Inflation outlook

6

This chapter of the *Inflation Report* presents the Monetary Policy Committee's (Copom) assessment of the behavior of the Brazilian economy and of the international scenario since the release of the previous *Report* in December 2011. The chapter also presents the analysis of the inflation prospects up to the first quarter of 2014 and of the Gross Domestic Product (GDP) growth up to the end of 2012. Inflation projections are presented in two major scenarios. The first scenario, called the baseline scenario, assumes that the Selic rate will remain unchanged at 9.75% per year over the forecasting horizon, the level set by Copom at its most recent meeting on March 6 and 7, and the exchange rate will remain at R$1.75 per US dollar. The second scenario, named the market scenario, is based on the expected paths for the policy interest rate and for the exchange rate drawn from the survey carried out by the Banco Central do Brasil's Investor Relations and Special Studies Department (Gerin) among independent analysts. It is important to stress that these scenarios are used only as support for monetary policy decisions and their assumptions should not be viewed as Copom forecasts of the future behavior of interest and exchange rates. The projections released here are based on the information set available up to the cutoff date of March 9, 2012.

The projections for inflation and of GDP growth released in this *Report* are not point estimates. They consist of probability intervals which embody the degree of uncertainty that was present at the above mentioned cutoff date. Inflation projections depend not only on assumptions about the interest and exchange rates, but also on a set of assumptions on the behavior of exogenous variables. The most likely set of assumptions considered by the Copom is used to build the scenarios to which the Committee attaches the greatest weight on making its interest rate decisions. On setting out these assumptions, the Copom seeks to foster transparency to the monetary policy, thereby contributing to effectiveness of policy decisions in controlling inflation, which is its primary objective.

6.1 Inflation determinants

Twelve-month inflation measured by the change in the Broad National Consumer Price Index (IPCA) has been decreasing since October 2011, reaching 5.85% in February 2012 (0.16 percentage points (p.p.) below than in the same period of 2011). The decrease in inflation in the last twelve months was determined by the behavior of market prices, which reached 5.98% in February (1.19 p.p. below than in the same period of 2011), since administered and regulated prices have risen 5.48% (2.19 p.p. above the rate observed in the same period in 2011). Within the set of market prices, the price change for non-tradable goods reached 7.97%, while the prices of tradable goods presented a much lower increase (3.77%) in the same period. Service sector inflation has consistently remained higher than that of market prices, reaching 8.10% in twelve months up to February (against 8.39% in the twelve-month period up to February 2011).

In general, the core inflation measures calculated by the Banco Central do Brasil have presented a similar pattern to that of the headline inflation. In a monthly basis, the average rate of change of the core inflation measures have receded in February, after having increased in January, and, in the last twelve months, have decreased for the fifth month in a row. The core measure by smoothed trimmed mean moved from 0.58% in December to 0.47% in January and 0.41% in February, whereas by non-smoothed trimmed mean changed from 0.39% in December to 0.36% in January and 0.28% in February. Inflation measured by the double weighted core measure, after reaching 0.54% in December, moved to 0.59% in January and to 0.47% in February. The exclusion core measure that excludes ten items from the groups food at home and fuels moved from 0.41% in December to 0.59% in January and to 0.60% in February, whereas the measure that excludes prices for monitored goods and food at home changed from 0.49% to 0.57% and 0.54% for the same period. The average monthly change of the five core inflation measures from 0.48% in December to 0.52% in January and 0.46% in February. In the twelve months up to February, they reached 6.60%, 5.15%, 6.48%, 6.12% and 6.14%, respectively, compared to 6.59%, 5.39 %, 6.73%, 6.50% and 6.86% in January and 6.67%, 5.67%, 6.95%, 6.68% and 6.96% in December.

The IPCA diffusion index stood at 59.11% in February 2011, 2.61 p.p. below the rate registered in February 2011, and little bit below the historical average of 60.47% (since September 1994). The quarterly average of the index rose to 62.69% between December and February – 1.12 p.p.

below the average for the three-month period from September to November and 3.83 p.p. above the average for June to August.

Broader inflation, measured by the General Price Index (IGP-DI), after having increased from -1.43% in 2009 to 11.30% in 2010, has receded to 5.00% in 2011. Over the past two months of 2012, the changes in the IGP-DI were 0.30% (January) and 0.07% (February), posting the fourteenth consecutive drop in twelve-month inflation, which reached 3.38% compared to 11.12% observed in the same period of 2011. This reduction is basically due to its main component, the Broad Producer Price Index (IPA-DI), whose twelve-month change receded from 4.12% in December to 1.85% in February (compared to 13.69% in the same period of 2011). By the origin, prices of agricultural products rose by 3.15% in the twelve months up to December, and receded to 0.28% by February (compared to 29.84% in February 2011), whereas prices for industrial products ranged 4.46% and 2.65% (8.65% in 2011), respectively. According to the Consumer Price Index (IPC-DI), another component of the IGP-DI, the twelve-month inflation decreased from 6.36% in December 2011 to 5.62% in February 2012, being 0.40 p.p. lower than inflation until February 2011. The highest increases in consumer prices in the period occurred in the groups of education, reading and recreation and apparel. In the same period, the twelve-month inflation of the National Cost of Construction Index (INCC), which is the component with the lowest weight in the index, moved from 7.49% in December 2011 to 8.02% in February 2012 (7.44% up to February 2011). This rise was the result of increases of 11.87% in labor costs and 4.39% in the costs of inputs, equipments and services.

The Index of Economic Activity of the Central Bank – Brazil (IBC-Br) is an important coincident indicator of economic activity as it incorporates estimates for monthly production of the three sectors of the economy, as well as taxes on products. In the fourth quarter of 2011 the index displayed a growth rate of 0.2% over the previous quarter and increased 1.0% when compared to fourth quarter of 2010. The 2011's growth rate reached 2.7%, coinciding with the output growth rate measured by the Brazilian Institute of Geography and Statistics (IBGE).

After a declining period the confidence of the industrial entrepreneurs show signs of improvement at the margin, a dynamic partly explained by the reduction of inventories. To a large extent, this improvement in confidence repeats itself in the evolution of sector's Purchasing Manager Index

(PMI). Likewise, the Services Confidence Index (ICS), computed by Getulio Vargas Foundation (FGV), increased in February, following six consecutive reductions. There was a marked improvement in the expectation component and a partial reversion of the fall, which took place in January, of the component that reflects the actual situation. Thus, the ICS remains at high levels, although yet placed 3.2% below of February's 2011 level and 1.2% below the average level of 2011.

