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 September 2009, as well as the analysis of the inflation prospects up to the fourth quarter of 2011 and of Gross Domestic product (GDP) growth up to the end of 2010. Inflation projections are presented in two major scenarios. The first scenario, called the baseline scenario, assumes that the Selic rate will remain unchanged at 8.75% per year over the forecasting horizon, the level defined by Copom at its most recent meeting, held on December 8 and 9, 2009, and that 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 basic interest and exchange rates drawn from the survey carried by Brazilian Central Bank's Investors Relations Group (Gerin) among independent analysts. It is important to stress that these scenarios are used only as support for monetary policy decisions and should not be viewed as Copom forecasts of the future behavior of interest and exchange rates. The projections released here utilize the set of information available up to the cutoff date of December 11, 2009.

The projections for inflation and GDP growth released in this *Report* are not point estimates. They consist of probability intervals which embody the degree of uncertainty present at the above mentioned cutoff date. Inflation forecasts depend not only on the assumptions over 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, 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 Broad National Consumer Price Index (IPCA), which started to increase consistently since the second quarter of 2007 and reached 6.41% in October 2008, has been receding in a slow, albeit continuous pace since then. Actually, after finishing 2008 in 5.90% – 1.44 p.p. higher than that seen in 2007 (4.46%) – twelve-month inflation receded to 4.22% in November 2009, below the center of the target (4.50%). The IPCA posted inflation of 3.93% over the year, 1.30 p.p. lower than that observed in the same period of 2008. This behavior was initially influenced by the sharp fall in the commodity prices in the second half of 2008, which has largely been reverted; and later by the deceleration of the domestic economy in the fourth quarter of 2008 and in the first quarter of 2009, also by now largely reverted. It should be noted that the intensity of the fall in the headline inflation was not repeated for services prices, which still exhibit substantial persistence, while inflation of regulated and monitored prices actually accelerated.

Regulated prices rose 4.21% this year up to November whereas market prices rose by 3.81%. Within the set of market prices, it stands out that the price change in nontradables (5.03%) was much higher than that for tradables (2.46%). This behavior is largely due to the asymmetric impact of the world economic crisis on the domestic economy since the most intense effects were observed in the manufacturing sector while the service sector showed much resilience. The recent behavior of prices has led to a further narrowing of the gap between twelve-month inflation of regulated prices and market prices. The gap moved from -6.21 p.p. in June 2008 to 0.41 p.p. in November 2009. On the other hand, owing to the strength of the domestic demand, service sector inflation has remained at a much higher level than that of market prices. This year up to November, the change in service prices reached 6.01% (against 5.98% in the same period of 2008), while the twelve-month change reached 6.42% (against 6.47% in the same period of 2008).

After two consecutive falls – in the fourth quarter of 2008 (2.9%) and in the first quarter of 2009 (0.9%) – GDP at market prices increased by 1.1% and 1.3% in the second and in the third quarter of 2009 respectively on quarter-on-quarter basis according to seasonally adjusted data released by the Brazilian Institute of Geography and Statistics (IBGE). Notwithstanding its recent recovery, GDP shows a 2.9% decline compared to the same period of 2008. Although the numbers are still negative in the year-on-year comparison, economic activity has exhibited a quick recovery almost returning to the growth

rates seen before the escalation of the world crisis. From the supply side viewpoint, it should be highlighted that manufacturing sector output, after having fallen by 8.1% in the fourth quarter of the last year and 4.4% in the first quarter of this year grew by 2.6% and 2.9% in the second and third quarters of 2009 respectively. The recovery of manufacturing – which was strongly affected by the reduction of the demand for durable and investment goods and in external demand in previous quarters – was due to the effects of the monetary and fiscal stimulus as well as of the measures to normalize the credit supply. It also should be noted that the inventories at the beginning of the year were substantially above planned levels and consequently underwent strong adjustment. However, inventory levels tend to be rebuilt thereby helping to sustain current dynamism of industrial production. Agricultural sector GDP receded by 2.5% in the third quarter, the fourth consecutive contraction as it has reacted to the effects of world economic crisis both on external demand and on agricultural commodity prices. On the other hand, the service sector – the sector with the largest weight in GDP and that showed resilience during the crisis – expanded 1.6% in the third quarter after expanding 1.7% in the second quarter. Overall, the strength of the domestic demand and employment greatly contributed to reduce the macroeconomic uncertainties, helping the economic recovery.

Regarding demand, after reductions of 9.9% and 11.0% in the fourth quarter of 2008 and in the first quarter of 2009 according to seasonal adjusted IBGE data, Gross Fixed Capital Formation (GFCF) expanded by 2.0% and 6.5% in the following two quarters supporting the strength of the domestic recovery. Household spending, the most important component of aggregate demand, grew by 2.0% in the last quarter after an expansion of 2.4% in the previous quarter. On the other hand, government spending increased by 0.5% in the third quarter, after a contraction of 0.1% in the second quarter according to seasonally adjusted data. In the comparison with the same period of last year, whereas GFCF dropped 12.5% in the third quarter, the latter expanded by 3.9% and 1.6% respectively. The external sector contributed positively to GDP growth in the third quarter (0.8 p.p.) with reduction in both imports (15.8%, contributing with 2.1 p.p.) and exports (10.1%, contributing with -1.4 p.p.). Considering the prospects of a faster recovery of the domestic activity, than in trading partners, the most likely scenario points out a smaller contribution of the external sector to GDP growth.

Actually, the resilience of domestic demand remains the key support factor for activity in the Brazilian economy. Retail sales figures that were considerably more buoyant

than higher frequency production data over the year – partly due to the high level of industry inventories at the beginning of the year – support this assessment. Twelve-month sales growth fell from 10.3% in September 2008 when the world crisis intensified to 5.0% in September 2009, but never became negative. Actually, over the first nine months of the year, sales had an expansion of 4.7% in comparison with the same period of 2008. Despite the deceleration from the strong expansion pace seen in 2008, which reached 9.1%, sales growth remained vigorous and it has been strengthening at the margin. One should highlight the sharp sales increase of 7.7% in the first months of the year in the "supermarkets, food, beverages and tobacco" segment. The series on expanded sales, which includes "vehicles, motorcycles, parts and spares", have markedly recovered over the last few months, posting growth of 6.2% over September against the same period last year. The Copom assesses that the retail and expanded sales tend to continue displaying positive results in the coming quarters and the expansion is likely to intensify as the effects of the world crisis fade away, the unemployment rate falls and household credit maintains its dynamism.

