STRUCTURAL ISSUES FOR SUCCESSFUL INFLATION TARGETING IN TRANSITION COUNTRIES

by

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The last half of the 1990s have seen the adoption of inflation targeting in several transition countries, including Poland, Hungary and the Czech Republic. Although inflation targeting has generally been quite successful in the countries that have adopted it, the transition countries differ in important ways from many of the successful inflation targeters in industrialized countries. Thus there are several structural issues that are particularly relevant to the success of inflation targeting in transition countries and this paper discusses them.

I.

Structural Pillars of Inflation Targeting

Inflation targeting involves the announcement of a medium term target for the inflation rate along with accountability for the central bank to achieve this target. Successful inflation targeting is based on six structural pillars:

- 1. Absence of other nominal anchors.
- 2. Institutional commitment to price stability and the inflation target.
- 3. Central bank instrument independence.
- 4. Increased transparency through public communication.
- 5. Absence of fiscal dominance.
- 6. Safe and sound financial system.

These six pillars raise several structural issues that are particularly important to the transition countries. The first pillar that there must be no other nominal anchors besides the inflation target raises the issue of what role the exchange rate should have in an inflation targeting regime. This issue is discussed in the following section II. The second through the fourth pillars, dealing with an institutional commitment to the inflation target, instrument independence and public communication, raise the issue of how the government and the

central bank should interact in the inflation targeting regime and it is discussed in section III. Pillars five and six suggest that government policies are needed to promote fiscal balance and a sound financial system. This issue is discussed in section IV, with concluding remarks in the final section.

II.

Role of the Exchange Rate?

There is no question that central banks' care about the their countries' exchange rate. Changes in the exchange rate can have a major impact on inflation, particularly in small, open economies of the transition countries. For example, a depreciation of the currency can lead to a rise in inflation because of the pass through from higher import prices and greater demand for the country's exports.

In addition, the public and politicians pay a lot of attention to the exchange rate and this puts pressure on the central bank to alter monetary policy. An appreciation of the domestic currency can make domestic businesses uncompetitive, while a depreciation of the currency makes domestic residents feel poorer relative to their European neighbors. There may also be an element of national pride in the value of the currency. When the domestic currency falls in value, the public may see this as a failure of their economy. This problem became evident in the European Monetary Union when the initial decline of the euro became a big political issue and the European Central Bank was blamed, I think unfairly, for the euro's decline. The result was calls for monetary policy tightening even at times when inflation expectations and forecasts were not suggesting that inflation was rising above the target range.

Transition countries, rightfully, have an even greater concern about exchange rate movements. Not only can a real appreciation make domestic industries less competitive, but it can lead to large current account deficits which might make the country more vulnerable to

currency crisis if capital inflows turn to outflows. Depreciations in transition countries are particularly dangerous because they can trigger a financial crisis along the lines suggested in Mishkin (1996, 1999b). These countries often have a substantial proportion of their debt denominated in foreign currency and when the currency depreciates, this increases the debt burden of domestic firms. Since assets are typically denominated in domestic currency and so do not increase in value, there is a resulting decline in net worth. This deterioration in balance sheets then increases adverse selection and moral hazard problems, which leads to financial instability and a sharp decline in investment and economic activity. This mechanism explains why the currency crises in Mexico in 1994-95, East Asia in 1997, Turkey in 2000-2001 and Argentina in 2001-2002 pushed these countries into full-fledged financial crises which had devastating effects on their economies.

Transition countries also have a particular concern with their exchange rates because they went to become part of the European Union and the eurozone. Thus they must eventually fix their exchange rates to the euro as part of their planned entry into the European Monetary Union and so naturally care more about what exchange rate they will convert their currency into the euro upon accession. Furthermore, one of the transition inflation targeters, Hungary, embarked on inflation targeting with a very narrow exchange rate band. Only in May 2001 did the Hungarians substantially widen this band to plus and minus fifteen percent, but they still have a strong focus on the exchange rate in their inflation targeting regime.

