From Bretton Woods to inflation targeting:
financial change and monetary policy evolution in Europe

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Abstract
Different ‘monetary architectures’ are distinguished, as a background to a discussion of the change in developed country monetary policy frameworks from fixed exchange rates under the Bretton Woods international monetary system to, ultimately, formal or informal inflation targeting. The introduction and experience of monetary targets in the 1970s is considered, followed by an analysis of the changes in countries’ monetary architectures, with particular reference to money and bond markets and to France and Italy, in the 1980s. Exchange rate targeting in Europe in the 1980s and 1990s is examined, followed by the changes in central bank independence in the 1990s. This leads to a discussion of the introduction of inflation targeting, and the issues raised for inflation targeting by the financial crisis of the late 2000s.

JEL: E4, E5

Keywords: exchange rate targets, monetary targets, inflation targeting, monetary architecture, central bank independence

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At a time when developing and emerging countries are becoming more interested in adopting formal inflation targets, it may be useful to review the experience of developed countries, which have employed a variety of monetary frameworks, on their journey from fixed exchange rates under the Bretton Woods system in the 1960s to formal or informal inflation targeting in the 2000s. While the financial and monetary systems of the US, the UK and Germany have long been highly developed on a number of dimensions, those of France and Italy were much closer even in the 1970s to those found in emerging and developing countries, and had to have major transformations in line with the evolution of their monetary policy strategies. Their cases may therefore be of particular relevance to developing and emerging countries which are now moving in the same direction. This chapter charts the journey the developed countries have taken with special reference to the financial infrastructure requirements – notably with respect to money and bond markets, and to central banks – and the changes in financial infrastructure in France and Italy which accompanied and underpinned the changes in their monetary policy strategies.

Section 1 sets out briefly a classification of alternative ‘monetary architectures’ on which the paper draws. Section 2 considers developed countries’ adoption of and experience with monetary targets from the 1970s. Section 3 assesses the monetary architecture of the main Anglo-Saxon and European developed countries, with respect to money and bond markets, and how that architecture was transformed in France and Italy, in particular, in the 1980s. Section 4 evaluates the use of exchange rate targeting within the European Monetary System in the 1980s and 1990s. Section 5 discusses the changes in monetary architecture with respect to central bank independence in the 1990s, again with emphasis on France and Italy. Section 6 looks explicitly at inflation
targeting. Section 7 considers the issues raised for inflation targeting by the current financial crisis. Section 8 concludes.

1 Analytical framework

It is convenient to distinguish between three types of monetary architecture, based on the financial infrastructure required and the monetary policy strategies which are then possible.¹

At one end of a continuous spectrum we can define a ‘basic’ monetary architecture, in which there are few or no banks and no organised financial markets, and the monetary authority has only minimal expertise. In such a monetary architecture all the monetary authority can do is to buy and sell foreign for domestic currency, that is to operate a fixed exchange rate, which functions as a substitute for a monetary policy. This is the sort of architecture found in many former colonies in their immediate post-independence periods, and in some countries that were never formal colonies, such as the small Gulf countries in the 1950s and 1960s.

At the other end of the spectrum there is what can be called a ‘modern’ monetary architecture, in which the banking system is large and well-established, there are substantial organised markets in bonds and money and the central bank has a high level both of independence from political pressure and of technical expertise. Here the money market, in which the commercial banks are continuously lending and borrowing to and from each other as well as the central bank, acts to transmit changes in the central bank’s policy interest rate fully and directly to the interest rates set by the commercial banks. Monetary growth is insulated from fiscal deficits (except
perhaps those which are extraordinarily large) by the existence of a bond market which enables the government to borrow from the non-bank private sector instead of the banking system. The central bank is therefore able to operate an interest rate-based policy on a continuous discretionary basis, and it can pursue a formal or informal inflation target, or even an exchange rate target (for which its main instrument would be the interest rate rather than foreign exchange market interventions).  

Countries with this type of architecture include the US, the euro area countries and the UK.

