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 2010. The chapter also presents the analysis of the inflation prospects up to the first quarter of 2013 and of the Gross Domestic Product (GDP) growth up to the end of 2011. Inflation projections are presented in two major scenarios. The first scenario, called the baseline scenario, assumes that the Selic rate will remain unchanged at 11.75% per year over the forecasting horizon, the level defined by Copom at its most recent meeting on March 1 and 2, and the exchange rate will remain at R$1.65 per US dollar. The second scenario, named the market scenario, is based on the expected paths for the basic interest rate and for the exchange rate drawn from the survey carried out by the Central Bank's Investor Relations and Special Studies Department (Gerin) among independent analysts. For a third scenario, called alternative scenario, which assumes that the exchange rate remains unchanged over the relevant horizon at recently observed levels, and the target for the Selic rate based on data from the expectations survey carried out by Gerin, inflation projections are presented for the end of the years 2011 and 2012. 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 11, 2011.

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

Inflation, measured by the change in the Broad National Consumer Price Index (IPCA), after reaching 4.31% in 2009, 1.59 percentage points (p.p.) lower than in 2008, rose again in 2010, reaching 5.91%. In the first two months of 2011, the IPCA index increased by 0.83% in January and 0.80% in February. Thus, the twelve-month inflation reached 6.01% in February. The increase in inflation in the last twelve months was determined by the change in market prices. In fact, while regulated prices rose by 3.29% in the twelve months up to February, market prices increased by 7.17%. Within the set of market prices, stands out the price change for tradable goods (6.31%), influenced by the recent inflation dynamics of food items, as well as the price change recorded for non-tradable goods (7.91%). Reflecting the dynamism of domestic demand, services sector inflation has consistently remained higher than that of market prices. In the twelve months up to February, the change in services prices reached 8.39% (against 6.23% in the twelve-month period up to February 2010). In turn, the twelve-month change in regulated prices has positively contributed to the recent inflation dynamics as it has been below the center of the target since April 2010.

As with headline inflation, the three core inflation measures computed by the Central Bank show recent increase in the twelve-month accumulated indices and are above the center of the target. The exclusion core measure (IPCA-EX), which had moved from 5.72% in December 2008 to 4.73% in December 2009, rose to 5.45% in December 2010, and again to 5.63% and 5.92% in January and February 2011, respectively. Similarly, the change in the core by smoothed trimmed mean (IPCA-MS), which had reached 4.82% in December 2008 and had been reduced to 4.38% in December 2009, reached 5.63% in December 2010 and increased to 5.69% and 5.70% in the two following months. Additionally, inflation measured by the double weighted core measure (IPCA-DP), which reached 6.06% in December 2008 and had decreased to 4.73% in December 2009, reached 5.62% in December 2010, and rose in the next two months to 5.83% and 6.07%. In February, the average monthly change of the three core measures remained stable, standing at 0.69%, against 0.70% in January.

The IPCA diffusion index stood at 61.72% in February 2011, the same figure recorded in February 2010. Although there has been decline in relation to the January 2011's level (69.27%), the diffusion index remains high, which supports the hypothesis of acceleration in prices.

After a sharp reduction in 2009 (-1.43% versus 9.10% in 2008), broad inflation, measured by the General Price Index (IGP-DI), reached 11.30% in 2010. In the first two months of 2011, the IGP-DI monthly changes were 0.98% (January) and 0.96% (February). Thus, twelve-month inflation remained at a high level, reaching 11.27% in January, and 11.12% in February 2011. The strong acceleration in broad inflation is mainly due to IPA-DI, the main component of the index, which increased 13.85% in twelve months up to December 2010, 13.85% up to January 2011, and 13.69% up to February. By origin and for the same periods, agricultural products changed by 25.59%, 28.39% and 29.83%, whereas industrial products, by 10.13%, 9.32% and 8.65%. According to the Consumer Price Index (IPC-DI), the second component of the IGP-DI, the twelve-month inflation reached 6.24% in December 2010, 6.21% in January 2011 and 6.02% in February 2011. In the same way, the accumulated variation of the National Cost of Construction Index (INCC), also a component of the IGP-DI, slightly declined in the first two months of 2011, after increasing in all months of 2010. According to this index, twelve-month inflation reached 7.77% in December, then dropped to 7.52% in January and then to 7.44% in February. Note that all components of the IGP-DI index continue to register significant inflation. As emphasized in previous *Reports*, the Committee evaluates that the effects of wholesale prices over consumer price inflation will depend on current and prospective demand conditions, as well as on price setters' expectations for the future path of inflation.

The Index of Economic Activity of the Central Bank (IBC-Br) includes estimates for monthly production of the three sectors of the economy, as well as taxes on products and, therefore, it is an important coincident indicator of economic activity. After slowing down and reaching the minimum quarterly growth of 0.2% between June and August of 2010, the growth rate reached 1.0% between October and December 2010, relative to the previous quarter. In 2010, the IBC-Br index increased by 7.8% over the previous year. The Services Confidence Index (ICS), computed by Fundação Getulio Vargas (FGV), decreased by 3.0% in January 2011 compared to December 2010; by 1.3% compared to January 2010; and by 3.3% over the average index of 2010.

Industrial production increased 0.2% in January compared to December 2010, according to seasonally adjusted data by the Brazilian Institute of Geography and Statistics (IBGE), whereas the three-month moving average of industrial production fell by 0.2% between November 2010 and January 2011, the same rate registered in the last quarter of 2010. Based on rates of change in twelve months, industrial production exhibited expansion of 9.4% in January 2011, against 10.4% registered in December 2010. Comparing with December 2008, when industrial production registered the greatest decline during the 2008/2009 crisis, the recovery up to January 2011 amounted to 23.1%. The diffusion index, which measures the percentage of products that posted some increase in production, reached 56% in January, relative to the same month of the previous year, against 55.4% registered in December 2010, relative to the same basis of comparison.

