The transition to inflation targeting in an emerging economy: selected issues

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Abstract

Monetary policy in Argentina is in transition to an inflation targeting regime with a floating exchange rate. As reviewed in this note, several measures have been taken to normalise the functioning of exchange rate and money markets. The next steps will present a number of challenges, many of them common to monetary policy implementation in EMEs. We look at the relationship between objectives and instruments in the monetary policy strategy, the role of the exchange rate, the initial conditions for adoption of inflation targeting, and the types of shock that EMEs are exposed to and how these may influence the strategy adopted.

Keywords: Monetary policy; monetary regime; policy objectives; policy instruments; inflation targeting; exchange rate

JEL classification: E50, E61

Introduction

Monetary policy in Argentina is in transition to a regime that will shift the relative emphasis between the central bank's various mandates as set out in its charter: monetary stability, financial stability and economic growth. The idea is to pursue those three objectives by moving the first aim to top of the agenda, given that the economy has a history of double-digit inflation rates. In addition, central bank policy will continue to focus on financial stability and the development of the financial system – a matter of potential significance when credit to the private sector stands at less than 15% of GDP. Improving access to financial services and developing new means of payment is the third pillar of this strategy. In this note, we review recent developments in the Argentine economy and outline a number of issues relevant for the transition to an inflation targeting regime.

Economic situation until December 2015

The Argentine economy deteriorated sharply during the first half of the 2010s, presenting a major challenge for the conduct of economic policy, particularly monetary policy. By December 2015, the country had experienced several years of low economic growth, an inflation rate persistently above 25% since 2007 (Graph 1), a burgeoning fiscal deficit, partly funded by the central bank, a system of multiple exchange rates that prevented the generation of exports (already affected by high taxes on foreign sales by the agricultural sector) and foreign investment. These factors, in turn, meant that imports had to be purchased with foreign exchange. Meanwhile, the legal situation of its public debt resulted in a country risk rating that was higher than that of most neighbouring countries.

Retail prices   Graph 1
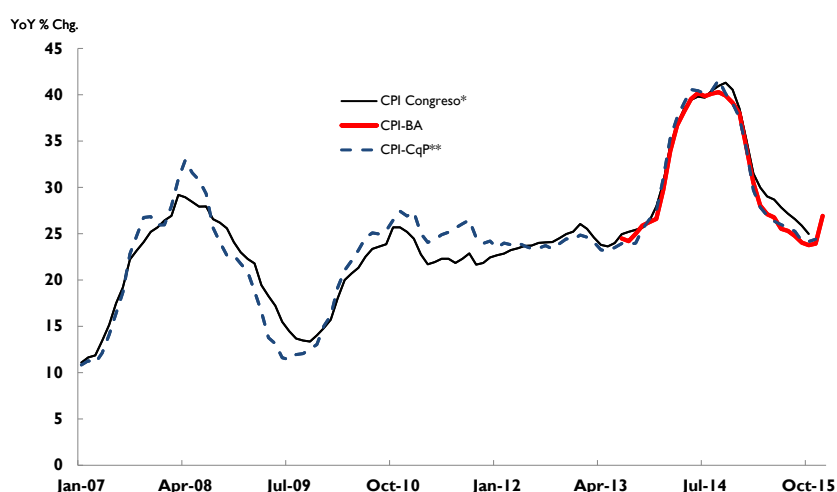
*The index elaborated by Congress was first released in April 2011; for earlier periods, an average of the indexes provided by a group of private consulting firms was used.

 **Index elaborated by the "Cosas que Pasan" website. It is calculated implementing a geometric weighted average of the official price indexes of a handful of provinces. The weights are proportional to the correlations each index had with the CPI-GBA.

Output growth came close to a standstill during the last four years, while public and private consumption increased their share in aggregate demand at the expense of investment. In this scenario of low economic growth, inflation has hovered at around 25% annually since 2007, beyond the rate associated with an unfavourable external environment (2009) or movements in the exchange rate (2014). It has been a decade since double-digit levels of inflation became entrenched in Argentina, far outstripping the international average for the period, which stands at 4.1%. The value of the currency has been correspondingly weakened, driving partially compensating devaluations.

The public finances also showed a systematic deterioration in the past five years, moving from a balanced budget to a large fiscal deficit last year. While revenues grew quickly, primary expenditure increased at an even higher rate, several components of which include automatic adjustment mechanisms, accounting in total for over 60% of primary spending.

The deterioration in the public finances went together with an increasing reliance by the Treasury on the central bank's assistance, implying an accelerating increase in base money and/or a fall in international reserves. Thus, fiscal dominance prevented the central bank from pursuing the objectives set out in its charter.

