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Akila Weerapana

Lecture 15: Inflation Targeting in Practice

I. OVERVIEW

- In the last class, we examined a framework of conducting monetary policy known as inflation targeting. Because countries had moved away from fixed exchange rate systems, and also because of the difficulty of finding the right measure of money to target in an increasingly complex financial system, many countries in the world have moved towards a system where they follow a monetary policy that is designed to achieve a stated objective with regard to the inflation rate.
- The Bernanke/Mishkin paper described some of the key features of an inflation targeting system: explicit goals of stabilizing inflation, accountability, and transparency being among the key features. The central bank is also allowed some form of instrument independence for achieving the stated inflation targets and allowance is made for dealing with short-term shocks and other policy objectives that do not interfere with the overall target.
- As BM point out, inflation targeting is widely used in several small economies, Canada, Sweden, New Zealand etc and BM pointed out some details about their operating features. Now that we understand some basic features about inflation targeting, let's change our focus to how effective inflation targeting has been in some of the countries that have adopted the system.

II. THE MISHKIN/POSEN PAPER

- The basic motivation of the Mishkin/Posen (MP) piece is to take a closer look at the effectiveness of inflation targeting, which has become "increasingly popular in recent times" and been adopted by several other nations.
- The overall goal, according to Mishkin & Posen is to identify how economies have performed under inflation targeting to identify which features of inflation targeting lend themselves to successful monetary policy making. This is important because, as we saw in the last lecture, there is a certain degree of variation in the specific details of inflation targeting.
- Mishkin & Posen focus on the four countries that have had the longest experience with inflation targeting: Germany (which has informally adopted elements of inflation targeting) and New Zealand, Canada and the United Kingdom (which have more formally adopted inflation targeting).
- MP provide a general discussion of inflation targeting, then provide case studies of each of the individual countries and provide some evidence regarding, and an assessment of, the success of inflation targeting in these 4 countries. Overall, they conclude that New Zealand, Canada and the United Kingdom have had a beneficial experience from inflation targeting: achieving lower inflation, lower interest rates, stable output growth and reasonable inflation expectations. They also conclude that Germany successfully adjusted to a large shock, namely reunification, as a result of having a successful inflation targeting regime.

- Since we already covered the Bernanke/Mishkin paper in the last class we will not focus on the portion of the MP piece that covers the rationale for, and basic tenets of, inflation targeting. The section on pages 12 and 13 on the costs of inflation may be useful in refreshing your memory about the costs of inflation.
- Briefly MP argue that price stability is important because it minimizes costs arising due to inflation. Some of these costs are:

  1. Shoe-leather costs: managing money demand to optimize the holding of money.
  2. Opportunity Cost: The diversion of resources to financial markets in order to accommodate the demand for methods to hedge against inflation.
  3. Uncertainty: harder to make forward looking wage or price setting decisions.
  4. Tax bracket creep: individuals move into higher tax brackets even though their real income has not increases, or in some cases even decreased.
  5. : Involuntary Transfers: In addition, we have to worry about transfer of income away from lenders towards borrowers, from those on fixed income levels to those with indexed income levels etc.

III. CASE STUDIES OF INFLATION TARGETING COUNTRIES

Germany

- The first case study that MP study is Germany, which as I pointed out earlier, has many of the features of inflation targeting although strictly speaking the Bundesbank targeted monetary aggregates (using various measures such as central bank money (CBM) and M3 at various points in time).
- MP compare German monetary targeting to inflation targeting for a variety of reasons involving the use of a numerical inflation goal, flexibility in terms of achieving the end goal, responsiveness to output and exchange rate shocks in the short run, a long-term goal of achieving a low but positive rate of inflation and a strong commitment to transparency and communication.
- MP then focus upon how the inflation targeting regime in Germany handled one of the largest shocks that has hit any economy in recent years, namely German reunification. In terms of background, BP provide some basic data for the period leading up to reunification: 4% GDP growth, low unemployment of 8% (by German standards) higher than average nominal interest rates of around 8% and inflation that was not too far from the targeted rate of 2% but which had been climbing over the previous couple of years.
- Reunification was a large positive increase in fiscal spending. The German government spend large sums of money to try and upgrade East German infrastructure to match West German quality (spending on roads, electricity, telecommunication etc. In addition, the East German mark was converted to West German marks at a very favorable rate of 1.8 to 1 (black market rates were much higher before reunification). The combination of high spending by East Germans (who had access to goods and currency at an extent they did not have prior to reunification), the collapse of East German industry (because their workers were too unproductive to be paid the high wages of West German workers) and the expansionary fiscal policy,

coupled with the strong economic conditions and rising inflation that preceded reunification, meant that inflation was a serious threat to Germany following reunification.