Among the industry categories of use, and based on seasonally adjusted IBGE data, the production of durable consumer goods posted the greatest contribution to the change of the overall index in January 2011, relative to the previous month (6.0%). In the same period, the production of semi-durable and non-durable consumer goods expanded by 0.2%, whereas capital goods production increased by 1.8%. The production of intermediate goods decreased 0.4%. Considering the three-month moving average rates for January 2011, the durable consumer goods category grew by 1.8%, whereas capital goods production increased by 1.4% and the intermediate goods production registered growth of 0.1%. In turn, the production of semi durable and non-durable consumer goods contracted by 0.2%. Of notice, the production of capital goods increased 20.4% in the twelve-month period up to January 2011, the greatest expansion among the categories of use. This is an evidence of the robust investment activity, a relevant factor for economic recovery during the post-crisis period.

The rates of capacity utilization remain at high levels. The low idle capacity is a result of the recent expansion in economic activity, which has not been entirely met by maturing investments. In fact, the seasonally adjusted Level of Utilization of Installed Capacity (Nuci) computed by FGV reached 84.5% in February 2011, versus 84.7% in January. According to data from the National Confederation of Industry (CNI), seasonally adjusted by the Central Bank of Brazil, the Nuci remained stable at 82.8% in December 2010, against 82.7% in November. Regarding the twelve-month period up to January 2011, the absorption of capital goods showed a 26.1% increase. The production of inputs for civil construction rose by 11.5%, considering the same basis of comparison. The seasonally adjusted inventory level indicator from the Manufacturing Industry Survey of FGV reached 101.3 in December 2010. In January 2011, this indicator decreased to 97.7, followed by a slight increase to 98.8 in February. In December 2010, 5.2% of the respondents expressed their inventory level as excessive, considering the seasonally adjusted series. This percentage reached 6.3% in January and 5.7% in February 2011. In summary, the data suggests that utilization rates remained high over the last months, signaling the small idle capacity in the manufacturing sector, despite the resumption of investment.

Unlike industrial production, the volume of expanded retail sales grew significantly at the margin by the end of 2010. In December 2010, expanded retail sales increased 14.8% relative to the same month of 2009, against 17.0% registered in November. It is worth noting that these rates are considerably higher than the 2.5% expansion of industrial production in December, relative to the same month of the previous year, as well as the 3.7% growth of IBC-Br on the same basis of comparison. Thus, the slowdown of industrial activity has not corresponded to moderation in retail sales, although this asynchrony tends to change in 2011. The expansion of retail sales is reflected, for example, in the imports of durable and non-durable consumer goods, which in December 2010 rose by 27.7% and 24.8%, respectively, relative to the same month of the previous year. In 2010, the volume of expanded retail sales increased by 12.2% with respect to the previous year, after posting growth rates of 6.8% in 2009 and 9.9% in 2008. For the next few quarters, retailing should continue to be bolstered by the growth of real wages, government transfers, credit expansion, though at a moderate pace, and consumer confidence.

After an increase of 5.2% in 2008 and a decline of 0.6% in 2009, the Brazilian economy expanded again in 2010, posting an expressive growth rate of 7.5% - the highest rate since 1986. According to seasonally adjusted IBGE data, compared to the immediately previous quarter, GDP exhibited high growth rates in the first and second quarters (2.2% and 1.6%, respectively). From the second semester on there was an economic slowdown, with growth rates of 0.4% in the third quarter of 2010, and 0.7% in the fourth quarter. The behavior of GDP suggests that the Brazilian economy resumed the expansion pattern prior to the financial crisis of 2008/2009 and, more recently, at a pace consistent with sustainable growth rates in the long-run. From the production viewpoint, the services sector, which exhibits less volatile growth rates, was the only sector to depict positive growth rate (1.0%) in the last quarter of 2010, the eighth consecutive increase, according to seasonally adjusted IBGE data. The agricultural production declined 0.8% in the fourth quarter of 2010, after falling 1.6% in the previous quarter. The industrial production also declined in the fourth quarter of 2010 (0.3%), against a decline of 0.6% in the previous quarter.

From the viewpoint of aggregate demand, the Gross Fixed Capital Formation (GFCF) increased 21.8% in 2010, after declining 10.3% in 2009. Compared to the immediately previous quarter, and based on seasonally adjusted IBGE data, GFCF registered expansion of 4.0%, 3.9%, 3.1% and 0.7% in the four quarters of 2010, respectively. Despite a low share in aggregate demand, compared to household consumption, the high growth rate of investment has contributed to sustain the level of economy in the post-crisis period. In addition, the perspective of new and large-scale investment projects coordinated by public sector, such as those in the oil (pre-salt layer) and infrastructure sectors, favors the expectations of economic agents and the fast pace of GFCF. Household consumption – the most important component of aggregate demand – increased by 1.8%, 1.1%, 1.8% and 2.5%, in the same periods and the same basis of comparison. Government expenditure grew only in the second quarter of 2010 (1.8%), and exhibited a decline of 0.2%, 0.1% and 0.3% in the first, third and fourth quarters. The external sector contributed negatively to GDP growth in 2010 (-2.8 p.p.) due to the growth of imports (36.2%), while exports rose 11.5% during the year. In sum, domestic demand, driven by the expansion of credit, employment and income, has been the main driving force of activity, and should continue to evolve positively in the coming quarters, although at a slower pace.

In fact, after having grown 9.1% in 2008 and 5.9% in 2009, real retail sales increased 10.9% in 2010, according to the IBGE, notably sales in the segment of “equipment, office supplies, computer and communication” (24.1%) and of “furniture and appliances” (18.3%). The expanded retail sales, which include sectors more sensitive to credit conditions, showed a robust performance in 2010, driven by sales of construction material, which grew by 15.6%, as well as by sales of cars and motorcycles, parts and accessories, which increased by 14.1%.

