



---

# INFLATION REPORT

JUNE - 2003

---

BANCO DE LA REPÚBLICA

(CENTRAL BANK OF COLOMBIA)



---

**I N F L A T I O N   R E P O R T**  
**J U N E , 2 0 0 3**

---

**B A N C O   D E   L A   R E P Ú B L I C A**

**ISNN - 1657-7973**



## PRESENTATION, SUMMARY AND CONCLUSIONS

### A. THE ECONOMIC SITUATION AND INFLATION

✘ In April of this year the Board of Directors of the Bank of the Republic (BDBR) decided to raise the Bank's intervention rates by 100 basic points (bp) in response to greater inflationary pressure observed during the first quarter, deriving principally from a high level of accumulated devaluation to date and an increase in expectations for inflation. This increase was added to the one carried out in January, in the same proportion, and was complemented by an auction to diminish accumulated reserves in the months of March, April and May for a value of US\$200 million (m) each time.

✘ These changes in monetary policy had the following consequences:

✘ Interbank interest rates rose in the same proportion.

✘ It contributed to a decrease in TES rates, which dropped by about 80 bp on average in a context of a diminishing country risk premium.

✘ There were no increases in DTF or the majority of the placement rates.

✘ It contributed to a stabilization of the exchange rate (also affected by the behavior of the country risk premium and by external flows, mainly remittances abroad).

✘ Thus, policy actions contributed to moderating inflation expectations and reducing depreciation in the exchange rate. In spite of increases in rates, monetary policy positions continue to be loose and favorable to growth, to judge by real levels of exchange and interest rates and by growth in the monetary base.

✘ During the year, economic activity has developed within a propitious domestic and foreign environment, and growth has accelerated with respect to the second semester of 2002, driven mainly by private internal demand. Domestically, interest rates continue at low real levels, which together with improvements in private sector balances and greater levels of confidence shown by entrepreneurs and consumers have allowed credit to turn upward. Abroad, there has been continuing and even increasing availability in capital markets for emerging markets, allowing country risk premiums to drop and making greater exchange stability possible in the case of Colombia.

✘ It is expected that in coming months both domestic and foreign conditions will continue to favor growth. Both private investment and to a lesser degree household consumption are perceived

as prime sources of growth. Exports will be driven by non-traditional products aimed at the U.S. and by coal exports for the most part. However, other sales abroad, and particularly, those that are aimed at the Venezuelan market could show less than satisfactory performance. In this context, and taking into account the positive performance of several indicators in June, it is considered feasible that growth for 2003 will surpass the goal of 2% set by the government.

✘ In the second quarter, there was a change in the rising tendency of inflation recorded since mid-year 2002. Nevertheless, this reduction depended exclusively on a drop in food inflation and not basic inflation, which showed an increase for the third consecutive quarter. In June, annual inflation without food was at 7.0% and the average of the three basic inflation indicators was 7.3%, surpassing the established goal in all cases for this year by a wide margin.

✘ It is unlikely that the increase in basic inflation in the second quarter was due to demand pressures. Even though loose monetary policy and recovery of confidence in the private sector have lent impetus to acceleration in economic growth and a closing of the production gap that was quicker than expected, the level of the latter continues to be negative. Installed capacity usage indicators and those for the labor market, as well as the calculations made by the Deputy Manager for Economic Studies (SGEE) indicate that production is still to be found below its “potential” level.

✘ Over the last months, peso depreciation has continued to be transmitted to inflation in the consumer price index (CPI). Likewise, thanks to exchange stability, the effect of devaluation on inflation in the producer price index (PPI) for imported goods is beginning to recede. In the second semester, inflationary pressure from devaluation could continue to drop if the exchange rate does not register any new peaks.

✘ Although policy actions undertaken up until last April seem to have moderated inflation expectations, available indicators show that they remained at levels above the target.

✘ In the second quarter, inflation without food was also affected by shocks to supply (energy and fuel), the impact of which was; nevertheless, lower than in the first quarter.

✘ In brief, acceleration in basic annual inflation during the second quarter was due to pressures from the exchange rate and expectations. Although the effect of devaluation on inflation in imported goods would begin to give way, continued transmission of depreciation to consumer prices and the persistence of inflation expectations above 6% are the main risks that fulfillment of 2003 and 2004 goals face.

## **B. FORECASTS**

✘ For the rest of the year, Bank of the Republic models indicate a significant reduction in consumer inflation, which will depend largely on a deceleration in food inflation. On the other hand, inflation without food could record additional rises until the third quarter, driven by supply

shocks (energy and fuel) and by a lag in the effect of devaluation. Only during the fourth quarter would there be a sustained drop in this indicator.

✘ In general terms, inflation forecasts for 2003 are less than those shown in the March report. However, there are difficulties comparing the two forecasts, due to changes made in the central model (transmission mechanisms model – TMM). Particularly, in its most recent version, the TMM used shows figures for the end of the year, while in the previous version, used for the March Report, showed forecasts for the average of the fourth quarter.

✘ The central path of the TMM shows that consumer inflation in December, 2003, will be near 6%. This result, however, is particularly uncertain given that it depends, largely, on an important correction in food prices. The level of inflation without foodstuffs is projected in the range between 6.2% and 7.2% for December, that is, less than the figure presented in the March report, but above the target range announced.

✘ For 2004, the Bank model forecasts an additional reduction in consumer inflation explained basically by the drop in inflation without foodstuffs. For the coming year foodstuffs inflation would converge with basic inflation.

✘ Previous forecasts were calculated under the assumption that the average exchange rate for the second semester would not show any significant recovery. In 2004 some exchange pressure could be expected due to a drop in petroleum income resulting from diminishing international prices. Within this scenario, it can also be assumed that public debt spread will remain stable.

✘ Given the foregoing, predicted reduction in inflation without foodstuffs during the coming year and a half, to levels compatible with the 2003 target and with the announced range for 2004, depends for the most part on the absence of renewed inflationary pressure from devaluation. Furthermore, it depends on greater growth not generating significant pressure on prices, which assumes that the economy will continue to count on sufficient productive capacity to attend to greater production without the appearance of any sector bottlenecks.

✘ As usual, the foregoing forecasts are subject to several risk factors:

✘ There are risks of a rise in the exchange rate, both in the short run (due to both domestic and regional factors), as well as in the medium term (due to a drop in petroleum prices). In the recent past, acceleration in devaluation has been followed by increases in the expectations for inflation.

✘ Credibility in achieving the inflation target for this year is low, and if inflation in December is greater than 6%, it would be the second consecutive year in which the inflation target has not been fulfilled, in spite of having been defined in the form of a range (5%-6%).

- ✘ Closure in the production gap is occurring more rapidly than projected in previous reports. Even though a reduction in the production gap has been one of the objectives of monetary policy over the last few years, closure of the gap can lead to future increases in basic inflation when it is not accompanied by strong credibility in inflation targets.
- ✘ Inflation in foodstuffs is projected at 5.0% on the average for 2004, which contributes significantly to the fact that forecasts for total inflation are fluctuating in the range of 3.5%-5.5% for that year. It is obvious that there is a lot of uncertainty as to the expected performance of this variable, given the high variance that characterizes it.
- ✘ Finally, in the medium term, one of the main risks is associated with the evolution of fiscal variables, which affect the perception of agents as to macroeconomic stability, and therefore, their expectations for devaluation.

### C. MONETARY POLICY DECISIONS

- ✘ Taking into account that inflation to the consumer has begun to descend and that forecasts for inflation suggest that this tendency can be maintained over the coming year and a half, that the exchange rate has maintained a stable level, and that the present foreign and domestic environments do not lead us to foresee any inflationary pressures arising that would compromise a long term price stabilization policy, the Board of Directors at its July 25<sup>th</sup> Meeting decided:
- ✘ To keep Bank of the Republic intervention interest rates unaltered, which will continue thus: minimum expansion 7.25%, Lombard expansion 11%, maximum contraction 6.25% and Lombard contraction 5.25%.
- ✘ Not to carry out option auctions in the month of August intended to accumulate or reduce accumulation of international reserves, given recent performance of the exchange market.

# **INFLATION REPORT**

**JUNE, 2003**

Prepared by:  
**Programming and Inflation Unit**  
**Deputy Manager of Economic Studies**



OFFICE OF THE DEPUTY MANAGER OF ECONOMIC STUDIES

Hernando Vargas Herrera

Deputy Manager

DEPARTMENT OF PROGRAMMING AND INFLATION

Juan Mauricio Ramírez Cortés

**Director**

**INFLATION SECTION (\*)**

Adolfo León Cobo Serna

**Head**

Angélica María Arosemena Martán

Edgar Caicedo García

Luisa Fernanda Charry Velásquez

Alexandra Espinosa Dussán

Mario Nigrinis Ospina

William Prieto Bustos

Andrés Mauricio Velasco Martínez

(\*) The following people collaborated in the preparation of this report: Franz Hamann Salcedo, Director of the Macroeconomic Models Department, Luis Fernando Melo Velandia, Rocío Clara A. Mora Quiñones, Norberto Rodríguez Niño, Jesús Antonio Bejarano R., Pablo Querubín Borrero and Paola Figueroa González.

# TABLE OF CONTENTS

PRESENTATION, SUMMARY AND CONCLUSIONS	5
A. THE ECONOMIC SITUATION AND INFLATION	5
B. FORECASTS	6
C. MONETARY POLICY DECISION	8
I. RECENT EVOLUTION OF INFLATION	13
A. INTRODUCTION	13
B. TRANSITORY INFLATION	15
C. BASIC INFLATION	16
II. DETERMINANTS OF INFLATION	19
A. SYNTHESIS OF MONETARY POLICY, MONETARY AND FINANCIAL VARIABLES	19
B. SUPPLY AND DEMAND	25
C. EMPLOYMENT, SALARIES AND PRODUCTIVITY	30
D. THE PRODUCTION GAP AND USE OF INSTALLED CAPACITY	31
III. THE INTERNATIONAL CONTEXT	33
A. DEVELOPED ECONOMIES	34
B. LATIN AMERICA	36
C. BASIC PRODUCT PRICES	37
IV. INFLATION FORECASTS	40
A. INTRODUCTION	40
B. MACROECONOMIC PROSPECTS	41
C. POLICY TRANSMISSION CHANNELS AND FORECASTS	43
D. RISKS	46



## RECENT EVOLUTION OF INFLATION

### A. INTRODUCTION

During the second quarter of 2003, annual inflation for the consumer varied from the rising tendency that it had shown since last October. In June it was situated at 7.2%, a lower level than the one recorded in March (7.6%), and lower than estimates made by the Bank of the Republic in its previous *Inflation Report*. Even though this inflation rate is higher than the exact target (6.3%) agreed to with the International Monetary Fund (IMF) for this month, it is within the margin of two percentage points accepted in the Agreement as a fulfillment criterion (Figure 1 and Table 1).

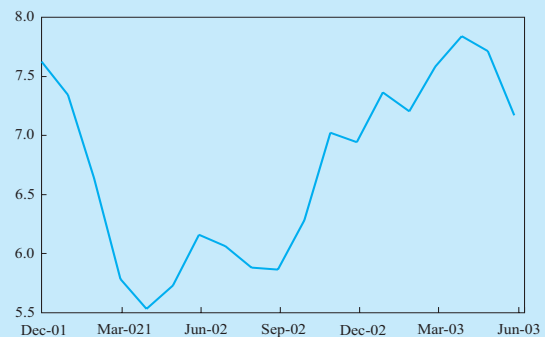
As foreseen, during the last two months total inflation dropped as a result of a fall in food inflation. On the other hand, inflation without food, continued to increase, albeit at a slower rhythm than that observed in the previous quarters.

Past inflation reports identified the principal factors that explained the increase in basic inflation after October 2002. Emphasis was placed on the effect of accumulated devaluation, as well as the greater expectations of inflation and several temporary maladjustments (added-value tax reform- IVA), updating of fuel prices and higher public utilities rates). In the last three months, several of these factors remained in force. In particular, inflation without foodstuffs continued to increase due to adjustments in energy and fuel rates, as a result of the persistent

effect of devaluation and probably due to greater expectations of inflation. On the other hand, recent acceleration in economic growth during the last three months has not implied important demand pressures.

In recent months there were some indications that suggest that some of the aforementioned inflationary pressures could be diminishing. In the first place, in spite of the fact that the rate of annual devaluation implicit in the current exchange rate continued to be high, its relative stability since April contributed to the stabilization of annual inflation of marketable goods in the consumer price index (CPI), while that of imported goods in the producer price index (PPI) decreased. Secondly, it was confirmed that pressures originating in the tax reform were transmitted to inflation in their entirety during the first quarter, so that additional recovery is not expected in this area for the rest of the year. Third, readjustments in public

**FIGURE 1**  
ANNUAL INFLATION TO THE CONSUMER  
(PERCENTAGE)



Source: Administrative Department of Nacional Statistics (DANE),  
Calculations by the Banco de la República.

**TABLE 1**  
**INFLATION INDICATORS**  
**(ANNUAL PERCENTAGE VARIATIONS)**

	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03
<b>I. CPI</b>	5.9	6.2	6.0	7.0	7.6	7.2
Food	7.2	9.2	8.6	10.9	9.9	7.7
Housing	3.8	4.2	3.8	4.1	5.6	6.0
Clothing	2.2	1.1	0.9	0.7	0.9	1.4
Health	9.3	9.7	8.9	9.2	9.7	9.1
Education	9.3	6.7	6.4	6.5	4.9	5.0
Culture and entertainment	7.0	5.9	4.7	5.3	4.1	4.8
Transport	5.8	5.0	5.1	5.9	9.5	10.7
Miscellaneous expenses	6.7	6.8	7.7	9.0	9.0	8.1
<b>II. Basic Inflation 1/</b>	5.6	5.3	5.1	5.6	7.0	7.2
CPI without food	5.3	5.0	4.9	5.4	6.6	7.0
Nucleus 2/	6.0	5.8	5.6	6.2	7.8	8.0
CPI without primary food, fuel and public utilities 3/	5.4	5.1	5.0	5.3	6.5	6.6
<b>III. PPI</b>	3.6	2.9	6.8	9.3	11.5	10.9
According to use or economic end						
Intermediary Consumption	2.9	1.2	6.2	9.9	13.1	12.4
Final Consumption	4.3	4.6	6.3	7.3	7.5	8.0
Capital Goods	2.4	2.8	10.8	15.6	19.6	15.4
Construction material	5.0	5.0	6.4	7.8	11.7	11.7
According to Origin						
Produced and Consumed	4.4	3.4	5.5	7.1	8.3	8.6
Imported	0.8	1.6	10.7	16.0	21.7	18.3
Exported 4/	(7.1)	(2.4)	15.5	28.5	34.7	18.7
According to Industrial Origin (CIU)						
Agriculture, Forestry and Fishing	2.4	2.1	6.8	9.2	7.8	8.7
Mining	1.7	2.1	22.4	33.3	37.7	26.6
Manufacturing Industry	3.9	3.2	6.3	8.6	11.6	11.1

1/ Corresponds to the average of the three basic inflation indicators the Banco de la República calculates.

2/ 20% of weighting excluded from the CPI for those items that registered the highest price volatility between Jan. 1990 and April, 1999.

3/ Due to a change in the basket, inflation without primary food, fuel and public utilities registered a shift downward.

4/ The Total PPI does not include exported goods. The calculation is made with the weighted sum of goods produced, consumed and imported.

Source: Banco de la República, Deputy Manager of Economic Studies (SGEE). Tabulations of PPI, CPI and Administrative Department of National Statistics (DANE).

utilities rates, although they persisted, were more moderate.

The recovery observed in expectations continues to be the main risk that price stabilization policy faces in the future. During the second quarter, the survey of inflation expectations carried out by the Bank of the Republic and the difference between interest rates for TES fixed earnings securities and variable TES

indicated a level of inflation expectations for December of this year of about 7%. This level is not compatible with the inflation goal for this year and would have a negative effect on fulfillment of the target for next year in the case it were not corrected in the next few months.

In this report, Bank of the Republic forecasts continue to foresee a reduction in food inflation for the rest of

the year, which should help reduce total inflation. A slight increase in inflation without foodstuffs is also expected due to additional adjustments in fuel prices and public utilities rates. If the effects of these shocks are discounted, basic inflation should be situated at levels in accordance with the target range set for 2003, given the absence of strong demand pressures and furthermore, because as long as the exchange rate remains stable, pressures for devaluation should continue to cede.