Monetary policy was systematically expansionary, so that monetary aggregates increased their annual growth rate from around 20% before the subprime crisis to a range of 30–40% from 2010 onwards, temporarily interrupted between 2013 and 2014 (Graph 2).

Monetary base and local currency monetary aggregates of the private sector

Inter-annual rate of change   Graph 2
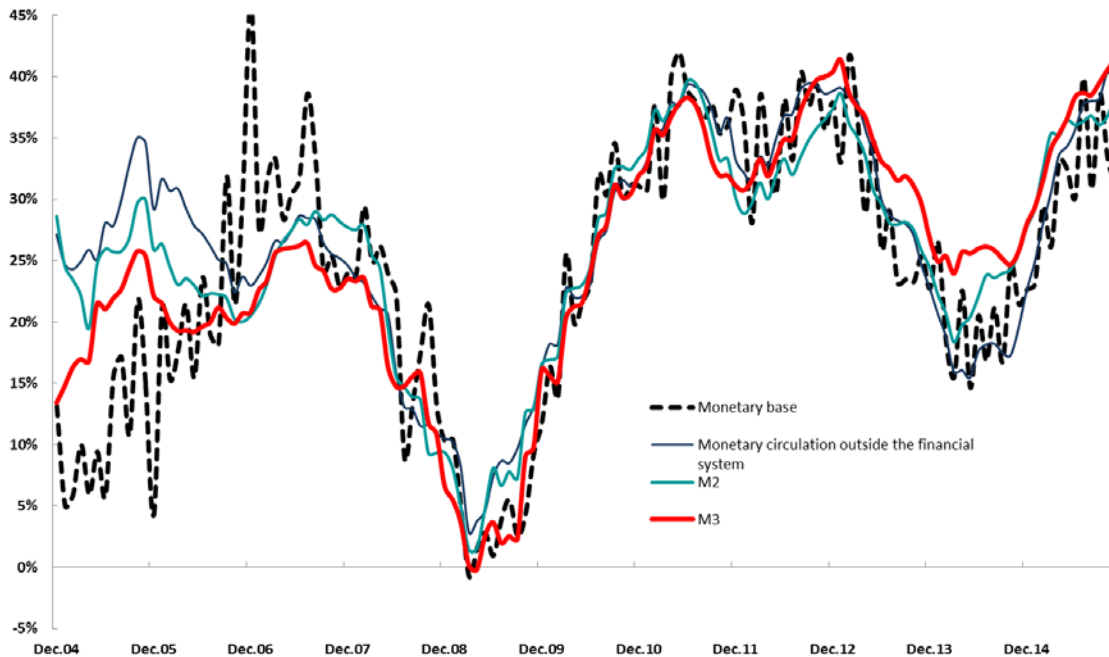
While the Treasury's demands for funding translated into an increase of the central bank's liabilities, the use of its international reserves to pay public debt in foreign currency and the deterioration in the external accounts depleted its assets. The trade balance deteriorated from a US$12.2 billion surplus in 2012 to a deficit of approximately US$2.2 billion in 2015. The trade deficit was worsened by the system of multiple exchange rates, which subsidised tourism abroad and the purchase by the public of the central bank´s international reserves, while penalising exports and capital inflows.

Restrictions on the sale of foreign currency, as well as on dividend and royalty payments by foreign companies and on import payments, came into force in 2011 with the aim of reducing demand for foreign exchange. Although these measures were partially effective in containing foreign currency sales by the central bank and in temporarily stabilising the international reserves, it was clear that they also restricted the supply of foreign exchange as well as demand for it, thus severely penalising economic activity. Soon afterwards, international reserves resumed their sharp downward trend.

Combined with an expansionary monetary policy, the inefficient administrative exchange rate scheme raised tensions in the foreign exchange market. These were reflected in the widening gap between the official exchange rate and the one implicitly revealed in the arbitrage of securities denominated in both domestic and foreign currency – and also in the general public's rising demand for foreign currency. Ultimately, the central bank became a net seller of foreign exchange in the spot market and practically the only bidder in the forward market. The situation was soon perceived as unsustainable.

Exchange rate and monetary normalisation

With the change of government on 10 December 2015, the central bank started to normalise monetary policy and the foreign exchange market. The three immediate priorities were to unify the foreign exchange market; standardise open market operations; and restructure the central bank balance sheet.

a) Unification of the foreign exchange market

In line with the new administration's priorities, a single exchange rate was established for all transactions and all restrictions were lifted on current account transactions. Restrictions on capital account transactions remained in place. To deter hoarding, the acquisition of foreign currency continued to be limited to US$2 million a month for businesses and individuals. The backlog of payments for imports owned to the business under the administrative exchange rate was subject to a settlement procedure.

