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 June 2011. The chapter also presents the analysis of the inflation prospects up to the third 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 12% per year over the forecasting horizon, the level set by Copom at its most recent meeting on August 30 and 31, 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 policy interest rate and for the exchange rate drawn from the survey carried out by the Banco Central do Brasil's Investor Relations and Special Studies Department (Gerin) among independent analysts. For a third scenario, called alternative scenario, which was built upon and analyzed from the perspective of a medium-size dynamic stochastic general equilibrium model, it was considered that the current deterioration in the international scenario has an impact on the Brazilian economy equivalent to one quarter of the impact observed during the international crisis of 2008/2009. It 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 September 9, 2011.

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 that was present up to 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 when making its interest rate decisions. On setting out these assumptions, the Copom seeks to foster transparency to the monetary policy, thereby contributing to the effectiveness of policy decisions in controlling inflation, which is its primary objective.

6.1 Inflation determinants

In the first eight months of 2011, inflation, measured by the change in the Broad National Consumer Price Index (IPCA), reached 4.42%, 1.28 percentage points (p.p.) higher than in the same period of 2010. Thus, the twelve-month inflation reached 7.23% in August. The increase in inflation in the last twelve months was primarily determined by the change in market prices, but the behavior of administered and regulated prices has been less favorable than it was in 2010. In fact, regulated prices rose by 5.71% in the twelve months up to August, and market prices increased by 7.87%. Within the set of market prices, both the price change for non-tradable goods (8.68%) and the price change recorded for tradable goods (6.90%) stand out. Services sector inflation has consistently remained higher than that of market prices, reaching 8.92% in twelve months up to August (against 6.85% in the twelve-month period up to August 2010).

All five measures of core inflation computed by the Banco Central do Brasil, in general, displayed similar behavior to that of headline inflation. While there was an increase in the twelve-month change up to August, the average of monthly changes fell between May and August. The core measure by smoothed trimmed mean moved from 0.54% in June to 0.41% in July and 0.55% in August, whereas the measure by non-smoothed trimmed mean went from 0.44% in June to 0.28% and 0.33% in July and August, respectively. Likewise, inflation measured by the double weighted core measure, after reaching 0.42% in June, recorded 0.38% in July and 0.39% in August. At the same time, the exclusion core measure that excludes ten items from the groups food at home and fuels moved from 0.56% in June to 0.33% in July and 0.32% in August, whereas the measure that excludes prices for monitored goods and food at home changed from 0.50% to 0.40% and 0.45% for the same period. The average monthly change of the five core inflation measures changed from 0.53% in May to 0.49% in June, dropping to 0.36% in July and reaching 0.41% in August. In the twelve months up to August, they reached 6.41%, 5.85%, 7.23%, 6.82% and 7.34%, respectively, compared to 6.18%, 5.71 %, 7.01%, 6.61% and 7.12% in July and 6.01%, 5.59%, 6.82%, 6.51% and 6.91% in June.

The IPCA diffusion index stood at 64.58% in August 2011, up from 52.60% in August 2010 and from the historical record of 60.39% (since September 1994). The quarterly average of the index remained virtually unchanged (58.85%) in July and August, after falling in May and June.

After a sharp reduction in 2009 (-1.43% versus 9.10% in 2008), broader inflation, measured by the General Price Index (IGP-DI), reached 11.30% in 2010. Between January and August 2011, the IGP-DI has accumulated an increase of 3.52%, lower than the value (6.87%) for the same period in 2010. Over the past two months, the changes in the IGP-DI were -0.05% (July) and 0.61% (August). With monthly inflation, from January to August, lower than those observed in the same period of 2010, the twelve-month inflation recorded the eighth consecutive drop in August, but still remains at a high level, 8.34% in July and 7.81% in August. The strong acceleration in the IGP-DI inflation is basically due to its main component, the Broad Producer Price Index (IPA-DI), whose twelve-month change was 9.09% in July and 8.09% in August. By the origin and for the same periods, prices of agricultural products changed by 19.14% and 17.93%, whereas prices for industrial products increased by 5.95% and 4.97%. According to the Consumer Price Index (IPC-DI), another component of the IGP-DI, the twelve-month inflation reached 6.58% in July and 7.10% in August, being 3.04 p.p. above inflation until August 2010. In the same period, the twelve-month inflation of the National Cost of Construction Index (INCC) showed relative stability, recording 7.75% in July and 7.76% in August, or 0.88 percentage points above the value for August 2010.

The Index of Economic Activity of the Central Bank – Brazil (IBC-Br) is an important coincident indicator of economic activity as it incorporates estimates for monthly production of the three sectors of the economy, as well as taxes on products. In the second quarter of this year, the index displayed a growth rate of 0.7% over the previous quarter and 3.2% when compared to the second quarter of 2010. The twelve-month growth rate remained in the path of moderation, towards more long-run sustainable levels, moving from 5.3% in May to 4.9% in June, after reaching 7.8% in December 2010. The Services Confidence Index (ICS), computed by Getulio Vargas Foundation (FGV), increased by 0.8% in July, after two consecutive and identical monthly falls (-1.4% in May and June). Note also that the level of this indicator in July was 2.4% higher than the value for July 2010, and relatively stable compared to the average level of 2010.

Industrial production increased by 0.5% in July in the monthly comparison (-1.2% in June and 1.1% in May), according to seasonally adjusted data by the Brazilian Institute of Geography and Statistics (IBGE). The growth rate of the three-month moving average was 0.1% in the period from May to July, after falling by 0.9% in the period from April to June. Industrial production also declined in the twelve-month growth rate, moving to 2.9% in July, from 3.7% in June and 4.5% in May.

By industry categories of use, the production of capital goods posted the greatest change (5.5%) in the year up to July 2011 in comparison with the same period of 2010. In the same period, production of intermediate goods grew by 0.6%, whereas the growth in the production of durable goods rose by 1.8% and semi-durable and nondurable goods posted a growth of 0.5%. Considering the three-month moving average rate from May to July 2011, the production of capital goods was 0.9% higher than that registered between April and June; whereas the production of non-durable and semi-durable consumer goods and durable goods grew 0.3% and 1.7% respectively, in the same basis of comparison. It is noteworthy that the production of capital goods increased by 8.3% in the twelve months up to July, the greatest expansion among the categories of use. This is an evidence of the robust investment activity, a relevant factor for the sustainability of a new expansion cycle in the post-2008/2009 crisis period.

