

The Eric John Hanson Memorial  
Lecture Series  
Volume II, Winter 1988

**The Work of  
Canadian Monetary Policy**

by  
John W. Crow  
Bank of Canada



Department of Economics  
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Edmonton, Alberta

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## Foreword

The Eric John Hanson Memorial Lecture Series recognizes the many contributions made by Dr. Eric Hanson to the University of Alberta and to the wider community. Eric Hanson taught at the University of Alberta from the late 1940's to the mid 1970's. He was Head of the Department of Political Economy from 1957 to 1964, and was most instrumental in building a fine department. Many of us have benefitted from his dedicated efforts and his wisdom.

This second lecture was delivered by Mr. John W. Crow, Governor of the Bank of Canada. The University of Alberta was indeed privileged to host so distinguished a visitor. His topic, The Work of Canadian Monetary Policy, sets out clearly and succinctly the fundamentals of Canadian monetary policy. Indeed, we believe the Governor's 'Edmonton Manifesto' is of equal significance to the 'Saskatoon Manifesto' of his predecessor, Mr. Gerald K. Bouey, which launched the strategy of monetary gradualism in the Fall of 1975.

As Governor of Canada's central bank, John Crow sits at the apex of the country's monetary/financial pyramid. He plays a key and absolutely vital role in economic policy formation in Canada. In this Hanson Memorial Lecture, Mr. Crow reflects on Canadian monetary policy after his first year as Governor of the Bank of Canada, a year of significant international exchange rate volatility and including a worldwide stock market correction. The lecture also outlines his own personal philosophy of monetary control, its

objectives, constraints, conduct and performance.

John Crow is widely recognized within Canada as a perceptive policy analyst and interpreter, as well as a key policy maker. The prestige and stature with which he is regarded by central bankers around the world, and by members of the Canadian private financial community is well-known. John Crow's rapid and distinguished progression through the senior echelons of the Bank of Canada, becoming Senior Deputy Governor in 1984, and Governor in early 1987, follows on an impressive earlier career with the International Monetary Fund.

The Memorial Lecture Series has been financed by matched endowment contributions from Eric Hanson's friends, colleagues and students, and by a most generous gift from the Alberta Municipal Financing Corporation, arranged by its President, Mr. Chip Collins. The first lecture was given a year ago by Dr. John Whalley, of the University of Western Ontario, on Tax Reform Options for Canada. In keeping with Eric's interests in public sector economics, this lecture's topic is The Work of Canadian Monetary Policy, delivered by our distinguished Governor of the Bank of Canada, Mr. John W. Crow.

Brian L. Scarfe  
Department of Economics  
January 18, 1988

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Introduction

I am grateful to the Department of Economics of the University of Alberta for inviting me to speak to you today, and I am honoured to have the opportunity of giving the second annual Eric J. Hanson Memorial Lecture. Eric Hanson was actively interested in economic policy questions, and this is therefore a particularly appropriate occasion for me to discuss monetary policy in some depth.

In focussing on what seem to me to be the main issues that have arisen in formulating and implementing monetary policy in recent years, I realize that parts of what I have to say might seem somewhat technical to some of you. But what I am going to discuss certainly does matter for getting Canadian monetary policy right. And we can no doubt all agree that getting monetary policy right does matter. In any event, before discussing how monetary policy is decided upon, it is important to say something about what it should try to achieve for the economy. It is hard to discuss ways and means without establishing as clearly as possible the goals.

## What To Do With Monetary Policy

Monetary policy shares the same bottom line as other broad economic policies -- to contribute to raising our living standards. But how can it best do so? To get a sensible answer to this question it is essential to have very clearly in mind the process that is at the heart of monetary policy -- here in Canada or anywhere else. I realize that most people if asked would say that the crucial element in monetary policy is the determination of interest rates, with perhaps exchange rates a close second. However, the truth of the matter is that the crucial element in monetary policy is the fact that the central bank, by virtue of its control over the availability of the ultimate means of payment in the economy, influences the pace of monetary expansion generally in the economy. With this basic fact in mind, the key question for monetary policy can be rephrased as follows: What pace of monetary expansion is most helpful to the development of the Canadian economy?

