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CREDIBILITY AND MONETARY POLICY UNDER INFLATION TARGETING

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ABSTRACT

After more than two decades of inflation targeting in the world, it is important to evaluate if the adoption of this regime in a relevant developing country contributed to the creation of a better environment for the process of entrepreneurs' expectations formation. Brazil is part of an important group of developing countries and represents a potential laboratory experiment in which the effects of an adoption of inflation targeting after more than a decade can be evaluated. Not enough is known about the consequences of inflation targeting credibility on both monetary policy and monetary policy transmission channels in developing countries that adopted inflation targeting. Emphasizing the role of transparency and the credibility of monetary policy as a performance criterion that motivate any country wishing to adopt an inflation targeting regime, this study leads to the fact that these two basic principles toward which a inflation targeting regime cannot be achieved without respect for certain pre namely institutional and technical conditions.

Keywords: Credibility, Inflation targeting, Investment, Employment, Central bank, Interest rate.

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1. INTRODUCTION

The theory of monetary policy seems to have been, during the last fifteen years, a recasting of these old concepts and the emergence of new bases dictated by the emergence of the concept of active monetary rule centered on the dominance of goal "inflation targeting."

Conduct based on the concept of monetary policy rules is in line with the work on the problem of time inconsistency "time inconsistency" developed by Kydland and Prescott (1977). These latter rather prefer notion of rules, they oppose discretionary decisions. This paradox is summed up in the maxim: "rule against discretion." This reasoning has been applied, a few years

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later, and by Barro and Gordon (1983). Using a Phillips curve incorporating the hypothesis of rational expectations on the model (Lucas, 1972), these authors conclude that discretionary use of monetary policy in violation of the existing rule would certainly be hampered by reactions of economic agents and actually produce the opposite effect to that intended. In other words, in the presence of asymmetric preferences, the monetary authorities end up systematically produce an inflationary bias and cause "inflation surprises". In the same, and in order to complete the contradictions "rule-discretion", "flexibility-rigidity", recent research on the conduct of monetary policy has led to the emergence of the rule of Taylor (1993) is the best-known expression. And instead devoted to the concept of optimal rule in the conduct of monetary policy is justified by the criteria of credibility and transparency in a context where structural changes occur continuously and / or the central bank is uncertain about the true structure of the economy. J. Taylor rule as the beginning of the active rules, owes its popularity to further theoretical clarifications by including (Svensson, 1999). The latter has the Taylor rule as a special case of stabilizing the inflation target, this target is not completed or a desire to stabilize cyclical activity ("strict" versus "flexible inflation targeting"). These theoretical studies are supported by a large empirical literature to identify the exact forms of optimal rules to prove their normative properties. Explicit inflation targeting as an alternative nominal anchor for monetary policy, perfectly embodies the attitude of "looking forward" based on the construction of an inflation forecast that emanates from a global structural model. On the operational point of view, this translates into an inclusive approach to all the information available. In practical terms, this revival in the conduct of monetary policy has become a monetary policy increasingly popular and is now a global trend with twenty five countries targeting inflation (eight developed and emerging seventeen). Faced with these developments, it became useful and constructive to focus on the study of a new framework for monetary policy is inflation targeting. This work focuses on evaluating the experience of emerging countries that have adopted inflation targeting since the 1990s, is also focusing much on performance as the potential benefits and costs of adoption such a monetary policy framework and try to learn from twenty years of practice this plan. We present in this work the analysis of the policy of inflation targeting framework, the definition of this regime and its strategic choices. Special attention is given to the transparency and credibility of monetary policy as a performance criterion that motivates any country wishing to adopt an inflation targeting regime. Hence, the main contribution of this study is the presentation of empirical evidence for the influence of credibility on monetary policy and, as a consequence, for the transmission of monetary policy to the economy through the traditional channels (the interest rate channel, the credit channel, the exchange rate channel, the asset prices channel and the expectations channel), with emphasis on the expectations channel, after the adoption of inflation targeting in Brazil. For this purpose, the paper is organized as follows. Section 2 presents the relation between credibility and monetary policy conduction. Section 3 provides empirical

evidence about the monetary policy transmission mechanisms for the Brazilian economy. Section 4 concludes the paper