- The Bundesbank responded by raising interest rates to ward off inflation, for one year alone they separated their money growth targets into East and West German aggregates to make sure that the West German aggregates stayed within the target, although the East German numbers were higher unavoidably. They then brought both regions targets back into the specified range during the following year. In other words, they were willing to allow short-term deviations from the target but were very careful to make sure that there was no long term deviation from the specified targets.

- MP also argue that the German public was savvy enough to recognize the Bundesbank's signals that although they were accommodating of the disruptions in the short run, they would not allow the disruption to linger over time.

- In other words, MP argue anecdotally that German reunification was an example of the benefits of inflation targeting, thanks to its transparency, its flexibility and its longer-term focus and discipline. Furthermore, MP argue that there were problems associated with M3 targeting that arose because of unsettling developments in financial markets.

- As MP point out, in late 1991, the yield curve had become inverted (people believed that the high interest rate were temporary, so long-term rates were lower than short-term rates). In an inverted yield curve, targeting M3 becomes counter-productive: the central bank was trying to reduce the growth of M3, leading to higher short-term interest rates, resulting in lower long-term interest rates and a greater stimulation of the economy. In trying to reduce inflation by reducing M3, the Bundesbank was encouraging inflation. In other words, they may have been better off by directly targeting inflation instead of targeting M3.

- So overall, Germany, by following tenets of inflation targeting were able to make it through a difficult economic transition with little domestic cost (although with high cost for some other countries as we will see in a later paper). MP draw two key lessons from the German experience: that flexibility in the short run does not hurt, and may even help, achieving targets in the long run. And second, transparency and communication are very beneficial as the public becomes educated and able to sort out short run disturbances from long run policy changes, helping keep expectations in check.

- The overall proof is in the pudding: Inflation in Germany came down to 2% by the end of the 1990s, interest rates were down to 4%, unemployment did rise (but given the difference in education and training between East and German workers this is not surprising) and, following a recession in the aftermath of reunification, GDP growth has remained moderately positive.

New Zealand

- The basic features of NZ's regime is to target between 0 and 2% core CPI inflation, a 1 year time horizon for achieving the target, allowance for the Central Bank to have several other objectives, and, unlike in some other countries, holding the Governor explicitly accountable for achieving the targeted rate of inflation.

- Once again, we will skip over the institutional details about the New Zealand experience, although they are presented very thoroughly by MP. However, retaining such a level of detail

for 4 countries would be counter-productive and we will focus mostly on understanding how New Zealand has performed under a inflation targeting regime in the 1990s.

- MP divide the New Zealand experience into three sub-periods. 1990-92, 1992-94 and 1994 onwards. In the first periods, which followed the setting up of the inflation targeting system, the targeted range was set to be 3-5% in 1990, 1.5-3.5% in 1991 and 0-2% in 1992. However, given that inflation in 1989 was 5% and the fact that the Gulf War had driven oil prices up, there was change in policy to push the process back by a year so that the 0-2% range was to be achieved in 1993 instead of 1992. The extra flexibility was not needed and inflation fell to under 2% by 1991!!!!!! So the initial period of inflation targeting was more successful than anyone had imagined, with inflation declining by about 3 percentage points even in the face of a weak currency and rising oil prices.

- The second phase beginning in 1992 was a switch to maintain low inflation rather than achieve further reductions in inflation. As MP point out, NZ was able to sustain the inflation target fairly easily until the end of 1993. In the third period, 1994 onwards, the inflationary pressures in NZ began to rise, mostly as a result of a strong domestic economy with a 6% increase in GDP and a 4% increase in unemployment. Inflation reached the upper bound of 2% and the overall CPI was around 4% creating worries that individuals may not be able to separate out the 2% target, which was for core CPI, from the overall CPI and may conclude that the inflation targets were being violated.

- MP cite a couple of instances in which the core inflation rate breached the 0-2% target, where the central bank was asked to explain why the target had been breached and some even asked for the resignation of the head of the central bank. MP think of this as a less savory aspect of NZ system of inflation targeting: namely that they should be concentrating on a longer horizon and not attaching such importance to temporary, and in most cases, unavoidable breaches because of the difficulty in anticipating how robust or how anemic GDP growth would be.