Theory and experience -- much of this experience not overly cheerful but certainly instructive -- both point to a very clear answer. Monetary policy should be conducted so as to achieve a pace of monetary expansion that promotes stability in the value of money. This means pursuing a policy aimed at achieving and maintaining stable prices.

To say that the goal of monetary policy should be price stability is not simply an arbitrary preference. Rather it is a recognition of the plain fact that because inflation creates distortions, output will be higher over time in conditions of price stability

than in those of inflation. The argument for avoiding inflation therefore goes beyond the conclusion from the debate of the 1960s and 1970s, that there is no long-run employment advantage or trade-off to be had from tolerating some degree of inflation. Nor do the short-run employment gains associated with a pick-up in inflation provide a convincing argument for the pursuit of inflationary policies. Experience has shown that such policies cannot in the end deliver a healthy economy. The concern of monetary policy should be a healthy economy.

The fundamental case for pursuing price stability thus rests on the benefits of a trustworthy monetary standard in an economy based on money. In the debate about monetary policy that is always going on in Canada with more or less intensity, this basic consideration seems to be not so much challenged as ignored.

It is sometimes argued that the necessary ingredient from the monetary side for good economic performance is not a stable general price level but just predictability in the general rate of inflation. In my view, the notion of a high, yet stable, rate of inflation is simply unrealistic.

The crux of the matter is that success in what is in effect an attempt to mimic price stability by achieving a stable inflation rate depends on strong public confidence that the authorities would not accept a further acceleration in the rate of inflation. However, if the authorities were unwilling to act to get the rate of inflation down from, for example, 4 per cent, why should anyone believe they

cial and economic behaviour. The more that the public becomes used to inflationary consequences from a pattern of policies that constantly press in the direction of stimulation, the more it will anticipate an inflationary outcome from such policies and therefore the more such policies will tend to fuel inflation rather than leading to increased output. Secondly, we are more acutely sensitive to the disagreeable arithmetic thrown up by cumulating deficits and the resulting rise in debt and debt service burdens.

I have already remarked upon the need to direct monetary policy actions along a path that leads towards underlying price stability. As regards fiscal policy, the imperative is to steer wide of the risks of cumulative pressures on debt and deficits. In Canada, continuing the budgetary effort directed at reducing such pressures is important. It is important not just for stability in financial markets and, it might be argued, for reinforcing confidence in monetary policy. It is important also for ensuring that government does not absorb an excessive proportion of private savings, forcing an unduly large share of Canada's investment needs to be financed abroad. This said, I now turn to the topic of how monetary policy operates.

#### How Monetary Policy Operates

Knowing where we want to go, indeed need to go, with monetary policy over time does not answer the vital question of how we get there. We also need to have some understanding of how monetary policy exerts its effects and of how to stay on track when economic surprises intervene. I therefore want now to talk in



fairly broad terms about how monetary policy operates and might be guided, before moving on to discuss the main issues the Bank of Canada has faced in conducting policy in the 1980s. Finally, I will make some remarks regarding the Bank's current approach to monetary policy.

A complex economic process lies between the policy tools or instruments available to the Bank of Canada and their ultimate results in terms of monetary policy goals. Over the years this process has been the subject of considerable professional debate, involving such diverse issues as: the relative influence on spending of interest rates and credit rationing; the direct influence of money on spending versus its indirect influence via interest rate changes; the possibility that money supply movements are a phenomenon distinct from money demand movements; the role of credibility and expectations; and the degree of flexibility in markets for goods and labour. It is not my intention to review those controversies explicitly, but there are a few points to be made about how we view the process -- the so-called "transmission mechanism".