---

## B. TRANSITORY INFLATION

---

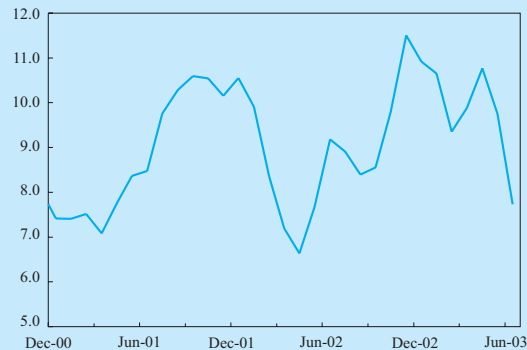
In the second quarter, pressures on temporary inflation continued to be derived from two sources: the price of food (especially primary and processed products) and public utility and fuel prices.

Even though inflation in the food group dropped significantly in May and June, its level was still high, contributing to an increase in total inflation. In June, it reached 7.7%, that is, 2.2 percentage points below the value recorded in March (9.9%) (Figure 2) and in line with forecasts made by the Bank of the Republic. Lower food inflation was due to a reduction in the price of primary foods and stabilization of processed food prices.

The improved performance of primary foods responded basically to a fall in the price of potatoes, while stabilization of processed food prices during the last two months was due to stability in the exchange rate and to lower international input prices. Finally, the group of food outside the home, also showed more favorable performance than forecast, possibly because demand factors weighed more and were able to hold in pressures on costs derived from higher input prices (especially of public utilities).

For the second semester of 2003, the Deputy Manager of Economic Studies (SGEE) expects food inflation

**FIGURE 2**  
**ANNUAL FOOD INFLATION (CPI)**  
**(PERCENTAGE)**



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

to continue on the decline and to reach levels that will help total inflation make its target. This forecast is based on good news about the behavior of crops in the primary product category, greater agricultural productivity following the end of the Niño phenomenon, initiation of a cattle liquidation phase and also due to statistical effects. Finally, to the degree that prices of imported materials continue to drop and the exchange rate remains stable, it is hoped that processed food inflation will also begin to contribute to a reduction in food inflation.

With respect to fuel and public utilities rates, during the second quarter there continued to be adjustments, although at a lesser rhythm than that observed early in the year. Annual inflation in public services rose from 14.8% in March to 16.0% in June, while fuel inflation went from 17.2% to 18% in the same period. The increase of fuel prices resulted in acceleration in the inflation of transportation services, which is currently at 9.9%, 1.2 percentage points above its record in March.

For the remainder of 2003, the SGEE continues to expect that inflation in public utilities, especially electrical energy and gas, will remain high in relation to established targets and will continue to contribute

to the increase in total inflation. In the case of inflation in fuels, the recent upswing in international oil prices could bring about greater adjustments than those predicted in this *Inflation Report* in the coming months.

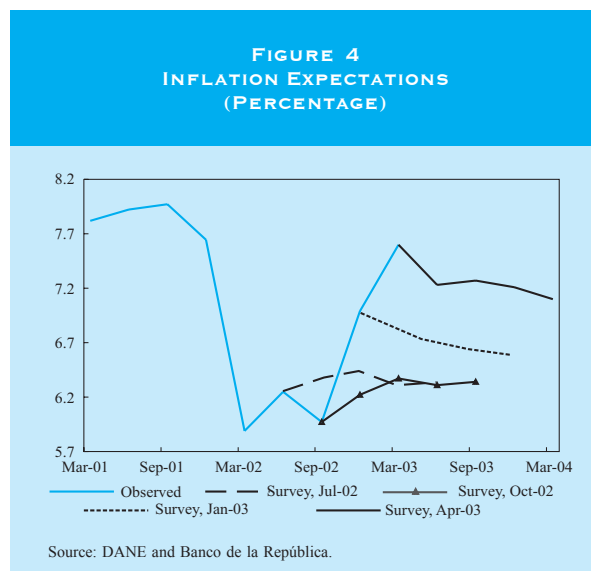
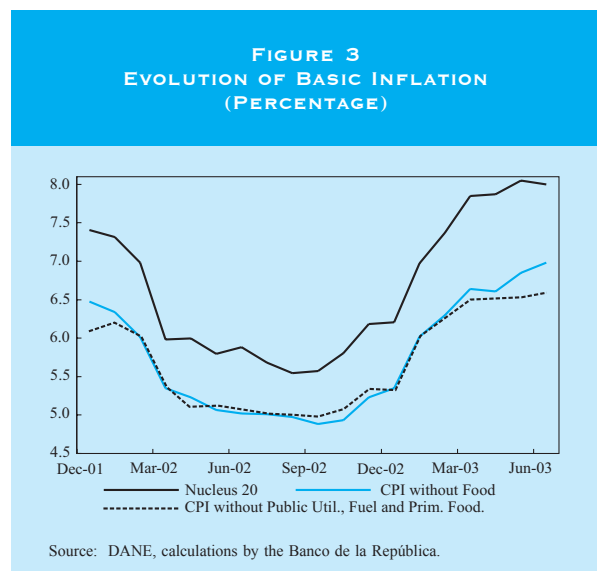
### C. BASIC INFLATION

During the second quarter of 2003, all of the basic inflation indicators analyzed by the Bank of the Republic increased compared to March, although they did so at a slower rhythm than in the previous two quarters (Figure 3). The indicator that increased the most was inflation without food, which rose from 6.6% in March to 7.0% in June, while the “inflationary nucleus”<sup>1</sup> and inflation without primary food, fuel and public utilities registered levels of 8.0% and 6.6%, increasing by 0.2 and 0.1 percentage points respectively. As a consequence of the foregoing, the average of the three basic inflation indicators rose from 7.0% in March to 7.2% by the end of June.

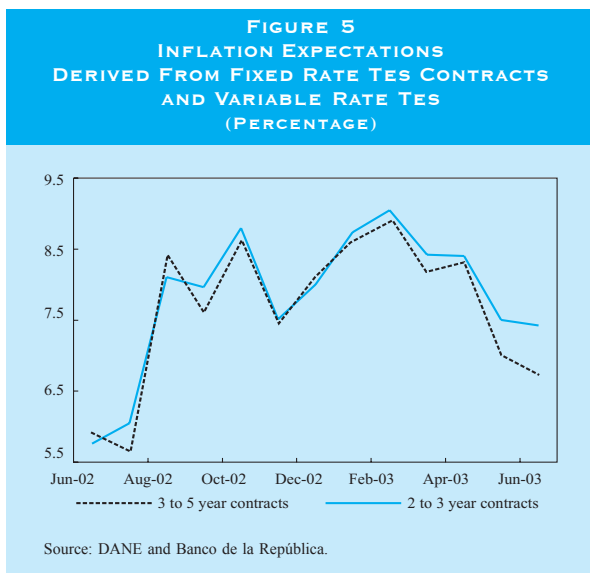
<sup>1</sup> The inflationary nucleus excludes from the CPI, the 20% weighting for some items that between January 1990 and April 1999 recorded the greatest price volatility.

Nevertheless, it is important to highlight that the basic inflation measures that the Bank of the Republic calculates today do not completely eliminate the effects that transitory shocks have on other items, such as the increase in public utilities and fuel prices. Therefore, the possibility that current levels of indicators that measure basic inflation are overvalued cannot be ignored.

Basic inflation is that which is directly associated with monetary policy and that brings together inflationary pressures from demand, devaluation and changes in expectations with respect to inflation. Analyzing each one of those determinants, it can be observed that currently the principal risk for the 2003 inflation target and price stabilization in the long run continues to be inflationary expectations. The few indicators available suggest that the inflationary comeback over the last few months continues to be reflected in agents’ expectations. In the last survey on economic expectations carried out by the Bank of the Republic in April, 2003, the percentage of credibility in the inflation target was 16% that is significantly less than the 42% credibility reported last January. Likewise, inflation expectations reported by agents for the following four quarters were significantly higher than those reported in previous surveys, and greater by one percentage point than the inflation target set for 2003 (Figure 4).



Another indicator that confirms high inflationary expectations is the difference between the fixed rate TES securities and the variable rate TES, which since June, 2002 has been systematically over 5.5% (Figure 5). Finally, previous results are in line with forecasts by other economic analysts. On the average, local analysts increased their inflation forecasts for December, 2003 from 6.6% in March to 7.2% in June, while international analysts did so from 5.9% to 6.3% (Table 2).



**TABLE 2**  
INFLATION FORECASTS FOR 2003

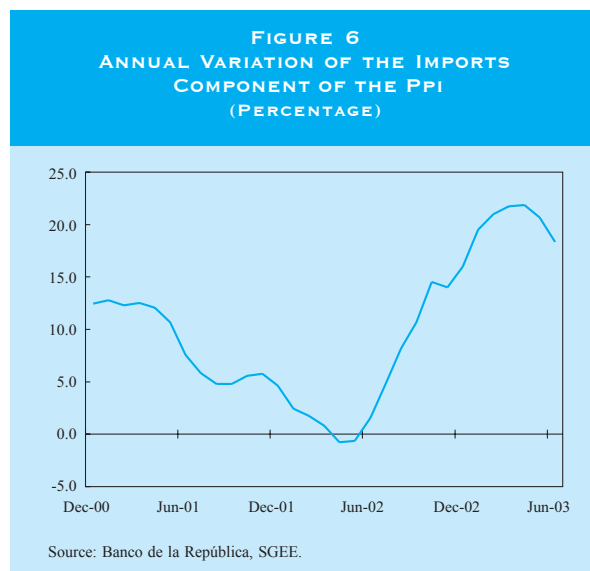
	Mar-03	Jun-03
<b>National</b>		
Dinero	6,8	6,8
Su valor	6,0	6,8
ANIF	6,5	6,8
Fedesarrollo	7,5	7,5
<b>Average</b>	<b>6,7</b>	<b>7,0</b>
<b>International</b>		
Goldman Sachs	5,5	5,5
IDEA Global	6,5	6,4
J.P. Morgan	5,7	6,3
Deutsche Bank	6,0	7,0
<b>Average</b>	<b>5,9</b>	<b>6,3</b>

Source: Analysts and the Report ¿como nos ven afuera?, SMT, July, 2003.

With respect to transmission of devaluation to inflation, some sub indices indicate that pressures from devaluation have begun to slacken. Inflation for the consumer from marketable goods dropped from 8.9% in March to 8.7% in June, while the PPI for imports decreased by 3.4 percentage points in the same period and closed at 18.3% (Figure 6). Furthermore, rapid reduction in the PPI, both for imports and the rest of its components is important in that it suggests less cost pressure for the coming months.

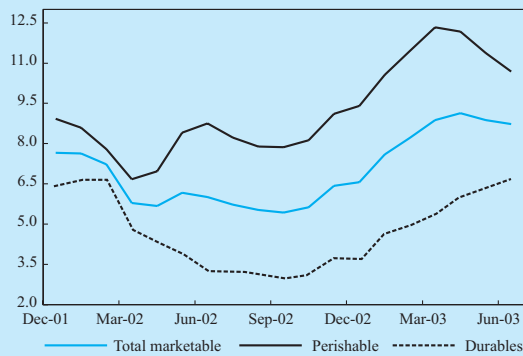
Figure 7 shows the reclassification of inflation from marketable goods among durable goods (with slow inventory turnover) and perishable goods (with fast inventory turnover). It can be seen that although both series began to exhibit higher annual inflation rates since October, 2002, inflation for perishable marketables has begun to fall, suggesting that the effects of devaluation have already been transferred to these prices for the most part. On the other hand, inflation for durable marketable goods continues to pick up said effect. It is possible then to expect relatively high inflation for marketables as compared to the target for a few more months (Figure 7).

Indicators directly associated with demand inflation that have not been affected by shocks that are





**FIGURE 7**  
**ANNUAL INFLATION OF MARKETABLE GOODS**  
**BY TYPE OF GOODS (CPI)**  
**(PERCENTAGE)**



Source: DANE and Banco de la República.

completely transitory or by devaluation show inflation levels much lower than the target. This is the case for annual inflation in the category of entertainment, culture, and leisure activities (4.8%), education (5.0%), clothing (1.4%), rent (3.3%) and services other than

public utilities (4.2%). Said results are consistent with the negative value that the production gap still shows in Colombia (according to Bank of the Republic estimates) and with the level of use of installed capacity in industry, which is below its historical average. All of the foregoing suggests that inflation in Colombia is not subject to demand pressures and that probably it will not be for the rest of the year. All in all, it is possible that some particular pressures could arise on prices in sectors that could be using their productive capacity at normal levels, such as is the case of the paper and cardboard and chemical substances sectors.

Finally, the SGEE considers that a significant reduction in basic inflation during the next months would require conditions of stability in the exchange rate. Only under these circumstances can a gradual disappearance of the effects of accumulated devaluation on costs be expected and an important reduction in inflationary expectations.

## DETERMINANTS OF INFLATION

### A. SYNTHESIS OF MONETARY POLICY, MONETARY AND FINANCIAL VARIABLES

In response to the upswing in basic inflation and the indications of an increase in the inflationary expectations since the last quarter of 2002, the Board of Directors of the Bank of the Republic (BDBR) decided to increase the Bank's intervention rates two times during the first semester. On the first occasion it was raised by 100 basic points (bp) beginning January 20 and the second by the same amount on April 29.

Since then intervention rates settled at the following levels: minimum expansion 7.25%; Lombard expansion, 11%, maximum contraction 6.25% and Lombard contraction, 5.25% (Figure 8). As expected, the interbank rate increased by a similar amount, and in June it registered 7.4%, as compared to 6.1% in March and 5.0% in December, 2002.

As analyzed in other parts of the report, acceleration in basic inflation and to the producer can be explained mainly by the effect of high devaluation rates since June, 2002 on prices of marketable goods and imported inputs.

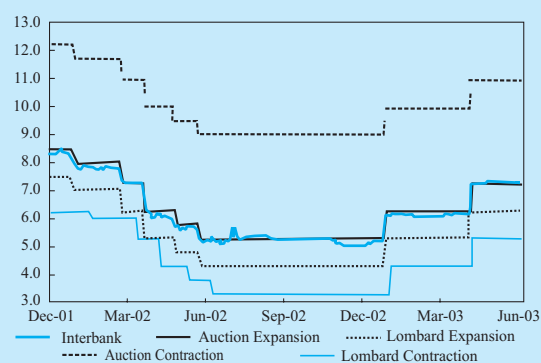
For this reason, in addition to adjusting rates, the BDBR also announced at mid-February its intention of reducing accumulations of international reserves of up to US\$1,000 million (m) during the year 2003,

through the mechanism of auctions.<sup>2</sup> Based on this announcement, in the months of March, April and May reserves were auctioned for a total of US\$200 m each month, of which US\$344.5 m. were used.

Exchange interventions by the Bank of the Republic helped to stabilize the exchange rate, and since the beginning of the month of April, the exchange rate has begun to drop. In June, it settled at an average of \$2,827, with annual average devaluation at 19.6%. The call auctions for reducing accumulations were not used, due to appreciation in the exchange rate. This performance of the exchange rate was also common in other economies of the region as a result

<sup>2</sup> In accordance with existing regulations, the auction of "call" options to dis-accumulate reserves is put into effect when the representative market rate (TRM) exceeds the order 20 mobile average for this rate by 4%.

**FIGURE 8**  
**INTERBANK AND INTERVENTION RATES FOR THE**  
**BANCO DE LA REPÚBLICA**  
**(PERCENTAGES)**



Source: Banco de la República.

of a decrease in risk indicators and the entrance of foreign capital. Appreciation in the exchange rate allowed for suspension of the sale of reserves, and at the end of June a put options auction for the purchase of international reserves for US\$50m, was held, but only US\$6.2m was used.<sup>3</sup>

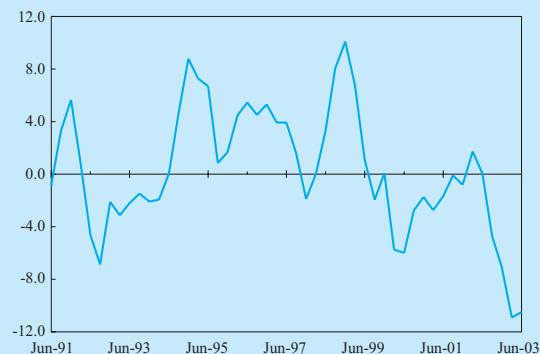
In spite of this development of the exchange rate, the effect of huge accumulated depreciation since mid-2002 continued to generate readjustments (with a lag) in domestic prices. The CPI for marketable goods closed in June with annual inflation of 8.8%, very much above the value observed in December (6.6%). In the last two months a slight correction downward in the inflation of these goods was observed, which suggests that pressures for devaluation have begun to recede (as long as the rate of exchange does not significantly increase in the rest of the year). There is also evidence of a slight reduction in inflation expectations according to the results of the expectations survey done by the Bank in the month of June.

The increase in the intervention rates did not prevent monetary policy from continuing to be loose, as shown by the stability of interest rates: at the end of the second quarter, the DTF kept to the level observed since the beginning of the year (7.8%), and something similar happened with placement rates. Expanded monetary supply (M3) registered a growth rate of (11.3%) which was compatible with expectations for nominal gross domestic product.

