MONETARY POLICY REGIMES: FUNCTIONAL FRAMEWORK AND IMPLICATIONS

Radu CUHAL

Ludmila STARITIȚINA

Nicolae BASISTIȘ

Abstract

The contribution of this paper is the delineation of the concept of the “monetary regime”, which implies specification of a numerical target that commits the central bank to achieve the primary goal of the monetary policy. We considered that the monetary policy regimes represent an attempt to develop a proper framework of the monetary reaction function based on the different theoretical approaches of monetary transmission channels, from the practical point of view (Barro R., 1995; McCallum B., et al. 1999). The dynamics of the targeted indicator may serve also as an early shock indicator and provide a better foundation for policy-makers decisions. In this paper we propose to investigate the fundamental basis of different monetary policy regimes, a greater emphasis being put on the functional mechanism of each regime and its effects.

Keywords: Central bank, monetary policy regimes, inflation targeting, monetary transmission channels.

JEL Classification: E31, E52, E58.

Introduction

Most central banks conduct monetary policy within some sort of monetary policy regime. Such a regime provides a structure for monetary policy decision-making. In addition to facilitating the decision-making itself, this structure enables the decisions to be communicated more easily to the public. The basic monetary regimes are: regime with an implicit nominal anchor, money targeting, exchange rate targeting and inflation targeting.

A regime with an implicit nominal anchor involves targeting a particular nominal variable adopted only internally within the central bank without it being announced explicitly. A prerequisite for successful functioning of this regime is high credibility of the central bank, which enables the desired changes in inflation or inflation expectations to be achieved without explicit targets.

The money targeting regime focuses on the growth rate of a chosen monetary aggregate. It is based on the finding that in the long term, price growth is affected by money supply growth. A problem, however, lies in the choice of an appropriate monetary aggregate to target. In an environment of financial innovation, market computerization and globalization, the relationship between monetary aggregates and the price level is becoming ever weaker. The central bank may also fail to manage the selected monetary aggregate with sufficient precision.

Exchange rate targeting regime - the central bank tries to ensure nominal exchange rate stability vis-à-vis the currency of a so-called anchor country via interest rate changes and direct foreign exchange interventions, thereby "importing" price stability from the country. Maintaining the exchange rate requires an appropriate economic policy mix ensuring a low inflation differential vis-à-vis the anchor country, a sufficient level of international reserves, and the maintaining of the country's competitiveness and overall credibility, including its institutional and legislative framework and political stability. One of the major disadvantages of the regime is the loss of monetary policy autonomy.

Inflation targeting regime - the central bank publicly pre-announces an inflation target (or a succession of targets) that it is determined to achieve. This involves active and direct shaping of inflation expectations. This regime's decision-making scheme involves the use of much more information than merely the exchange rate or monetary aggregates, covering the labor market,
import prices, producer prices, the output gap, nominal and real interest rates, the nominal and real exchange rate, public budgets, etc.

**Description of the problem**

In recent years a growing consensus has emerged for price stability as the overriding, long-run goal of monetary policy. However, despite this consensus, the following question still remains: how should monetary policy be conducted to achieve the price stability goal?

A central feature of all of the monetary regimes is the use of a nominal anchor in some form, so first problem is, what role a nominal anchor plays in promoting price stability. What difference has four basic types of monetary policy regimes: 1) monetary policy with an implicit but not an explicit nominal anchor, 2) exchange-rate targeting, 3) monetary targeting, and 4) inflation targeting. The paper then concludes with an overall assessment of the different monetary regimes and draws some conclusions. The basic theme that comes out of this analysis is that the success of different monetary regimes depends on their ability to constrain discretionary policymaking so that long-run price stability is more likely to result.

A nominal anchor is a constraint on the value of domestic money, and in some form it is a necessary element in successful monetary policy regimes. Why is a nominal anchor needed? First, from a purely technical viewpoint, a nominal anchor provides conditions that make the price level uniquely determined, which is obviously necessary for price stability. Indeed, it helps promote price stability because it helps tie down inflation expectations directly through its constraint on the value of domestic money.