As I noted earlier, the Bank of Canada gets its leverage on economic behaviour because it is the ultimate provider of liquidity to the economy, including the final means of settlement for financial institutions. What gives us this economic leverage are two key facts. First, large financial institutions-- above all, banks -- need to use balances at the Bank of Canada to settle among themselves the net outcome of the massive movements of cheques and other payment items through the

Canadian clearing system each day. Second, because the Bank of Canada controls the size of its balance sheet, it controls the availability of those settlement balances.

I will just observe in passing that the planned elimination of reserve requirements for banks -- something we have been discussing with financial institutions in some detail-- does not alter what I have just said. Even without statutory reserves we will still have the leverage that we need to ensure an appropriate degree of tightness or ease in the availability of settlement balances.

Our view about the linkages between central bank actions and their ultimate effects on the economy is, simply put, as follows. The Bank of Canada, by increasing or decreasing the supply of settlement balances to financial institutions, directly influences the very shortest term interest rates in the Canadian money market. Movements in these rates in turn influence the whole spectrum of market and administered interest rates and rates of return on a wide variety of assets and liabilities and, through them, the exchange value of the Canadian dollar. The movements of the various rates of return and of the price of foreign exchange affect over time total spending in the economy.

What this description is meant to convey is that we have a distinctly mainline, market-oriented, view of the linkages between adjustments in the settings of the Bank of Canada policy instruments and what goes on in financial markets and in the economy. The welcome fact is that Canada's money markets and ex-

change markets are deep, resilient and competitive, and this facilitates the role of interest rate and exchange rate movements as the cutting edge of policy.

However, to say that we hold a straightforward view of the transmission mechanism, that monetary policy in Canada does not work in any important fashion through features such as non-price rationing, disequilibrium between the supply and demand for money, or some mysterious "black box", should not be taken also to imply that monetary policy exerts its influence in any precise or mechanistic way.

One key qualification to make in this regard is that the results of monetary policy actions are greatly influenced by expectations about future developments. For instance, initial financial market reactions to a tightening of the supply of settlement balances by the Bank of Canada can be rather muted or very sharp. The degree of interest rate response in any given situation will depend on whether there is a clear understanding in financial markets that this action really does represent increased tightness and that the increased tightness really will persist for some time. Similarly, the degree of exchange rate response will also depend on how long the tighter policy stance is expected to last and on how firmly views are held about the future course of the Canadian dollar. Furthermore, the responses of individual savers and borrowers to changes in financial market conditions brought on by monetary policy actions are not highly predictable either.

The point I want to underline here is that, although we are generally able to bring

about monetary restraint or ease in the economy over time, we cannot predict at all closely the exact form or timing of the ultimate effects of our actions. Moreover, since monetary actions do take time to exert their effects on spending, the pattern of results can of course be significantly affected by developments in the stance of other broad economic policies both at home and abroad.

Accepting, as we must, this real world uncertainty means recognizing that the anticipated consequences of any given actions by the Bank of Canada for total spending or prices in the economy will never be precise. (This is not to deny the usefulness of the Bank's macroeconomic models, which are as large, or as small, as anybody's, and just as sophisticated. But we know their limitations as well as their virtues in organizing our thoughts about policy and the economy.) We must then conclude that even though we may know our destination and the general route by which we must get there, conducting monetary policy in such circumstances is akin to driving without full vision -- perhaps like driving in a rainstorm with defective windshield wipers. It can be done, but only very carefully.

Such uncertainty has two main consequences. In the first place, monetary policy cannot be used to "fine-tune" broad economic performance. Secondly, central banks have enlisted the help of intermediate financial variables as policy guides. Using such variables helps to ensure that the longer-term objectives of monetary policy are properly borne in mind in the day-to-day policy decisions regarding central bank actions in finan-

cial markets. To pursue the motoring analogy, using intermediate variables helps to keep us on the road, and heading in the right direction. Let me now share some reflections on our experience in the use of such policy guides.

