

# MONETARY POLICY TARGETING IN ARGENTINA AND CANADA IN THE 1990s: A COMPARISON, SOME CONTRASTS, AND A TENTATIVE EVALUATION

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## INTRODUCTION

This paper is a comparative study of monetary policy in general, and monetary policy targeting in particular, for the two countries at the extremities of the Western Hemisphere during the 1990s. These policies will be compared and contrasted, and we shall attempt to extract certain lessons from the experience of these two countries. Although a couple of years after the end of the 1990s seems in general like a very brief period from which to draw some perspective, the recent dramatic events in the two countries (financial crisis in Argentina and recession or near-recession in Canada) enable us to characterize these two “experiments” as less than unqualified successes. (The detailed conclusions appear in the final section.)

The first year of this decade, 1991, was memorable for monetary policy in both of our countries. Argentina passed the Convertibility Law, which instructed the central bank to convert pesos into dollars at a fixed rate of exchange (one for one so that in the very short run in Argentina, dollars and pesos were nearly indistinguishable). In addition, the Central Bank Charter Law of Argentina stated that the principal objective of monetary policy in Argentina was to maintain convertibility at the announced rate. The central bank was given discretion to pursue other, secondary goals (for example, price stability, high employment, rapid growth, and so on), but only insofar as these did not conflict with the overriding objective of convertibility.<sup>1</sup> Similar dramatic events occurred in Canada. John Crow, who was Governor of the Bank of Canada at the time, announced in February 1991 (jointly with the Department of Finance of the Government of Canada) targets for reducing inflation, which were aimed at bringing down inflation into the 2-4 percent per year range by the end of 1992. (The targeted range was lowered gradually during the first half of the 1990s,

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until it was set between 1 and 3 percent by the end of 1995.) While Governor Crow had indicated forcefully in early 1988, shortly after his appointment as governor (February 1987), that price stability would receive the major thrust of monetary policy actions, the announced targeting of a range for the rate of inflation was, at least in Canada, a new departure for monetary policy. Moreover, the commitment to targeting a range for inflation was reiterated during the winter of 1993-94 at the beginning of the appointment of the then-new Governor, Gordon G. Thiessen. At this time the target range was extended in the 1-3 percent per year range for 1995 to 1998. The Government of Canada again joined the Bank by officially endorsing this target range. Again, in February 1998, the period of the target range (with unchanged values for the upper and lower limits) was further extended to the year 2001, and again the Government of Canada joined its central bank by endorsing these targets.

Thus, two countries at the two extremities of the hemisphere instituted some sort of monetary policy targeting. Of course, it may be noted that Argentinean and Canadian targeting were quite different; Argentina targeted the rate of exchange with the U.S. dollar, while Canada targeted the rate of change of the consumer price index (after an adjustment, in the short run, to exclude food, energy, and the effect of indirect taxes) and still does so.<sup>2</sup> In both cases, success with the objective explicitly targeted does not guarantee a highly satisfactory result with other variables of interest. In Argentina, for example, a stable rate of exchange could still be consistent with considerable slack in the economy or a fair amount of underutilized resources. In Canada, as politicians and the general public have learned to their dismay during the closing years of the decade as well as during the opening years of the new century, an inflation experience well within the target range is still consistent with pronounced fluctuations (a major depreciation) of the Canadian dollar, as measured against its American counterpart.<sup>3</sup> Economic policy is rarely easy.

We close this introductory section by noting that, although far from obvious at the time, 1991 marked the beginning of the long expansion in the United States, which served as a background to developments in our two countries during the 1990s. Taking Argentinean and Canadian experience over the past two decades as case studies, we may evaluate this experience to see what light it sheds on the desirability of targeting (of some sort), in contrast to other approaches to monetary policy. Moreover, the difference in the type of targeting between our two countries may conceivably provide a lesson in this regard. Finally, direct comparisons and contrasts between the Argentinean and Canadian economies may be of interest as well.<sup>4</sup>

### **ADOPTION OF MONETARY POLICY TARGETING IN ARGENTINA FOR THE 1990s**

Argentina has implemented many monetary regimes since the creation of the Banco Central de la República Argentina (BCRA) in 1935, about the same time that the Bank of Canada was created. In the 1990s, Argentina implemented a program of monetary policy targeting, along with a high degree of central bank independence, in the attempt to produce a non-inflationary environment and a viable balance of payments at a fixed exchange rate. For a time, it appeared as though the program was successful.

To analyze Argentinean monetary policy during the 1990s, we must take into account the effects of the very important reform process at the beginning of the decade. In particular, the implementation of the so-called "Convertibility Plan" brought about major changes in the "rules of the game" for the economy of Argentina. In a related structural reform Argentina revised the BCRA Charter in 1992, a quantum leap in the institutional development of Argentina, which obviously affected the way monetary policy would be conducted.

The Convertibility Plan, which emerged in 1991 (Act No. 23.928), set the main strategy of monetary policy targeting as an exchange rate target by pegging the domestic currency (now the Argentinean peso)<sup>5</sup> to the currency of a stable economy with a low rate of inflation. Argentina chose the dollar, given its importance on the world scene and, especially, its widespread internal use as a reserve for real value. The objectives were multiple: first, to stop the inflationary process, which had reached hyperinflation proportions, but also to set constraints on the issue of domestic money, to reduce considerably the discretionary power of the monetary authorities, and finally to back (the vast majority of) the notes of high-powered domestic money with international reserves.<sup>6</sup> It was also anticipated that establishing a stable money would put an end to the endemic problem of capital flight, which in turn tended to rebound unfavorably on a floating rate of exchange and hence on domestic prices.

As Mishkin [1999] points out, the adoption of an exchange rate target presents many advantages as well as disadvantages. Among the former is that an exchange rate target fixes the rate of inflation for internationally traded goods, thus helping to keep the overall inflation rate under control. If the exchange rate target is reasonably credible, expectations concerning this overall inflation rate will therefore depend on similar expectations in the country to which the peg is attached (the stable economy). Moreover, if this strong commitment can be maintained and easily understood by the public, the time-inconsistency problem<sup>7</sup> could be obviated or even overcome.

Among the disadvantages of a fixed-rate regime are the following. First, in a world of high capital market mobility, the national monetary policy independence virtually disappears. The targeting country is more exposed to both shocks occurring in the anchor country and also to speculative attacks (in the absence of full monetary union). However, the main disadvantage facing emerging economies is that such exchange rate targeting will almost certainly promote financial fragility in the case of a devaluation. In such a case, the typical economic agent's balance sheet would deteriorate because the debt burden is effectively denominated in the anchor currency (at least in part), implying a higher domestic debt after a devaluation. Finally, the possibility for the domestic monetary authority (and hence the government) to generate seigniorage is reduced.