However, a nominal anchor can be thought of more broadly as a constraint on discretionary policy that helps weaken the time-inconsistency problem described by Kydland and Prescott (1977), Calvo (1978) and Barro and Gordon (1983) so that in the long run, price stability is a more likely to be achieved. The time-inconsistency problem arises because there are incentives for a policymaker to pursue short-run objectives even though the result is poor long-run outcomes which result from forward-looking behavior on the part of economic agents. Expansionary monetary policy will produce higher growth and employment in the short-run, and so policymakers will be tempted to pursue this policy even though it will not produce higher growth and employment in the long-run because economic agents adjust their wage and price expectations upward to reflect the expansionary policy. Unfortunately, however, the expansionary monetary policy will lead to higher inflation in the long-run, with its negative consequences for the economy.

Targeting the exchange rate is a monetary policy regime with a long history. It can take the form of fixing the value of the domestic currency to a commodity such as gold, the key feature of the gold standard. More recently, fixed exchange-rate regimes have involved fixing the value of the domestic currency to that of a large, low-inflation country. As another alternative, instead of fixing the value of the currency to that of the low-inflation anchor country, which implies that the inflation rate will eventually gravitate to that of the anchor country, some countries adopt a crawling target or peg in which its currency is allowed to depreciate at a steady rate so that its inflation can be higher than that of the anchor country.

In many countries, exchange-rate targeting is not an option because the country (or bloc of countries) is too large or has no obvious country whose currency can serve as the nominal anchor. Exchange-rate targeting is therefore clearly not an option for the United States, Japan or the European Monetary Union. Thus these countries, by default, must look to other monetary policy regimes, one of which is monetary targeting.

A major advantage of monetary targeting over exchange-rate targeting is that it enables a central bank to adjust its monetary policy to cope with domestic considerations. It enables the central bank to choose goals for inflation that may differ from those of other countries and allows some response to output fluctuations. Also, like an exchange-rate target, information on whether the central bank is achieving its target is known almost immediately - announced figures for monetary aggregates are typically reported periodically with very short time-lags, within a couple of weeks.

Thus, monetary targets can send almost immediate signals to both the public and markets about the stance of monetary policy and the intentions of the policymakers to keep inflation in check. These signals then can help fix inflation expectations and produce less inflation. Monetary targets also have the advantage of being able to promote almost immediate accountability for monetary

---

93
policy to keep inflation low and so help constrain the monetary policymaker from falling into the time-inconsistency trap.

Given the breakdown of the relationship between monetary aggregates and goal variables such as inflation, many countries have recently adopted inflation targeting as their monetary policy regime. New Zealand was the first country to formally adopt inflation targeting in 1990, with Canada following in 1991, the United Kingdom in 1992, Sweden in 1993, Finland in 1993, Australia in 1994 and Spain in 1994. Israel and Chile have also adopted a form of inflation targeting.

Inflation targeting involves several elements: 1) public announcement of medium-term numerical targets for inflation; 2) an institutional commitment to price stability as the primary, long run goal of monetary policy and to achievement of the inflation goal; 3) an information inclusive strategy, with a reduced role for intermediate targets such as money growth; 4) increased transparency of the monetary policy strategy through communication with the public and the markets about the plans and objectives of monetary policymakers; and 5) increased accountability of the central bank for attaining its inflation objectives.

Inflation targeting has several important advantages. In contrast to exchange-rate targeting, but like monetary targeting, inflation targeting enables monetary policy to focus on domestic considerations and to respond to shocks to the domestic economy. Inflation targeting also has the advantage that velocity shocks are largely irrelevant because the monetary policy strategy no longer relies on a stable money-inflation relationship. Indeed, an inflation target allows the monetary authorities to use all available information, and not just one variable, to determine the best settings for monetary policy.

Inflation targeting, like exchange-rate targeting, also has the key advantage that it is readily understood by the public and is thus highly transparent. Monetary targets are less likely to be easily understood by the public than inflation targets, and if the relationship between monetary aggregates and the inflation goal variable is subject to unpredictable shifts, as has occurred in many countries including a long-standing monetary targeter such as Switzerland, then monetary targets lose their transparency because they are no longer able to accurately signal the stance of monetary policy.