The fact that exchange rate fluctuations are a major concern in so many countries raises the danger that monetary policy, even under an inflation targeting regime, may put too much focus on limiting exchange rate movements. The first problem with a focus on limiting exchange rate movements is that it runs the risk of transforming the exchange rate into a nominal anchor that takes precedence over the inflation target. For example, as part of its inflation targeting regime, Israel had an intermediate target of an exchange rate band around a crawling peg, whose rate of crawl was set in a forward-looking manner by deriving it from the inflation target for the coming year. Even though the Bank of Israel downplayed the exchange rate target relative to the inflation target over time, it did slow the Bank's efforts to win support for disinflation and lowering of the inflation targets (see Bernanke et al, 1999.)

The second problem from a focus on limiting exchange rate fluctuations is that it can induce the wrong policy response when a country if faced with real shocks such as a terms of trade shock. Two graphic examples occurred in New Zealand and Chile in the late 1990s.

As was mentioned earlier, the short horizon for the inflation target in New Zealand led the Reserve Bank to focus on the exchange rate as an indicator of the monetary policy stance because of the direct impact of exchange rate movements on inflation. By early 1997, the Reserve Bank institutionalized this focus by adopting as its primary indicator of monetary policy a Monetary Conditions Index (MCI) similar to that developed by the Bank of Canada. The idea behind the MCI, which is a weighted average of the exchange rate and a short-term interest rate, is that both interest rates and exchange rates on average have offsetting impacts on inflation. When the exchange rate falls, this usually leads to higher inflation in the future, and so interest rates need to rise to offset the upward pressure on inflation. However, the offsetting effects of interest rates and exchange rates on inflation depend on the nature of the shocks to the exchange rates. If the exchange rate depreciation comes from portfolio considerations, then it does lead to higher inflation and needs to be offset by an interest rate rise. However, if the reason for the exchange rate depreciation is a real shock such as a negative terms of trade shock which decreases the demand for a country's exports, then the situation is entirely different. The negative terms of trade shock reduces aggregate demand and is thus likely to be deflationary. The correct interest rate response is then a decline in interest rates, not a rise as the MCI suggests.

With the negative terms of trade shock in 1997, the adoption of the MCI in 1997 led to exactly the wrong monetary policy response to East Asian crisis. With depreciation setting in after the crisis began in July 1997 after the devaluation of the Thai baht, the MCI began a sharp decline, indicating that the Reserve Bank needed to raise interest rates, which it did by over 200 basis points. The result was very tight monetary policy, with the overnight cash rate exceeding 9% by June of 1998. Because the depreciation was due to a substantial, negative terms of trade shock which decreased aggregate demand, the tightening of monetary policy, not surprisingly, lead to a severe recession and an undershoot of the inflation target range

with actual deflation occurring in 1999.¹ The Reserve Bank of New Zealand did eventually realize its mistake and reversed course, sharply lowering interest rates beginning in July 1998 after the economy had entered a recession, but by then it was too late. It also recognized the problems with using an MCI as an indicator of monetary policy and abandoned it in 1999. Now the Reserve Bank operates monetary policy in a more conventional way, using the overnight cash rate as its policy instrument, with far less emphasis on the exchange rate in its monetary policy decisions.

Chile's inflation targeting regime also included a focus on limiting exchange rate fluctuations by having an exchange rate band with a crawling peg which was (loosely) tied to lagged domestic inflation. This focus on the exchange rate induced a serious policy mistake in 1998 because the central bank was afraid it might lose credibility in the face of the financial turmoil if it allowed the exchange rate to depreciate after what had taken place in financial markets after the East Asian crisis and the Russian meltdown, Thus instead of easing monetary policy in the face of the negative terms of trade shock, the central bank raised interest rates sharply and even narrowed its exchange rate band. In hindsight, these decisions were a mistake: the inflation target was undershot and the economy entered a recession for the first time in the 1990s. With this outcome, the central bank came under strong criticism for the first time since it had adopted its inflation targeting regime in 1990, weakening support for the independence of the central bank and its inflation targeting regime. During 1999, the central bank did reverse course, easing monetary policy by lowering interest rates and allowing the peso to decline.