In the BCRA Charter of 1992, some important innovative measures were set out:

1. The BCRA became largely independent of the Federal Government of Argentina.
2. The primary function of the BCRA was to preserve the value of the domestic currency, by fixing its convertibility to the anchor currency.

3. Several other functions of the BCRA were delineated. In particular, it was to regulate the quantity of money and the evolution of credit in the domestic economy, as well as to assure the orderly evolution of major financial markets. In addition, the central bank was to act as the financial agent of the federal government and also to develop and strengthen the country's capital markets.

With this type of approach, therefore, one might argue that Argentina could not possibly run an independent monetary policy. (Indeed, the last three years of this regime, from 1999 to 2001, appeared to confirm this suspicion when the Argentine economy was mired in an apparent permanent recession.) In fact the money supply could be said to be determined endogenously, essentially by the amount of money that people wished to hold. In other words, this was the so-called passive monetary policy. In addition, the BCRA might not have been thought generally able to act as lender of last resort and to issue money to the commercial banks when or if their reserves became inadequate. Nevertheless, in emergency situations, the BCRA was able (in the early years) to lend to commercial banks on a temporary basis, up to a maximum of their equity account.<sup>8</sup> Moreover, the BCRA could make cash advances for the same reasons, if the BCRA received government bonds from the interested commercial banks as security deposits. Thus in such instances, the BCRA could generate limited seigniorage.

The BCRA's main instrument to attempt to influence the domestic money supply (and indirectly the domestic interest rate) was a variation in reserve requirements (called then "liquidity requirements"). From 1995 to the end of the regime, the legal reserve requirements (minimum cash-reserve ratios specified by law) were replaced by the so-called "minimum liquidity requirements." It was thought that this approach to policy permitted a more supple approach to monetary policy, where the BCRA was able to require the commercial banks to maintain immobilized funds, which were seen by the banking community as a kind of tax on the activity of these financial entities. Moreover, these minimum cash reserves specified by the 1995 law were not applied to other activities of the commercial banks, such as loans to other internal banks with funds that came from the foreign sector or to bond issues (either foreign or domestic).

As may well appear obvious from the above discussion, it could be observed that the commitment to full convertibility was similar to, but not identical with, full dollarization. Argentina retained its own domestic currency, and so the possibility for (limited) seigniorage remained. As well, the commitment to the one-for-one exchange rate was viewed by the general public as less permanent than the full adoption of the U.S. currency,<sup>9</sup> and long-term dollar-denominated bonds generally bore a much lower rate of interest (sometimes as much lower as 800 basis points) than peso-denominated bonds. Obviously, this meant that long-term lenders were not unaware of domestic pressures to abandon this arrangement in the then-foreseeable future. At the same time, it also meant that Argentina was able to run a monetary policy with some discretionary capability, using both traditional and non-traditional instruments, which also allowed the monetary authority to act (at least until the final three years of the regime) in some way as the traditional lender of last resort.

**ADOPTION OF INFLATION TARGETING IN CANADA FOR THE 1990s**

The story of monetary policy targeting in Canada may go back (at least) to September 1975, when then-Governor Gerald K. Bouey decided to target the rate of growth of a money aggregate (M1) explicitly. The consensus was that this approach was less than fully successful, and this policy was formally abandoned in 1982, in part due to technical difficulties in defining an appropriate monetary aggregate.<sup>10</sup>

Following the non-success of a policy of monetarist inspiration, the Bank of Canada retreated to what Boreham and Bodkin [1993] have called an “interregnum” from 1983 to 1987. Although monetary policy was principally focussed on reducing rates of inflation, there was some scope for attaining other goals, such as recovery from the recessions of 1979-1980 and 1981-1982, the latter of which was particularly severe. As we indicate below, the unemployment rate declined over the five year period from 1983 to 1988, and economic growth, in the range of 3 to 5 percent per year (real GDP), was restored.<sup>11</sup> The Bank also signalled the relative unimportance of the level of the exchange rate as a policy objective. In February 1986, the Canadian dollar touched a low of \$0.6913 U.S., a historical low at the time and one not matched until more than a decade later. Moreover, short-term factors at times pre-empted longer-run goals. In October 1987, the Bank of Canada moved vigorously, with the U.S. Fed and other central banks, to combat the loss of confidence engendered by the worldwide crash of stock markets at that time.<sup>12</sup>

But a change was coming. In January 1988, the relatively new Governor of the Bank of Canada (he had been appointed eleven months earlier), John Crow announced in a speech (the Eric J. Hanson Memorial Lecture, at the University of Alberta) that the anti-inflation goal was paramount and indeed that the Bank would henceforth focus on price stability, which many interpreted as an objective of *zero* inflation.<sup>13</sup> And indeed the Bank of Canada did follow a rigorous anti-inflation policy, with long-term Canadian interest rates at times 4 percentage points (400 basis points) above rates of interest on corresponding U.S. financial instruments. Many Canadian economists [Laidler and Robson, 1993; Fortin, 1996] argue that the Bank’s aggressive anti-inflation policy in 1989 and 1990 brought on the recession of 1990-92, and contributed to nearly a decade of slow growth and high unemployment.<sup>14</sup>

The additional tool of *inflation* targeting, introduced in February 1991, through a joint announcement of the Bank of Canada and the federal government (in the presentation of its annual budget), made this policy more concrete. This announcement confirmed price stability as an appropriate long-term objective, but stated, in the then present context, a band between 2 and 4 percent per year by the end of the coming year (1992) to be the appropriate short-term objective for changes in the consumer price index.<sup>15</sup> This band was to be reduced to between 1.5 to 3.5 percent per year by mid-1994 and to 1 to 3 percent by the end of 1995. Accordingly, these targets were modestly described as “inflation reduction targets,” rather than as the embodiment of price stability. The parliamentary election in November 1993, which resulted in the return of the Liberals as the governing party, was followed by the appointment in December of Gordon G. Thiessen as Governor-Elect of the Bank of Canada (to be effective in February 1994). John Crow was not reappointed to the position.<sup>16</sup> At that time the system of inflation targeting was again confirmed by a

joint statement from the Bank and the Minister of Finance. Moreover, the target range (1 to 3 percent per year) was unchanged and was to be extended through 1998. In February 1998, this same band was further extended through 2001 and, indeed, in mid-2001, the Government and the Bank of Canada decided to stand firm on their targeting approach, with the same interval (1 to 3 percent per year) for their inflation targets.<sup>17</sup>

Shortly after formal inflation targeting was introduced as the basic approach for monetary policy, the Conservative government set up a parliamentary committee to study whether the Bank of Canada Act should be amended to make price stability the central bank's sole responsibility.<sup>18</sup> Such a committee (the Manley Committee) was set up in November, 1991, and reported roughly ten months later. The Manley Committee recommended no major changes in the Bank of Canada Act, but Governor Crow noted that he would continue to pursue his approach to monetary policy along the same lines, under the view that price stability in the long run was the most effective manner for the central bank to make a contribution to other policy objectives. However, it should be noted that (as in the Argentinean case), Canadian central bankers believed (and presumably still do) that there is scope in the short run for subsidiary attention to other policy objectives.