With respect to interest rates on public debt, their level tended to drop during the first semester of the year, and particularly as of May, favored by exchange stability and by greater credibility in monetary policy. Furthermore, the market for public debt was also strengthened by the decrease in country risk on

<sup>3</sup> Put options can only be made effective when the TRM is at less than 4% below the order 20 mobile average.

**FIGURE 9**  
**INDICATOR OF MONETARY CONDITIONS (IMC)**  
**(PERCENTAGE)**



Source: Banco de la República, SGEE.

sovereign debt over the last six months. The indicator for monetary conditions (MCI)<sup>4</sup> shows that, although to a lesser degree than three months ago, monetary policy continues to be loose in relation to aggregate demand upon considering jointly the relative effects of the exchange rate and the interest rate. The position of the indicator can be explained by the low levels of the interest rates and depreciation in the real exchange rate observed in June, 2003 (Figure 9).

## 1. Monetary and credit aggregates

### a. Monetary base

The second quarter began with acceleration in the growth of the monetary base as a result of greater demand for liquidity associated with Easter Week<sup>5</sup>. Nevertheless, from May onwards the annual growth rate of this aggregate recovered its declining tendency

<sup>4</sup> The MCI shows the degree to which suppl of liquidity is more restrictive (if the indicator is positive), or broader (if the indicator is negative) as compared to liquidity in the economy in the reference period (1998:01). This indicator is a weighted sum of changes in the short term interest rate and the exchange rate, with respect to the values for the base year. The weights reflect the relative effects of variations in the interest rate and of the exchange rate on aggregate demand and inflation, contributing to characterize the current state of monetary policy.

<sup>5</sup> Easter Week in 2002 had fallen within the first quarter.

that had been observed since September of last year, ending in June at 16.0% (as compared to 17.6% in March) (Figure 10).

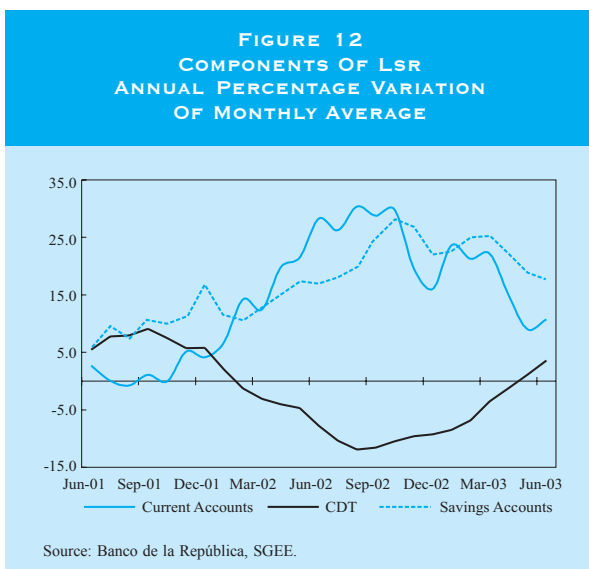
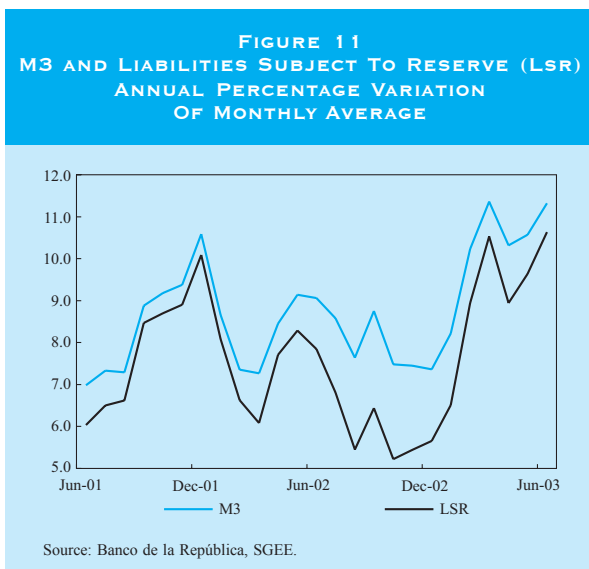
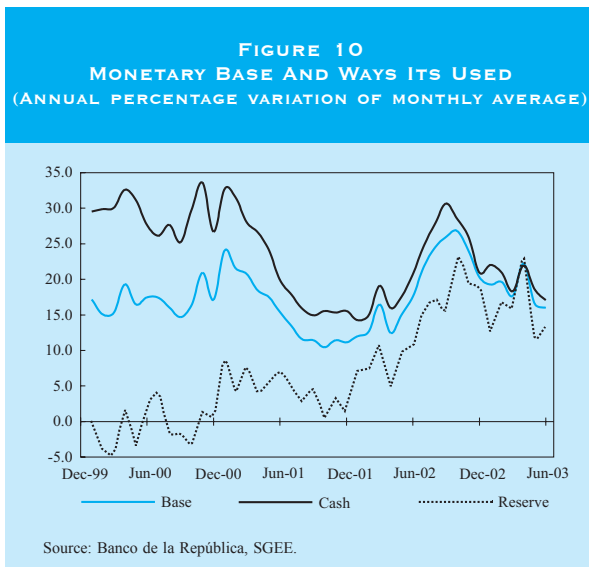
*b. M3*

A broader monetary aggregate for liquidity (M3) sustained its growth in June of 11.3%, somewhat similar to that shown three months before and compatible with the growth of nominal GDP expected for 2003<sup>6</sup>. It is important to indicate that the tendency throughout the year has been rising with the exception of April, the month in which it showed a deceleration in annual growth.

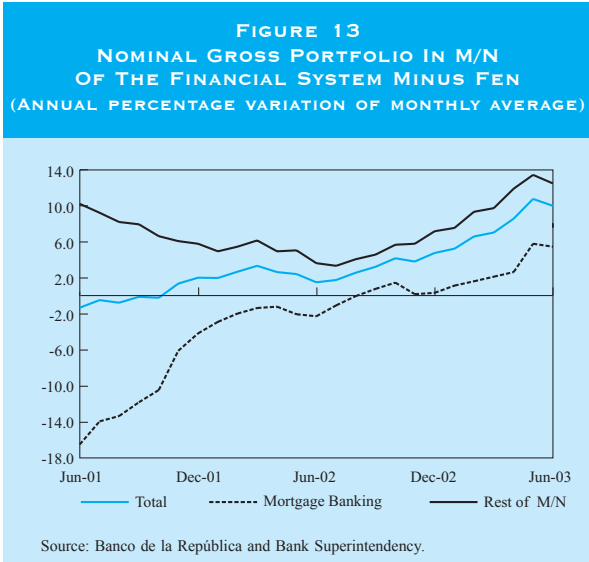
The main component of M3, liabilities subject to reserves (LSR), at the close of the second quarter of the year, showed a balance with annual growth (10.6%) that was stable when compared to the level for March (Figure 11). However, by type of liability a recomposition of M3 towards less liquid assets can be identified, particularly, the annual growth of current accounts and savings which experienced significant deceleration. The growth of current accounts dropped from 22.1% in March to 10.7% in June, while average balance in savings accounts dropped from 25.2% in March to 17.7% in June.

The high growth of financial savings (estimated by M3) so far this year is the counterpart to consolidation of credit recovery granted by the financial system. Thus, during the second semester, annual growth of the balance of portfolio in national currency (m/n) continued to accelerate, except in the month of June which adjusted downward slightly (Figure 13). Gross portfolio rose from growing at 4.1% at the end of the fourth quarter of 2002, to 9.7% in June, 2003.

This portfolio performance is the result of the evolution both of non-mortgage portfolio and mortgage banking. Nevertheless, the non-mortgage



<sup>6</sup> Projected growth of nominal GDP is 10%.



bank portfolio shows greater recovery by an upswing in annual growth of 6.6% in December to 9.8% in March and 12.1% in June. For mortgage banking, on the other hand, it began to show positive annual growth rates in January of this year, closing the second quarter at 5.1% with growth that was three percentage points higher than the figure for March.

Various economic analysts agree in stating that the favorable dynamics for credit in the first semester of the year are associated with various factors, among which we should point out: the low interest rates prevailing in the market, recovery of internal demand, new opportunities opened up by the Law for Andean Trade Pact and Eradication of Drugs (ATPDEA), better expectations on the part of investors and greater trust in the economic management of the country, and the lesser perception of risk by the financial system itself. As mentioned in the last report, in the case of mortgage portfolio, its recovery is a reflection of the greater expectations derived from measures tending to reactivate construction activity, such as insurance against inflation, housing leasing and savings accounts for the promotion of construction (AFC).

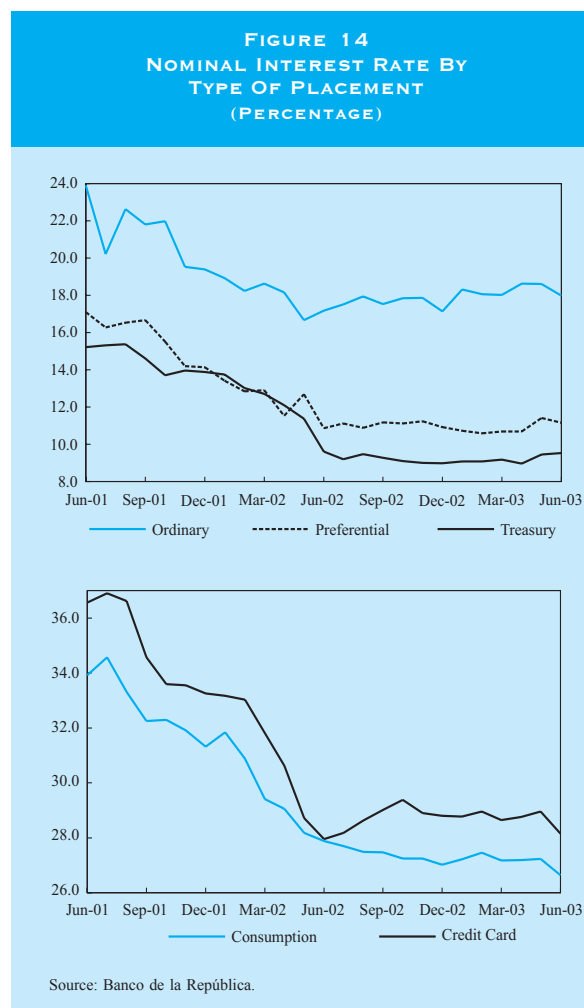
According to the latest expectations survey carried out by the Bank of the Republic in April of this year,

the percentage of people surveyed that perceived greater availability of credit continued to increase, to the point that it reached its maximum level since the survey has been applied (73.7% in April).

## 2. Interest rates

As mentioned before, in the first six months of the year, the BDBR decided to adjust the entire intervention interest rate structure upwards on two occasions, without there being any clear effects of rises in market rates (Figure 14).

Thus the DTF registered a level very close to that of last March (7.8%) in June and to that of December, 2002 (7.7%). Something similar happened with the aggregate active rates calculated by the Bank of the Republic. The total rate, which includes bank



treasuries, rose from 14.9% in December of last year to 15.1% in March and 14.9% in June. The same rate without treasuries went from 16.0% in December to 16.2% in March and 16.3% in June.

Likewise, interest rates by type of credit showed levels similar to those of three and six months ago. Consumption interest rates fell from 27.0% in December to 26.6% in June, for credit cards from 28.8% to 28.2%, while preferential rates rose from 10.9% to 11.2%, treasury rates from 9.0% to 9.5% and ordinary rates from 17.1% to 18.0%.

Meanwhile, and as a consequence of the upswing in inflation, real interest rates *ex post* liabilities and assets fell, in general, with respect to levels observed last December.

Finally, the results available from the last expectations survey done by the Bank of the Republic correspond to the month of April and show that the agents surveyed expected the DTF to close in 2003 at 8.4%, a level that is 20 bp lower than the level quoted in the last survey.

The reason for this drop, or even the absence of transmission of the rates from the Bank of the Republic to the market, resides fundamentally in the loose supply of liquidity which the economy has had. Other complementary explanations refer to the reduction of credit risk and the substitution between the TES and DTF rates. In the first case, the credit risk, as a component of the interest rates has been reduced in the last few months overall, throughout the financial system, as a reflection of the recovery of profits and greater solidity of credit institutions, which has allowed relative stability in market interest rates<sup>7</sup>. The second explanation makes reference to the fact that the TES B and the short term CDT

<sup>7</sup> This explanation is drawn from the work of Alejandro Reveiz, (2002). “Factores determinantes del aumento del margen entre la DTF and la TIB”, Bank of the Republic, Deputy Manager for Monetary and Reserve Matters, internal circulation.

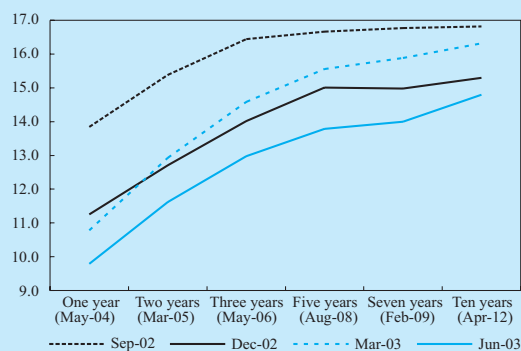
markets are substitutes, given that the lower yield on TES for all terms in June as compared to December of last year facilitated a stable DTF rate<sup>8</sup>.

Throughout the second quarter of the present year, the interest rates for negotiation of public debt bonds in the secondary market fell along all points on the yield curve. Correction of rates downward was a bit stronger for securities with longer maturation periods, causing the yield curve to flatten out slightly at 5.54% in March and 5.01% in June (Figure 15).

Favorable news in the fiscal area (liquidation of Telecom and restructuring of the Institute of Social Security and Ecopetrol) allowed recovery of prices for internal public debt bonds. These adjustments sent positive signals throughout the market as to the commitment that the present government has to

<sup>8</sup> In the last report it also explained that the market rates did not react to changes in the positions of interest rates set by the BDBR because accumulated peso appreciation to date during the year (at June it was 2.26%), avoided a greater adjustment in the Bank’s intervention rates. According to the results of the ICM, real appreciation of 5% on the peso avoided an upward adjustment of 1% in the interest rates. Furthermore, there is a term of several months of accommodation for market rates in the face of increases in intervention rates according to a study by Juan Manuel Julio (2001). “Relación entre las tasas de intervención del Banco de la República y las tasas del mercado: an empirical exploration”, Economics Drafts, Bank of the Republic, No. 188, September.

**FIGURE 15**  
**TES YIELD CURVE (\*)**  
**(PERCENTAGE)**



(\*) Information according to the electronic negotiation system (SEN)  
Source: Banco de la República.

reduce expenditure. Additionally, there was other good news in the areas of economic growth and employment. Finally, the TES prices tended to improve in the last weeks, favored by a fall in interest rates in the European Union and the United States, which made investment in debt markets of emerging countries more attractive.

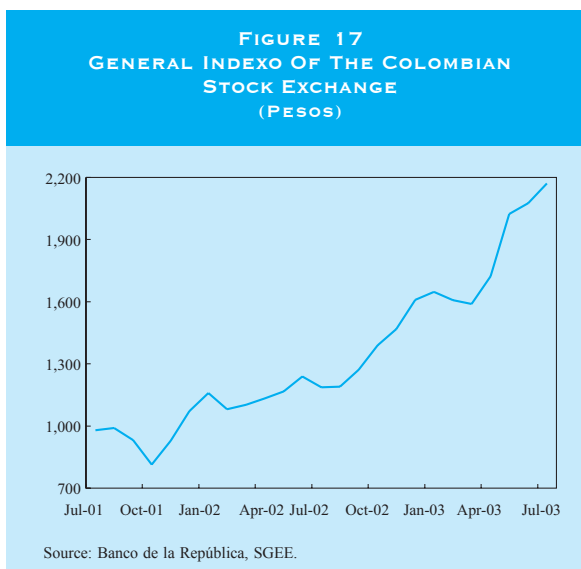
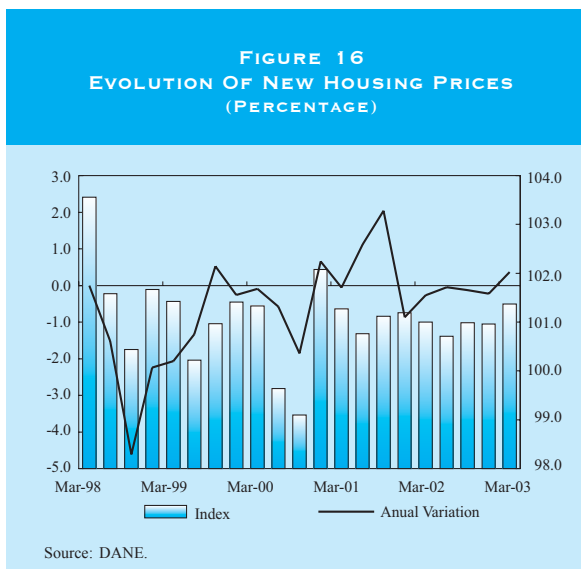
### 3. Housing prices and the general index of the Colombian Stock Exchange

Housing prices continued along the path toward recovery in the first quarter of the year, rising from growth of -0.2% in the last quarter of 2002, to 0.4% in the first quarter of 2003 (Figure 16). According to the indicator of the National Administrative Department of Statistics (DANE), the highest growth among types of housing was recorded for houses. At the same time, apartment prices still continue at negative growth, although at a lesser degree than that recorded three months ago. However, another indicator shows clearer recovery in housing prices<sup>9</sup>.