- In particular, NZ ran into problems in the form of domestic political pressure: most of their inflation was coming from the non-traded goods sector (in particular housing) and in an attempt to fight this inflation they were raising interest rates to a high level, stifling growth and also causing the NZ dollar to appreciate hurting exporters. In an economy rich with resources and with a relatively small population, making the export sector unhappy was not good politics, and there were discussions about changing the target, from 0-2% to 0-3%.

- Overall, the lessons from NZ are that

  a) Inflation targeting can give an instant dose of credibility that can bring inflation down to the targeted levels.
  b) Sustaining those targeted levels are much, much harder.
  c) Excessive restrictions and not allowing for short-term deviations from the target can prove a distraction to policy makers and may even imperil the long-term sustainability of the system.
  d) In small open economies, exchange rates have an important role to play in determining the success of inflation targeting.

Canada

- The basic features of Canada's regime are an inflation target jointly determined by the government and the central bank, the use of an overall CPI instead of a core CPI as the long-range target, gradual convergence to the long run goal, a fairly flexible range with a midpoint of 2% and a strong commitment to communication and transparency.

- The Canadians set a series of targets: 3% inflation by 1992, 2.5% by 1994 and 2% by 1996. Somewhat confusingly, they believed that they would like to see price stability, defined as inflation less than 2% but never decided on a number, only that it should not be 0%. The achieving of the 2% target was put back until 1998 at one point. The target was overall CPI (or 'headline CPI') over the medium term since it was by nature a volatile series in the short run. Overall, MP analyze Canada's inflation targeting regime as being more flexible than New Zealand's regime, but as being far more transparent than any other inflation targeting regime. Although once again we will skip over most of the considerable detain in our discussion.

- MP divide the Canadian experience into two sub-periods. 1991-93 and 1993 onwards. In the first period, which followed the setting up of the inflation targeting system, the targeted range was set to be 2-4% with a mid-range of 3% but inflation fell from 6% even below 2%. As in NZ, the announcement and setting up of a inflation targeting system was very successful in lowering inflationary expectations and lowering inflation as well. Again as in New Zealand, the subsequent period has been much more difficult, although in Canada's case most of the difficulty has come from the floor of the target range instead of the ceiling of the target range.

- This problem of having inflation that is in essence "too low" has prompted criticism that high unemployment is attributable to an over-emphasis on inflation control by the monetary policy maker. In other words, there have been suggestions in Canada that the central bank should lower interest rates and stimulate economic growth and employment since inflation is clearly low enough to fall even below the targeted range.

- MP cite three cases in which transparency and public discussion helped the Bank of Canada sustain the inflation targeting regime in the phase of criticism: early inflationary pressure in 1991, criticism of the severity of the anti-inflationary stance by the Liberal Party upon coming to power in 1993, and criticism by the head of the Canadian Economic Association in 1996 about tightening monetary policy in the face of rising unemployment.

- In 1991, they conveyed the message that the shocks to prices were temporary, thus managing inflation expectations successfully. In 1993, they pointed out that inflation was low unexpectedly and that inflation outcomes near the bottom of the band were fine and that were not going to induce inflation into the economy to attempt to move to the middle of the band. They also extended the 1-3% target range to 1998. The 1996 by the head of the Canadian Economic Association was that the long period of high unemployment was due to the tendency of the Bank of Canada to keep inflation near zero, thus creating nominal and real wage rigidities that prevented employment from adjusting. The Bank of Canada argued that economic conditions outside of monetary policy were responsible for high unemployment in Canada and that the bank would respond by cutting rates if inflation were to fall below the target in the long run.

- Overall, the lessons from Canada are that

  a) Inflation targeting system with flexibility can be very successful.

b) Transparency and communication help in keeping a flexible regime successful by making sure that the public stays informed.

c) Taking the floor of the inflation target as seriously as the ceiling can help control output fluctuations.