It is also useful to define an average ‘intermediate’ type of monetary architecture, between these two ends of the continuous spectrum, in which there is a substantial banking system and some kind of a bond market, though no real money market, and the central bank has some ability to formulate and implement monetary policy. However, the lack of an active money market means that the central bank’s policy rate is not transmitted fully or immediately through to the commercial banks’ operations,  

so that monetary policy has to be implemented mainly through other instruments such as reserve requirements and credit controls. The bond market is not sufficiently active, or the involvement of the non-bank private sector substantial enough, for monetary growth to be securely insulated from fiscal deficits. The central bank can pursue monetary targets or exchange rate targets (mainly through foreign exchange market interventions rather than interest rate changes), but it does not have the instruments or the technical expertise to operate an interest rate-based policy such as inflation targeting on a continuous discretionary basis; it also has little independence from the government.
From Bretton Woods to monetary targets

The fixed exchange rate international monetary system agreed at Bretton Woods in 1944, and implemented gradually after the Second World War, provided part of the context for the ‘long boom’ in the developed countries: two decades of more or less uninterrupted growth and low unemployment, with relatively low inflation. The nominal anchor for the system was provided by the US dollar, to which other currencies pegged and which itself was in principle pegged to gold (that is, the price of gold was pegged in dollars). By the late 1960s, however, there were growing tensions between the US and Europe over the asymmetry of the arrangements (the US was able, indeed required, to run balance of payments deficits to provide international liquidity, while the European countries could not maintain long term deficits), and the US was involved in an increasingly expensive foreign war (in Vietnam) in which its European allies had declined to participate. These tensions were partly responsible for the worldwide monetary expansion of 1971-72, which led to rising inflation, booms in commodity prices, notably oil, and the breakdown of the fixed exchange rate arrangements: by early 1973 the major currencies were all floating against one another. At this point countries reacted differently to the threat of inflation (which was compounded by the first oil price shock in late 1973, itself associated with the OPEC countries’ successful long-term struggle to get control of the oil price, and with the Arab-Israeli war of October 1973). In Germany, for example, the independent Bundesbank chose to tighten monetary policy quickly and severely, while France, Italy and the UK (and to a lesser extent the US) chose to tackle the inflation in a more gradualist way, that is, they allowed it to rise above single figures before they took strong measures to bring it down.
It was in this context that monetary targets were first introduced, by Germany in 1974; the US, Switzerland, Canada and Italy (in the latter case initially a total domestic credit target) in 1975; and by the UK, France and Australia in 1976. These were publicly announced targets for the growth of (initially broader but later sometimes narrower) measures of the money stock, usually for the coming year but later sometimes for periods of several years, typically expressed as target ranges rather than points. As Lane (1985) has argued, the introduction of such targets was not seen by central bankers as a move towards a Friedmanite monetary rule, or as a pre-commitment within the time-inconsistency perspective (which was only just beginning to be developed); nor were they seen as commitments to precise short-run monetary control. So why were they introduced? The monetary authorities (including the politicians, since at this time developed country central banks were mostly not very independent) had realised that under high and variable inflation it was difficult to manipulate real interest rates; and they believed that pre-announced targets might stabilise the economic environment and so contribute to growth, but also might have some independent effect on inflation expectations and hence on the unemployment cost of disinflation. There was also some limited idea that targets would improve the credibility of official policies, as monetary authorities must be serious if they were willing to declare in advance a standard by which they could be assessed. More broadly the introduction of monetary targets should be regarded as a delayed response to the ending of the Bretton Woods system and as an attempt to provide an alternative nominal anchor to the dollar peg.

The record of monetary targets is somewhat mixed. The period over which they were operated witnessed more or less successful disinflations in most of the developed
countries, particularly after the second oil price shock of late 1979, to which countries responded in a much ‘tougher’ manner than the first. These disinflations were not without cost, however: all the developed countries (the European ones more than the US) experienced significant rises in the equilibrium rate of unemployment or NAIRU in the 1970s and 1980s; and the high and variable interest rates associated with the 1979-82 ‘monetarist experiment’ in the US contributed to the developing country debt crisis of 1982. Moreover, it is not clear how much monetary targeting itself contributed to these disinflations, since the targets were often missed – even the Bundesbank missed its targets around 50% of the time, while the UK, for example, experienced a number of very large overshoots (e.g. outturn growth of 19% as against a target of 7-11% in 1980/81). Targets can be missed for two reasons – either because the central bank’s instruments are inadequate for it to attain its goals, or because the central bank changes its mind over the course of the target period and allows an overshoot (or undershoot). Academic observers have tended to focus on the former of these (notably with respect to the move towards monetary base control in the US in 1979\textsuperscript{6}), but the big overshoots in the UK (and some Bundesbank misses) were of the latter type (for example, in the UK in 1980/81 it became clear that the economy was already being squeezed very tightly, partly as the result of an overshooting exchange rate appreciation, and that keeping to the monetary target would involve substantially more disinflationary pressure than the authorities had intended).