The unemployment rate, which had been consistently falling in the last few years (annual averages of 10.0% in 2006, 9.3% in 2007, and 7.9% in 2008), increased in the first three months of 2009 but the labor market has recovered since then. Specifically, after reaching the minimum of the new time series in December 2008 (6.8%), the unemployment rate rose to 9.0% in March, moved down to 8.0% in July when it fell for the first time in the year, compared to that of the same month in 2008 (-0.1 p.p.), and moved to 7.5% in October, the same rate as in October 2008. This behavior, coupled with the reduction in inflation, limited the effects of the international crisis on labor income. According to IBGE, average real earnings which had increased by 3.2% in 2007 and 3.4% in 2008, maintained their strong upward pace in 2009 (3.5% through October). On the other hand, the average number of persons working, which increased by 2.6% in 2007 and 3.4% in 2008, shows substantial deceleration over the year (0.7% in October). Still, real wage bill growth – an important support of aggregate demand in the latest years – after reaching 5.8% in 2007 and 6.9% in 2008, reached 4.2% over the year until October. As per the National Confederation of Industry (CNI) data, the average employment level in manufacturing, which posted expansion of 3.6% in 2007 and 4.0% in 2008, fell by 3.5% in October 2009 in line with the significant fall in the industrial production at the end of 2008. As with the evolution of employment in the formal sector, Ministry of

Labor and Employment (MTE) data shows that after substantial weakness at the end of 2008 and beginning of 2009 there was a consistent recovery. Actually, 1.2 million formal job positions were created until October. One should note that formal sector employment creation seems to be undergoing a marginal acceleration. In October, 231 thousand jobs were created (252.6 in September), the best record for this month. Manufacturing industry presented positive numbers for the seventh consecutive month reaching the best record in the series: 74.6 thousand positions. Commerce also maintained the recovery that began in April and presented a positive balance of 68.5 thousand positions. The construction industry, a leading sector with growth of 5.8% over the year and the service sector also opened job positions in October (26.2 thousand and 69.6 thousand positions respectively). On the other hand, the agricultural sector closed 11.6 thousand job positions, following the seasonal pattern.

In addition to increasing payrolls, credit availability to households, favored by macroeconomic stability and by institutional advances, had been an important element in the private consumption dynamics. After being negatively affected by the worsening of the world economic crisis since September 2008, financing conditions have improved in the last months. This process occurred as the effects of the world economic crisis on the domestic economy receded and as macroeconomic uncertainty abated. On the other hand, the labor market, whose brief weakening made households more reluctant to borrow, has been firmly recovering over the last months. By the way, financial system (non-directed) credit to households grew by 17% in October (24.2% in December 2008) year-on-year. In the same period, the credit to housing, whose operations are mainly based on earmarked resources, grew by 42.5% (37.5% in October 2008). Recently, corporates regained access to external and capital market resources, two funding channels that had been disrupted after September 2008. In particular, the sharp fall in the basic interest rate favored the relative attractiveness of private bonds. Credit expansion is taking place in a context of historically low interest rates combined with receding default indicators, so that market analysts and banking sector representatives have indicated that credit will continue to grow.

Investment, which had been the most dynamic component of domestic demand, was significantly affected in the two quarters after the intensification of the world economic crisis. This performance is aligned to the typical behavior of this variable in cyclical reversion episodes. The

intensification of the global crisis led to the reevaluation of companies' investment plans due to deterioration of actual and expected demand prospects and funding conditions. These factors, however, showed substantial improvement since the release of the last *Report* – deterioration of funding conditions has actually been reversed. For example, the sharp exchange rate depreciation following the worsening of the world crisis was a limiting factor for financing that is already overcome, therefore reducing the costs of imported capital goods. While the scenario for investment still inspires some caution due to remaining uncertainties concerning the recovery pace in the trading partners, the strong growth of GFCF in the third quarter (6.5%) against the previous one – after increasing 2.0% in the second – indicates that from the entrepreneurs point of view the contractionary period is over and consequently, the investment plans affected by the crisis will to some extent be revived. The assessment that investment is likely to expand is also supported by the inventory changed measured by the national accounts, which was negative for the fourth consecutive period in the third quarter. In this context, Copom anticipates a scenario of growing investment for the next quarters.

The volume of credit with nonearmarked resources to corporate entities expanded 3.6% in October (38.9% in December 2008) in the comparison with same month of the previous year. The capital market, negatively influenced by the intensification of the international financial crisis, begins to return to normality more consistently. In fact, initial public offerings of shares registered in the Securities and Exchange Commission of Brazil (CVM) reached R$15.3 billion in the first eleven months of 2009, with the offerings concentrated in the second quarter. In the secondary market, issuance amounted to R$16.4 billion, especially for operations in the financial sector. The issuance of debentures (excluding operations involving leasing companies), after attaining R$6.3 billion in 2008, reached R$8.4 billion until November 2009. Loan disbursements and financing through the National Bank of Economic and Social Development (BNDES) system amounted to R$106.5 billion in the first ten months of the year, 51.9% higher than that for the same period of 2008.

Regarding the external sector, after surpluses of US$40 billion in 2007 and US$24.9 billion in 2008, the trade balance reached US$23.2 billion until November, an increase of 2.5% against the same period of 2008. This result is much higher than expected at the beginning of the year. Therefore, the trade surplus in 2009 tends to remain close to that of 2008, despite the fall of the prices of important export products.

Despite the increase in the trade balance, both imports and exports displayed sharp reduction this year. After reaching a record level of US$197.9 billion in 2008 (increase of 23.2% against 2007), exports were US$138.5 billion in the first eleven months of the year. This value is 24.8% lower than that observed for the same period of the last year. Likewise, after a record value of US$173.0 billion in 2008 (an increase of 43.4% against 2007), imports receded to US$115.3 billion until November. This represents a contraction of 28.6% against the same period of last year. Therefore, the effects of the world economic crisis on global trade – through lower world economic activity level and the fall in prices, especially for commodities – caused sharp retraction in both the exported and imported volumes in 2009.