Industrial production dropped by 2.1% in January in the monthly comparison, after growing 0.1% in November and 0.5% in December, according to seasonally adjusted data by IBGE. The growth rate of the three-month moving average was -0.5% during the November to January period, after have remained stable from October to December. Industrial production also declined in the twelve-month growth rate (-0.2%), compared to expansion in December (0.3%) and November (0.6%).

By industry categories of use, the production of capital goods posted the greatest change (1.7%) in the twelve-month period ended in January. In the same period, production of durable goods decreased by 3.0%, that of semi-durable and non-durable goods by 0.2%, and the production of intermediate goods 0.1%. Considering the three-month moving average rate, the production of capital goods was 3.6% lower in the quarter ending in January, and that of intermediate goods 0.8%. The production of semi-durable and non-durable goods grew by 1.1% and that of durable consumer goods by 0.9%, in the same basis of comparison. It is noteworthy that the growth of the indicator of activity in the capital goods industry reached the largest expansion among the categories of use.

The seasonally adjusted Installed Capacity Utilization Level (Nuci), computed by FGV, increased slightly since the last *Report*, from 83.3% in November to 83.7% in February. The Nuci is higher in the materials for construction sector (87.6%) and in the intermediate goods sector (84.1%). In the capital goods sector, the NUCI reached 83.6% and in the consumer goods sector, 81.6%. According to data from the National Confederation of Industry (CNI), seasonally adjusted by the Banco Central do Brasil, the Nuci increased from 81.6% in December to 81.8% in January. Regarding the expansion of installed capacity, the absorption of capital goods grew by 3.6% in twelve months up to January 2011 compared to the previous twelve-month period. The seasonally adjusted inventory level indicator from the Manufacturing Industry Survey of FGV displayed decreases in the first two months of the year, after some stability at

the end of 2011. In fact, while in December 2011 10.2% of respondents expressed their inventory levels as excessive, considering the seasonally adjusted series, this proportion reduced to 6.3% in January and to 5.7% in February.

FGV, jointly with the Banco Central do Brasil, started to publish, since October 2011, the Commerce Confidence Index (ICOM). This monthly survey provides an important indicator, as it portrays, in a timely way, assessments of entrepreneurs in the commerce sector on the current state and the expected evolution of the commercial activity. The survey allows for detailed tracking of seventeen business segments, both wholesale and retail. In the quarter ending in February the ICOM fell by 6.4% against the same period in 2011, after falling 5.8% in the three-month period up to January. On average for the three-month period ended in February, 55.9% of surveyed companies projected growth in sales for the following quarter while 6.3% of them expected reduction.

The volume of expanded retail sales grew by 4.3 in December compared to the same month last year, after growing 1.6% in October and 3.2% in November. Therefore, in 2011 expanded retail sales grew 6.6%, (12.2% in 2010 and 6.8% in 2009), with expansion in all ten groups of activities surveyed by IBGE. In turn, the real retail sales grew 6.7% in 2011, mainly due to the increase in sales of "furniture and appliances" (16.6%) and "equipment, office supplies, computer and communication" (19.6%). It is worth noting that the twelve-month growth rates of both expanded and restrict retail sales are higher than the rate of expansion of industrial production and output. The recent behavior of retail sales was also reflected in the imports of durable goods, whose volume rose by 24.2% in the twelve months up to January, according to Foreign Trade Studies Center Foundation (Funcex). For the next quarters, retailing should continue to be bolstered by the growth of real payroll, by government transfers, the moderate expansion of credit and high consumer confidence.

In fact, the Consumer Confidence Index, calculated by FVG, grew in February, both in the seasonally adjusted series as in the original series.

The Brazilian economy grew 1.4% in the last quarter of 2011, compared to the same quarter last year, after growing 2.1% in the third quarter and 3.3% in the second quarter, on the same basis of comparison. According to seasonally adjusted IBGE data, compared to the immediately previous quarter, GDP increased by 0.3% in the last quarter of 2011,

after having fell by 0.1% in the third quarter and risen 0.5% in the second quarter. The four-quarter growth rate of GDP fell from 3.7% to 2.7%, which confirms that assessment that the Brazilian economy is growing below its potential. Still from the production viewpoint, the services sector, which exhibits less volatile growth rates, expanded by 0.6% in the fourth quarter of 2011 compared to the previous quarter according to seasonally adjusted IBGE data, whereas the value added by industry decreased by 0.5% on the same basis of comparison. In turn, agricultural production grew by 0.9%. The process of moderation in the pace of economic growth is partly due to policy actions implemented at the end of 2010 and early 2011, boosted by the deterioration of the global economic scenario in the second half of the year.

From the viewpoint of aggregate demand, compared to the previous quarter, and based on seasonally adjusted IBGE data, the Gross Fixed Capital Formation (GFCF) grew 0.2% in the fourth quarter of 2011, after falling 0.4% in the previous quarter. Thus, the growth rate of the GFCF accumulated over the past four quarters amounted to 4.7% in 2011. Despite growth at decreasing rates and a low share in aggregate demand compared to consumption, the prospects regarding investment are favorable, especially in the oil sector (pre salt) and infrastructure. Household consumption – the most important component of aggregate demand – grew 1.1% in the fourth quarter, after decreasing 0.1% in the third quarter. Government consumption grew by 0.4% in the fourth quarter of 2011, after having decreased by 0.8% in the third quarter. The external sector contributed negatively to GDP growth in the fourth quarter, with growth of 1.9% in exports and 2.6% in imports.

Unemployment, measured by the rate of unemployment in the six metropolitan areas covered by the monthly survey of the IBGE, declined significantly in recent years and stood at 5.7% in January, 0.6 p.p. lower than the rate observed in the same month of last year, considering the seasonally adjusted series. Based on the non-seasonally adjusted series, the rate was 5.5%, after reaching the lowest historical value equal to 4.7% in December 2011. In twelve months up to January, there was a decrease in the unemployment rate in the metropolitan areas of Belo Horizonte, Salvador, São Paulo, Porto Alegre and Recife. Only in Rio de Janeiro unemployment increased. In turn, the annual employment growth moved to 2.0% in January. In fact, the total number of persons working in the six regions reached 22.5 million in January 2012 from 22.1 million in January 2011. Also according to the IBGE, the average real earnings usually earned by the employed population increased by 2.7% in

January over the same month of 2011, and real payroll increased 4.8% on the same basis of comparison. Concerning the evolution of formal employment, job creation continues to expand, albeit in a more moderate way. According to figures released by the Ministry of Labor and Employment (MTE), 1.53 million job positions were created between February 2011 and January 2012. In short, the body of evidence indicates that the labor market remains robust, despite signs of moderation in the margin.