The general index for the Colombian Exchange (IGBC) continued along the rising tendency initiated at the end of 2001. At closure of the second quarter, the IGBC recorded an annual yield of 67.6% and quarterly growth of 30.7%, as the most attractive investment in the market (Figure 17). Likewise, return offered by the stock market valued in dollars at the close of the second quarter exceeded 40% annually.

According to market analysts, this valorization is due largely to low interest rates and the lesser attractiveness of assets set in foreign currencies. Furthermore, reduction in the rhythm of inflation, advancement of the fiscal program and positive

<sup>9</sup> The price indicator for housing designed by the Nacional Planning Department (DNP) shows annual growth in Bogota of 19.1% in May, while for Medellín it was 7.5% in April.



expectations in the area of foreign trade and economic growth have favored yields in the stock market.

### 4. Exchange rate

Performance of the exchange rate during the second quarter of the year responded to policy actions taken by the Board of Directors of the Bank of the Republic and the evolution of international capital markets. As noted in the *March Inflation Report*, the BDBR announced in mid-February its decision to intervene in the exchange market up to an amount of US\$1,000 m of its international reserves and convoked an options call for March, April and May to lower the accumulation

of international reserves by US\$200 m monthly. These announcements together with the favorable foreign environment allowed the exchange rate to appreciate during the months of April and first half of May. These events made it possible at the end of May for the Bank to announce that it would not carry out such an option in June, which did not cause any important changes in the tendency of the exchange rate for the remainder of the quarter, except for a brief peak between the 19<sup>th</sup> and 23<sup>rd</sup> of May. Therefore, during the month of June the representative market rate (TRM) fluctuated around \$2,825 in a very slightly volatile situation (Figure 18).

In spite of greater stability in the exchange rate in the second quarter, accumulated depreciation continued to be high. By June 30<sup>th</sup>, the nominal exchange rate recorded annual depreciation of 17.4%. Likewise, in the first semester average nominal depreciation was -26.5%. In general terms, the behavior of the exchange rate continued to follow the general tendency of the country risk premium on Colombian foreign debt (Figure 19) and the behavior of other currencies in the region.

Due to a reduction in the rhythm of nominal depreciation, the real exchange rate dropped between March and June remaining, nevertheless, at one of its historically highest levels. In fact, the index of the real exchange rate (ITCR1)<sup>10</sup> calculated by the Bank of the Republic reached 135.6 in June (Figure 20). Compared to the value of the same index one year ago, a real devaluation of 19.7% was observed.

---

## B. SUPPLY AND DEMAND

---

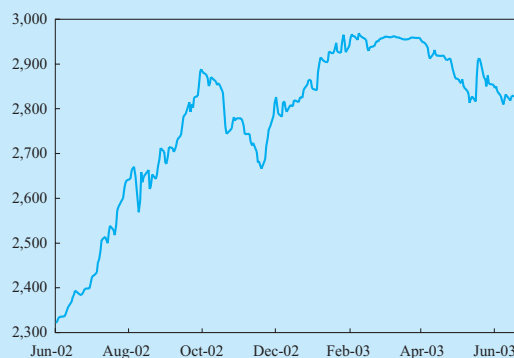
### 1. Synthesis

Although economic growth during the first quarter was greater than expected, the economy continued to operate

---

<sup>10</sup> The ITCR1 uses the producer price index for the country and its 20 trade partners.

**FIGURE 18**  
**NOMINAL EXCHANGE RATE**  
**(TRM, PESOS PER DOLLAR)**



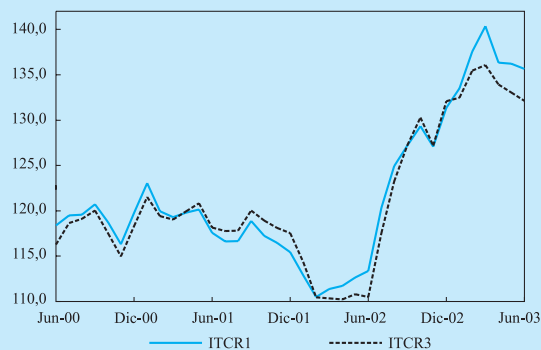
Source: Banco de la República.

**FIGURE 19**  
**RISK PREMIUM (EMBI COLOMBIA) VS. TRM**



Source: Banco de la República.

**FIGURE 20**  
**REAL EXCHANGE RATE**  
**ITCR1 AND ITCR3, (1994= 100)**



Source: Banco de la República.



below potential and it will probably remain there for the coming quarters. In any case, the production gap is closing more rapidly than expected in the previous report.

So far this year, economic activity has been developing within a more favorable environment. On the one hand, agents' trust both internally and externally has improved. On the other, the loose monetary policy implemented by the Bank of the Republic has begun to be reflected in recovery of credit and the financial system. Furthermore, the significant increase recorded in foreign remittances in the first quarter could have compensated, in part,

for the negative effects that the application of tax reform had on available household income.

Available information shows that in the second quarter, foreign demand continues to be weak, even worse than was projected in the last report. In May non-traditional exports continued to contract in spite of the good performance of those sent to the U.S.

## 2. First quarter 2003

In the first quarter of the year the economy accelerated its rhythm of growth remarkably (Table 3). This

TABLE 3  
ANNUAL GROWTH OF REAL GDP FROM THE DEMAND PERSPECTIVE  
(PERCENTAGE VARIATION)

	2002 (p)					2003 (p)
	I	II	III	IV	Annual	I
<b>Gross Domestic Product</b>	(0.04)	2.33	2.02	2.41	1.68	3.82
Total Imports	(8.11)	(1.56)	4.27	9.04	0.88	6.61
<b>Total end supply</b>	(1.32)	1.71	2.38	3.44	1.56	4.23
End Consumption	1.73	20.23	2.17	1.49	1.91	1.77
Households 1/	2.28	2.29	2.56	2.31	2.36	2.03
Final domestic household consumption 2/	1.90	1.89	2.42	1.96	2.04	1.94
Non-durables	0.20	0.78	1.64	1.12	0.94	1.06
Semi-durables	3.15	(1.65)	4.00	1.92	1.84	(0.23)
Services	1.93	1.90	1.89	2.18	1.98	2.61
Durables	13.05	17.17	9.87	6.33	11.41	6.67
Government	0.22	2.05	1.07	(0.86)	0.62	1.04
Gross Capital Formation	(16.68)	4.70	16.52	26.42	7.44	33.16
Gross Fixed Capital Formation	1.02	7.01	8.04	11.42	7.04	16.82
Agriculture, forestry, hunting and fishing	10.60	14.53	17.56	11.26	13.43	(0.08)
Machinery and Equipment	(2.35)	(4.90)	6.21	6.40	1.47	11.63
Transportation Equipment	(18.76)	8.62	16.58	24.06	8.15	68.23
Buildings	29.39	33.74	24.15	33.02	30.06	7.84
Civil Works	(16.00)	(3.87)	(6.80)	(5.43)	(7.86)	25.58
<b>Subtotal: End Domestic Demand</b>	(1.10)	2.61	4.32	5.12	2.74	5.85
Total Exports	(2.40)	(2.89)	(7.38)	(5.17)	(4.47)	(4.11)
<b>Total End Demand</b>	(1.32)	1.71	2.38	3.44	1.56	4.23

(p) Provisional.

1/ Includes purchases of goods by residents abroad, and excludes those of non-residents made within national territory

2/ Corresponds to end consumption by resident households in the national territory.

Source: DANE.

observed growth (3.8%) was greater than expected and leads to predictions that GDP growth for this year could be above the government's target (2.0%).

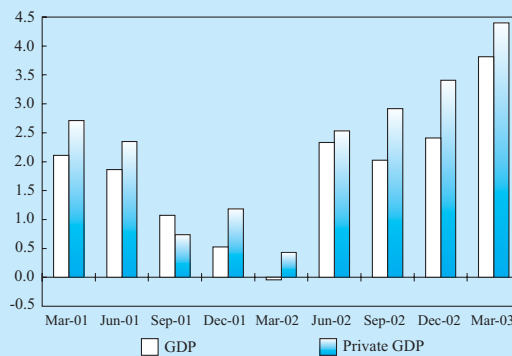
The result for GDP in the first quarter can be explained by the positive performance of the private sector (Figure 21). Although the DANE does not provide a breakdown between the private and public sectors, the performance of the former can be estimated by excluding the entries for crude oil exploitation, civil engineering and works, and government services. According to this measurement for the first three months of this year, its annual growth rate was 4.4%. Private activity has been recovering since the first quarter of 2002.

With respect to expenditure, internal demand was the most dynamic component, in line with expectations given in the previous report (Figure 22). On the other hand, net external demand contributed nothing to economic growth as a consequence of lower petroleum exports and the drop in sales to Venezuela.

#### *a. Private expenditure*

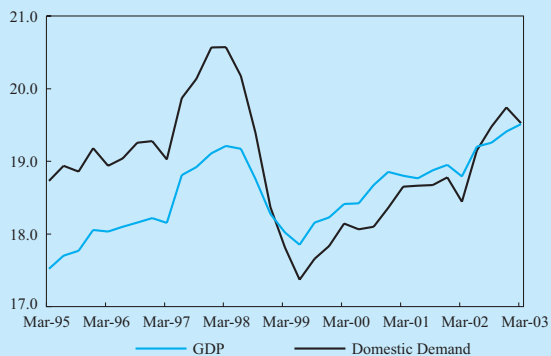
The greater growth of private expenditure appeared in the categories of investment in transportation equipment and in machinery and equipment (Table 3). In the first instance, during the first quarter, some airlines made significant purchases to modernize their fleets and take advantage of the situation in the Colombian air industry by taking on new routes. With respect to investment in machinery and equipment, the manufacturing industry has initiated investment projects using tax exemptions on capital goods imports that took effect in October, 2002 and other positive factors observed throughout the year, such as recovery of industrial production, and the initiation of Atpdea and improvement in the economic and socio-political conditions for investment, which is at its highest point since 1994, according to the Fedesarrollo indicator (Figure 23).

**FIGURE 21**  
ANNUAL REAL GDP GROWTH  
TOTAL AND PRIVATE  
(PERCENTAGES)



Source: DANE, calculations by Banco de la República.

**FIGURE 22**  
GDP VS. DOMESTIC DEMAND  
SERIES CORRECTED FOR SEASONALITY  
(TRILLIONS OF 1994 PESOS)

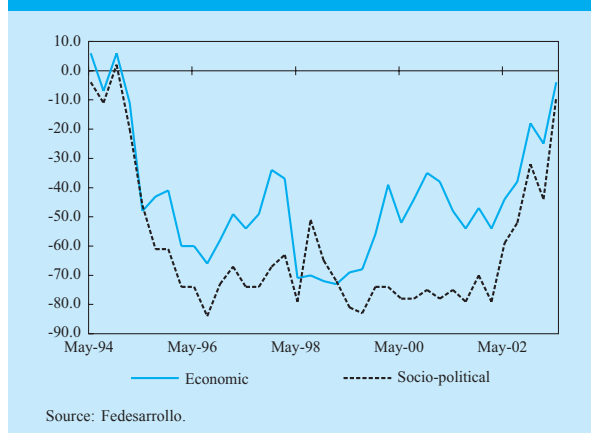


Source: DANE.

In addition to the expenditure on capital goods, investment grew due to an important accumulation of inventory. This situation which occurred at the same time that industrial sales registered their highest growth rate (8.6%) since the second quarter of 2000, can be interpreted as a desirable accumulation of inventory that reflects greater optimism on the part of industrialists as to economic performance for this year.

In the first quarter of 2003, household consumption grew at a slower rate than that observed in earlier periods (Table 3). This result contrasts with the

**FIGURE 23**  
**CONDITIONS FOR INDUSTRIAL INVESTMENT**  
**(MAY/94 – MAY-03)**  
**(BALANCES)**



better performance than other consumption indicators showed for the same period, such as credit card sales, Fedesarrollo and Fenalco trade surveys, new car sales and hotel occupation indices. It does not ignore the fact though that slow growth in household consumption can be a result of irregular factors that affect DANE measurement, such as Easter Week<sup>11</sup>, or the loss of representativeness of the sample due to shifting of consumers toward other business establishments, such as marketplaces and problems related to the deflators used.

#### *b. Government expenditure*

As mentioned in the preceding report, the first quarter of the year showed a significant growth in expenditure on civil works investment (25.6%), due to the backlog of payments that occurred in the early months of the 2002, -16%, with respect to the first quarter of 2001 (Table 3). On the other hand, government consumption grew by only 1.0%.

<sup>11</sup> According to the monthly sampling of retail business by DANE, in March of this year sales without fuel dropped by 2.9% annually, while in April it showed a growth of 3.9%. In 2002 when Easter Week fell in the month of March the opposite phenomenon occurred; sales increased in March and fell in April.

#### *c. Exports*

In the first quarter of the year, the unfavorable performance by exports (Table 3) was mainly due to lower petroleum production as well as the drop in sales to Venezuela. These factors were not compensated by the recovery in sales to the United States (thanks to the initiation of Atpdea), nor by the improved performance that exports to other trade partners showed up until March<sup>12</sup>.

#### *d. Prospects*

Taking into account the signals of recovery for credit and available indicators at the writing of this report (July), GDP growth for 2003 could be greater than forecast in the government's established target (2.0%). By economic sectors, it is expected that growth will continue to be driven by construction, financial services, manufacturing, commerce and transportation.

For the second quarter, in particular, a slower growth of GDP than that observed in the first quarter is expected due to the Easter Week effect<sup>13</sup>. In order to compensate for this effect and to be able to evaluate the performance of the economy, the most suitable is to take GDP growth for the entire semester (Figure 24). This report predicts higher growth in the first six months than that observed in the second semester of the last year, preserving the tendency toward economic recovery that has been occurring since the second semester of 2001.

To judge by the evolution of the various indicators, in the second quarter, internal demand, in particular private demand will continue to be the most dynamic component in expenditure. In the case of household

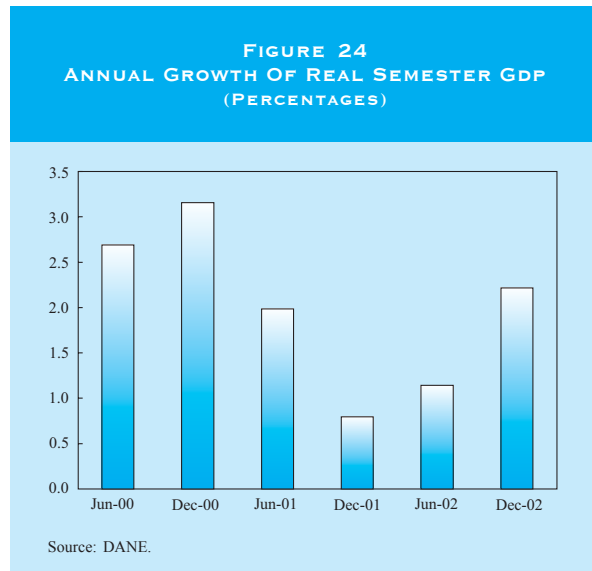
<sup>12</sup> Countries other than the United States, Ecuador and Venezuela.

<sup>13</sup> Due to the fact that Easter Week in 2003 fell in the month of April while in 2002 it had been in March, the second quarter of this year has two working days less than the second quarter of the preceding year.