The contrast of the experience of New Zealand and Chile during this period with that of Australia, another small open economy with an inflation targeting regime is striking. Prior to adoption of their inflation targeting regime in 1994, the Reserve Bank of Australia had adopted a policy of allowing the exchange rate to fluctuate without interference, particularly if the source of the exchange rate change was a real shock, like a terms of trade shock. Thus when faced with the devaluation in Thailand in July 1997, the Reserve Bank recognized that

¹The terms of trade shock, however, was not the only negative shock the New Zealand economy faced during that period. Its farm sector experienced a severe drought which also hurt the economy. Thus, a mistake in monetary policy was not the only source of the recession. Bad luck played a role too. See Drew and Orr (1999) and Brash (2000).

it would face a substantial negative terms of trade shock because of the large component of its foreign trade conducted with the Asian region and that it should not fight the depreciation of the Australian dollar that would inevitably result.² Thus in contrast to New Zealand, it immediately lowered the overnight cash rate by 50 basis points to 5% and kept it near at this level until the end of 1998, when it was lowered again by another 25 basis points.

Indeed, the adoption of the inflation targeting regime probably helped the Reserve Bank of Australia to be even more aggressive in its easing in response to the East Asian crisis and helps explain why their response was so rapid. The Reserve Bank was able to make clear that easing was exactly what inflation targeting called for in order to prevent an undershooting of the target, so that the easing was unlikely to have an adverse effect on inflation expectations. The outcome of the Reserve Bank's policy actions was extremely favorable. In contrast to New Zealand and Chile, real output growth remained strong throughout this period. Furthermore, there were no negative consequences for inflation despite the substantial depreciation of the Australian dollar against the U.S. dollar by close to 20%: inflation remained under control, actually falling during this period to end up slightly under the target range of 2 to 3%.

The analysis above and the recent experiences of countries like New Zealand, Chile and Australia strongly suggest that central banks' concerns in transition countries about the exchange rate should not deter them from keeping their eyes on the inflation ball. Hitting the inflation target should be the primary issue when setting monetary policy instruments.

Does a focus on achieving the inflation goal imply that central banks in transition countries should pay no attention to the exchange rate? Of course not. An important transmission mechanism for monetary policy is the exchange rate and its level has important effects on inflation and aggregate demand depending on the nature of the shocks, particularly in the small, open economies in Eastern Europe. Therefore, the central bank in a transition country needs to closely monitor exchange rate developments and factor them in to its decisions on setting monetary policy instruments. A depreciation of the exchange rate due to

²See McFarlane (1999) and Stevens (1999).

portfolio shocks like terms of trade shocks requires a tightening of monetary policy in order to keep inflation from rising. On the other hand, a depreciation when there is a negative terms of trade shock requires a different response, an easing of monetary policy as Australia did in 1997.

My view on how inflation-targeting central banks should typically respond to exchange rate fluctuations is similar to how it should respond to changes in other asset prices, like those in the stock market.³ It depends. Depending on the nature of the shocks and the initial conditions, monetary policy should respond in different ways. What is key is that the central bank not be perceived as having a target for the exchange rate or asset prices.

Does the avoidance of a target for the exchange rate imply that central banks should have a benign neglect of exchange rates. This issue is particularly relevant for transition and emerging market countries as is emphasized in Mishkin (2000a) and Mishkin and Savastano (2001). For the reasons discussed earlier, emerging market and transition countries with a lot of foreign-denominated debt may not be able to afford sharp depreciations of their currencies which can destroy balance sheets and trigger a financial crisis. Central banks in these countries may thus have to smooth "excessive" exchange rate fluctuations, but must make it clear to the public that they will not preclude the exchange rate from reaching its market-determined level over longer horizons. The stated rationale for exchange rate smoothing should be similar to that of interest-rate smoothing, which is practiced by most central banks, even those engaged in inflation targeting: the policy is not aimed at resisting market-determined movements in an asset price, but at mitigating potentially destabilizing effects of abrupt changes in that price.

The analysis also indicates that having a lot of debt denominated in foreign currency makes inflation targeting much harder to do. Countries with much of their debt denominated in foreign currency are particularly vulnerable to financial crises and so central banks in those countries necessarily worry more about exchange rate fluctuations. As a result the central bank may at times have to pursue its inflation target less vigorously in order to prevent depreciations of the domestic currency so that balance sheets are not weakened, thereby

8

³The issue of how an inflation-targeting central bank should respond to asset price fluctuations is indeed a complex one and I discuss it more extensively in Mishkin (2001).

avoiding financial instability. The costs of increased financial fragility and complications to the inflation targeting regime from having debt denominated in foreign currency therefore suggests that transition countries might need government policies to weaken the incentives for private firms and financial institutions to borrow in foreign currency. These policies could be part of the prudential regulatory and supervisory regime which might limit borrowing in foreign currency in order to reduce the riskiness of financial institutions. Alternatively, they might take the form of limited capital controls which would restrict borrowing in foreign currency.