The rates of capacity utilization, still at high levels, declined at the margin, partly due to the slowdown in activity and the maturity of undertaken investments. In fact, the seasonally adjusted Installed Capacity Utilization Level (Nuci) computed by FGV receded from 84.1% in July to 83.6% in August. According to data from the National Confederation of Industry (CNI), seasonally adjusted by the Banco Central do Brasil, the Nuci reached 82.2% in June, compared to 82.4% recorded in May. Regarding the expansion of installed capacity, the absorption of capital goods stood at 14.1% and the production of inputs for civil construction rose by 5.6% in the twelve-month period up to July 2011, compared to the previous twelve-month period. The seasonally adjusted inventory level indicator from the Manufacturing Industry Survey of FGV declined from 98.0 in June to 95.6 in July and 92.0 in August, reaching its lowest level since May 2009. Thus, while for April, 4.2% of respondents expressed their inventory level as excessive, this fraction increased to 9.5% in August, considering the seasonally adjusted series. The process of accumulation of inventories has been particularly pronounced in the consumer goods sector.

Unlike industrial production, the volume of expanded retail sales still has grown significantly, 9.5% in June compared to the same month last year, with the twelve-month rate reaching 10.9%. This behavior was driven by sales of "construction material", which grew by 14.0%, and of "cars and motorcycles, parts and accessories", which increased by 14.2%. In turn, real retail sales grew 8.9% in twelve months up to June according to IBGE, with an emphasis on increased sales for segments of "equipment, office supplies, computer and communication" (18.7%) and of "furniture and appliances" (17.1%). It is worth noting that the twelve-month growth rates of both expanded and restrict retail sales are considerably higher than the rate of expansion of industrial production and output. Thus, there is evidence that the slowdown of industrial activity has not been matched by retail sales, although this asynchrony tends to change. The expansion of retail sales was also reflected in the imports of durable goods, whose volume rose by 34.2% between January and July 2011 relative to the same period of the previous year. For the next few quarters, retailing should continue to be bolstered by the growth of real wages, though at a slower pace, by government transfers, credit expansion, though at a moderate pace, and high consumer confidence.

The Brazilian economy grew by 3.1% in the second quarter of 2011, compared to the same quarter last year, after growing 4.2% in the first quarter and 5.0% in the last quarter of 2010 on the same basis of comparison. According to seasonally adjusted IBGE data, compared to the immediately previous quarter, GDP grew 0.8% in the second quarter of this year, after growing 1.2% in the first quarter and 0.7% in the last quarter of 2010. The behavior of the GDP confirms that the Brazilian economy is in a new expansion cycle, after the post-2008/2009 crisis recovery, with moderation at the margin, at a pace more consistent with long-term sustainable growth rate. Still from the production viewpoint, the services sector, which exhibits less volatile growth rates, increased by 0.8% in the second quarter of 2011 compared to the previous quarter, the tenth consecutive expansion, according to seasonally adjusted IBGE data. In turn, the agricultural production receded by 0.1% against a rise of 3.0% in the first quarter, whereas the industrial production grew 0.2%, compared to a growth of 2.2% in the previous quarter.

From the viewpoint of aggregate demand, compared to the previous quarter, and based on seasonally adjusted IBGE data, the Gross Fixed Capital Formation (GFCF) grew 1.7% in the second quarter of 2011, after growing 1.0% in the previous quarter. Thus, the growth rate of the GFCF accumulated over the past four quarters amounted to 11.9%. Despite a low share

in aggregate demand compared to consumption, the high growth rate of investment has helped greatly to sustain the level of economic activity in the post-crisis period. Additionally, the prospect of new large-scale investments, coordinated by the public sector, as in the case of the oil (pre-salt layer) and infrastructure sectors, favors the expectations of economic agents toward the maintenance of high growth rates of the GFCF. Household consumption – the most important component of aggregate demand – rose 1.0% in the second quarter, after growing 0.7% in the first quarter. Government consumption increased by 1.2% in the second quarter, after having expanded 0.9% in the first quarter. The external sector contributed negatively to GDP growth in the second quarter of 2011, with an increase of 6.1% in imports and 2.3% in exports. In short, domestic demand, which has been the main factor sustaining the activity, tends continue to evolve positively in the coming quarters, although at a slower pace.

Unemployment, measured by the rate of unemployment in the six metropolitan areas covered by the monthly survey of the IBGE, declined in recent years and reached a record low of 5.9% in July, considering the seasonally adjusted series. Based on the non-seasonally adjusted series, the unemployment rate reached 6.0% – 0.9 p.p. lower than that of the same month of 2010, with reduction of the unemployment rate in all the six areas covered by the survey. On the other hand, the annual employment growth measured by the total number of persons working in the six largest metropolitan regions slowed to 2.1% in July, which is below the historical average. The total number of persons working in the six regions reached 22.5 million in July 2011, against 22.0 million in July 2010. Also according to the IBGE, the average real earnings usually earned by the employed population increased 4.0% in July 2011, with respect to the same month of 2010, repeating the growth rate observed in the previous two months. Thus, real payroll grew 6.2% in July, compared with the same month of 2010. Concerning the evolution of formal employment, job creation continues to expand, but also reveals some moderation at the margin. According to figures released by the Ministry of Labor and Employment (MTE), 1.89 million job positions were created between August 2010 and July 2011.

In addition to rising payrolls, the availability of credit to households – largely determined by macroeconomic stability and institutional reforms in recent years – was an important driving force in the growth of household consumption. The outstanding credit to households with non-earmarked resources grew 18.7% in July 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 47.1%. Overall, the pace of total credit expansion presented some moderation at the margin in July, in part due to the adoption of macro prudential measures and the process of adjustment of monetary conditions. Delinquency rates have remained at levels consistent with the phase of the cycle. In fact, the share in total outstanding interest rate reference credit that is 90 days or more past due moved from 4.9% in July 2010 to 5.2% in July 2011.