In addition to rising payrolls, the availability of credit to households – largely determined by macroeconomic stability and institutional reforms in recent years – was an important driving force in the growth of household consumption. The stock of credit to households with non-earmarked resources grew 16.6% in January 2012, compared to the same month of the previous year, reaching R$656.6 billion. In the same period, housing loans, whose operations are mainly based on earmarked resources, grew by 42%. Overall, the pace of total credit expansion presented some moderation, in part due to the process of adjustment of monetary conditions in the first half of 2011 and the effects of macro prudential measures implemented in the end of 2010 and early 2011. Delinquency rates have been showing some stability, at the margin, at levels consistent with the phase of the cycle. In fact, the share in total outstanding credit with earmarked and non-earmarked fund of loans that is 90 days or more past due moved from 4.6% in January 2011 to 5.6% in January 2012.

The total volume of credit to corporations grew by 16.1% in January 2012, compared to the same month of 2011, considering non-earmarked and earmarked operations, and totaled R$1,077.2 billion. This credit expansion was boosted by loans and financing with resources from the National Bank of Economic and Social Development (BNDES), which amounted to R$414.9 billion in October 2011, an increase of 15.3% over the same period in 2011, while non-earmarked loans reached an increase of 16.7%, totaling R$643.3 billion. Regarding the capital market, the volume of primary issues of shares in the Securities and Exchange Commission (CVM) reached R$13.5 billion in 2011 (R$145.2 billion in 2010). It is worth noticing that since November 2011 there have been no primary issues. In turn, bond issuance after reaching R$15.6 billion in 2010, reached R$3.2 billion in 2011. Only in January 2012, however, there was a R$20 billion issuance.

Regarding the external sector, the twelve-month trade balance reached US$28.6 billion in February (US$21.5 billion

in February 2011). This result includes exports of US$ 258.3 billion and imports of US$229.6 billion. These values are respectively 22.8% and 21.6% higher than those recorded in twelve months ending in February 2011. It should be noted, however, that external demand, weakened by the complex global environment, has contributed modestly to the growth of exports. In fact, the volume of exports recorded an increase of 2.6% in the twelve months up to January 2012, against the previous twelve months, while the average price of exports rose by 21.2%. The volume of imports increased 8.5% during this period (14% in the case of average price), in part reflecting the strength of domestic demand, despite the slowdown at the margin, shown by the gradual reduction of that rate since early 2011.

The twelve-month current account deficit moved from US$52.6 billion in December 2011 to US$54.1 billion in January 2012, equivalent to 2.17% of GDP. Remittances of profits and dividends have been an important component of this deficit, reaching US$37.3 billion in the same period, while foreign direct investment, that have been the main source of balance of payments financing, amounted US$69.1 billion in twelve months up to January 2012, equivalent to 2.78% of GDP.

In international financial markets, despite some accommodation at the margin, volatility and risk aversion have remained at high levels since the release of the previous *Report*. The additional liquidity provided by the European Central Bank (ECB) reduced the probability of extreme events, yet risks to global financial stability remain, among other reasons, due to the exposure of international banks to sovereign debt of countries with fiscal imbalances. The credit default swap (CDS) rates of banks in the euro area remain at high levels in spite of the reduction observed when compared to the critical levels observed in the recent past. In another perspective, interest rates on long term government bond auctions for some countries have remained high and volatile, which can be partly explained by revisions in sovereign debt classification in some countries of the euro area. It should be noted that, since the last *Report*, monetary authorities from the euro area, Japan and United Kingdom injected substantial additional liquidity to the global financial system, in response to perceived risks in the system.

Still regarding the global economy, the prospects of economic activity have consolidated more moderately and more heterogeneously than anticipated. In this sense, the improvement, at the margin, of the United States economy, has to be analyzed taking into consideration a worsening in activity levels in other mature economies, as well as possible

effects from the recent increase in oil prices. Moreover, in specific cases, mature economies are already in recession. In particular, the need for fiscal adjustment – that, indeed, in many cases is already being implemented – as well as the limited room for anti cyclical policy actions continue to contribute to downward revisions in the growth projections in these economies, or even of the growth of potential output, indicating broader and volatile business cycle. In fact, leading indicators, as published by the Organization for Economic Co-operation and Development (OECD) in January, suggest an increase in the pace of activity in the United States and Japan, recession risk in the euro zone and a slower pace of economic activity in China. Coincident indicators, such as the PMI support this assessment. In February, the PMI has increased at the margin in the United States, and has displayed stagnation or economic downturn in the major economies of the euro area.

Regarding the monetary policy, the mature economies continued accommodative stance, and in some cases, unconventional monetary policies. In particular, in relation to accommodative stance, the ECB has implemented two long term refinancing operations (LTRO), of relevant magnitudes, when compared to similar actions of other central banks. In emerging countries, in general, the monetary policy bias is expansionist. In relation to the last *Report*, twelve-month consumer inflation has been decreasing in the United States, in the euro area and in the UK. In Japan, inflation remained around zero. In the United States core consumer inflation has increased, although still at moderate levels.

Brent oil prices have remained volatile since the last *Report*, and have surpassed the US$120/barrel level. Among other commodities, prices have remained lower in relation to peaks observed in April 2011, even though there has been some increases at the margin since the release of the latest *Report* – particularly with regard to agricultural commodities and metals for industrial use. At the cutoff date of March 9, the commodity price index of the Commodity Research Bureau (CRB), based on twenty two commodities, accumulated a decrease of 13.4% since last year's peak (in April 8, 2011), and an increase of 3.6% since December 9. The food price index calculated by the Food and Agriculture Organization (FAO) of the United Nations, decreased 9.5% up to February, when compared to the same month of last year, although there has been some increases at the margin.