With the announcement of the market exchange rate, the central bank let the exchange rate float freely. Simultaneously, international reserves began to trend upwards again.

b) Changes to the auction of central bank securities

A key channel of monetary intervention in Argentina is the weekly call for bids for the central bank's debt instruments (LEBAC and NOBAC). Before the exchange market was unified, the central bank interest rates on central bank securities rose. The higher interest rate and a more complete term structure, with maturity from 35 days, helped to deal with the monetary overhang.

Additionally, the central bank abandoned caps on loan and deposit interest rates set in line with the interest rates paid on central bank securities. From 17 December 2015, financial institutions have been able to negotiate interest rates freely with their customers. Time deposits in local currency have reversed the downward trend shown during the first half of December.

c) Strengthening the central bank's balance sheet

The policies implemented by the central bank in recent years eroded the quality of its balance sheet, hindering it from meeting its objectives. International reserves significantly reduced their share in total assets, falling from 50% in 2005 to 16% in 2015. Meanwhile, the share of credit to the government in total assets increased, mainly by the placement of non-marketable treasury bills. The exchange of three sets of these securities (those issued in 2006 and in 2010) for marketable and liquid treasury bills, worth US$16 billion, significantly strengthened the central bank's balance sheet.

Monetary and exchange rate policy plans for 2016

As the central bank's primary objective is to seek price stability, which is the principal objective in its Governing Law, policies and measures will focus on ensuring a gradual decline in domestic inflation. While putting in place the above-mentioned reforms, the central bank had already started to take the inflation rate into account in its monetary policy decisions. The announced publication of a new price index in 2016 will allow the central bank to monitor inflation more accurately.

To meet its objective, the central bank relies mainly on the interest rate paid on own securities and on repurchase agreement operations. The growth of monetary aggregates will be consistent with the observed behaviour of domestic prices.

The targeting of monetary aggregates faces significant challenges arising from money demand shocks. This renders difficult to specify an objective in terms of the rate of growth of money. However, the change in policy is meant to reduce the money growth rate considerably in light of the objective of cutting down the inflation rate.

The central bank seeks to communicate its assessment of observed inflation as well as its planned policy measures. The exchange rate will be left to float freely, with the aim of absorbing external shocks and insulating the money market from them. Monetary policy instruments will be used to deal with excess volatility in nominal variables. The medium-term goal is to decouple the behaviour of the nominal exchange rate from that of inflation. This will be accomplished by the adoption of an inflation targeting regime together with a managed floating exchange rate (see Central Bank of Argentina (2015)).

Towards a consistent monetary strategy

The adoption of a price stability-oriented monetary policy framework raises a number of questions for an emerging market economy (EME) such as Argentina. This section discusses the relation between objectives and instruments in the monetary policy strategy, the role of the exchange rate, the financial system, the initial conditions for adoption of inflation targeting, and more generally, the types of shock that EMEs are exposed to and how these influence the adopted strategy. The aim is to provide an overview of challenges in moving to inflation targeting.

a) Monetary policy strategy

When first introduced, in the early 1990s, inflation targeting was an innovation for EMEs. However, the announcement of a numerical target, the assurance that the central bank would do all in its power to reach the target and its recourse to "all available instruments" in pursuing that aim do not amount to a guarantee that (a) appropriate instruments will be found; (b) operational and intermediate targets will be appropriately defined; or (c) inflation expectations will be effectively "anchored" at the target level.