After declining 3.5% in 2008 – the first reduction since 1996 – exports decreased 12.1% until October clearly due to the deceleration in the external demand. Furthermore, after having increased 26.3% in 2008, more than sufficient to offset the effects of the decline in volumes, average export prices declined 15.2% until October, amplifying the effects of the fall in the exported volume in 2009. One should note that 1990 was the last time when both volume and average price of exports declined. On the other hand, after expanding 17.7% in 2008, imports declined 21.3% until October as consequence of the deceleration in domestic demand. After a sharp increase (22.0%) in 2008, the average import price showed reduction of 11.4% until October. Therefore, despite the fall in exports, the trade balance remains positive and tends to reach values similar to those seen in 2008.

The signs of the global economy stabilization, which had intensified by the time of the last *Report* release, are consolidating. Actually, financial markets around the world start to return to normality, along with credit markets, partly due to the effects of several measures of economic stimulus especially in the mature economies. Furthermore, several emerging countries including Brazil begin to display stronger than anticipated economic activity. These facts have been affecting commodity prices that have shown recovery in 2009, especially oil prices which recently topped US$75. The improvement in the economic scenario and consequently the reduction in the global risk aversion also entailed the appreciation in the important emerging market currencies. On the other hand, as signs of normalization become widespread, the focus moves to the exit strategies for monetary and fiscal stimuli. One should note, however, that despite the cited progress, some structural difficulties of the international financial system remain. To summarize, the prospects for the global economy have significantly

improved since the release of the last *Report*. It is plausible to assume that the benign current dynamics will remain, and could strengthen throughout the coming quarters, although uncertainty concerning the recovery pace in mature economies persists.

The reduction in profits and dividends remittances have contributed to narrow the twelve-month current transactions deficit, that reached US$28.2 billion in December 2008, moving back to US$18.9 billion (1.3% of GDP) in October. Twelve-month foreign direct investments amounted to US$29.5 billion (2.1% of GDP) in November.

Concerning aggregate supply, after displaying sharp contraction in the fourth quarter of 2008 (10.6%) and in the first quarter of 2009 (6,4%), industrial output grew in the second and third quarters (4.1% and 4.8%, respectively), against the previous ones, according to seasonally adjusted IBGE data. On the other hand, the agricultural sector presented the fourth consecutive contraction (2.5%) in the third quarter of 2009. Finally, after a reduction of 2.3% in the fourth quarter of 2008, the service sector registered the third consecutive expansion in the third quarter (1.6%), after expanding 1.7% in the last quarter. When the basis of comparison is the same period of last year, the variations are -6.9%, -9.0% and 2,1%, respectively. This demonstrates the resilience of the service sector to the world economic crisis.

Industrial production, which suffered strong contraction due to the worsening of the world economic crisis, continues to show strong signs of recovery. After an expansion of 5.8% through October 2008 compared to the period of the previous year, there was a strong contraction in the last two months of 2008 (-6.9% in November and -12.7% in December against the previous month for seasonal adjusted data). This behavior resulted in an expansion of only 3.1% in 2008. Therefore, despite having been growing since January in seasonally adjusted monthly terms and since March for the quarterly moving average, average industrial production is still lower than the values registered in the same period of the previous year. Actually, there was a decline of 10.7% against the same period of last year. The declines was equally severe for the manufacturing industry (-10.6%) as well as for the mining industry (-11.9%). It is worth noting that credit-dependent sectors such as automotive, construction and those more affected by the world economic crisis displayed clear signs of recovery in the last few months, mostly due to the effects of anti-cyclical measures taken by the government and to the normalization of the credit conditions.

From the demand viewpoint, the GDP – net of inventory adjustments – grew 1.1% in the third quarter of 2009 compared to the same quarter last year, with the external sector presenting a positive contribution (0.8 p.p). After reaching a value below 100 in June 2008 – implying that the number of companies that considers the inventories as excessive surpasses the number of those that consider inventories insufficient – the inventory level indicator dropped even more and reached 81 in December 2008 and January 2009, the lowest level since august 2003. Thereafter the indicator has risen consistently and reached 100 points in October 2009. This level was sustained in November indicating that the process of inventory adjustment has come to an end. Effectively, there are reports of lack of inventories for some industry segments, specially, for those affected by targeted tax breaks (cars and white goods). The excess of inventories after the worsening of the world global crisis was not only one of the key factors for the lack of industry dynamism in the first half of the year but also for the gap between the paces of production and sales. For the coming quarters, the Copom assesses that industrial production should continue to grow robustly, albeit not necessarily in a monotonic way, with positive effects on employment and income.

After reaching 86.7% in June last year, the seasonally adjusted Level of Utilization of Installed Capacity (Nuci) computed by the Getulio Vargas Foundation (FGV) moved down to 77.9% in February and March. This indicator has consistently risen since then and it reached 82.9% in November, the eighth consecutive monthly increase. Therefore, the fall against the same month of last year, was sharply reduced from 8.1 p.p. in March to just 0.7 p.p. in November. Regarding the expansion of capacity, the increase in the absorption of capital goods over the year moved from 21.5% in September 2008 to 16.5% in December. This downward trend intensified over the initial months of 2009. Actually, there was a contraction of 18.6% in the absorption of capital goods over the year until June that was slightly reduced to 16.4% in October. This is due to the reduction in both capital goods imports (15,0%) and domestic production of these goods (22.0%) in the period. It is also worth noting the production of inputs for the construction industry was strongly reduced until October (-9.3%). Recent industrial production indicators and retail sales figures show robust recovery in activity. Actually, after moving from 125.9 in June 2008 to 71.1 in December 2008, the seasonally adjusted FGV´s Economic outlook survey indicator of global demand for the manufacturing industry surpassed the 100 points threshold in September 2009 (more precisely 100.5) and reached 109.3 in November, with more

companies considering strong the demand for their products and, consequently, a decrease in the number of companies that judges demand to be weak.

With the worsening of the world crisis, the National Cost of Construction Index (INCC) began to show signs of cooling off in the last quarter of 2008 after a long period of price acceleration. Thus, after peaking in November 2008 (12.34%), the twelve-month change in INCC moved to 3.32% in November 2009. Despite the recent developments, the medium term scenario remains uncertain since the sector faces a strong recovery and the use of imported inputs is limited. Additionally, there will probably be a recovery of the prices of important raw materials used in the sector such as steel which was substantially affected by the world economic crisis.