2. CREDIBILITY AND THE TRANSMISSION CHANNELS OF MONETARY POLICY THAT AFFECT INVESTMENT AND EMPLOYMENT

The theory of inflation targeting began with Leiderman and Svensson (1995), Svensson (1997; 1998; 1999), Bernanke *et al.* (1999). With these authors the first definitions of the targeting policy have emerged. The first work appeared, during the years ninety, show some differences in the definition of policy of inflation targeting. The definition that we develop is similar to that of Bernanke (2010). Indeed, we consider inflation targeting as a monetary policy analysis framework and not as a simple rule for action on inflation. In other words, its primary objective is to maintain price stability without excluding the autonomy of monetary authorities to pursue other secondary objectives such as stability of economic activity, the stability of the exchange rate. It is based on a digital ad spot with or without tolerance interval. Inflation targeting is to anchor inflation expectations. This goal is possible only when economic agents rely on policy makers in the actions taken to achieve the predefined objectives. Thus, the central bank must have both a system of relevant forecasting and communication system providing a level of transparency and high credibility. According to this definition the success of inflation targeting based on compliance with certain institutional forms and strategic choices, because monetary policy does not directly affect the performance of the policies of macroeconomic variables such as employment, output and inflation. Monetary policy is first on the decisions of economic agents and the transmission of different channels. However, do not know enough about the consequences of the credibility of the inflation targeting monetary policy and the transmission of monetary policy to the economy of developing countries that have adopted inflation targeting. In this sense, some important issues are raised. Credibility is he important to the creation of a more stable macroeconomic environment, able to improve the effectiveness of monetary policy and stimulate investment in the economy? Expectations of entrepreneurs do they play an important role as a channel of transmission and expectations are they affected by other mechanisms of transmission?

Credibility can be defined as the degree of private sector confidence in the ability and determination to follow the central bank monetary policy and achieve the goals it has announced, despite temporary deviations that could make to absorb shocks to the economy.

Come we have seen since the seminal work Kydland and Prescott (1977), credibility plays a key role in the conduct of monetary policy. Therefore, a policy is credible when the public believes in the rule / strategy and through expectations about the results that the monetary authority seeks to achieve. When expectations are regarded as an important channel of monetary transmission, lack of credibility may impede the scope of a goal because the expectations are formed in a context of mistrust. Under inflation targeting, for example, expectations and credibility are critical to the success

of monetary policy. de Mendonça (2009) found evidence that the credibility is an important element responsible for the process of disinflation in Brazil, after the adoption of inflation targeting. With slight fluctuations in interest rates, due to greater credibility, investment decisions are made with more confidence, leading to a more robust process of job creation.

Work and de Mendonça and Lima (2011) presents a study of empirical analysis by the method of generalized to find the macroeconomic determinants of investment under inflation targeting in Brazil times. The period covered by the analysis from January 2000 until September 2009. The work tests the influence of real GDP in interest rates, credit, inflation, exchange rate, public debt and credibility on private investment. According to them, it is expected that there is a positive relationship between the credibility and investment. In particular, the effect on private investment increased credibility of inflation targeting is positive and statistically significant. Increased credibility increases capacity planning due to the lower uncertainty in the economy and the concomitant increase in investment. In short, the success of inflation targeting in the Brazilian economy is an important mechanism for promoting private investment, namely, the work has found that the success of inflation targeting creates a stable macroeconomic environment that fosters private investment.

Under inflation targeting, the effectiveness of monetary policy is a function of the transmission channels of monetary policy. According to Mukherjee and Bhattacharya (2011), the literature to date highlights four main transmission channels: the traditional interest rate channel supply credit or a loan, the exchange rate channel and the price channel of assets. However, in most of the economic crisis, decisions are made under uncertainty and therefore are guided by expectations. Investment decisions, for example, that entrepreneurs should take, are often based on various expectations regarding different aspects, such as the influence of economic policies and the state of the economy on their business. Four transmission channels can be recognized the effect of monetary policy on the economy (Fig 1) : the interest rate channel, the exchange rate channel, the credit channel and the channel asset prices.