Central banks do not set objectives or deploy instruments in a vacuum: the institutional structure of the central bank and its relationship with the rest of economic policymaking agencies have to be considered, as do structural (and short-term) features of the economy that constrain policy actions. Exogenous factors (from the point of view of the central bank) gain importance as we get closer to the final targets. At the same time, the central bank's degree of control tends to decrease. In other words, the final outcome of a monetary policy strategy is directly related to the central bank's accountability, but also to the influence of exogenous factors. This makes consistency between instruments, targets and the context of policy actions of the utmost importance. Graph 3 summarises these points.
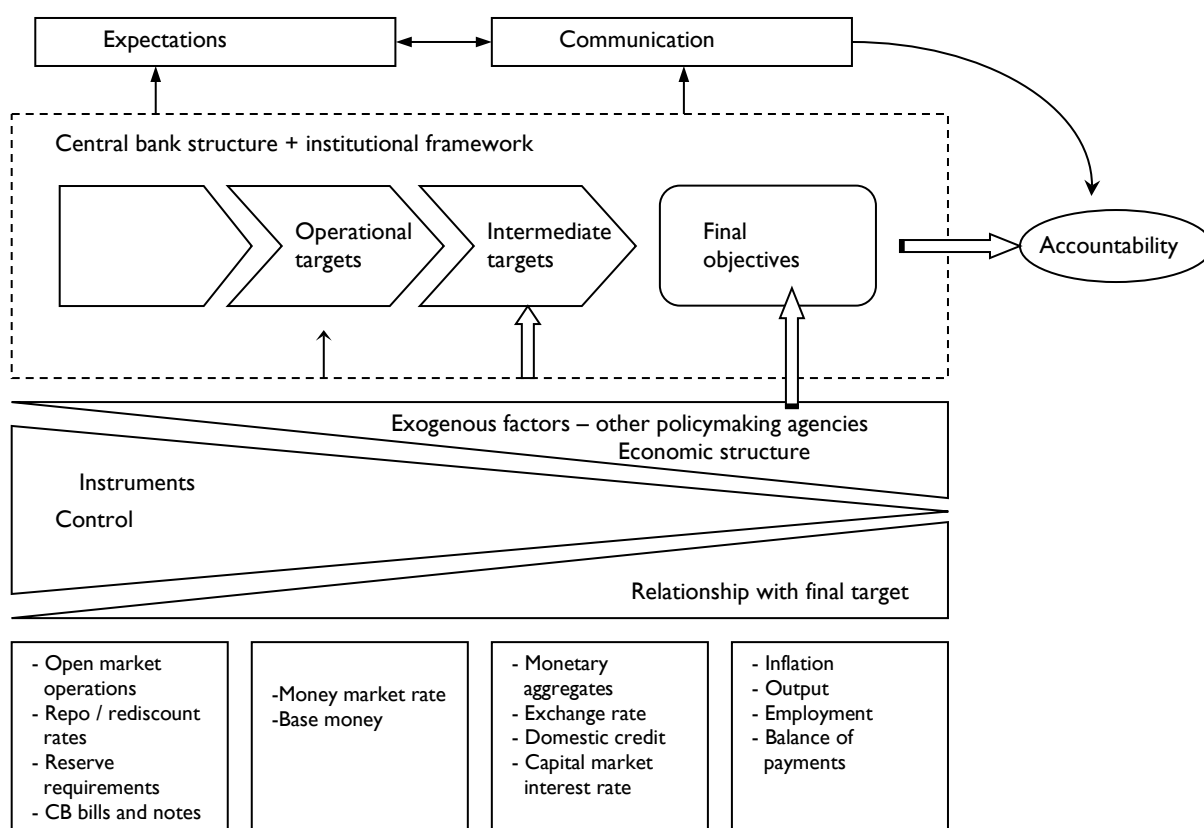
Source: based on Houben (2000).

The trade-off between the degree of control of instruments/operational targets and relevance of the final target is crucial for the design and implementation of monetary policy strategy. It is also closely related to elements that influence a central bank's targets, such as exogenous factors that are beyond the central bank's reach but determine outcomes that the central bank is concerned about. What Graph 1 should make clear is that the sequence that goes from instruments to ultimate targets is a system whose determination the central bank only partially controls, and therefore the concrete implementation of a monetary policy strategy should openly recognise this. Many discussions of inflation targeting design can be usefully framed in terms of such a scheme. They include the following questions:

- Which are the instruments available to central banks, and which they should develop?

- What is the mapping from instruments to outcomes, ie what are the transmission mechanisms for monetary policy and what is the underlying economic model?

- What particular types of shock is the economy subject to? This not only constrains what instruments the central bank may use, but should also determine what target to set. For instance, EMEs are subject to different shocks from those that affect advanced economies, and of different magnitudes (see Section c).

- What is the institutional framework? This involves not only the formal arrangements but the actual functioning of institutions and their interplay.

- What are the macroeconomic and financial conditions at large, including the fiscal stance, the external situation and the financial system? Traditionally, "fiscal dominance" was traditionally viewed as a key determinant of monetary policy (see Section d), while, in Latin American economies, external conditions have largely been regarded as playing that role. However, the 2007–08 crisis highlighted the relationship between financial system performance and monetary policy as a key factor for monetary policy. As monetary policy influences not only the business cycle but financial cycles too (Borio (2012)), an inflation targeting policy that focuses only on inflation and output growth misses an important dimension that ultimately affects the entire economy, rather than being "contained" within the financial system.

The foregoing implies that there is no single strategy or monetary regime that is suitable for all countries, and not even for the same country all the time. This insight is even more important when a transition to a new monetary policy framework is implemented. In what follows, we touch on three particular points that illustrate different challenges faced by such an implementation, in terms of instruments, targets and exogenous shocks.

b) Shocks, target and policy dilemmas

The shocks faced by EMEs are different in kind and magnitude from those that affect advanced economies. Supply shocks disrupt, among other things, the balance that policymakers seek to strike between the inflation target and stabilising the output gap relevant for welfare (Blanchard and Galí (2005)). Thus, accommodating supply shocks to protect economic activity may mean accepting higher inflation. In this way, a shock can influence the choice of monetary policy in at least two ways: by opening up or worsening policy dilemmas (nominal vs real stabilisation), or, in the case of inflation targeting, by making it harder to achieve the target. Indeed, inflation targets should take potential shocks into account in their rate, compliance horizon, and other terms.