Finally, we may note that inflation targeting in Canada has been accompanied by two innovations worthy of further discussion. Inflation targeting in Canada has been accompanied by extensive published and oral discussion by senior officials of the Bank, as they attempt to explain this current approach to monetary policy and, understandably, to win converts to their approach. The recent article by Governor Thiessen [1998] is one such example; for roughly seven years now (since May 1995), the Bank has been issuing semi-annual reports in May and November (an example is Bank of Canada [November 1998c]). Moreover, Bank officials have been active in professional meetings and university department seminars in a laudable attempt to demystify monetary policy and explain to an informed public just what it is they are attempting to achieve. These innovations may be thought of as an attempt to pursue "transparency" in their monetary policy actions.

A second innovation is the development of a "monetary conditions index" (MCI) by the research staff of the Bank of Canada, which has served as a guidepost for short-term monetary policy changes.<sup>19</sup> Changes in the MCI are defined as weighted changes in the interest rate on 90-day commercial paper and in a trade-weighted index of the value of the Canadian dollar (a cheap Canadian dollar being stimulative, of course), with weights of three to one. (The weights reflected, in the Bank's view, the relative importance of domestic and foreign influences on the demand for Canadian output, based in part on previous research at the Bank itself.) The absolute value of the MCI was arbitrarily set equal to 0 in January, 1987; it was then carried forward by computation from this point, using the changes calculated by the above technique. Bank officials stress that these changes are more meaningful than the absolute index values themselves.

Two other institutional factors are worth commenting on. First, the semi-annual monetary policy reports are signed by the "Governing Council" of the Bank of Canada. While chaired by Governor himself, the Governing Council also includes the Senior



Deputy Governor and the five (currently) Deputy Governors. Therefore, as Mishkin and Posen [1997] point out, the impression is definitely conveyed that monetary policy is less of a one-man-show (which at times appeared to be the case under John Crow's term as Governor).<sup>20</sup> Moreover, the Governing Council has indeed made a concerted effort to convey the impression, in some way that cannot be explicitly codified, that they are accountable to the larger Canadian community in the administration of monetary policy.<sup>21</sup>

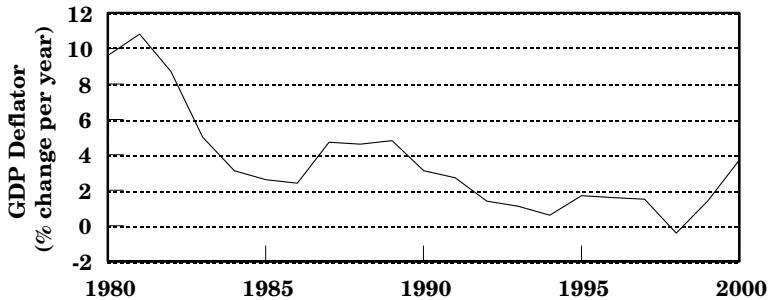
Nevertheless, it is generally conceded in a number of comparative studies [Alesina and Summers, 1993] that the Bank of Canada is a relatively independent central bank, and we should argue that its independence is even greater than appears in the legislative framework. While it is true that the elected government could send the Governor a written directive ordering him to change the direction of current monetary policy, it is recognized that such a last resort would without question entail the resignation of the Governor, with enormous political consequences for the elected government. In fact, it is quite possible that the government would be the loser in such a confrontation. In practice, then, the independence of the Bank of Canada would appear to be considerable, although there are a considerable number of formal and less formal links between the central bank and the federal Department of Finance. Perhaps, as we have suggested above, the elected government has its greatest possible influence over the broad lines of monetary policy at the time of the appointment of the Governor, which takes place only once every seven years.

Having considered the historical circumstances that have led to the establishment of targeting as an approach to monetary policy in Argentina and Canada, we may proceed to a tentative evaluation of this innovation in monetary policy in these two cases. This evaluation is based principally on the record of the decade itself, but we feel that it is fair game to take into account the dramatic events of the first new year (2001) of the new millennium.

### **TENTATIVE EVALUATION OF INFLATION TARGETING IN CANADA**

We shall perform a very simple tentative evaluation of inflationary targeting in Canada during the decade of the 1990s. Ideally, we would like to have a controlled experiment in which the only factor that differed between two distinct historical periods for the Canadian economy was the presence or absence of the inflation targeting described in the preceding section. Obviously, we are not going to be able to carry out such an experiment! Alternatively, one might attempt to isolate the effect of targeting in selected equations of a macroeconomic model. To the extent that one were successful, this approach could begin to isolate the macroeconomic effects of this change in policy regime. In fact, our aims will be far less ambitious. We shall simply compare the performance of the Canadian economy during the two periods 1980-1989 and 1990-1999 with regard to three important measures of macroeconomic performance: the rate of inflation, the rate of growth of real GDP, and the rate of unemployment.<sup>22</sup> (Moreover, the years 1980-1982 and 1990-1992 were discarded from the analysis on the grounds that these were recession years and hence not strictly applicable to an analysis of the Canadian economy under "normal" conditions.) If

**FIGURE 1**  
**Inflation in Canada**



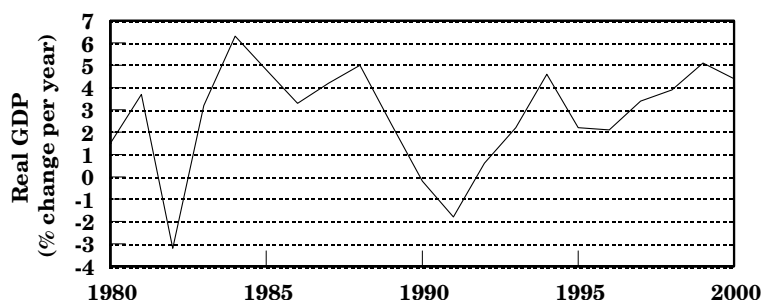
any of these indicators perform measurably differently, a certain (unspecified) portion of this difference in performance can tentatively be ascribed to the change in the monetary policy regime, recognizing that certain other relevant factors (for example fiscal policy) have been left uncontrolled. However, an interaction among these three objectives of macroeconomic stabilization policy will have to be implicitly taken into account.