Monetary targets were downgraded and then abandoned in the Anglo-Saxon countries from the early 1980s: Canada ended its targets in 1982, Australia in 1985, the UK over 1985-7, and the US its M1 target in 1987 (it retained reference values for M2 and M3 until 2000). The basic rationale given was that the processes of innovation and
structural change in the financial sector meant that the demand for money had become so unpredictable that precise control of the money stock was no longer feasible: if there is no stable relationship between the money stock and the final objective (eg nominal income), then hitting the monetary target may mean not hitting the target for the final objective, and the monetary target will be neither a useful signal of the authorities’ intentions nor a good benchmark for assessing performance. However, little hard evidence was adduced to support this argument and for the UK at least it seems that the velocity of money was no more unpredictable in the 1980s than it had been before, so that if monetary targets were not justified in the mid-1980s they were not justified before that either.

A more important reason for rejection of monetary targets may have been the growing conviction that the monetary authorities (given the financial liberalisation that had taken and/or was taking place) no longer had effective instruments to control the money supply: they could intervene in the money and bond markets (which had long been well-established in London and New York and developed elsewhere in the 1980s), but the effect of such interventions on the monetary aggregates was imprecise and variable. This was commonly understood in terms of Keynesian-monetarist debates where Tobin (1963) had argued that money ‘supply’ was determined within the financial system via a complex set of interactions between banks and other agents, while Friedmanite monetary base control was not viable (see Goodhart, 1991, 1994). In the UK monetary targeting had relied heavily on the technique of ‘overfunding’, in which the government sold more debt than its deficit in order to offset the effect on broad money of the high level of (liberalised) bank lending. However, this was
abandoned in 1985 because of what were perceived as its increasingly distorting and/or cosmetic effects on financial flows.

3 Countries’ monetary architecture and its evolution: money and bond markets

What types of monetary architecture existed in these countries in the 1970s? First, while the US, the UK and Germany already had large well-established bond markets, with substantial proportions of government debt held by the non-bank private sector, that was not true for France or Italy, where government paper was not traded actively and was typically held by public agencies (such as the postal system and the Caisse des Dépôts et Consignations in France), acting on the government’s behalf to collect small savings, and by banks. Second, while the US, the UK and Germany had active money markets with interbank and CD markets developing from the 1960s or before, this was again not true for France or Italy, where Treasury bills were the main or only money market instrument and secondary activity – particularly transactions between banks – was limited. Third, the central banks of France, Italy and even the UK were only just beginning to develop their expertise in economic research and monetary analysis by the start of the 1970s; and all of these were unequivocally subordinate at that time to their respective ministries of finance (see section 5). 10

Major financial changes in the form of liberalisation were under way in the Anglo-Saxon economies (and to a lesser extent Germany) from the 1960s or even before, but in France and Italy change did not acquire any real impetus until the 1980s. In Italy the central bank was obliged to buy unsold government debt up till the so-called ‘divorce’ between it and the Treasury in 1981, but because the demand for
government debt remained weak and unstable the central bank found itself repeatedly intervening after the divorce. However, it was the changes of 1988-89 which were decisive. These reforms covered public debt management, the issuance of government paper, the secondary market for government paper, the money market and the settlement system, and capital controls (Passacantando, 1996). In particular, the Treasury ceased to set a floor price for its auctions, settlement was dematerialised and longer maturities were introduced, a screen-based interbank deposit market was established which significantly improved liquidity and activity in the money market, and capital controls were dismantled (Passacantando, 1996; Cobham, Cosci and Mattesini, 2008). The results were that monetary growth was securely insulated from fiscal policy, and it became possible to operate monetary policy through interest rates, which allowed the credit ceilings to be abolished (though they were temporarily reintroduced in 1986-87). Up to 1992 the main element of the monetary policy framework was the fixed exchange rate within the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS), but this was accompanied by a target for M2. After Italy was suspended from the ERM in September 1992 the monetary target continued, together with an inflation target set by the government which was also heavily involved in wage negotiations, but the central bank was able to pursue these targets by a largely interest-rate based policy. Italy rejoined the ERM in 1996, and succeeded in entering EMU from the start (Chiorazzo and Spaventa, 1999).