The total volume of credit to corporations grew by 17.1% in July 2011, compared to the same month of 2010, considering non-earmarked and earmarked, and totaled R$993.4 billion. This credit expansion was boosted by loans and financing with resources from the National Bank of Economic and Social Development (BNDES), which amounted to R$377.9 billion in July 2011, an increase of 17.2% over the same period in 2010. Regarding the capital market, the volume of primary issues of shares in the Securities and Exchange Commission (CVM) reached R$11.8 billion from January through July 2011 (R$18.4 billion in the same period of 2010). In turn, bond issuance, after reaching R$13.3 billion from January through July 2010, reached only R$2.5 billion in the same period of 2011.

Regarding the external sector, the twelve-month trade balance has been rising since the previous *Report* and reached US$28.5 billion in August 2011. This performance includes exports of US$242.5 billion and imports of US$214.0 billion. These values are respectively 33.9% and 30.4% higher than those recorded in twelve months ending in August 2010. External demand, weakened by the complex global environment, has contributed modestly to growth of exports. In fact, the volume of exports recorded an increase of 7.0% in the twelve months up to July 2011, against the previous twelve months, while the average price of exports rose by 25.7%. The volume of imports increased 19.6% during this period, in part reflecting the strength of domestic demand, despite the slowdown at the margin. The average price of imports rose by 10.6% in the twelve months up to July.

The twelve-month current account deficit receded at the margin, moving from US$49.0 billion in June to US$47.9 billion in July 2011, equivalent to 2.1% of GDP. Remittances of profits and dividends have been an important component of this deficit, reaching US$34.2 billion in the same period. This reflects, on the one hand, the recent dynamism of the Brazilian economy, and on the other, financial support given by Brazilian branches to the headquarters of international companies located in countries that face more direct consequences of the increasingly complex global economic environment. In

turn, foreign direct investment amounted to US$72.2 billion in twelve months up to July 2011, equivalent to 3.17% of GDP, surpassing the external financing requirement in the period.

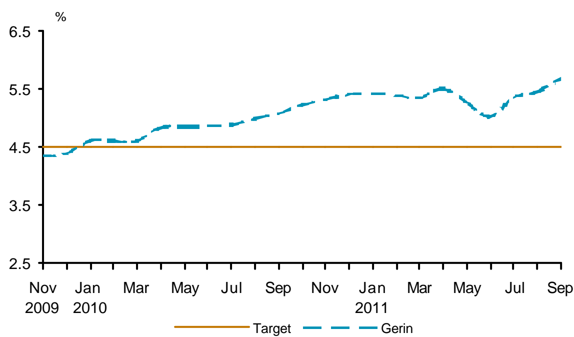
In international financial markets, volatility and risk aversion have risen sharply since the release of the previous *Report* and have already surpassed the levels reached in mid-2010. In large part, this process has been fueled by the deterioration of the short- and medium-term growth prospects for the advanced countries, the moderation of activity in emerging countries and the deadlocks generated by fiscal problems in mature economies. The risks to global financial have risen due to, among others, the exposure of international banks to the sovereign debt, especially in the euro area. The uncertainties have increased since the last *Report*, due to successive events such as the downgrade of the US sovereign debt rating and the risk rating of Japan, as well as the intensification of the fiscal problems in US and Europe and the increase of the risk perception in the core countries of the euro area.

Still about the pace of global economic activity, the prospect of significant slower-than-anticipated recovery in the advanced countries, coupled with higher risks for the recovery, has strengthened. In particular, high rates of unemployment for a long period, coupled with the need for fiscal adjustment – that, indeed, in many cases are already being implemented – as well as the limited room for monetary policy actions have contributed to downward revisions in the growth projections in these economies, or even of the growth of potential output, indicating broader and volatile business cycle. In fact, leading indicators, as published by the Organization for Economic Co-operation and Development (OECD) for June, signal shifts in major economies, with lower growth prospects in the coming months. Coincident indicators, such as the Purchasing Managers Index (PMI) for August, are consistent with this scenario and show stagnation or very moderate growth in major economies (US, China, France and Germany) and decline in some countries of the euro area. Regarding the monetary policy, the mature economies continued accommodative stance. As to inflation, core inflation measures remain at moderate rates in G3 (US, euro area and Japan), with the euro area presenting an increase in core inflation in July relative to the same period last year, and decrease in comparison to June 2011. In spite of the widespread inflationary pressures in developing countries, there has been discontinuity of monetary tightening cycles.

Brent oil prices displayed volatility but remained at a level higher than US$110/barrel. This price level is consistent with

stability of global demand, coupled with high political instability in producing countries and lags in the process of resuming production. However, the geopolitical complexities surrounding the oil industry tends to accentuate the price volatility, which reflects also the low predictability of some components of demand and the fact that global supply growth depends on investment projects of long maturation and high risk. 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 and the expectations channel.

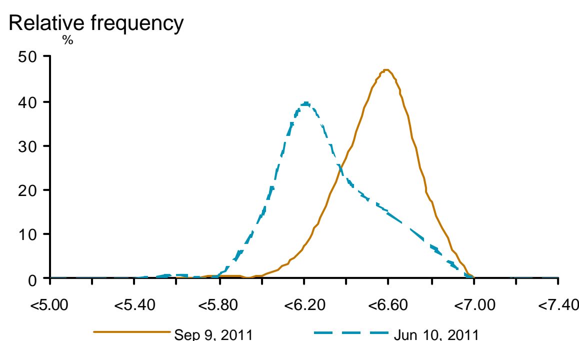
Figure 6.1 – Inflation target path and market expectations for twelve-month ahead inflation



Among other commodities, there was a decline 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, decreased by 2.8% in the six months up to August 2011, compared with an increase of 30% over the previous six months. Similarly, the commodity price index of the Commodity Research Bureau (CRB), based on 22 commodities, continued downward trend started in April 2011, with some volatility. At the cutoff date of September 9, the index displayed a reduction of 6.7% from the peak and an increase of 15.9% in twelve months. The behavior of commodity and asset prices still embodies great uncertainty, reflecting the volatility in financial and currency markets.