III.

Interaction of the Government and the Central Bank

The structural pillar for inflation targeting that there needs to be an institutional commitment to price stability and the inflation target immediately raises the issue of what role the government should play in the inflation targeting regime. Should the central bank independently decide on and announce the inflation target or should the government do so? Furthermore, how should the central bank and the government interact in the setting of policy instruments to achieve the inflation target? Also because transparency and accountability play such an important role in an inflation targeting regime, how should the central bank communicate with the government and the public and what should it be accountable for?

To explore these issues, the distinction between goal independence and instrument independence made by Debelle and Fischer (1994) and Fischer (1994) is quite useful. Goal independence is the ability of the central bank to set its own goals for monetary policy, while instrument independence is the ability of the central bank to independently set the instruments of monetary policy to achieve the goals. The basic principle of democracy that the public must be able to exercise control over government actions strongly suggests that the goals of monetary policy should be set by the elected government. In other words, a central bank should not be goal independent. The corollary of this view is that the institutional

commitment to price stability should come from the government in the form of an explicit, legislated mandate for the central bank to pursue price stability as its overriding, long-run goal.

Not only is a legislated mandate and goal dependence of the central bank consistent with basic principles of democracy, but it has the further advantage that it makes time-inconsistency less likely, while making alignment of fiscal policy with monetary policy more likely. As discussed in Mishkin (2000b), the source of the time-inconsistency problem is more likely to be embedded in the political process than it is in the central bank. Once politicians commit to the price stability goal by passing central bank legislation with a price stability mandate, it becomes harder for them to put pressure on the central bank to pursue short-run expansionary policies that are inconsistent with the price stability goal. Furthermore, a government commitment to price stability is also a commitment to making monetary policy dominant over fiscal policy, ensuring a better alignment of fiscal policy with monetary policy.

An alternative way to solve time-inconsistency problems has been suggested by Rogoff (1985): grant both goal and instrument independence to a central bank and then appoint conservative central bankers to run it who put more weight on controlling inflation relative to output than does the general public. The result will be low inflation, but at the cost of higher output variability than the public desires. There are two problems with this solution. First, having "conservative" central bankers impose different preferences than the public on the conduct of monetary policy is inherently undemocratic. Basic democratic principles indicate that the preferences of policymaking should be aligned with those of the society at large. Second, in the long run a central bank cannot operate without the support of the public. If the central bank is seen to be pursuing goals that are not what the public wants, support for central bank independence is likely to erode. Thus appointment of "conservative" central bankers may not be stable in the long run and will not provide a permanent solution to the time-inconsistency problem.

Although an institutional commitment to price stability helps solve timeinconsistency and fiscal alignment problems, it does not go far enough because price stability is not a clearly defined concept. The definition of price stability has many elements in common with the commonly used legal definition of pornography in the United States -- you know it when you see it. Constraints on fiscal policy and discretionary monetary policy to avoid inflation might thus end up being quite weak because not everyone will agree on what price stability means in practice, providing both monetary policymakers and politicians a loophole to avoid making tough decisions to keep inflation under control.

The same principles that suggest that the central bank should be goal dependent, with the commitment to the price stability goal mandated by the government, also suggest that the commitment to an explicit nominal anchor should be made by the government. In the case of an inflation target, the government should set the numerical inflation goal. The fact that the government sets these targets so that the central bank is goal dependent does not mean that the central bank should be cut out of the decision making process. Because the central bank has both prestige and expertise in the conduct of monetary policy, governments will almost always be better served by setting these targets in consultation with the central bank.

Although the arguments above suggest that central banks should be goal dependent, there is strong case that central banks should be instrument independent. Allowing central banks to control the setting of monetary policy instruments provides additional insulation from political pressures to exploit short-run tradeoffs between employment and inflation. Instrument independence means that the central bank is better able to avoid the pursuit of time-inconsistent policies.