### The Use of Policy Guides

Although interest rates were for many years the main policy indicator used by most central banks, the experience with severe inflation beginning in the 1970s made it clear that they were fickle guides for the task of ensuring that monetary policy was directed towards price stability. In striking illustration of the point made by Irving Fisher some seventy years before, it became all too evident that market interest rates embody expectations about future inflation. Those expectations may not be directly observable, but they do exist and can change sharply. And when strong expectations of high inflation develop, interest rates that otherwise look high are not really so in regard to their impact on economic behaviour.

A crucial lesson from this experience is that whatever intermediate variable or variables are used as policy guides, they should be ones that to an important degree reflect the expansion of the economy in dollar or, as economists say, "nominal" terms. Such guides can thus serve as an anchor for policy in avoiding the kinds of monetary impulses that contributed to accelerating inflation in the early 1970s. Deciding which variables have the potential for use as intermediate guides for policy is a practical matter. The decision depends essentially on the reliabil-

ity of the linkage between such variables and total spending in dollar terms in the economy and on how effectively the intermediate variable can be influenced by central bank actions. In principle, more than one such variable can be used in this way at the same time. Different guides can serve to cross-check each other's reliability, although it must be admitted that the use of multiple guides can lead to ambiguity.

As is well known, between 1975 and 1982 the Bank of Canada used a narrow monetary aggregate, M1, consisting of currency and bank demand deposits, as a formal intermediate target for monetary policy. At that time the crucial requirement was to bring down the high rate of inflation in Canada, and to that end the Bank announced successively lower targets for the growth of M1. Hitting these targets was helped by the fact that when interest rates rose, for example, holders tended to effect very substantial economies in the amounts of demand deposits that they wished to keep. This kept the growth of M1 down to moderate rates. But this very high degree of responsiveness of the growth of M1 to interest rate changes turned out to be an important shortcoming as well. It resulted in a response of monetary policy to the inflation problems of the period that in retrospect was too gradual. In the end, however, it was the impact on this monetary aggregate of the extensive financial innovation -- the changes in the kinds of deposits and services offered by banks that occurred in the early 1980s -- that led the Bank of Canada to drop M1 as an intermediate target in 1982. With the changes taking place in the way the public was holding payments balances, the M1 aggregate simply no

longer had the same reliable link to nominal spending in the economy that it had possessed earlier.

Since then, the Bank has systematically been examining alternative variables that might be used to replace M1 as an intermediate guide to policy. We have made a point of reporting on the behaviour of various monetary aggregates in regularly scheduled articles in our monthly Review. But we have yet to find an aggregate that could take over the role, previously assigned to M1, of being a formal intermediate target for policy, that is, with pre-announced target bands stretching out from a specific base period.

All the same, this is far from saying that we think that monetary aggregates have no useful role to play in the conduct of policy. A number of aggregates have indeed shown promise in their ability to perform the less ambitious but still valuable function of providing some guidance for policy, as opposed to taking on the heavier load of being formal policy targets. The aggregates provide us with timely information on the tendency of total spending in the economy. This is information on which we must act if we wish to avoid cumulative errors in our policy. The reason why we have not set formal target growth rates for any of these aggregates is that we are not sure enough about the stability of their relationship with spending or prices, or about our ability to manage them over the relatively short period that is relevant if we are going to have convincing formal targets.

Nonetheless, there is no question whatsoever in my mind that adhering to some kind of anchor is of the utmost importance to ensure that in the day-to-day implementation of monetary policy the longer-term objectives and requirements of policy are not lost from view. Therefore, the Bank's research effort will need to continue to be directed centrally at this issue. I will have something more to say about our use of monetary aggregates when I discuss the Bank's current approach to monetary policy.

Some Issues in Managing Monetary Policy in the 1980s

Managing monetary policy over the past several years has continued to be an eventful exercise. While the Bank of Canada does not seek headlines, it has stayed in the news. What has particularly characterized this period has been the great uncertainty caused by the legacy of a decade of rapid inflation that began in the early 1970s, combined with divergent economic policy approaches among the major industrial countries. Particularly notable in this context, because of their influence on the world economy, have been fiscal developments in the United States.