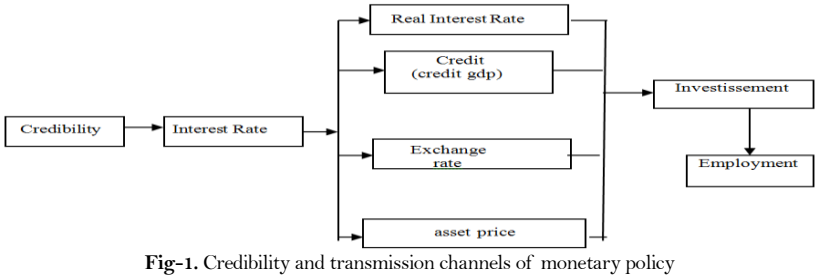


Fig-1. Credibility and transmission channels of monetary policy

Under inflation targeting, changes in the short-term interest rate depends on the credibility of the scheme and affect investment decisions (and therefore employment) through a large set of variables, including the real cost of capital, credit, exchange rate, wealth and expectations of entrepreneurs.

The channel is derived from the standard Keynesian theory of traditional interest rates. The basic

assumption is that prices are rigid and adapt to a monetary shock with a delay. Thus, adjustments to the nominal lead policy of short-term interest rates to changes in the real interest rate in the short term. Fluctuations in real interest rates influence the decisions of economic agents. Specifically, changes in the cost of capital affect corporate investment decisions. Thus, it is expected that when the real interest rate increases the cost of capital is high, which reduces investment. Besides, when the real interest rate increases and becomes more volatile, the expectations of entrepreneurs deteriorate, the postponement of investment decisions. Regarding the credit channel, it can be divided into two different channels, the bank lending channel and the balance sheet channel. For the bank lending channel, a more restrictive monetary policy usually leads to reduce deposits in commercial banks through its impact on economic activity. These factors reduce the availability of bank loans available for businesses, which negatively affects investment decisions.

The transmission mechanism of monetary policy through the credit channel for the period of inflation targeting in Brazil has been approached by several empirical studies (Catão *et al.*, 2008; Catão and Pagan, 2009; Coelho *et al.*, 2010; de Mello and Pisu, 2010; Auel and De Mendonça, 2011). Among these studies, the work of Auel and De Mendonça (2011) found substantial evidence and should be highlighted. Auel and De Mendonça (2011) analyzes the macroeconomic relevance of the credit channel in Brazil. Based on data from 2002 to 2009, three sets of GMM models are considered as a model of GMM system is constructed and a VAR analysis is made. The results indicate that the effects of economic shocks on the supply of credit and the credit spread are consistent with the theory of the credit channel. Moreover, we observe that the impact on the interest rate are not transmitted directly to the economy, but through the channels of credit. Regarding the functioning of credit channels for monetary policy, the work of Auel and De Mendonça (2011) points out that the empirical evidence for emerging economies is rare. Regarding the exchange rate channel in the case of an emerging market economy with a system of flexible exchange rates, the precise impact of monetary policy on exchange rates is uncertain and will depend on expectations domestic and foreign interest rates, inflation and government debt. Economists generally assume also true that high domestic interest rates lead to an appreciation of the currency. However, under certain conditions, higher interest rates cannot make the most attractive currency. Sargent and Wallace (1981) show how rising interest rates may cause an increase in expected inflation if households expect the debt will eventually be monetized. Blanchard (2005) studied the case of Brazil and argued that for high levels of debt and risk premiums, higher interest rates may trigger currency depreciations. In the model Akemann and Kanczuk (2005), the effect of tightening monetary policy causes a depreciation of the currency when interest rates and debt levels are quite high. Regarding the influence of the exchange rate on investment, it is expected that an appreciation of the exchange rate has a positive effect on investment. The explanation is simple: if the domestic producer relies on imported inputs in production and investment, an appreciation of the exchange rate implies a reduction in the marginal cost of production, which could lead to an expansion of the investment activity. For the asset price channel, two channels are often

emphasized in studies on monetary transmission channels. These involve Tobin's q theory of investment and wealth effects on consumption. Tobin q theory provides an explanation on how monetary policy affects the economy through its effect on the valuation of shares. Tobin (1969) defines q as the market value of firms divided by the replacement cost of capital.

