# The Power of Monetary Policy in Brazil

With inflation targeting implemented in Brazil for over a decade[1] and the macroeconomic stability achieved in recent years, issues related to monetary policy fine-tuning take greater relevance in the context of its execution. Among issues to be considered, the discussion about the power of monetary policy, quantifying the sensitivity of inflation rate to the policy interest rate (Selic rate), emerges as a relevant issue. Positive changes in the power of monetary policy over time can be understood, among others, as a reflection of higher credibility achieved by the central banks[2] and, in a feedback mechanism, may influence the actual monetary policy execution.

The aim of this box is to present evidence that the power of monetary policy has increased in recent years in Brazil, from small structural models used by the Central Bank and economic indicators usually associated with greater power of monetary policy, which are: expansion of credit to Gross Domestic Product (GDP) ratio and its average maturity; lower share of government debt indexed to the Selic rate; and increase of the average maturity of government debt.

The small structural models used by the Central Bank show, among others, an equation for aggregate demand (IS curve) and an equation for aggregate supply (Phillips curve). Thus, the power of monetary policy (short-term) can be defined by the product of the sum of the real interest rate coefficients in the IS curve by the sum of the output gap coefficients in the Phillips Curve[3]. Figure 1 shows the path of

Figure 1 – Power of monetary policy (short-term)

Mean — Minimum — Maximum
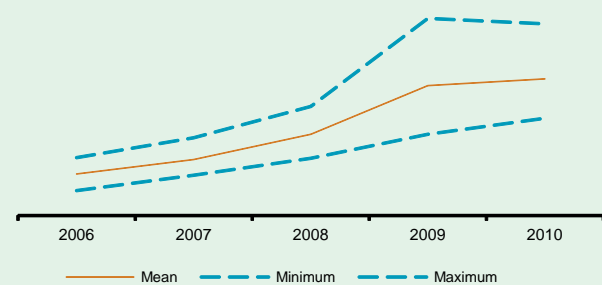
Source: BCB


1/ Decree 3.088, June, 21,1999.

2/ The credibility of the inflation targeting regime was the subject of box in *Inflation Report* of December 2007.

3/ These models differ regarding the output gap estimation method. Its variants have been discussed most recently in Inflation Report of March 2010, which includes several references to earlier boxes.

the power of monetary policy regarding the various models used by the Central Bank, standardized by the average of the models in 2006 (base year). According to this measure, notice that the power of monetary policy increased in recent years, regarding not only the average of the models, but also maximum and minimum values. Indeed, this analysis is supported by credit markets and government debt evolution, as discussed below.

The literature and international experience recognize the amount of credit in the economy[4] as one of the drivers of the power of monetary policy. In principle, a change in policy interest rate can be quickly transmitted to credit market interest rates. With higher interest rates, households resist rising debt, which can negatively impact consumption; and companies become more reluctant to initiate new investment projects in response to higher funding costs and the prospects of decline in household consumption. Notice also that an increase in credit to GDP ratio shows that a higher share of consumption and investment depends on credit markets[5]. Regarding this, the greater the credit to GDP ratio, the greater should be the expected effect of monetary policy on inflation. Furthermore, if there is, for example, an increase in interest rates, the marked to market value of banks' loan portfolio may be more affected because of longer-term loans and, therefore, hinder or even prevent a credit expansion.

Figure 2 – Free credit and average maturity

Free credit (GDP %)   Average maturity (days)
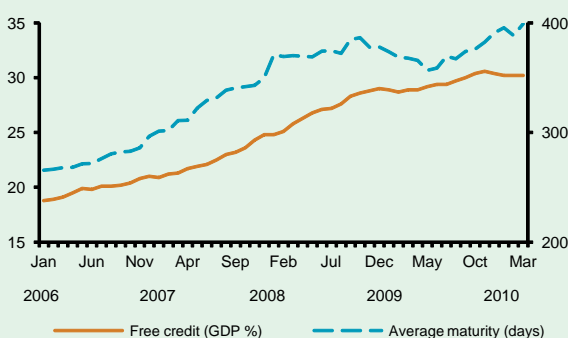
Source: BCB

Figure 2 shows a consistent and persistent upward trend of credit to GDP ratio considering bank's free resources in this period. Moreover, the figure shows an increase in the average maturity of free resources credit. In January 2006 free resources credit to GDP was 18.8% with an average maturity of 266 days. In March 2010 that ratio rose to 30.2% and the average maturity to 399 days. Regarding this, literature suggests that the Selic rate, since somehow it is benchmark for all credit operations, has more influence on economic activity and inflation than it had a few years ago.

4/ Credit growth in Brazil in several segments, was the subject of previous boxes in *Inflation Reports* of June and September 2008 and of March 2010.

5/ A learning material about the transmission mechanisms of monetary policy can be found at "The transmission mechanism of monetary policy", in the Bank of England (http://www.bankofengland.co.uk/publications/other/ monetary/montrans.pdf).

Figure 3 – Share of Selic indexed government bonds

Source: BCB

Figure 4 – Average maturity of government bonds issued through public offering (months)
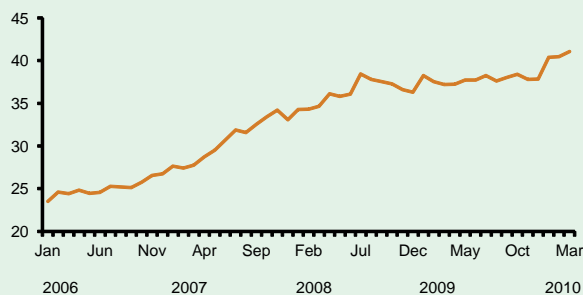
Source: BCB

Another issue that needs some analysis is the share of government debt indexed by the Selic rate. Indeed, when there is an increase in the Selic rate, there is negative wealth effect on the holders of fixed rate government bonds, which should help containing demand pressures in the economy. With bonds indexed by the Selic, however, the opposite occurs, and an increase in the Selic rate generates positive wealth effect, which should help to raise aggregate demand and, thus, reduce the power of monetary policy. Figure 3 shows that the share of government bonds indexed by the Selic presents a downward trend over recent years, from 47.9% in January 2006 to 39.9% in March 2010, which suggests a greater power of monetary policy.

From another perspective, average maturity of government debt also contributes to the magnitude of the negative wealth effect. Thus, a larger average maturity tends to increase the power of monetary policy. Figure 4 shows that there is an upward trend in the average maturity of Brazilian government debt, considering the total bonds issued by the Treasury through public offering, which increased from 23.5 months in January 2006 to 41.1 months in March 2010.

In summary, the evidence presented in this box, based on small structural models of the Central Bank and other economic indicators, suggest that the power of monetary policy in Brazil has increased over recent years. This, on one hand, shows that inflationary pressures can be contained more efficiently and, secondly, suggests higher credibility in the conduct and execution of monetary policy in Brazil.