The median of market expectations for the 2012 GDP growth rate declined since the release of the previous *Report*, from

Figure 6.1 – Inflation target path and market expectations for twelve-month ahead inflation

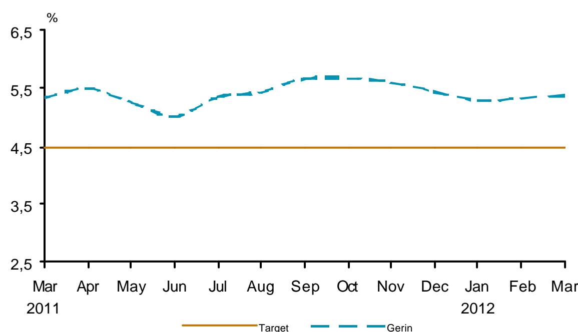


Figure 6.2 – Dispersion of inflation expectations for 2012

Relative frequency

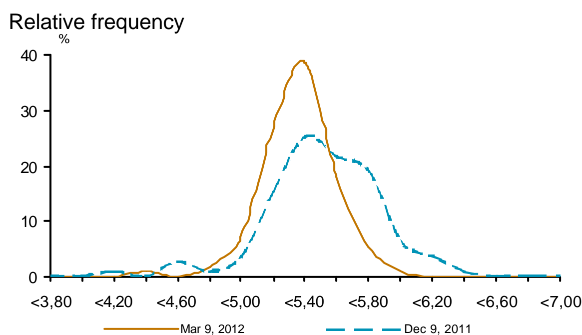


Figure 6.3 – Median market expectations by segment for 2012 IPCA-inflation

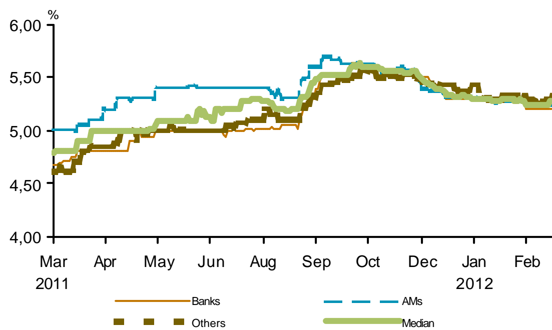
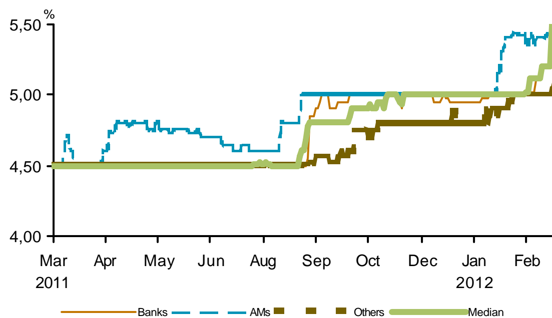


Figure 6.4 – Median market expectations by segment for 2013 IPCA-inflation



3.40% at December 9 to 3.30% at March 9. For 2013, the projected growth rate fell from 4.40% to 4.20%. In this period, the median expectation for inflation in 2012 moved from 5.42% to 5.27%, and in 2013, from 5.00% to 5.50%. Twelve-month ahead inflation expectations fell from 5.45% to 5.37%, as illustrated in Figure 6.1. Since the release of the previous *Report*, there was a reduction in the dispersion around the central tendency measures of inflation expectations for 2012 as illustrated in Figure 6.2. The standard deviations of these projections fell from 0.35% to 0.23%.

In the specific case of banks, asset managers (AMs) and other institutions (nonfinancial companies, brokers, consulting companies and professional entities), the median inflation expectations for 2012 (Figure 6.3), at the cutoff date of March 9, were 5.25%, 5.28% and 5.28%, respectively, against 5.43%, 5.37% and 5.44%, in the previous *Report*. Then for 2013 (Figure 6.4), the figures are 5.27%, 5.60% and 5.07%, respectively, compared to 5.00%, 5.00% and 4.80% in the December 2011 *Report*.

6.2 Main scenario: associated risks and monetary policy implementation

The projections used by the Copom are based on a set of assumptions about the behavior of the main macroeconomic variables. This set of assumptions, as well as the risks associated with them, make up the main prospective scenario based on which the Committee makes policy decisions.

On the whole, the prospective scenario envisages, on the external side, a prolonged period of low growth in global activity. In fact, in mature economies, in many cases the economic environment is already recessive and, in specific cases of large emerging economies, since the last *Report* there has been increasing perception that there have been changes pointing to more moderate growth pattern. A relatively benign trajectory of prices of commodities in international markets hypothesis is also taken into account.

On the domestic side, the central scenario envisages a moderate pace of domestic economic activity in the short run, with the prospect of acceleration during the following year. In the central scenario, the effects of complexity surrounding the international environment compound with the moderation of domestic economic activity observed in

the second semester of 2011, which was higher than expected. The central scenario also considers the effects of monetary policy action recently implemented that are delayed and cumulative. Moreover, the moderation of the credit market and the fiscal policy scenario are present as important aspects in the domestic context.

On the external front, in general, there is further evidence to support the view that external developments are of great complexity and are transmitted to the Brazilian economy through many channels. Since the last *Report*, the hypothesis of slow growth for global activity for a prolonged period of time has been maintained. In the United States, if, on the one hand, there is a more positive perception towards economic activity, even only for the short term, on the other hand there are risks originated, for instance, in the recent boom in oil prices and a fiscal restraint scenario in this and the following years. In the euro area, recent events point to a delay in a definitive solution for the financial crisis, and, therefore, the region continues with a perspective of reduction or low growth in economic activity. Growth perspectives of important emerging economies have also been reduced and, in specific cases, are presented as long lasting developments. The Committee believes that there are continuing high chances that the restrictions to which several mature economies are now exposed can extend over a longer than anticipated period of time. For this effect, among other factors, contribute the fact that, in these economies, unemployment rates are quite high; asset prices have suffered substantial losses; the credit market remains fragile; business and consumer confidence has deteriorated; all combined with an environment of limited scope for using countercyclical policies.

The Copom assesses that there are still significant risks for global financial stability. On the one hand, this is due to the ongoing deleveraging process in the main economic blocks, and, on the other hand, to the exposure of international banks to the sovereign debt of countries with fiscal unbalances, especially in the euro area, as it has been reflected in still high, although decreasing, insurance prices against default and rating revisions of many mature economies by risk classification agencies. The large scale liquidity provision of ECB seems to have reduced the probability of extreme banking events, although the complexity of the situation in the euro area still implies considerable risks. It is worth noting that the Committee still works with the hypothesis stated in the last *Inflation Report*, which is that extreme events in international financial markets will not be considered.