q = Market value of the company / replacement value of fixed capital

If q is high, the market price of firms is high relative to the replacement cost of capital and new capital equipment factory cheaper compared to the market value of companies. Companies can then issue shares and obtain a high relative to the cost of installation and equipment they purchase price. Thus, investment spending will increase because companies can buy a lot of new investment products. Thus, monetary policy can affect the share price increase (decrease) of the basic interest rate, making the bonds more (less) attractive relative to stocks, causing stock prices to fall (increase). Consequently, the price decline participation (increase) led to a decrease (increase) in q, and thus decrease (increase) investment spending. An alternative route for the transmission of monetary policy through asset prices is the wealth effect on consumption channel. It was built on the model of the life cycle consumption developed by Ando and Modigliani (1963), in which household wealth is an important determinant of consumer spending. The connection to monetary policy comes through the link between interest rates and asset prices, for example, stock prices increase because the central bank has reduced interest rates, households owning shares become richer and may elect to increase their consumption. Conversely, when stock prices fall, households can reduce consumption. It is important to note that the asset price channel by the wealth effect is relevant for countries like the United States and England. However, in the case of the Brazilian economy, for example, consumer participation in the stock market is negligible, which makes the transmission mechanism of little importance in Brazil (Tomazzia and Meurer, 2009). According to Mishkin (2007), "Fluctuations in the stock market, which are influenced by monetary policy, have a significant impact on the overall economy. Transmission mechanisms involving the stock market are of three types: the effects of stock market investments, wealth effects and household liquidity. "In addition, the credibility of inflation targeting positively affects the expectations of entrepreneurs as it reflects monetary stability, which is crucial for creating a favorable business environment.

3. EMPIRICAL EVIDENCE

Given the history of Brazil, the threat of inflation is very likely, then the central bank expected inflation of between 30 and 80% and a GDP contraction of (-3 to -6%) in 1999. A first decision should be made: to return to a fixed or given parity, or continue to float the real. Monetary authorities have opted to maintain the floating, but it was not therefore find nominal anchor a new point. Targeting a monetary aggregate seemed unrealistic given the uncertainties surrounding this latest crisis. The alternative was to conduct a fully discretionary policy without explicit anchor. But the environment in which bathed the economy has raised his hand a firmer

and transparent engagement. Ultimately, the choice of monetary policy has focused on inflation targeting. A multi-year goal was decided by providing an inflation rate of 8% for 1999, 6% for 2000 and 4% in 2001, with a threshold of tolerance was set to ± 2%. These objectives represent the median of the target area. The latter is set at 3.5-5.5% in 2013. In March 1999, Brazil announced a target to reduce inflation to less than 10% in the fourth quarter of 1999 before moving to the establishment of a comprehensive system of inflation targeting for the end of June in 1999. There is empirical evidence about the impact of inflation targeting credibility on short-term interest rates in Brazil, which suggest that when the credibility of the regime of inflation targeting increases, the level and volatility of the basic interest rate decrease (de Mendonça, 2007a; de Mendonça and de Guimarães e Souza, 2009). Moreover, there is evidence that successful inflation targeting creates a stable macroeconomic environment that promotes private investment (de Mendonça and Lima, 2011) In the present study, the period of analysis runs from 2001Q4 to 2013Q4 (the justification for using this period is because the market expectations series available from the Central Bank of Brazil started in the last quarter of 2001). Due to the fact that "Industrial entrepreneur confidence index" and "investment" are quarterly series; the analysis is done with quarterly data. The (quarterly) series used are: • Selic interest rate (Selic) • Real interest rate (real_ir) Exchange rate (exch_rate) • Credit as a proportion of GDP (credit_gdp) • Value of companies listed at Bovespa (vc_bovespa) • Investment (gfcf) • Ratio between employed people and economically active population (empl_eap) • Industrial entrepreneur confidence index (IECI)

• Inflation targeting credibility (CI): The measure of credibility is based on the index developed by de Mendonça (2007a). The credibility index has a value equal to 1 when the annual expected inflation (E(π)) is equal to the inflation target and decreases in a linear way while inflationary expectation deviates from the announced target. Therefore, the credibility index shows a value between 0 and 1 strictly if the expected inflation is situated between the maximum and minimum limits (π_t^*) established for each year and assumes a value equal to 0 when the expected inflation exceeds one of these limits. The index uses the series of inflation expectations obtained from the CBB site and, the inflation target defined by the monetary authority and the tolerance bands. Hence,

$$\text{CI}=\begin{cases} 1 & If\ E(\pi)=\pi_t \\ 1-\frac{1}{\pi_t^*-\pi_t}[\text{E}(\pi)-\pi_t] & If\ \pi^*_{t\,\min}<E(\pi)<\pi^*_{t\,\max} \\ 0 & If\ E(\pi)\geq\pi^*_{t\,\max} or\ E(\pi)\leq\pi^*_{t\,\min} \end{cases}$$