A comparison of advanced economies' inflation performance vis-à-vis target with that of EMEs reveals some differences. EMEs' targets have remained above those of advanced economies over time, even if the difference has decreased in the last decade and a half (Graph 4a). But the targets of Latin American are above the EME average. Likewise, EMEs tend to exceed their targets, and by more and for longer than advanced countries do (Graphs 4b and c). These graphs are comparable with the results in Roger and Stone (2005). It is worth pointing out that the only episode in which deviations from target in advanced economies were similar in size and sign to EMEs' was during the Icelandic financial crisis – but this is precisely the type of shock that is more frequent in EMEs.

Indeed, while the mean deviation from target is positive in EMEs, it is close to zero in advanced ones (and negative if the Icelandic crisis is excluded); the median deviation in advanced countries is also zero, while it is positive in EMEs (Table 1). Within the latter group, Latin America shows a higher mean and median deviation from targets than do other EMEs as a group. Finally, the volatility of deviations from target in EMEs, as measured by the root mean squared deviation, is over 100% that of advanced countries (excluding the Icelandic crisis). The key point is that the relative

performance against targets could be a function of the shocks experienced by different economies and this should be taken into account in the design of the monetary policy strategy.

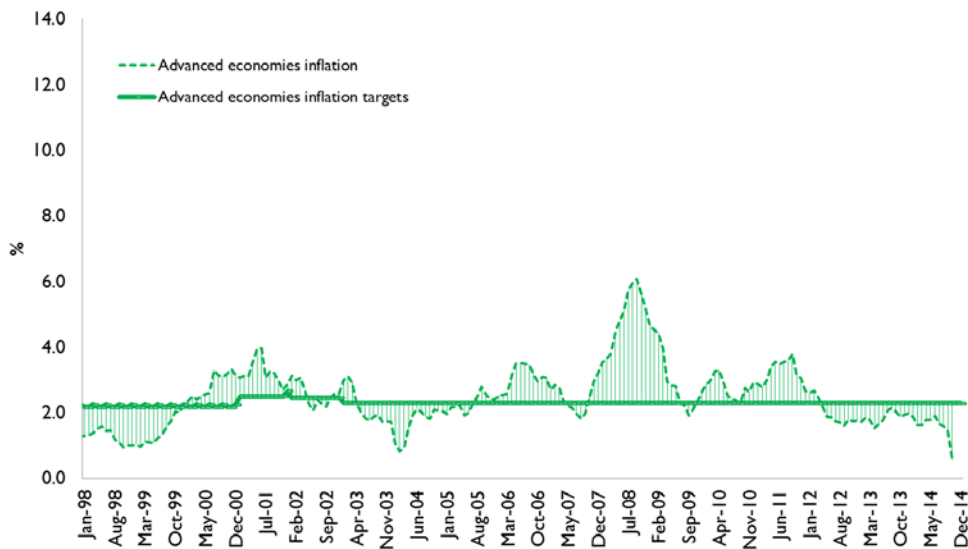Inflation targets in emerging markets and advanced economies
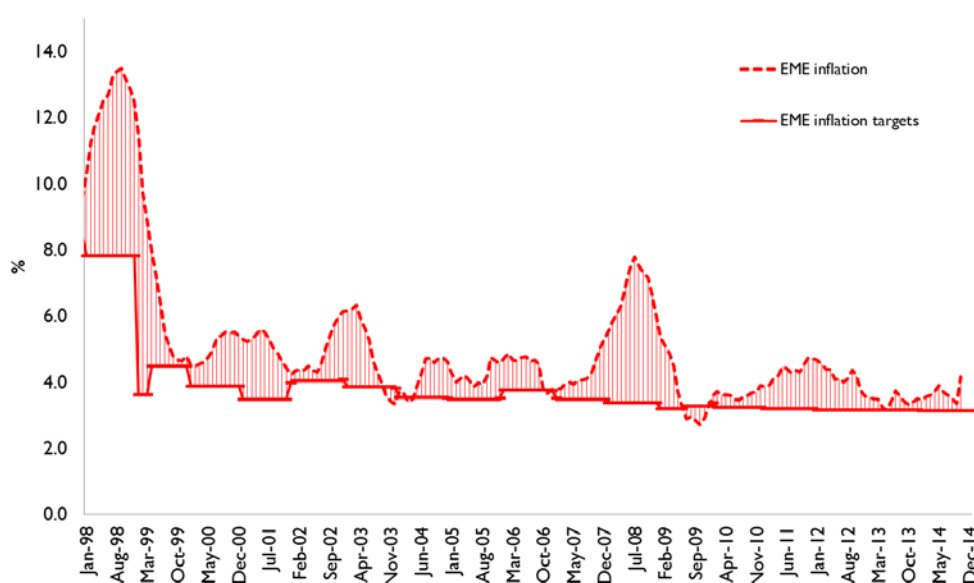
Graph 4
(a)
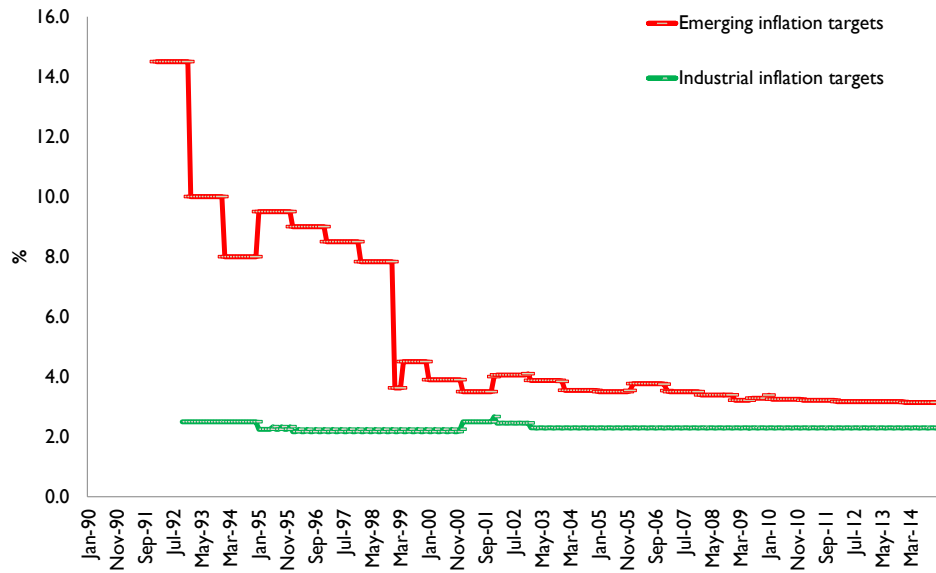
Sources: IMF, *International Financial Statistics*; central banks; author's calculations.