In France there was a major government-led process of financial innovation from 1984, which included a range of reforms to money and bond markets, as well as changes in the regulation of banks and measures to strengthen existing and create new capital markets. In particular, a new ‘money’ market was set up within which all
types of economic agent could trade the new instruments, which included certificates of deposit issued by banks, commercial paper and negotiable Treasury bills, with maturities up to seven years. The operations of this and the longer term bond market were greatly facilitated by the development of different types of collective investment institutions since the changes to their legal statutes in 1979 (sociétés d’investissement à capital variable, and fonds communs de placement). At the same time the interbank market was restricted to banks and the central bank, and the Banque de France’s monetary policy operations were henceforth concentrated here on the overnight interbank rate, a corridor for which was created by a lending facility (pensions à sept jours) on the one hand and a deposit facility (appels d’offres) on the other, with the Banque retaining the ability to intervene directly in the market as well. These changes allowed the monetary authorities to terminate the system of credit controls (‘encadrement du crédit’) which had been the primary instrument of monetary policy in the first decade of monetary targeting. Monetary policy was henceforth operated primarily through interest rates, with intermediate targets being specified for both the exchange rate target and a broad monetary aggregate (M3).13

In both these cases, therefore, the monetary architecture was transformed over the course of the 1980s from something close to the ‘intermediate’ type to something much closer to the full ‘modern’ architecture. The UK’s monetary architecture was already somewhat beyond the average ‘intermediate’ position in the 1970s, but it too experienced major improvements in activity and liquidity in both bond and money markets in the 1980s (and abandoned its exchange controls in 1979), and it dropped both the indirect credit controls used in the late 1970s and early 1980s (the so-called ‘corset’) and the technique of ‘overfunding’ which was fundamental to the operation
of monetary targets up to 1985; thus it too moved further in the direction of the ‘modern’ monetary architecture. Germany underwent less change, partly because it already had substantial money and bond markets, and had not used direct credit controls or capital controls.

4 Exchange rate targeting in continental Europe

While the Anglo-Saxon countries moved sharply away from monetary targeting, in most cases to a less explicit and more discretionary framework, in continental Europe many countries continued to operate monetary targets, notably Germany and Switzerland, where monetary targets were used as the framework for explaining monetary policy. Monetary targets worked relatively well partly because they were set on the basis of explicit forecasts of nominal income growth and velocity; in the UK, by contrast, the setting of targets had always been dominated by political influences. However, the drive towards deeper economic integration, together with the increasing practical difficulties for trade and particularly for the Common Agricultural Policy caused by exchange rate fluctuations, pushed countries towards exchange rate targeting.

The European Monetary System with its Exchange Rate Mechanism (ERM), established in 1979, was a grid of bilateral parities between (formally equal) members but it has been widely seen as an arrangement by which other countries pegged to the Deutsche Mark in order to benefit from the anti-inflationary credibility of the Bundesbank. At first the EMS seemed to put only minimal constraints on countries’ room for manoeuvre. But after the major turn in French policy in 1983 (Sachs and Wyplosz, 1986), and even more after the Basle-Nyborg agreement in 1987, the ERM
became more binding: between March 1979 and March 1983 there were seven realignments, between April 1983 and January 1987 there were four, and between February 1987 and mid-1992 there were none; while from 1983 onwards inflation rates began to decline and converge. (Gros and Thygesen, 1998, chapter 3).

As already indicated, the ERM has been seen as an asymmetric exchange rate system, in which the other countries pegged their currencies to and ‘imported credibility’ from the larger economy of Germany (which also had the most independent and respected central bank). But it can also be presented as a shock absorber mechanism which enabled member countries to coordinate their macroeconomic policy in response to shocks without an explicit framework for coordination (Fratianni and von Hagen, 1992; Gros and Thygesen, 1998, chapter 4). From the perspective of this paper what is important is that the exchange rate commitments by the non-German countries, which initially coexisted with their established monetary targeting procedures, gradually came to constitute the most important element in their monetary frameworks and continued to be so up to the inauguration of the single currency and the European Monetary Union (EMU) in 1999.\textsuperscript{15} Germany, on the other hand, continued to operate its monetary policy largely as it had done before, with monetary targets geared to domestic inflation control and foreign exchange market interventions, when they occurred, against the dollar rather than against the other ERM currencies.\textsuperscript{16}

The ERM suffered a major setback in a series of speculative crises which lasted from early September 1992 to the end of July 1993: the Italian lira and the British pound, which had joined less than two years before, were suspended from the ERM in
September 1992 (the lira returned in 1996 but the pound has not), other ERM currencies were devalued over the next nine months (the Irish punt, the Spanish peseta – three times, and the Portuguese escudo – twice) and some Nordic currencies which had been pegging informally to the EMS also had to abandon their pegs. The crisis reached a climax in late July 1993 with massive speculative attacks on the French franc which were ultimately resisted only by a widening of the margins within which ERM parities could fluctuate from 2.25% to 15% (on either side).