Methodology and data sources

Today, most governments, and certainly most central bankers, would subscribe to the view that the role of monetary policy can be reduced to three core functions. The first is to control the average level of prices, in other words to stabilize the value of the domestic currency. Why should this matter when sustainable and inclusive long-run growth requires getting relative prices right which is fundamentally a general equilibrium problem over which monetary policy has little or no leverage? The answer is that while classical monetary neutrality may prevail in the long run, it clearly does not in the short- or medium-run, either in terms of the level of inflation or its volatility. Nor is this non-neutrality of money a positive factor in supporting sustainable economic growth. High and volatile inflation obscures relative price signals, distorting resource allocation; it creates fiscal effects, through the tax system and seigniorage; and generates powerful real and distributional effects from asset markets in all but the most perfectly indexed environments. This non-neutrality clearly influences the short and medium-term path of the economy but, to the extent inflation and inflation volatility impacts on fiscal choices, financial sector development and domestic and foreign investment behavior, it also feeds back adversely onto long-run growth. As a result, the sine qua non of any monetary framework therefore becomes the delivery of low and stable inflation. The prevailing consensus sees this function as being best pursued through some form of policy rule designed to minimize or eliminate the incentives of the monetary authorities to operate in a time-inconsistent manner.

The second function is to moderate fluctuations in the path of domestic output relative to its trend rate of growth, by judicious tightening or loosening the stance of monetary policy as circumstances dictate. This is fundamentally a discretionary function and hence to the extent that the output stabilization objectives may, of course, run counter to inflation stabilization objectives and vice versa, this potentially sets up a tension between rules and discretion at the heart of monetary policy. It is this tension that a coherent monetary framework must resolve, by recognizing the relative weights placed on these apparently competing objectives and prioritizing them accordingly. As I shall discuss below, contemporary monetary theory sees the reconciliation of these objectives emerging from a system of “constrained discretion such as embodied in an inflation targeting
framework, where the institutional constraints defining the credible public commitment to an inflation target creates the space for the authorities to pursue output stabilization.

The final function of monetary policy is less direct. It is to support the smooth functioning of the payments system and the financial system more generally so as to promote the efficient market-based allocation of credit and pricing of risk in support of efficient investment and growth. As above, this objective may not necessarily be consistent with price and output stabilization and, again, a coherent monetary framework will seek to reconcile and prioritize these competing objectives.

To this list some may add a fourth function: to ensure that monetary policy choices are not themselves sources of macroeconomic instability. A monetary framework defines the institutional arrangements under which monetary policy is made and the constraints under which monetary policy makers operate. Most frameworks are built around three pillars. The first is the institutional structure and mandate of the central bank which defines its relationship with government and shapes its formal obligations with respect to its principal functions as regulator of the financial sector, banker to the government and monopoly issuer of domestic money.

The second pillar articulates the monetary policy objectives, narrowly defined, and the instruments and operating procedures employed to meet these objectives. Essentially the focus is on the international and domestic purchasing power of the domestic currency, and how concerns about the value of the currency are reconciled with other objectives such as output stabilization and (nominal and real) exchange rate stability. The third pillar defines the central bank's role in the regulation of the financial sector and embraces concerns about precautionary risk management, ownership and competition policy and, in the case of most emerging markets, the promotion of innovation and financial market development.

Another problem of monetary policy consists in choice of monetary regime and nominal anchor. All contemporary monetary regimes can be thought of as “inflation targeting” in the strict sense that a central - if not the dominant - objective of monetary policy is to establish a credible anchor for domestic prices. It makes sense, therefore, to characterize different regimes in terms of their choice of nominal anchor since this, in turn, will fundamentally shape the entire framework. The choice of anchor is not an un-constrained one; rather it has implications for how the authorities address the other concerns competing for their attention. The fundamental nature of the constraint is encapsulated by the notion of the “impossible trinity” or the “trilemma” which states that beyond the short-run no country can simultaneously maintain an open capital account, target the exchange rate and pursue an independent monetary policy. One of the three must be abandoned even though each is desirable in its own right: open capital accounts to the extent they support the efficient global allocation capital to high-return investment opportunities; exchange rate targeting to support trade and sustain a stable external value of the currency; and an independent monetary policy to pursue domestic output stabilization objectives.