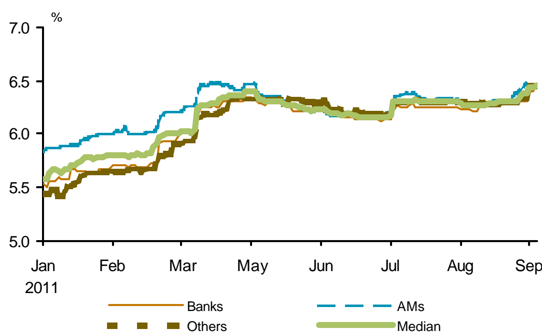
Figure 6.2 – Dispersion of inflation expectations for 2011

Relative frequency



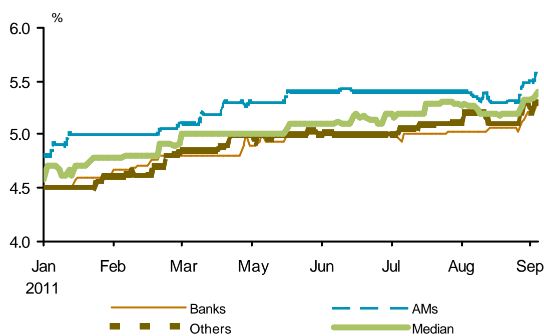
The median of market expectations for the 2011 GDP growth rate declined since the release of the previous *Report*, from 3.96% on June 10 to 3.56% on September 9. For 2012, the projected growth rate fell from 4.10% to 3.80%. In this period, the median expectation for inflation in 2011 moved from 6.19% to 6.45%, and in 2012, from 5.13% to 5.40%. Twelve-month ahead inflation expectations rose from 5.02% to 5.67%. Overall, since the release of the previous *Report*, there was a reduction in dispersion around the central tendency measures of inflation expectations for 2011, as illustrated in Figure 6.2 and an increase for 2012. The dispersion of inflation expectations for the twelve months ahead showed some stability in the period, with the standard deviation moving from 0.39% to 0.40%.

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

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



inflation expectations were built, as illustrated in Figures 6.3 and 6.4. There is convergence in inflation expectations in 2011, and considerable dispersion in relation to projections for 2012. At the cutoff date of September 9, the median inflation expectations for 2011 of banks, AMs and other institutions were 6,45%, 6,45% and 6,44% respectively, against 6.17%, 6.17% and 6.23% in the previous *Report*. For 2012, these figures are 5.32%, 5.60% and 5.29%, respectively, against 5.00%, 5.40% and 5.00% in June *Report*.

6.2 Main scenario: associated risks and monetary policy implementation

The projections used by the Copom are based on a set of assumptions about the behavior of the main macroeconomic variables. This set of assumptions, as well as the risks associated with them, make up the main prospective scenario based on which the Committee makes policy decisions. On the whole, the prospective scenario envisages, on the external side, substantial reduction in the pace of global economic activity – in specific cases, mostly in mature economies, recession is an important possibility – as well as relatively benign dynamics of commodity prices. On the domestic side, the scenario envisages a more moderate pace than anticipated for domestic economic activity and the revision of the trajectory for the primary surplus of the public sector. Accordingly, even though inflation projections generally point to less benign dynamics than in the previous *Inflation Report*, the Copom assesses that the balance of risks for inflation has gathered favorable signs in the prospective scenario since then.

On the external front, since the last *Report*, there has been a substantial deterioration in the international scenario, reflected, for example, in the widespread and significant growth projections reductions for the major economic blocs. In fact, during the first half of the year, activity data for these economies show markedly slower growth than anticipated earlier this year. From another perspective, during this third quarter, the mounting pessimism concerning the pace of global economic growth, as reflected in agents' confidence deterioration and other factors, has helped to contain prices of agricultural commodities, as well as to reduce the price of metal and energy commodities. On the other hand, the prevailing view continues to be that there may be another round of unconventional monetary actions in mature economies – which were seen as a supporting factor for surging international commodity prices in the

second half of 2010 and early 2011. It is important to highlight that, since the last *Report*, there has been increased volatility and risk aversion in international financial markets, with downward repercussions for the price of domestic assets.

In relation to the world economy, the central scenario considered by the Copom includes the hypothesis of slow growth for global activity for a prolonged period of time. On the one hand, the Committee believes that there are higher chances that the restrictions to which several mature economies are now exposed can extend over a longer than anticipated period of time. For this effect, among other factors, contribute the fact that, in these economies, unemployment rates are quite high, asset prices have suffered substantial losses; business and consumer confidence has deteriorated; combined with an environment of limited scope for using monetary policy, and a scenario of fiscal restraint also prevails. On the other hand, the Committee evaluates that the developments in mature economies are transmitted directly to emerging economies' aggregate demand in intensity proportional to the importance of trade. In fact, both in emerging economies of Asia and Latin America, despite the resilience of domestic demand, the pace of activity has moderated due to the weakening of foreign demand, of foreign trade. For the next few quarters, for the world economy (mostly for mature economies than for emerging economies), measures of expectations and confidence, leading indicators and financial markets interest rates, especially in the bonds market, suggest weakness in the pace activity.

With regard specifically to the Brazilian economy, the transmission of external developments may take place through various channels, such as reduction of total trade flows, moderation of investment flows, tighter credit conditions and worsening in consumer and business confidence. Thus, the Committee believes that the complexity that currently surrounds the international environment will help to intensify and accelerate the ongoing process of moderation in domestic activity. In other words, the current process of moderation of the economy – a result of policy actions implemented since the end of last year – tends to be boosted by the weakness of the global economy. Note that this moderation is shown, for example, in the fact that the rate of GDP growth in the second quarter has been lower than initially anticipated and the growth projections for the Brazilian economy this and next year has receded.

In terms of balance of risks, the Committee evaluates that the slowdown in the pace of domestic activity renders the balance of risks for inflation more favorable.

The deteriorating international environment adversely affects the domestic economy growth prospects and, by extension, the price dynamics. In this context, exports are directly and negatively affected by the prospect of a global economic slowdown, which results in lower trade volume. In this respect, it is important to note that world trade volume tends to fluctuate more intensely than world GDP, that is, times of reduced global growth tend to be accompanied by proportionately larger decreases in world trade volume, and vice versa. In turn, the transmission channels, which act via moderation of investment, tighter credit conditions and worsening consumer and business confidence, tend to slow the pace of growth of domestic investment and consumption, also negatively impacting domestic demand and the level of domestic production. Thus, the Committee considers that, by emphasizing the process now under way of moderation in domestic economic growth, the international context tends to ease price pressures on the relevant horizon for monetary policy.