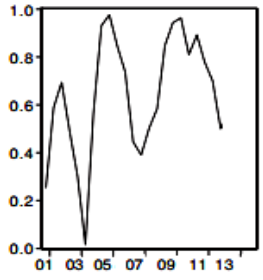
Although different indexes of credibility have been proposed – as summarized in the works of de Mendonça and de Guimarães e Souza (2009), Nahon and Meurer (2009) and Guillén and Gracia-Canal (2009) and therefore there is a variety of indexes of credibility capable of being used in empirical analyses, the present work does not seek to analyze the influence and power of each index on

monetary policy in Brazil – although such research is important. Thus, the option for using the index proposed by de Mendonça (2007a) is due to the following arguments: (i) the index is recognized by international literature, being this index used in several applied studies, (ii) simplicity of understanding and preparation, (iii) the index captures the changes and fluctuations in credibility in a way compatible with the regime of inflation targeting adopted in Brazil, i.e., the index uses predetermined tolerance bands, and not ad-hoc tolerance bands as proposed by other indices, and (iv) the index is rigorous enough and punishes appropriately deviations of inflation expectations in relation to the inflation target. Considering the period of the analysis, Table 1 below presents the correlations between the variables of the analysis. Fig. 2 presents the macroeconomic evolution variables of the Brazilian economics.

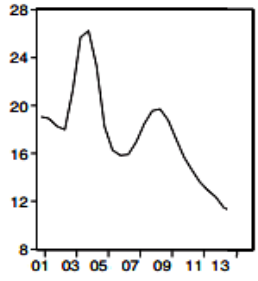
Table-1. Correlation.

Variables	**CI**
CI	1.00
SELIC	−0.41
Variables	SELIC
SELIC	0.98
REAL_IR	0.72
IECI	−0.48
CREDIT_GDP	−0.82
EXCH_RATE	0.79
VC_BOVESPA	−0.78
Variables	GFCF
GFCF	0.99
REAL_IR	−0.77
IECI	0.49
CREDIT_GDP	0.94
EXCH_RATE	−0.86
VC_BOVESPA	0.96
Variables	EMPL_EAP
EMPL_EAP	0.99
GFCF	0.96

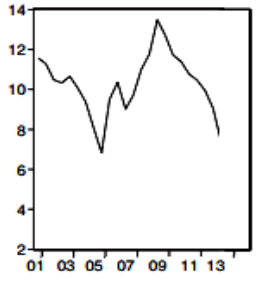
CI



SELIC



REAL-IR



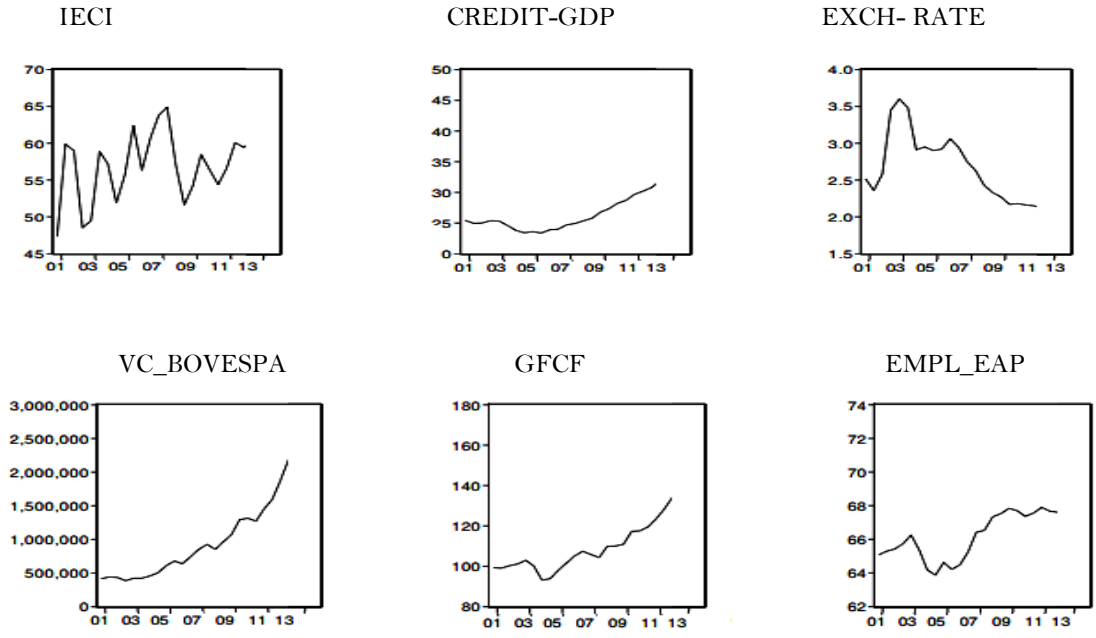


Fig-2. Macroeconomic variables.