Monetary frameworks can thus be distinguished in terms of the degree of discretion over the choice of anchor and the degree of commitment to the chosen anchor. In terms of discretion we may distinguish between, on the one hand, those countries where domestic currencies are institutionally tied to an anchor currency, through a monetary union or a currency board and, on the other, those whose choice of anchor is determined only by domestic policy actions.

Domestic anchors are dominated by three groupings: those countries adopting conventional money-based pegs; those pursuing full-fledged inflation targeting (FFIT); and a final, substantial, group whose regime is described as “hybrid” or “eclectic”, indicating that the country pursues a strategy which cannot be classified according to a well-defined nominal anchor, for example because the country articulates a money-based target but also seeks to manage the path of the exchange rate or an employment or output target. For some countries in this group, such as the Federal Reserve Board of the US, the European Central Bank, Japan and Switzerland, the regime already commands substantial credibility and functions with a high degree of instrument independence and transparency. Many central banks adopted inflation targeting as a pragmatic response to the failure of other monetary policy regimes, rather than in response to new economic thinking. Theory and practice have developed together over the past couple of decades, and there is now a large body of academic literature on inflation targeting. To achieve price stability, monetary policy requires a nominal anchor. By nominal anchor, we mean fixing a nominal variable in order to tie down the price level in the long run.
Historically, the nominal anchor used by central banks was the gold standard or pegging the domestic currency to another strong currency. The collapse of the Bretton Woods system of fixed exchange rates in the 1970s, combined with high inflation, led to a search for new anchors, notably the money supply. During the 1980s, monetarism was the prevailing monetary policy orthodoxy, as central banks attempted to control prices by controlling the supply of money in the economy. This depended on the existence of a stable relationship between nominal expenditure and the quantity of money; known as the Quantity Theory of Money. Milton Friedman elaborated on the quantity theory and argued that the demand for money depended predictably on a number of macroeconomic variables. Thus central banks could control spending and inflation by altering the supply of money in the economy. Friedman’s fixed money rule implied that central banks should calculate the money supply based on its relationship to macroeconomic variables to target a specific rate of inflation.

Under this rule, there is little discretion for the central bank to use its judgement in assessing the supply of money needed in the economy. In practice, successful monetary targeters actively took account of the variability in the money supply and economic relationships. Bernanke argues that inflation targeting owes much to the pragmatic way that the Bundesbank conducted monetary policy in the 1980s: the Bundesbank indirectly targeted inflation, using money growth as a quantitative indicator to aid in the calibration of its policy. Notably when conflicts arose between its money growth targets and inflation targets, the Bundesbank generally chose to give greater weight to its inflation targets [2]. Ultimately monetary targeting failed in many countries as the demand for money function was not stable. This instability resulted typically from deregulation plus financial innovation; new types of money-like assets together with disintermediation from banking system. As John Crow, former Governor of the Bank of Canada famously commented: “we did not abandon monetary aggregates, they abandoned us”. The failure of money targeting in the mid-1980s and the collapse of fixed exchange rate pegs in the early 1990s was followed by the emergence of inflation targeting with floating exchange rates as the new monetary policy framework of choice. The framework was consistent with the main tenets of the prevailing academic consensus of the time about what monetary policy can and cannot do. What does monetary theory tell us? First, as both Friedman and Phelps showed, a permanently higher rate of inflation does not lead to higher growth and employment. Second, there has been an increasing recognition of the benefits of low and stable inflation - and equally an awareness of the costs of inflation; low inflation is a social good. In inflation-targeting regimes, price stability is the primary objective for central banks. Third, the literature increasingly stressed the importance of inflation expectations in monetary policy [8]. The effect of monetary policy decisions on private sector expectations became an important consideration for policymakers. Against this evolving consensus among economists, inflation targeting was seen as an effective way of anchoring inflation expectations.