From another perspective, the deterioration of the external environment also affects commodity prices dynamics in international markets. The second half of 2010 and the first quarter of 2011 registered a commodity prices surge, with major impact on domestic inflation. The improvement, earlier this year, in the international economic outlook, along with the ample global liquidity, made global commodity prices, on that occasion, one of the main inflation risk factors on the domestic front. In contrast, the recent behavior of these prices, although heterogeneous among segments, suggests a more benign scenario, in part, due to the less favorable outlook for world economic growth. Anyway, given the volatile nature of these prices and their dependence, in the case of agricultural commodities, on weather conditions, one can not completely rule out inflationary pressures from this source. One can not overlook the prevailing view that there may be another round of unconventional monetary actions in mature economies. Finally, it should be noted that the evaluation of the effects of changes in commodity prices on domestic inflation should also take into account, among other factors, the behavior of the price of domestic assets.

The Committee evaluates that 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. Additionally, in this respect, cost pressures not offset by efficiency gains contribute to the reduction in

the competitiveness of domestic firms in the international goods and services markets, in a global environment with historically high levels of spare capacity.

In short, while recognizing a large and growing uncertainty in the international arena, the Committee considers, in its central scenario, an environment of slow growth in mature economies, for a prolonged time period, but without the occurrence of extreme events. Incidentally, this *Report* presents an alternative scenario that contemplates the estimated effects of global slowdown on domestic activity and inflation.

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

On the domestic side, the Committee considers that the main risk to future inflation is the possibility that the recent rise in the twelve-month inflation be transmitted to the prospective scenario, in the context of tight spare capacity in the labor market and mismatch, though declining, between supply and demand growth rates. On the other hand, the Committee considers that the moderation in domestic economic activity now under way, at least in part, counteracts the effects of the said sources of inflationary pressures. In addition, it should be noted that the level of capacity utilization has retreated and is below the long-term level, helping to open the output gap and contain price pressures. In accord with the prospective scenario for inflation, the recent revision of the fiscal policy scenario also appears as a factor of restraint.

Regarding the labor factor, the Copom assesses that an important source of risk for consumer price dynamics comes from wage dynamics. In fact, relevant wage negotiations are concentrated in the second half of the year, with twelve-month inflation rate quite high. In this context, the risk for price dynamics is the possibility of wage bargaining giving excessive weight to past inflation at the expense of future inflation, which, it should be noted, tends to fall from the fourth quarter on and to be markedly lower than past inflation, according to projections presented in the next section. In addition, the Committee judges that the planned increases in the minimum wage in the coming years can impact directly and/or indirectly the dynamics of the other wages and of consumer prices.

Still on the labor market – which, in terms of transmission of monetary policy, responds to monetary policy actions with

the greatest lag – on the one hand, still shows narrow margin of idle capacity; on the other hand, shows signs of moderation. Employment grew vigorously and generated the lowest unemployment rates since the beginning of the series calculated with the methodology currently employed (March 2002). More recently, job creation has been more moderate. In turn, the average real income, after growing vigorously in 2010, shows moderation at the margin. A crucial aspect in such situations is the possibility that the level of activity in the labor market leads to real wage increases at rates that are not compatible with productivity growth, something which, according to some available evidence, appears to be occurring in certain sectors. This risk factor could be worsened by mechanisms favoring inflation persistence. At this point, it should be noted that the theory, which is backed by international experience, shows that wage moderation is key to obtaining a macroeconomic environment with price stability.

Regarding the capital factor, after the pronounced drop caused by the 2008/2009 crisis, the investment rate – the share of GFCF in GDP – has recovered vigorously, although it remains below the levels observed before the international crisis. Considering flows accumulated in four quarters, the investment rate in the second quarter of 2011 reached 18.4%. The combination of less pronounced growth in aggregate demand, the competition from imported goods and the rebound in investment has led initially to more stable readings of industrial capacity utilization levels, after the pronounced growth during 2009 and the beginning of 2010. More recently, the industrial capacity utilization levels has shown even decreasing values.

The Copom sees as relevant, although decreasing, the risks from the persistent mismatch between supply and demand growth rates. The Committee considers that there is ongoing moderation of domestic demand expansion, in an environment still favorable for the evolution of domestic economic activity. This assessment is underpinned by signs that, while indicating cooling, the expansion of the credit supply tends to persist for both individuals and corporations, as well by the fact that consumer confidence is in historically high levels, despite some accommodation at the margin. Other elements offer noteworthy support for demand, such as government transfers and the strength of the labor market, as reflected in historically low unemployment rates and in wage growth.

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, thus raising the inflation risks for the prospective scenario and increasing the costs of disinflation. In this context, indexation mechanisms pose risks to circumstances such as the present one, when twelve-month inflation rate is above the target path.

The Committee considers that the recent behavior of wholesale prices, notably agricultural products, helps to cool inflationary pressures in the short term, but in a broader perspective, wholesale prices remain a risk factor for inflation in the medium term. In fact, the twelve-month variation in wholesale price inflation is still at high levels, although decreasing, which tends to negatively impact consumer inflation in the longer term, given the practice of indexing important consumer prices to the general price indices.

The Copom assesses that, in the last quarter of 2010 and in the first quarter of 2011, inflation was strongly and negatively impacted by domestic and external supply shocks. Evidences suggest that consumer prices have already incorporated the direct effects of these shocks. Also relevant were the direct effects of the atypical concentration of regulated prices adjustments in the first quarter of the year, which, in specific cases, show signs of reversal. To some extent, these effects might still impact indirectly consumer prices dynamics, among other mechanisms, through inertia.

The Copom understands that another source of risk is the behavior of inflation expectations. The Committee evaluates that the high levels of twelve-month inflation observed since the end of 2010 may continue to adversely affect inflation expectations, making the dynamics more persistent.

Regarding fiscal policy, the Copom understands that the generation of primary surpluses in line with the assumptions considered for inflation projections of the next section, besides contributing to the reduction in the mismatches between supply and demand growth rates, will strengthen the trend of reducing the public debt-to-GDP ratio. The Copom reaffirms that its main scenario considers the materialization of the trajectories regarding fiscal variables. In this sense, since early this year, significant decisions have been made and implemented, which support the vision of an ongoing fiscal consolidation process.