4. CONCLUSION

The theory of monetary policy seems to have been, during the last fifteen years, a recasting of these old concepts and the emergence of new bases dictated by the emergence of the concept of active monetary rule centered on the dominance of goal "inflation targeting."

Conduct based on the concept of monetary policy rules is in line with the work on the problem of time inconsistency "time inconsistency" developed by Kydland and Prescott (1977) .These latter rather prefer notion of rules, they oppose discretionary decisions. This paradox is summed up in the maxim: "rule against discretion." This reasoning has been applied, a few years later, and by Barro and Gordon (1983) monetary policy. Using a Phillips curve incorporating the hypothesis of rational expectations on the model Lucas (1972), these authors conclude that discretionary use of monetary policy in violation of the existing rule would certainly be hampered by reactions of economic agents and actually produce the opposite effect to that intended. In other words, in the presence of asymmetric preferences, the monetary authorities end up systematically produce an inflationary bias and cause "inflation surprises". In the same vein, and in order to complete the contradictions "rule-discretion", "flexibility-rigidity", recent research on the conduct of monetary policy has led to the emergence of the rule of Taylor (1993) is the best-known expression. And instead devoted to the concept of optimal rule in the conduct of monetary policy is justified by the criteria of credibility and transparency in a context where structural changes occur continuously and / or the central bank is uncertain about the true structure of the economy.

These theoretical studies are supported by a large empirical literature to identify the exact forms of optimal rules to prove their normative properties. Explicit inflation targeting as an alternative nominal anchor for monetary policy, perfectly embodies the attitude of "looking forward" based on the construction of an inflation forecast that emanates from a global structural model. On the operational point of view, this translates into an inclusive approach to all the information available. In practical terms, this revival in the conduct of monetary policy has become a monetary policy increasingly popular and is now a global trend with twenty five countries targeting inflation (eight developed and emerging seventeen). Faced with these developments, it became useful and constructive to focus on the study of a new framework for monetary policy is inflation targeting. This work focuses on evaluating the experience of emerging countries that have adopted inflation targeting since the 1990s, is also focusing much on performance as the potential benefits and costs of adoption such a monetary policy framework and try to learn from twenty years of practice this plan. This paper treats the inflation targeting policy and the rule of conduct and the study of efficiency and economic performance of inflation targeting. We present in this work the analysis of the policy of inflation targeting framework, the definition of this regime and its strategic choices. Special attention is given to the transparency and credibility of monetary policy as a performance criterion that motivates any country wishing to adopt an inflation targeting regime. Monetary authorities. Because not only inflation targeting avoids the bias inflationary, but it also relates to measures against the problem of credibility from the construction and combines ways to improve the degree of credibility. For example, inflation targeting requires institutional reform in countries adopting this policy. For example, these countries must have an independent Central Bank, so these countries already encourage the decline in the inflation rate. In addition, these countries must ensure financial discipline in order to adopt this policy. So the monetization of government debt by the central bank is avoided and the public debt is restructured. On the other hand, inflation targeting can be seen as a model of reputation first, because one of its properties is the fact that the target inflation rate is announced to the public at the beginning of each period and by this announcement, the Central Bank is committed to respecting this announcement and to reduce the inflation rate to target rate and announced. From this point of view, the target rate can be considered as a rule of economic policy that the monetary authority must respect. Also, it is a monetary policy that requires some transparency where private and asymmetric information is a minimum. As part of this policy, the Central Bank shall inform the public through the regular publication of various reports and even the publication of inflation forecasts that can be considered as a signal to private agents.

REFERENCES

Akemann, M. and F. Kanczuk, 2005. Sovereign default and the sustainability interest rate risk effect. Journal of Development Economics, 76: 53–69.

Ando, A. and F. Modigliani, 1963. The life cycle hypothesis of saving: Aggregate implications and tests. The American Economic Review, 53(1): 55–84.