The Copom evaluates that the developments in mature economies are transmitted directly to emerging economies' aggregate demand in intensity proportional to, among other factors, the importance of trade. In fact, in the last three quarters of 2011, the world imports volume has grown at rates similar to one fifth of the historical mean (0.3%, compared to 1.5% mean from 1991 to 2011), according to seasonally adjusted data of Netherlands Bureau for Economic Policy Analysis (CPB). In this context, despite the resilience of domestic demand in emerging economies of Asia and Latin America, the pace of activity moderated. The transmission through the expectations channel, which affects investment, in the case of entrepreneurs, and consumption, in the case of households, has also been occurring in the real economy. For the next few quarters, measures of expectations and confidence and leading indicators suggest weakness in the pace of global economic activity, although mostly for mature economies than for emerging economies.

With regard to commodities prices, since the cutoff date of the last *Report* (December 9), the Commodities Brazil Index (IC-Br) has been stable (0.1% variation), therefore, in relatively more convenient levels, compared to the ones in the first semester of 2011, despite some increase in prices, at the margin, especially in agricultural goods. On the other hand, the CRB index has accumulated a slight increase. The food prices index calculated by FAO has also increased at the margin. The behavior of these prices, partly due to the financialization process of commodities, is still surrounded by great uncertainty, in a context of abundant global liquidity and high volatility of financial markets. Prospectively, if the moderation of pace in the Chinese economy continues, the commodities prices tend to be negatively affected.

The barrel price of oil has increased and kept volatile since the last *Report*. The current price levels, are somewhat consistent with the effects of moderate shocks in fundamentals and with greater political instability in important producer countries. The geopolitical complexity with surrounds the oil sector can boost the already volatile behavior of prices, which also reflects the low predictability of some global demand components and the fact that the supply growth depends on long maturity and high risk investment projects. It is worth noting that international oil prices affect domestic inflation not only through local price of gasoline, but also via the petrochemical production chain and the expectations channel.

In this context, the central scenario with which the Copom works considers a relatively benign trajectory in the price of commodities.

The Copom understands that the effects of the complexity surrounding the international environment are compounded with the moderation of domestic economic activity mirrored, for instance, in the retreat of growth projections. In other words, the moderation process in which the economy has been since the first semester of 2011 – a result of monetary policy actions implemented since late 2010 until the beginning of 2011 – has been boosted by the weakness of the global economy, and has resulted in a greater than expected slowdown of economic activity in the second semester of 2011.

The Copom evaluates that purchases of external goods tends to continue to diminish domestic inflationary pressures through two channels. First, these products compete with goods that are produced domestically, imposing greater discipline to the price setting process. Second, they reduce demand for domestic input markets, contributing to the weakening of cost pressures and, by consequence, of its pass-through to consumer prices. In this respect, cost pressures not offset by efficiency gains contribute to the reduction in the competitiveness of domestic firms in the international goods and services markets, in a global environment with historically high levels of spare capacity.

In terms of the balance of risks, the Copom assesses that the international scenario continues to entail a disinflationary bias in the relevant horizon, that is, it renders the balance of risks for inflation more favorable.

On the domestic side, twelve-month inflation has declined since October 2011, and the central scenario envisages this will continue. The Copom assesses that, by itself, this reversal in the previous trend has contributed to improve economic agents' expectations, especially price setters, on the dynamics of inflation in this and the coming quarters. The Committee believes that this improvement in sentiment will be increased by the process, now underway, of reassessment of the pace of domestic and foreign economic activity. The Committee stresses that the decline of current inflation directly affects, through its inertial component, the dynamics of future inflation.

The Copom assesses that an important source of risk to inflation comes from the labor market. In this case, the risk for price dynamics is the possibility of wage bargaining giving excessive weight to past inflation at the expense of future inflation, which, it should be noted, is already reducing and tends to be markedly lower than past inflation. The Committee judges that the recent raise in the minimum wage affects directly and/or indirectly the dynamics of other wages and consumer prices.

Still on the labor market – which responds to monetary policy actions with the greatest lag –, on the one hand, it shows signs of moderation, on the other hand, it shows narrow margin of idle capacity. A crucial aspect in such situations is the possibility that the level of activity in the labor market leads to real wage increases at rates that are not compatible with productivity growth. This risk factor could be worsened by the presence, in the economy, of mechanisms favoring inflation persistence. At this point, it should be noted that the theory, which is backed by international experience, shows that wage moderation is key to obtaining a macroeconomic environment with price stability.

Regarding the capital factor, investments presented less vigorous outcome in the second semester of 2011. Still, the investment rate – the share of GFCF in GDP – is relatively stable. In 2011, it reached 19.3%, after reaching 19.5% in 2010, higher levels than previous years.

The Copom sees as decreasing, although relevant, the risks from the mismatch, in specific segments, between supply and demand growth rates. By one side, there is ongoing moderation of domestic demand; by the other, there is in an environment favorable for the evolution of economic activity. This assessment is underpinned by signs that, while indicating cooling, point to the fact that the expansion of credit supply tends to persist for both individuals and corporate, and by the fact that consumers' and entrepreneurs' confidence are increasing. It should be added, also, government transfers and the strength of the labor market, as reflected in historically low unemployment rates and in wage growth, despite some accommodation at the margin.

It will also contribute to the strengthening of domestic demand – especially consumption and investment – recent monetary policy actions, since the effects on activity (and inflation) are cumulative and operate with lags[1]. In other words, monetary policy actions take certain time to impact activity (and inflation), and the impacts from a sequence of actions will overlap in time. It is plausible to state that some immediate impact could materialize, for instance, through the expectations channel. In general, however, the diverse channels through which monetary policy operates will impact economic activity (and inflation) with different lags, and with the maximum effect occurring some quarters after policy implementation. These lags are considered in the conduct of monetary policy, in part, to avoid undue fluctuations in economic activity.

1/ See Box "The Lags in the Transmission of Monetary Policy to Prices" in the June 2009 *Inflation Report* and Box "Monetary Policy and Transmission Mechanism Lags" in the September 2007 *Inflation Report*.

