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In March, annual inflation was 4.1%. This is less than in December 2005 (4.9%), mainly because of favorable prices for regulated goods and utilities. During the same period, the annual increase in these items declined from 6.7% to 4.2%. The drop in regulated inflation was associated with the trend in public transportation fares and public utility rates.

The reduction in inflation also contributed to lower food inflation (which was down from 6.6% to 5.2%) and the minor adjustments in prices for tradable goods (food and regulated items not included). Inflation in non-tradable goods and services (food and regulated items not included) stayed between 4.5% and 4.6%, a level maintained since last June. As part of this group, inflation in rentals had climbed to 4.7% by March, as opposed to 4.1% in December 2005.

The world economy began the year on a more forceful note than anticipated. The momentum in worldwide demand, coupled with some supply problems, pushed prices for raw materials—especially oil and metals—higher than was forecast in the last quarterly inflation report. More pressure on prices has added to the likelihood of further monetary policy adjustments, not only in the United States, but also in Japan and the euro zone. As a result, the exchange markets in Colombia and Latin America have been more volatile and local currencies have tended to depreciate.

In the case of Colombia, the representative market nominal exchange rate (TRM: Spanish acronym) climbed from a minimum of COP$2,246 in March to COP$2,374 on April 27, which is equivalent to 5.7% nominal depreciation. This tendency prompted a sharp rise in interest rates on treasury bonds (TES: Spanish acronym) since March, especially on the long-term bonds. It still is difficult to know if the recent volatility on the TES market signals a change in tendency toward a larger share of dollar denominated assets in investors’ portfolios. If so, the forecast for the exchange rate would have to be raised and, with it, the forecast for inflation in tradable goods. A change in this direction is contemplated in this edition of the Inflation Report, and the inflation forecasts take into account an average exchange rate in 2006 that is slightly above the prediction published in the last report.
• El crecimiento de la economía colombiana en 2005 fue del 5.1% y de 4.6%, en promedio, en los últimos tres años. Los primeros indicadores de oferta y demanda sugieren que la economía continúa expandiéndose, posiblemente a tasas aún más rápidas que las previstas en la última edición de este informe. El crecimiento en las ventas al por menor, la creación de crédito al consumidor y la confianza del consumidor apuntan a una continua subida acelerada en las expectativas del consumidor. Lo mismo es cierto para la inversión privada. El aumento en este ítem se refleja en las importaciones de bienes de capital y en la producción industrial de maquinaria y equipo en general. Además, los precios favorables para algunos de los principales productos de exportación del país han permitido situaciones donde el ingreso nacional ha crecido más rápido que la producción.

• La política monetaria ha contribuido al crecimiento de la demanda agregada al mantener los tipos de interés reales por debajo de su nivel neutral. Desde febrero, el tipo de interés sobre depósitos a plazo fijo (DTF: abreviatura en español) se ha acercado al tipo de interés interbancario (TIB: abreviatura en español) y se encuentra ahora cerca de 6% en términos nominales, mientras que los agregados monetarios amplios, como M3, siguen creciendo más rápido que el producto interno bruto (PIB) nominal. Estas condiciones, unidas con un mayor suministro de crédito, incluyendo préstamos hipotecarios, reforzarán el efecto expansivo de la política monetaria del país.

• Sin perjudicar los objetivos de inflación, esta disyuntiva ha sido la característica distintiva de la política monetaria de Colombia durante la última década. Sin embargo, la junta directiva de Banco de la República (BDBR) cree que menos estímulo monetario es ahora necesario, ya que el crecimiento económico reposa sobre una sólida base explicada por variables domésticas y externas que seguirán vigentes durante los próximos trimestres. Bajo estas condiciones, la política monetaria del país debe garantizar el crecimiento sostenible de la producción y el empleo, mientras la economía se mueve gradualmente hacia la estabilidad de precios sobre una base firme, el objetivo último de cualquier estrategia de objetivo de inflación.

• Además, como se mencionó en varios informes anteriores, la política monetaria del país opera con un lag variable relativamente largo. Por lo tanto, los cambios en su postura deben realizarse con antelación, de manera que no perjudiquen los objetivos futuros de inflación o la credibilidad misma de la política.

• Dado estos consideraciones y la reciente tendencia en los mercados financieros domésticos e internacionales, la junta directiva decidió aumentar el 25 puntos básicos (bp) el interés de intervención del banco en abril de 2006. El objetivo es mantener el crecimiento futura de la producción y el empleo en un ambiente de inflación baja y estable. Por lo tanto, la tasa básica se incrementó a 6.25%.

Board of Directors
Banco de la República
INFLATION REPORT

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I. Current Economic Situation

Inflation dropped sharply at the start of the year within a context marked by strong economic growth,

Recent months witnessed increased nervousness on external financial markets due to growing expectations about international interest rates. This resulted in a moderate weakening of the Colombian peso and other currencies. However, external conditions continued to favor good domestic economic performance. In fact, terms of trade remain high and have increased beyond what was forecast in the December edition of this report. Something similar occurred with the growth of our major trading partners. Although new highs in oil prices elevated the risk of higher inflation in the United States and other countries, this risk had yet to materialize by March.

The latest figures show persistently strong economic growth in Colombia throughout 2005, surpassing all expectations and reaching expansion rates near 5%, which exceeds the historic averages. All indications are that this tendency has continued so far this year. The slight slowdown at the end of 2005 appears to have been temporary. Domestic demand is still the driving force of economic growth, with investment leading the way, although private consumption is gaining ground.

Annual consumer inflation in Colombia fell sharply during the first three months of the year to a point near the bottom of the target range for 2006. This reduction, which was even more pronounced for core inflation, cannot be explained by insufficient growth in demand. It seems to be more a question of supply factors, accumulated appreciation in the exchange rate, and less inflationary expectations. Much of the decline was due to the highly favorable behavior of prices for regulated goods and utilities, tradables and food. Non-tradable inflation remained stable.

A. External Context and the Exchange Rate

1. General Aspects

The U.S. economy began the year with strong growth. According to preliminary figures, the increase in the first three months came to 4.8% (annualized
quarterly). This is well above the fourth-quarter figure for 2005 (1.6%). It also confirms that the slowdown at the end of last year was the result of temporary factors associated with less government spending and weak household consumption, especially with respect to durable goods (Graph 1).

According to the various indicators available at March, good performance at the start of the year was evident at several levels. The consumer confidence index continued to rise, boosting already strong private consumption. On the supply side, industrial production showed an annual increase of 3%, which is similar to the rate in previous months. Job market indicators continued to improve as well, with unemployment at 4.7%. This is below various estimates of the non-acceleration inflation rate of unemployment (NAIRU) (5.2% according to the U.S. Congressional Budget Office, CBO). On average, more than 200,000 jobs have been created so far this year (the average in 2005 was 160,000 per month).

Broadly speaking, the first-quarter results in the United States were better than what the market expected. For that reason, there were few indications the economy might cool as a result of the interest rate hikes. Perhaps the clearest hint in this respect are the signs of a slowdown in the housing market. On average, sales of new and used homes during late 2005 and early 2006 tended to decline or remain at a standstill, even taking into account the upsurge in March 2006 (Graph 2). However, prices appear to have stabilized and even dropped a bit. Other indicators, such as mortgage applications and the number of building licenses, have also been moderate.

Like the United States, the economic growth figures for Japan and the euro zone in the last two quarters have been relatively encouraging. Japan, in particular, saw its economy continue on a path to recovery. The most recent information available at the aggregate level indicates 5.5% growth in the fourth quarter of 2005 (annualized quarterly). This was in line with what the market expected (Graph 1).

As observed in recent quarters, increased growth in Japan was again propelled by domestic demand for

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**Graph 1**

**Annualized Quarterly GDP Growth in the United States, the Euro Zone and Japan**

(Percentage)

Source: Datastream.

**Graph 2**

**Home Sales in the United States**

(Thousands of units)

Source: Datastream.
both consumption and investment, added to an external demand that also remains favorable. This outcome was influenced by a number of factors, particularly strong job-market recovery following years of sluggishness. Higher corporate earnings and good business conditions in 2005 were contributing factors as well. These tendencies persisted during the early months of 2006, as signaled by the latest indicators of consumer and business confidence, which kept improving.

The situation in the euro zone is not as favorable as in the United States and Japan, but is promising all the same. Growth in the fourth quarter, although less than in the third, remained favorable (1.2% annualized quarterly), thus completing a full year of uninterrupted expansion (Graph 1). As in Japan, the momentum came not only from external demand but from domestic demand as well, with investment leading the way. Nevertheless, consumption remained at a standstill, which means domestic demand as a percentage of overall growth stayed moderate.

By the first quarter of 2006, the indicators signaled highly favorable prospects supported largely by the momentum in Germany. This has added to confidence in a sustained recovery. According to the latest surveys, consumer confidence in that country continues to improve, as do prospects for a recovery in the job market and business in general.

2. Raw Material Prices, Inflation and Interest Rates

The world economy remains positive, despite high fuel prices and the additional increases observed in the first three months of this year. The upsurge in oil prices was due to mounting geopolitical tensions (the war in Iraq, protests in Nigeria and Iran’s nuclear ambitions). At the end of the first quarter and the beginning of the second, oil was US$70 a barrel (for West Texas Intermediate, WTI). This is US$7 more than was forecast in the December report.

Together with higher prices for oil, recent months also witnessed a considerable hike in the price of metals. In March, the metal price index was the highest it has been in the last thirty years (Graph 3). Some analysts suggest this could be more the result of speculation than anything else.

Despite the foregoing situation and strong growth worldwide, the current indicators of core inflation in

![Graph 3](source: Datastream)
the United State and in other developed economies are still quite moderate. The figures at March show core inflation in the United States economy was being contained. At March, total inflation was 2.4% and core inflation was only 2.1%, a level that has not changed for over a year (Graph 4). In the euro zone, total inflation at March was 2.2%, while core inflation had declined to 1.2%. Data for Japan show inflation is positive for the first time since 1998, although approaching zero.

As was pointed out in previous reports, much of the inflationary pressure in the United States appears to have been contained, thanks to gains in productivity. Although productivity did see negative growth in the fourth quarter, because of the sharp drop in gross domestic product (GDP) during those months, this was a temporary phenomenon and the significant expansion witnessed at the start of the year should have helped productivity to recover. By the fourth quarter of 2005, annual growth in productivity was 2.5%. This is similar to the average for 1995-2005 (2.7%), but high compared to the historic average (Graph 5).

Besides productivity, another factor that could have had a bearing on low inflationary pressure in the United States and the other developed countries is globalization and a larger share of the world market occupied by manufactured goods and services exported from countries like China and India. On the one hand, this might have increased competition on domestic markets, bringing price rises to a standstill. On the other, the dynamic incursion of countries with a large supply of labor has lowered the price of many manufactured goods for quite some time and, more recently, the price of numerous services associated with new information technologies\(^1\). Growing participation in world trade has made it easier for these disinflationary influences to be transferred to prices in the developed economies.

Favorable inflation performance allowed the major central banks to continue to raise their reference rate

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gradually, as predicted in earlier editions of this report. The United States Federal Reserve Bank (the Fed) raised its reference rate by 50 basis points (bp) in the first quarter of 2006, placing it at 4.75% in March. The European Central Bank ordered another 25 bp increase in its rate (2.5%), following the adjustment in December (Graph 6). In addition, the Central Bank of Japan announced the elimination of its monetary policy under the "quantitative easing" regime. This adds to the likelihood of an increase in interest rates at the end of the year.

The measures adopted by monetary authorities in Europe and Japan took the markets by surprise, given the speed at which they occurred. Coupled with stronger world growth, particularly in the United States, this pushed up long-term interest rates. In some cases, they were as high as in mid-2004, which has been the maximum in recent years. However, the slope of the yield curve remained inverted, as had been the case since the year before. Although the rise in international policy rates should imply a change in long-term rates, ample surplus savings continue to restrain any such hikes (Graph 7).

Therefore, the world economy still has plenty of liquidity, despite monetary-policy adjustments in the United States and other countries. This will continue to allow the U.S. trade deficit to growth. It reached historically high levels in February, intensified by strong domestic demand and by higher energy prices. Coupled with better prospects for growth in the euro zone and Japan, this tended to weaken the dollar against the euro and the yen, even if still only moderately (Graphs 8 and 9).

It is important to point out that the behavior of the dollar, in real terms, tends to be associated with movement in the reference rate set by the Fed and its relative position compared to the rates of other central banks. For some time now, the Fed’s rates have been higher than those of its...
European and Japanese counterparts, which would explain the relative strength of the U.S. dollar in spite of the country’s growing external deficit (Graph 10).

3. Emerging Economies

The emerging economies continued to exhibit strong growth during the first quarter of 2006. The Asian countries are a case in point, led by China and India. These economies continued on a path towards sustained growth and have shown even more momentum in recent months. Growth in the Chinese economy came to 9.9% by the fourth quarter of 2005, thanks to external demand and investment, as has become customary in recent years. However, consumption has begun to play a more important role. Among other reasons, this is due to the development of social programs for rural areas. Preliminary figures for the first quarter of 2006 suggest growth would have been slightly above 10%.

As to the Latin American economies, the force of growth remains favorable. The rise in prices for certain commodities, such as metals and oil, coupled with growing world demand, has continued to boost regional expansion.

Colombia’s major trading partners experienced higher-than-expected growth in the fourth quarter. The Venezuelan economy was up by 10.2% as a result of increased public and private consumption and investment. Economic growth in Ecuador has been far more moderate, but has been sustained by oil prices and private consumption.

The exchange rate in a number of countries became more volatile in the last few months and there are signs of a trend towards depreciation in some cases. The change of mood in the markets is tied to the hikes in international interest rates and to prospects of further changes in the monetary policies of the central banks in the developed economies. However, a recent increase in political uncertainty during a major election period in several countries cannot be ruled out. At any rate, the adjustment in the exchange rates seems to be temporary and does not signal a break in the trends observed during the last 18 months (Graph 11).
Having appreciated since late 2003, the Colombian peso (COP) also was weaker as of March. This situation continued until April, along with high volatility. During April, the exchange rate was up by more than COP$100 per dollar and rose to COP$2,376. This is similar to the rate in January 2005 and 4.3% above the rate at December of that year (Graph 12).