The important principle that monetary policy needs to be forward looking in order to take account of the long lags in the effect of monetary policy on inflation provides another rationale for instrument independence. Instrument independence insulates the central bank from the myopia that is frequently a feature of the political process arising from politicians' concerns about getting elected in the near future. Instrument independence thus makes it more likely that the central bank will be forward looking and adequately allow for the long lags from monetary policy actions to inflation in setting their policy instruments.

Recent evidence seems to support the conjecture that macroeconomic performance is improved when central banks are more independent. When central banks in industrialized

countries are ranked from least legally independent to most legally independent, the inflation performance is found to be the best for countries with the most independent central banks (see Alesina and Summers, 1993, Cukierman, 1992, and Fischer, 1994, among others.) However, there is some question whether causality runs from central bank independence to low inflation, or rather, whether a third factor is involved, such as the general public's preferences for low inflation that create both central bank independence and low inflation (Posen, 1995).

The bottom line is that basic principles for monetary policy and democracy suggest that central banks should have instrument but not goal independence. This means that central banks in transition countries should want to actively involve the government in the inflation targeting regime, especially in the setting of the inflation target. This view is not always easy for central banks in transition countries to swallow because the government is often inexperienced, with democracy a fairly new concept in these countries. Also, the relations between the government and central bank has often been rocky in inflation targeting transition countries as the experience in Poland, Hungary and the Czech Republic all indicate. However, in order to have an inflation targeting regime that is viable in the long-run, the government must be actively brought into the process.

Because the government should be actively involved in the inflation targeting framework, it is crucial that central banks focus on improving communication with the government and the public. Central banks need to communicate clearly their monetary policy strategy to explain their objectives and how they plan to achieve them. Each time they change their policy instruments, such as the interbank interest rate, they also need to clearly state the decision and then explain the rationale for it. Furthermore, they need to pursue many outreach vehicles to communicate with the public. These include the continual making of speeches to all elements of society, more openness with the press and media, and the development of brochures and reports that are accessible to the public. Particularly noteworthy in this regard are the "Inflation Report" type documents initially developed by the Bank of England, but now emulated by many other central banks. These documents depart from the usual, dull-looking, formal reports of central banks to take on the best elements of textbook writing (fancy graphics, use of boxes) in order to better communicate with the

public.

Increasing transparency and accountability not only helps to align central banks with democratic principles, and is thus worthy of its own right, but it also has benefits for the ability of central banks to conduct monetary policy successfully. Transparency reduces the uncertainty about monetary policy, interest rates and inflation, thus making private-sector planning easier. Transparency and communication also promotes a better public understanding of what central banks can do -- promote price stability which has the potential to enhance economic growth in the long run -- and what central banks can't do -- create permanent increases in output and employment through expansionary policy. Better public understanding of what central banks can and cannot do is then likely to generate more public support for monetary policy which is focused on price stability as the long-run, overriding goal.

Although central bankers find their life to be a more comfortable one when they are not accountable and can avoid intense public scrutiny, increased transparency and accountability have important benefits for central bankers. Because transparency and accountability can increase the public support for the price stability goal, they can reduce political pressures on the central bank to pursue inflationary monetary policy. In addition, transparency and accountability can increase support for independence of the central bank. An instructive example is provided by the granting of instrument independence to the Bank of England in May 1997. Prior to this date, monetary-policy decisions in the United Kingdom were made by the government (the Chancellor of the Exchequer) rather than by the Bank of England. When, on May 6, 1997, the Chancellor of the Exchequer, Gordon Brown, announced the granting of instrument independence to the Bank of England, giving it the power to set the overnight interest rate, he made it particularly clear at the press conference that, in his view, the action had been made possible by the increased transparency and accountability of policy under the recently adopted, inflation-targeting regime.