Still on the transmission of the monetary policy, the Copom highlights that the main scenario considers estimates that show downward shift of the path of the natural rate of interest, in the last years. This is supported by the projection models of the Banco Central do Brasil and, also, by the dynamics of the financial asset prices under management of domestic agents, negotiated in internal and external markets. Additionally, the Copom evaluates that, in the vast majority of cases, indicators identified in the literature as determinants of the fall in the natural rate also point in the same direction.

The Committee assesses that there are important mechanisms making the Brazilian inflation downward rigid. The presence of regular and almost automatic mechanisms of price adjustment, either de jure and/or de facto, has contributed to the persistence of inflationary pressures coming from the past. It is well known by literature and international experience that the existence, even informally, of price indexation mechanisms reduces the sensitivity of inflation to demand conditions. Overall, when trying to stop disinflation process, indexation mechanisms contribute to increase the "starting point" of the inflation rate in economic moderation cycles, thus raising the inflation risks for the prospective scenario and increasing the costs of disinflation. Risks associated to indexation mechanisms are particularly important in disinflationary circumstances such as the present one, when twelve-month inflation rate is still above the target path, despite the downward trend.

The Committee assesses that the behavior of wholesale prices, since last *Report*, is an important indicator that inflationary pressures have cooled. In fact, the IPA-DI presents, since December 2011, negative or near zero monthly variations, also verified in the industrial prices. In twelve-month inflation until February, the IPA-DI and the IGP-DI had shown more favorable dynamics, with variations well below the target for inflation. This tends to reduce pressures in the consumer prices in the short and medium terms, given the practice of indexing some of these prices to the general price indices.

Regarding fiscal policy, the Copom understands that the generation of primary surpluses in line with the assumptions considered for inflation projections presented in next section, besides contributing to the reduction in the mismatches between supply and demand growth rates, will strengthen the trend of reducing the public debt-to-GDP ratio. It is important to highlight that the Copom reaffirms that its main scenario is conditioned to the materialization of the trajectories

regarding fiscal variables. In this sense, since early last year, significant decisions have been made and implemented, which support the vision of an ongoing fiscal consolidation process.

The Copom considers that a source of risk lies in the behavior of inflation expectations.

According to the Copom, the dynamics of the credit market deserve attention, be it for its potential impact on aggregate demand or for the macroprudential risks that it may represent. The Committee highlights that its main scenario for inflation also considers moderation in credit expansion. In this regard, the Committee considers opportune the introduction of initiatives with the aim of moderating the concession of subsidies regarding credit operations.

The Copom evaluates that, since last *Report*, the domestic developments, seen altogether, indicate, in the relevant horizon, a more favorable balance of risks.

In sum, the Copom evaluates that the slowdown of the Brazilian economy in the last year´s second semester was larger than anticipated, that recent events still indicates postponement of a definite solution for the European crisis and that persist the risks associated to the deleverage process – of banks, households and governments – occurring in main economic blocks. These and other elements compound an economic environment in which a much above-than-usual uncertainty level prevails. For the Committee, since last *Report*, the inflation prospective scenario has shown, in general, favorable signs. The Copom also notes that, according to the main scenario, the inflation rate stands around the target in 2012 and identifies decreasing risks to the materialization of a scenario in which inflation timely converges to the midpoint target.

In this context, continuing the process of monetary conditions adjustment, the Copom unanimously decided to decrease the Selic target from 11.00% p.a. to 10.50% p.a., without bias, in the January meeting. In that opportunity, the Committee understood that by promptly mitigating the effects from a more restrictive global environment, a moderate adjustment in the level of the policy interest rate was consistent with the scenario of inflation convergence to the target in 2012.

In the March meeting, continuing the process of monetary conditions adjustment, with five votes in favor and two votes for a 0.5 p.p. reduction, the Copom decided to decrease the Selic target to 9.75% p.a., without bias. At that moment, the

Committee's perception was that the main scenario for inflation had evolved as predicted in the January's meeting; hence, there were no substantial changes for the estimates of the overall adjustment in the monetary conditions underlying this scenario. In consonance with such perception, two members of the committee expressed the view that it would be desirable to keep up with the pace of adjustment of the Selic. However, the majority of members argued that an intertemporal redistribution of the total adjustment of the monetary conditions would be the best strategy to follow.

The Copom believes that there have been relevant structural changes in the Brazilian economy that determined the reduction in the interest rates in general and, in particular, in the natural rate. Support this view, among other factors, the reduction in the risk premium, direct consequence of the accomplishment of the inflation targets for eight consecutive years, the macroeconomic stability, and the institutional advances. Also, the process of reduction in the interest rates have been facilitated by changes in the financial and capital markets structures, by the credit market deepening as well as for the fiscal surpluses that are consistent with the maintenance of the downward trend in the economy's debt-to-GDP ratio. For the Committee, all such changes are very likely to be permanent – although, due to business cycles, point and temporary reversions may take place – and lead to the robust solvency and liquidity indicators that the Brazilian economy displays.

The Copom also considers that the increase in the supply of foreign savings and the reduction in its cost of fund-raising contribute for the reduction in domestic interest rates, the natural rate included, which are, in the Committee's valuation, to a large extent, permanent.

Therefore, considering the projections for inflation and the associated balance of risks, the Copom assigns high probability for the occurrence of a scenario where the Selic rate moves toward levels slightly above historical minimal values and then stabilizing in these values.

6.3 Inflation forecasts

According to traditionally adopted procedures, and taking into account the available information up to the cutoff date of March 9, 2012, the baseline scenario assumes that the exchange rate remains unchanged over the forecast horizon at R$1.75/US$, and the target for the Selic rate stays at 9.75% p.a. – the level set by the March Copom meeting –

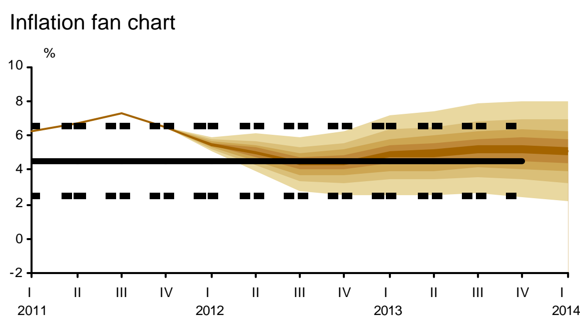
against R$1.80/US$ and 11.00% p.a. considered in the December 2011 *Inflation Report*.