**B. Domestic Situation**

1. **Growth during the Fourth Quarter of 2005**

Annual growth by the fourth quarter of 2005 was 3.7%, which is less than the rate for the previous quarters (5.6%). With publication of the fourth-quarter GDP, the National Bureau of Statistics (DANE) instituted a change in the way it had measured GDP since 2003. Accordingly, growth that year declined from 4.1% to 3.9%, while growth in 2004 increased from 4.0% to 4.8%. Growth in the first three quarters of 2005 was adjusted upward by 0.5%, on average (Table 1).

The change in GDP figures is explained primarily by the adjustment in real industrial manufacturing growth. The gross product deflator for that sector was revised as of 1990².

Although the December edition of the Inflation Report anticipated less growth during the fourth quarter of 2005, the figure published by DANE was lower than expected. However, this outcome (due mainly to

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² DANE deflates the nominal production data from the monthly manufacturing sample using Banco de la República’s producer price index (PPI) for produced and consumed goods. Technical analysts recommended using a deflator that also includes the PPI for exported goods. See Ramírez, Gutiérrez and Hernández (2006). “Cálculo de IPI adicionando al deflactor la evolución de los precios de las exportaciones,” Universidad del Rosario, Bogotá.
### Table 1

#### Real GDP Growth (Percentage)

<table>
<thead>
<tr>
<th>Year</th>
<th>Before</th>
<th>Now</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Quarter</td>
<td>4.1</td>
<td>3.9</td>
<td>(0.2)</td>
</tr>
<tr>
<td>II Quarter</td>
<td>4.7</td>
<td>4.5</td>
<td>(0.2)</td>
</tr>
<tr>
<td>III Quarter</td>
<td>2.6</td>
<td>3.8</td>
<td>1.2</td>
</tr>
<tr>
<td>IV Quarter</td>
<td>4.4</td>
<td>4.7</td>
<td>0.3</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Quarter</td>
<td>4.0</td>
<td>4.8</td>
<td>0.8</td>
</tr>
<tr>
<td>II Quarter</td>
<td>4.1</td>
<td>4.9</td>
<td>0.8</td>
</tr>
<tr>
<td>III Quarter</td>
<td>4.9</td>
<td>5.2</td>
<td>0.3</td>
</tr>
<tr>
<td>IV Quarter</td>
<td>2.8</td>
<td>3.6</td>
<td>0.8</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I Quarter</td>
<td>3.9</td>
<td>5.1</td>
<td>n.a.</td>
</tr>
<tr>
<td>II Quarter</td>
<td>5.6</td>
<td>6.0</td>
<td>0.4</td>
</tr>
<tr>
<td>III Quarter</td>
<td>5.7</td>
<td>6.4</td>
<td>0.7</td>
</tr>
<tr>
<td>IV Quarter</td>
<td>n.a.</td>
<td>3.7</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: DANE, calculations by Banco de la República.

supply factors) does not change the diagnosis in the December report concerning the positive state of the economy. As in the fourth quarter, the Colombian GDP has experienced episodes of partial slowdown in the past (e.g. in 2003-IV and 2004-III), also because of supply factors that had a temporary impact (Graph 13).

At the sector level, the slower pace of growth in the fourth quarter is associated with the decline in coffee production, a slowdown in government services, and closure of the refinery in Barrancabermeja.

Coffee production fell by 8.6% in real terms during the last quarter of 2005, partly because of a statistical effect associated with the large coffee crop in 2004-2005. Figures on coffee production in 2005-2006 show far less growth, possibly due to weather that prevented the crop from flowering as usual.

On the other hand, spending by public administrations was distributed differently throughout the year, in contrast with previous periods. Historically, most government spending occurs in the last quarter of the year. Among other reasons, this is associated with additions to the budget at the end of the
year. However, there were no additions to the budget in 2005 and spending was concentrated in the second quarter (when government services were up by 8.0% in real terms). The increase in the fourth quarter was only 2.5% (Graph 14).

Closure of the refinery in Barrancabermeja for maintenance during November and December 2005 was another supply factor that contributed to less growth during the fourth quarter. In addition to slowing industrial expansion, the closure also affected tax collections on various indirect levies. As a result, this element of GDP was down by 4.8 percentage points (pp) with respect to the amount collected in the fourth quarter of 2004.

The fourth-quarter figures also showed growth in industrial manufacturing continued to lose ground, as it had since the last quarter of 2004. Eight of the country’s 27 industrial sectors exhibited unfavorable production tendencies at the end of 2005; namely, beverages, tobacco, wearing apparel, footwear and parts thereof, paper products, printing and publishing, refinery products and iron products and accessories. As a whole, these sectors account for 30% of all industry. On the other hand, some of them have a high rate of installed capacity use (ICU), according to measurements by Fedesarrollo. This is the case of electrical apparatus, where ICU is at an all-time high (80.6%), and metallic minerals, which had an ICU rate of 82.3% during the past year (Graph 15).

Some of the industrial sectors that have not performed well might have been affected by real appreciation and by international competition in their domestic market and in certain foreign markets (e.g. China in the United States market). Tobacco manufacturing, footwear and printing and publishing are sectors that could have been affected by the movement in exports and imports.

Broadly speaking, there was more buoyancy in the capital-intensive sectors at the end of 2005 (e.g. those related to construction) and in natural-
resource intensive sectors. On the contrary, unskilled labor-intensive sectors of industry have lost ground, as has been the case since the early nineties.

Growth in the last quarter of 2005 was propelled mainly by non-tradable sectors such as construction, commerce, land transportation, and social, community and personal services (Graph 16).

As to spending, the strength of domestic demand continued to drive the economy, with a nearly 8.0% increase in the fourth quarter of 2005. There were important increases in household consumption (4.8%) and in almost every item of investment (23.5%). However, because of less growth in the fourth quarter, the annual variations were below those in the three previous quarters.

As to consumption, public administrations spent 2.5% more, which is consistent with the expansion in government services, while the rise in household consumption went from 5.3% to 4.8% between the third and fourth quarters (Graph 17).

With respect to household consumption, the increase in non-durable goods consumption dipped slightly during the fourth quarter (from 4.6% to 3.5%), as did services (from 3.5% to 2.8%), while consumption of semi-durables remained stable (5.3%). Durable goods consumption accelerated from 17.2% in the third quarter of 2005 to 18.1% in the fourth.

Investment continued to grow during the fourth quarter. The items registering the largest increase were gross fixed capital formation (GFCF) in machinery and equipment (25.9%) and civil works (22.9%). There was an increase of 13.8% in gross fixed capital formation without civil works. However, despite the large rise in investment, it was less than during the three previous quarters (30.8% on average in the first nine months of 2005) (Graph 18).
The loss of momentum in GFCF in machinery and equipment with respect to earlier quarters is explained by less of an increase in imports of capital goods (which were down from 50% growth in dollars in the third quarter to 19.4% in the fourth). The increase in home construction slowed due to fewer building permits issued in the third quarter of 2005.

Net external demand stayed negative throughout the fourth quarter of 2005. This was due to the strength of imports, which were up by 18.9% in real terms, and to a 1.5% reduction in total exports. Although much of the drop in exports is explained by the real reduction in coffee exports (7.9%), traditional exports as a whole increased by 4.9% due to additional exports of oil (8.6%), coal (8.9%) and ferronickel (25.6%) (Graph 19). Although non-traditional exports, in dollars, rose by 15.1% during the fourth quarter of 2005, the various non-traditional exports reported by DANE show a real drop on the order of 4.8% in constant pesos (Graph 20).

2. Economic Performance in 2005

The 5.1% growth rate reported by DANE for 2005 surpassed most expectations. Predictions were around 4.5%, on average. Growth last year, as in the two previous years, continued to benefit from a favorable external context and better domestic conditions.

As mentioned in earlier editions of this report, the rate of economic growth experienced by the country’s major trading partners, coupled with good terms of trade, boosted external demand and gave Colombians more private income. Added to this is the increase in capital flows during 2005, particularly foreign direct investment (FDI), which came to US$5,569 million (m) in net terms at the end of the year. This is 87% more than in 2004.
Unlike previous years, remittances from abroad no longer account for the bulk of growth in household income. The increase of 6.5% in dollars (from US$3,100 m to US$3,300 m) was offset by nominal peso appreciation.

At the domestic level, 2005 was characterized as a year of substantial improvements in the job market. On average, nearly 500,000 jobs were created nationwide. Given a drop of 0.9% in the global participation rate, this lowered average unemployment from 13.6% in 2004 to 11.8% in 2005.

The past year also saw major improvements in labor productivity and consumer and investor confidence. Coupled with loose monetary and fiscal policies, these factors allowed for a real increase of 9.2% in domestic demand. A rise of this magnitude had not been seen since 1994 and has occurred only three times in the last 30 years (Graph 21).

Household consumption was the item of domestic demand that contributed the most to growth in 2005. The momentum in durable-goods consumption was a highpoint in this respect, having increased by 19.4%, on average. The same can be said of semi-durable goods consumption, which was up by 5.9%.

Gross fixed capital formation, with the exception of civil works, was the second largest contributor to growth in 2005. GFCF in machinery and equipment registered the largest increase in real terms (36.4%), followed by GFCF in transport equipment (23.5%). Investments of this type are linked to the growth in imports of capital goods, which climbed to US$7,700 m in 2005 and accounted for 35.7% of total imports.

During 2005, GFCF in home and building construction was up by 5.5% in real terms, equating the levels observed prior to the crisis at the end of the nineties. The only investment item to experience a real decline in 2005 was agriculture and livestock (-1.1%). All things considered, peso appreciation and investor confidence are two of the reasons behind the current growth in private investment (GFCF without civil works). This aggregate was up by 18.3% in 2005, even after 23.2% real growth in 2004 and 16.4% in 2003.

Thanks to a real increase of 27.8%, GFCF in civil works achieved an important measure of recovery in 2005. This places investment in civil works at 2003 levels, after the drop of 18.8% suffered in 2004.
Investment accounted for 22.3% of GDP in 2005 (in real terms), thereby completing three consecutive years during which this ratio exceeded the historic average of 17.4% (Graph 22). Even so, it has yet to reach the highs registered in 1994 and 1995, when the rate of investment was above 25%.

Unlike domestic demand, which accounted for 9.3% of GDP growth, external demand remained negative due to an increase of 4.6% in exports and 25.2% in imports. The real growth in exports was propelled by traditional and non-traditional items, which were up by 6.9% and 3.4%, respectively (Table 2).

C. MONETARY AGGREGATES, CREDIT AND INTEREST RATES

1. Monetary Aggregates

The Board of Directors did not change its monetary stance during the first quarter of 2006. As a result, intervention rates remained stable and the Bank continued to intervene in the exchange market at will its discretion. Coupled with its expansion repos, these

![Graph 22](image_url)

**Total Investment as a Percentage of GDP**

Source: DANE and DNP, calculations by Banco de la República.

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</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
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</tbody>
</table>

**Growth and Contribution to GDP per Type of Expense (Percentage)**

<table>
<thead>
<tr>
<th>Type of Expense</th>
<th>Percentage of Growth</th>
<th>Contribution to Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>End Consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household</td>
<td>4.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Government</td>
<td>4.8</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gross Capital Formation</th>
<th>Percentage of Growth</th>
<th>Contribution to Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Fixed Capital Formation (GFCF)</td>
<td>29.0</td>
<td>5.3</td>
</tr>
<tr>
<td>GFCF without Civil Works</td>
<td>19.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Civil Works</td>
<td>18.3</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>27.0</td>
<td>0.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domestic Demand</th>
<th>Percentage of Growth</th>
<th>Contribution to Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.2</td>
<td>9.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Exports</th>
<th>Percentage of Growth</th>
<th>Contribution to Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Imports</td>
<td>4.6</td>
<td>0.9</td>
</tr>
<tr>
<td>GDP</td>
<td>25.2</td>
<td>(5.1)</td>
</tr>
</tbody>
</table>

Source: DANE, calculations by Banco de la República.
continued to be the primary mechanisms used to control liquidity in the economy.

The last three months saw less annual growth in monetary aggregates. For example, the increase in M3 went from 17.2% in December to 14% in March (Graph 23). The same can be said of all the aggregates, due to reduced growth in liabilities subject to reserve requirements (PSE: Spanish acronym), particularly the more liquid ones (checking and savings accounts). This situation also had an indirect effect on the monetary base, via a major slowdown in bankers’ reserves.

When private M3 is separated from public M3, we see the trend at the start of the year is explained by the first of these aggregates. The slowdown in M3 is maintained, even when the repos auctioned by the National Treasury (TGN: Spanish acronym)\(^3\) are discounted.

Weaker spending does not appear to be responsible for the recent trend in monetary aggregates. As mentioned in earlier sections of this report, the real indicators available so far this year suggest there is significant moment in this variable. Furthermore, the annual growth rates for all the aggregates continue to be well above the forecast for nominal annual GDP growth. By March of this year, an indicator of financial depth like M3/GDP rose up to its historical tendency for the first time in several years (Graph 24). Accordingly, it is reasonable to expect some restraint in the pace of M3 growth and that of other aggregates, without this indicating a slowdown in the economy.

2. Credit

As to the entire portfolio held by the financial system, the first three months of the year saw an important acceleration, which was partly reversed in

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\(^3\) The Finance Ministry and Banco de la República suspended TGN repo auctions with the financial system in June 2005. This was done in response to a recommendation by an international mission from the World Bank.
March. At the end of the quarter, annual growth in the portfolio denominated in local currency (14.3%) was higher than it had been three months earlier (12.5%).

In recent years, other sources of productive-sector funding not included in the measurement of the financial system’s portfolio analyzed in the Inflation Report have gained force in Colombia. The main ones are leasing and commercial bonds issued by companies and sold to the financial system.

The trend in both these sources of non-credit financing is mixed. Leasing has been up by more than 35% since December 2003. Following a sudden expansion in 2003, the increase in company bonds purchased by banks has been negative, especially as of late 2005. When leasing and bonds are included in the financial system's portfolio, we see that broad financing offered by the financial system rose faster as of late 2004 than the portfolio alone, and continued to do so during the first quarter (broad financing was up by 15.1% in March) (Graph 25). Leasing has become extremely important and now accounts for nearly 8% of the financing extended to the productive sector through the financial system.