The labor market has played an important role in the current economic cycle. Unemployment, measured by the rate of unemployment in the six metropolitan areas covered by the monthly survey of IBGE, has been falling in the last years, reaching a historic low of 6% in November 2010, considering the seasonally adjusted series. Afterwards, it increased to 6.3% in January 2011. Based on the non-seasonally adjusted series, the unemployment rate reached 6.1% in January 2011 – the lowest rate for the month of January since the beginning of the unemployment series under the current methodology (March 2002). Relative to the same month of 2010, the unemployment rate declined 1.1p.p. It is worth noting that this fall took place in all the six areas covered by the survey. Also according to IBGE, the average real earnings usually received by the employed population increased 5.3% in January 2011, with respect to the same month of 2010. The total number of persons working in the six regions reached 22.1 million in January 2011, against 21.6 million in January 2010. Concerning the evolution of formal employment, after falling sharply at the end of 2008 and beginning of 2009, job creation returned to expand quite robustly in 2010. According to figures released by the Ministry of Labor and Employment (MTE), a total of 2.47 million jobs were created between February 2010 and January 2011. Thus real payroll expanded 7.7% compared with the same month of 2010, 9.5%, compared to 2009, 18.1%, compared to 2008, and 26% compared to January 2007.

In addition to the rising payrolls, the availability of credit to households – largely determined by macroeconomic stability and institutional reforms in recent years – was an important driving force of the growth in household consumption. After being adversely affected by the crisis of 2008/2009, credit conditions return to more favorable patterns, thus boosting lending volumes. The stock of credit to households with non-earmarked resources grew 19.1% in January 2011, compared to the same month of the previous year. In the same period, housing loans, whose operations are mainly based on earmarked resources, grew 50.2%. Despite this performance, it is expected some moderation in 2011 with regard to credit for individuals and corporations, in part due to the recently adopted macro prudential measures. In general, delinquency rates have remained at levels consistent with the phase of the cycle. In fact, the share in total outstanding credit with earmarked and non-earmarked funds of loans that is 90 or more days past due moved from 5.5% in January 2010 to 4.6% in January 2011.

The total volume of credit to corporations grew by 18.8% in January 2011, compared to the same month of 2010, considering non-earmarked and earmarked resources, and totaled R$927.5 billion. Credit expansion was boosted by loans and financing with resources from The Brazilian Development Bank (BNDES), which amounted to R$359.4 billion in January 2011, an increase of 24.6% over the same period in 2010. Regarding the capital market, the volume of primary issues of shares registered in the Securities and Exchange Commission (CVM) reached R$145.2 billion in 2010, including the issue of R$120.2 billion by Petrobras in September 2010, the highest ever recorded in the Brazilian stock exchange. In turn, bond issuance (excluding emissions by leasing companies), totaled R$15.6 billion in 2010, after reaching R$11.1 billion in 2009.

Regarding the external sector, the twelve-month trade balance has been rising since the previous *Report* and reached US$21.7 billion in February 2011. This performance includes exports of US$210.4 billion and imports of US$188.7 billion. These values are 33.9% and 42.0% higher than those recorded in twelve months ending in February 2010, respectively. The recovery of external demand has contributed to the growth of exports. In fact, the quantum of exports increased 9.7% in the twelve months ending in January 2011, against the previous twelve months. In the same period, the average price of exports rose by 21.7%. In turn, the quantum of imports increased 37.5% during this period, in part reflecting the strength of domestic demand. The average price of imports rose by 4.3% in the twelve months up to January 2011.

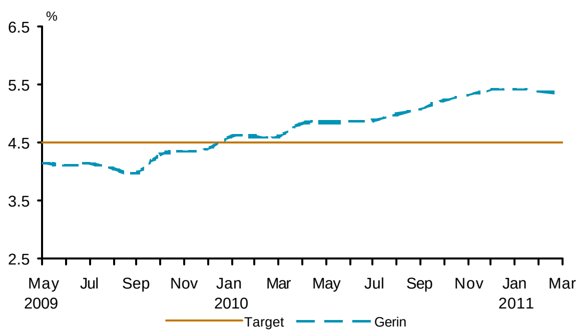
The twelve-month current account deficit increased from US$47.5 billion in December 2010 to US$49.1 billion in January 2011, equivalent to 2.35% of GDP. Remittances of profits and dividends have been an important component of this deficit, reaching US$31.4 billion in the same period. In turn, foreign direct investment amounted to US$50.8 billion in the twelve months up to January 2011, equivalent to 2.43% of GDP, and surpassing the external financing requirement.

In international financial markets, volatility and risk aversion have risen since the previous *Report*, fueled by very high levels of global liquidity and geopolitical uncertainty in the Middle East and North Africa. Although the perception of systemic risk has fallen significantly in recent months, concerns about the effects of recent high oil prices on economic activity of developed economies have increased recently. There is also uncertainty about the sustainability of debt levels in some European countries, the possibility of a slowdown in China, as well as the effects of the massive earthquake and tsunami in the afternoon of March 11 in Japan.

As far as the pace of global economic activity is concerned, the outlook of a faster than expected recovery has strengthened. The likelihood of a reversal has lowered, but reins the view that will be a marked growth asymmetry across countries. Recovery is consolidating worldwide, and particularly in the United States, whose domestic demand has been exhibiting some vigor, especially with respect to household consumption, within an environment of declining uncertainties about the labor market. The macroeconomic perspective for the Euro Area remains asymmetric, with Germany expanding quite strongly. Although headline inflation rates of consumer prices have increased in the G3 countries (United States, Euro Area and Japan), the respective core inflation rates in those countries remained at moderate levels – despite the still strong fiscal and monetary stimuli. In emerging markets, inflationary pressures have become widespread. Since the release of the last *Report*, it is worth noting the interest rate hikes promoted by the central banks of Chile, China, Colombia, India, Indonesia, Peru and Russia, as well as the successive increases in reserve requirements in China.