After two years of consecutive reductions (from 10.0% in 2006 to 9.3% in 2007 and then to 7.9% in 2008), the average unemployment rate increased to 8.3% through the first ten months of this year, a level 0.2 p.p. higher than that observed in the same period of previous year. Notwithstanding, recent figures indicate consistent recovery in the labor market and this is mainly corroborated by the figures from formal sector and also industrial employment, the most affected by the crisis. The prospects for the coming quarters are for a sustained, possibly accelerating recovery.

Despite the increases in recent quarters, oil prices, a systematic source of international market uncertainty, remain on levels significantly lower than those prevailing before the escalation of the international financial crisis. After reaching almost US$150 in mid-2008, the price of a barrel fell to less than US$40, but recently this fall was partly reverted as the price approached US$80. This recovery was due, in a first moment, to reduction in macroeconomic uncertainty, as risks of more adverse scenarios for the world economic activity seemed to abate. In a second moment, the behavior was due to evidences of economic recovery, especially in emerging countries. Despite considerable uncertainty inherent to forecasts of the path of oil prices, the baseline scenario adopted by Copom, which foresees unaltered domestic prices of gasoline for 2010, remains plausible. It is also worth noting that the impact of international oil prices over domestic inflation is not transmitted exclusively through fuel prices but also, through other channels, such as the production chain of the petrochemical sector, as well as expectations of consumers and entrepreneurs. It is also appropriate to note that the price of agricultural commodities such as

soybeans, wheat and corn has been showing consistent recoveries, albeit with different intensities.

After more than doubling in 2007 (7.89%, against 3.79% in 2006), and continuing to rise in 2008, when it reached 9.10%, broad inflation – measured by the General Price Index (IGP-DI) – retreated substantially. Twelve-month inflation of the IGP-DI, which reached 14.81% in July 2008, moved to negative territory in July 2009 and reached -1.76% in November, 12.96 p.p. lower than the value observed in the same month last year. The fall in IGP-DI was essentially due to the behavior of the Wholesale Price Index (IPA-DI), whose twelve-month change moved from 18.91% in July 2008 to a deflation of 4.69% in November 2009. Moreover, the drop of construction inputs prices, which are part of the INCC basket, also helped to push down the IGP-DI. On the other hand, the consumer prices deceleration, measured by the Consumer Price Index – Brazil (IPC-Br) changes, was modest with the inflation declining from 6.27% in November 2008 to 4.23% in November 2009. The sharp IPA-DI deceleration was partly due to the change in the agricultural prices behavior, for which the twelve-month change declined from 15.41% in October 2008 to 5.14% in November. As pointed out in previous *Reports*, the Copom assesses that the effects of wholesale price behavior over consumer inflation will depend on current and prospective demand conditions and on expectations of price makers in relation to the path of future inflation.

The acceleration of consumer inflation that had been taking place since mid 2007 and had intensified in 2008 was reverted throughout 2009. The sharp falls in the commodity prices and activity level that followed the worsening of the world economic crisis and were reinforced by the abrupt fall in the domestic activity in the fourth quarter of 2008 and in the first quarter of 2009 more than offset the inflationary pressure coming from the substantial exchange rate depreciation faced by the Brazilian economy in a moment characterized by the intense use of the production factors and already high inflation. Moreover, despite the commodity prices rebound, and the stronger and faster than anticipated activity recovery, twelve-month consumer inflation is still in a level consistent with the target. In addition to the two cited factors, the reversion of the exchange rate depreciation helped to reduce inflationary pressures. Nevertheless, the recovery of the world economy, and in particular, of the domestic economy could lead to potential inflationary pressures throughout next year, and should be closely monitored by the Copom. Anyhow, the Committee reaffirms that it will continue to conduct its

actions in order to ensure that the gains obtained in combating inflation in recent years are made permanent.

The Copom notes that, starting from this *Report*, the set of core inflation measures released by the Brazilian Central Bank has suffered a relevant change. The exclusion core measure ceases to be released, being replaced by another measure with similar approach but with more robust statistical and economic foundations, denoted by IPCA-EX. The non-smoothed trimmed core has also been replaced by a double weighting core measure (IPCA-DP) in which no item is excluded but it is penalized by its relative volatility. Finally, the trimmed mean core measure with smoothed items (IPCA-MS) will still be published.

As for headline inflation, the three core measures computed by the Central Bank show reduction in twelve-month rates. The IPCA-EX rose 4.61% in twelve months up to November from 5.77% in August last year (a reduction of 1.16 p.p. against 2.17% in the headline index). On the other hand, the change in IPCA-MS reduced from 4.90% to 4.27% (reduction of 0.63 p.p.). Finally, inflation measured by IPCA-DP fell more sharply from 6.31% to 4.48% (reduction of 1.82 p.p.), in the same basis of comparison. As expected, the core measures have been displaying more persistence than headline inflation. However, the twelve-month inflation measured by either the headline index or any core measures not only has been very close to each other but also has converged to the 4.5% target.

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

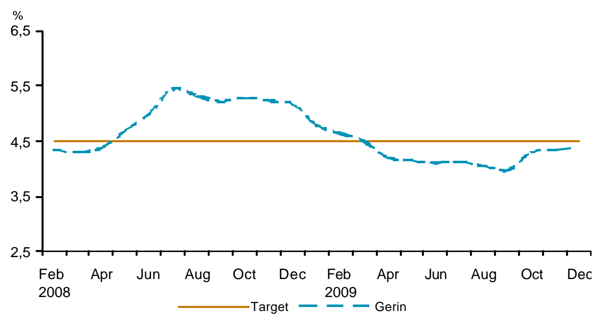
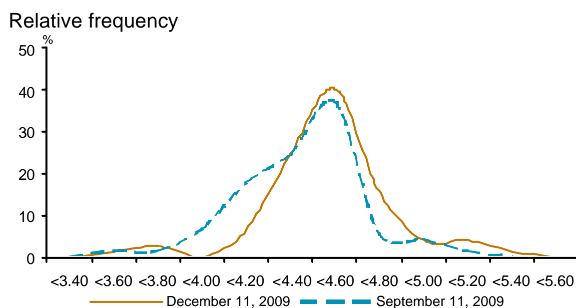


Figure 6.2 – Dispersion of inflation expectations for 2010

Relative frequency



Inflation expectations have increased since the release of the last *Inflation Report* from 4.30%, 4.35% and 4.50% for 2009, 2010 and 2011 respectively at September 11 to 4.31%, 4.50% and 4.50% at the cutoff date of December 11. Basically there has been a reduction of the dispersion around the central tendency of inflation expectations since the release of the last *Report*. Figure 6.2 shows this development for 2009, which supports the assessment that the prospective scenario has become less uncertain since the release of the last *Report*.