Another growing trend in recent months is the extent to which companies in the productive sector have substituted bank loans for alternative sources of funding. As illustrated in Table 3, company bonds and commercial paper gained considerable ground in 2003, 2004 and 2005, as did the practice of investing back profits. The increase in the rate at which profits are plowed back into companies is particularly noteworthy.

Sources of Financing from Non-financial Entities as a Percentage of the Aggregated

<table>
<thead>
<tr>
<th>Description</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Financial Liabilities</td>
<td>62.8</td>
<td>56.6</td>
<td>56.4</td>
<td>28.9</td>
</tr>
<tr>
<td>Other Sources of Financing</td>
<td>37.2</td>
<td>43.4</td>
<td>43.6</td>
<td>71.1</td>
</tr>
<tr>
<td>Total Bonds and Commercial Paper</td>
<td>17.5</td>
<td>29.3</td>
<td>38.7</td>
<td>34.3</td>
</tr>
<tr>
<td>Suppliers</td>
<td>9.8</td>
<td>10.9</td>
<td>13.8</td>
<td>10.9</td>
</tr>
<tr>
<td>Plowing Back Profits</td>
<td>9.9</td>
<td>3.2</td>
<td>(8.9)</td>
<td>25.9</td>
</tr>
</tbody>
</table>

Source: Superintendent of Financial Institutions in Colombia, calculations by Banco de la República.
The consumer and microcredit portfolios continue to attract attention, having expanded in March at a nominal rate of 41.6%, as a whole. The commercial credit portfolio (10.1%) has increased at rates similar to those registered since March 2004.

The securitized mortgage portfolio remains in negative terrain (-2.4%). However, it is expected to recover considerably during the coming months in response to programs being implemented by financial entities to garner the unsatisfied demand for mortgage loans.

3. Interest Rates

Interest on home loans went from 18% at December 2005 to 16.3% at March, due to more competition in this market. At the start of April, several finance companies were offering effective annual rates of about 12%.

Nominal interest on other types of credit also declined in the first quarter of the year. This is particularly true of interest on term deposits (DTF: Spanish acronym), which went from 6.3% at December to 6.0% at March (Graph 26), completely closing the gap between the DTF and the interbank rate. Nominal rates on consumer loans and credit cards also continued to decline in recent months.

The trend in the rate on fixed-term deposits (DTF) in recent quarters, and its currently low level, are due, in part, to less competition in the market for certificates of deposit (CD). The movement towards a more consolidated financial system seems to have made brokers less interested in CDs as a way of attracting resources. Added to this is the high cost brokers assume when trading and managing this paper (because of relatively high reserve requirements, high deposit insurance, the mandatory investments associated with this CDs and the transaction tax, among other costs).

Because of the sizeable reduction in inflation (Graph 27), the drop in nominal market rates was not mirrored in the real rates. Even so, current lending and deposit rates are still well below their historic averages in Colombia. As to the real DTF, the average has been above 5%, while the real rate at present is 1.8%.

Interest on the public debt approached historic lows mid-way through the first quarter, especially on medium-term and long-term securities (6.2% on securities maturing in
August 2008 and 7.1% on those maturing in September 2014 and July 2020). Fewer inflationary expectations, among other factors, favored this tendency. As of that moment, rates began to rebound, mainly as a result of depreciation in the exchange rate and, ultimately, due to the fear of additional external interest-rate hikes (Graph 28). This movement did not affect the short-term rates, which stayed at around 6%, consistent with the DTF and the interbank rates (TIB: Spanish acronym).

4. Prices of Other Assets

The Colombian stock market has been extremely volatile since February 2006 and no specific trend has been defined as yet (Graph 29). The volatility is explained by high prices at the end of 2005, the usual profit taking in February, and growing uncertainty about the course of exchange and interest rates. However, in the last 12 months, the Colombian Stock Exchange Index (IGBC in Spanish) has seen increases in value above 100%.

According to information available at January, new home prices in Bogotá and Medellín continued to display historically moderate annual growth rates (6% and 7.9% respectively). This is consistent with the
limited number of mortgage loans being extended by the finance sector in Colombia. International evidence shows it is natural for housing prices and home mortgages to be mutually reinforcing\(^4\).

D. WORK FACTOR UTILIZATION AND THE LABOR MARKET

The pattern of productivity is a key variable used to assess non-inflationary growth and surplus productive capacity in the economy. As noted in previous reports, indicators of this measurement can be obtained only indirectly and through other variables. Therefore, based on the strategy defined in the September 2005 Inflation Report, the following is the pattern of output per hour worked, as the proper indicator of work productivity.

1. Recent Developments in Output per Worker and Productivity in Colombia

Output per worker nationwide and in the urban area was calculated with information from the national accounts (CN for the acronym in Spanish) and the continuous house surveys (ECH for the acronym in Spanish)\(^5\). Graph 30 contains information up to the second quarter of 2005. Given the latest growth update by DANE, work factor intensity has increased in the last two years. Output per worker was up by 3.9% between 2003 and 2004, and by 1.6% between 2004 and 2005. Before DANE revised the figures, growth in 2004 was less (3.2%).

CN and ECH data show the increase in output per worker can be explained by the rise in labor productivity. Urban output per hour worked (Graph 31) was up by 3.6% in 2004 and 0.9% in 2005, which

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\(^5\) Output per worker nationwide is defined as GDP without government services, divided by the working population nationwide, with the exception of government employees and manual laborers.
is slightly less than what was anticipated in the December edition of this report (1.2% for 2005).

As to sectors, non-tradables saw increases in labor productivity. Calculations based on available data show labor productivity was up by 6.2% in commerce and by 2.0% in construction (Graphs 32 and 33).

The December edition of this report showed that industrial manufacturing productivity had been declining since June 2005. However, the data revised by DANE, with figures for February 2006, seem to suggest this was a temporary phenomenon that began to reverse itself in December of last year (Graph 34). This is explained by the recent acceleration in industrial production (up by 5.9% so far this year), which again exceeds the increase in hours worked (Graph 35).

Having risen in mid-2005, the unit labor cost stabilized again in recent months (Graph 36), thanks to the increase in productivity, which compensated for wage hikes.
2. Labor Market

Available data suggest the labor market has adjusted in recent quarters. This conclusion is based on the following.

- Information from the ECH in March 2006 shows conditions on the urban job market have improved substantially in recent years. Unemployment was down by 3.0 pp compared to March 2004 and by 1.7 pp compared to the same month in 2005. Also, there has been a relative decline in the labor supply, as indicated by a drop of 1.2 pp in the global rate of participation compared to the rate in March 2004.

- The new unemployment rate is close to the NAIRU estimated by the Bank, indicating tightening in the job market and increases in the demand for labor might be reflected in wage hikes.

- The increase in the number of hours worked (5.0%), as reported by the ECH for 2005 as a whole, is one of the highest in recent history and exceeds growth in employment during the same period (4.3%). As mentioned earlier, this phenomenon, which suggests more intensive use of labor, has a limit. If industrial production continues to expand at the current pace, businessmen will have to hire more workers. This, in turn will imply more demand for labor, which would narrow the job market even further.

- Finally, the rate of underemployment due to a locked of hours worked declined from 10.9% to 10.3% (for the three-month moving average) between March 2005 and March 2006.

E. INFLATION AT MARCH AND ITS DETERMINANTS

1. Consumer Inflation

Consumer inflation was 4.1% in March (Graph 37). This is below the middle of the target range set by the Bank and 75 bp less than the percentage reported in December 2005. The reduction involved food and non-food inflation.

The figure at March confirms the forecasts in the December report (4.1%). However, a rundown of the consumer price index (CPI) shows major
discrepancies between the forecasts and the eventual outcome. Non-food inflation was 3.6% in March; that is, 50 bp less than expected. In contrast, food inflation ended the quarter at 5.2%, or 90 bp above the forecast.

There are two reasons why non-food inflation was overestimated. One is the size of the reduction in inflation in regulated goods and utilities during the early part of the year, which was not entirely anticipated. A downturn in inflation in this group had been observed since last year, but became far more pronounced in 2006. The other reason was the pattern in tradable goals. Contrary to the prediction in the last report, tradable inflation declined.

As to food, the forecast error is explained by higher-than-expected increases in the price of perishables. With respect to other foods, inflation continued to decline as anticipated.

2. Core Inflation (Non-food CPI and Other Indicators)

Core inflation fell sharply during the first three months of the year. At March, the average of the three most reliable indicators (non-food, nucleus 20 and without staple foods, fuel and public utilities) was 3.5%. This is 52 bp below the figure in December (Graph 38). Inflation at March was at a historic low. In fact, it was below the target range for this year (4% to 5%). This pattern, in turn, has been accompanied by less dispersion in the various indicators. These range from 3.4% inflation without staples, fuel and public utilities to 3.6% non-food inflation.

Although the decline in core inflation and non-food inflation in particular is something the country has experienced for nearly two years, the drop at the start of 2006 was due to slightly different factors. By way of illustration, it is important to compare what happened in the first quarter of 2006 with respect to the same period the year before. This is an appropriate exercise, since price changes in Colombia are seasonal and concentrated largely at the start of every year.
Table 4 shows the trend in non-food inflation during the first quarter of 2005 and 2006. While the decline registered in 2005 was due to tradables and non-tradables, the reduction in 2006 is explained mostly by regulated goods and, to a lesser degree, by tradables. The drop in non-tradable inflation, which played an important role in 2005, has made almost no contribution this year.

<table>
<thead>
<tr>
<th>Reduction in Non-Food Inflation, by Components (Basis Points)</th>
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<tbody>
<tr>
<td>I Qtr. 2005</td>
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<tr>
<td>-------------</td>
</tr>
<tr>
<td>Tradable CPI</td>
</tr>
<tr>
<td>Non-tradable CPI</td>
</tr>
<tr>
<td>Regulated CPI</td>
</tr>
<tr>
<td>Non-food CPI</td>
</tr>
</tbody>
</table>

Source: DANE, calculations by Banco de la República.

As such, the recent trend in core inflation is linked to a supply shock associated with the pattern in regulated goods/utilities. In effect, annual inflation in these items spiraled downward in recent months from 6.7% in December to 4.2% in March (Graph 39).

Although the three components of regulated goods/utilities declined, and behaved more favorably than expected, the sharp reduction in adjustments in public transportation rates was somewhat of an unexpected, considering the large accumulated increase in fuel prices. This was because the city of Bogotá did not raise public transportation rates at the start of the year, as it usually does. Less of an increase in fuel prices, thanks to the introduction of bio-gasoline on the market, was a contributing factor as well.

The trend in public utilities was in line with the Bank’s prediction. The new rate regulations took effect in February, substantially reducing the variable tariff in Bogotá and in several others cities, and helping to lower annual inflation in this group.
So far, it is not clear if the small adjustments in regulated prices can be maintained indefinitely. Fuel prices will continue to be the primary cause of price increases during the remainder of 2006 and in 2007. Over the last year and a half, the hikes in fuel prices were transferred slowly to domestic prices. This was due to different reasons, one being the exchange rate.

However, this relatively favorable situation from the standpoint of inflation might not last. On one hand, as mentioned in earlier sections of this report, the fact that international oil prices have risen more than anticipated could force an increase in the domestic reference price. On the other, the tendency towards appreciation of the exchange rate is not as clear as it was last year. Therefore, the coming quarters might see readjustments in domestic fuel prices above the rate of inflation, or even higher than those registered so far this year. If this happens, it could force an increase in public transportation rates, perhaps at the beginning of next year and particularly in Bogotá.

As to public utilities, a repetition of the rate reductions observed at the start of the year is unlikely. Utility prices probably will continue to adjust at rates near the inflation target or near the incurred inflation. For that reason, the first half of 2007 could see an upsurge in the annual inflation for this group, merely because of statistical effects.

Tradables (without food and regulated goods/utilities) also helped to lower the core inflation at the beginning of the year. In March, inflation for this group declined slightly to 2%, as opposed to 2.2% in December (Graph 40). Although significant, this is a small reduction compared to those in 2005, especially at the start of that year (Table 4). In other words, tradables continued to help reduce core inflation and to keep it below target. However, this contribution was not as important in the early months of 2006 as it was at the end of 2004 and in early 2005. In fact, compared to June of last year, the drop in tradable inflation has been minimal (from 2.1% to 2%).

As was to be expected, the deflationary influence of tradables has dwindled with less appreciation in the exchange rate. However, there are other factors that might have offset the impact of less appreciation. One is the favorable trend in international prices for the goods Colombia imports. Another is increased competition from foreign goods sold on the domestic market. Both these phenomena are associated with increased globalization and a more open economy. This would explain the overestimate in the Bank’s forecast in the December report (2.5% was
anticipated for March). These factors could continue in the short term, limiting adjustments in the price of tradables.

Contrary to the situation with regulated goods/utilities and tradables, non-tradable inflation (without regulated goods/utilities and food) did nothing to lower core inflation during the first quarter of 2006. In fact, non-tradable inflation has been stable for nearly a year. It was 4.6% in March (Graph 41), which is very close to the rate in mid-2005 and at the end of that year.

The recent developments in this group are the result of two opposite forces in 2006: rentals (approximately 20% of CPI) and the "remaining" non-tradable goods and services (approximately 17% of CPI). As to rentals, 2006 has been accompanied by unusually sharp increases. Monthly inflation in February was the highest since April 1999, elevating the annual adjustments in this group from 4.1% in December to 4.7% in March (Graph 42). This increase was even higher than the one implicit in the Bank's forecasts.

Offsetting the upward pattern in rentals, inflation in the "remaining" non-tradable goods and services declined from 5% in December to 4.5% in March (Graph 42). This was largely because of minimal changes or even reductions in prices for certain goods and services in the entertainment, culture and recreation subgroup. As to these and other non-tradables, consumers might be trying to take advantage of low prices by using tradables instead of non-tradables.

3. Food Inflation

Annual food inflation fell by 133 bp between December 2005 and March 2006, ending the quarter at 5.2% (Graph 43). Even so, the prices for an assortment of perishable or staple foods were adjusted...
more than anticipated. This prevented more of a reduction in food inflation. In fact, annual inflation in this subgroup remained high, despite some decline during 2006 (13.2% at March) (Graph 44). Poor weather (too much rain) had a negative effect on the shipment of perishables and on certain crops. This negative shock might be overcome in the second half of the year, when perishable prices are expected to be lower.