Auel, M.C. and H.F. De Mendonça, 2011. Macroeconomic relevance of credit channels: Evidence from an emerging economy under inflation targeting. Economic Modelling, 28: 965–979.

Barro, R. and D.B. Gordon, 1983. Rlues, discretion and Reputation in a model of monetary policy RULES. Journal of Monetary Economics, 12: 101-121.

Bernanke, B.S., 2010. Monetary policy and the housing bubble. Speech Given at the Annual Meeting of the American Economic Association, Atlanta Georgia, January 3, 2010.

Bernanke, B.S., G. Mark and G. Simon, 1999. The financial accelerator in a quantitative business cycle framework. In John B. Taylor and Michael Woodford, Eds. Handbook of macroeconomics, part 3. Amsterdam: North-Holland, 1: 1341-93.

Blanchard, O., 2005. Fiscal dominance and inflation targeting: Lessons from Brazil. In: Giavazzi, F., Goldfajn, I., Herrera, S. (Eds.). Inflation targeting, debt and the Brazilian experience, 1999 to 2003. MIT Press.

Catão, L.A.V., D. Laxton and A. Pagan, 2008. Monetary transmission in an emerging targeter:The case of Brazil. International Monetary Fund, IMF Working Papers No. 08/191.

Catão, L.A.V. and A. Pagan, 2009. The credit channel and monetary transmission in Brazil and Chile: A structured VAR approach. National Centre for Econometric Research, NCER Working Paper Series No. 53, March.

Coelho, C.A., J.M.P. De Mello and M.G.P. Garcia, 2010. Identifying the bank lending channel in Brazil through data frequency. Economía: Journal of the Latin American and Caribbean Economic Association, 10(2): 47–79.

de Mello, L. and M. Pisu, 2010. The bank lending channel of monetary transmission in Brazil: A VECM approach. The Quarterly Review of Economics and Finance, 50(1): 50–60.

de Mendonça, H.F., 2007a. Towards credibility from inflation targeting: The Brazilian experience. Applied Economics, 39(20): 2599–2615.

de Mendonça, H.F., 2009. Output-inflation and unemployment-inflation trade-offs under inflation targeting: Evidence from Brazil. Journal of Economic Studies, 36(1): 66–82.

de Mendonça, H.F. and G.J.G. de Guimarães e Souza, 2009. Inflation targeting credibility and reputation:The consequences for the interest rate. Economic Modelling, 26: 1228–1238.

de Mendonça, H.F. and T.R.V. Lima, 2011. Macroeconomic determinants of investment under inflation targeting: Empirical evidence from the Brazilian economy. Latin American Business Review, 12(1): 25–38.

Guillén, M.F. and E. Gracia-Canal, 2009. The American model of the multinational firm and the new multinationals from emerging economis. Academy of Management Perspectives, 23(2): 23-35.

Kydland, F.E. and E.C. Prescott, 1977. Rules rather than discretion: The inconsistency of optimal plans. Journal of Political Economy, 85(3): 473–492.

Leiderman, L. and L.E.O. Svensson, 1995. Inflation targets. London: CEPR.

Lucas, R., 1972. Expectations and the neutrality of money. Journal of Economic Theory, 4.

Mishkin, F.S., 2007. Monetary policy strategy. Cambridge, Massachusetts: The MIT Press.

Mukherjee, S. and R. Bhattacharya, 2011. Inflation targeting and monetary policy transmission mechanisms in emerging market economies. IMF Working Paper No. (WP/11/229), October.

Nahon, B.F. and R. Meurer, 2009. Measuring Brazilian central bank credibility under inflation targeting. International Research Journal of Finance and Economics, 27: 72- 81.

Sargent, T. and N. Wallace, 1981. Some unpleasant monetarist arithmetic. Federal Reserve Bank of Minneapolis Quarterly Review, 5(3): 1–19.

Svensson, 1997. Inflation targeting: Some extensions. NBER working papers. NBER Working Papers No. 5962. National Bureau of Economic Research, Inc.

Svensson, 1998. Open-economy inflation targeting. Papers No. 638. Stockholom-International Economic Studies.

Svensson, 1999. How should monetary policy be conducted in an era of price stability? Proceedings- Economic Policy Symposium- Jackson Hole, Federal Reserve Bank of Kansas City. pp:195-259.

