upper income levels, the upswing in prices for new housing surpassed inflation in 2017 (Graph 5.8). In addition, these increases for both new and used housing turned out to be lower than the average observed over the latest decade.

Disparities of performance can be seen in the different price indices. For December 2017, DANE's and *Banco de la República*'s price indices for new housing showed expansions of 1.3% and 0.25%, while the index published by DNP is around 1.3%. In contrast, regarding used housing, there was a 3.95% expansion for December 2017, while it expanded 2.5% at the beginning of the year.

In terms of quantities, while the housing supply continues to climb, it is doing so at a slower pace than in previous periods. Based on figures from the Colombian Chamber of Construction (Camacol), the twelve-month cumulative supply

Graph 5.8
Housing Prices in Colombia (relative to the CPI)[a/]



a/ Information as of the third quarter of 2017 for the NHPI-DNP. For the NHPIBR, NHPI-DANE, UHPI and the latest data corresponds to the fourth quarter of 2017.
Sources: DANE, DNP, and *Banco de la República*.

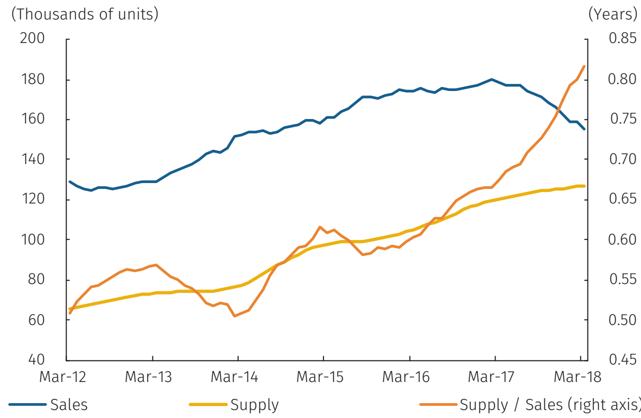
of housing grew 5.3% in March 2018.[9] The figures from Camacol, in turn, on units sold (as an approximation of demand) showed a significant 13% fall in March 2018. Therefore, the downturn in availability has not been able to offset the sharp decrease in demand and, therewith, the supply to sales indicator rose, going from 0.67 in March 2017 to 0.82 in March of the present year. The latter implies that it may take close to eight months to sell the total number of housing units on the market (Graph 5.9).

The Camacol figures broken down by LIH and non-LIH housing show a deterioration in sales for both groups although there is a more pronounced fall in the non-LIH group. In particular, in March 2018 sales of LIH and non-LIH housing decreased 7.6% and 19.2%, respectively. In the case of start-ups, the ones that were the most affected were those in the LIH group after the culmination of a large part of the government's programs directed towards priority housing and the interest rate subsidies. Finally, the units put on the market also reflected the deterioration of the market for both groups (Graph 5.10).

As was pointed out in the previous chapter, one factor causing uncertainty about the recovery of economic activity is related to the reactivation of investment in construction of buildings. Thus, a latent risk is that the downturn in the prices for housing in the past two years could discourage new projects in that sector and end up generating a lower added-value compared to what has been included in the baseline forecast scenario. The recent deterioration in the labor market and the upswing in the risk indicators of the mortgage portfolio could also be an obstacle for the recovery of housing construction. All of this could curb the rebound expected by the technical staff since this sector has a high participation in the generation of employment (6.0% of the total number of people employed) and a high level of linkages with other groups such as industry, transportation, and commerce. However, these risks are expected to be mitigated, in part, by the

9 Compared to 15% and 6.8% in December 2016 and December 2017.

Graph 5.9
New Housing: Sales (12 months cumulative) and Supply (12-month average)[a/]

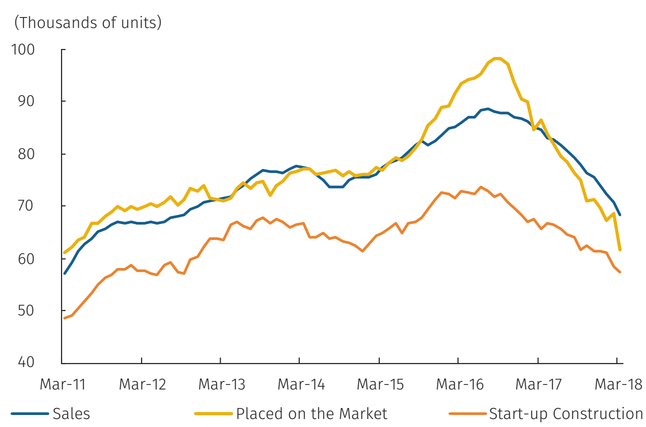


a/ Includes information on the thirteen regional areas
Source: Camacol, calculations by *Banco de la República*.