Turning first to the measure of inflation (percentage change in the GDP deflator) from 1980 to 1997, in Figure 1, we note immediately that the 1990s seem to be much more tranquil than the troubled 1980s. A quick calculation reveals that the average rate of inflation experienced during 1983-1989 was 3.9 percent per year, while the average annual inflation rate for the subperiod 1993-1999 was only 1.1 percent! (We are using the implicit deflator of GDP as our price index; using the CPI would not make an appreciable difference.) The apparent conclusion is that inflation targeting has made a non-trivial contribution to the achievement of a more satisfactory rate of inflation. However, this conclusion is only tentative, because other factors have not been taken into consideration. Simply considering Figure 1 in isolation, we note that the recessions at the beginning of the two decades (1979-1980 and 1981-82 at the beginning of the decade of the 1980s, and 1990-1992 at the beginning of the 1990s) appear to have been very effective in squeezing inflation out of the system (at a considerable human cost, of course). Thus an alternative reading of the synoptic history in Figure 1 would be that the 1979-1980 and 1981-82 recessions reduced inflation from double-digit levels to around 4 percent annually, while the second recessionary wave at the beginning of the 1990s squeezed another two and three-quarters percentage points annually out of the inflation rate. In this interpretation of history, monetary policy's contribution to a reduced rate of inflation in the 1990s was mainly through engineering recessions at the appropriate times; the contribution of targeting as a process was at best secondary. Let us leave this matter in abeyance for the moment, as we examine the other two performance measures.

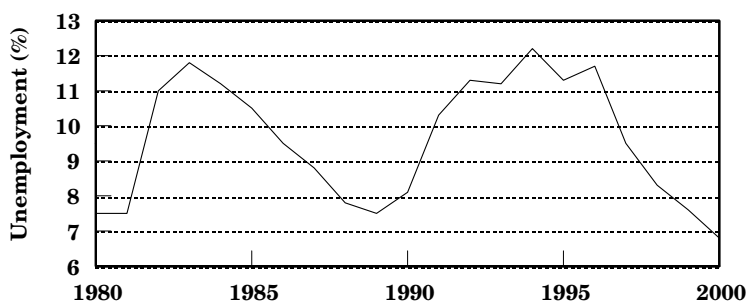
The growth rates of real gross domestic product during the 1980s and 1990s are presented in Figure 2. Of course, the most obvious factor in this chart is the growth-destroying effects of the recessions at the beginning of the two respective decades.



**FIGURE 2**  
Growth in Canada



**FIGURE 3**  
Unemployment in Canada



However, the reader may wish to look again; the non-recessionary periods show weaker growth in the 1990s. The growth rate averaged 4.2 percent per year from 1983 to 1989, while the growth rate from 1993 to 1999 was only 3.4 percent annually.<sup>23</sup> The suspicion arises that the better inflation performance of the Canadian economy during the 1990s may have been “purchased” at the expense of other objectives of macroeconomic stabilization policy. Before attempting a final conclusion in this matter, let us examine the behavior of the unemployment rate for these same two decades (Figure 3).

This chart shows a familiar pattern: the unemployment rate rises during recessions, continues to rise for a time after the acknowledged end of the recession, and then finally falls during the expansion. In the case of the 1990/92 recession, the decline in the unemployment rate was a long time in coming. Indeed, the impression from the comparative growth rates, summarized in the preceding paragraph, that the Canadian economy was weaker in the 1990s, persists under the study of unemployment rates. For the “normal period” 1983-1989, the rate of unemployment averaged 9.6 percent of the labor force, while for the post-recession 1990s (1993-1999), this rate was appreciably higher, at 10.3 percent.<sup>24</sup> Furthermore, as the administration of the system of unemployment insurance has been tighter in the 1990s, this

factor in itself should have favored a lower rate of unemployment. On the other hand, the many international shocks to which the Canadian economy was subject (the Canada-U.S. Free Trade Agreement, NAFTA, and the pressures of globalization) almost certainly meant that the Canadian economy had to restructure, to meet its new challenges. Conceivably, the increased unemployment of the mid-1990s was due principally (or even entirely) to the needs for microeconomic adjustment; this is certainly the point of view of Freedman and Macklem [1998].<sup>25</sup> If this possibility is granted, at least part of the slack in the Canadian economy during the 1990s and the associated high rates of unemployment would represent supply-side factors, rather than a weakness of aggregate demand. If the bulk (or even all) of the weakness in the Canadian economy is explained in this manner, monetary policy can be absolved from most (or all) of the blame for the poor performance of the Canadian economy during the 1990s. This is not our view, but fairness to the participants in an unsettled debate demands that the possibility be mentioned.

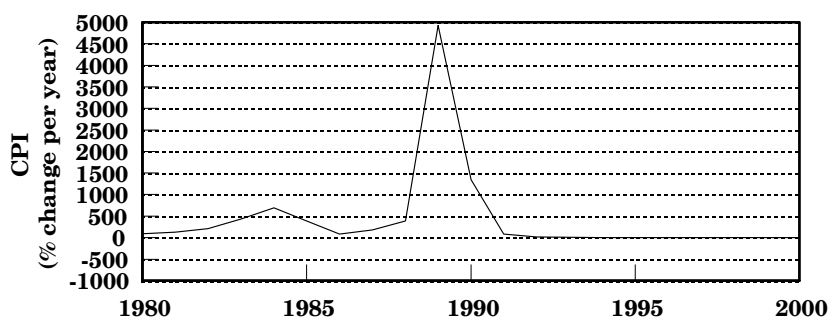
What role then is left for inflation targeting in Canada since its inception in 1991? Our reading of the evidence suggests that this change in policy has been mainly a secondary influence on the realized rate of inflation. Key to the lower rate of inflation is, in our view, a weaker Canadian economy with higher rates of unemployment and lower growth rates, which have been insufficient to absorb the growth in the capacity to produce real goods and services.<sup>26</sup> (Recall, however, the important qualification of the preceding paragraph; in this alternative interpretation, monetary policy can be absolved of most or even all of the blame for the weak economy of the past decade.) In themselves, the two free trade agreements (the first between Canada and the United States in 1989 and a second between Canada, the United States and Mexico in 1993) should have produced a slightly less inflationary environment, perhaps at a cost of lesser resource utilization in the short run. Once again, therefore, the role of inflation targeting in effecting a lower rate of inflation would appear to be secondary, unless a major share of the blame for a weak economy is squarely laid at the feet of a strong need for restructuring in the new globalized Canadian economy. Nevertheless, it is possible that the *process* of inflation targeting could eventually reduce inflation *expectations*, as Bernanke *et al.* [1999] argue, particularly during the prosperity phase of the business cycle, so that monetary policy need not be so restrictive during the next time of threatened inflation. Freedman [2000b] would appear to argue that this is indeed the case.<sup>27</sup>

Finally, it should not be forgotten that inflation targeting is theoretically consistent with a greater volatility of the nominal exchange rate, because this policy objective can become decidedly secondary in this approach. In practice, this may have been the case.