In terms of the balance of risks, the Copom evaluates that the recent revision in the fiscal policy scenario renders the balance of risks for inflation more favorable.

According to the Copom, the dynamics of the credit market also deserve 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 meant a persistent growth in the credit-to-GDP ratio, which, among other factors, contributes to the increase in the effectiveness of monetary policy in Brazil. On the other hand, the growing fragility in some mature economies, combined with favorable perspectives for the Brazilian economy, has determined an inflow of foreign resources, part of which has been going to the credit market.

The Copom highlights that its main scenario for inflation also considers moderation in credit expansion, for which macroprudential and conventional monetary policy actions recently adopted contribute. Still about this market, the Committee considers opportune the introduction of initiatives with the aim of moderating the concession of subsidies regarding credit operations. Compared to the situation that prevailed at the time of the last *Reports*, the view that prevails is that there has been a increase in the probability of the hypothesis of moderation in the expansion of the credit market in general.

In short, the Copom recognizes an economic environment in which an increasing and above-than-usual uncertainty level prevails, and identifies decreasing risks to the materialization of a scenario where inflation timely converges to the midpoint target. The Copom foresees that the twelve-month inflation upward cycle ends this quarter. From the fourth quarter on, the main scenario indicates a downward trend for the twelve-month inflation rate, which will start to move toward the target. In other words, the Committee considers that the prospective scenario for inflation, since the last *Report*, has gathered favorable signals.

At its meeting on July 19 and 20, the Copom understood that it was necessary to raise the Selic interest rate to 12.50% p.a., recognizing an economic environment in which an increasing and above-than-usual uncertainty level prevailed, and identifying risks to the materialization of a scenario where inflation would timely converge to the midpoint target.

At its meeting on August 30 and 31, the Copom unanimously recognized that the macroeconomic environment had

changed substantially since its last meeting in such a way that a reassessment and possibly a reverse in the recent process of the policy interest rate hike were justified. However, two members of the Committee have assessed that the situation did not yet offer all the necessary conditions to begin this movement immediately. In this context, the Copom decided to decrease the Selic target to 12.00% p.a., without bias, by five votes in favor of the monetary policy action, and by two votes for the maintenance of the Selic rate at 12.50% p.a.

Domestic demand is still robust, largely due to the effects of stimulus factors, such as income growth and credit expansion. However, recent initiatives reinforce a scenario for restrained public sector expenditures. Also seen as important curbing factors to domestic demand are the substantial deterioration of the international scenario and the macroprudential actions implemented. These elements and the quasi fiscal developments are an important part of the context in which future monetary policy decisions will be made, aiming to ensure the timely convergence of inflation to the target path.

The Monetary Policy Committee believes that by promptly mitigating the effects from a more restrictive global environment, moderate adjustments in the level of the policy interest rate are consistent with the scenario of inflation convergence to the target in 2012.

6.3 Inflation forecasts

According to traditionally adopted procedures, and taking into account the available information up to the cutoff date of September 9, 2011, the baseline scenario assumes that the exchange rate remains unchanged over the forecast horizon at R$1.65/US$, and the target for the Selic rate stays at 12.00% p.a. – the level set by the August Copom meeting – against R$1.60/US$ and 12.25% p.a. considered in the June 2011 *Inflation Report*. The projection for the change in the set of regulated and monitored prices in 2011, in the baseline scenario, is of 5.0%, against 4.6% considered in the last *Report*. This projection is based on the hypotheses, for the accumulated over 2011, of an increase of 4.0% in prices for gasoline; stable prices for bottled gas; and increases of 4.1% for electricity rates and of 0.9% for fixed telephone rates. Regarding items for which more information is available, price changes were projected individually. For the remaining items, projections are based on models of endogenous determination of regulated prices, which consider seasonal components, exchange rate variations,

market price inflation and General Price Index (IGP) inflation, among others. According to these models, the projection of regulated and monitored prices for 2012 is of 4.4%, against 4.3% considered in the June 2011 *Report*; and for 2013, the projection is of 4.4%, the same value considered in the last *Report*.

The market scenario, in turn, incorporates data from the expectations survey carried out by Gerin with a representative group of institutions up to the cutoff date. In this scenario, average exchange rate expectations, in general, decreased in comparison to the values released in the June 2011 *Inflation Report*. For the last quarter of 2011, it stayed in R$1.60/US$, and for the last quarter of 2012, it moved from R$1.69/US$ to R$1.65/US$. For the third quarter of 2013, survey expectations project an average exchange rate of R$1.68/US$. In what regards the evolution of the average Selic rate, the expectations for 2011 and 2012 decreased in comparison to the values presented in the last *Report*. For the last quarter of 2011, it moved from 12.50% p.a. to 11.44% p.a., and for the last quarter of 2012, it moved from 12.42% p.a. to 11.00% p.a. For the third quarter of 2013, survey expectations project an average Selic rate of 11.00% p.a. This trajectory of the Selic rate is consistent with twelve-month pre-DI swap spreads of -30 b.p. and -127 b.p. with respect to the current target for the Selic rate (12.00% p.a.), in the last quarter of 2011 and 2012, respectively. Additionally, the market scenario assumes changes of 5.0% for the group of regulated and monitored prices in 2011, and of 4.5% in 2012 and 2013.

With regard to fiscal policy, the projections are based on the working hypothesis of accomplishment of the new primary surplus target, roughly 3.15% of GDP, without adjustments, in 2011. Moreover, the working hypothesis of accomplishment of the primary surplus target of around 3.10% of GDP is considered for 2012 and 2013, without adjustments.

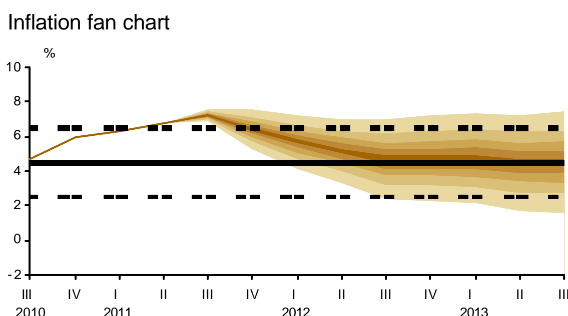
It is worth to mention that the projections presented in this *Report* incorporated the estimated effects of the reserve requirement measures announced in December 2010.