This should not be considered a breakdown of the EMS as such, because countries did not use more than a small part of the extra margin allowed, most currencies returned to their central parities within months of the crisis, and most entered EMU (whose attainment was an implicit goal of the EMS) at those central rates. In addition, it has been argued that the causes of the crises lay not in the nature or the design of the system but in specific decisions taken by the monetary authorities concerned. On the other hand, the upheavals of 1992-3 can fairly be regarded as a failure of exchange rate targeting, since the announcement of serious (i.e. constraining) margins is an essential element of exchange rate targeting.

More broadly, however, it is clear that there were so many Europe-specific factors involved that this European experience does not provide a clear basis for a general evaluation of exchange rate targeting as a possible strategy for emerging and developing economies.
Central bank independence (CBI) became a major issue in the academic literature and then in policy debates from the 1980s. Within the time-inconsistency literature CBI is sometimes depicted in terms of Rogoff’s (1985) conservative central banker, who is more inflation-averse than society as a whole. But the recasting of that literature by Bean (1998) – in whose model the government is not pursuing the unattainable target of the Walrasian frictionless perfect equilibrium, but just wants output to be higher for broadly electoral reasons – depicts the independent central bank as free from the electoral incentive that governments face. In Bean’s model there is an inflation bias when policy is made by the government, but the bias is absent when policy is made by an independent central bank, that is, CBI itself solves the problem of time-inconsistency. This perspective is much closer to that in the wider policy debate, and makes more sense of the empirical evidence which, broadly, finds that in developed countries higher CBI is associated with lower inflation but not with lower or more variable growth.18,19

Standard assessments of the independence of developed country central banks, such as in Grilli, Masciandaro and Tabellini (1991) and Cukierman, Webb and Neyapti (1992), involve the construction of indices which use criteria such as the extent of government involvement in the formulation of monetary policy and the setting of interest rates, the extent to which the central bank is obliged to lend to the government, and the way in which the central bank governor is appointed (and dismissed). Such assessments typically found the highest levels of independence at the German Bundesbank, the Swiss National Bank and the Federal Reserve in the US.
The central banks of France, Italy and the UK, on the other hand, were clearly subordinate to their respective ministries of finance and received much lower scores.

By the early 1990s CBI had become part of the standard package of recommendations for policy reform made by international institutions such as the IMF and the OECD, and many countries implemented major changes in that direction. For example, most of the transition economies incorporated a strong dose of CBI into their central bank statutes or even into their constitutions (Beblavý, 2007), and many emerging economies made similar changes. Developed countries also introduced a range of reforms in the 1990s; for European Union countries change was encouraged by the approach of monetary union, which (as agreed in the Maastricht Treaty of 1992) countries could enter only if their central banks were essentially independent. But there was also a genuine intellectual shift over the 1980s and early 1990s towards increased understanding of the time-inconsistency problem and of the contribution of CBI towards credibility in monetary policy. Moreover, the old ‘liberal’ tradition of sound finance with central banks protected from political interference had survived more strongly in continental Europe than in the Anglo-Saxon countries, and CBI can be interpreted as a modern formalisation of that tradition.

The French central bank acquired from 1994 the responsibility to formulate and implement monetary policy with the goal of price stability without reference to the government, it was not longer permitted to lend to the government and the senior appointment procedures were changed. The effect was that the Banque de France now looked, in independence terms, much like the Bundesbank. In Italy, the 1992-93 changes also gave the central bank responsibility for monetary policy and prohibited it
from lending to the government, but its overall position remained less independent than the Bundesbank. In the UK the ‘new monetary policy framework’ of 1993 (including the incorporation of elements of the Maastricht Treaty which affected lending to the government) and the 1997 allocation to the Bank of England of responsibility for interest rate decisions (although the inflation target continued to be set by the government) also resulted in large rises in the CBI indices, though their levels remained below those of Italy and France. One area where these and other developed country central banks sometimes failed to score well on the indices is that of banking supervision, where the Grilli et al. indices give points for banking supervision not being the responsibility of the central bank. But the importance of this issue is unclear (Goodhart and Schoenmaker, 1995), and central bankers themselves thought it unimportant (Masciandaro and Spinelli, 1994; Beblavý, 2003).