Because the public and the government care about output fluctuations, it is also crucial for central banks in transition countries to make it clear that the inflation targeting

regime does not ignore traditional stabilization goals. One concern of critics of inflation targeting is that an excessive focus on inflation may result in excessive output fluctuations. To allay these concerns and solidify support for the inflation targeting regime, the central bank needs to convince the public that it should not be characterized as an "inflation nutter" (in Mervyn King's, 1996, terminology) and that it does care about traditional stabilization goals. It can do this by outlining the flexibility of the inflation targeting regimes when there are supply shocks, the gradual convergence of inflation targets to long-run goals (which as demonstrated by Svensson, 1997, indicates a weight on output in central bank objective functions), and the emphasis on the floor of inflation targets as a rationale for expansionary policy when there are negative shocks to aggregate demand. A benefit of inflation targeting, as it is practiced, is that it does not eschew stabilization goals, but rather puts them in the appropriate long-run context. Indeed, this is exactly what inflation targeters in the industrialized countries have done (Mishkin, 1999a, and Bernanke et al., 1999) and the result has been that not only have inflation fluctuations diminished, but so have output fluctuations.

Another way for central banks in transition countries to pursue output stabilization is to emphasize that the floor of the target range should be emphasized every bit as much as the ceiling, thus helping to stabilize the real economy when there are negative aggregate demand shocks. Indeed, inflation targets can increase the flexibility of the central bank to respond to declines in aggregate spending because declines in aggregate demand that cause the inflation rate to undershoot the target range will automatically stimulate the central bank to loosen monetary policy without fearing that its action will trigger a rise in inflation expectations. Indeed, this feature of inflation targeting was an important element which helped the Australians to respond so quickly to the negative shock of the East Asian crisis of 1997, enabling them to weather the storm better than might have been expected otherwise. Insufficient focus on undershooting the target would have led to a different outcome and in general will produce excessive output fluctuations.

Emphasis on preventing undershoots of the inflation target range is also important because it indicates to the public and the politicians that the central bank is not an "inflation nutter" and cares about output declines, as they do. The pursuit of price stability implies that too low inflation is to be avoided as much as too high inflation. Too much focus on

preventing overshoots of the target and not enough emphasis on preventing undershoots can cost a central bank public support for its policies. Without this support, political pressure is likely to make it extremely difficult for the central bank to pursue the price stability objective.

Although the European Central Bank (ECB) has acted to prevent deflation (Issing, 2000), its initial announcement of the inflation goal "of less than 2%" did create some confusion. Subsequently it clarified that since inflation always means an increase in the price level, this goal implies a floor of zero on the inflation rate. Nonetheless, further clarification that the ECB considers the floor of zero for the range on the inflation goal to be as important as the 2% ceiling would help its communication with the public and strengthen support for its policies. The National Bank has followed the ECB in describing its inflation target as less than a particular level, in this case stating that its inflation target is "4% or less". This may have created the impression that the National Bank of Poland does not care about undershoots of its inflation target and so may explain some of the tension between it and the government. Because support for price stability is often more tenuous in transition countries, emphasis on prevention of undershoots of the target is even more crucial to the success of inflation targeting in these countries. ⁴ By stating that it has a floor for its inflation target and that it will take active steps to prevent falling through this floor, not only can the National Bank of Poland help decrease sharp falls in aggregate output, but it can help increase the support for central bank independence and the inflation targeting regime.

IV.

Sound Fiscal and Financial Policies

Fiscal discipline and a sound and well-regulated banking system are crucial for the

⁴For example, support for the Central Bank of Chile and its inflation targeting regime suffered substantial erosion after its recent undershoot of its target with little comment from the Chilean central bank that undershoots of the target also need to be a priority (Mishkin and Savastano, 2001).

viability and success of inflation targeting. If fiscal imbalances get sufficiently high that there is fiscal dominance, the monetary authorities are no longer able to keep inflation under control no matter what inflation targeting regime they have in place. Indeed, this is the lesson from the "unpleasant monetarist arithmetic" of Sargent and Wallace (1981) or the fiscal theory of the price level (Woodford, 1994, 1995). As we have seen recently in Argentina, a fiscal crisis will cause the collapse of a nominal anchor and high inflation. Developing institutions to prevent fiscal dominance is thus crucial to the ability of a central bank to successfully pursue inflation targeting. Indeed, key to the success of inflation targeting in Chile was the fiscal reforms it put into place by 1990. The fiscal balance in Chile ended in surplus every year from 1991 to 1998, and during 1991-97 the surplus averaged 2.8% of GDP, clear indications that fiscal policy was kept under control.