On the contrary, processed-food inflation continued to fall during 2006, maintaining the long-term pattern that begun in September 2001. By March, processed-food inflation was 3.2%, or 154 bp less than in December 2005 (Graph 44). This is explained primarily by lower international prices for certain foods and by accumulated exchange appreciation.

F. CHANNELS DETERMINING INFLATION IN 2006

1. Exchange Rate and International Competition

As was the case throughout 2005, the accumulated effect of the exchange rate appreciation during the first quarter of 2006 remained the primary factor behind the reduction in core inflation and its relatively low level with respect to the target for this year. A stronger peso at the start of 2006 probably curbed the usual rise in the price of tradables at the start of the year.

Also, the lower exchange rate in 2005 might have toned down the increase in prices at the start of the year with respect to regulated goods and services such as fuel and transportation, partially offsetting the effects of higher international oil prices. Even so, the slowdown in appreciation as of late 2005, and the growing volatility of the exchange rate at the start of the year, explain why it has done less to lower inflation during 2006 than in 2005. Annual inflation in tradables was down by 19 bp in the first quarter of this year, as opposed to a drop of 99 bp during the same quarter in 2005.

On the other hand, China's involvement in international trade, with low labor costs, might be a constraint to higher prices for goods exposed to international competition. The same can be said of globalization. Moreover,
relatively less expensive tradables may have encouraged tradable consumption as a substitute for non-tradable consumption.

2. Expectations

The positive trend in inflationary expectations since late 2005 and during the course of 2006 helped to rein in price hikes at the start of the year. This is evidenced by price changes in sectors that are usually highly indexed, such as education and health. By March, inflation in these sectors was declining. The stability in non-tradable inflation could be explained the same way. Non-tradable inflation saw no increase during the first quarter of this year, despite good economic growth.

The monthly survey of expectations among banks and stockbrokers showed that their expectations of inflation are in line with the target range announced by the BDBR (Graph 45). The Bank's quarterly survey points in the same direction, suggesting considerable confidence that the inflation target will be met. In fact, 82% of those interviewed for the January survey were confident this would be the case.

3. Surplus Installed Capacity and Pressures Exerted by Demand

A detailed analysis of all available indicators of installed capacity and pressure exerted by demand in the Colombian economy indicates that surplus installed capacity is becoming more and more uncommon. One example is the use of installed capacity (UIC) in industry. According to Fedesarrollo, UIC at the start of the year exceeded the historic average of the series (Graph 46).

Indicators such as UIC by the National Association of Industrialists (ANDI) and installed capacity relative to demand measured in the Fedesarrollo survey also lean in this direction. Following the methodology adopted as of the September edition of the Inflation Report, this information points to an output gap near zero at the start of 2006 (Graph 47).
Several months of stability in non-tradable inflation (discounting supply phenomena) and its convergence with the target shows the increase in demand played a neutral role in inflationary pressure. Consequently, the output gap continued to close and is now approaching zero. On the other hand, in productive sectors operating above historic levels, growth in factor productivity probably allows them to adjust to an increase demand for their products, without exerting added pressure on prices.

4. Costs and Wages

As indicated by the changes in the PPI, which saw an annual increase of 1.45% by the end of March, no additional non-labor cost pressures are evident. Nonetheless, prices for basic raw materials such as fuel, cement and metals have risen in recent months. Increases in the imported PPI cannot be ruled out either, given the depreciation witnessed in March and early April.

As to labor costs, the figures suggest wages are rising faster than last year and at rates in excess of the inflation target. The minimum wage hike (close to 7%) supports this claim, as do the increases provided for in collective bargaining agreements (mostly between 5% and 7%) and the near 10% adjustments in wages for skilled workers in sectors such as construction (Table 5).

<table>
<thead>
<tr>
<th>Percentage of Beneficiaries per Wage Increase Level</th>
<th>Less than 5%</th>
<th>From 5% to 6%</th>
<th>From 6% to 7%</th>
<th>More than 7%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2005</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January-May</td>
<td>2</td>
<td>64</td>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>January-November</td>
<td>1</td>
<td>47</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td><strong>2006</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td>13</td>
<td>19</td>
<td>58</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Social Protection Ministry, calculations by Banco de la República.
These cost pressures have not produced a generalized increase in indicators of core inflation for the consumer. There are three possible reasons why. One is the increase in competition on markets for goods and services, which would mean companies are using their margins to absorb higher costs. Secondly, transferring higher costs to the end price can take time. This is a sign of phenomena such as menu costs or uncertainty about whether the force of demand will continue. Finally, as mentioned earlier, productivity gains make it possible to absorb an increase in demand without having to raise prices.
II. MACROECONOMIC PERSPECTIVES

The forecasts for world economic growth are higher than in the last report. The strength of world demand has boosted predictions on the price of raw materials, particularly oil and metals. Although this raises fears of inflation in the developed countries with respect to 2006 and 2007, it is unlikely to translate into excessive hikes in core inflation indicators. The competitive effects associated with globalization, the gains in productivity and the changes made in the stance of monetary policy should contain the pressures brought to bear on prices, particularly in the United States.

Although the central banks in the developed economies are expected to raise their interest rates in the coming months, there is no anticipation of major changes in long-term interest rates that would substantially modify capital flows towards the emerging economies. Consequently, the external context is likely to remain favorable for emerging economies and for Colombia in particular. Higher export prices for raw materials, plus good growth in world demand, will allow these economies to adjust to the anticipated decline in international liquidity, at no major expense.

In the case of Colombia, positive external and domestic factors of a fundamental nature continue to make this an attractive country for direct foreign and long-term capital investment. Coupled with high investor and consumer confidence, growing employment and ample terms for credit, this guarantees a good rate of growth in 2006 (around 5%).

No additional reductions in consumer inflation are expected during the remainder of the year, although the target is still likely to be met. Annual core inflation will remain low in 2006, thanks to accumulated appreciation and its impact on the price of tradables. Some increase in non-tradable inflation cannot be ruled out, due to the strength of domestic demand. Also, high fuel prices could boost inflation in regulated goods/utilities.
A. EXTERNAL CONTEXT AND THE EXCHANGE RATE

1. General Aspects

Whether or not the main external indicators see a change during the remainder of the year will depend on how the United States economy responds to the Fed's tighter monetary policy. Most analysts expect a bit of a slowdown in the pace of U.S. economic growth, following the strong momentum registered at the start of the year. A slowdown in the economy during the second half of the year is considered likely, but still would allow for 3.3% growth during all of 2006 and 3.0% in 2007 (Table 6).

These forecasts, which are based on the assumption that growth will be slightly less than last year, are very much akin to those in the December report. Slight cooling would be due to the continuous hikes in short-term interest rates seen over a period of several quarters and their influence in pushing up long-term rates. Long-term rates could continue to increase at bit longer, even without major changes in the Fed’s reference rate, which would reestablish part of the slope of the yield curve.

<table>
<thead>
<tr>
<th>Principal Partners</th>
<th>Actual 2005</th>
<th>Forecast for 2006 at:</th>
<th>Forecast for 2007 at:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Jan-06</td>
<td>Apr-06</td>
</tr>
<tr>
<td>United States</td>
<td>3.5</td>
<td>3.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Ecuador</td>
<td>2.8</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Venezuela</td>
<td>9.4</td>
<td>6.4</td>
<td>6.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Partners</th>
<th>Actual 2005</th>
<th>Forecast for 2006 at:</th>
<th>Forecast for 2007 at:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Jan-06</td>
<td>Apr-06</td>
</tr>
<tr>
<td>Euro zone</td>
<td>1.4</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Japan</td>
<td>2.7</td>
<td>2.0</td>
<td>2.9</td>
</tr>
<tr>
<td>China</td>
<td>9.3</td>
<td>8.5</td>
<td>9.1</td>
</tr>
<tr>
<td>Peru</td>
<td>6.1</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.1</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Chile</td>
<td>5.9</td>
<td>5.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Argentina</td>
<td>8.9</td>
<td>5.9</td>
<td>7.1</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.5</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Bolivia</td>
<td>3.7</td>
<td>3.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Developed economies</td>
<td>3.2</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Developing economies</td>
<td>6.3</td>
<td>5.0</td>
<td>5.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Trading Partners (*)</th>
<th>Actual 2005</th>
<th>Forecast for 2006 at:</th>
<th>Forecast for 2007 at:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Jan-06</td>
<td>Apr-06</td>
</tr>
</tbody>
</table>
| (*) Balance of payments calculated according to non-traditional exports. Source: Datastream-Consensus.
Higher interest rates should dampen the rise in household consumption, and a tighter monetary policy would complete the task of directing output towards a sustainable long-term path. The anticipated slowdown in consumption would be offset, in part, by strong investment and continued growth in public spending, plus added job-market recovery.

The price of housing is one channel that could be decisive towards cooling private consumption in the United States. A standstill or moderate decline in housing prices would have a negative impact on the wealth of U.S. consumers, causing them to adjust their levels of consumption. On the other hand, higher interest rates would reduce the amount of income available to households by increasing their mortgage payments. This also would affect private consumption.

As mentioned in the first chapter of this report, a standstill in housing prices has been observed and mortgage rates are up, all of which suggests these two determinants of inflation are behaving as anticipated. Even so, it is still possible that a moderate cooling in the housing market would have a minimal effect on private consumption. This report forecasts a soft landing in the housing sector, not an abrupt or sharp one, as was the case on other occasions.

Prospects for the other developed economies have improved compared to the December edition of this report and to their performance in 2005. This is particularly true in the case of Japan, where 2.9% GDP growth is expected in 2006 and 2.1% in 2007. Three months ago, the forecast for 2006 was only 2% (Table 6).

The recent tendency towards a recovery in private consumption in Japan is expected to consolidate in the months ahead. This was not as clear in previous reports. Added to this momentum is the force of private investment backed by recovery of the financial system. Although external demand has been extremely important, a possibly stronger yen and less economic activity in the United States are expected to cause a bit of a slowdown in the growth of industrial exports. At any rate, China’s demand will continue to increase.

As to the euro zone, the recent recovery in real indicators in Germany has improved the prospects for regional growth. Even so, it is expected to be low in comparison to most of the regional economies. This is attributed, in part, to the persistence of structural rigidities in various countries, which pose a constraint to their growth. As in Japan, Europe also is expected to see a rebound in private consumption, although investment should be the dominant driving force in 2006, boosted by high corporate benefits. There are expectations of further recovery in the job market as well. However, reforms that allow...
for more job-market flexibility are required, if this tendency is to be maintained. The forecast for growth in the region is 2.1% in 2006 and 2.0% in 2007. These predictions represent no change with respect to the December report, but do imply an improvement compared to the outcome for 2005 (Table 6).

The better conditions anticipated for the developed economies would help to boost growth in the emerging economies, compared to what was contemplated in the December edition of this report. There has been a major increase in the growth forecasts for the Asian economies. Following a recent revision of China’s GDP for 2005, 9.1% growth is expected in 2006 and 8.7% in 2007. This would be coupled with positive growth anticipated in India (7.9% in 2006 and 7.3% in 2007). Therefore, growth in Asia, excluding Japan, would be 7.7% in 2006, following 7.5% last year.

As in Japan and the euro zone, private consumption in several Asian countries is expected to gain ground compared to the rest of the demand. Were this to happen, it would represent an important change in the type of growth that has characterized China and other economies in recent years, where consumption has stayed behind, allowing for high rates of savings. On the other hand, in the case of China, moderate appreciation of the yuan against the dollar is expected, similar to what occurred in 2005.

The strength of world demand, particularly in the Asian economies, would appear to signal new hikes in the price of raw materials. Up until three months ago, it was felt these prices probably would remain high, but stable, throughout 2006, ending the year at levels similar to those in 2005. However, the predictions have increased in the wake of recent events. For example, The Economist Intelligence Unit (EIU) has raised its forecasts compared to what was anticipated three months ago. According to the World Commodity Forecast (WCF), the index of commodity prices without energy would be up by 5.0% in 2006, compared to the 2.1% drop forecast in the December report (Graph 48). Much of this correction is due to the rise in metal prices throughout the year.

Oil prices are likely to remain high. Excluding the price increase in the days prior to the publication

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6 France is a case in point. A reform to reduce unemployment among the young was encouraged but not accepted.


8 In an attempt to cool the economy a bit, Chinese authorities raised the reference interest rate from 5.58% to 5.85% on April 27.
of this report, the EIU expects the WTI reference price to average US$61.10 a barrel in 2006 and US$56.55 a barrel in 2007. This exceeds the prediction in the December report.

Although higher prices for raw materials will exert pressure on production costs the world over, the developed economies are expected to continue to absorb them without any dramatic effect on core inflation indicators. In the case of the United States, this would be partly the result of a tighter monetary policy and how it influences spending. Moreover, the productivity gains that have been decisive to price stability will continue to make an important contribution, but less so.

However, the existence of latent inflationary pressures in the United States, due to the increased use of resources, cannot be ruled out. Use of installed capacity for the urban economy is slightly above the historic average (81%). These pressures, coupled with those exerted by costs, could complicate the outlook for inflation in the future. However, this is regarded as more of a risk scenario than a fact.

Added to the risk of future inflationary pressures is the closure of the gap between supply and demand on the labor market. However, since 1990, the U.S. economy has seen no clear relationship between a tight labor market and core inflation. The foregoing could be the result of a major increase in productivity, world globalization and the growing credibility of monetary policy. Deutsche Bank, "Conundrum Unraveling" March 2006.

Consequently, for the central scenario of this report, inflation is expected to respond to a tighter monetary policy. According to the Consensus Forecast, average total inflation for 2006 would be 2.9% in the United States, 2.0% in the euro zone and 0.4% in Japan. Core inflation would be 2.4% in the United States, which is slightly above the average registered for 2005 (2.2%).

In view of the foregoing, the Fed is expected to announced an increase of 25 bp in its reference rate at its next meeting in May. Although some analysts believe the Fed might go even higher (none

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9 According to J.P. Morgan, Lehman Brothers and Deutsche Bank, the WTI reference price is expected to be US$61.45 a barrel in 2006 and $54.6 a barrel in 2007. This forecast is based on information at March 2006.

10 The foregoing could be the result of a major increase in productivity, world globalization and the growing credibility of monetary policy. Deutsche Bank, "Conundrum Unraveling" March 2006.