Based on the above assumptions and using the information set until the cutoff date (September 9, 2011), projections were constructed for the four-quarter IPCA inflation, consistent with the interest and exchange rate paths characterizing the baseline and market scenarios.

The central projection associated with the baseline scenario shows inflation of 6.4% in 2011, 0.6 p.p. higher than the

Figure 6.5 – Projected IPCA-inflation with interest rate constant at 12.0% p.a. (Baseline scenario)

Inflation fan chart



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

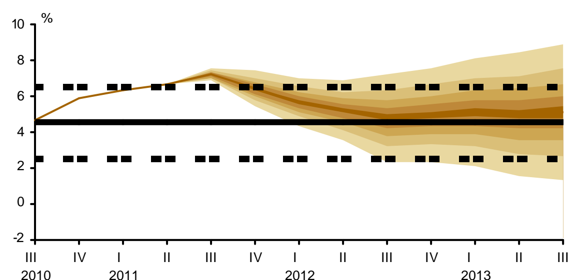
Table 6.1 – Projected IPCA-inflation with interest rate constant at 12.0% p.a.
(Baseline scenario)

Year	Q	Probability Interval 50%	30%	10%		30%	50%	Central projection
2011	3	7.1	7.1	7.2	7.3	7.3	7.4	7.2
2011	4	6.0	6.1	6.3	6.5	6.7	6.9	6.4
2012	1	5.1	5.3	5.6	5.8	6.1	6.3	5.7
2012	2	4.4	4.7	5.0	5.3	5.6	5.9	5.2
2012	3	3.7	4.1	4.5	4.9	5.2	5.6	4.7
2012	4	3.7	4.2	4.5	4.9	5.3	5.7	4.7
2013	1	3.7	4.1	4.5	4.9	5.3	5.8	4.7
2013	2	3.4	3.9	4.3	4.7	5.1	5.6	4.5
2013	3	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 3	7.1	7.1	7.2	7.3	7.3	7.4	7.2
2011 4	6.0	6.2	6.3	6.5	6.7	6.8	6.4
2012 1	5.2	5.4	5.6	5.8	6.0	6.2	5.7
2012 2	4.5	4.8	5.1	5.3	5.6	5.9	5.2
2012 3	3.8	4.2	4.6	5.0	5.4	5.8	4.8
2012 4	3.9	4.3	4.8	5.2	5.6	6.1	5.0
2013 1	3.8	4.4	4.9	5.3	5.8	6.4	5.1
2013 2	3.6	4.2	4.7	5.3	5.8	6.4	5.0
2013 3	3.5	4.2	4.8	5.4	6.0	6.7	5.1

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

projection presented in the June 2011 *Report*. The projection shows inflation of 4.7% in 2012, 0.1 p.p. lower than the projection presented in the June 2011 *Report*. As can be seen on Figure 6.5, in the baseline scenario, the projection for twelve-month inflation stays above the central target level of 4.5% determined by the National Monetary Council (CMN) until the second quarter of 2012, decreases in the following quarters and stays around the central target level at the end of the forecast horizon. According to data shown on Table 6.1, the projection for twelve-month inflation starts at 7.2% in the third quarter of 2011, and ends the year at 6.4%. In this scenario, the associated projection for the first quarter of 2012 stays in 5.7% decreases to 5.2% in the second quarter, to 4.7% in the third quarter, ending the year at this level. The decrease in inflation projections in 2012, in comparison to 2011, partially reflects the output gap widening observed in the recent months, which has its impact concentrated in 2012. Still according to the baseline scenario, the projections for the first three quarters of 2013 are of 4.7%, 4.5% and 4.5%, respectively.

It is worth to mention that the estimated probability that inflation will breach the upper tolerance level of the target in 2011, according to the baseline scenario, is of 45%. For 2012, this probability is close to 12%.

In the market scenario, the inflation projection of 6.4% for 2011 is equal to the respective baseline scenario projection and 0.6 p.p. higher than the projection presented in the last *Report*. The inflation projection of 5.0% for 2012 is 0.1 p.p. higher than the projection presented in the June 2011 *Report*. As it can be seen on Figure 6.6 and Table 6.2, projections for twelve-month inflation follow a similar pattern to that observed in the baseline scenario until the second quarter of 2012. Indeed, in the market scenario, the projection starts at 7.2% in the third quarter of 2011 and ends the year at 6.4%. For 2012, the projection stays in 5.7% in the first quarter, decreases to 4.8% in the third quarter, ending the year at 5.0%. The projections for the first three quarters of 2013 are of 5.1%, 5.0% and 5.1%, respectively.

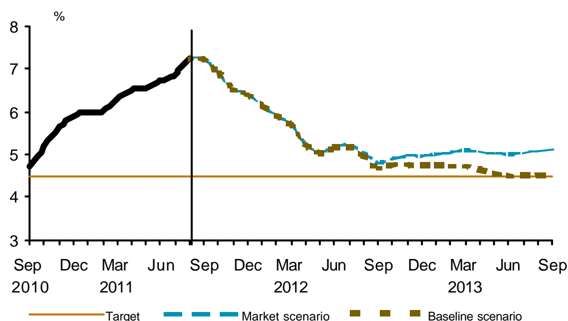
Still according to the market scenario, the estimated probability that inflation will breach the upper tolerance level of the target in 2011 is of 44%. For 2012, this probability is close to 17%.