A sound and safe financial system is also crucial to the success of the inflation targeting regime. A collapse of the financial system is likely to lead to a collapse of the nominal anchor because the cost of the bailout may be so substantial that it will have to be financed by future money growth. Indeed, the aftermath of the financial crises in Mexico, Indonesia, Turkey and more recently Argentina has been high inflation. Rigorous prudential regulation and supervision of the financial sector is thus crucial to success of an inflation targeting regime. Indeed, the success of Chile's inflation targeting regime has also been due to the measures taken in the aftermath of the severe banking crisis of the early 1980s to improve prudential supervision, Chile=s standards and practices in the areas of banking regulation and supervision since 1990 have been of a quality comparable to those found in industrialized countries and far superior to those found in the rest of Latin America. The resulting solidity of the Chilean financial system has meant that the ability of the central bank to take steps to defend the currency and the banks has never been in question, and this helped Chile experience less pressures on its currency than other countries of the region at the time of the Tequila crisis (see IMF, 1996). The controls on short-term capital inflows have also been cited often as another important factor behind the low vulnerability and relative stability of the Chilean economy in the 1990s. However, the controls are highly controversial and their contribution is difficult to ascertain.⁵ My reading of the evidence suggests that, from the

⁵ For a recent overview of the debate surrounding Chile=s capital controls, see Edwards (1999).

perspective of monetary policy and inflation control, strict prudential supervision and fiscal discipline was far more important.

The bottom line is that transition countries must focus on developing sound fiscal and financial institutions in order to successfully control inflation and make any inflation targeting regime work.

VI.

Conclusions

Since inflation targeting began to be adopted by central banks in the early 1990s, it has proved to be highly successful in keeping inflation under control and promoting high economic growth. This is indeed why transition countries like Poland, Hungary and the Czech Republic have adopted inflation targeting. Successful inflation targeting in transition countries does require careful attention to several structural issues. First, although central banks in transition countries rightfully have to be concerned about exchange rate fluctuations, inflation targeters need to remember that they should never take their eye off of the inflation ball. Although they may need to smooth exchange rate fluctuation sometimes, they must never target them within narrow ranges. Central banks in transition countries must also actively involve governments in the inflation targeting regime. This means that the central bank should be instrument but not goal independent, should be concerned with traditional stabilization goals, but with a focus on the long-run, and should stress communication to make the central bank appropriately accountable. Also transition countries need to develop sound fiscal and financial institutions to promote so that the central bank has the ability to do its job and keep inflation under control.

References

- Bernanke, Ben S., Laubach, Thomas, Mishkin, Frederic S. and Adam S. Posen, 1999.

 **Inflation Targeting: Lessons from the International Experience, Princeton University Press: Princeton.
- Brash, Donald T. 2000. "Inflation Targeting in New Zealand, 1988-2000," Speech to the Trans- Tasman Business Cycle, Melbourne, February 9.
- Cukierman, Alex. 1992. Central Bank Strategy, Credibility, and Independence: Theory and Evidence. Cambridge: MIT Press.
- Debelle, Guy, and Stanley Fischer. 1994. "How Independent Should a Central Bank Be?" In Jeffrey C. Fuhrer, ed., *Goals, Guidelines, and Constraints Facing Monetary Policymakers*. Federal Reserve Bank of Boston Conference Series 38: 195-221.
- Drew, Aaron and Adrian Orr, 1999. "The Reserve Bank's Role in the Recent Business Cycle: Actions and Evolution," *Reserve Bank of New Zealand Bulletin*, 62, No. 1.
- Edwards, S., 1999, AHow Effective are Controls on Capital Inflows? An Evaluation of Chile=s Experience,@ mimeo, UCLA, June
- Fischer, Stanley. 1994. "Modern Central Banking," in Forest Capie, Charles Goodhart, Stanley Fischer and Norbert Schnadt, *The Future of Central Banking*, Cambridge University Press, Cambridge, U.K.: 262-308.
- IMF, 1996, International Capital Markets: Developments, Prospects and Key Policy Issues, IMF: Washington, D.C., September
- Issing, Otmar. 1996. Als Monetary Targeting in Germany Still Adequate? In Horst Siebert, ed., *Monetary Policy in an Integrated World Economy: Symposium 1995*, Tübingen: Mohr.
- King, Mervyn, 1996. "How Should Central Banks Reduce Inflation?- Conceptual Issues," in *Achieving Price Stability*, Federal Reserve Bank of Kansas City, Kansas City, MO: 53-91.
- Macfarlane, Ian J. 1999. "Statement to Parliamentary Committee," in *Reserve Bank of Australia Bulletin*, January: 16-20.
- Mishkin, Frederic S., 1996. "Understanding Financial Crises: A Developing Country Perspective," in Michael Bruno and Boris Pleskovic, eds., *Annual World Bank Conference on Development Economics*, World Bank, Washington D.C.: 29-62.
- Mishkin, Frederic S., 1997. "The Causes and Propagation of Financial Instability: Lessons for Policymakers," *Maintaining Financial Stability in a Global Economy*, Federal Reserve Bank of Kansas City, Kansas City, MO.: 55-96.