11 According to J.P. Morgan, Deutsche Bank and DKW-Dresdener Kleinwort W.
but a few predict over 5.5%), there is no denying the fact that uncertainty over how long these hikes will continue is more than it was three months ago. This is because there is little evidence concerning the impact of a tighter monetary policy. On the other hand, the rise in long-term interest rates could take the edge off the increase in short-term rates by making the monetary policy more effective.

In the case of Japan, interest on loans would rise faster than predicted three months ago (although equally moderate), given good economic performance and the pattern of inflation. The euro zone could continue to see gradual increases similar to those made already, ending the year with a policy rate of 3% to 3.25%, provided growth continues at a good pace.

Higher interest rates in Japan and the euro zone would imply a weaker dollar, particularly during the second half of 2006. Coupled with a larger external demand (Japan and China, among other Asian countries) and less domestic demand, this could have a stabilizing effect and/or reduce the current account deficit in the U.S. economy.

2. Latin America

The better outlook for world growth, including the Asian economies, will imply more growth in the Latin American countries. The main effect will be felt in the form of higher prices for export products such as metals and energy. Added to this is the favorable trend in external demand, which will continue to propel the region’s non-traditional exports.

In this report, the forecast for growth of Colombia’s major trading partners has been raised to 3.9% for 2006 and 3.2% for 2007 (Table 6). For Venezuela, the forecast is 6.8% growth in 2006 (it was 6.4% in the December report), and 4.6% in 2007. The predictions for Ecuador are less optimistic: 3.2% and 3.0% for 2006 and 2007, respectively. Broadly speaking, both these countries would continue to benefit from high oil revenues, allowing them to support a great deal of government spending consistent with the electoral cycle. Even so, there are risk factors related to political uncertainty, especially in Ecuador.

Thanks to improved external conditions, this report forecasts better terms of trade for Colombia during the rest of 2006 and in 2007, compared to the last edition. Gold is expected to be US$560.2 an ounce and oil US$53.5 a barrel. Coffee, coal and ferronickel prices also are expected to be relatively high (Table 7).

Good external conditions for the Latin American economies, including the Colombian economy, make it unlikely that regional currencies will continue to weaken, even though the yield spread will be less favorable for local investments.
However, this does not mean rates of exchange, even for the Colombian peso, will necessarily return to the levels observed at the beginning of the year.

No deterioration in terms and conditions for financing in the region is expected. According to the Institute of International Finance, Latin America will receive US$38.5 trillion (t) in private net flows during 2006, with more foreign direct investment (US$41 t) and a departure of US$3.5 t from the investment portfolio. These forecasts do not rule out the possibility of less net short-term capital inflows due to the recent hikes in external interest rates (Table 8).

### Table 7

**International Prices**

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Projection for 2006</th>
<th>Projection for 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Coffee (ex-dock) (dollars/pound)</td>
<td>0.7</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Oil (dollars/barrel)</td>
<td>29.0</td>
<td>37.3</td>
<td>49.8</td>
</tr>
<tr>
<td>Coal (dollars/ton)</td>
<td>28.2</td>
<td>36.1</td>
<td>47.9</td>
</tr>
<tr>
<td>Ferronickel (dollars/pound)</td>
<td>1.4</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Gold (dollars/troy ounce)</td>
<td>362.5</td>
<td>409.3</td>
<td>445.0</td>
</tr>
</tbody>
</table>

1/ Estimated balance of payments at April 2006.  
2/ Estimated balance of payments at January 2006.  
Source: Banco de la República.

### Table 8

**Foreign Financing: Latin America**  
*(Billions of dollars)*

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005 (e)</th>
<th>2006 (proj.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account Balance</td>
<td>11.1</td>
<td>20.6</td>
<td>31.5</td>
<td>8.3</td>
</tr>
<tr>
<td>Net external financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net private flows</td>
<td>30.7</td>
<td>29.0</td>
<td>44.1</td>
<td>38.5</td>
</tr>
<tr>
<td>Net active investments</td>
<td>27.6</td>
<td>39.3</td>
<td>45.6</td>
<td>37.4</td>
</tr>
<tr>
<td>Net direct investment</td>
<td>30.3</td>
<td>44.7</td>
<td>40.9</td>
<td>41.0</td>
</tr>
<tr>
<td>Net portfolio investment</td>
<td>(2.7)</td>
<td>(5.4)</td>
<td>4.7</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Net private credit</td>
<td>3.2</td>
<td>(10.3)</td>
<td>(1.5)</td>
<td>1.0</td>
</tr>
<tr>
<td>Commercial banks</td>
<td>(12.7)</td>
<td>(13.5)</td>
<td>(5.0)</td>
<td>0.7</td>
</tr>
<tr>
<td>Non-bank</td>
<td>15.8</td>
<td>3.2</td>
<td>3.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Net official flows</td>
<td>(0.7)</td>
<td>(9.5)</td>
<td>(30.0)</td>
<td>(9.0)</td>
</tr>
<tr>
<td>Resident loans</td>
<td>(7.8)</td>
<td>(17.7)</td>
<td>(22.5)</td>
<td>(8.7)</td>
</tr>
<tr>
<td>Reserves(++;)=increments</td>
<td>(33.4)</td>
<td>(22.5)</td>
<td>(23.0)</td>
<td>(0.3)</td>
</tr>
</tbody>
</table>

(a) Estimate.  
(Proj.) Projection.  
Macroeconomic conditions in most Latin American countries continued to pick up in recent months. For example, the year began with no deterioration in the external balance, despite the rise in imports. According to a number of forecasts, the current account balance should improve from around 0.9% of GDP in 2005 to 0.6% of GDP in 2006 (Graph 50). On the other hand, the latest projections on Latin America's external debt in 2006 (according to World Economic Outlook, IMF) indicate it will amount to 33% of GDP, which is 14% less than the proportion in 2003 (47%). The improvement in fundamentals will lessen the effect of the current political cycle compared to previous periods.

B. THE DOMESTIC CONTEXT

1. Growth in 2006

Available information on 2006 suggests favorable conditions for growth will continue. In addition to good prospects for external demand and high terms of trade, as analyzed in the previous section, other factors will continue to have a positive impact. Among others, these include low interest rates, ample availability of credit, improved conditions on the labor market, and increased public spending.

Domestic demand will continue to be decisive to growth during 2006, as was the case in 2005 and 2004. However, the impetus will originate more with private consumption than with investment. Conditions are right for household consumption to continue to expand, not only because consumer confidence is high and credit is abundant and cheap, but also because the employment situation has improved, both in numbers and quality. This lends added stability to family income.

As to this last point, the projections on real available private income (RAPI) indicate an almost 5% increase in 2006. Besides good output, a number of other elements will make a positive contribution to RAPI, such as remittances and other current transfers, high terms of trade, and larger net transfers from social security (see Panel 1).

In general, the forecast exercises suggest 4.5% to 5.0% GDP growth in 2006, with a high degree of reliability. The central scenario in this report is
based on 4.8% predicted growth, although the biases accompanying this projection are considered in the risk balance presented later.

One of the general assumptions used in the GDP central forecast scenario is a sizeable increase in total factor productivity, even above the historic average. Others include an increase in terms of trade above the already high levels registered in 2005, coupled with 3.9% growth in the case of Colombia’s principal trading partners and 3.6% for the rest of the world, as indicated in the analysis of the external context.

As to the export sectors, the central scenario for 2006 assumes a drop of almost 2.0% in crude oil production, 8.5% in coal production and 2.0% less coffee production. The public sector is expected to continue to make an important contribution to economic growth, through acceleration in general government consumption at an annual rate of 6.5%.

Government investment also will be an important factor, thanks a number of projects for civil works. At the national level, Plan 2,500 for highway construction will continue to be implemented. At the regional level, work will continue on the construction of mass transit systems and on other projects outlined in the four-year development plans. The increase in investment in civil works -primarily government investment- is expected to be about 10.0% during all of 2006.

According to the forecast models, private domestic demand could expand at a real rate of nearly 7.0% during 2006, which is consistent with the growth in real available private income (Graph 51). The central scenario suggests a slight acceleration in household consumption from 4.9% in 2005 to 5.2% in 2006. However, given the figures registered at the start of the year and the strong growth anticipated in consumer credit, an even larger increase is possible.

At this level of expenditure, the boost would come mainly from the consumption of non-durable and semi-durable goods. At the end of 2005, this consumption continued to expand slower than the pace of economic growth. A minor slowdown in durable goods consumption is expected. Consumer confidence is one of the factors that would allow household consumption to accelerate in 2006. It has seen an important surge during the year to date, suggesting 5.5% growth for the aggregate in the first quarter of the year (Graph 52).
The models indicate private investment (without civil works) will increase by about 10.0% in 2006. The items with the most growth will continue to be gross fixed capital formation (GFCF) in machinery and equipment, and transport equipment (10.3%). This increase should lead to an equivalent rise in imports of capital goods and transport equipment. The projections also show 8.0% real acceleration in investment in construction and buildings during 2006. The construction industry would benefit from lower interest rates on mortgage loans.

Contrary to domestic demand, net external demand is expected to make no positive contribution to GDP in 2006. This is because export growth is likely to be offset by a rise in imports, as was the case in 2005. An 4.8% increase in total exports, in constant pesos, is expected for 2006, including a 3.7% rise in traditional exports and 5.4% more non-traditional exports. However, this central scenario does not take into account the possible effect of Venezuela's departure from the Andean Community of Nations (CAN). With respect to total imports, the forecast is for 13% real growth propelled by durable goods consumption, plus investment in machinery and equipment, as well as investment in transport equipment (Table 9).

### Table 9

**Real GDP Growth Forecasts by Type of Spending (Percentage)**

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>End Consumption</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household</td>
<td>3.9</td>
<td>4.9</td>
<td>5.5</td>
</tr>
<tr>
<td>Government</td>
<td>4.2</td>
<td>4.9</td>
<td>5.2</td>
</tr>
<tr>
<td><strong>Gross Capital Formation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Fixed Capital Formation (GFCF)</td>
<td>14.8</td>
<td>29.0</td>
<td>11.1</td>
</tr>
<tr>
<td>GFCF without Civil Works</td>
<td>13.4</td>
<td>19.8</td>
<td>10.5</td>
</tr>
<tr>
<td>Civil Works</td>
<td>23.2</td>
<td>18.3</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td>(18.8)</td>
<td>27.0</td>
<td>10.2</td>
</tr>
<tr>
<td><strong>Domestic Demand</strong></td>
<td>5.7</td>
<td>9.2</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Total Exports</strong></td>
<td>11.4</td>
<td>4.6</td>
<td>4.8</td>
</tr>
<tr>
<td><strong>Total Imports</strong></td>
<td>16.9</td>
<td>25.2</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>GDP</strong></td>
<td>4.8</td>
<td>5.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Source: DANE, calculations by Banco de la República.
2. **GDP Growth in the First Half of 2006**

GDP should be up by 4.7%, on average, in the first six months of 2006. However, this increase will be distributed in a highly irregular way throughout the period, given the existence of three more working days than in the first quarter (partly because Holy Week is in March and not in April, as was the case in 2005). Accordingly, 5.5% growth is expected for the first quarter, as opposed to just 4.0% for the second (Table 10).

The forecasts point to a 4.1% increase in tradable sectors as a whole (primarily agriculture and livestock, mining and industry). The following tendencies are anticipated in the various sectors (Table 10).

- The drop expected in coffee production as a result of the weather will influence agriculture and livestock in the first six months. Therefore, growth in this sector would be extremely limited, possibly 0.6% and 1.8% in the first and second quarters, respectively. A moderate increase in livestock, especially hog farming, also is anticipated for this sector.

<table>
<thead>
<tr>
<th>Real GDP Growth by Sectors (Percentage)</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I Qtr.</td>
<td>II Qtr.</td>
<td>Year</td>
</tr>
<tr>
<td>Agriculture, forestry, hunting and fishing</td>
<td>4.2</td>
<td>2.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>3.0</td>
<td>3.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Electricity, gas and water</td>
<td>2.7</td>
<td>3.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Manufacturing industry</td>
<td>7.0</td>
<td>4.0</td>
<td>7.2</td>
</tr>
<tr>
<td>Construction</td>
<td>10.6</td>
<td>12.6</td>
<td>12.1</td>
</tr>
<tr>
<td>Buildings</td>
<td>33.1</td>
<td>5.4</td>
<td>13.4</td>
</tr>
<tr>
<td>Civil works</td>
<td>(18.8)</td>
<td>27.9</td>
<td>10.0</td>
</tr>
<tr>
<td>Commerce, repairs, restaurants and hotels</td>
<td>6.1</td>
<td>9.2</td>
<td>8.7</td>
</tr>
<tr>
<td>Transport, storage and communications</td>
<td>5.4</td>
<td>5.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Financial establishments, insurance, real estate and company services</td>
<td>4.5</td>
<td>3.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Social, community and personal services</td>
<td>2.7</td>
<td>4.0</td>
<td>3.7</td>
</tr>
<tr>
<td>Financial brokerage services measured indirectly</td>
<td>11.9</td>
<td>8.5</td>
<td>5.3</td>
</tr>
<tr>
<td>Subtotal: Aggregate value</td>
<td>4.6</td>
<td>4.5</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>GDP</strong></td>
<td><strong>4.8</strong></td>
<td><strong>5.1</strong></td>
<td><strong>5.5</strong></td>
</tr>
<tr>
<td>Taxes minus subsidies</td>
<td>7.4</td>
<td>13.3</td>
<td>10.5</td>
</tr>
<tr>
<td>Net SIFMI (*) financial services</td>
<td>2.3</td>
<td>1.9</td>
<td>3.2</td>
</tr>
<tr>
<td>Tradable</td>
<td>5.3</td>
<td>3.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Non-tradable</td>
<td>4.4</td>
<td>6.0</td>
<td>5.6</td>
</tr>
</tbody>
</table>

(*): Financial brokerage services measured indirectly
Source: DANE, calculations by Banco de la República.
The indicators available for mining show a good start to the year. In fact, growth could exceed 6% for the first six months as a whole. This is suggested by the volume of oil, coal and ferronickel exports, which had increased by 14.2%, 35.1% and 3.2% at March.

According to February data, industrial manufacturing is growing at an annual rate of 5.9%, which is much more than at the end of 2005. Because there are three additional working days in March, an increase of more than 7.0% can be expected in the first quarter. In the second quarter, and probably for the remainder of the year, industrial growth will not be as satisfactory for the opposite reason. There are three fewer working days in the second quarter, as is also the case in the latter half of the year. Accordingly, the forecast points to 3.5% growth for the entire year (Graph 53).