Most definitions of inflation targeting include the requirement that price stability is the main goal of monetary policy. This is usually enshrined in the central bank law. In many cases the central bank law also states that, as a subsidiary objective, the central bank will support economic prosperity and welfare more broadly. The individual country tables show considerable diversity in the precise legal mandates of inflation targeters. Australia has a dual mandate for price stability and employment, for example [7], while in Canada the main role of the central bank is to promote the economic and financial welfare of Canada. In the wake of the financial crisis that started in 2007, the legal mandates of several central banks, including the Bank of England, have been expanded to include a financial stability remit [6]. Most inflation-targeting central banks have statutory independence. The literature on central bank independence often distinguishes between ‘goal independence’ ie the central bank has autonomy in setting the objective of monetary policy, and ‘instrument independence’, ie the central bank conducts monetary policy to achieve the inflation objective independent of government influence. In practice the distinction is less clear-cut. The ultimate goal of monetary policy, ie price stability, is, as we have seen, usually enshrined in law. ‘Goal independence’ then becomes a second-order question of defining ‘price stability’ ie setting the inflation target.

When inflation is not at its steady state, as was the case in several emerging market countries when they adopted inflation targeting, setting the inflation target and determining the path and pace
of disinflation are clearly more substantial policy questions. The ability to set the inflation target was seen as an essential part of central bank independence. On the other hand, it is clearly beneficial for the government to make an explicit commitment to the inflation target, which is more likely when the target is jointly determined, in order to promote better co-ordination - or at least no conflict - between fiscal and monetary policy. And government involvement in setting the target adds democratic legitimacy to the policy, which can help command public support.

The inflation targets of industrialized countries all lay between 1% and 3% (year-on-year increase in inflation). This reflects the consensus interpretation of the general range of inflation that is consistent with price stability in these countries. It would be difficult therefore for governments in these countries to adopt a higher inflation target as this would undermine credibility. So, even where the target is set by the government alone, in practice, in industrialized countries, the government is highly constrained in setting an operational definition of price stability.

It would appear de jure that central banks in developing and emerging markets have a greater degree of independence: mainly in Latin American countries, the target is determined solely by the central bank, while in the other cases the target is jointly determined [14]. De facto, the picture is more complex. In Colombia and Guatemala, for example, the Minister of Finance sits on the decision-making board of the central bank, so there is some government influence on setting the target.

**Results obtained**

Empirical evidence on the performance of inflation targeting is not unanimous but broadly supportive of the effectiveness of the framework in delivering low inflation and anchoring inflation expectations in both industrialized and emerging market economies. However there is an important point to be made about endogeneity. Many countries that adopted inflation targeting did so as part of a wider process of political and economic reform. Often this involved moves to strengthen the institutional structure of policymaking, for example giving statutory independence to the central bank. In some countries, the adoption of inflation targeting as a new monetary policy framework was also accompanied by better fiscal policies (notably in Latin American countries). The adoption of inflation targeting has often been accompanied by a building up of technical capacity within the central bank, and an improvement in the quality of macroeconomic data [10]. As inflation targeting depends to a large extent on the interest rate channel to transmit monetary policy, some emerging market economies also took steps to strengthen and develop the financial sector. It seems likely therefore that the improvement in monetary policy outcomes after the adoption of inflation targeting reflects improved economic policymaking in a broader sense.

Figure 1 shows the implementation of inflation targeting for the 42 countries operating an inflation-targeting regime from 2008 to 2013.

The set of inflation-targeting central banks is very heterogeneous, including industrialized, developing and emerging market countries from every continent. The first country to adopt inflation targeting was New Zealand in December 1989, and the most recent Serbia, in 2009 and Moldova from 2010 [17]. The only central banks to have exited from inflation targeting are Finland, Spain and Slovakia, in each case when they adopted the euro. Some countries adopted inflation targeting while they were transition economies; the Czech Republic, Hungary Poland and latterly Armenia. Several emerging market countries adopted inflation targeting in the wake of the 1997 crisis, which forced a number of currencies off their fixed exchange rate pegs.