Brent oil prices surpassed again the level of US$110/barrel. Although the hike in the last weeks has been driven by elevated political instability in some countries of the Middle East and, especially, in North Africa, this price acceleration is consistent with the strengthening of global demand. As far as the considerable uncertainty regarding oil price projections is concerned, the main scenario adopted by Copom assumes unchanged domestic gasoline prices in 2011. It should be noted that the influence of international oil prices on domestic inflation is not transmitted exclusively through the local price of gasoline, but also via the production chain of the petrochemical industry, as well as the expectations channel. Among the remaining commodities, there was a sharp rise in international food prices since the release of the latest *Report*. The food price index, calculated by the Food and Agriculture Organization (FAO) of the United Nations, increased by 11.1% in the last three months, and by 34.2% over the twelve-month period up to February 2011. In turn, the commodity price index of the Commodity Research Bureau (CRB), based on twenty two commodities, reached new record on the first week of March. At the cutoff date of March 11, the index increased 11.2% in the three-month period and 29.1% in the twelve-month period. The behavior of commodity and asset prices still embodies great uncertainty, reflecting the volatility in financial and currency markets.

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

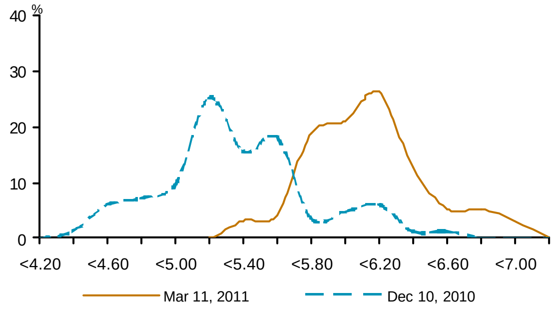


The median of market expectations for the 2011 GDP growth rate declined since the release of the previous *Report*, from 4.50% at December 10, 2010 to 4.10% at March 11, 2011. During this period, the median expectation for inflation in 2011 moved from 5.21% to 5.82%, and in

2012, from 4.50% to 4.80%. The dispersion of inflation expectations for the twelve months ahead decreased slightly, with the standard deviation moving from 0.46% to 0.44%.

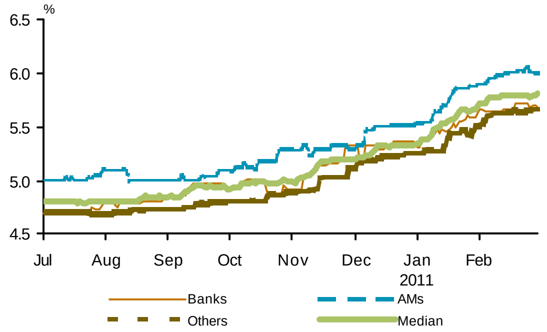
Figure 6.2 – Dispersion of inflation expectations for 2011

Relative frequency



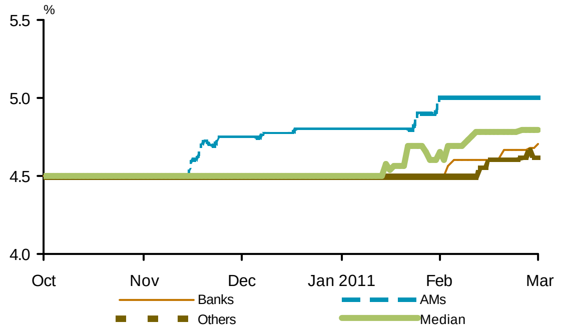
Overall, since the release of the previous *Report*, there was a reduction in dispersion around the central tendency measures of inflation expectations for 2011, and an increase for 2012, as illustrated in Figure 6.2. In this sense, according to economic theory, the presence of heterogeneous agents in a survey of expectations, by itself, would lead to the dispersion of beliefs within the sample. One approach to tackle this issue relates the heterogeneous beliefs to underlying economic incentives. Alternatively, the existence of different loss-functions among agents is also used for explaining the dispersion of beliefs.

Figure 6.3 – Median market expectations by segment for 2011 IPCA-inflation



The international evidence on surveys of expectations, in general, suggests significant degree of information dispersion, both for consumers and professional market analysts. In fact, in the case of Brazil, the breakdown of market participants of the survey carried out by Gerin into three groups – banks, asset managers (AMs) and other institutions (nonfinancial companies, brokers, consulting companies and professional entities), reveals that agents have different views on the inflation outlook. Thus, for each group, time series of median inflation expectations were built, as illustrated in Figures 6.3 and 6.4, which suggest distinct behavior among segments, particularly in the case of the AMs group.

Figure 6.4 – Median market expectations by segment for 2012 IPCA-inflation



At the cutoff date of March 11, the median inflation expectations for 2011 of banks, AMs and other institutions are 5.68%, 6.00% and 5.67%, respectively. For 2012, these figures are 4.71%, 5.00% and 4.62%, respectively. In order to reduce information asymmetries among market participants, from this *Report* onwards the Central Bank will systematically release inflation expectations of each referred segment, without any loss regarding the release of the median for the whole sample.

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, the tendency of consolidation of the recovery of the global economy and some dissemination of inflationary pressures, mostly in emerging economies. On the domestic side, the prospective scenario involves moderation in economic activity, and some advances in the balance of risks for inflation, although the inflation projections for 2011 are less favorable that those in the last Inflation *Report*.

On the external front, the main inflationary risk comes from commodity prices behavior. Since the last *Report*, the prospect for international commodity prices, including oil, remains shrouded in uncertainty. For example, it depends on the repercussions of the recent earthquake in Japan; on geopolitical factors in North African and Middle Eastern countries; on the evolution of demand, in the context of asymmetric global recovery; on the possibility of a slowdown in China; and on the volatility in international financial markets. During this period, the chances for new unconventional monetary measures abroad have lowered; and these measures have been seen as supporting elements for the recent surge in international commodity prices.