## **TENTATIVE EVALUATION OF MONETARY POLICY TARGETING IN ARGENTINA**

This section describes the evolution of the three economic variables, the unemployment rate, the rate of inflation, and the growth rate of real GDP, in the 1980s and 1990s. In addition, we comment on developments in 2000 and 2001, as well as

**FIGURE 4**  
**Inflation in Argentina**



events in early 2002. These developments will be analyzed in a manner similar to that applied to the case of Canada. Briefly, the exchange rate regime (and complementary monetary policies) appear to have had a major influence of the evolution of the Argentinean economy.

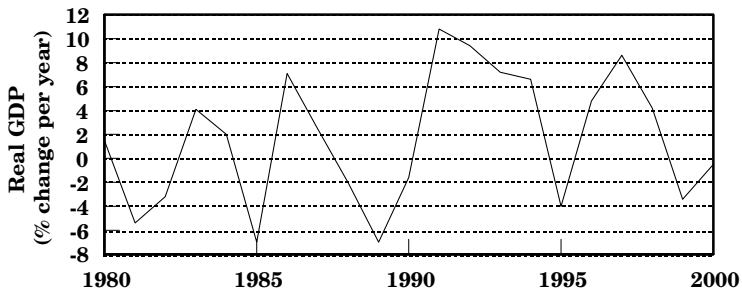
At the beginning of the 1980s, the crawling-peg system characterized exchange rate policy. The exchange rate was kept artificially low (that is, the Argentinean peso was overvalued), and such control was aimed at maintaining the real value of wages in terms of their purchasing power. However, great pressures for devaluation were constantly present, and in 1981 such pressures erupted. Thus began a process of very high (triple digit) inflation that was only interrupted in 1985 when the so-called Austral Plan was instituted. (See Figure 4.)

The main objective of the Austral Plan was to stop the high inflation process, and, to be fair, inflation fell to double-digit levels in 1986. However, triple-digit inflation resumed in 1987 and turned into hyperinflation in 1989 and 1990 (with annual percentage changes in the CPI of 4,923 percent and 1,343 percent, respectively).

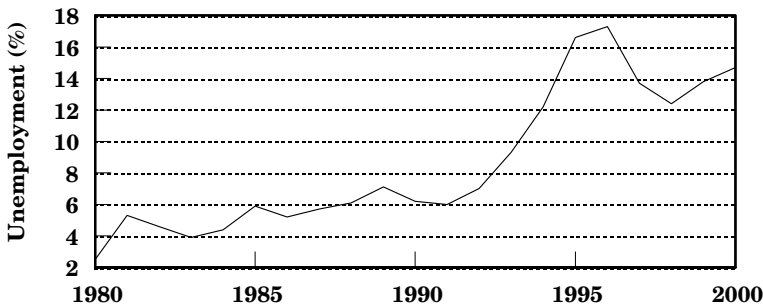
The exchange rate targeting implemented at the beginning of the 1990s was associated with a change in regime. The inflation rate fell from 1,343 percent per year in 1990 to 84 percent per year in 1991. By 1995, the annual rate of inflation was down to 1.6 percent, with annual rates in subsequent years (up to 1998) less than one percent and even deflation (negative rates of change of the CPI) from 1999 on. In terms of our graphic presentation in Figure 4, the new regime was associated with a “flat-lining” of inflation. The presence of a (relatively) stable “anchor” currency, the U.S. dollar, appears to have had very beneficial effects on the inflation experience of Argentina. (One apparently puzzling result is that inflation in Argentina from 1995 to 1998 was even smaller than that in the United States, but it must be remembered that the Argentinean economy was in general much weaker than the U.S. economy at this period, as pointed out below.)

Figure 5 shows that in Argentina variations in the growth rate were quite pronounced. However, contrary to the Canadian experience, recessions in Argentina (until the most recent one) have *not* been associated with decreasing rates of inflation. Instead, *stagflation* has been present. In the first half of the 1980s, with such high inflation rates, real GDP actually decreased, and the biggest annual fall of this

**FIGURE 5**  
**Growth in Argentina**



**FIGURE 6**  
**Unemployment in Argentina**



aggregate (a -7 percent change) was registered during the hyperinflationary process in 1984-85. However, since the Convertibility Plan was implemented in 1991, a real GDP followed a rising trend for the remainder of the decade of the 1990s, except for 1995 when the so-called “Tequila Effect” occurred, and in 1999, the starting point of the large political, social, and economic problems.

During the 1980s, a period known in Argentina as “the lost decade,” the average growth rate of real GDP was negative. This picture changed dramatically in 1991, presumably as a result of implementing the Convertibility Plan with exchange rate targeting. In particular, the geometric average rate of growth of real GDP of Argentina during from 1991 to 1998 was 5.8 percent per year, a large improvement over the 1980s.<sup>28</sup>

The picture is considerably less rosy when we consider the rate of unemployment in the Argentinean economy (Figure 6). Indeed, it can be argued that the pronounced slack in the Argentinean economy from 1999 to 2001 (the “never-ending” recession) brought down the convertibility regime. While unemployment averaged 5.4 percent from 1981 to 1990, it ballooned to an average of 12 percent over 1991 to 1999; moreover, the problem deepened dramatically during the ensuing recession.<sup>29</sup> According to one interpretation, this higher rate of unemployment was the price that the Argentinean authorities (the central bank in particular) had to pay to make the re-

gime of full convertibility viable. In this view, a definite price had to be paid for the new monetary stability, and not all reasonable persons would be prepared to pay such a price.

As in the Canadian case (where there was a similar but not so pronounced rise in the unemployment rate in the 1990s), however, an alternative interpretation is quite possible. Some Argentinean economists have argued that the high rates of unemployment of the 1990s were a structural phenomenon that reflected a change in the "rules of the game" in the labor market. In particular, the greatly increased globalization of the Argentinean economy, associated with privatization and modernization of the productive system, left many people out of the loop in the modern economy. It could be argued that this was the cause of numerous pink slips.<sup>30</sup>

In summary, there is no doubt that the institution of convertibility exposed the Argentinean economy to external shocks. Furthermore, considered as an emergent economy, Argentina had to face the same problems as other emergent economies under pressure, regardless of the how good its fundamentals might have been. This was particularly apparent during the financial crises of the second half of the 1990s (Mexico in 1995, Thailand and Hong Kong in 1997, Russia in 1998, and the devaluation of the Brazilian *real* in January 1999).