6.2 Main scenario: associated risks and monetary policy implementation

The projections used by Copom are based on a set of assumptions about the behavior of key macroeconomic variables. This set of assumptions, as well as the risks associated with it, make up the main scenario based on which

the Committee takes policy decisions. In general terms, the prospective scenario – whose corresponding projections are presented in the following section – envisages the recovery of the global economy in the medium term, and the continuation of the domestic expansion in a benign context for inflation. From the viewpoint of the balance of risks related to the inflation prospects, the main risk stems from the intensity of the domestic recovery, which will still be affected by important economic policy stimuli. In particular, the remaining idle capacity may be utilized at a faster pace than what is implied by the gradual economic recovery considered in the main scenario. In other words, the major risk is that the aggregate supply may not be able to meet a stronger expansion of the aggregate demand. The risk becomes more pronounced if one considers that current inflation is already around the target, limiting the room for accommodative monetary policies. On the external front, the main risk is associated with the speed of the global economic recovery.

The external scenario considers that the world economy will recover in the medium term, although at a slower pace in the short run. The current prevailing view suggests that the global economy will contract in 2009 and recover in 2010. According to consensus forecasts, the negative impact of the economic downturn in the United States, Europe and Japan (the G3) on the global economy will not be fully counterbalanced by the dynamism in emerging economies, such as those in Asia. However, there is evidence suggesting that the G3 economies are gradually recovering, albeit in a process that is still subject to reversals due to weak labor market conditions. On the other hand, there is still the risk that the cyclical deterioration in the quality of credit may deepen the existing problems in the international financial system. The materialization of such risk would interrupt the recent improvement in the financial conditions, thus making economic recovery even more difficult to sustain. However, it seems that the likelihood of such a scenario has become lower. Therefore, the trough of inflation has apparently been overcome in most mature economies, even though twelve-month inflation is still falling in several emerging economies. Against this background, monetary policy in many countries is now in pause mode after a period of aggressive easing. At the same time, the rise in the government debt prevents the implementation of further fiscal stimuli. In turn, international financial markets are gradually, though not monotonically, returning to normal.

In face of uncertainty regarding the speed and magnitude of the global economic recovery, two alternative scenarios are considered here. In the first, the world economy remains

stagnated or recovers very slowly throughout 2010 so that the contractionary effects on the domestic economy would persist over the projection horizon. In the second, the economic upturn is faster than expected, accompanied by full restoration of financial conditions and confidence, together with the recovery of commodity prices, which nonetheless could imply greater risk to domestic inflation. Given the resilience of large emerging economies, mainly those in Asia, the increasing appetite for risk in the international financial markets, and the positive recent activity signs from the G3 economies, the likelihood that the second scenario materializes has increased since the previous *Inflation Report*.

After slowing down in the third quarter of 2009, the growth rate of commodity prices accelerated again in the fourth quarter. The future path of commodity prices remains uncertain because it depends, among other factors, on the pace of the recovery in mature economies and on the reaction of the major emerging economies. Overall, however, it is expected that these prices are more likely to rise than to remain stable in the medium term. It is important to remember that the analysis of the potential inflationary effects of the recent trend in commodity prices must also take into account the implications for Brazilian asset prices. In this respect, monetary policy must monitor the risk over longer horizons associated with possible inflationary pressures from abroad.

The average exchange rate appreciated slightly this quarter relative to the previous one. Even though the current level of the nominal exchange rate is higher than that prior to the crisis deepening in September 2008, most of the currency depreciation occurred in the last months of 2008 has been reverted. The US dollar also depreciated relative to most currencies, though less intensively than what was observed in previous quarters. The factors driving dollar depreciation include the overall reduction in risk aversion, the resumption of capital flows to emerging economies, the abundant liquidity, as well as some concerns among investors about the fiscal condition of the US and other mature economies.

As mentioned before, the main domestic risk stems from the intensity of the ongoing economic recovery, particularly the speed with which the remaining idle capacity will be utilized. Increasing utilization of production factors – both the capital stock and the labor force – is taking place when the twelve-month inflation is already close to the target. In such a context, isolated inflationary pressures may quickly turn into higher overall inflation. The economic downturn

of the last quarter of 2008 and first quarter of 2009 led to an abrupt interruption of a cycle of strong economic growth, reining in inflationary pressures. However, the brevity of the downturn – result in large part of the government policies, both those implemented during the crisis and those put in effect much earlier – as well as the presence of mechanisms that make the Brazilian inflation downward resistant reduce the scope for accommodative stances. Additionally, the lagged effects of the monetary, fiscal and credit stimuli implemented throughout 2009 have not completely materialized yet and may reach full intensity at the time the remaining idle capacity is lower.

The behavior of the GDP in the third quarter is in line with the analysis of the previous *Inflation Report*, suggesting that the economy was picking up steam. Data for the third quarter confirmed the resilience of household consumption and the resumption of the GFFC, the component of aggregate demand most affected by the crisis. However, different from consumption, the level of aggregate investment is still lower than that of the third quarter of 2008. As a matter of fact, GFFC in the third quarter of 2009 was 12.5% lower than that of the same quarter of the previous year, whereas household consumption was 3.9% higher. The investment rate – the GFFC-to-GDP ratio – reached 17.7% in the third quarter of 2009, against 20.1% in third quarter of 2008. It is expected that the investment rate increases in the coming quarters so as to support a more sustainable growth. However, there is still the risk that the growth of the capital stock may not be enough to ensure that aggregate supply meets the expected strong growth of the aggregate demand without generating pressures on consumer prices.

Confidence on the sustainability of the economic recovery is based on three elements. First, and in contrast to previous shocks to the Brazilian economy, this time there was no balance-of-payment crisis, deterioration of public sector finances, increase in inflation or concern about policy regime change. In short, as stressed in other Copom texts, the Brazilian economy became more resilient to external shocks. Second, the monetary policy actions – without jeopardizing the full commitment to the inflation targets – and the fiscal stimuli are still positive forces that will contribute to the economic recovery. Third, and possibly more importantly, household consumption – which accounts for the largest share of the aggregate demand – has also been resilient, in part due to the low inflation rates, the resumption of credit growth, and the better-than-expected performance of the labor market. More recently, both

national accounts data for the third quarter and coincident indicators have signaled that investment is also recovering. Additionally, consumers' and business' confidence is on the rise, consistent with the prospects of a sustained recovery.