The market scenario, in turn, incorporates data from the expectations survey carried out by Gerin with a representative group of institutions up to the cutoff date. In this scenario, average exchange rate expectations stabilized in comparison to the values released in the December 2011 *Inflation Report*. For the last quarters of 2012 and 2013, they stand at R$1.75/ US$. For the first quarter of 2014, survey expectations project an average exchange rate of R$1.76/ US$. In what regards the evolution of the average Selic rate, the expectations for 2012 and 2013 decreased in comparison to the values presented in the last *Report*. For the last quarter of 2012, the average Selic rate moved from 9.50% p.a. to 9.00% p.a., and for the last quarter of 2013, from 10.35% p.a. to 10.00% p.a. For the first quarter of 2014, survey expectations project an average Selic rate of 10.00% p.a. This trajectory of the Selic rate is consistent with twelve-month pre-DI swap spreads of -49 basis point (b.p.) and 77 b.p., with respect to the current target for the Selic rate (9.75% p.a.), in the last quarter of 2012 and 2013, respectively.

The projection for the change in the set of regulated and monitored prices, in both scenarios, is of 4.0% in 2012. This projection is based on the hypotheses, for the accumulated over 2012, of stability on prices for gasoline, bottled gas, and fixed telephone rates; and increase of 2.3% in electricity rates. Regarding items for which more information is available, price changes were estimated individually. For the remaining items, projections are based on models of endogenous determination of regulated prices, which consider seasonal components, exchange rate variations, market price inflation and General Price Index (IGP) inflation, among others. According to these models, the projection for the change in the set of regulated and monitored prices in both scenarios is of 4.5%, for 2013 (same value considered in the last *Report*) and 2014.

Figure 6.5 – Projected IPCA-inflation with interest rate constant at 9.75% p.a. (baseline scenario)

Inflation fan chart



Note: accumulated inflation in 12 months (% p.a.).

With regard to fiscal policy, the projections consider the accomplishment of the R$139.8 billion primary surplus target (roughly 3.10% of GDP), without adjustments, in 2012. Moreover, the generation of a primary surplus target of around 3.10% of GDP in 2013 and 2014 is considered as working hypothesis, without adjustments.

The projections presented in this *Report* incorporate the estimated effects of the changes in the weighting structure of the IPCA, to apply since January 2012.

The projections presented in this *Report* incorporate the estimated reduction of the natural interest rate identified in the last years.

It is also considered the hypothesis that the current deterioration in the international scenario has an impact on the Brazilian economy equivalent to one quarter of the impact observed during the international crisis of 2008/2009. It should be noted that part of this estimated impact already appears in recent activity economic indicators.

Based on the above assumptions and using the information set until the cutoff date (March 9 2012), projections were constructed for the four-quarter IPCA inflation, consistent with the interest and exchange rate paths characterizing the baseline and market scenarios.

The central projection associated with the baseline scenario shows inflation of 4.4% in 2012, 0.3 p.p. lower than the projection presented in the December 2011 *Report*. As can be seen on Figure 6.5, in the baseline scenario, the projection for twelve-month inflation stays above the central target level of 4.5% determined by the National Monetary Council (CMN) along the first semester of 2012, and moves towards the central target level in the next two succeeding quarters. According to data shown on Table 6.1, the projection for twelve-month inflation starts at 5.5% in the first quarter of 2012, reduces to 5.0% in the second quarter and to 4.4% in the third, ending the year at this level. Still according to the baseline scenario, the projection for the first quarter of 2013 stays in 4.9%, moves to 5.0% and 5.2% in the second and third quarters, respectively, ending the year at this level. For the first quarter of 2014, projection reduces to 5.1%.

It is worth to mention that the estimated probability that inflation will breach the upper tolerance level of the target in 2012, according to the baseline scenario, is of 3%. For 2013, this probability is close to 22%.

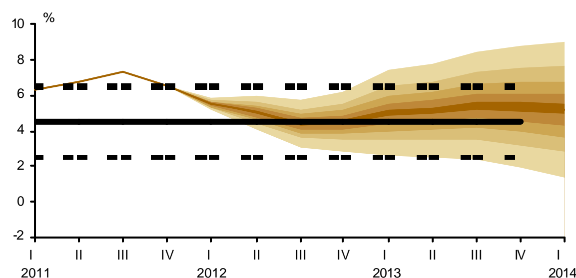
In the market scenario, the inflation projection of 4.5% for 2012 is 0.1 p.p. higher than the projection in the baseline scenario and 0.3 p.p. lower than the projection presented in the last *Report*. As it can be seen on Figure 6.6 and Table 6.2, projections for twelve-month inflation hover around levels higher than the target in the first half of 2012. Indeed, in the market scenario, the projection starts at 5.5% in the first quarter of 2012, decreases to 5.0% and to 4.4% in the second and third quarters of 2012, respectively, and ends the year at 4.5%. For 2013, the projection starts at 5.0% in the first quarter, increases to 5.1% in the second, and moves to 5.4%

Table 6.1 – Projected IPCA-inflation with interest rate constant at 9.75% p.a.
(Baseline scenario)

Year	Q	Probability Interval 50%	30%	10%		30%	50%	Central projection
2012	1	5.3	5.4	5.5	5.5	5.6	5.6	5.5
2012	2	4.5	4.7	4.9	5.1	5.3	5.5	5.0
2012	3	3.7	4.0	4.2	4.5	4.7	5.0	4.4
2012	4	3.7	4.0	4.3	4.5	4.8	5.2	4.4
2013	1	3.9	4.3	4.7	5.1	5.4	5.8	4.9
2013	2	4.0	4.4	4.8	5.2	5.6	6.0	5.0
2013	3	4.1	4.6	5.0	5.4	5.8	6.3	5.2
2013	4	4.1	4.6	5.0	5.4	5.9	6.3	5.2
2014	1	3.9	4.4	4.9	5.3	5.8	6.3	5.1

Note: accumulated inflation in 12 months (% p.a.).

Figure 6.6 – Projected IPCA-inflation with market interest and exchange rates expectations
Inflation fan chart



Note: accumulated inflation in 12 months (% p.a.).