However, as pointed out by the International Monetary Fund [1999], the more recent financial crises have been considered to be quite different from that of the Tequila Crisis (Mexico in 1995). This is explained basically by a major improvement in prudential regulation since the Convertibility Plan was introduced, along with a consequent change in the behavior of Argentina's banks, which have sharply increased their holdings of liquid assets to levels above requirements.

In this way, the apparent evidence suggests that, contrary to Canada's experience, exchange rate targeting in Argentina has been the most important element in producing price stability. The change in regime can probably also take some of the credit for a greatly improved performance with regard to economic growth, at least up to 1998.

The great rub, or fly in the ointment, has been (and remains) the high levels of unemployment, which now greatly exceed even Canadian rates for the 1990s. The major issue is whether Argentina can possibly implement a successful policy to reduce unemployment under a regime of fixed exchange rates (convertibility of some sort) or whether recourse must be had to a floating rate regime. To this question we now turn.

### **THE END OF CONVERTIBILITY IN ARGENTINA: AN ETERNAL MATTER?**

Despite the primary objective of this paper, to discuss monetary policy targeting in our two countries during the 1990s, it is worthwhile to comment on recent events in Argentina. We do this with a perspective of shedding light on the question of whether Argentina should simply float its peso, allowing the foreign exchange market to set its price from day to day, or whether convertibility (probably at a new rate of exchange) should be attempted at some future date. Let us see what light the events of 1999 through early 2002 can shed on this issue.

From the very beginning of 1999, Argentina was impacted by the crisis in Brazil, its principal trading partner. The devaluation of the *real* provoked an increase in domestic interest rates as a consequence of rising expectations of contagion from the Brazilian crisis. This development worsened the recession that began at the end of 1998. Consequently, growth fell for four quarters in 1999. The economy appeared to be on the road to recovery during the first two quarters of 2000. During the fourth quarter of that year, however, with the resignation of the vice president in October, a political crisis was superimposed on the economic problems. Economic uncertainty rose, and expectations about the recession continuing were fully confirmed by negative annual growth rates of -0.6 percent and -1.9 percent, during the third and fourth quarters, respectively. Some critics, internal as well as external, claimed that the crisis reflected the high fiscal deficit, which in turn could be interpreted as the government's wishing to take more out of the economy than the general public was prepared to support in *bona fide* taxation.

The observed rates of *deflation* of the consumer price level of -1.8 percent and -0.7 percent in 1999 and 2000 respectively were a consequence of the continuing recession, confirmed by rising unemployment rates (13.8 percent in 1999 and 14.7 percent in 2000).

As noted above, this decreasing activity level provoked some serious fiscal problems, and the threat of default on the public debt grew. This threat was temporarily overcome with the help of a program of dollar credits from the international financial organizations (the IMF and the World Bank), obtained at the end of 2000. However, the fiscal problems continued and external and internal pressures forced the government to enact legislation requiring a "zero fiscal deficit." This law required the federal government to limit its expenses to its income. At the same time, the BCRA diminished the liquidity requirements of the commercial banks to compensate the commercial banks for the drain of their deposits.

Despite all these measures, the unfavorable expectations of Argentina's economic performance continued, amply justified by the facts as they unfolded. Consequently, in December of 2001, withdrawals for the commercial banks were restricted, following runs on bank deposits triggered by Argentina's continuing and deepening crisis. The political, fiscal, and social crises appeared to deepen simultaneously and, in consequence, Argentina experienced five presidents in the space of a fortnight.

In this way, Argentina experienced a recession moving into its fourth year, a huge deterioration in the federal government's fiscal position, the absence of further credits from the international financial system, the drain of domestic deposits, and finally the consequent loss of international reserves. After all this, convertibility at the parity of one peso for one dollar was abandoned.

The federal government devalued the peso so that one U.S. dollar was worth officially 1.4 Argentinean pesos and it continued the freeze of savers' funds in the commercial banks. This last measure was maintained to avoid having to pass to a floating exchange regime. It was thought that if the freeze were abandoned, the liquid international reserves held by the BCRA could be emptied in a week or two. BCRA figures from January 8, 2002, stated that liquid international reserves held by the BCRA plus the total reserves of the commercial banks (including liquidity



requirements) constituted roughly 40 percent of total deposits. In such a highly volatile climate, therefore, it is doubtful that such reserves could survive a major run on the peso.

So what is the solution? In the context, many orthodox (and not so orthodox) economists would assert that the peso should float and seek its market level, with economic agents (debtors who borrowed in U.S. dollars) taking their lumps. Economic reality is rarely so simple, however, and many economic problems loom from such a step. Domestic prices could rise, and a return to the hyperinflation of the 1980s is not an impossibility. Moreover, defaults on domestic and foreign debts of economic agents would certainly depress domestic demand, overwhelming any favorable effect from a depreciation of the currency.<sup>31</sup> The depressed state of domestic demand, in turn, would appear to presage another several years of recession and high unemployment, hardly an attractive prospect. Consequently, many Argentinean economists are not in favor of a floating rate regime, either pure or managed by the BCRA. Instead, Cottani [2002] and others have argued for re-establishing convertibility at a more realistic (depreciated) value of the Argentinean peso. The matter is controversial, and the two authors of this paper are not unanimous on this point.

#### **CONCLUSION: SIMILARITIES AND DIFFERENCES IN MONETARY POLICY TARGETING BETWEEN ARGENTINA AND CANADA**

It is interesting to note that both countries adopted a nominal target for monetary policy targeting roughly a decade ago (1991). In the Canadian case, it was the rate of change of the nominal price level that was targeted, while in Argentina, the Convertibility Law targeted the U.S. dollar. In both countries the central bank modified its methods of conducting monetary policy, certainly to a greater extent in Argentina than in Canada. In this regard, it can be argued that, although the intermediate targets differed, both countries were after the same end goal, namely a low inflation environment associated with a credible monetary policy. An interesting contrast is that, in Canada, this was largely implemented by having the central bank announce its intentions (jointly with the political authorities), while in Argentina credibility was achieved only with much greater difficulty: the government had to tie the central bank's hands by adhering to a rigidly fixed exchange rate.

As far as the inflation experience of the two countries is concerned, the experiment has to be judged a success,<sup>32</sup> spectacularly so in the Argentinean case. In Argentina, inflation dropped from hyperinflation levels to rates of change below those in the United States, one of the more spectacular turnarounds in recent macroeconomic policy history. The Canadian improvement was less spectacular (although ultimately less destructive), but there was no question that the decade of the 1990s was considerably less inflationary than that of the 1980s. Indeed, by some measures, the Canadian rate of inflation was more than cut in half.