Even though uncertainty regarding the growth prospects has decreased since the previous *Inflation Report*, the pace of the economic recovery is not completely clear at this point. For instance, there is uncertainty about the pace of the resumption of investment, despite the recent positive signs. Export growth depends directly on the expansion of the world economy, even though the better performance of emerging economies is affecting external sales positively. On the one hand, improving conditions in credit and labor markets are favoring consumption, but the end of sector-specific tax breaks will work in the opposite way. On the other hand, actions by private banks to regain the market shares they lost to state-owned banks – which led the resumption of credit growth – may lead to faster credit expansion, which will benefit household consumption and the overall economic activity.

The Committee judges that there are important mechanisms making Brazilian inflation rigid downwards. In particular, the presence of *de jure* and/or *de facto* indexation mechanisms has contributed to the persistence of inflationary pressures coming from the past. As an example, one may cite the behavior of services prices and of some items in the basket of the regulated price items since the beginning of this year. As a matter of fact, the price of services did not respond much to the economic downturn as they grew by 6.42% y-o-y in November 2009, very close to the figure in November 2008 (6.48%). It is well known that the existence (even informally) of price indexation mechanisms reduces the sensitivity of inflation to demand conditions. Even though inflation rates have been relatively low, by Brazilian standards, in recent years, they still encourage feedback mechanisms as they do not correspond to the usual concept of price stability. In general, the indexation mechanisms prevent the economy from disinflating during downturns, but increase the "starting point" of the inflation rate during upturns, thus raising the inflation risks for the prospective scenario.

Over the medium term, the major risk for the inflation dynamics stems from the cumulative and lagged effects of the monetary, fiscal and credit stimuli on the aggregate demand together with increasing resource utilization. After a cumulative cut of 500 basis points in the current cycle, the Selic interest rate has reached its lowest historical level

(8.75% p.a.). Such a monetary easing will still have effects on the economy in the coming quarters (see box "Lags in the Transmission of Monetary Policy to Prices", June 2009 *Inflation Report*). The fiscal expansion will have important lagged effects, adding to the impact of other stimuli expected for the next quarters. The interaction of several policy stimuli tends to increase the uncertainty about the magnitude and lag structure of the corresponding transmission mechanisms. Anyway, in the most likely scenario the effects of such stimuli will pressure consumer prices when the degree of idle capacity will be smaller than it is currently.

On the fiscal side, uncertainty about GDP growth makes future tax revenues also uncertain, which combined with some rigidity of government expenditures, ends up affecting the future path of the consolidated public sector primary surplus. Nevertheless, provided that the primary surplus rises in the coming years according to the assumptions used in the inflation projections presented in the next section, and taking into account the available information so far, the Committee assesses that a significant and consistent change in the trend of reduction in the debt-to-output ratio will not take place.

As the previous *Inflation Report* highlighted, the negative effects of the global crisis on the Brazilian economy did not provoke any disruption or change of the policy regime such as that occurred in early 1999. The basic economic policy framework founded on inflation targeting, fiscal adjustment and floating exchange rate, proved to be mature, combining resilience and flexibility. Besides, the solid external financial position – as portrayed by large international reserves, trade surpluses and external financing based mainly on foreign direct investment – was a key factor for overcoming the 2008 turbulences without disruptions.

Breaking down the IPCA into market and regulated prices reveals that the pressure from the latter increased in recent months, but those prices tend to decelerate over the medium term. As a matter of fact, the prospective scenario considers that the regulated price inflation will be lower than the market price inflation. In particular, the domestic prices of gasoline are unlikely to rise in the short and medium terms because they are currently higher than the international prices. However, public transport fares must be monitored as they are expected to increase substantially in early 2010.

The labor market is showing signs of recovery. Since mid-2009 the unemployment rate has hovered around the levels of 2008; and formal employment regained its upward trend,

with signs of tightening at the margin. In spite of the negative effects of the economic downturn on the labor market, they were not as intense or widespread as those in the economic activity. Two factors contributed to the unexpected behavior of the labor market: i) the downturn was more intense on the manufacturing sector and less so in labor-intensive sectors such as services; and ii) the downturn was short-lived and the current growth prospects are favorable (employment responds with a lag to changes in economic activity).

In the domestic credit market, lending volumes are expanding fast, and lending rates charged to individuals and firms fell to below pre-crisis levels. External credit is also back to normal. Therefore, the main scenario assumes that both the domestic and the external credit will keep on expanding. Favorable credit conditions have brought the Brazilian credit-GDP indicators closer to those in economies with similar development. However, the sustainability of the intense credit expansion must be closely monitored given the potential side effects on inflation and the prudential risks.

The possibility that unexpected changes in the inflation dynamics may have long-lasting effects on agents' inflation expectations constitutes a perennial risk for monetary policy implementation and, therefore, must be monitored continuously. In principle, short-run inflationary pressures may lead to dissemination of second-round effects. This happens because large changes in relative prices that result in high inflation rates are followed by agents' desire to restore their real income, which, in turn, feeds back into the inflationary process. The international experience, as well as the own history of inflation in Brazil, recommends that the monetary authority remains cautious in order to fight potential second-round effects.

The strategy adopted by Copom aims to ensure the convergence of inflation to its target in 2010 and 2011, as happened in 2009. Such strategy, whose results will be evident over time, takes into account the lags in the transmission mechanisms and is the most appropriate way to deal with the uncertainty inherent to the process of formulating and implementing monetary policy.

The Committee judges that the conditions ensuring a benign scenario for inflation are consolidating over time. Under this scenario, the IPCA would consistently evolve according to the inflation targets, as shown by the inflation projections considered by the Copom. The Committee understands that the contraction of the domestic demand caused by the global

economic crisis increased slack in the economy, thus helping to cool off inflation pressures. On the other hand, the Committee believes that the significant monetary easing implemented in 2009, accompanied by simultaneous fiscal and credit stimuli, will have delayed and cumulative effects on the real economy. Moreover, the remaining idle capacity suggests that monetary policy must remain cautions so as to ensure the convergence of inflation to its target.