There remains considerable debate about the calculation of these indices (Mangano, 1998) and about the direction of causation. For example, it has been argued that German inflation has been low not because the Bundesbank has been independent, but because there has been a social consensus in favour of price stability which has causally affected both inflation and the independence of the Bundesbank. It is also true that the major disinflations in Europe typically preceded rather than followed the increases in CBI. One possible explanation for this is that some central banks may have acquired a great deal of ‘informal’ or de facto independence well before they attained formal independence (Cobham, Cosci and Mattesini, 2008). On the other hand, there is some clear evidence that CBI ‘matters’, for example in the French experience where the statutory independence of the Banque de France was followed
in 1995 by a period of sharp pressure from the government which was successfully resisted by the Banque (Elgie and Thompson, 1998: 139-40).

It is common to associate the growth of central banks’ independence with the rise in their ‘transparency’, that is, their provision of information about past and current decisions and their publication of their forecasts for inflation and GDP growth. It is certainly true that much more information is made available by central banks now than in the 1950s or 1960s. However, it is important to emphasise not just the communication of analysis and forecasts but the ability to make them in the first place. There are no good data on the numbers of economists employed in central banks, but there can be no question that that number has increased enormously. Moreover, while as late as the 1970s academic monetary economists tended to look down on economists who worked in central banks as old-fashioned and out of touch with modern economics, by the late 1990s at least it was clear that central banks were recruiting and making use of economists who were operating at the frontiers of research in monetary and macro economics, and academics came increasingly to learn from and work with them.

The European Central Bank, which has set monetary policy for the euro area since 1999, was deliberately established with complete independence. It is also very strong in terms of technical expertise, employing a large number of economists, and publishing a wide range of regular and occasional monetary and financial reports and around 150 discussion papers per annum. The ECB has been accused by some (e.g. Geraats, 2010) of lacking full transparency compared to central banks like the Federal
Reserve or the Bank of England, but it is possible to take a more favourable view of its transparency (Smets, 2010).

6 Inflation targeting

The first country to introduce a formal inflation target (IT) was New Zealand in 1990, but it was quickly followed by Canada in 1991, the UK in 1992, Sweden, Finland, and Australia in 1993, and a range of others thereafter (see Roger, 2010). The introduction of IT typically followed the failure of the previous monetary policy framework. For example, the UK, Sweden and Finland adopted IT after the collapse of their fixed exchange rates, while Canada, New Zealand and Australia took to IT after periods of discretionary policy (with no clear monetary framework) which were perceived as inefficient and themselves followed the abandonment of monetary targets.

The current monetary policy strategies of the Federal Reserve and the European Central Bank involve an emphasis on price stability, and some observers classify these countries as informal inflation targeters. Others take the view that IT requires the public announcement of a specific target. An analytical distinction is also commonly made between strict and flexible IT, where the latter but not the former involves a concern with the variability of output as well as with inflation. All known inflation targeters are flexible rather than strict.

The official reasons given in the formal IT countries for the adoption of IT included the need for a nominal anchor and the failure of other anchors (monetary or exchange rate targets); the need for a framework for the accountability of the central bank (which often became more independent at the same time); and the argument that an
inflation target provides a clear benchmark and operates as a precommitment in the

time-inconsistency sense. It should be noted that the developed countries which opted

for formal IT were typically smaller Anglo-Saxon or Scandinavian countries from

outside the continental European tradition of sound finance referred to above; they

were also countries which had experienced problems of poor monetary policy and

weak credibility, countries that were ‘institutionally challenged’ in Orphanides’s


Evaluations of the performance of IT are somewhat mixed. The majority view\textsuperscript{26} is that

inflation targeting has worked well, in terms of keeping inflation low without high

output/unemployment variability; and there has been a welcome related improvement

in accountability and transparency. In addition, no country that has adopted IT has so

far abandoned it (except to enter EMU); and there is some tentative evidence that

inflation targeters coped better with the commodity price rises and financial crisis of

2006-9 than non-IT countries.\textsuperscript{27} However, the environment for monetary policy was

much easier in the period from 1990 to mid-2007, and much of the improvement in

inflation performance may reflect that. All developed countries – informal as well as

formal inflation targeters – have had lower inflation in the 1990s and the 2000s than

in the 1980s or 1970s, and most developing countries have had lower inflation in the

2000s than in the 1990s or 1980s. More specifically, while a number of observers

have found that the formal adoption of IT tends to lower inflation, some have argued

that when proper allowance is made for other factors (e.g. past history) the

contribution of IT itself is negligible.\textsuperscript{28}
The current majority view also favours the adoption of IT by emerging economies. Roger and Stone (2005), for example, view the performance of emerging inflation targeters as generally successful, though they note that emerging countries typically take longer than industrial countries to get their inflation down to the ultimate target level, that their inflation under stable inflation targets is more volatile than that of industrial countries and that large target misses have typically been associated with exchange rate shocks. However, it is recognised that many emerging country inflation targeters still pay significant attention to (and manage) their exchange rates, and for good reasons: typically their exchange rates are liable to high volatility, and they have high exchange rate-prices pass-throughs.