When we look at other key results of the policy process, the outcomes are more ambiguous, as Fortin [1996], Stanford [1999], and Courchene [2001] have strongly emphasized, in the case of Canada. For both countries, the unemployment rate rose significantly for the 1990s, more than doubling in the Argentinean case and increas-

ing by almost a percentage point (by our measures) on average as compared to the “normal years” of the 1980s in Canada. As noted above, the interpretation of these results is controversial in both cases. In one view, the higher unemployment rates were a direct result of the softer economies that the authorities (particularly the two central banks) had to run, to keep aggregate demand weak enough not to threaten the adopted nominal targets. An alternative view, as developed by Freedman and Macklem [1998] for Canada, is that the weak labor markets in the two economies reflected the pressures of globalization and other restructuring, and that these adjustments should be largely completed during the current decade (the first ten years of the twenty-first century). As noted in the preceding section, it seems hard to maintain this position for Argentina after a recession that has moved into its fourth year. Weak aggregate demand (as explained in that section) appears to be the culprit, along with a government unwilling or unable to contain a fiscal crisis.

The two economies have diverged in their growth rate responses to the change in policy practices. In Canada, growth rates have been lower in the 1990s, which is consistent with either of the two major explanations of the increased rates of unemployment.<sup>33</sup> In Argentina, growth rates at first increased; indeed, the economy appears to have moved from negative growth or decay (the so-called “lost decade”) to respectable positive rates of growth averaging roughly 4.75 percent annually, up to the end of 1997. It has to be admitted, therefore, that weak aggregate demand (possibly induced by a need to maintain convertibility) has not been the whole story in Argentina.

We note another key difference between monetary policy targeting in Argentina and that in Canada. As should be perfectly clear by this time, the two nominal variables targeted—the rate of exchange with the U.S. dollar in the case of Argentina and a version of the consumer price index in the Canadian case—differed greatly. Which is a better target? On the basis of a cursory study of a few summary statistics, a definitive response to this question is certainly out of the question, but it seems quite reasonable to suppose that the answer could well depend on the individual economy for which one is examining policy. Certainly history and current institutions could play a major role in this regard. Our referee, therefore, suggested that both countries are ultimately attempting to control monetary growth (to produce a low-inflation, credible monetary policy environment), provided one accepts the monetarist story, at least in part. In this view, Canada’s or Argentina’s monetary regimes for the past decade did not represent a complete abandonment of monetarist principles. But they did reflect the practical difficulties entailed in attempting to implement such principles.

Our conclusions, therefore, are necessarily tentative. Because of differing stages of economic and political development and also location, it seems likely that the lessons learned from one of these economies cannot be applied to the other without considerable refinement. Also, it seems clear that five or ten years of evidence may not be sufficient to arrive at definitive conclusions on these matters. At the end of the current decade (the 2000s), we may have a better idea about some of these controversial issues. Or we may not. One point on which we may want to insist, however, is that these two experiences do cast doubt on the theoretical notion of the

supposed long-run neutrality of money. A decade should probably be long enough for the short-run effects of a more restrictive monetary policy to have run their course. The fact that both countries suffered deleterious real effects (higher unemployment and, in the case of Canada, lower growth) during the decade under study suggests that some small amount of inflation (say in the range of 3 to 5 percent) may well be beneficial for a modern economy.

## NOTES

The helpful comments of Charles Freedman, David Laidler, Eduardo Loria Diaz, the editor of this *Journal*, and an anonymous referee were very much appreciated. While we have gratefully accepted a number of their suggestions, they will not agree with all that is said here, and so the standard caveat applies. In addition, we would like to thank our contacts at Statistics Canada, Marcia Almey, Eric Chalifoux, and Alice Peters, for providing updates on macroeconomic statistics employed in this study. Of course, they too are not responsible for the uses we have made of their data.

This paper was first written in the final months of the Twentieth Century, and so it may be considered, on one point of view, as simply an exercise in recent economic history. At that time, it appeared as though a fixed rate of exchange for the Argentinean peso against the U.S. dollar, enforced by a currency board, might have had a chance of being viable in the long term. Of course, subsequent events proved this not to be the case, but we still feel that it is a moot issue whether a better designed convertibility scheme might have been equal to the task. (Such a better design might have included stronger macroeconomic and microeconomic policies, for instance.) In any case, the current problems of the Argentinean economy appear to be immense; as noted in the text, the authors themselves are not in agreement about what might be a better short-term foreign exchange regime for Argentina and, in particular, whether it would be better to allow the peso to float again or else allow it to be pegged at a realistic rate against the U.S. dollar (or even possibly the Euro).

1. See the next section. These developments are also summarized in Arnaudo [1997].
2. The subtle distinction between the measured inflation rate and the so-called “core” inflation rate will be further discussed in Section 3 below.
3. Statistics to back up this assertion may be found in Courchene [1998] or indeed in any of the recent Monetary Policy Reports of the Bank of Canada, but certainly this concern surfaces prominently (and periodically) in the popular press. Indeed, Courchene [1998] has recently argued that Canada’s targeting of the rate of change of the aggregate price level has been positively harmful to the stability of the foreign exchange rate, for a variety of reasons. Perhaps even more importantly, it could also be consistent with considerable slack in the system, as argued by Fortin [1996; 1999a], Stanford [1999], and others.
4. Laidler [1991] points out that another difference between Canadian and Argentinean targeting was that the country whose currency Argentina chose to target was not its major trading partner; while 13 percent of Argentina’s international trade is with the NAFTA area (principally the United States), almost 30 percent of Argentina’s external trade is with the MERCOSUR bloc (which includes Brazil). However, one might argue that this difference was more apparent than real, because of the immense importance of the United States as an international financial center, in a time in which financial flows tend to dominate trade flows in the balance of payments statistics.
5. In point of fact, the domestic currency at the time of the adoption of the Convertibility Plan was the austral, which was shortly afterwards abandoned for the peso.
6. It may be noted that, in this system, a small percentage of the reserves which “backed” the high-powered money was allowed to consist of government bonds.
7. Briefly, the time-inconsistency problem can be interpreted as follows: discretionary monetary policy oriented towards obtaining better results with regard to employment and economic growth in the short run could end up causing higher inflation without permanent gains in employment and/or economic growth in the long run.