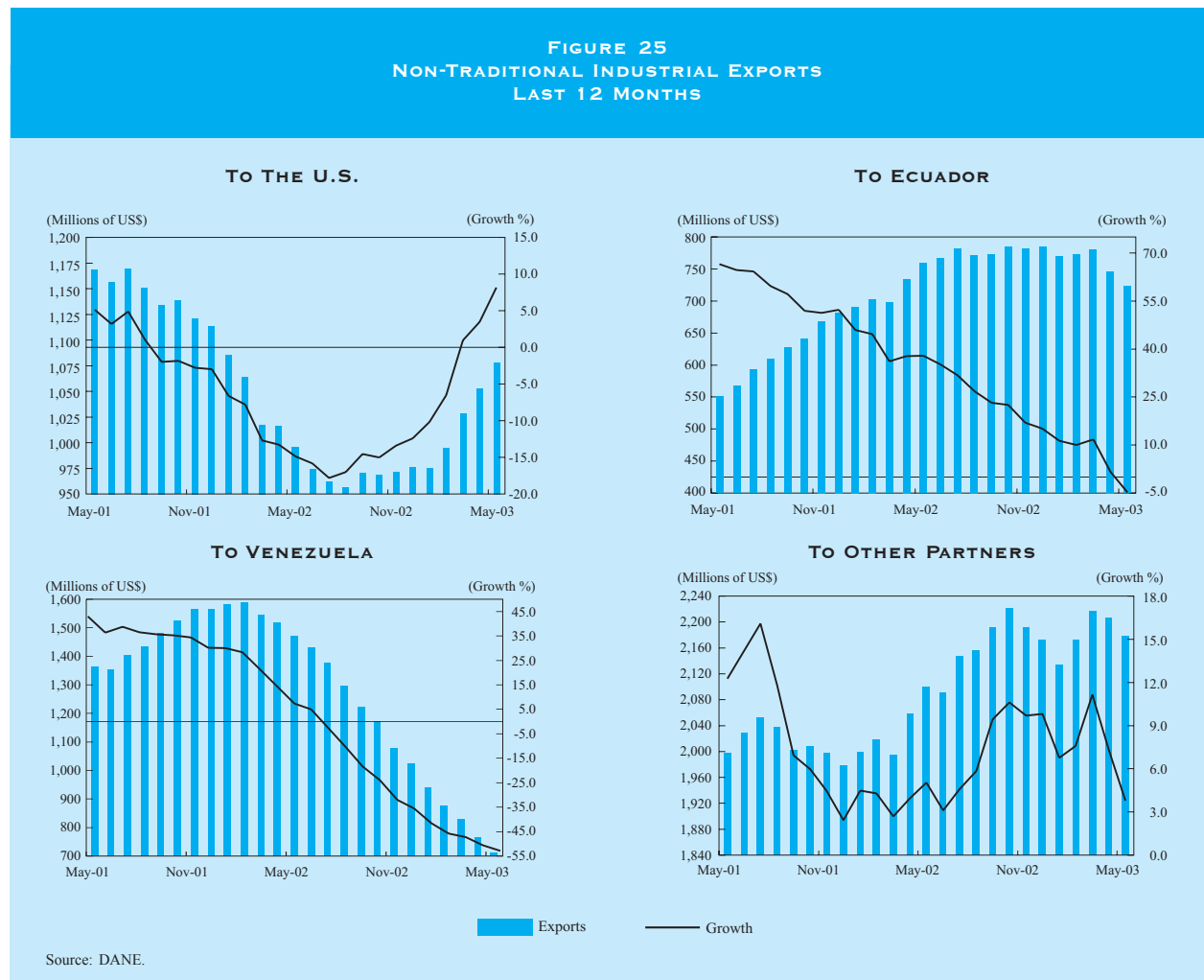
consumption, its growth can improve with respect to that observed in the first quarter, given the evolution for credit card sales in April and May, consumption

portfolio, hotel occupation and businessmen's opinion surveys. Investment expenditure is expected to continue to be the most dynamic component of domestic demand, reflecting greater optimism among agents.

As far as exports are concerned, a recovery in the second quarter of the year was recorded due to the positive performance that coal sales had in the months of April and May<sup>14</sup>. Due to the deterioration that sales to Ecuador, Venezuela and other destinations suffered that month, it is expected that non-traditional industrial exports will show a contraction, in spite of the favorable performance of sales to the United States (Figure 25).



<sup>14</sup> Between April and May, exports of coal Grez 107.7% annually in value and 141.8% in volume.



## C. EMPLOYMENT, SALARIES AND PRODUCTIVITY

Variables in the labor market do not show any important pressure on inflation. Although nominal industrial salaries have adjusted above the inflation goal, the increase in productivity/hour seems to indicate a reduction in labor costs. Employment continues to fortify its recovery sustained principally on the good performance of economic activity.

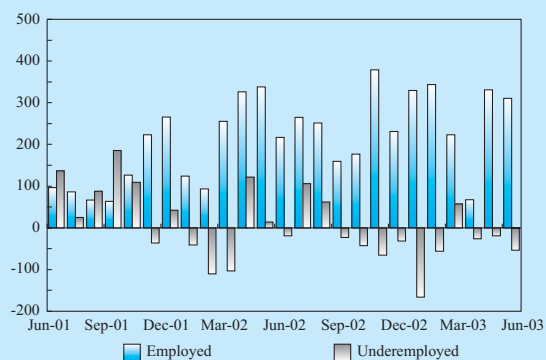
### 1. Employment

Employment continues to recover, as a consequence of a comeback in economic activity. In the month of June the number of employees in the thirteen principal cities increased 4.2% with respect to the same period of the previous year. In the first semester average growth was 4.1% (Figure 26).

An improved employment situation has allowed the urban unemployment rate to drop by 1.07 percentage points with respect to the previous year (Figure 27). On the national level the unemployment rate has decreased from 16% in June, 2002 to 14.2% in the same month of 2003.

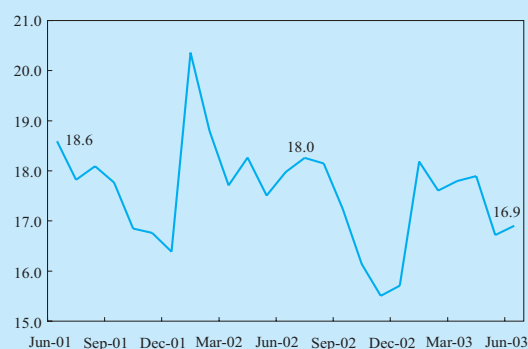
The increase in the number of employees is greater than the increase in the number of people declared to be underemployed. While the number of urban employees has increased so far this year (January to June), by an average of 267,356 people, the number of people declaring themselves underemployed has increased by 43,856, and the number who declare they are underemployed by hours has decreased by nearly 105,042 people with respect to the same period last year. In rates, this means that the percentage of underemployment by hours dropped from 14.3% in May, 2002 to 12.9% in May of this year (Figure 28).

**FIGURE 26**  
ANNUAL GROWTH IN THE NUMBER OF EMPLOYED AND UNEMPLOYED FOR THE 13 PRINCIPAL CITIES  
(THOUSANDS OF PEOPLE)



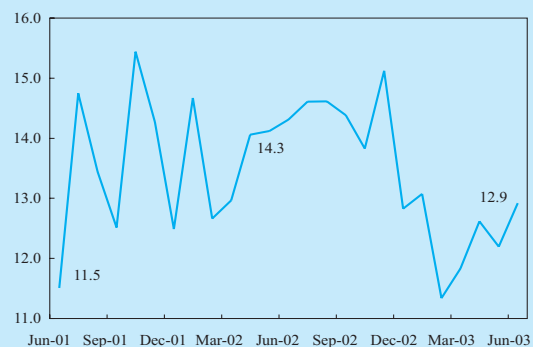
Source: DANE.

**FIGURE 27**  
RATE OF UNEMPLOYMENT IN 13 CITIES  
NEW METHODOLOGY  
(PERCENTAGES)



Source: DANE, continuous household survey (ECH).

**FIGURE 28**  
UNDEREMPLOYMENT FOR LACK OF HOURS  
NEW METHODOLOGY  
(PERCENTAGES)



Source: DANE, continuous household survey (ECH).

## 2. Salaries

In the first five months of the year, annual average growth of nominal salaries was 7.3% as opposed to 9.5% in the same period of the previous year. In the case of workers, the adjustment was 6.2% compared to 11.1% for the previous year. In the case of employees it was 8.6% compared to 7.9% for 2002.

Annual growth of nominal salaries has implied an average growth of -0.4% in real terms in the first five months of 2003, less than that observed for the same period in 2002 (2.7%). In this year (January-May), real salaries for workers and employees grew -1.9% and 1.0% respectively (Figures 29 and 30).

## 3. Industrial productivity

Labor productivity per hour has increased since the beginning of 2002, and the first five months of 2003 exceeded by 4.7% on the average, the figure observed the year before (Figure 31).

The long term component of industrial productivity has been growing annually above 1% since the end of 2000. Its growth in the last 12 months reached 2.23 percentage points, while its average growth from January, 1991 until April, 2003 has been 1.3% (Figure 32).

The foregoing analysis means that increases in real industrial salaries have been accommodated thanks to the performance of productivity such that they have not generated additional cost pressures that could affect the movement of industrial prices.

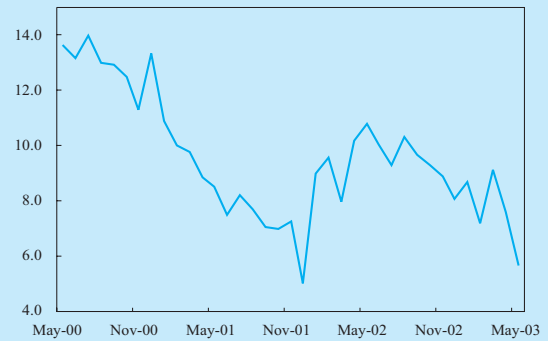
---

## D. PRODUCTION GAP AND USE OF INSTALLED CAPACITY

---

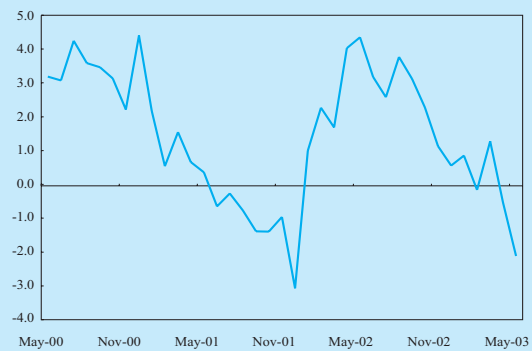
Analysis of the product gap has varied a little compared to that presented in the previous report. Although different indicators estimated by the Bank

**FIGURE 29**  
**TOTAL NOMINAL SALARY**  
**(ANNUAL VARIATIONS)**  
**(PERCENTAGES)**



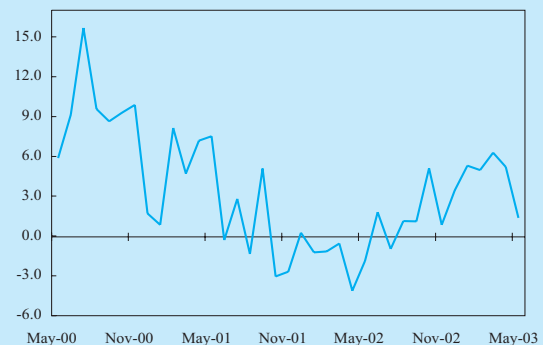
Source: DANE.

**FIGURE 30**  
**TOTAL REAL INDUSTRIAL SALARY**  
**(ANNUAL VARIATIONS)**  
**(PERCENTAGES)**



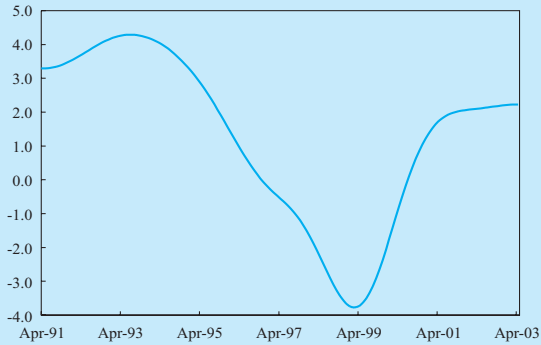
Source: DANE.

**FIGURE 31**  
**WORKER-HOUR PRODUCTIVITY**  
**(ANNUAL VARIATIONS)**  
**(PERCENTAGES)**



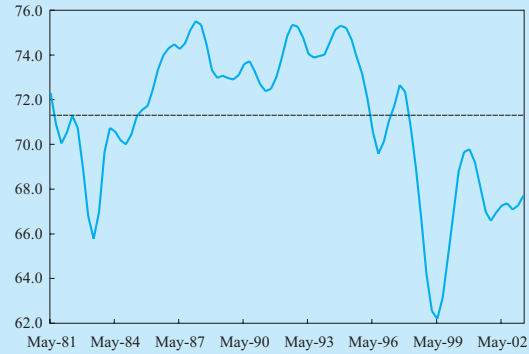
Source: DANE.

**FIGURE 32**  
**LABOR PRODUCTIVITY**  
**STRUCTURAL COMPONENT**  
**(ANNUAL VARIATIONS)**  
**(PERCENTAGE)**



Source: DANE.

**FIGURE 33**  
**USE OF INSTALLED CAPACITY**  
**IN INDUSTRY, ACCORDING TO FEDESARROLLO**  
**(TREND COMPONENT)**



Source: Fedesarrollo, calculations by Banco de la República, SGEE.

of the Republic continue to confirm that the economy is operating below its potential, it is probable that the production gap is closing more rapidly than projected due to the fact that the economy's performance has been better than expected.

In any case, the use of installed capacity in industry remains at historically low levels. By breaking down the series of installed capacity use that Fedesarrollo has into its irregular, seasonal and trend components, and taking the latter as a reference point (Figure 33) it can be seen that in May the indicator reached a level of 67.7%. This percentage is slightly above that observed in February of this year (67.3%), and 4.9%

less than the historical average between 1981 and 2003. By doing the same exercise for the installed capacity use indicator of the National Industrial Association (ANDI) a similar result is found: the figure for May is 3.0% less than the average for the period 1990 to 2002.

Taking into account that greater product growth has been accompanied by increased investment, potential product could show a higher growth rate in the coming quarters. Due to this situation, the economy still has a margin for growth at higher rates in this year without causing inflationary pressure in relation to aggregate demand.

### III

## INTERNATIONAL CONTEXT

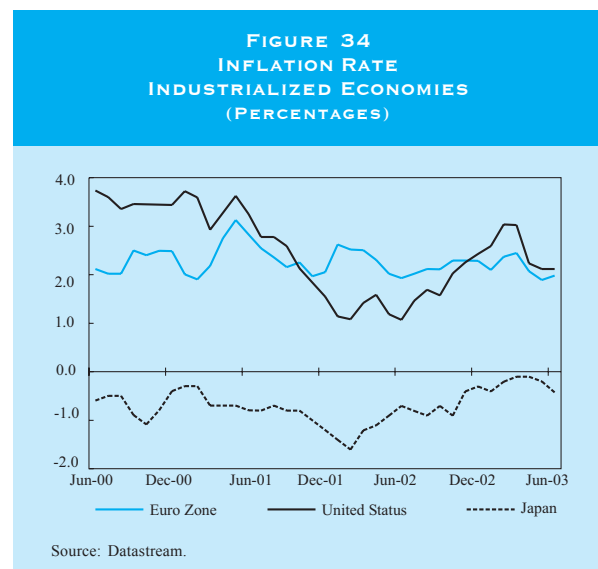
During the second quarter of the year worldwide economic conditions did not change substantially with respect to the information presented in the March *Inflation Report*. For developed countries the forecast for weak economic growth in 2003 persists, particularly in the Euro zone where the appreciation of their currency has affected competitiveness, exports and investment. On the other hand, in the United States consumption expenditure did not show any major activity in the second quarter of this year, while in the corporate sector they continue to face problems of excess installed capacity and low profits. Unemployment continues to increase, and households maintain a high level of debt and the high deficit on current account continues to be a factor of uncertainty. Even so, analysts expect improved performance during the second semester of 2004. In Japan, no signs of recovery can be observed: employment continues on a path toward deterioration, while exports have decelerated and investment remains weak.

Concomitant with weak dynamism in productive activity and employment, inflation, both in the United States and in the Euro zone, was reduced in the second quarter (Figure 34). This situation allowed the Fed and the European Central Bank to reduce their rates by 25 bp and 50 bp respectively. Due to the weakness in these economies and the low levels of inflation no change in position of their monetary policy is expected for the rest of the year.

The low level of activity in the behavior of developed economies could have a double effect for Latin

American economies. On the one hand, it tends to reduce demand for export products, thereby debilitating their current account balances. On the other hand, it can generate excess liquidity among international investors bringing resources into the region. The latter would be reflected in a reduction of the debt spreads and in a tendency toward the appreciation of exchange rates. These latter two phenomena have been observed with some intensity in recent months.