As the Figure 1 shows, most countries is in the spread of one percentage point that is a good indicator, but countries such as Botswana, Ghana, Iceland, Jamaica and Uruguay has some problems with inflation targeting. There are several reasons: - macroeconomic problems of each of these countries; - wrong target was selected; or - incorrect and untimely implementation of monetary policy instruments capable to influencing positively on the ultimate goal of inflation targeting. On the other side, Japan and Georgia recorded negative deviations from the predicted corridor of inflation target and these countries must also take measures to fulfill obligations of inflation targets.
Figure 1. Implementation of inflation targeting regime in 42 countries, 2008-2013

After analyzing CPI levels and Inflation Targets in 2008-2013 in 42 countries which adopt monetary regimes of inflation targeting, it can be concluded that the deviation from the CPI and Inflation Targets is lowest in most developed countries. Also on Figure 2 it can be seen that over time, the variance of the data is reduced, that can be a consequence of a better understanding of the processes of implementation of inflation targeting, both at the level of individual countries and at the global level.

Figure 2. The difference between CPI and Inflation Targets in 42 countries, 2008-2013

Inflation targeting may not be the optimal monetary policy regime for bringing inflation down, but it has proved effective at anchoring inflation expectations around the target, and so keeping inflation low and stable. The main reason why low inflation is often regarded as a 'precondition' for inflation targeting is the difficulty of forecasting inflation, and hitting an inflation target, in conditions of high and volatile inflation. The central bank risks losing credibility from target misses in such
circumstances. This explains why many central banks waited until inflation was under control before formally introducing inflation targeting. However the experience of Israel and Guatemala shows that inflation targeting has successfully been used as a disinflationary strategy.

Conclusions

In the past ten years, a substantial number of industrial and emerging market countries have moved decisively in favour of an inflation targeting monetary framework. The intellectual case is compelling and the evidence – at least that covering the first decade of experience with IT regimes – is persuasive. There is much common ground among inflation targeters, but nonetheless individual frameworks reflect local economic, political and cultural factors.

The increased volatility in inflation since 2007 has led to some debate on the best target measure of inflation. There have been calls for the targets to explicitly include asset prices and particularly house prices. Others have argued in favour of targeting ‘domestically generated inflation’, in order to abstract from the headwinds and tailwinds of imported inflation. The fear of deflation led some to propose increasing the level of the target in order to avoid the zero bound. Others have suggested that, faced with below target inflation in the short run, the inflation target should be specified as an average over several years in order to anchor inflation expectations. Some have argued that this makes more sense with a price level target, and that a price level target would provide a stronger anchor for positive inflation expectations. On the other hand, there are concerns that a price level target would be less effective in coping with persistent terms of trade stocks.

In 2009 and 2010, several central banks had reduced interest rates close to zero. Interest rates cannot usually be negative, so as further easing of monetary policy was required in order to achieve the inflation target, central banks used “unconventional monetary policy”. This usually involves measures to increase the quantity of money or credit in the economy to provide an additional stimulus to nominal spending in order to meet the inflation target. In these operations, the central bank buys public and private sector assets using central bank money.

Some inflation-targeting central banks pursued unconventional monetary policies. The Bank of England began a programme of asset purchases in March 2009, and the Bank of Canada published a framework for unconventional monetary policy under inflation targeting in their April 2009 Monetary Report, under which it made a conditional commitment to keep policy rates at the effective lower band until the second quarter of 2010. One benefit of the inflation-targeting framework is that monetary policy decisions are clearly linked to the inflation target. The inflation forecast provides a guide for the extent of quantitative easing that may be necessary and also the appropriate time to exit. The numerical target also provides a strong anchor for inflation expectations.

Inflation-targeting frameworks have also been adapted to meet with new challenges. It is likely that further changes will occur as central banks seek to combine their financial stability objectives with the monetary policy objectives.

Bibliography