The Committee understands that decisions over the policy interest rate must take into account the total easing implemented from January through July 2009 and its delayed effect on the economy, against a background of increasing utilization of production factors, as mentioned before. The Copom also considers that a more cautions monetary policy now will mitigate the risks of abrupt changes of the monetary policy stance in the future, and consequently will contribute to a consistent recovery in the coming quarters. Additionally, the Committee believes that preserving the benign inflation prospects will require careful monitoring of the financial system and of the real economy in a context of historically low interest rates.

In light of these considerations, the Committee decided to maintain the target for the Selic rate at 8.75% p.a. in its October and December meetings. Taking into account the monetary easing that has been implemented since January, as well as the remaining idle capacity in factor utilization, the Committee assesses that, at this moment, such a level for the interest rate is consistent with a benign scenario for inflation, contributing to the maintenance of the inflation in line with its target over the relevant horizon and to the non-inflationary recovery of economic activity.

6.3 Inflation forecasts

According to traditionally adopted procedures, and taking into account the available information up to the cutoff date of December 11, 2009, the baseline scenario assumes the exchange rate remains unchanged over the forecast horizon at R$1.75/US$, and the target for the Selic rate stays at 8.75% p.a. – the level set by the December Copom meeting – against R$1.85/US$ and 8.75% considered in the September *Inflation Report*. The projection for the change, in 2009, of the set of regulated and monitored prices was kept at 4.5%, the same value considered in the September *Report*. This projection is based on the hypotheses of 1.9% increase in gasoline prices; of 13.4% in bottled gas prices; of 5.2% for electricity rates; and of 0.9% 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 for 2010, and for 2011, stand at 4.0%, the same values used in the September *Report*.

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 depreciation expectations decreased in comparison to the values released in the September *Inflation Report*. For the last quarter of 2009, these expectations moved from R$1.82/US$ to R$1.73/US$, and for the last quarter of 2010, from R$1.85/US$ to R$1.75/US$. For the last quarter of 2011, average survey expectations project an exchange rate of R$1.80/US$. The average expectation about the Selic rate for the last quarter of 2009 moved from 8.75% to 8.67% p.a., while for the last quarter of 2010, it went from 9.08% to 10.58% p.a. For the last quarter of 2011, the projection for the average Selic rate is 10.81%. This trajectory of the Selic rate is consistent with a pre-DI swap of twelve months spread of 98 b.p., 219 b.p. and 242 b.p., considering the current target for the Selic rate (8.75% p.a.), in the last quarter of 2009, 2010 and 2011, respectively. Additionally, the market scenario assumes changes of 4.5% for the group of regulated prices in 2009, and of 4.0% and 4.1%, in 2010 and 2011, respectively.

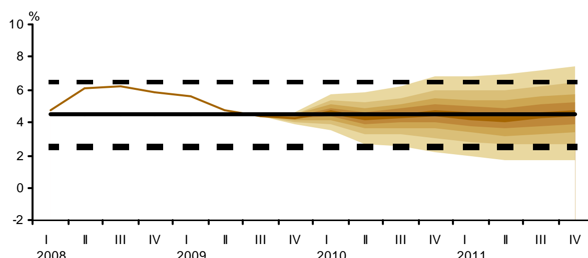
With regard to fiscal policy the projections presented in this *Report* are based on the working hypothesis of a primary surplus of 2.5% of GDP in 2009 and of 3.3% in 2010, in both cases adjusted by the possibility of reduction of 0.94 b.p. and 0.68 b.p., respectively, due to the implementation of projects belonging to the Growth Acceleration Program (PAC). Moreover, the primary surplus in 2011 is assumed to return to the level of 3.3% of GDP without any adjustment.

Based on the above assumptions and using the information set until the cutoff date (December 11, 2009), projections were constructed for four quarters of accumulated IPCA inflation, given the baseline and market scenarios interest and exchange rate paths.

The central projection associated with the baseline scenario shows inflation of 4.3% in 2009, an increase of 0.1 b.p. in

Figure 6.3 – Forecasted IPCA-inflation with interest rate constant at 8.75% p.a. (Baseline scenario)

Inflation fan chart



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

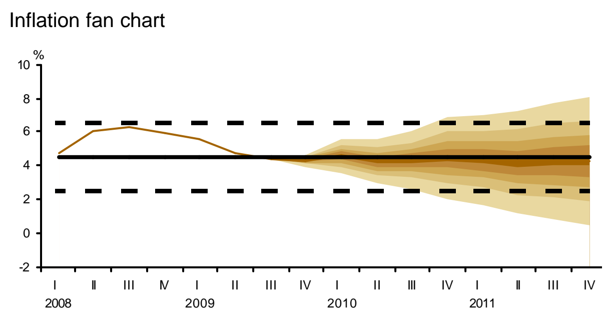
Table 6.1 – IPCA-inflation with interest rate constant at 8.75% p.a.
(Baseline scenario)

Year	Q	Probability Interval						Central
		50%						
			30%					
				10%				projection
2009	4	4.2	4.2	4.3	4.3	4.4	4.5	4.3
2010	1	4.2	4.4	4.5	4.7	4.9	5.1	4.6
2010	2	3.7	3.9	4.2	4.4	4.7	4.9	4.3
2010	3	3.7	4.0	4.3	4.5	4.8	5.1	4.4
2010	4	3.6	4.0	4.4	4.7	5.1	5.5	4.6
2011	1	3.4	3.8	4.2	4.6	5.0	5.4	4.4
2011	2	3.2	3.7	4.1	4.5	4.9	5.4	4.3
2011	3	3.3	3.8	4.3	4.7	5.1	5.6	4.5
2011	4	3.4	3.9	4.4	4.8	5.3	5.8	4.6

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

Figure 6.4 – Forecasted IPCA-inflation with market expected interest and exchange rates

Inflation fan chart



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

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

Year	Q	Probability Interval						Central
		50%						
			30%					
				10%				projection
2009	4	4.2	4.2	4.3	4.3	4.4	4.5	4.3
2010	1	4.2	4.3	4.5	4.7	4.8	5.0	4.6
2010	2	3.7	3.9	4.1	4.3	4.5	4.8	4.2
2010	3	3.6	3.9	4.2	4.4	4.7	5.0	4.3
2010	4	3.5	3.9	4.3	4.7	5.0	5.5	4.5
2011	1	3.3	3.7	4.1	4.6	5.0	5.4	4.3
2011	2	2.9	3.5	4.0	4.4	4.9	5.4	4.2
2011	3	2.9	3.5	4.0	4.6	5.1	5.7	4.3
2011	4	2.7	3.4	4.0	4.6	5.2	5.9	4.3

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

1/ According to Gerin.