Inflation outcomes relative to target: advanced economies, 1998–2014

Graph 4
(b)

Sources: IMF, *International Financial Statistics*; central banks; author's calculations.

Inflation outcomes relative to target: emerging market economies

Graph 4
(c)

Sources: IMF, *International Financial Statistics*; central banks; author's calculations.

Note: deviations from targets are calculated from centre of target ranges for countries with band targets.

Inflation outcomes relative to target or centre of target ranges, 1992–2014

Table 1

COUNTRIES	MEAN DEVIATION	ROOT MEAN SQUARE DEVIATION	MEDIAN DEVIATION
EME (total)	**0.75**	**5.57**	**0.60**
EME (non LA)	0.50	5.63	0.33
EME (LA)	1.14	5.48	0.99
Advanced economies	**0.27**	**4.47**	**0.02**
Advanced economies (excl. Crisis)	**0.08**	**2.38**	**0.02**

Sources: IMF, *International Financial Statistics*; central banks; author's calculations.

The current situation in Latin America serves as an illustration: a "sudden stop" in capital flows associated with US monetary policy tightening has coincided with a real appreciation of the dollar and lower commodity prices. Exchange rate depreciation should take the brunt of the necessary adjustment, helping to boost output. But, at the same time, this may lead to inflationary pressures. To offset such pressures, monetary policy needs to tighten, but this will also weigh negatively on economic activity.

The conventional view in much of Latin America is that, thanks to the successful anchoring of inflation expectations, countries will be more capable than before of

sustaining real exchange depreciations without much pass-through to inflation. However, inflation is gradually picking up in several countries, and it seems inappropriate to use pass-through estimates based on the experience of recent years to forecast the impact of a shock on the scale of the one currently assailing the region.

The combination of tighter monetary policy and falling commodity prices also poses risks to financial stability. While a financial crisis is unlikely to happen in Latin America, episodes of financial instability associated with the rise in corporate debt cannot be ruled out. This is not the "classic" currency mismatch problem of foreign currency liabilities in the financial system, but rather the foreign currency debt of corporations that do not generate income in that currency. And the financial system could still be affected by corporate solvency problems that feed through to the banks.