The non-tradable aggregate is expected to be up by 5.1% during the first half of 2006 (Table 10). The most dynamic sectors will continue to be civil-works construction, which is expected to grow by 14% on average during the first six months of the year, home construction (10.2%) and commerce (7.8%).

C. INFLATION FORECASTS

1. External Assumptions

One of the main economic events in recent months is the new tendency in the exchange rate. Between March and early April, the Colombian peso weakened with respect to the dollar, reversing an 18-month tendency towards appreciation. At the time this report was written, the exchange rate was almost Col$2,370 per dollar, which is 4.5% more than in December and 1.4% above the average for 2005.

Earlier reports predicted relative exchange rate stability throughout 2006, with moderate pressure towards depreciation. However, depreciation in recent months has surpassed all forecasts. As explained in previous sections of this report, the new tendency in the exchange rate and its added volatility are associated with expected hikes in external interest rates, not only in the United States, but also in Europe and Japan. On the other hand, recent depreciation has not been exclusive to Colombia, although it might have hit the country harder.
Despite recent trends, the perception in this report is that most of the pressure towards depreciation is temporary and will ease off in the coming months. This does not mean average depreciation during the remainder of the year will comply with the forecast in the December report, or that the exchange rate will return to the minimum levels observed in February. In fact, the forecasts discussed later in this report assume an average rate of exchange in 2006 that is slightly above the one in December, but consistent with a gradual return to exchange stability.

The movement in recent months is understood as a correction in the exchange rate due to expectations of additional cut backs in international liquidity that were not foreseen initially by the markets. However, as argued earlier in this report, those reductions and the interest rate hikes would not be considerable and would be intended to guarantee the stability of inflation in the United States and Europe. This would be accomplished within the context of solid growth in world demand and historically high prices for raw materials and fuel.

Accordingly, the outlook in this report is that the Fed will raise its reference rate to 5.25%. This is coherent with what external analysts expect and is not a significant change from the prediction in December (5%). These levels are still considered sufficient to guarantee the stability of inflation in the United States, at least with respect to core inflation, which does not include fuel prices.

The economy in the United States and in other developed countries should continue to assimilate the high price of raw materials with no major shocks to core inflation. However, the risks are mounting in this respect, given the recent surge in oil prices. Accordingly, the core inflation forecast for the United States in 2006 is 2.4%, as it was in the last report.

Generally speaking, the external context for the Colombian economy remains favorable, despite the recent external interest rate hikes. It is this external soundness that leads us to believe the exchange volatility seen in recent months is only temporary. The following are the main factors supporting this continued optimism about the external context.

• High and increasing terms of trade for Colombia. So far this year, a variety of Colombia's export commodities have enjoyed rising prices, even more so than predicted in this report. The forecasts for commodity prices during the rest of the year and in 2007 increased as well. Oil is a prime example. It is now expected to average US$64.6 and US$66.4 a barrel (for WTI) in 2006 and 2007, as opposed to US$63.5 and US$64.1 forecast in the December report.
• World economic growth should remain sound in the coming quarters. However, the prediction in this report is slightly more favorable than in the December edition. The extent of growth anticipated for Colombia's major trading partners is now 3.9%, as opposed to 3.5% in December. Although the U.S. economy should cool a bit in the second half of the year, due to a tighter monetary policy, the deceleration is expected to be moderate and should not affect Colombian export performance.

• The considerable amount of oil revenue Venezuela and Ecuador will receive this year and the next guarantees a strong demand for Colombian exports. Venezuela, in particular, started the year with high growth indicators. This means 2006 will be more favorable than was predicted initially. The projections in this report do not consider the impact of Venezuela's withdrawal from the Andean Community of Nations (CAN).

• Expectations of external interest-rate hikes might reduce short-term capital flows by diminishing the profitability differential. However, solid external factors and the reduced vulnerability of the region's economies - Colombia included (because of more reserves, less fiscal deficit, etc)- will continue to encourage the flow of long-term capital.

2. Domestic Assumptions

The vigor of domestic growth continues to be surprising. The final figure for 2005 (5.1%) was slightly above the prediction in the December report (4.9%). The low result in the final quarter appears to have been a question of temporary supply shocks.

In light of the foregoing, and considering the positive way various indicators performed at the start of the year and the improvement in external fundamentals, the forecast in this report is 4.8% growth for 2006. It was 4.5% in the December edition. Growth is expected to be even higher in the first quarter (5.5%) due to factors such as more working days, the strong momentum in commerce and good performance by a number of traditional exports (coal and ferronickel). The second quarter is expected to see more moderate growth (4%).
The increase in growth is supported by a more dynamic rate of private consumption and the strength of private investment, which would make it possible to keep the investment-GDP ratio at historic highs. As to consumption, conditions are right for growth to continue or even accelerate, thanks to better credit facilities and lower interest on consumer loans. The continued improvement witnessed in the labor market in recent months and the increase in the real minimum wage this year will provide additional incentives.

As for investments, one factor that could be crucial this year is the probable recovery in mortgage loans. This is due to the fact that financial intermediaries intend to earmark more funds for this purpose and to the substantial rate reductions announced already. Investment in housing is, therefore, likely to play a leading role in economic growth during 2006 and 2007.

Further expansion implies added use of productive capacity in the economy, as will continue to be the case. So far, productive capacity has grown at a good pace because of sound investment during the last few years, including 2005. Coupled with evidence of productivity gains in a variety of productive sectors, even in the non-tradable sectors, this has allowed for growth in excess of the historic average for the past two years, without creating inflationary pressure.

However, several indicators of use of productive capacity are already at "normal" levels. As of that point, the likelihood of demand-pull inflationary pressure increases. In practical terms, this means the output gap is near zero, as indicated in the December edition of this report. More growth in 2005 and what is expected for the first quarter produced only a marginal change in the estimated indicator, which would have been -0.12% in 2005 (as opposed to -0.2% in December).

3. Inflation Forecasts

a. Short-term

As mentioned in the first chapter of this report, non-food inflation was less than expected, although total consumer inflation at March was consistent with the forecast. This was due largely to good performance by regulated utilities, but also to low inflation in tradables.

In view of the above, the Bank’s single-equation models tended to lower the short-term forecast (STF) for non-food inflation at June 2006 (Table 11). On this occasion, annual non-food inflation is expected to be 3.7%. The prediction...
### Central Model Forecasts (MMT)

<table>
<thead>
<tr>
<th></th>
<th>Total Inflation</th>
<th>Food Inflation</th>
<th>Non-food Inflation</th>
<th>Output gap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td>Non-tradable</td>
</tr>
<tr>
<td>Mar-06</td>
<td>4.1</td>
<td>5.2</td>
<td>3.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Jun-06</td>
<td>3.9</td>
<td>4.4</td>
<td>3.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Sep-06</td>
<td>3.8</td>
<td>4.2</td>
<td>3.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Dec-06</td>
<td>3.9</td>
<td>4.1</td>
<td>3.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Mar-07</td>
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<td>4.5</td>
<td>4.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Jun-07</td>
<td>4.3</td>
<td>4.4</td>
<td>4.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Sep-07</td>
<td>4.1</td>
<td>3.9</td>
<td>4.1</td>
<td>4.7</td>
</tr>
<tr>
<td>Dec-07</td>
<td>4.1</td>
<td>4.0</td>
<td>4.1</td>
<td>4.6</td>
</tr>
<tr>
<td>Mar-08</td>
<td>4.2</td>
<td>4.1</td>
<td>4.2</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Source: Banco de la República.

In December was 4.3%. As part of the non-food CIP, the June forecasts for inflation in regulated goods/utilities (fuel, urban transportation and public utilities) were lowered from 6.0% to 4.2%, which is similar to the March figure. The forecast for tradable inflation (without food and regulated goods/utilities) also was reduced substantially; in this case, from 2.5% to 2.0% (34% of the lower non-food inflation forecast).

On the other hand, there have been no major changes in the projections on non-tradable inflation (without food and regulated goods/utilities). The forecast in this report is 4.7% at June (Table 11), which is slightly less than anticipated earlier (4.9%). With the new figure for June, non-tradable inflation should experience a marginal increase in the months ahead, compared to the forecast in March (4.6%) and the average for the second half of 2005 (4.5%).

With respect to the short-term forecast at September (Table 11), the outcome for non-food inflation would remain at levels similar to those in the second quarter (3.7%). In general, the various components of non-food CPI are expected to remain stable during the next two quarters, ruling out an additional reduction in annual inflation like the one observed at the start of the year. This is because the bulk of the price hikes have occurred already. In the six preceding years, nearly 60% of non-food inflation occurred in the first quarter, which is the period when most adjustments in inflation took place.

As for food, the STF should continue to decline in the coming quarters, backed by an anticipated reduction in the price of various stables and perishable foods (Table 11). The results at March surpassed those predicted in December because...
of the surge in the price of several perishable items. Consequently, 40 to 50 bp were added to the forecasts for the next two quarters. It goes without saying that there is a great deal of uncertainty surrounding the outcome of these models.

The higher food-inflation forecast for the short term tended to be offset by a lower prediction for non-food inflation. As a result, there are no major changes in the headline CPI estimate compared to the last edition of this report (Table 11). During the next two quarters of 2006, a slight decline in consumer inflation to 3.8% by September is expected (compared to 3.9% forecast three months ago).

b. The Medium and Long Term

With an active monetary policy, the transmission mechanisms model (TMM) lowered the forecasts for headline inflation in the next eight quarters. The projection at December 2006 declined from 4% to 3.9%, and from 4.4% to 4.1% for the end of 2007. Even so, the central path of the TMM shows no downward medium- or long-term trend. Moreover, the figures for early 2008 indicate a slight rise to 4.2% (Table 11).

The most relevant changes in the forecasts concerned non-food inflation, even though the long-term tendencies did not change. An increase is expected at the end of 2006 and particularly in 2007. The new central path of the TMM shows 3.8% annual non-food inflation at December 2006 and 4.1% at December 2007, in addition to new hikes at the beginning of 2008. In the December report, the results for the end of 2006 and 2005 were 4.1% and 4.4%, respectively (Table 11).

The tendencies in the non-food CPI aggregates were similar to those described in the December report, but with some changes in magnitude. The most important modification involves inflation in regulated utilities, where sizeable increases are expected, although more moderate than those predicted earlier.

In the medium term, certain regulated utility rates would be subject to inflationary pressures created by high international fuel prices. As mentioned already, this phenomenon is not expected to reverse itself in the next two years, which implies increases in the domestic prices of gasoline similar or above those observed in the last quarter (7% on average). These hikes, in turn, would push public transportation rates above the inflation targets for 2006 and the years ahead12.

12 The target range set for this year by the Board of Directors is between 4% and 5%. For 2007, the Board announced the middle of the target would be between 3.0% and 4.5%.

Mid-term increases in inflation in regulated utilities are still expected.
As to public utilities, the next two years should see no price hikes in excess of the target for inflation, which means they could increase from their current level (2.9%) to around 4%. Also, 2007 is not likely to see a repeat of the rate reductions instituted at the start of this year. Therefore, the upswing in annual inflation in public utilities would be concentrated in the first quarter of the year.

Consequently, inflation in regulated goods/utilities is expected to accelerate in excess of the target for this year and particularly in 2007. The specific forecasts for the end of 2006 and 2007 are 5.1% and 5.4% (Table 11). These are favorable compared to those listed in the December report (6.6% and 7.0%, respectively).

Another important but less extensive change involves tradable inflation (without food or regulated goods/utilities). For this report, the TMM shows a lower path than in December, ending the year at 1.8% as opposed to the forecast three months ago (2.3%). An increase to 2.9% is still anticipated for the end of 2007, which is slightly below the previous forecast (3.1%). These results assume that much of the recent depreciation in the exchange rate would be temporary and would exert no upward pressure on consumer prices.

There would be no major changes in the outcome for annual non-tradable inflation (without food or regulated goods/utilities). The TMM continues to show a rise in that variable between late 2006 and the first half of 2007, placing it temporarily above the range announced by the Board of Directors. The forecasts for the end of this year and the next are 4.8% and 4.6% (Table 11), virtually the same as in the last report (4.8% and 4.7%, respectively).

The tendency that describes non-tradable inflation in the long-term path of the TMM is due, fundamentally, to the current and anticipated momentum in domestic demand and its impact on the size of the output gap. Although the economy's productive capacity has been expanding at a good pace, demand is growing even faster, adding to the likelihood of an emergence of inflationary pressure in the future.

As mentioned earlier, the stability of non-tradable inflation during a period of several quarters can be explained by declining expectations and by an increase in competition among companies, since the economy is more exposed to the world market. Nevertheless, these beneficial effects on prices tend to dilute over time, allowing demand-pull pressure to emerge.

The TMM forecasts indicate food inflation will play a positive role at the end of 2006, when it is expected to be near the bottom of the target range (4.1% as opposed to 3.8% in the previous report). The predictions on food
are higher for first quarter of 2007, due to the normal agricultural-supply cycle.

Generally speaking, the TMM central path indicates that some of the lower inflation observed at the start of the year because of regulated goods and utilities would be temporary. Coupled with the increase in non-tradable inflation associated with closure of the output gap and with slightly higher tradable inflation, this would raise non-food inflation in the first half of 2007. During the next two years, inflation will be determined by:

- Little or no inflationary pressure from the exchange rate. Even so, because of the way exchange rate is expected to perform, tradables probably will do less to reduce inflation.

- A dynamic domestic demand now and in the near future, which could exert pressure on consumer inflation in 2007, particularly on non-tradable inflation.

- Inflation expectations consistent with the targets

- Cost-pull pressure originating with high fuel prices, which would mean higher inflation in regulated goods/utilities towards the end of 2006 and in 2007.

It should be noted that the TMM forecasts listed earlier were obtained under an active monetary policy. The results contemplate a less accommodating policy stance than the current one. The forecasts assume this policy is coherent with the inflation targets.

4. **Risk Assessment**

The fan chart (Graph 54) showing the most likely forecast (TMM central path) illustrates the uncertainty surrounding this exercise. It takes into account the historic uncertainty of the variables that have the most impact on the inflation forecast. Also considered is the qualitative position of the technical team concerning the probable bias associated with the forecast for those variables.