- Mishkin, Frederic S. 1999a. "International Experiences with Different Monetary Policy Regimes," *Journal of Monetary Economics*, Vol. 43, #3: 579-606.
- Mishkin, Frederic S., 1999b. "Lessons from the Asian Crisis," *Journal of International Money and Finance*, 18, 4: 709-723.
- Mishkin, Frederic S. 2000a. "Inflation Targeting in Emerging Market Countries," *American Economic Review*, May, 90, #2, forthcoming.
- Mishkin, Frederic S. 2000b, "What Should Central Banks Do?" Federal Reserve Bank of St. Louis *Review*, vol. 82, #6 (November/December 2000): 1-13.
- Mishkin, Frederic S. 2001. "The Transmission Mechanism and the Role of Asset Prices in Monetary Policy," in *Aspects of the Transmission Mechanism of Monetary Policy, Focus on Austria 3-4/2001*. (Osterreichische Nationalbank: Vienna 2001): 58-71.
- Mishkin, Frederic S. and Miguel Savastano, 2001. "Monetary Policy Strategies for Latin America," *Journal of Development Economics*, 66, 2 (December 2001): 415-444.
- Posen, Adam S. 1995. ADeclarations Are Not Enough: Financial Sector Sources of Central Bank Independence.[®] In Ben S. Bernanke and Julio J. Rotemberg, eds., *NBER Macroeconomics Annual*, 1995, 253-74. Cambridge: MIT Press.
- Reserve Bank of New Zealand, 2000. *Monetary Policy Statement, March 2000*, Reserve Bank of New Zealand, Wellington, New Zealand.
- Rogoff, Kenneth. 1985. AThe Optimal Degree of Commitment to an Intermediate Target.@ *Quarterly Journal of Economics* 100, no. 4 (November): 1169-89.
- Sargent, Thomas and Neil Wallace. 1981. "Some Unpleasant Monetarist Arithmetic," Federal Reserve Bank of Minneapolis *Quarterly Review*, Fall: 1-17.
- Sherwin, Murray, 1999. "Inflation Targeting: 10 Years On," Speech to New Zealand Association of Economists Conference, Rotorua, New Zealand, July 1.
- Stevens, Glenn R. 1999. "Six Years of Inflation Targeting," *Reserve Bank of Australia Bulletin*, May: 46-61.
- Steven, Glenn and Guy Debelle, 1995. "Monetary Policy Goals for Inflation in Australia," in Andrew G. Haldane, ed., *Targeting Inflation*, Bank of England, London: 170-201.
- Summers, Lawrence H. 1991. "How Should Long-Term Monetary Policy Be Determined?" *Journal of Money Credit and Banking*, 23: 625-631,
- Svensson, Lars, E.O. 1997, "Inflation Targeting: Some Extensions," National Bureau of Economic Research Working Paper No. 5962, March.
- Woodford, Michael. 1994. "Monetary Policy and Price Level Determinacy in a Cash-in-Advance Economy," *Economic Theory*, 4: 345-380.

Woodford, Michael. 1995. "Price Level Determinacy with Control of a Monetary Aggregate," *Carnegie-Rochester Conference Series on Public Policy*.