The projected dynamics for both baseline and market scenarios are identical in 2011. This is partially due to the presence of lags on the effect of the difference between their respective interest rate paths on inflation. Indeed, the difference between

Table 6.3 – June 2011 *Inflation Report* projections

Period	Baseline scenario	Market scenario
2011 II	6.7	6.7
2011 III	6.7	6.6
2011 IV	5.8	5.8
2012 I	5.1	5.1
2012 II	4.6	4.6
2012 III	4.6	4.7
2012 IV	4.8	4.9
2013 I	4.7	4.9
2013 II	4.4	4.5

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



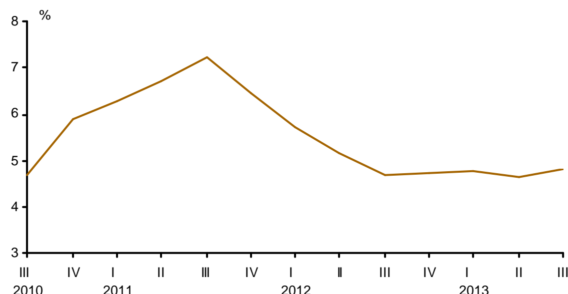
the respective interest rate paths causes the projection paths to start gradually moving apart in the third quarter of 2012. For 2013, the effects of the differences between the exchange rate and interest rate paths add up, causing the projections of both scenarios to move apart more sharply.

The comparison of the trajectories shown in this *Report* with those released in the previous one – the latter shown on Table 6.3 – shows that there was an increase in inflation projections in the baseline scenario, except for the last quarter of 2012. In this scenario, the increase in the projections along 2011 reflects, in general, higher inflation rates in recent months when compared to the corresponding projections presented in the last *Report*. For 2012, particularly in the first three quarters, the movement reflects, to some extent, higher inflation expectations and also exchange rate and interest rate paths different from the ones considered in the June 2011 *Report*. Regarding the first and second quarters of 2013, inflation projections stayed relatively stable, but higher than the values shown in the last *Report*. In the market scenario, the increase in projections for 2011, 2012 and the first two quarters of 2013, with respect to the values presented in the June 2011 *Report*, partially reflects changes in the interest rate and exchange rate paths considered.

Figure 6.7 shows the path of twelve-month inflation, according to the baseline and market scenarios, up to the third quarter of 2013, as well as the target trajectory. The figures are actual twelve-month inflation until August 2011 and, from then on, projections according to the corresponding scenario are used to compose the twelve-month values. The projections fluctuate above the central target level along 2011. In both scenarios, the trajectory indicates a decrease in the twelve-month inflation since the fourth quarter of 2011, movement that extends up to the third quarter of 2012, staying above the central target level. In the last quarter of 2012, in the market scenario, the trajectory still remains above the central target level, until the end of the forecast horizon. For the baseline scenario, the decreasing trend of the twelve-month inflation is not interrupted in the last quarter of 2012, with the projection converging to the central target level in the second quarter of 2013, remaining there in the third quarter.

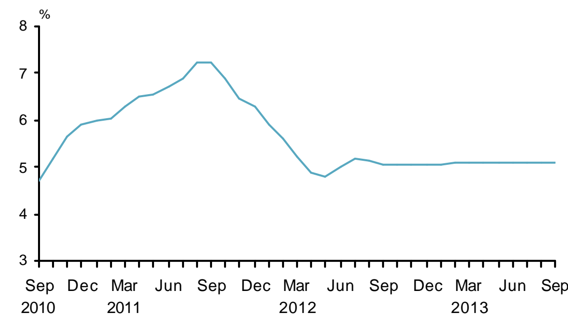
An alternative scenario, built and analyzed under the perspective of a medium-size dynamic stochastic general equilibrium model, considers that the current deterioration of the international scenario has an impact on the Brazilian economy equivalent to one quarter of the one observed in 2008/2009. This impact was evaluated through the analysis of the path of variables seen as transmission channels of

Figure 6.8 – Projected IPCA-inflation: alternative scenario



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

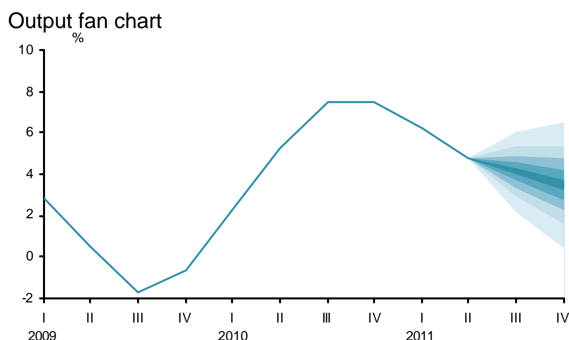
Figure 6.9 – Inflation forecast: VAR models



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

Figure 6.10 – Projected GDP growth with interest rate constant at 12.0% p.a. (Baseline scenario)

Output fan chart



the external developments to the domestic economy, such as external trade, import prices and external volatility (measured by the Chicago Board Options Exchange Market Volatility Index – VIX). The alternative scenario also assumes that the current deterioration of the international scenario is more persistent than the one observed in 2008/2009, though milder, without the observance of extreme events. In this alternative scenario, the domestic economic activity slows down, and despite the effects of exchange rate depreciation and reduction of the policy interest rate, among others, the inflation rate reaches a lower level than what would be observed if the previously mentioned effect of the international crisis were not considered. In this context, still considering projections generated by other models, the inflation projection is 6.4% for 2011, and 4.7% for 2012. In the third quarter of 2013, the projection is 4.8% (Figure 6.8).

The average forecast generated by the Vector Autoregressive (VAR) models for twelve-month inflation is presented in Figure 6.9. Up to August 2011, the values refer to actual twelve-month inflation and, from then on, to forecasts. When compared to the projections presented in the previous *Report*, as occurs with the projections generated in the baseline and market scenarios, there is an increase in the VAR models forecasts for twelve-month inflation along 2011. The 2012 forecasts, in general, increase in comparison to those presented in the previous *Report*, but end the year at the same level. The VAR models forecasts, in comparison to 2011, decrease in the first quarter of 2012, and revert this movement in the second quarter, converging to the unconditional mean of inflation by the end of the forecast horizon.

Figure 6.10 illustrates the output growth fan chart built under baseline scenario assumptions. Considering that the model which generates GDP growth projections uses two variables that are not directly observable – potential output and output gap – the forecast errors associated with these projections are considerably higher than the errors related to inflation projections. According to this scenario, the GDP growth projected for 2011 is 3.5%, value 0.5 p.p. lower than the one presented in the June 2011 *Inflation Report*. This revision reflects policy actions implemented since the end of last year and, mainly, the deterioration of the international scenario, which has leaded to generalized and substantial reductions in growth projections for the main economic blocks.