The recent increase in domestic wholesale prices is closely linked with soaring commodity prices in international markets. In particular, agricultural commodities witnessed a strong acceleration in prices between August 2010 and February 2011, with total change of 24.3%. However, to a significant extent, the commodity price increase has already been incorporated into consumer prices. In fact, the food and beverages group has accumulated 8.15% increase between August 2010 and February 2011. Even so, pressure arising from commodity markets may be persistent and, without compensation from movements in the opposite direction in domestic assets, could result in additional inflationary pressures – which in fact have occurred in recent episodes.

The purchase of external goods tends 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 relation to the recovery of the global economy, the baseline scenario continues to contemplate the hypothesis of an ongoing recovery of activity, still with marked asymmetry between economic blocs, and with a lower probability of reversion.

On the domestic front, the Committee evaluates the main risk is that the recent increase in inflation – in the context of tight spare capacity in factor markets, most notably the labor market – be transmitted to the prospective scenario. This important risk factor could be worsened by mechanisms favoring inflation persistence. It is worth noting that inflation in the previous months reflected the strong negative influence from food price dynamics, which is in part explained by external and domestic supply shocks; seasonal factors characteristics of the first two months of the year; and unusual readjustments of administered prices in the same period. These price increases have occurred in the context of ongoing imbalance between growth of domestic absorption and supply expansion capacity; but there are signs the imbalance will ease off.

After the pronounced drop in the last quarter of 2008 and the first quarter of 2009, investments have been expanding systematically above the growth rate of GDP, and rates have converged in the last quarter of 2010. As a result, the investment rate – the share of GFCF in GDP – is recovering vigorously, although it remains below the levels observed before the 2008/2009 crisis. The combination of less pronounced growth in aggregate demand with the rebound in investment has led to more stable readings of industrial capacity utilization levels – which had been going through a process of continuous growth during 2009 and the beginning of 2010.

The high GDP growth rate in 2010, 7.5%, reflects in part the statistical carry-over effect that results from the growth rates that were recorded in the second half of 2009. In general, however, the outlook for the evolution of domestic economic activity remains favorable, despite the ongoing moderation, at an uncertain pace, of domestic demand expansion. This assessment is underpinned, among others, by the indications that the expansion of credit supply will persist – although at a more moderate pace after the recent adoption of macroprudential measures – both for individuals and for corporations; by the fact that the confidence levels of consumers and entrepreneurs remain at historically high levels – in spite of moderation at the margin. The strength of labor markets, the remaining effects of the fiscal stimulus and of the policies of public banks and the recovery of the global economy are also noteworthy.

An important source of risk comes from the labor market. The employment level has increased in a vigorous manner and led to the lowest unemployment rate readings since the beginning of the computation of the time series with the methodology that is currently employed (in March 2002). There are, however, some signs of moderation in employment growth. In this sense, real average earnings, after growing vigorously in 2010, show evidence of moderation, in part, due to higher inflation. A crucial aspect in such situations is the possibility that the level of activity in the labor market leads to nominal wage increases at rates that are not compatible with productivity growth, something which has been occurring. In a strong demand environment, such wage increases tend to be passed on to consumer prices. In this respect, the theory, which is backed by international experience, establishes that wage moderation is a key element for guaranteeing a macroeconomic environment with price stability.

The Committee assesses that there are important mechanisms making the Brazilian inflation downward rigid. In particular, 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 that the existence (even informally) of price indexation mechanisms reduces the sensitivity of inflation to demand conditions. Overall, indexation mechanisms tend to prevent the economy from disinflating during downturns and thus increase the "starting point" of the inflation rate during upturns, thus raising the inflation risks for the prospective scenario. In fact, this years' inflation rate will incorporate the high starting point from 2010.

The risks related to indexation mechanisms are particularly important in 2011. Indeed, inflation in the previous year was well above the target path, and particularly so for the last quarter's annualized rate. Moreover, the 12-month inflation rate for the next two quarters tends to remain close to or above the current ones. In part, this is explained by inertia from 2010 and by inflation projections for June to August close to the historical pattern, in contrast to the verified in the same period of the previous year.

The potential effects of recent increases in wholesale market prices on consumer prices should also be monitored. The evidence suggests time lags between price variations in the wholesale market and their pass-through to consumer prices – as highlighted in a box in the March 2010 *Inflation Report*. This implies that, presumably, a share of the effects of the recent spike in producer prices will still be transmitted to consumer prices. As noted in previous *Reports*, the Copom understands that the effects of the development of prices in the wholesale market on consumer inflation will depend, among others, on current conditions and the outlook for demand, on the exposure of each sector to external and internal competition, and on expectations of price setters regarding the future evolution of inflation.

Another source of concern lies in the evolution of inflation expectations, which have followed unfavorable dynamics during the last months. More specifically, the associated risk lies in the possibility that the recent increase in inflation will influence even further the expectations of price increases, making this dynamics more persistent.

Regarding fiscal policy, the Copom understands that the generation of primary surpluses in line with the assumptions considered for inflation projections, besides contributing to the reduction in the mismatches between supply and demand growth rates, will strengthen the reduction trend in the public debt-to-GPD ratio. The Copom reaffirms that the inflation main scenario considers the materialization of the trajectories regarding fiscal and quasi-fiscal variables. In this sense, significant decisions have been taken and implemented by the government to restrain expenditure, which support the vision that, at the beginning of this year, a fiscal consolidation process has begun.

The dynamics of the credit market also deserves attention, be it for its potential impact on aggregate demand and, as a consequence, on inflation, or for the macroprudential risks that it may represent. The dynamism of the credit market in Brazil has been intense and has meant a persistent growth in the credit-to-GDP ratio. As highlighted in the box “The Potency of Monetary Policy in Brazil”, in the June 2010 *Report*, this deepening of credit markets, among other factors, may have contributed to the amplification of the power of monetary policy in Brazil. On the other hand, we should stress that the policy towards international reserve accumulation seeks to purchase the flows in the medium and long run, but, in spite of that, part of the resources have been gone to the credit market. In this sense, the excess of external inflows may weak the credit channel, smooth its contribution to the aggregate demand moderation, as well as cause distortions in the price of domestic assets.