Taylor, J.B., 1993. Discretion versus policy rules in practice Carnegie-Rochester Conference series on public policy. Elsevier, 39(1): 195-214.

Tobin, J., 1969. A general equilibrium approach to monetary theory. Journal of Money, Credit, and Banking, 1(1): 15–29.

Tomazzia, E.C. and R. Meurer, 2009. O mecanismo de transmissão da política monetária no Brasil: Uma análise em VAR por setor industrial. Economia Aplicada, 13(4): 371–398.

BIBLIOGRAPHY

Amano, R., D. Coletti and T. Macklem, 1999. Monetary rules when economic behaviour changes. Bank of Canada Working Paper No. 99–8.

Calderón, C., R. Duncan and K. Schmidt-Hebbel, 2004. The role of credibility in the cyclical properties of macroeconomic policies in emerging economies. Review of World Economics, 140(4): 613–633.

Christiano, L.J., M. Eichenbaum and C.L. Evans, 1999. Monetary policy shocks: What have we learned and to what end?, In: Taylor, J.B., Woodford, M. (Eds.), Edn., 1. Handbook of macroeconomics: Elsevier, 1: 65–148. Chapter 2.

Cragg, J.G., 1983. More efficient estimation in the presence of heteroscedasticity of unknown form. Econometrica, 51(3): 751–763.

de Mendonça, H.F., 2007b. Empirical evidence from fourteen countries with explicit inflation targeting. Applied Economics Letters, 14(8): 573–576.

Gonçalves, C.E. and B. Guimarães, 2011. Monetary policy, default risk and the exchange rate. Revista Brasileira de Economia, 65(1): 33–45.

Hammond, G., 2011. State of the art of inflation targeting. Bank of England, CCBS Handbook No. 29 — February.

Hansen, L.P., 1982. Large sample properties of generalized method of moments estimators. Econometrica, 50(4): 1029–1054.

Johansen, S., 1991. . Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. Econometrica, 59(6): 1551–1580.

Johnston, J., 1984. Econometric methods. 3rd Edn., Singapore: McGraw-Hill Book Co.

Koop, G., M.H. Pesaran and S.M. Potter, 1996. Impulse response analysis in non-linear multivariate models. Journal of Econometrics, 74(1): 119–147.

Kydland, F.E. and E.C. Prescott, 1977. Rules rather than discretion: The inconsistency of optimal plans. Journal of Political Economy, 85(3): 473–492.

Lutkenpohl, H., 1991. Introduction to multiple time series analysis. Berlin: Springer.

MacKinnon, J.G., A.A. Haug and L. Michelis, 1999. Numerical distribution functions of likelihood ratio tests for cointegration. Journal of Applied Econometrics, 14(5).

Minella, A., P.S. de Freitas, I. Goldfajn and M.K. Muinhos, 2003. Inflation targeting in Brazil: constructing credibility under exchange rate volatility. Journal of International Money and Finance, 22(7): 1015–1040.

Minella, A. and N.F. Souza-Sobrinho, 2009. Monetary channels in Brazil through the lens of a semi-structural model. Central Bank of Brazil Working Paper Series, No. 181, April.

Mishkin, F.S., 1995. Symposium on the monetary transmission mechanism. Journal of Economic Perspectives, 9(4): 3–10.

Mitchell, J., 2000. The importance of long run structure for impulse response analysis in VAR models. NIESR Discussion Papers, No.172.

Newey, W.K. and K.D. West, 1987. A simple, positive semidefinite, heteroskedasticity and autocorrelation consistent covariance matrix. Econometrica, 55(3): 703–708.

Peersman, G. and F. Smets, 2003. The monetary transmission mechanism in the euro area: evidence from VAR analysis. In: Angeloni, Kashyap, Mojon (Eds.). Monetary policy transmission in the Euro area. Cambridge University Press. pp: 56–74 (Chapter 2).

Pesaran, M.H. and Y. Shin, 1998. Generalized impulse response analysis in linearmultivariate models. Economics Letters, 58(1): 17–29.

Phillips, P.C.B., 1998. Impulse response and forecast error variance asymptotics in non stationary VARs. Journal of Econometrics, 83: 21–56.

Sims, C., 1980. Macroeconomics and reality. Econometrica, 48(1): 1–48.

White, H., 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica, 48(4): 817–838.

Wooldridge, J.M., 2001. Applications of generalized method of moments estimation. Journal of Economic Perspectives, 15(4): 87–100.