United Kingdom

- The final country that MP study is the United Kingdom. The system in the U.K. is flexible: more like Canada than New Zealand. The U.K targets an inflation rate that is in between the headline CPI and the core CPI: it excludes mortgage payments but includes food and energy payments. For most of the 1990s, the Bank of England lacked independence, even though it was held accountable for meeting inflation targets. The last distinguishing feature of England was that they switched to inflation targeting after their disastrous attempts to use the exchange rate as a nominal anchor in the ERM.
- The British set an initial target of 1-4% but later switched to a point target of 2.5% (or less). The time horizon was tied to the end of the current parliament, a process that can induce uncertainty, as MP point out about the strength of commitment by future parliaments, especially in times of economic difficulty. The Labor government has helped mitigate by making a promise that if they were to win power, they would continue with the inflation target. Another distinguishing feature is the publication of the Inflation Report, which provides a summary of past outcomes and forecasts and analyzes future economic threats to inflation.
- As in Canada and in NZ, the first months of an inflation targeting system were very successful in lowering inflationary expectations and lowering inflation as well. Unlike in Canada and New Zealand, the adoption of inflation targeting cam on the heels of the forced departure from a fixed exchange rate regime. The subsequent depreciation of the pound posed an ongoing inflationary threat even though the targeted inflation rate was declining.
- Since the Bank of England was not independent there were several conflicts. In November 1993, even though the Central Bank in its publications was warning about inflation exceeding the 4% target, the Chancellor of the Exchequer (the pompous British term for Finance Minister) made the decision to lower interest rates by 75 basis points for political expedience. Another incident arose in 1995 when the rapid depreciation of the pound led the fear of inflation exceeding the target to increase and the Governor of the Bank of England recommended a rate hike, again rejected by the Chancellor. MP cite this as emblematic of the Chancellor's insecurities that the inflation targeting framework was giving the Bank of England power in being able to forcefully and publicly argue the case for vigilance against rising inflation.
- Following spats such as this, a decision was made to cede operational independence, i.e. the decision to raise or lower interest rates, to the Bank of England. MP argue that inflation targeting and the greater transparency it brought were important considerations. In other words inflation targeting offered the best of both worlds: operational independence and enough transparency to make sure that the goals and wishes of society were being met.
- Overall, the lessons from U.K. are that

  a) Inflation targeting system with flexibility can be very successful even under conditions as adverse as a central bank that is not operationally independent.

b) Transparency and communication are vital components of communication and the Inflation Report has been widely followed by other countries adopting inflation targeting systems.

c) Even for a country emerging from a severe shock with the prior nominal anchor, inflation targeting can be a quick and effective way of reducing inflation and providing an anchor for monetary policy.

- Overall inflation targeting has been a success in reducing inflation and increasing transparency. There are lessons to be learned from all 4 countries about the choice of target, the target horizon etc. but overall the experience is positive.

IV. SIMULATIONS IN THE MISHKIN/POSEN PAPER

- Mishkin & Posen, towards the end of their paper, provide a nice analysis of how inflation targeting changed policy decisions and economic outcomes. They estimate a three equation model of inflation, interest rates and GDP growth, then provide forecasts of the model for five years after the adoption of inflation targeting.

- By comparing the simulated outcome to the actual outcome, we can gain an idea of how different things looked after the introduction of inflation targeting. In the case of New Zealand, Chart 18 shows that actual inflation and interest rate outcomes were much lower than the predicted outcomes, indicating that IT may have brought inflation expectations down very rapidly, helping the Central Bank lower interest rates. Keep in mind that these are nominal interest rates, so they will tend to come down with inflation even if there is no policy response.

- These core results hold true for Canada and the U.K. as well. Inflation and interest rates came down much more dramatically than expected following the introduction of inflation targeting. In Canada's case the decline may have been too much - inflation had actually tuned into deflation in some years.

- The story on GDP growth is more mixed. Output growth in New Zealand was much more volatile than expected after the introduction of inflation targeting. Output growth in Canada was lower than expected - consistent with the doubts that Canada's inflation target was too tight - i.e. keeping inflation too low. Output growth in the U.K. is consistent with the predicted values, which means IT was an overall plus for the U.K. lowering inflation without changing the path of output.

- The simulations for Germany are more complicated. There the event in question is not the introduction of inflation targeting but the unification of East and West Germany. Clearly the effects should then work in the other direction - the simulated values (which ignore the shock of reunification) should be better than reality.

- Indeed, inflation and interest rates are initially much higher than the simulated values. Output is initially higher and subsequently lower, which is also consistent with reunification shock where the initial boost from higher spending gives way to the painful task of assimilation. However, a few years after reunification, the nominal anchor had helped bring inflation and GDP back in line with forecasts and interest rates had declined dramatically.