It is expected that the favorable international atmosphere for Latin American countries will hold stable at least for the rest of the year. Nevertheless, there are factors that can change that situation. Although current conditions indicate that a more rapid recovery of developed economies is rather improbable, if it should occur it would create pressure toward a rise in interest rates and could reverse to a





certain degree the flow of capital toward emerging markets. Likewise, the low levels of interest rates that can presently be observed in these economies limits the possibility that rates will continue to fall. On the contrary, should recent recovery in stock indices in these economies hold stable it could increase agents' preferences for these investments with negative effects on financial flows toward the region.

The low level of world growth should not generate any pressure on international prices of basic products in general. In the case of petroleum, although its international prices have increased since May, they remain within a range defined by the OPEC – Organization of Petroleum Exporting Countries. The high sustained level of crude oil prices could affect the recovery process in developed economies and, therefore, in the world economy.

---

## A. DEVELOPED ECONOMIES

---

In the United States, the forecast for economic growth for this year (2.3%) is slightly lower than that presented three months ago, and the latest economic indicators confirm fears of low economic recovery (Table 4). Although the consumer confidence index improved somewhat after the war with Iraq, it is still at rather low levels (Figure 35). Low interest rates have allowed for an increase in employment in the building sector, but there has been no observable improvement in other sectors, so that unemployment continues increasing (Figure 36).

During the second quarter of the year, the dollar continued to weaken, as has been happening since April, 2002 (Figure 37). Apparently, depreciation of

**TABLE 4**  
**GROWTH FORECASTS**  
**(PERCENTAGES)**

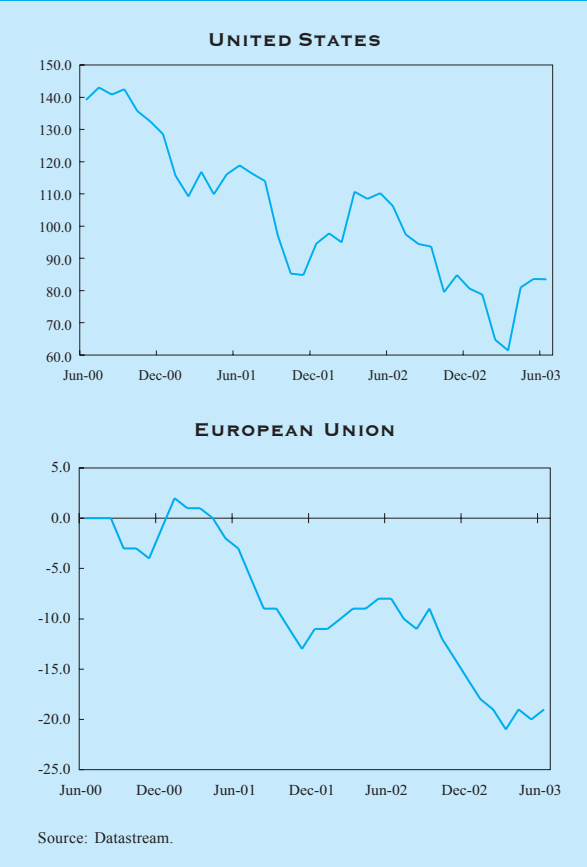
	Observed 2002	Forecast for			
		2003 1/	2004 1/	2003 2/	2004 2/
<b>Developed Countries</b>					
United States	2.4	2.3	3.6	2.4	3.7
Euro Zone	0.8	1.0	2.4	1.8	2.7
Japan	0.3	0.9	0.6	0.6	0.7
<b>Latin America</b>					
Argentina	(11.0)	4.9	3.8	3.4	4.0
Brazil	1.5	1.7	2.9	1.7	2.8
Chile	2.0	3.4	4.2	3.2	4.0
Mexico	0.9	2.1	3.9	2.6	4.2
Peru	5.2	3.9	3.9	3.9	4.0
Ecuador	3.0	2.9	3.4	2.7	3.6
Venezuela	(8.9)	(13.3)	5.7	(15.3)	6.0

1/ Made on July 16, 2003

2/ Made on April 4, 2003

Sources: Observed IMF and Forecasts Datastream

**FIGURE 35**  
**INDICATOR OF CONSUMER CONFIDENCE**



**FIGURE 37**  
**EURO ZONE EXCHANGE RATE**  
**(EUROS PER DOLLAR)**

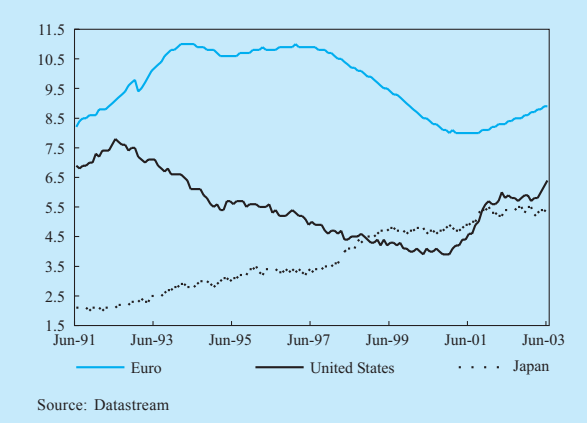


investors prefer more profitable alternatives, such as bonds issued by the emerging economies.

Given the weakness of the economy and the levels of inflation, the Fed decided to reduce its interest rates by 25 bp in June, setting them at 1%. Given that these rates are at historically low levels, new reductions are not expected, but neither are increases for the rest of the year, moreover given that the President of the Fed has publicly announced his intention of keeping interest rates low for a long time until the economy shows it is on a path of sustained growth. According to various analysts, only in the year to come will a monetary policy of contraction be applied.

In Europe, the forecast for current growth (1.0%) is much lower than the one presented three months ago (1.8%) (Table 4). The main concern in the euro zone focuses on Germany<sup>15</sup>, whose GDP in the first quarter of the year grew only 0.2% in annual terms. In the region, appreciation of the euro has affected exports. During the first quarter of the year, total annual growth for GDP and investment decelerated. The household trust index continues at low levels,

**FIGURE 36**  
**UNEMPLOYMENT RATE**  
**INDUSTRIALIZED ECONOMIES**  
**(PERCENTAGES)**



the dollar has been the consequence of the weak economy, high fiscal and current account deficits combined with low interest rates, which has made

<sup>15</sup> German production accounts for approximately one third of the production of the euro zone.

suggesting that in spite of the fact that the political uncertainty caused by the war in Iraq has disappeared, structural economic conditions continue to influence household confidence (Figure 35). The unemployment rate continues to increase, and expectations for employment creation continue to drop in industry and retail business.

Given that fiscal problems persist, there is very little space for the application of policies to stimulate the economy on this front. Likewise, low economic growth could generate in the future a greater fiscal deficit than the limit defined by the Stability and Growth Pact (3% of GDP).

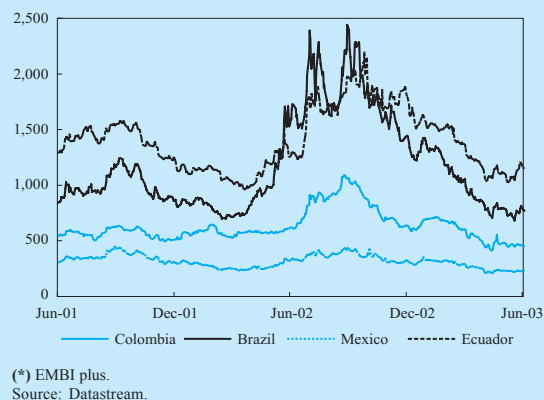
Within a context of moderate economic recovery and appreciation of the euro, annual inflation in the region dropped in the second quarter of the year, and is expected to remain at about 2% for the remainder of this year, in line with the level defined for price stability by the Stability and Growth Pact.

## B. LATIN AMERICA

In Latin America foreign financing conditions continued to be favorable during the second quarter of the year. As indicated in the previous report, the weakness of developed economies, low interest rates in those countries and the fall in stock indices might have generated a greater attractiveness in investment in emerging economies. Thus, between April and June the debt spreads for countries in the region continued to contract, as did exchange rates (Figure 38 and Table 5).

For the rest of the year it is expected that the international climate will remain favorable for financing of Latin American countries. However, as mentioned before, a more rapid recovery than foreseen for developing countries and recovery of stock indices could make investment in those

**FIGURE 38**  
**COUNTRY-RISK PREMIUMS (\*)**  
**LATIN AMERICAN COUNTRIES**  
**(PERCENTAGES)**



**TABLE 5**  
**DEVALUATION OF LATIN AMERICAN CURRENCIES**  
**COMPARED TO THE U.S. DOLLAR**

	Quarterly (*)	Annually end of June
Argentina	(4.8)	(25.7)
Brazil	(15.3)	0.8
Chile	(4.7)	1.9
Mexico	(2.9)	4.8
Peru	(0.2)	(1.2)
Uruguay	(7.1)	43.2

(\*) Corresponds to June devaluation vs. March (end of period)  
Source: Datastream.

economies attractive again to the detriment of Latin America.

Revaluation of Latin American currencies contributed to the fact that inflation remained controlled during the second quarter of the year, facilitating a monetary policy aimed at lending impetus to economic growth. In Brazil, inflation tended to drop, which made it possible for monetary authorities to take actions in favor of the country's productive activity, which continued to register unfavorable figures. In June the Central

Bank of Brazil decided to reduce its intervention rate, Selic, by 50 bp and for the coming months new reductions are expected.

In Venezuela, during the second quarter a strong deterioration of economic activity took place. In fact, in the first quarter GDP fell by 29% in annual terms, thereby completing four consecutive quarters of contraction. A total contraction for the year of -13% is still expected, although this is somewhat less than the -15.3% which was projected three months ago. Although production and oil exports have picked up more quickly than projected, structural problems remain, making a recovery to pre-crisis levels difficult. This circumstance, together with the tax barriers to trade through the exchange law, will continue to constitute an obstacle to eventual recovery in full for Colombian exports to that market.

Last, economic growth in Ecuador is still not too dynamic while the rate of unemployment continues at high levels. Inflation kept on a descending track during the second quarter. In the short term there are important factors leading to uncertainty deriving principally from the possibility of approving fiscal reforms proposed by the government and review of the IMF agreement.

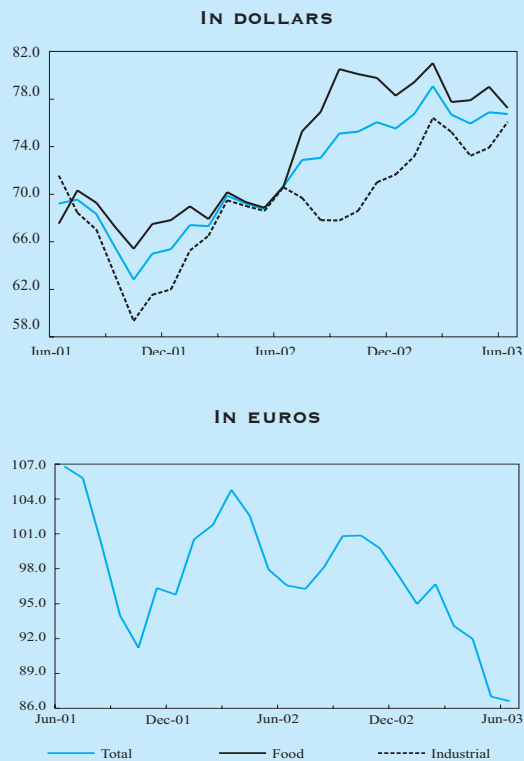
### C. BASIC PRODUCT PRICES

International prices of basic products remained stable during the second quarter of the year. According to the price index in the journal *The Economist*, in June prices recorded growth of 0.1% compared to the level of last March, and 8.6% compared to June, 2002. By sub-groups of goods, during the second quarter of the year a slight reduction in food prices was observed. Thus, in June the price index for this group was

lower by 0.7% than that recorded three months before, although it reached 9.4% above the level registered in June of the preceding year. On the other hand, the price index for industrial goods registered a slight increase (1.1%) with respect to March and growth of 7.8% compared to June, 2002 (Figure 39). The price index measured in euros continued to fall during the second quarter, registering an annual contraction of 10.3% in June.

For the coming months no pressures on international prices are expected. As indicated in the March report, a greater supply of agricultural goods in comparison to that observed in 2002 is expected while the still weak world economy means there will be no pressure deriving from demand, especially for industrial goods.

**FIGURE 39**  
MONTHLY PRICE INDEX  
OF MAIN BASIC PRODUCTS  
(1995 = 100)



Source: The Economist.

## Petroleum and coffee

Although during the month of April international oil prices decreased substantially, following the tendency observed at the end of the previous quarter, in May and June another increase was recorded, which was rather unexpected after the U.S.-Iraq war came to an end. In fact, given the dissolution of all the uncertainty generated by the conflict, weakness of the world economy and end of the winter season, fewer pressures were expected on crude oil prices, such that the OPEC decided at the end of April to reduce daily production by two million barrels as of June first to maintain prices within the range defined<sup>16</sup>.

According to analysts, the increase in price in May and June was not only the consequence of reduced production by the OPEC, but also the doubt shrouding the market with respect to the speed at which production in Iraq should be reestablished to pre-conflict levels. This increase also coincided with publication of figures on the low level of inventories in oil importing countries, especially the United States. The WTI (West Texas Intermediate) oil price was set at an average of US\$28.5 per barrel during the second quarter, that is, 8.5% higher than a year before, although -16.1% lower than the first quarter of the year (Figure 40).

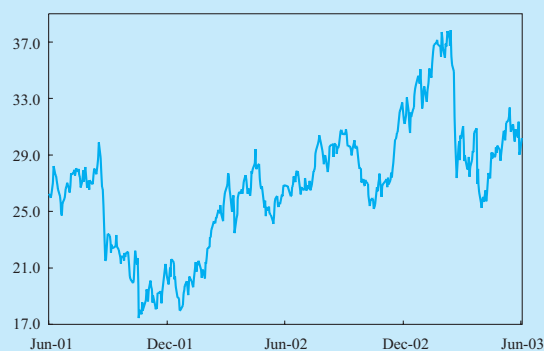
The behavior of international oil prices for the rest of the year is highly speculative and will depend mainly on the level of inventories. For the latter to recover will require production in Iraq to be rapidly reinitiated and growth in demand for oil to be reduced. The latest news indicates that reestablishment of production in Iraq will occur less quickly than hoped at the end of the conflict. Taking

<sup>16</sup> According to the band system established by the OPEC, crude oil prices must remain between US\$22 and US\$28 per barrel for the OPEC's crude oil basket. These prices, in the U.S.'s WTI indicator are approximately equivalent to US\$25 and US\$30 per barrel.

into account the foregoing aspects, experts predict that oil prices for this year will be slightly higher than those indicated three months ago, meaning they are expected to remain between US\$28 and US\$30 per barrel.

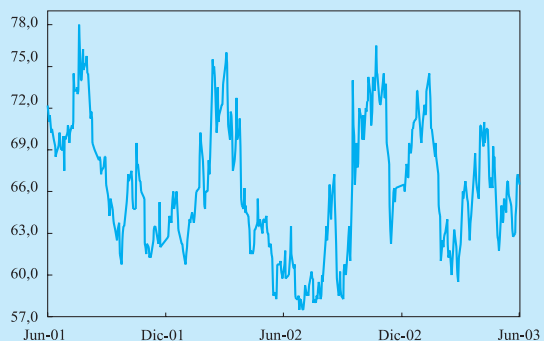
As for coffee, international prices were still low during the second quarter of the year, US\$66.1 cents/lb. on average, showing growth of -1.1% and 1.8% with respect to the levels recorded three months and one year ago, respectively (Figure 41). Production for the harvest year 2002/2003 has been the most outstanding since 1965/1966,

FIGURE 40  
PRICE OF PETROLEUM WTI  
NEW YORK EXCHANGE  
(DOLLARS PER BARREL)



Source: Bloomberg.

FIGURE 41  
PRICES FOR COLOMBIAN-ARABIC COFFEE  
NEW YORK EXCHANGE  
(U.S. CENTS PER LB.)



Source: Bloomberg.

according to the May report of the (ICO) International Coffee Organization. Likewise, consumption both in importing and exporting countries has not recovered its dynamism in spite

of low prices in recent years. It is expected that for the coffee year 2003/2004, Brazilian production will drop which might allow an increase in bean prices.

## IV

### INFLATION FORECASTS

---

#### A. INTRODUCTION

---

In this chapter inflation forecasts are presented for 2003 and 2004 obtained from the Bank of the Republic's MMT and other short term satellite models (See Appendix).

This chapter is divided into four sections. The introduction briefly examines the inflation situation during the third quarter and describes decisions adopted in the matter of monetary policy. The second section analyzes recent evolution of the external and internal macroeconomic context, as well as expected trends in the medium term that serve as a basis for inflation forecasts. The third part shows inflation forecasts after discussing the principal channels of transmission of monetary policy. The last section mentions the risks involved in these forecasts and the assumptions they are based on.