Table 6.3 – September 2009 *Inflation Report* forecasts

Period	Baseline scenario	Market scenario
2009 III	4.3	4.3
2009 IV	4.2	4.2
2010 I	4.1	4.1
2010 II	3.6	3.6
2010 III	4.0	3.9
2010 IV	4.4	4.4
2011 I	4.6	4.7
2011 II	4.6	4.7
2011 III	4.5	4.6

comparison to the projection presented in the September *Report*, below the central value of 4.5% for the target determined by the National Monetary Council (CMN). As can be seen on Figure 6.3, in the baseline scenario, the projection for twelve months inflation stays around the target along the whole horizon. One should highlight that the twelve months inflation projection rises slightly above the target on the first quarter of 2010, due to the schedule of changes of regulated prices expected for the beginning of the year. Along the remaining horizon, the inflation projection fluctuates around the target, but closes 2010 and 2011 at 4.6%. This relative stability is partially due to the assumption that the primary surplus will return, without any rebate, to the level of 3.3% of GDP in 2011.

Data on Table 6.1 indicates that twelve months inflation moves within the 4.3% and 4.6% range in 2010 and 2011. According to the confidence interval illustrated on Table 6.1, in the baseline scenario the estimated probability that inflation will breach the upper tolerance level of the target is negligible for 2009. For 2010, this probability is close to 7%.

In the market scenario, the inflation projection for 2009 (4.3%) is the same as in the baseline scenario, an increase of 0.1 b.p. in comparison to the projection presented in the last *Report*. As can be seen on Figure 6.4 and on Table 6.2, projections fluctuate around the target along 2010, and recede along the first and second quarters of 2011, finishing the year at 4.3%, below the central value of the target. The proximity between the projected dynamics for both scenarios, along 2010, is essentially due to the fact that, in the market scenario, inflationary effects of expected exchange rate devaluation are partially offset by expected hikes in the Selic rate. Nonetheless, regarding 2011, the second effect dominates the first. In the market scenario the estimated probability that inflation will breach the upper tolerance level of the target is also negligible for 2009. For 2010, this probability is close to 9%.

Comparing the trajectories shown in this *Report* with those released in the previous *Report*, whose projections are shown on Table 6.3, it is apparent that there was an increase of the projections along 2010 in the baseline scenario, partially due to the increase in expected inflation for that year. It should be highlighted that the same effect is observed in market scenario projections. Regarding the three first quarters of 2011, the decline in the projection is, in part, explained by a smaller inertial component, once the projection for the last quarter of 2010 is smaller than the corresponding one in the September *Report*. It is worth to

Figure 6.5 – Forecasts and target path for twelve-month cummulative inflation

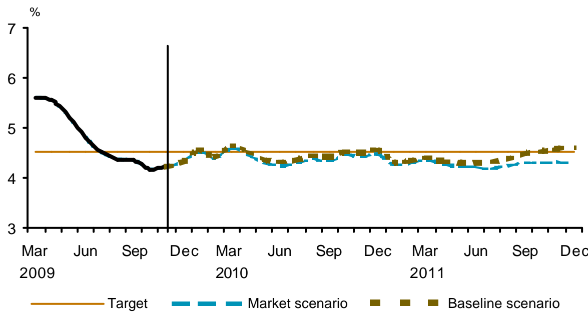
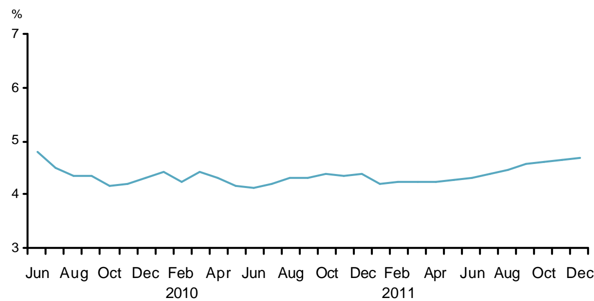


Figure 6.6 – Inflation forecast: VAR models

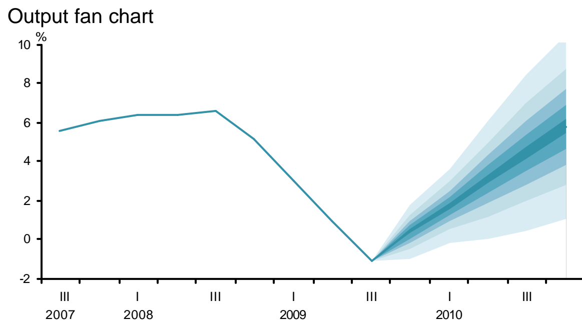


Note: accumulated inflation in 12 months (% p.a.).

Average forecast generated by the VAR models.

Figure 6.7 – GDP growth with interest rate constant at 8.75% p.a. (Baseline scenario)

Output fan chart



note that this reduction is mainly due to a smaller projection for the variation on regulated prices.

Figure 6.5 shows the path of twelve-month accumulated inflation, according to the baseline and market scenarios, up to the last quarter of 2011, as well as the target trajectory. The figures are actual twelve-month inflation until November 2009, and, from December, projections according to the two scenarios. The projections fluctuate closely around the target along the entire projection horizon. However, it is worth noting the distance between the projection paths toward the end of the considered horizon. This departure is essentially due to the expected hike in the Selic rate in the market scenario.

The average forecast generated by the Vector Autoregression models (VAR) for the twelve-month accumulated inflation is presented in Figure 6.6. By November 2009, the values are actual twelve-month inflation and, as of December, refer to the average forecast of the VAR models. As well as in the projections generated in the baseline and market scenarios, the VAR models forecast inflation stability along the entire horizon. In the first half of the period, forecasts fluctuate around the target, nonetheless, along the second half, a slight upward trend is observed, and the forecasts return to the unconditional inflation mean.

Figure 6.7 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 2009 is 0.2%, below the 0.8% projection presented in the September 2009 *Inflation Report*. For 2010, the projection is 5.8%.