7 Inflation targeting and the financial crisis

As mentioned above, there is some evidence suggesting that IT countries as a whole have done relatively well over the financial crisis that started in 2007 (see also Carvalho Filho, 2010; Olafsson and Pétersson, 2011). On the other hand, the UK, the largest IT country, has had a particularly difficult time in the crisis. Moreover, emerging market inflation targeters (but not developed ones) have tended to intervene more strongly in the forex market during the crisis, and in that sense have retreated somewhat from fully-fledged inflation targeting (Stone et al., 2009). However, the more important issues here are whether IT (formal and informal) could have contributed to the occurrence of the crisis, and whether IT should now be modified in some way. There is widespread agreement that aspects of banks’ behaviour and bank regulation were significant factors leading to the 2007-9 financial crisis, but the crisis has given fresh life to decade-long arguments about monetary policy and asset prices.
The relevant assets are equity, housing and foreign exchange, all of whose prices are historically volatile, with periodic large, long swings. The majority view, articulated by Bernanke and Gertler (1999, 2001) was that it is too difficult to identify asset price bubbles and too dangerous to prick them; instead policymakers should just pick up the pieces after/if a bubble bursts.\textsuperscript{31} On the other hand, a minority view expressed most clearly by Cecchetti et al. (2000) argued that policy should respond to incipient bubbles so as to limit their development, by ‘leaning against the wind’ (LATW) (raising interest rates when asset prices seem to be rising too fast, and lowering them when prices are falling too fast).\textsuperscript{32}

One way of putting the argument is this: inflation targeting central bankers typically try to explain their own reaction functions to private agents, in order to keep inflation expectations ‘nailed down’,\textsuperscript{33} and they could try to do the same with asset prices – where the hope would be that expectations would be held down in such a way that action would have to be taken only rarely. In fact most central bankers in the 2000s did not attempt to exercise any comparable influence on asset price expectations. Indeed, the Bernanke and Gertler (1999) recommendation (followed in practice by Greenspan as head of the Federal Reserve) set a floor to asset price expectations, below which prices could not fall, but implied that prices could rise without limit (the so-called Greenspan put). Moreover, there is evidence to suggest that the bubble in US housing prices was identifiable when it was happening and would have been smaller if interest rates had been raised earlier (Taylor, 2009); and in that case, although – given the flaws in the financial regulatory system – the crisis might not have been avoided, it would have been less sharp and less deep.\textsuperscript{34}
The conventional reply to this view, as presented in Allsopp (2010), is that one instrument can be used to pursue only one target and it is essential to have clarity about its assignment: the interest rate should be assigned exclusively to targeting inflation (in goods and services), and if it were not there would be a danger of worse performance on inflation without any definite gain elsewhere. However, Papademos (2009), the first major central banker to talk positively about ‘leaning against the wind’, has argued that the ECB’s definition of price stability as inflation close to but less than 2%, in conjunction presumably with its goal independence, would allow it to implement an LATW strategy if it wished; and that the ECB’s analysis of monetary and credit developments designed to identify longer-term inflation risks (the second ‘pillar’) should provide the appropriate signals of rising financial imbalances. Filardo and Genberg (2010) discuss explicitly the idea that a central bank could usefully have multiple objectives, which would also facilitate LATW where necessary.

8 Conclusions

The developed countries have tried between them a wide range of different monetary policy frameworks. Over time, there is no doubt that the operations and frameworks of monetary policy have improved enormously. Their experience provides a goldmine of examples and lessons for policymakers in developing or emerging economies who are thinking of taking the same road. However, three warnings are in order.

First, different monetary policy strategies require different types of monetary architecture. Most obviously, a (formal or informal) inflation targeting strategy, in which the central bank operates through interest rates and makes decisions on interest rates on a continuous discretionary basis, can be implemented only in an economy
where there are developed money and bond markets and by a central bank which has significant independence and a high level of professional expertise. But that means that policymakers considering a move towards IT need to consider the transitional and longer term costs involved in setting up and operating these markets and transforming and running their central bank.