At the end of the first quarter of the year, inflation results showed the need for central bank action (in addition to the increase of 100 bp in intervention rates that took place in January), in order to control the increase in inflation and expectations for it.

In fact, in spite of the fact that the economy continues to operate below its productive capacity, basic inflation had increased by 120 bp since the beginning of the year (following an increase of 50 bp in the last quarter of 2002) as a consequence of accumulated devaluation since June, 2002. Although since February

of 2003, the exchange rate had stabilized, it did so at a level, that given the degree of price transfer, it compromised achievement of inflation goals (in March it reached \$2,959 on average). At the same time, inflation expectations increased significantly. For example, in the survey carried out by the Bank of the Republic in April, inflation expectations for December, 2003 were 7.9% above the results of the survey done in January (6.6%). Therefore, the percentage of people surveyed that believed in fulfillment of the 5.5% target for 2003 dropped substantially (16% compared to 42% in January). A similar phenomenon was observed with the information taken from the public debt market.

In these circumstances the BDBR called for an auction to dismount accumulation of international reserves in the amount of US\$200 m for April, and increase all the intervention rates by 100 bp on the 29<sup>th</sup> of that month.

At the beginning of the month of April, the exchange rate began to drop, and in June, it settled on the average at \$2,827, with average annual devaluation of 19.8%. Auction calls for a reduction in accumulation were not exercised since there was a revaluation of the nominal exchange rate. Reduction in the rate was also common in other economies of the region and happened at the same time there was a drop in the risk indicators and more favorable conditions in foreign capital markets.

Accumulated depreciation since mid-2002 continued to be transmitted (with a lag) to domestic prices,

particularly to durable consumption goods and high turnover inventories. Thus, basic inflation increased during the second quarter although at slower rhythms than those recorded since October, 2002. In June the average of the three basic inflation indicators used by the Bank was at 7.2%, that is, 20 bp above both the level observed in March and the inflation target. In contrast, total annual inflation to consumers that had reached 7.8% in April showed an important downward swing and in June reached 7.2% due to a significant drop in food inflation.

Inflation without foodstuff was also affected by supply shocks, such as the readjustments in regulated energy prices, fuel and transportation. On the other hand, it is not likely that greater growth in the first quarter generated inflationary pressure, since the production gap continued to be negative, and capacity use indicators continued below historical averages.

A slight reduction in PPI inflation for imports and CPI for tradable goods (especially non-durables) at the end of the second quarter suggests that inflationary pressure from devaluation could taper off in the future. Therefore, it can be expected that this effect will gradually diminish beginning in the second semester, as long as the exchange rate does not increase significantly in the rest of the year.

---

## B. MACROECONOMIC PROSPECTS

---

### 1. On the foreign front

During the second quarter foreign conditions continued to favor the liberalization of capital markets for emerging countries, and in particular toward Latin America. Spreads diminished even more and debt placements occurred in some countries.

For the remainder of the year, no substantial changes can be seen in this situation and it is expected that markets

will sustain their disposition toward the region. First, in spite of some concerns about the political capability of the Brazilian government to put forth some structural reforms, the situation of that country is manageable, and there does not seem to be any new crisis brewing of a sufficient magnitude to destabilize the region and generate a problem of contagion toward Colombia.

Secondly, although since March the profitability of stocks in the United States and other developed markets has increased, it is not clear that this tendency will be sustained. This has meant that emerging country debt bonds continue to be an attractive investment. Additionally, in recent years a positive correlation has been observed between investment in shares in the United States and in debt.

Finally, interest rates in the United States and other developed economies remain low or have even decreased, which reduces the appeal of investment in fixed income in those countries. Nevertheless, recent increases in long term rates in the U.S. (in spite of Fed reduction of rates) suggests that it is unlikely to expect greater falls in the future, and even unlikely that some medium term increases might be discarded. In fact, the majority of international analysts foresee increases for 2004 as a result of the expansion of current account and fiscal deficit in the U.S. economy, and of a possible acceleration of growth in that country.

In this report it is expected that availability of capital for the region will be shown in major flows of debt, both public and private. Direct foreign investment (DFI), which has suffered from a strong reduction in the last two years, will not likely be an important source of resources for the rest of 2003 and it is not clear that it can be in 2004. Moreover, there is not evidence that a significant recovery of DFI is occurring in Latin America.

With respect to world growth for 2003 and 2004, analysts have reduced their forecasts significantly, above all due to the poor performance of the European Union economy. However, for Colombia this lower



growth has minor effects, since the bulk of its trade is directed toward the United States and the Andean subregion.

In the case of the United States, there continue to be predictions of consolidating economic recovery for the coming quarters. Although this process is gradual, it is enough to guarantee expansion of Colombian exports, given their low share in the American market, preferences granted by Atpdea and the very high level of competitiveness of the current exchange rate.

With respect to the subregion, Venezuela will continue to be the main hurdle to recovery of non-traditional exports. Although it is possible that levels will not dip any lower than those observed in March and April neither does it appear likely that there will be any rapid recovery of this market. Furthermore, the exchange barriers set by Venezuela since February have had a negative effect on Colombian exports and it has not been possible to correct this situation.

## **2. On the domestic front**

Various indicators have confirmed that economic growth for the first semester of the year was greater than predicted in previous reports and than a figure that would seem compatible with the government's 2% target. The greater dynamism of the economy has been based on growth in private domestic demand, and particularly on investment. Sector indicators available suggest that for the second quarter the rhythm of growth was probably sustained (once adjustments were made for variation in the working days due to Easter Week), and that again it was led by private domestic demand.

Greater growth is the result of recovery of confidence by the private sector, associated with the initial results of the security strategy, and the advancement of policies that have been applied in the last few years to achieve macroeconomic stability. Monetary policy, in particular, has contributed to economic growth,

just as shown by the low real interest rates and ample growth of monetary aggregates.

In recent years, the economy has followed a path of low growth due to weakness in private expenditure, due to several factors. First, the non-financial private sector, which was heavily indebted, had difficulties in paying debt, and with fears as to future growth of the economy restricted its investment and expenditure decisions. Second, the high levels of public sector deficit generated enormous demands on resources for financing, both domestic and foreign. And, finally, the financial system, with a growing expired portfolio, low levels of capital and high vulnerability allocated its resources mainly to the public sector jeopardizing the private sector. Therefore, the increase in private expenditure was weak, and subsequently, product and employment growth was also within a context of a low level of productive capacity utilization.

Several of these factors have been modified or have shown the tendency to correct themselves significantly. On the one hand, the financial sector has become strengthened, the private sector has reduced its debt level, and lower interest rates have made rapid recapitalization of the financial system, enterprise and families possible. Moreover, confidence in future performance of the economy, as shown by price increases in some assets, such as real estate and shares has increased. Thus, the availability and lending capacity of the financial system has increased, as well as the desire to spend and demand for credit in the private sector.

This report supposes that the majority of the factors that have allowed for greater growth will remain stable into the second half of the year. Particularly, credit is expected to show sustained expansion due to greater availability and capacity of the financial system to offer consumption and investment loans. Likewise, the recovery observed in the quality and magnitude of employment will sustain the recovery of household consumption, although in a gradual way. Better

internal security conditions and better perception of the political and economic situation in the medium term will also continue to favor the recovery of private investment.

In brief, it is considered that the growth target set by the government for 2003 can be reached easily, with a high probability of higher growth and even slightly above the predictions made in the March report.

---

### C. POLICY AND FORECAST TRANSMISSION CHANNELS

---

#### 1. The channels

Within a regime of inflation targets as adopted by the Bank of the Republic, the predictions for inflation and evaluation of inflationary risks must take into account the functioning of transmission channels for monetary policy at each moment in time.

In the current state of affairs in the Colombian economy, there are four main channels through which monetary policy can have an impact on future prices: the demand channel or production gap, the exchange rate channel, the wage costs channel and the channel of expectations. Furthermore, the exercise of making inflation predictions requires an estimate of the effects of transitory supply shocks and their possible impact on inflation expectations.

Just as in previous reports, no significant inflationary pressures are expected in the short or medium term from production gap, in spite of greater economic growth in the first semester. Acceleration of growth above the forecasts made in March have brought about a more rapid closure of the gap than foreseen. However, according to Bank estimates, the gap continues to be negative and broad (between -2% and -3% of GDP), which leaves a margin for demand growth without generating strong inflationary

pressures. This view is backed by the still low level of installed capacity utilization currently observed for industry as a whole and for the majority of the branches taken individually.

Likewise, the fact that growth so far this year has been sustained by investment and the accumulation of inventory could imply greater growth of product potential, which in part compensates for the greater rhythm of economic activity and will reduce pressures on future prices.

Given the foregoing situation, the Bank's forecasts continue to assume that for the rest of the year and for 2004, production will continue below its potential level despite the more rapid closure of the gap. Thus, it is expected that in the fourth quarter of this year the production gap will be -1.8% and for the same period of 2004 it will be -1.0%. For this reason, it is not expected that demand will be an important source of inflationary pressures in the medium term.

On the labor market, the current levels of unemployment, although less than those of the previous year, continue to be high and should not stimulate readjustments in wages much above inflation targets. In sectors such as industry, where salaries are apparently increasing at relatively high rhythms (around 7.5% annually in April), this effect is largely compensated by the growth in labor productivity. Up until May this year, productivity per hour in this sector exceeded the 4.7% level that this variable showed for the same period last year. For this reason, unit labor cost (measured by the ratio between salary and productivity) has probably diminished. Even if industrial productivity grew at its historical rate (1.5%), the salary readjustments in question would increase labor costs by 6%, a very similar percentage to the inflation target for this year. Furthermore, the increase in labor costs is lower when other remunerations aside from salaries are taken into account (6.5%).

Considering that the reduction in unemployment is a slow process that usually requires more time than the recovery of production itself, recent acceleration in growth and the maintenance of that tendency toward the future should not generate pressures of a wage origin on costs and prices, other than the effects associated with expectations.

The main pressures on inflation for the rest of the year and into 2004 will be associated with devaluation of the exchange rate and inflationary expectations.

With respect to exchange pressures, it is expected that in the second semester there will continue to be a reduction in the transmission of devaluation to costs and prices, as long as there is no substantial increase in the exchange rate with respect to current levels. This report assumes that external conditions continue to be favorable for exchange stability until the end of the year. The foreign situation analyzed above would contribute to this, and the relatively high level of oil prices in the second semester, above predictions made in previous reports.

For 2004 there may be some significant devaluation pressures due to the drop foreseen in oil income, due to lower prices. However, these pressures could be mitigated by greater net capital income and/or good performance by non-traditional exports.

Finally, in the matter of inflation expectations, failure to fulfill the 2002 target and the high level at this moment with respect to this year's target could keep them at levels near 7% for several more months, thereby generating pressure on inflation. For the coming year these pressures could be lower if inflation is reduced during the second semester of this year. However, the possibility for inflation expectations to begin 2004 at levels above the target, making the decrease in the inflation rate slower must not be ignored, since that could affect price and salary determination at a time when many raises and contracts are being defined (Figure 43).

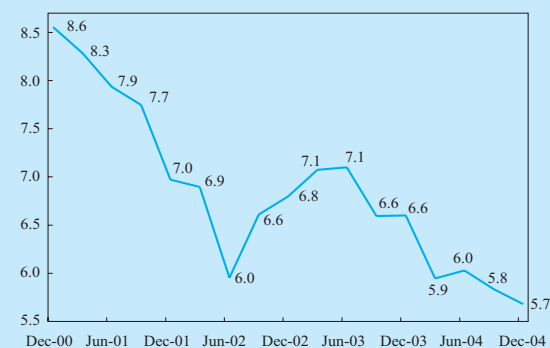
In addition to the foregoing channels of transmission, inflation for the coming year and a half will depend on the behavior of several of the supply factors mentioned at the beginning of this chapter.

The most important is food prices. For the remainder of the year an additional significant reduction is foreseen in estimates for this group of goods, given improved supply conditions; among other reasons due to the end of the cattle retention cycle and more favorable rains as a result of the Niño phenomenon. Furthermore, international prices of several imported raw materials (cereals, oils) could decrease helping to correct prices in this group of goods (See Chapter III, International Context).

For the coming year there should be no significant shocks to agricultural supply, so that inflation should converge toward basic inflation, except for any normal movements associated with the seasonality of harvests.

Pressures deriving from energy should continue if announcements made by the Energy Regulation Commission (CREG) authorizing adjustments of up to 8% above inflation during the two years beginning in the second semester of 2003 are verified.

**FIGURE 42**  
INFLATION EXPECTATIONS FOR THREE MONTHS PERIODS ACCORDING TO THE TRANSMISSION MECHANISMS MODEL (PERCENTAGE)



Source: Banco de la República.

Last, for the rest of the year there should be new price adjustments in fuels, which will raise inflation for this subgroup above the target at the end of the year. For the next year the intensity of increases will continue to depend on the evolution of international prices, devaluation and the lag that exists between external and internal prices. In this report a gradual reduction of international price is seen for the second semester of 2003 and particularly during 2004, which would allow domestic price increases to be moderated.

## 2. Forecasts

Based on the foregoing assumptions the Bank of the Republic's forecast system estimates that total inflation to the consumer will be 6% in December, 2003 and 4.8% for the same month of 2004. For 2003, the forecast was reduced in comparison to the one presented in the March report as a consequence of a lower projection for food prices. It must be noted however that forecasts are not fully comparable among themselves, since the central model used in the report presents results at the end of the quarter, while the one used in the March report was based on the average of each quarter (Table 6).

**TABLE 6**  
**TOTAL INFLATION TO CONSUMER,**  
**FORECAST FOR 2003 AND 2004**  
**(PERCENTAGE)**

Period	Report	
	Current (Figures at end of)	Previous (Figures for quarterly average)
Jun-03	7.2	7.2
Sep-03	6.9	7.9
Dec-03	6.0	7.2
Mar-04	5.8	6.1
Jun-04	5.3	5.2
Sep-04	5.1	4.7
Dec-04	4.8	4.4

Source: Banco de la República.

Taking into account the reduction presented for June in food prices, the Bank's satellite models indicate that inflation for December, 2003, for this group of goods could be between 3% and 6% compared to the range of 6% to 7% which was given in the March report. Greater optimism is backed by information from trade associations on area under cultivation and credit to the agricultural and livestock sector that suggests that during the second semester of the year there could be an important recovery in supply.

It must also be pointed out that the reduction in inflation to this level assumes relative exchange stability in the rest of the year, which would prevent readjustments in marketable food prices in the next six months, as happened in the last half of last year. Therefore, for the purposes of a basis for comparison, annual inflation in this subgroup in question could decrease rapidly.

The reduction in forecasts for December, 2003 also depends to some degree on the lower forecast for inflation without food. In this report it is estimated that inflation without foodstuff will range between 6.2% and 7.2% compared to predictions in the preceding report of 6.5% to 7.5%.

The lower level of inflation foreseen for the non-foodstuffs stems from two basic sources. First, there was a reduction in the prediction for devaluation this year, given the behavior observed for the exchange rate in the second quarter and the greater exchange income foreseen in the balance of payments due to greater remittances abroad and greater exports. The Bank's policy actions also could have contributed to reducing devaluation expectations.

Second, the path of inflation expectations used in the Bank's central model was reduced, taking into account its reduction in June according to some indicators and the favorable acceptance that markets

showed to the rise in interest rates in April. The latter allowed monetary policy to recover part of its lost credibility from previous months.

In any case, the forecasts indicate that during the third quarter there could be an additional recovery of annual inflation without foodstuff as a result of price adjustments in fuel and energy and due to the fact that accumulated devaluation will still continue to be transferred to prices.

For 2004, as presented in the March report, the model shows a gradual reduction in inflation to the consumer, led above all by the reduction in the inflation of foodstuff. In this report inflation without foodstuff is set at between 4% and 5%. These figures are similar to those presented in the past report.

Reduction in inflation to the consumer in the medium and long term continues to be explained by the existence of a negative production gap in 2004 which would allow inflationary pressures from demand to be minimized. This result will depend also on moderate nominal devaluation in the following six quarters that would make it possible to reduce inflation of marketable goods at the end of this year and early next year. Finally, it assumes food inflation performance near the range announced for the 2004 target.

---

#### D. RISKS

---

The opinion given in the preceding report as to the low probability of inflationary pressure occurring from an excessive expansion of demand in the medium term continues to be supported in this report. For June the risks faced by fulfillment of inflation targets this year and its reduction in the next two years continues to focus on three principal factors:

1. Devaluation: Previously presented forecasts depend essentially on moderate devaluation for next year.

Given the expected evolution of petroleum income, this would require a good performance by non-traditional exports, including partial recovery of trade with Venezuela, greater capital influx than that observed in 2004 and maintenance of a climate of confidence toward the country by foreign markets and local investors. This climate of confidence will depend on the results of the security strategy and perceptions of fulfillment of the fiscal adjustment program signed with the IMF, such that the path of future public debt will be perceived as consistent with macroeconomic stability of the country in the long run.