It should also be noted that, while many corporations are hedged against currency movements, the counterparties for such hedges are local central banks, which cannot provide liquidity in foreign currency. Moreover, monetary tightening in the United States could result in capital outflows, entailing a certain amount of financial disruption. If capital outflows from EMEs drain their markets of liquidity, and if Latin American central banks cannot fully accommodate the demand for foreign exchange, the trade-off between internal and external stabilisation may become more pronounced.

c)   Monetary policy instruments and the role of the exchange rate

Inflation targeting has become closely associated with the use of short-term, nominal interest rates as policy instruments and a freely floating exchange rate. While a central bank may in principle use any instrument at its disposal, interest rates are seen as the primary policy tool. The analytical underpinnings of this view are found in the New Keynesian model with an interest rate rule. This implies that other variables will react endogenously, including the nominal exchange rate (even if rules can be devised where interest rate is also a function of exchange rates; see Taylor (2001)). Close links have therefore developed between inflation targeting, interest rate rules and floating exchange rates (Bernanke et al (1999), Bernanke and Woodford (2005), Mishkin (2006)). However, the policy debate has usually focused on the distinction between inflation and other objectives, including exchange rates. When analysing the role of exchange rates in inflation targeting regimes, Stone and Roger (2009) note that emerging economies' "sharper focus on the exchange rate may cause some confusion about the commitment of their central banks to the inflation target and may also complicate policy implementation".

Indeed, the role of the exchange rate is more prominent in EMEs' monetary and financial stability frameworks. Measures such as systematic foreign exchange interventions or liquidity supply to the money market through multiple instruments have long been part of EMEs' policy "toolboxes", even in countries with inflation targeting regimes. Inflation targeting in Latin America differs systematically from the "Taylor rule-cum-pure floating" formula supposedly associated with Chang (2008). Far from being a deviation from best practice in monetary policy by the region's countries, it reflects the need to shield the economy from abrupt changes in international financial conditions. Indeed, countries that have adopted inflation targeting and a foreign exchange regime that differs from a purely floating one do not necessarily pay inflationary costs – in some cases, managed floating has been associated with lower inflation (Aguirre and Burdisso (2008)). Berganza and Broto

(2011) outline the dilemma between fulfilling the conditions for "strict inflation targeting" and a freely floating exchange rate, and "flexible inflation targeting", a de facto managed floating exchange rate. They find that, although inflation targeting leads to higher exchange rate volatility than alternative monetary regimes, foreign exchange interventions in some economies that operate under an inflation targeting regime have been more effective in reducing volatility than some non-inflation targeting jurisdictions have. This type of policy has come to be known as "unconventional" but the label applies largely to advanced economies, whereas in the EME world such measures are not necessarily associated with exceptional responses to the international financial crisis (see García-Cicco and Kawamura (2014) for modelling of such responses).

Exchange rate intervention does not need to be linked to a higher or lower degree of monetary autonomy. It should rather be seen as one additional tool that the central bank may potentially use to reduce the volatility of the business cycle. For instance, Escudé (2009) shows, in the context of a dynamic stochastic general equilibrium (DSGE) model, that managed floating, together with an interest rate policy, is optimal for a large set of alternative policymakers' preferences with different weights to the volatility of different variables. While the model is calibrated for the Argentine economy, its design is perfectly adaptable to inflation targeting economies (as it includes a Taylor rule with an inflation target). Aguirre and Grosman (2010) use a structural model to assess empirically whether a managed floating regime is associated with lower volatility of key macroeconomic variables than under a pure floating or a fixed exchange rate regime – and their findings suggest lower volatility under managed floating.

Thus, while actual performance depends on the specific circumstances of each economy, there are reasons to believe that a managed float actually enhances the possibility of achieving different policy objectives – indeed, it may not necessarily clash with a price stability objective. With a floating regime, the exchange rate acts as a shock absorber, but it can be managed to tame excess volatility that may weigh on price and financial stability.

d) Macroeconomic policies and initial conditions

The prerequisites for a successful inflation targeting regime, as for any other type of policy regime, include central bank independence, instrument independence, fiscal solvency, the absence of external dominance and a sound financial system. The importance of fiscal solvency for monetary policy, especially in EMEs, is well established: high fiscal deficits and too great a debt burden hinder the central bank in steering monetary and credit growth.