Nevertheless, the Copom understands that the moderation in the expansion of the credit market constitutes an important element to the materialization of its main scenario. In this connection, it considers appropriate the implementation of initiatives aiming to restrain subsidies through credit operations. Compared to the situation that prevailed at the time of the last *Report*, the view that prevails is that there has been a substantial increase in the probability of the hypothesis of moderation in the expansion of the credit market in general. Incidentally, available information showed significant changes both in prices and quantities transacted in the credit market since the introduction of macroprudential initiatives. The Committee highlights the near equivalence between macroprudential measures and conventional monetary policy measures, in spite of the focus on systemic stability of the former. In this sense, it reaffirms its view that monetary policy strategy cannot be disentangled from macroprudential developments.

Summing up, the Copom recognizes above normal uncertainty in the economic environment and identifies high risks to the achievement of a benign scenario where inflation would timely converge to the target. Since the last *Report*, in the external outlook, stimulus factors and asset price spillovers have lowered the probability of reversion in the recovery process experience by G3 economies. From another point of view, they still reveal the ambiguous influence of the international outlook over domestic inflation behavior. Regarding the domestic outlook, both macroprudential measures – a fast and potent instrument to contain local pressures on demand – and conventional monetary policy measures have been implemented, and in both cases their effects will still be incorporated to price dynamics.

Despite no clear identification of the degree of permanence of recent pressures – due to uncertainties surrounding the global and, to a lesser extent, the domestic scenario –, the Committee assesses that the balance of risks since the last *Report* has shown to be, to some degree, more favorable to the achievement of a benign scenario. Since then, monetary policy measures have been implemented, evidences of the effectiveness of macroprudential measures introduced in December 2010 have emerged, and important decisions have been taken and executed in the fiscal front. In addition, more recently, commodity price dynamics show signs of moderation, despite unfavorable geopolitical developments, such as the crisis in North Africa and the Middle East.

The Copom unanimously decided to increase the target for the Selic rate from 10.75% to 11.25% and 11.75% p.a., without bias, in the January and March meetings, respectively.

In 2010, inflation surpassed the 4.5% midpoint target, an outcome that in part resulted from the first-round effects of negative supply shocks (see the exercise presented in a Box in this *Report*), in particular the acceleration of international commodity prices. As regards the timing, however, the commodity shock was concentrated in the second half of 2010 and in the initial months of 2011. For instance, from July 2010 to February 2011, the Commodities Brazil Index (IC-Br) increased by 41.4%, and in the specific case of agricultural commodities, 60.2%, in the same period. It is estimated that the first-round effects of this extraordinary supply shock would alone increase the IPCA by around 2.5 p.p. Part of this variation already materialized in 2010, but estimates suggest that still approximately one third of the inflationary impact of the commodity shock will affect consumer prices this year.

In circumstances such as the present one, it is natural to discuss how monetary policy should be conducted in the presence of supply shocks. According to economic theory, optimal monetary policy should accommodate first-round effects from negative supply shocks. However, active policy should minimize the possibility of supply related, sector specific price increases to be further propagated into nominal wages, medium- and long-run inflation expectations, and other prices (second-round effects). International experiences support this view, and there is consensus among policymakers that first-round effects of supply shocks represent relative price changes, which, in the presence of wage and price rigidity, leads to aggregate price increases. At the same time, it is consensual that central banks should restrain the propagation of the supply shock, in order to lower the risks of wage and price setting dynamics following suit, that is, to lower the risk of a persistent upward movement in inflation.

The Committee assesses that the costs in terms of economic activity of preventing the first-round effects of the supply shock from moving the 2011 inflation away from the midpoint target of 4.5% would be excessively high. On the other hand, the domestic demand is expanding at a more modest pace, which, though uncertain, should still be impacted by the contractionary policy measures implemented so far. Additionally, the Committee assesses that the flexibility inherent to the inflation targeting regime allows the accommodation of the first-round effects of the supply shock. In other words, under the current circumstances the best practice recommends implementing a more gradual convergence of inflation towards the target, similar to past strategy adopted by the Central Bank.

In this context, therefore, the Committee emphasizes that monetary policy strategy will be implemented in order to restrain second-round effects of the supply shock and assure inflation convergence towards the midpoint target in 2012.

For this purpose, it is worth highlighting that, considering the prospective domestic activity slowdown, the complexity of the international environment, and other factors, monetary policy strategy may be reevaluated, with respect to its intensity, to its temporal distribution, or both.

6.3 Inflation forecasts

According to traditionally adopted procedures, and taking into account the available information up to the cutoff date of March 11, 2011, the baseline scenario assumes the exchange rate remains unchanged over the forecast horizon at R$1.65/US$, and the target for the Selic rate stays at 11.75% p.a. – the level set by the March Copom meeting – against R$1.70/US$ and 10.75% p.a. considered in the December *Inflation Report*. The projection in the baseline scenario for the change, in 2011, of the set of regulated and monitored prices is of 4.0%, the same value considered in the last *Report*. This projection is based on the hypotheses of stable prices for gasoline and bottled gas; increase of 2.8% for electricity rates; and of 2.9% in the fixed telephone rates. Regarding items for which more information is available, price changes were estimated individually, whereas for the others, the 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 those models, projection of the regulated and administered prices, in the baseline scenario, is at 4.4% for 2012, the same value considered in the December 2010 *Report*, while for 2013 the projection is 4.3%.