2. Expectations are another source of risk, particularly due to the effect that some supply shocks and a less optimistic performance by foodstuff than that projected herein could have on them. If expectations do not decrease by the end of the year and early 2004, they could stimulate greater price readjustments than those occurring in 2003 and would be incompatible with the range within which the target is set (3.5% to 5.5%).
3. As in previous reports, there is a risk associated with the evolution of perishable food prices. A considerable portion of the decrease in inflation for this subgroup lies on an important additional shift in the price of products such as potatoes. Models that support the forecasts usually hit the mark in identifying tendencies but they can err in the magnitude of price adjustments, even at six month horizons.

## THE TRANSMISSION MECHANISMS MODEL

For this report the Bank of the Republic introduced a new central model for medium and long term inflation forecasts, which forms part of the broad set of forecast and policy analysis tools which support the inflation target scheme. Just as in its previous version, said model intends to capture the main transmission channels of monetary policy, as well as the effect of the main shocks that affect the economy and inflation, such as supply shocks in agriculture, changes in inflation targets, shocks to terms of trade and changes in country risk.

The role of the model is to provide medium and long term (more than two quarters) inflation predictions, as well as alternative scenarios that would allow for analysis and follow up of factors that exert pressure on inflation to be made. Some of the inputs are the short term forecasts (one and two quarters), for inflation without foodstuff, inflation of foodstuff and production, obtained from several satellite models.

This model shows some advances with respect to the previous one<sup>1</sup>, among which the following are of main interest: 1) it is a quarterly inflation model and not an annual one as the previous model was; 2) the exchange rate is endogenous, unlike the previous one in which it was an exogenous variable; and 3) the graduation of parameters taken from different types of analysis based on econometric data generates a greater response in inflation and the gap from changes in the interbank interest rate (intervention rate) than that shown in the previous model. 4) Finally, in the new version of the model, the results are at the end of the quarter and not on average as occurred with the previous model.

### I. THE NEW MODEL<sup>2</sup>

The transmission channels contemplated in the new transmission mechanisms model (MMT) are: 1) the channel of aggregate demand; 2) the direct channel of exchange rate; 3) the indirect channel of exchange rate, and 4) the channel of expectations.

In its present version, the model consists of eight behavioral equations and several identities that relate variables among themselves. The main equations for behavior are: the Phillips curve (1), the aggregate demand equation (2), the revealed interests parity relation (3) and the policy rule (4).

Inflation without foodstuff is modeled on the Phillips curve increased by expectations, as shown in equation (1):

$$(1) \quad \pi_t^{sa} = a_0 \pi_{t-1}^{sa} + a_1 \pi_t^e + (1 - a_0 - a_1)(\pi_{t-1}^m - \overline{\delta_t^z}) + a_3 \hat{y}_{t-1} + \varepsilon_t^\pi$$

where  $\pi_t^{sa}$  is inflation without foodstuff,  $\pi_t^e$  is inflation expectations,  $\pi_t^m$  is inflation of imports,  $\overline{\delta_t^z}$  is the real depreciation rate of equilibrium and  $\hat{y}_t$  is the product gap. This equation condenses the four transmission channels for monetary policy indicated above.

<sup>1</sup> Presented in the March, 2001 *Inflation Report*.

<sup>2</sup> *Inflation Report*, March 2001.

The Phillips curve is increased by expectations due to the inclusion of the expectations variable for inflation, which follows a partially forward looking process as follows:

$$(2) \quad \pi_t^e = a_4 \pi_{4,t-1} + a_5 E_t \pi_{4,t+1}$$

where  $\pi_{4,t}$  is total annual inflation.

The coefficients of nominal variables on the right side of the Phillips curve have been restricted so that their sum is equal to one. This property guarantees that changes in the nominal variables do have real effects in the long run. In other words, the model allows movement from one inflation rate to another with the same long term solution for real variables, and therefore, in the long run monetary policy does not have real effects.

On the other hand, the product gap, is determined by the aggregate demand equation. This equation is modeled on the IS type curve:

$$(3) \quad \hat{y}_t = d_0 \hat{y}_{t-1} - d_1 \hat{r}_{t-1} + d_2 \hat{z}_{t-1} + \varepsilon_t^y$$

According to it, deviation of product with respect to its potential value can be explained by the product gap with a one quarter lag and by deviations from the real interest rate and the real exchange rate with respect to its long term values,  $\hat{r}_{t-1}$  and  $\hat{z}_{t-1}$  respectively.

The exchange rate is modeled on the revealed parity of interests:

$$(4) \quad E_t \delta_{t+1} + \rho_t = i_t - i_t^* + \varepsilon_t^\delta$$

According to the relationship, expected depreciation,  $E_t \delta_{t+1}$  is equal to the differential between the domestic interest rate and the foreign one,  $i_t - i_t^*$ , adjusted by the risk premium,  $\rho_t$ .

The domestic interest rate path is determined based on the policy rule as:

$$(5) \quad i_t = f_0 i_{t-1} + (1 - f_0)(\bar{i}_t + f_1(\pi_{4,t+k}^{sa} - \bar{\pi}_{t+k}) + f_2 \hat{y}_t) + \varepsilon_t^i$$

where

$$(6) \quad \bar{i}_t = \bar{r}_t + \pi_{4,t}$$

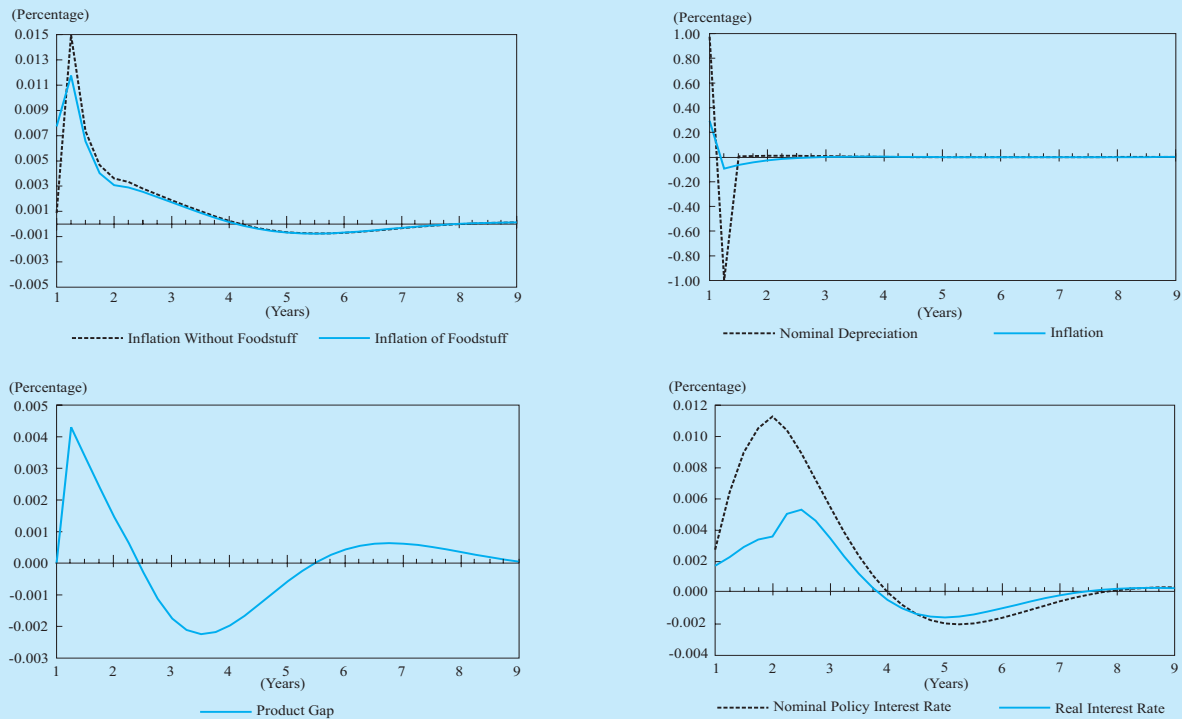
In the policy rule for the present model (equation 5) a persistence component is introduced. Furthermore, in the present rule the interest rate reacts not only to deviations in annual inflation without foodstuff as compared to the target,  $\pi_{4,t+k}^{sa} - \bar{\pi}_{t+k}$ , but also to deviations in product with respect to potential,  $\hat{y}_t$ . The introduction of the persistence component and the product gap allow the interest rate path required to fulfill inflation targets to be softened.

## II. EFFECT OF AN EXCHANGE RATE SHOCK

In order to illustrate the working of the present model, the results of a policy simulation exercise are presented below. In recent years, the Colombian economy has been subject to shocks on this front that have had their origin in changes in the country risk premium associated with external events for the most part (crisis in Argentina and Brazil, among others).

The figures illustrate the macroeconomic impact of an unexpected shock to (expectations of) nominal depreciation in the TMM. The exercise was done with the graduation (of parameters) used in the estimates of forecasts that are presented in Chapter IV of this report. It is supposed that the economy is at long term equilibrium. In equilibrium, the values of all the deviations of variables with respect to their long term level are zero and inflation is at the target.

### SHOCK TO THE NOMINAL DEPRECIATION RATE



Nominal depreciation of 1%, given the domestic and foreign inflation, causes an increase of 0.25% in the gap for real exchange rate and of 0.3% in inflation of imports. Real depreciation has an impact that is *positive and lags behind* (one quarter) on the product gap (by means of equation 3). On the other hand, an increase in inflation of imports causes an increase of 0.007% in inflation without foodstuff one quarter later (by means of equation 1). This increase, in turn, affects expectations of inflation (equation 2) will repercussions again on inflation without foodstuff through the Phillips curve (equation 1).

Increases in inflation without foodstuff generate a deviation in annual inflation without foodstuff of 0.0047% above the target six quarters ahead (equation 5). Faced with this deviation, the Central Bank reacts increasing the current intervention rate by 0.0003%, causing a negative effect on the production gap (equation 3) a *quarter later*. The production gap widens (one period ahead) because the positive effect of real depreciation dominates the negative effect of the increase in rates. This rate increase is the response to the eventual pass-through of the increase in nominal exchange rate to prices.

Now, the increase in the interest rate will cause less depreciation, through revealed interest parity (equation 4). This, likewise, generates a direct corrective effect on inflation.

In the end, demand pressures create an increase of inflation without foodstuff, forcing the Central Bank to respond with greater increases in the policy interest rate. These increases will continue until forecast inflation without food returns to the target level.



## FORECASTS BY LOCAL AND FOREIGN ANALYSTS FOR THE MAIN MACROECONOMIC VARIABLES

Herein a revision is made of the most recent forecasts by local and foreign analysts for the main variables within the Colombian economy for 2003 and 2004.

### A. FORECASTS FOR 2003

As observed in Table 1, the average of inflation forecasts for 2003, made by the local analysts consulted was 6.9%. The average of these forecasts for this year has increased quarter by quarter since June, 2002. However, this time correction of the forecasts with respect to those made the previous quarter was low (0.2 percentage points (pp)) and less than has been observed in previous reports.

Moreover, on average the foreign analysts also increased their forecasts for Colombian inflation for December, 2003, placing it at 6.3%. This upward adjustment was only 0.1 pp and was essentially a response to the change made by one institution (Deutsche Bank), which raised its forecast from 6.3% to 7.0%<sup>1</sup>.

**TABLE 1**  
**FORECAST OF THE MAIN MACROECONOMIC VARIABLES FOR 2003**

	Date of forecast	Real GDP growth %	Inflation CPI %	Nominal Exchange Rate (End of)	Nominal DTF% % (*)	Deficit (% of GDP)		Rate Unemployment %
						Fiscal	Current	
<b>Local Analysts</b>	Jul-2003							
Revista Dinero		2.4	6.8	3,080	8.3	(2.8)	(2.1)	15.2
Suvalor-Corfinura		2.5	6.8	2,950	8.1	(2.3)	n.a.	n.a.
Corfivalle		2.4	6.7	3,015	8.1	(3.0)	(2.1)	15.0
ANIF		2.5	6.8	2,930	8.0	(2.5)	(2.2)	16.2
Fedesarrollo 1/		2.4	7.5	3,114	8.0	(2.6)	(2.0)	15.4
<b>Average</b>		<b>2.4</b>	<b>6.9</b>	<b>3,018</b>	<b>8.1</b>	<b>(2.6)</b>	<b>(2.1)</b>	<b>15.5</b>
<b>Foreign Analyst 2/</b>	Jul-2003							
Goldman Sachs		1.6	5.5	2,612	7.7	(2.4)	(1.6)	15.5
IDEA global		3.3	6.4	2,775	8.0	(2.4)	(2.8)	14.8
J. P. Morgan		2.2	6.3	n.a.	8.8	(2.6)	(1.7)	17.0
Deutsche Bank		2.2	7.0	2,875	8.5	(3.0)	(2.2)	14.0
<b>Average</b>		<b>2.3</b>	<b>6.3</b>	<b>2,754</b>	<b>8.3</b>	<b>(2.6)</b>	<b>(2.1)</b>	<b>15.3</b>

n.a. Not available.

(\*) Annual average

Source: Analysts and the report 'Cómo nos ven afuera?', SMT, July 17, 2003

1/ Report 'Cómo nos ven afuera?', SMT, July 17, 2003.

Both foreign and local analysts confirm their forecasts for growth in 2003. The two groups consider that the Colombian economy will grow more than the 2% real target set by Uribe's government at the start of his administration: Colombian analysts are the most optimistic and keep the average of their forecasts at 2.4% as they did last quarter; while foreign analysts have shifted their forecasts upward by 0.1 pp on the average, situating them at a real rate of 2.3%.

In the fiscal area, national analysts raised the average of their forecasts for fiscal deficit in the consolidated public sector (CPS) to 2.6%, thus equaling the forecast set by foreign analysts.

With respect to other variables, it should be pointed out that there was an important shift downward in the DTF forecast by local analysts from 9.8% three months ago to 8.1% at present. These same analysts also decreased their forecast of the level of the TRM at the end of 2003 to \$3,018 per dollar from \$3,073 in the preceding report.

## B. FORECASTS FOR 2004

El Table 2 gives details of the forecasts for the principal macroeconomic variables by local and foreign analysts for 2004. Both types of analysts expect a drop in inflation for the coming year which on average is between 0,5 pp and 0.9 pp.

In the field of growth, all analysts expect acceleration in the coming year, with foreigners being the most optimistic. Finally, with respect to fiscal deficit, forecasts did not vary significantly with respect to those presented in the previous report and on average a reduction of the fiscal gap is projected for 2004 with respect to the figure expected for 2003.

TABLE 2  
FORECAST OF THE PRINCIPAL MACROECONOMIC VARIABLES FOR 2004

	Date of forecast	Real GDP Growth %	Inflation CPI %	Nominal Exchange Rate (Fin de)	Nomila DTF %	Deficit (% of GDP)		Rate of unemployment %
					1/ %	Fiscal 2/ %	Current	
<b>Analistas locales</b>	Jul-2003							
Revista Dinero		2.7	6.0	3,295	9.0	(2.5)	(1.9)	14,5
Suvalor-Corfinsura		3.0	6.0	3,098	9.3	(2.5)	n.a.	n.d.
Corfivalle		3.0	6.0	3,160	9.1	(2.5)	n.a.	14,0
ANIF		3.3	6.5	3,061	n.a.	(2.5)	n.a.	n.d.
Fedesarrollo 1/		2.5	7.5	3,363	9.8	(2.5)	(1.7)	13,7
<b>Promedio</b>		2.9	6.4	3,195	9.3	(2.5)	(1.8)	14,1
<b>Analistas externos 2/</b>	Jul-2003							
Goldman Sachs		3.5	5.5	2,950	8.0	(2.1)	n.a.	14,5
IDEA global		3.8	5.5	2,875	8.5	(2.2)	(2.6)	13,0
J. P. Morgan		3.3	5.4	3,100	11.3	(2.3)	(1.7)	17,0
Deutsche Bank		3.0	5.0	3,019	9.0	(2.9)	(2.5)	12,0
<b>Promedio</b>		3.4	5.4	2,986	9.2	(2.2)	(2.3)	14,1

n.a. Not available.

1/ Annual average

2/ The data from the Deutsche Bank refers to deficit in GNC and is not therefore included in the calculation of the average.

Source: Analysts and the report ¿Como nos ven afuera?, SMT, July, 2003.

This Report was prepared by  
The Deputy Manger of Economic Studies  
Bank of the Republic  
Edited and Designed by the Publications Section  
Of the Department of Institutional Communication  
And printed by G & M Editores e impresores Ltda.  
In August, 2003.