Still, evidence shows that not all countries that have adopted inflation targeting fulfilled all the economic, technical and institutional conditions deemed necessary for its success. In the case of fiscal solvency, the initial conditions differed considerably across economies (Graph 5) and a considerable number of countries that adopted inflation targeting as their monetary strategy did so at a time when they were sustaining large fiscal deficits. Among these, the advanced economies had the highest fiscal deficits and greater access to international financial markets.
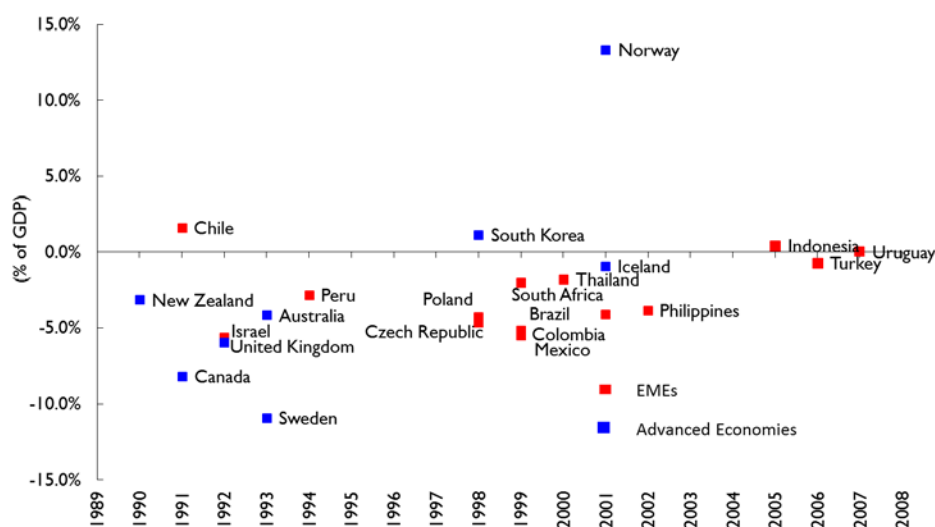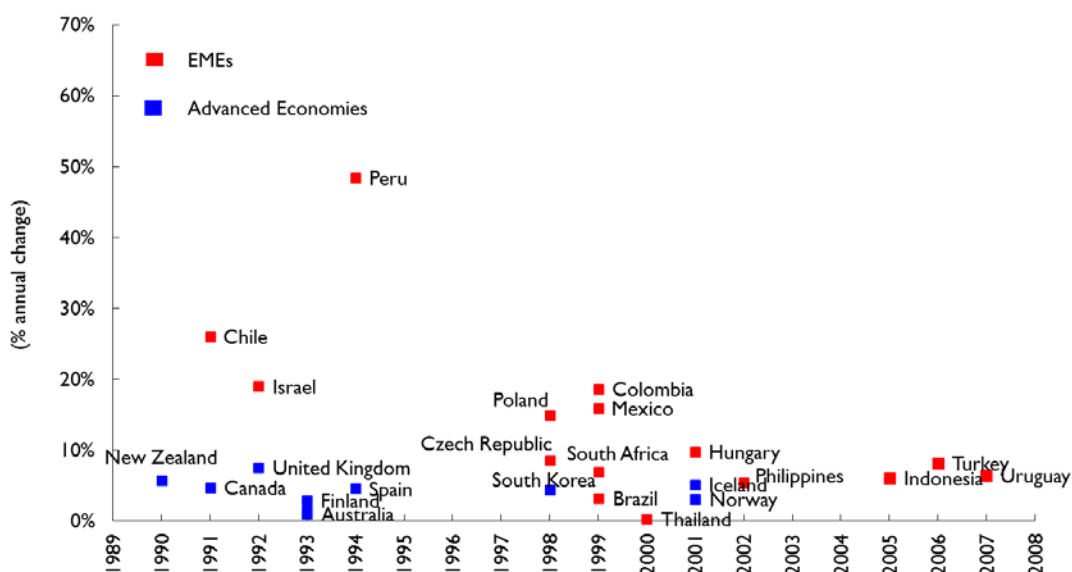
Sources: IMF, *International Financial Statistics*; author's calculations.

Not all countries have implemented inflation targeting together with a fully flexible exchange rate regime. Some have even kept implicit or explicit exchange rate targets with the aim of preventing sharp exchange rate fluctuations and limiting current account imbalances.

Even if it is not a prerequisite for inflation targeting, it is worth looking at the inflation rate at the time when inflation targeting is implemented (Graph 6). In general, EMEs have started from higher inflation rates than in the case of advanced economies. In these cases, inflation targeting helped to bring down inflation from moderate to high levels (10–40% annually). In the case of advanced countries, the motivation could have been to "lock in" price stability gains already achieved.

Lacking the usual prerequisites for inflation targeting does not preclude a country from successfully implementing such a regime. The prerequisites are no more crucial for inflation targeting than for any other monetary policy strategy. Perhaps they could be thought of as standards or benchmarks that indicate how ambitious policymakers can be in putting the scheme in place.

Consumer Price Index percentage change at the time of the introduction of an inflation targeting framework   Graph 6

Sources: IMF, *International Financial Statistics*; author's calculations.

Concluding remarks

After several years of double-digit inflation annual rates, monetary policy in Argentina is in transition to inflation targeting combined with a managed floating exchange rate. The functioning of exchange rate and money markets has seen considerable policy-induced changes. The next step will pose a number of challenges, many of them common to monetary policy implementation in EMEs. Most importantly, the establishment of a consistent framework will have to take into account the specific types of shock that an emerging economy faces.

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