The market scenario, on the other hand, is based on 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 decreased in comparison to the values released in the December *Inflation Report*. For the last quarter of 2011, these expectations moved from R$1.75/US$ to R$1.70/US$, and for the last quarter of 2012, from R$1.80/US$ to R$1.75/US$. For the first quarter of 2013, survey expectations project an average exchange rate of R$1.76/US$. The expectation about the average Selic rate increased in comparison to the values presented in the last *Report*. For the last quarter of 2011, it moved from 12.25% to 12.50% p.a., while for the last quarter of 2012, it moved from 10.92% to 11.33% p.a. For the first quarter of 2013, the projection for the average Selic rate is 11.13% p.a. This trajectory of the Selic rate is consistent with a twelve-month pre-DI swap spread, with respect to the current target for the Selic rate (11.75% p.a.), of 116 b.p. and -6 b.p., in the last quarter of 2011 and 2012, respectively. Additionally, the market scenario assumes changes for the group of regulated and administered prices of 4.1% in 2011, and of 4.5% in 2012 and 2013.

With regard to fiscal policy, the projections presented in this *Report* are based on the working hypothesis of accomplishment of the primary surplus target of R$ 117.9 billion (or roughly 2.9% of GDP) in 2011, without any adjustment (according to the Budget Guidelines Law – LDO 2011). Moreover, the primary surplus in 2012 is assumed to remain at the level of 3.1% of GDP.

In addition, the projections presented in this *Report* incorporated the estimated effects of the reserve requirements measures announced in December 2010.

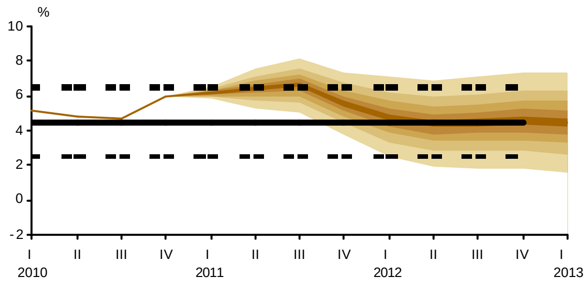
Based on the above assumptions and using the information set until the cutoff date (March 11, 2011), projections were constructed for the IPCA inflation accumulated over four quarters, consistent with the interest and exchange rate paths of the baseline and market scenarios.

The central projection associated with the baseline scenario shows inflation of 5.6% in 2011, an increase of 0.6 p.p. in comparison to the projection presented in the December *Report*. As can be seen on Figure 6.5, in the baseline scenario, the projection for twelve-month accumulated inflation stays above the central value of 4.5% for the target determined by the National Monetary Council (CMN) until the first quarter of 2012, when it reaches 4.8%, moving to figures close to the central target in the following quarters. According to data shown on Table 6.1, the projection for twelve-month accumulated inflation moves from 6.2% in the first quarter of 2011, reaches 6.6% in the third quarter, but decreases and ends the year at 5.6%. In this scenario, the associated projection for the first quarter of 2012 is of 4.8%, decreases to 4.4% in the second and third quarters and ends the year at 4.6%. The decrease of the inflation projections along the first semester of 2012, in comparison to 2011, partially reflects the effects of the Selic rate increase determined by Copom on its last two meetings, as well as the changes in reserve requirements announced last December. The projection for the first quarter of 2013 is 4.5%.

According to the baseline scenario, the estimated probability that inflation for 2011 will breach the upper tolerance level of the target is 20%. For 2012, this probability is close to 13%.

Figure 6.5 – Projected IPCA-inflation with interest rate constant at 11.75% p.a. (Baseline scenario)

Inflation fan chart



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

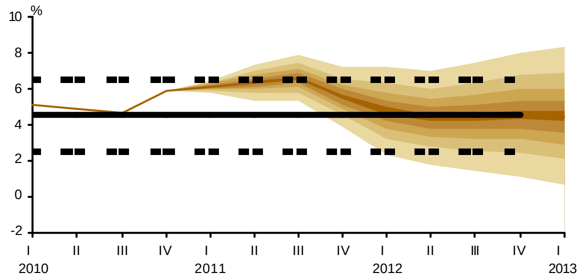
Table 6.1 – Projected IPCA-inflation with interest rate constant at 11.75% p.a.
(Baseline scenario)

Year	Q	Probability Interval 50%	30%	10%		30%	50%	Central projection
2011	1	6.0	6.1	6.1	6.2	6.2	6.3	6.2
2011	2	5.9	6.1	6.3	6.5	6.7	6.9	6.4
2011	3	6.0	6.3	6.5	6.7	7.0	7.3	6.6
2011	4	4.8	5.1	5.4	5.7	6.0	6.3	5.6
2012	1	3.8	4.2	4.6	4.9	5.3	5.7	4.8
2012	2	3.4	3.8	4.2	4.6	5.0	5.4	4.4
2012	3	3.4	3.8	4.2	4.6	5.1	5.5	4.4
2012	4	3.4	3.9	4.4	4.8	5.2	5.7	4.6
2013	1	3.3	3.8	4.3	4.7	5.2	5.7	4.5

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
2011 1	6.0	6.1	6.1	6.2	6.2	6.3	6.2
2011 2	6.0	6.2	6.3	6.5	6.6	6.8	6.4
2011 3	6.1	6.3	6.5	6.7	6.9	7.2	6.6
2011 4	4.9	5.2	5.4	5.7	6.0	6.3	5.6
2012 1	3.8	4.2	4.6	5.0	5.3	5.8	4.8
2012 2	3.3	3.8	4.2	4.6	5.0	5.5	4.4
2012 3	3.2	3.7	4.2	4.7	5.2	5.7	4.4
2012 4	3.1	3.8	4.3	4.8	5.4	6.0	4.6
2013 1	2.9	3.6	4.2	4.8	5.4	6.0	4.5

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

1/ According to Gerin.