Graph 5.10
New Housing: Sales, Placed on the Market and Start up Construction (12 months cumulative)[a/]

A. Price lower than or equal to 135 SMMLV: LIH

B. Price greater than 135 SMMLV: non-LIH



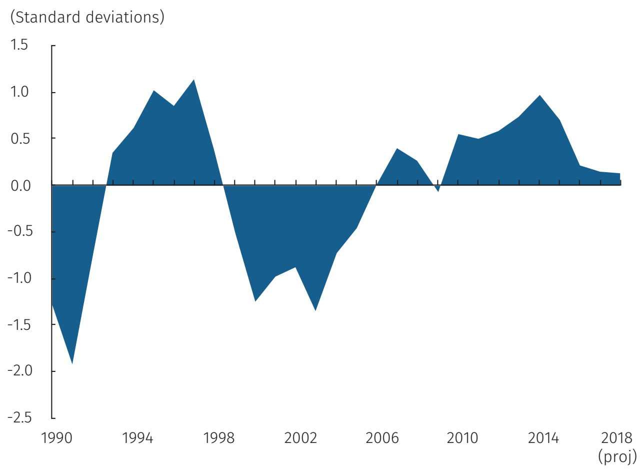
a/ Includes information on the thirteen regional areas
Source: Camacol, calculations by *Banco de la República*.

stimulus from the reduction in interest rates and the improvement in household purchasing power due to the decline in inflation.

5.4 Index of Macroeconomic Imbalances

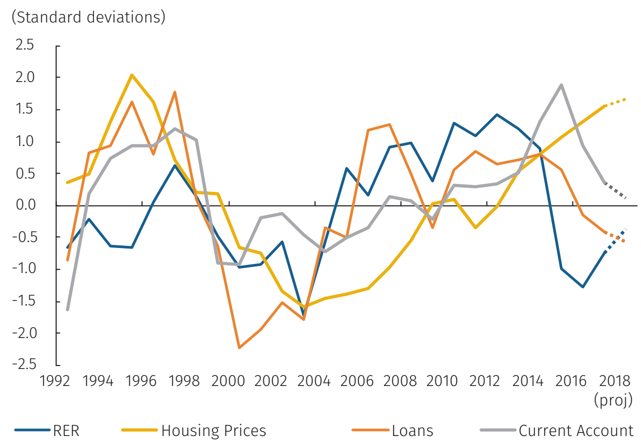
The information available along with the projections of the technical staff for 2018 suggest that the current account deficit as a share of the GDP will probably continue to close. The higher prices for crude oil, in turn, are likely to contribute to an improvement in the terms of trade and to mitigate the pressure generated by the expected increases in the interest rate of the Federal Reserve of the United States on a depreciation of the peso. Likewise, although recovery in domestic demand is expected, this will remain weak and its contribution to debt or to a more dynamic housing market will probably be limited. In this context, to the degree that better GDP growth rates are registered and the output gap exhibits a closing trend, the macroeconomic imbalances are likely to continue their correction. Thus, in 2018, it is estimated that the IMI indicator may hold to levels slightly lower than the ones registered in 2017 (Graphs 5.11 and 5.12).

Graph 5.11
Index of Macroeconomic Imbalances



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

Graph 5.12
Gaps in the Current Account, the Real Exchange Rate, Housing and Loan Prices[a/]



(proj): projected.
a/ Gaps are calculated as the difference between the actual value and the estimate of the long-term value. The negative value is given for the RER such that its positive gap indicates a need for depreciation.
Source: *Banco de la República*.

Appendix
Macroeconomic Forecasts by Local and Foreign Analysts

This appendix presents a summary of the most recent projections by local and foreign analysts for the main variables of the economy for 2018 and 2019. At the time they were consulted, the agents had information as of April 23, 2018.

Projections for 2018

On average, local analysts expect an economic growth of 2.4%, which is the same as the estimate in the Inflation Report from the previous quarter. Moreover, the foreign entities consulted projected an average GDP expansion of 2.7%.