In general, it is felt there are current risks that create a slightly upward bias in the inflation forecast, especially for 2007 (Graph 54). This being the case, there is a 65% probability that inflation at December 2007 will be above the central path (4.1%). On the other hand, with an active monetary policy, the analysis shows inflation likely will end 2006 within the target range announced by the Board of Directors. As for 2007, the chance of inflation being within

**Inflation likely will end 2006 within the target range announced by the Board of Directors.**
that range (3% to 4.5%) is high (62.4%) and exceeds the prediction in the December report (Graph 54).

The following are the key risks that could steer the forecast away from the central path.

- More depreciation than contemplated in the central forecast. This could materialize if international liquidity declines more than predicted in this report, due to the inflationary pressure now facing the world economy (as a result of strong growth and high prices for raw materials). The reduction in the profitability differential in recent months, compared to investments in pesos does not help stability of the exchange rate, particularly if uncertainty about the external context increases.

- Growing domestic demand, mainly the rise in private consumption, might be higher than anticipated in the base scenario. The latest figures on consumer confidence and retail sales point in that direction. The full impact recent reductions in interest on consumer credit and mortgage loans could have on household spending is not contemplated in the central forecast.

- The inflationary expectations used in the central path might be underestimated, considering how the exchange rate has behaved in recent months.

- Wage increases in excess of the inflation target are another factor. As illustrated earlier in this report, formal-sector wages could increase
at a higher rate than last year and might be several points above the inflation target for 2006 and the range announced for 2007.

It should be noted that some of the risks contemplated in the December report were included in the current forecast for the central path. The most important are less inflation in regulated utilities, a slightly higher exchange rate and more growth. However, this risk assessment does not consider the consequences of Venezuela's withdrawal from the Andean Community of Nations (CAN).
Available private income is crucial to private spending, particularly household consumption. In economies where a large number of agents face restrictions to credit, it is an even more relevant variable. Private demand also depends on consumer and investor confidence, agents' wealth (correlated to their permanent income), their creditworthiness and liquidity in the economy.

There is nearly a two-year lag in the figures published by DANE on institutional agents' income. So, for a more current analysis of the changes in this variable and in the state of private spending and how it might behave in the future, the inflation team at Banco de la República estimates available private income according to the standard methods outlined in literature\(^1\).

Private income is defined as the total flow of resources the people of a country have to spend on consumption, investments and transfers to third parties. The contributions households and companies make to social security should be deducted from this calculation. However, it should include the income agents receive from social security and net transfers, being them from the government or from any part of the world (e.g. net remittances from workers in other countries). Transfers among agents in the private sector are not part of the equation, as they represent transactions within the private sector. Direct and indirect taxes paid to the government (central, regional and local) also should be deducted from private income.

An assessment of the buying power of real available private income should take into account the variation in terms of trade. It is a well-known fact that a portion of private spending is in foreign currency\(^2\), and that part of this sector's income originates with exports of national output. A change in terms of trade (the ratio of export prices over import prices) alters the private sector's ability to pay foreign currency. This, in turn, modifies the buying power of its income. The effect of terms of trade (\(TI\): Spanish acronym) can be calculated as \(^3\)

\[ TI = \frac{X}{P_M} - \frac{X}{P_X} \]

with \(X\) as exports in current dollars and \(P_M\) and \(P_X\) as the price of imports and exports in dollars.

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\(^2\) US dollar spending on the purchase of durable consumer goods and spending on investment in capital goods and transport equipment is particularly important in Colombia.

\(^3\) The author is an expert who works with the Inflation Section of the Department of Macroeconomic Programming and Inflation at Banco de la República. The opinions expressed in this article are his alone and imply no commitment on the part of Banco de la República or its Board of Directors.
To calculate real available private income, all flows in US dollars must be converted into constant pesos using the proper deflators. The average representative market rate of exchange was used for the exercise in this section. Net current transfers were deflated with the PPI for imports, while national flows were deflated with the total CPI. Equation 1 summarizes the calculation of real available private income (IPDR: Spanish acronym):

\[
\text{IPDR} = \text{PIB} - \text{Tx} + \text{Transf}_{ss} + \text{Transf}_{CORR} + \text{TI}.
\]

with \( \text{GDP} \) as real gross domestic product, \( \text{Tx} \) as direct and indirect taxes, including wealth tax, the "democratic security" tax and taxes on financial transactions, deflated with the CPI or with the deflator implicit in the taxes associated with production. \( \text{Transf}_{ss} \) are net transfers to social security in real pesos; that is, pension, professional risk or health benefits, minus the contributions to these social services deflated with the CPI. \( \text{Transf}_{CORR} \) are net current transfers and net factor income from abroad, converted into constant pesos at the average representative market exchange rate and the PPI for imports. \( \text{TI} \) is the impact of terms of trade.

The changes registered in the current decade in the variables that comprise IPDR (except GDP) are shown in Graph B1.1, along with the projections for 2006. Table B1.1 illustrates how each of these components has contributed to IPDR growth. The relative stability in terms of trade between 2005 and 2006 would provoke no further increase in IPDR, while the rise in GDP and net transfers from social security and the rest of the world would continue to add to its growth\(^4\). On the other hand, the increase in real available private income (without the TI effect) is up from 4.0% in 2005 to 4.7% in 2006.

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\(^4\) US$53.5 per barrel of oil (WTI), on average, and coffee at US$1.06 per pound were the rates used to calculate the TI effect in 2006. Both could be higher, in which case the TI effect would increase.
Graph B1.1
Changes in the Fundamentals of Growth in Real Available Private Income (IPDR)

(A) Net Indirect Taxes

(B) Net Direct Taxes

(C) Other Taxes: Democratic Security, Wealth Tax and Taxes on Financial Transactions

(D) Net Transfers from Social Security

(E) Net Transfers from Abroad

(F) Terms of Trade Effect

(*) Projections by Banco de la República
Source: (A) DANE, calculations by Banco de la República. (B) Ministry of Finance and Public Credit, calculations by Banco de la República. (C) Ministry of Finance and Public Credit, calculations by Banco de la República. (D) Ministry of Finance and Public Credit and the Superintendent of Financial Institutions in Colombia, calculations by Banco de la República. (E) Banco de la República. (F) Banco de la República
### Table B1.1

**Contribution to IPDR Growth (Percentage)**

<table>
<thead>
<tr>
<th></th>
<th>IPDR</th>
<th>GDP</th>
<th>Taxes</th>
<th>Net Transfers $S$</th>
<th>Net Current Transfers</th>
<th>Transfers Terms of Trade Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>1.3</td>
<td>(4.7)</td>
<td>1.0</td>
<td>1.2</td>
<td>1.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2000</td>
<td>1.1</td>
<td>3.2</td>
<td>(0.2)</td>
<td>(2.6)</td>
<td>(0.6)</td>
<td>1.4</td>
</tr>
<tr>
<td>2001</td>
<td>1.9</td>
<td>1.6</td>
<td>(1.6)</td>
<td>3.2</td>
<td>0.3</td>
<td>(1.7)</td>
</tr>
<tr>
<td>2002</td>
<td>2.8</td>
<td>2.1</td>
<td>(0.2)</td>
<td>0.4</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>2003</td>
<td>4.6</td>
<td>4.2</td>
<td>(1.2)</td>
<td>0.7</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>2004</td>
<td>5.8</td>
<td>5.2</td>
<td>(1.0)</td>
<td>0.6</td>
<td>(0.9)</td>
<td>1.9</td>
</tr>
<tr>
<td>2005</td>
<td>8.1</td>
<td>5.5</td>
<td>(1.3)</td>
<td>0.6</td>
<td>(0.9)</td>
<td>4.2</td>
</tr>
<tr>
<td>2006 (*)</td>
<td>4.8</td>
<td>5.0</td>
<td>(1.4)</td>
<td>0.6</td>
<td>0.3</td>
<td>0.2</td>
</tr>
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</table>

(*) Projected.

Source: Banco de la República.
MONETARY POLICY UNDER UNCERTAINTY

Mario Nigrinis*

Monetary authorities must deal with various sources of uncertainty when making decisions. For example, DANE revises GDP growth periodically. The measure of the output gap is affected by this revision, as is the perception of surplus installed capacity in the economy. Other example is the momentum in the exchange rate, which is determined by highly uncertain and volatile factors such as capital flows and the price of the country's exports. The equilibrium exchange rate can be affected by shocks to these fundamental factors, which would influence the anticipated course of inflation and require a change in monetary policy. Generally speaking, uncertainty makes the optimal behavior of monetary activity different from what it would be in an ideal scenario where the variables are deterministic.

Optimal Monetary Policy

To understand how uncertainty effects the decisions taken by monetary authorities, we first must define what constitutes an optimal monetary policy. A monetary policy is designed to achieve a low and stable rate of inflation. However, there is no single method for doing so. Therefore, the way a monetary policy is managed must be optimal in terms of society's well being. When the Board of Directors rules on the intervention interest rate, it considers deviation of the inflation forecast from the target and how its decision will effect the fluctuations in output around its non-inflationary level and volatility of the interest rate. These variables "condense" into a function economists call loss of well being (Equation 1). Therefore, an effective monetary policy is one that allows inflation targets to be met, while minimizing their impact on society's well being ($W_t$).

$$W_t = \lambda_\pi (\pi_t - \pi^*)^2 + \lambda_y (y_t - y^*)^2 + \lambda_i (i_t - i_{t-1})^2$$

where $\lambda_\pi$, $\lambda_y$, and $\lambda_i$ represent the importance monetary authorities assign to deviations in inflation, output and interest rate volatility, in that order. $\pi^*$ is the inflation target, and $y^*$ is the output level for stable inflation.

When using quadratic functions of this type, society's well being is affected by the absolute deviations of these variables from the desired level. For example, failure

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to meet the inflation target by one pp has the same negative effect as one pp over compliance. By the same token, the costs for society increase exponentially as the deviations grow.

**Optimal Monetary Policy under Uncertainty**

According to international literature, the following are primary sources of uncertainty facing monetary authorities.

a. The state of the economy
b. The nature of the shocks affecting inflation
c. The true value of the parameters of the central bank’s policy projection and simulation models
d. Length of the monetary policy transmission lag.

As to uncertainty about the parameters of the models, several studies have found that optimal monetary policy, in the case of expected deviations in inflation from the established target, consist of moderate and persistent variations in the interest rate. In economic theory, this outcome is known as Brainard’s conservatism, a principle that contrasts with optimal monetary policy when there is no uncertainty. In this case, the central bank’s optimal reaction is to adjust its interest rate aggressively in order to correct immediately any deviation in inflation from the target.

With an optimal monetary policy, the effects of uncertainty on the state of the economy are reflected in the interest-rate rule monetary authorities follow (Equation 2). Specifically, it would influence the way monetary authorities respond to anticipated deviations in inflation with respect to the target and the deviation in output from its non-inflationary level.

\begin{equation}
    i_t = g_p (\pi_t^e - \pi^e) + g_y (y_t - y^e) + g_i i_{t-1}
\end{equation}

---

1 In terms of well being, the cost of a two pp deviation from the inflation target is twice as much as a deviation of one pp.
2 The state of the economy refers to measurements of economic activity such as the output gap, the rate of unemployment or the use of installed capacity.
3 As to the nature of the shocks, these can be temporary or permanent, real or nominal, supply-side or demand-side.
4 According to estimates in studies on Colombia, the maximum effect of monetary policy on inflation occurs within a period of six quarters.
7 There are different types of rules. In this case, Equation 2 corresponds to a reaction function based on the Taylor rule.
with $\pi^*$ as the inflation target and $y^*$ as the output level of stable inflation. On the other hand, $g_p$ and $g_y$ pertain respectively to the degree in which the policy interest rate reacts to inflation-forecast deviations from the target, and to the deviations in output from its non-inflationary level. $g_i$ is the smoothing parameter of the interest rate in the policy rule.

According to international literature\(^8\), when there is uncertainty about the state of the economy, an optimal monetary policy assigns less value to deviations in the variables (the $g$ coefficients in Equation 2) than in the case of certainty. Therefore, interest-rate changes would be moderate.

In the event of uncertainty about lags in monetary policy transmission, studies done at the international level\(^9\) show a moderate policy rule that responds to mid-term deviations from the inflation target is optimal for well being. In this context, a policy rule that responds to deviations from the inflation target within a lesser time period\(^10\) is not able to minimize the volatility in output. In other words, if monetary authorities fail to act with enough foresight, the inflation target may not be lost, but a slowdown in growth to accomplish the goal would be induced.

In conclusion, an optimal monetary policy under uncertainty involves a gradual and persistent adjustment in rates to comply with the target for inflation, provided monetary authorities act with due anticipation. Also, in terms of well being, it is costly to reduce the period of time for a response to anticipated deviations in inflation from the target, as this implies a stronger reaction from interest rates, which ends up having more of an impact on the short-term rate of growth in output.

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10 In this case, it is possible to consider a situation where monetary authorities wait for inflation to rise before adjusting the intervention interest rate.
Macroeconomic Projections by Local and Foreign Analysts

The following are the latest projections by local and foreign analysts concerning the main variables of the Colombian economy in 2006 and 2007. It is relevant to point out that these projections were developed with information available at March 2005.

I. Projections for 2006

Table A1 shows their predictions for 2006. On average, the local analysts expect 4.4% economic growth, which is 17 bp more than the previous forecast. The foreign analysts anticipate 4.7% (52 bp more). The improvement in these expectations may be due to several reasons. First of all, there is the surprisingly higher growth figure for 2005 (5.1% annual), after DANE changed the way it measures industry. In addition, industry began the year with good growth rates (6.3% and 5.9% for the year in January and February), even though most analysts expected a slowdown due to accumulated appreciation. The fact that Fedesarrollo’s consumer confidence index

<table>
<thead>
<tr>
<th>Table A1: Projections for 2006</th>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Local analysts</td>
</tr>
<tr>
<td>Revista Dinero</td>
</tr>
<tr>
<td>Citibank Colombia</td>
</tr>
<tr>
<td>Banco Santander</td>
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<tr>
<td>BBVA Ganadero</td>
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<tr>
<td>Bancolombia-Suvalor</td>
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<tr>
<td>Corficolombiana-Corivalle</td>
</tr>
<tr>
<td>Fedesarrollo</td>
</tr>
<tr>
<td><strong>Average</strong></td>
</tr>
<tr>
<td>Foreign Analysts</td>
</tr>
<tr>
<td>C. S. First Boston</td>
</tr>
<tr>
<td>Bear Stearns</td>
</tr>
<tr>
<td>Merrill Lynch</td>
</tr>
<tr>
<td>J. P Morgan Chase</td>
</tr>
<tr>
<td>Deutsche Bank</td>
</tr>
<tr>
<td><strong>Average</strong></td>
</tr>
</tbody>
</table>

n.a. Not available
Source: Dinero
reached an all-time high could have exerted an influence as well, which indicates good growth could continue. It also means the market continues to be surprised by the outcome of economic activity and, given recent trends, could keep doing so.