Table 6.3 – December 2010 *Inflation Report* projections

Period	Baseline scenario	Market scenario
2010 IV	5.9	5.9
2011 I	5.7	5.7
2011 II	5.7	5.7
2011 III	5.8	5.8
2011 IV	5.0	4.8
2012 I	4.5	4.4
2012 II	4.3	4.1
2012 III	4.6	4.4
2012 IV	4.8	4.5

In the market scenario, the inflation projection for 2011 is 5.6%, equal to the respective baseline scenario projection, representing an increase of 0.8 p.p. in comparison to the projection presented in the last *Report*. As can be seen on Figure 6.6 and on Table 6.2, projections for inflation accumulated in twelve months, following a similar pattern of the baseline scenario, fluctuate above the central value of the target until the first quarter of 2012. Within this scenario, the projection for the first quarter of 2011 is of 6.2%, moves to 6.6% in the third quarter and ends the year at 5.6%. In the same scenario, the projection for the first quarter of 2012 is of 4.8%, recedes to 4.4% in the second and third quarters and ends the year at 4.6%. The projection for the first quarter of 2013 is 4.5%.

According to the market scenario, the estimated probability that inflation for 2011 will breach the upper tolerance level of the target is 18%. For 2012, this probability is close to 18%.

As it was shown in the last *Report*, the projected dynamics for both scenarios are close to each other along 2011 and 2012, given that the effect of the difference between the interest rate trajectories is offset, to some extent, by the respective exchange rate paths. It is worth noting that, in general, inflation projections increased in comparison to figures presented in the last *Report* but, nevertheless, are close to the central target by the end of the considered horizon.

Comparing the trajectories shown in this *Report* with those released in the previous *Report*, whose projections are shown on Table 6.3, in the baseline scenario, it can be seen that there was an increase of the projections along 2011, partially reflecting higher inflation rates in recent months than the corresponding projections presented in the last *Report*. The trajectory for 2012 reflects, to some extent, higher inflation expectations. In the market scenario, the projection changes also reflect these movements. Regarding the second semester of 2012, it is shown a decrease in the inflation projections in the baseline scenario, and relative stability in the market scenario, in respect to figures presented in the December 2010 *Report*.

Figure 6.7 shows the path of twelve-month accumulated inflation, according to the baseline and market scenarios, up to the first quarter of 2013, as well as the target trajectory. The figures are actual twelve-month inflation until February 2011, and, from March on, projections according to the two scenarios. The projections fluctuate, in both scenarios, above the target along 2011. In both scenarios, the trajectory indicates decrease of the twelve-month accumulated inflation in the fourth quarter of 2011, and tends to near the central

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

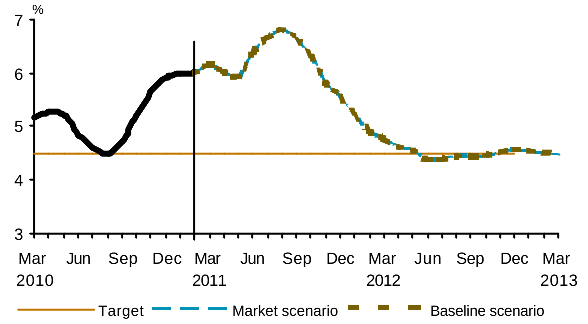
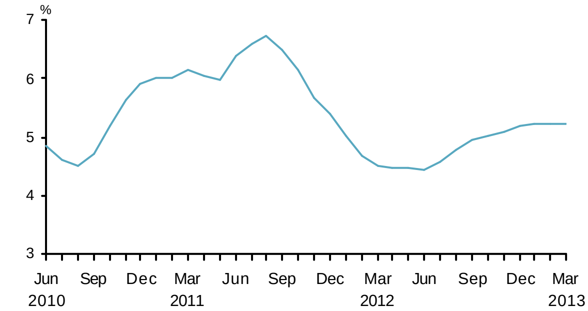


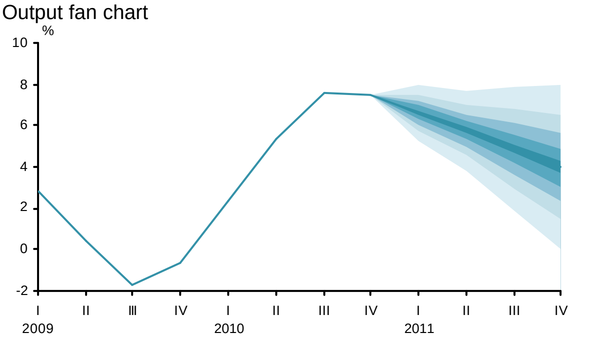
Figure 6.8 – Inflation forecast: VAR models



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

Figure 6.9 – Projected GDP growth with interest rate constant 11.75% p.a. (Baseline scenario)

Output fan chart



target along the first and second quarters of 2012, fluctuating around this value until the end of the projection horizon.

In an alternative scenario, which assumes the exchange rate remains unchanged, over the relevant horizon, at recently observed levels; and the target for the Selic rate based on data from the survey carried out by Gerin, the inflation projection for 2011 is 5.5%, and 4.4% for 2012. For the first quarter of 2013, the projection is 4.3%.

The average forecast generated by the Vector Autoregression models (VAR) for the twelve-month accumulated inflation is presented in Figure 6.8. Up to February 2011, the values are actual twelve-month inflation and, as of March, refer to the average forecast of the VAR models. Compared to the projections presented in the last *Report*, as well as the projections generated in the baseline and market scenarios, the VAR models forecasts for twelve-month accumulated inflation increased along 2011. Regarding 2012, the forecasts, in general, decrease in comparison to those presented in the December 2010 *Report*, but close the year with higher levels. The VAR models forecasts decrease along the first and second quarters of 2012, in comparison to 2011, but increase in the third and fourth quarters and tend to the unconditional average of inflation by the end of the forecast horizon.

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 the output gap, the forecast errors associated to these projections are considerably higher than the errors related to the inflation projections. According to this scenario, the GDP growth projected for 2011 is 4.0%, a decrease of 0.5 p.p. in comparison to the projection presented in the December 2010 *Inflation Report*.