In terms of prices, local analysts estimate an inflation rate of 3.2%, which is less than the figure registered in the previous report, while foreign analysts anticipate a figure of 3.3% at the end of the year. Both forecasts are within the 2.0% to 4.0% range around the inflation target set by

Table A1
Projections for 2018

	Growth of the Real GDP (percentage)	Inflation CPI	Nominal Exchange Rate end of	Nominal TDR (percentage)	Fiscal deficit (percentage of the GDP)	Unemployment Rate in thirteen cities (percentage)
Local analysts						
Alianza Valores [a]	2.5	3.3	3,100	4.1	3.1	9.3
ANIF	2.3	3.3	n.d.	4.2	2.4	10.7
Banco de Bogotá [a]	2.5	3.0	2,850	4.6	3.1	10.4
Bancolombia [a]	2.5	3.3	2,900	5.0	3.1	10.7
BBVA Colombia [a]	2.0	3.1	2,920	4.3	3.1	11.2
BTG Pactual	2.5	3.2	3,028	n.d.	3.1	9.4
Corficolombiana	2.6	3.3	2,900	4.8	3.1	9.5
Corredores Davivienda [b]	2.6	3.1	2,920	4.8	3.1	10.4
Credicorp Capital [c]	2.3	2.9	2,900	4.4	2.5	10.8
Davivienda	2.6	3.1	2,920	4.8	3.1	10.4
Fedesarrollo [a]	2.4	3.5	n.d.	n.d.	3.1	n.d.
Itaú [d]	2.5	3.0	2,890	4.0	3.1	9.4
Ultraserfinco [e]	2.5	3.3	2,890	4.4	3.2	10.4
Average	2.4	3.2	2,929	4.5	3.0	10.2
Foreign analysts						
Citibank-Colombia [a]	2.5	3.1	2,847	4.3	3.3	8.7
Deutsche Bank	2.6	3.4	n.d.	n.d.	3.2	9.4
Goldman Sachs	2.5	3.1	2,800	n.d.	3.2	n.d.
JP Morgan	3.0	3.6	2,825	n.d.	3.1	n.d.
Average	2.7	3.3	2,824	4.3	3.2	9.1

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

Table A2
Projections for 2019

	Growth of the Real GDP (percentage)	CPI Inflation (percentage)	Nominal Exchange Rate end of
Local analysts			
Alianza Valores	2.7	3.4	3,200
ANIF	3.0	3.5	n.d.
Banco de Bogotá	3.0	3.0	2,875
Bancolombia	3.2	3.1	2,960
BBVA Colombia	3.0	2.8	2,900
BGT Pactual	3.0	3.1	3,080
Corficolombiana	3.3	3.5	2,900
Stock Brokers Davivienda [a/]	3.2	n.d.	n.d.
Credicorp Capital [b/]	2.8	3.3	2,800
Davivienda	3.2	n.d.	n.d.
Fedesarrollo	2.8	3.0	n.d.
Itaú [c/]	3.2	3.0	2,930
Ultraserfinco [d/]	2.8	3.2	2,900
Average	3.0	3.2	2,949
External analysts			
Citibank-Colombia	3.1	3.0	2,850
Deutsche Bank	3.4	3.4	n.d.
Goldman Sachs	3.3	3.0	2,800
JP Morgan	3.3	3.5	n.d.
Average	3.3	3.2	2,825

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

the Board of Directors of *Banco de la República* (BDBR) for 2018, but above the long-term inflation target (3.0%).

As for the exchange rate, national analysts expect the market exchange rate (MER) to end the year at an average value of COP 2,929 compared to the COP 3,012 estimated in the survey mentioned in the previous report. Foreign analysts forecast a MER that is close to COP 2,824 for the close of the year.

Local analysts are projecting average values of 4.5% for the rate for fixed term deposits (FTD). In addition, they expect the unemployment rate to be at 10.2%.

Projections for 2019

National analysts expect an economic growth of 3.0% for 2019, while foreign analysts expect 3.3%. Regarding inflation, local and foreign analysts estimate that it will be 3.2%. As for the nominal exchange rate, national entities expect average values of COP 2,949 and foreign entities expect average values of COP 2,825.

This report was coordinated, edited, and designed by the Publishing Section of the Administrative Services Department, in font type Fira Sans 10.5.

Printed by Nomos

May 2018