Local analysts reduced their inflation forecast by 24 bp, while foreign analysts lowered theirs by 40 bp. Both placed inflation at 4.4%. Because annual inflation in April 2006 was 4.1%, these forecasts assume the remainder of the year would see a slight increase in inflation. As has been the case for the last six quarters, all the analysts believe the inflation target will be met (between 4% and 5% for 2006). However, on this occasion, most of their predictions are slightly below the middle of the target range. This probably is because of good inflation performance at the beginning of the year and the fact that the Board of Directors is expected to raise interest rates during the remainder of 2006.

With respect to the exchange rate, the analysts reduced their forecasts by COP$36, on average (to COP$2,332). In other words, they expect the Colombian peso to depreciate at an average rate of 2% compared to the price at the end of 2005 (maximum anticipated depreciation is 6.3%; the minimum is -1.5%). It is important to point out that, for the last year and a half, the forecasts have been revised downward by an average of Col$76 per quarter. This begs the question as to whether or not performance of the exchange rate since April, when it increased from COP$2,290 to around COP$2,380, will reverse this tendency.

As to interest on term deposits (DTF in Spanish), both local and foreign analysts expect the current levels to increase. However, most of them lowered their predictions for the end of the year (compared to those last quarter). The average forecast is 6.6% by the local analysts and 7.0% by the foreign analysts (for the past 18 months, both the local and foreign analysts lowered their predictions for 2006 by 32 bp per quarter). Analysts may have regarded the drop in inflation during the first part of the year as an indication that smaller rate increases were required than last quarter. None of them expect additional reductions in the DTF (it is down by 40 bp this year in relation to the end of 2005 and is now at 6%). On average, they anticipate an increase of 80 bp during the remainder of 2006. This would be in line with the additional 25 bp increase ruled by the Board of Directors at its last meeting. A fiscal deficit on the order of 1.4% is expected. This is 50 bp below the forecast last quarter and in keeping with the CONFIS projection (2% for the consolidated public sector). The forecast for unemployment in 13 cities was adjusted downward to 11.1%. This amounts to an average reduction of 11 bp.

II. Projections for 2007

Local analysts expect 4% growth in 2007; the foreign analysts anticipate 4.3% (Table A2). Local analysts predict 4.1% inflation and the foreign analysts, 4.4%, which is near the top of the target range set by the Board of Directors for 2007 (3% to 4.5%). As to the exchange rate, 4.2% average annual devaluation is anticipated compared to the forecasts for the end of 2006. In other words, by the end of 2007, the representative market rate (TRM in Spanish) would be
Col$2,430, which is similar to what it was in July 2002.

Compared to the end of 2005, these forecasts imply 6.3% accumulated devaluation of the peso between 2006 and 2007. On average, the analysts expect 30% of this devaluation to occur in 2006 and the rest in 2007 (although three of the 12 analysts predict about 50% each year; two continue to anticipate appreciation in 2006 and only one expects 80% of accumulated devaluation to occur this year).

Table A2
Projections for 2007

<table>
<thead>
<tr>
<th></th>
<th>Real GDP Growth (%)</th>
<th>CPI Inflation (%)</th>
<th>Nominal Exchange Rate (end of)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Domestic Analysts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revista Dinero</td>
<td>4.1</td>
<td>4.2</td>
<td>2,410</td>
</tr>
<tr>
<td>Citibank Colombia</td>
<td>4.0</td>
<td>4.2</td>
<td>2,468</td>
</tr>
<tr>
<td>Banco Santander</td>
<td>4.0</td>
<td>4.0</td>
<td>2,380</td>
</tr>
<tr>
<td>BBVA Ganadero</td>
<td>3.6</td>
<td>4.0</td>
<td>2,453</td>
</tr>
<tr>
<td>Bancolombia-Suvalor</td>
<td>4.0</td>
<td>3.8</td>
<td>2,423</td>
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<tr>
<td>Corticolombiana-Corfivalle</td>
<td>3.8</td>
<td>4.8</td>
<td>2,497</td>
</tr>
<tr>
<td>Fedesarrollo</td>
<td>4.5</td>
<td>4.0</td>
<td>2,450</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>4.0</strong></td>
<td><strong>4.1</strong></td>
<td><strong>2,440</strong></td>
</tr>
</tbody>
</table>

| **Foreign Analysts** |                     |                  |                               |
| C. S. First Boston   | 4.5                 | 4.5              | 2,348                         |
| Bear Stearns         | 5.0                 | 4.0              | 2,350                         |
| Merrill Lynch        | 3.6                 | 5.0              | 2,475                         |
| J. P. Morgan Chase   | 4.0                 | 4.5              | 2,450                         |
| Deutsche Bank        | 4.6                 | 4.0              | 2,474                         |
| **Average**          | **4.3**             | **4.4**          | **2,419**                     |

Source: Revista Dinero.
MONETARY POLICY DECISIONS IN THE LAST THREE MONTHS
Background Information: The December 2005 Inflation Report

The performance of the items in the family market basket that led to 4.85% inflation last year was examined in the December report. This rate was within the target range for 2005 (4.5% to 5.5%) and 65 bp below actual inflation in 2004. As explained in that report, less consumer inflation in 2005 was possible thanks to a drop in non-food inflation from 5.5% at December 2004 to 4.1% at December 2005, which offset the 116 bp rise in food inflation. The December report showed the reduction in annual non-food inflation primarily involved tradables and regulated utilities. Annual inflation in non-tradables was down, but not as much.

As to the general state of the economy, the December 2005 edition of the Inflation Report confirmed acceleration in economic growth due to a favorable external context and better domestic conditions. The former was reflected in strong export growth, favored by better terms of trade and good economic growth of the country's major trading partners. Better domestic conditions, on the other hand, originated with increased consumer and investor confidence, an improvement in employment and productivity, and loose monetary and fiscal policies. Given these circumstances, the economic-growth forecast in the December report was 4.9% for 2005. In the end, it was close to the figure released by DANE in early April (5.1%).

As a result of the sharp increase in economic growth during 2005, the quarterly report in December pointed out that use of productive capacity continued to rise during the third and fourth quarters of 2005. In fact, the extent of surplus installed capacity declined substantially throughout the year. However, the same report also indicated that the high rate of investment in 2005 and previous years, coupled with the increase in productivity, probably expanded the capacity of the productive apparatus to respond to increases in demand. However, it did note that the acceleration in growth seemed to have offset that effect. Accordingly, in the December report, the indication was that additional closure of the output gap during the last quarter of 2005 placed it at -0.2%. The estimate announced in the September 2005 edition was -0.6%.

Based on these conditions, plus the excellent outcome for inflation in 2005 and strong economic growth, the Board of Directors decided to leave the intervention rate at 6% (Table A) and to continue the discretionary intervention scheme initiated in the last quarter of 2004 (Table B). At a BDBR meeting on November 18, the inflation target for 2006 was set at 4% to 5%, with 4.5% being the specific target for legal purposes.
Board also agreed the target for 2007 will be between 3% and 4.5%, so as to continue moving towards the long-term target of 3% inflation.

Monetary Policy Decisions in the First Quarter of 2006

Annual inflation in consumer prices continued to decline during the first quarter of 2006 and was 4.1% at the end of March 2006. This reduction involved food inflation (from 6.6% to 6.2%) and non-food inflation (from 4.1% to 3.6%). The drop in non-food inflation beyond what was predicted at the start of the year was due primarily to the favorable behavior of prices for regulated goods and utilities (fuel, public transportation and public utilities). Low price increases for tradables also contributed to this outcome, but less so.

The economy kept growing at a good pace, bolstered mainly by domestic demand, which continued to expand rapidly, thanks to the force of private consumption and investment. Portfolio growth accelerated, particularly in terms of commercial and consumer credit, while the mortgage portfolio showed clear signs of recovery. In addition

<table>
<thead>
<tr>
<th>Date (*)</th>
<th>Contraction</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lombard</td>
<td>Auction</td>
</tr>
<tr>
<td>2001 Dec. 17</td>
<td>6.25</td>
<td>7.50</td>
</tr>
<tr>
<td>2002 Jan. 21</td>
<td>6.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Mar. 18</td>
<td>5.25</td>
<td>6.25</td>
</tr>
<tr>
<td>Apr. 15</td>
<td>4.25</td>
<td>5.25</td>
</tr>
<tr>
<td>May 20</td>
<td>3.75</td>
<td>4.75</td>
</tr>
<tr>
<td>Jun. 17</td>
<td>3.25</td>
<td>4.25</td>
</tr>
<tr>
<td>2003 Jan. 20</td>
<td>4.25</td>
<td>5.25</td>
</tr>
<tr>
<td>Apr. 29</td>
<td>5.25</td>
<td>6.25</td>
</tr>
<tr>
<td>Feb. 23</td>
<td>5.00</td>
<td>6.00</td>
</tr>
<tr>
<td>2004 Mar. 23</td>
<td>4.75</td>
<td>5.75</td>
</tr>
<tr>
<td>Dec. 20</td>
<td>4.50</td>
<td>5.50</td>
</tr>
<tr>
<td>Dec. 22</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>2005 Sep. 19</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>2006 May 02</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

n.a. Not applicable. Monetary contraction operations (auction and Lombard) have been suspended since 22 December 2004.

(*) The working day immediately after the decision by the Board of Directors.

Source: Banco de la República.
to the rise in domestic demand, there is a dynamic world economy that exhibited first-quarter growth beyond what was predicted.

At meetings to examine the reports on inflation in January and February, the Board of Directors decided to leave the intervention rate at 6% until more data on the direction of the economy and the behavior of inflation could be compiled. Later, when it was announced that industrial production had increased by 5.9% in the first two months of the year, the first-quarter GDP growth forecast for this sector was raised to 7.2%. The previous estimate was 5%. Also, given the momentum in domestic demand, the forecast for domestic spending in the first quarter was raised from 6.7%, as announced in the previous report, to 8.2%.

The representative market exchange rate (TRM: Spanish acronym) and the interest rate on treasury bonds (TES: Spanish acronym) began to climb as of early March and in the first weeks of April. For example, the nominal rates on TES maturing in 2020 were above 8%. The TRM depreciated by 6% compared to its low on March 1 (COP$2,246). Both these events were evidence of uncertainty and nervousness in the market, mainly because of external events and expectations about the possibility of higher interest rates on US Treasury Bonds. Although it still is difficult to determine if the coming months will see a continuation towards further depreciation, tradable inflation could begin to rise if this tendency were to consolidate. However, this scenario is not part of the central inflation forecast, which assumes the exchange rate will decline with respect to last month, even though it would be above the levels registered during the first part of the year.

### Table B

<table>
<thead>
<tr>
<th>Foreign Exchange Purchase-Sale Options, Banco de la República</th>
<th>2004</th>
<th>2005</th>
<th>2006 1 Qtr.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purchases</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Put Options</td>
<td>2,905</td>
<td>4,658</td>
<td>1,197</td>
</tr>
<tr>
<td>To accumulate international reserves</td>
<td>1,580</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To control volatility</td>
<td>1,400</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To control volatility</td>
<td>180</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Discretionary Intervention</td>
<td>1,325</td>
<td>4,658</td>
<td>1,197</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
<td>500</td>
<td>3,250</td>
<td>1,000</td>
</tr>
<tr>
<td>National Government</td>
<td>500</td>
<td>3,250</td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Net Purchases</strong></td>
<td>2,405</td>
<td>1,408</td>
<td>197</td>
</tr>
</tbody>
</table>

Source: Banco de la República.
Various estimates of the central forecast model were developed with available data. Based on different scenarios, they showed it was essential to reduce the monetary impulse of the economy, mainly to prevent future inflationary pressure that might jeopardize the mid-term inflation target and convergence towards low and stable inflation in the long-term (between 2% and 4%).

Besides the results of the model, there are several other reasons for recommending an increase in official intervention interest rates.

- Currently low real interest rates are one example. The rate on term deposits (DTF: Spanish acronym) is 2%. This is well below the rate that would produce a neutral effect from monetary policy, even assuming this rate has declined because of a stronger economy in Colombia, the recovery in confidence, and progress towards better conditions for security.

- As illustrated in this report, the sources of economic growth in Colombia are varied and will likely continue in the coming quarters. (i) Strong world demand and high terms of trade, probably better that the assumptions in the central scenario of this report, are a reflection of external conditions. (ii) Consumer and company optimism has manifest itself in a momentum that would allow the rate of investment in 2006, as a share of GDP, to approach the highs observed in the nineties. (iii) The credit channel has clearly been re-established and is particularly important in the case of consumer loans. A significant increase in mortgage loans is expected as well.

- Under these conditions, the Colombian economy requires no monetary stimulus to maintain its momentum. The challenge to monetary policy is to find a stance that contributes to a sustained increase in output and employment, while the economy moves gradually towards price stability.

- As indicated in several reports, the monetary-policy transmission lag is relatively long. This means changes in the stance of monetary policy must be made well before inflationary pressures emerge or unsustainable developments occur in aggregate spending, so as not to jeopardize its credibility.

On the other hand, various studies derived from international theory and empirical evidence underscore the benefits to be gained from a gradual adjustment in the stance of monetary policy, by minimizing the costs derived from variations in interest rates and avoiding sudden adjustments in the future. In effect, adjustments of this type cause volatility in inflation, the exchange rate and output, which can be avoided if monetary authorities act in time. The result of excessive volatility in these variables is a loss of growth, output and employment.
In this context, and consistent with the monetary-policy goal of increasing economic growth without jeopardizing the inflation target, the Board of Directors, after a detailed look at the inflation report for the first quarter of 2006, decided to raise the official intervention interest rate by 25 bp. This elevated the base rate for expansion auctions from 6% to 6.25%.