Table 6.2 – Projected IPCA-inflation with market interest and exchange rates expectations [1/]

Year	Q	Probability Interval 50%	30%	10%		30%	50%	Central projection
2012	1	5.3	5.4	5.5	5.5	5.6	5.6	5.5
2012	2	4.6	4.8	4.9	5.1	5.3	5.4	5.0
2012	3	3.9	4.1	4.3	4.5	4.7	4.9	4.4
2012	4	3.8	4.1	4.4	4.6	4.9	5.2	4.5
2013	1	4.0	4.4	4.8	5.2	5.6	6.0	5.0
2013	2	4.0	4.5	4.9	5.3	5.7	6.2	5.1
2013	3	4.1	4.7	5.2	5.6	6.1	6.6	5.4
2013	4	3.9	4.5	5.1	5.6	6.1	6.7	5.3
2014	1	3.6	4.3	4.9	5.5	6.1	6.8	5.2

Note: accumulated inflation in 12 months (% p.a.).
1/ According to Gerin.

in the third quarter, ending the year at 5.3%. The projection for the first quarter of 2014 is 5.2%.

Still according to the market scenario, the estimated probability that inflation will breach the upper tolerance level of the target in 2012 is of 2%. For 2013, this probability is close to 25%.

The projected dynamics for both baseline and market scenarios are similar in 2012. This is partially because, even though different paths of interest rates are considered, their effects on inflation are lagged. In fact, the projected paths gradually diverge from the fourth quarter of 2012 on, so that the difference between them is the highest in the third quarter of 2013 and decreases in the following two quarters.

The comparison of the trajectories shown in the *Report* with those released in the previous one – the latter shown on Table 6.3 – shows that there was a decrease in inflation projections in 2012, and an increase in 2013, in the baseline scenario. In the first case, this reflects, among other reasons, considerably lower inflation rates in recent months than the corresponding projections presented in the last *Report*. In the second case, it mostly reflects interest rate paths different from the ones considered in the last *Report*. In the market scenario, similar movements reflect, to some extent, the same factors.

Table 6.3 – December 2011 *Inflation Report* projections

Period	Baseline scenario	Market scenario
2011 IV	6,5	6,5
2012 I	5,9	5,9
2012 II	5,5	5,5
2012 III	4,7	4,7
2012 IV	4,7	4,8
2013 I	4,6	4,8
2013 II	4,4	4,7
2013 III	4,7	5,2
2013 IV	4,7	5,3

Figure 6.7 – Projections and target path for twelve-month cummulative inflation

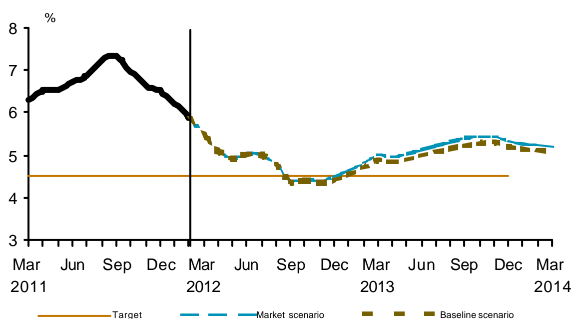
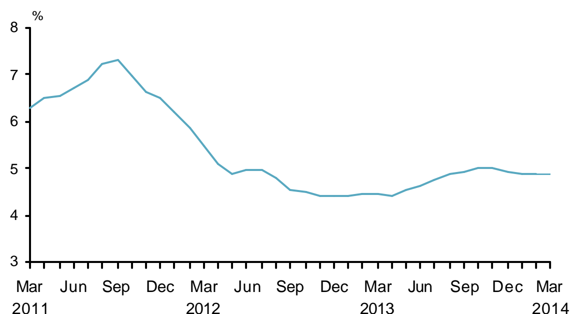


Figure 6.7 shows the path of twelve-month inflation, according to the baseline and market scenarios, up to the first quarter of 2014, as well as the targets trajectory. The figures are actual twelve-month inflation until February 2012 and, from then on, projections according to the corresponding scenario are used to compose the twelve-month values. In both scenarios, projections point to a decrease in twelve-month inflation in the first quarter of 2012, following the trend started in the fourth quarter of 2011. Such a movement, in both scenarios, continues until the third quarter of 2012, when the projections assume values around the central target level, where they stay until the end of the year. Still in both scenarios, the projections of the twelve-month inflation rate increases in the first three quarters of 2013 and tends to decrease in the following two, still higher than the targets trajectory.

Figure 6.8 – Inflation forecast: VAR models



Note: accumulated inflation in 12 months (% p.a.).
Average forecast generated by the VAR models.

The average forecast generated by the Vector Autoregressive (VAR) models for twelve-month inflation is presented in Figure 6.8. Up to February 2012, the values refer to actual twelve-month inflation and, from then on, to forecasts. When compared to the projections presented in

the previous *Report*, there is a decrease in the VAR models forecasts for twelve-month inflation in 2012 and 2013. According to the VAR models, the inflation forecast decreases over 2012 and ends the year close to the central target level, where it stays until the second quarter of 2013. Starting in the third quarter of 2013, VAR models forecasts converge to the unconditional mean of inflation until the end of the forecast horizon.

Figure 6.9 – Projected GDP growth with interest rate constant at 9.75% p.a. (baseline scenario)

Output fan chart

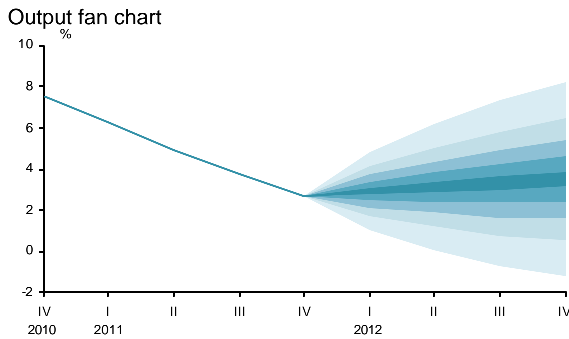


Figure 6.9 illustrates the output growth fan chart built under baseline scenario assumptions. Considering that the model which generates GDP growth projections uses two variables that are not directly observable – potential output and output gap –, the forecast errors associated with these projections are considerably higher than the errors related to inflation projections. According to this scenario, the GDP growth projected for 2012 is 3.5% – same value presented in the December 2011 *Inflation Report* – which is compatible with internal and external equilibrium and consistent with the convergence of inflation to the target in 2012.