8. The capacity of the BCRA to act as a lender of last resort was augmented (before the final recession) by the creation of some fiduciary funds, which in turn had their origin in the borrowing of international reserves from the World Bank and some foreign commercial banks. Of course, in the continuing financial crisis of 1998-2001, these sources of foreign credits dried up almost completely.
9. How right this view proved to be!
10. This was a period of considerable financial innovations, which in turn made the very definition of the relevant monetary aggregate difficult in practice. For more specifics on this problem during this particular time, see Freedman [1983]. Details of the entire episode are presented in Boreham and Bodkin [1993, 470-3] and in Laidler and Robson [1993, 83-5].
11. In fact, the measured growth rate for 1984 was 6.3 percent, but this exceptional performance can probably be attributed to a rapid recovery from the pronounced 1981-82 recession.
12. Further discussion of this period may be found in Boreham and Bodkin [1993, 613-6] and Laidler and Robson [1993, 86-8]. Charles Freedman recalls that, at the time, a negative wealth effect on consumption expenditure was widely feared, and so Western central banks moved to a fair amount of ease, which in retrospect might well have been judged excessive.
13. To be fair, it should be noted that the term "zero inflation" appears nowhere in the Bank's official publications of the period.
14. The end date of the recession that began in April 1990 is somewhat controversial; while real GDP stopped falling in early 1991, the rate of unemployment continued to rise for some months, while real output per capita continued to fall well into 1992. After a study of several indicators, it is our view that the trough of this recession occurred only in 1992.

Fortin's view that monetary policy was the principal culprit for the recession of 1990-92 and for slow growth with considerable slack for some time after that has been vigorously challenged by Freedman and Macklem [1998], with a rejoinder by Fortin [1999a]; this argument is taken up in the following section.

15. Since inflation (in terms of the CPI) was running at the rate of almost 7 percent per year at the time (admittedly due, in part to the temporary effects of oil price shocks, due to the Gulf War, and the introduction of the GST [Goods and Services Tax, a sort of value-added tax]), this was an act of some political courage. As noted in the introductory section, the concept of the Consumer Price Index that was targeted in the short run excluded food, energy, and indirect taxes. However, the Bank stated that it expected the ordinary Consumer Price Index to conform to the target interval in the medium term, and, if that were not the case, the short-term targeted CPI would have to have its range adjusted.
16. Newspaper accounts at the time suggested that Mr. Crow and the new government could not agree on an informal frame of reference that might encompass a possible second mandate.
17. Further discussion of these points may be found in Thiessen [1998].
18. In this regard, the importance of David Laidler's influential pamphlet, *How Shall We Govern the Governor?* [1991], as a spur to a parliamentary review of these questions, should not be underestimated.
19. For a discussion of the monetary conditions index in its early days, see Freedman [1994]. Recently, this index has been given far less weight in the conduct of monetary policy, because it is felt that changes in the (weighted) exchange rate emanating from portfolio shifts have far different implications for ideal monetary policy than those resulting from real shocks. A further discussion of this point may be found in Freedman [2000a].
20. Laidler [1991] had argued that it would be desirable to make monetary policy less of a "one man show" and more subject to the discipline of committee decision-making. Again, the influence of a respected academic critique in this instance would appear to have been far from trivial
21. Mishkin and Posen [1997] speak of "an attempt to increase public perceptions of responsibility."
22. The underlying data for these economic time series were taken from Parkin and Bade's excellent text [1995], and data for six additional years (and 2000 as well) were added by sourcing Statistics Canada directly from the internet or by personal contact.
23. If the year 2000 is considered part of the growth experience for the 1990s, this conclusion is slightly attenuated, as the average growth rate rises to almost 3.5 percent annually. Of course, one should not forget the unsustainability of these high end-of-decade growth rates, as the Canadian economy encountered a slow growth period in 2001 that may well have culminated in a recession. Also, if 1992 is considered a normal year and its meagre 0.6 growth rate averaged in, the conclusion of the text is reinforced.

24. We note that the unemployment rate started to come down in 1997, so that for the last three years of the decade it averaged only 8.5 percent of the civilian labor force. These conditions were much more comparable to the "normal" years of the 1980s. Still, one can query why it took so long for the unemployment rate to come down or why the recovery was so long in coming. The response of Freedman and Macklem [1998] is discussed immediately, in the text.
25. However, Fortin [1999a] argues against this interpretation, pointing out that Canadian investment expenditures (which one would expect to be related to the need to restructure) were much higher as a proportion of GDP in the 1980s, as compared to the 1990s. On the other hand, a weak economy in itself is hardly favorable to large investment expenditures; indeed, the theme of Stanford's [1999] book is that the weakness of recent Canadian growth can be traced to weak real investment, which in itself reflected both inadequate aggregate demand and inappropriate macroeconomic policy. However, it must be conceded that the strong, if temporary, performance of the Canadian economy from mid-1997 through most of 2000 would argue in favor of the Freedman-Macklem interpretation.
26. We have already noted that Stanford [1999] considers that the Canadian economy of the 1990s has been considerably weaker (in terms of real output growth and high levels of economic activity) than was the case in earlier years. To be fair, it should be noted that Stanford considers that the weakness began in the 1980s, not the 1990s. Courchene [2001] reproduces on his page 209 a diagram from Fortin [1999b], which shows a dramatic decline in Canadian standards of living during the 1990s compared to those of the United States, as measured by real national income per adult.
27. Although one observation hardly proves the point, the high rate of inflation (3.7 percent per year) registered in the relatively prosperous year 2000 argues against this interpretation.

Our tentative conclusion at the end of this evaluation of the inflation targeting approach to monetary policy is thus somewhat closer to that of Fortin [1996, 1999a] and Stanford [1999] than to Freedman and Macklem [1998], although we do not differ substantially from Laidler and Robson [1993] and Courchene [2001]. The reader is reminded that this is still a controversial matter.

28. Even if the negative growth for 1999 is factored in, this average growth rate falls to 4.8 percent per year, still quite a respectable figure.
29. At the time of the collapse of the convertibility regime (late December 2001), the measured unemployment rate was 22 percent.
30. The high unemployment of the middle and late 1990s also reflected a recession in Brazil, Argentina's main trading partner. This, it must be admitted, caused unemployment due to old-fashioned weak aggregate demand (from an external source), which the authorities were powerless to offset while at the same time maintaining the convertibility of the peso.
31. These problems could be moderated if the Marshall-Lerner conditions held in the short run for Argentina, but unfortunately, this does not appear to be the case.
32. We note that, in the Canadian case, Freedman [1995; 2000b] has tentatively claimed the framework of targeting to have been a major success for the conduct of Canadian monetary policy. Of course, in light of recent Argentinean experience (deflation and depression), one might argue that this country got too much of a good thing!
33. We may also note that a critic of price level targeting like Cecchetti [1998] argues, on the basis of a theoretical model, that this practice may in fact increase the volatility of real output growth.

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