Second, it is worth noting that good policymakers can make a poor monetary framework perform adequately while poor policymakers can sabotage a good framework. An example of the former might be the Bundesbank’s operation of monetary targets, an example of the latter might be the problems in the ERM in 1992-3 stemming from government decisions. This point emphasises the importance of central bank expertise and independence with respect to policy decisions (and not just on the technical level), which cannot be acquired easily or instantaneously.

Third, since the financial crisis if not before, it should be clear that inflation targeting is not necessarily the end of the road for monetary policy strategies. It may be a stage that some countries – particularly those with poor records and/or heavy subordination of their central banks to their ministries of finance – have to pass through. But in the longer run it may be both inevitable and desirable that central banks with established reputations will come to use their credibility to pursue slightly different objectives in different situations.
Notes

1 This distinction is set out at greater length in Cobham (2011), which uses it as a framework for analysing the positions of MENA countries.

2 It could also operate a monetary target, but there is no good reason why it would want to do so.

3 At least not by market forces alone: in some case the central bank may have sufficient administrative authority to ensure that commercial banks change their own rates in response to changes in policy rates.

4 See also Sumner (1980).

5 In the UK this is particularly clear: monetary targets were first mentioned at the height of the prolonged sterling crisis of 1976, as a way of trying to calm the foreign exchange markets. Subsequently they were also seen as a way of deflecting attention from the unemployment consequences of disinflation (Fforde, 1983, pp. 201-2).

6 See the summary of the discussion and references in Goodhart (1991: 295-6).

7 See, for example, the locus classicus for this argument in Bank of England (1986).


10 For general references on the 1970s and before see Holbik (1973) and Durand (1986).

11 According to Fratianni and Spinelli (1997: 244) the M2 target had taken priority over the domestic credit target from 1983 or 1984.


13 Capital controls were also phased out in the second half of the 1980s.

15 Many of the EMS countries managed to go on operating monetary targets as well as the exchange rate targets implied by the EMS (for example, the Banque de France and the Banca d’Italia had monetary targets right up to 1998), and in so doing they defied the textbook wisdom that monetary and exchange rate targets are incompatible. That wisdom is correct if the targets are independent, but if they are set in relation to each other they may be compatible. In practice the exchange rate targets gradually came to take precedence, and by the late 1980s in any case these countries gave priority to exchange rate targets in case of conflict.


17 Mélitz (1994) has articulated such a view with respect to France and the crisis of June-July 1993, while Cobham (2002, chapter 5) presents a related argument for the UK’s exit from the ERM in September 1992.

18 See Berger, de Haan and Eijffinger (2001) for a survey of this literature, and Laurens, Arnone and Segalotto (2009, chapter 6).

19 The evidence for developing countries is much less clear. The standard response to this has been that the rule of law is weaker in developing countries so that statutory independence is not a good measure of de facto independence, and Cukierman, Webb and Neyaptı (1992) and others have managed to retrieve the relationships between CBI and inflation/growth by using the turnover rate for central bank governors as an alternative measure of actual independence.

See, for example, Hayo (1998), and Posen (1993, 1998).

The outstanding example here is the Banca d’Italia, which acquired a position as both the best source of economic policy analysis and as the most apolitical institution in Italy. This might constitute an interesting role model for central banks in some developing or emerging countries with relatively weak governments.

See, for example, Geraats (2002).

Anecdotal estimates for the Bank of England would put the number of trained economists (with MSc and/or PhD degrees) employed there in the 1950s as below ten, and the number in the 2000s as closer to 100.

See, for example, Heikensten (2010) for the insistence on an explicit announcement, and Allsopp (2010) for a more inclusive view.

See, for example, Roger and Stone (2005), Roger (2010), Schmidt-Hebbel (2010) and Petursson (2010).

See Roger (2010), but also Filardo and Genberg (2010).

See Ball and Sheridan (2005) and Filardo and Genberg (2010).

See also Roger (2010) and Schmidt-Hebbel (2010).

See Stone et al. (2009).

See also Posen (2006).

See also Wadhwani (2008) and Roubini (2006).

See, for example, Allsopp (2002).

See also Borio and White (2004), who suggest that changes in monetary policy, including formal and informal inflation targeting, together with changes in the financial structure have made the financial system more ‘elastic’, that is more vulnerable to boom and bust, to shocks and crisis.

See also Dale (2010).
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