In the light of the devastation brought about in the 1970s by severe inflation, world financial markets have tended to be extremely sensitive to any signs of an increase in price pressures. Any fears of a pick-up in inflation have seemed to lead quickly to a rise in long-term bond rates. Who can blame investors for acting this way? The large fiscal and current account imbalances that have developed have added to uncertainties in financial mar-



kets. This uncertainty has been particularly apparent in exchange markets, where we have seen bouts of speculative overshooting and rather jittery psychology, with participants often responding to each piece of news in exaggerated fashion.

Even in the period since 1982, during which the rate of inflation has declined a great deal, the state of inflationary expectations has continued to be very fragile, in Canada and elsewhere. Such fragility limits the short-term flexibility of monetary policy. This situation may be contrasted with one in which people have strong expectations of stable prices. In this latter case the authorities are likely to have the luxury, at least to some extent, of waiting to see whether adverse developments will in fact turn out to be transitory. It seems that the authorities were in this happy position during the early 1950s in Canada. With apparently persisting expectations of stable prices, the commodity price surge associated with the Korean War boom did not trigger expectations of a continuing wage-price spiral. As a result, the policy actions that were eventually taken were able to return the economy to price stability in a short period of time and without any pronounced economic slowing.

The pervasive uncertainty of recent years has shown up particularly in the form of recurring bouts of downward pressure on the Canadian dollar. When the pressure on the currency was primarily speculative, as for example in February 1986, it was important for the central bank to resist it strongly so as to minimize the upward pressure on prices which could exacerbate inflation fears and

impede progress towards price stability. On other occasions the pressure on the exchange rate was the result of more concrete developments, such as a deterioration in the terms of trade. Even in such circumstances, it was crucial to ensure that the real exchange rate adjustment, through which the loss of real income was generalized throughout the Canadian economy, was managed by monetary policy in a way that did not accommodate an acceleration in the inflation rate.

An additional constraint on the choices open to the Bank in the quite short run has come from an exceptionally volatile interaction at times between the Canadian money market and the foreign exchange market. Money market investments in Canada and the United States are regarded by many investors as virtually interchangeable in their portfolios, with due regard for any exchange rate movements that they anticipate between the two currencies. This means that any change in Canadian short-term interest rates relative to those in the United States will be possible only to the extent that there is an offsetting movement between the current exchange rate and that expected to prevail at the relevant maturity date for the investment in question. This in itself is not a problem. But at times when expectations regarding the future value of our dollar have not been firmly held, even a small rise in short-term interest rates in the United States relative to those in Canada could cause a pronounced decline in both the forward and the spot exchange rates.

Moreover, if expectations of further declines in the exchange rate developed in the process, there would tend to be an offsetting

rise in money market interest rates in Canada, leaving us with both higher interest rates and a lower Canadian dollar. One notable episode of this kind occurred in mid-1984. It is described in detail in the Bank's Annual Report for 1984 and I will sketch only the essential outlines here. Short-term interest rates in the United States moved up sharply in the first part of that year. The Bank of Canada sought to manage the market response in such a way that the movement in Canadian rates roughly matched the rise in U.S. rates. Nevertheless, the Canadian dollar declined markedly. It appears that participants in the exchange market feared that, despite the rise in our interest rates, there was a risk that the Bank might in the end back off. This nervousness spread to the Canadian money market. Stability in the exchange market and in the Canadian money market was not restored until the Bank of Canada finally accommodated a movement of Canadian short-term interest rates to a range appreciably above comparable U.S. rates. And only after stability in both markets had been achieved, did it become possible to direct monetary policy actions towards gradually moderating interest rates. Such hypersensitivity of the exchange rate to interest rate developments, and of interest rates to expected exchange rate developments, clearly limits the Bank's margin for manoeuvre in the short run. The extremely close, continuous attention that we pay to developments in financial markets is in large part motivated by our need to keep an up-to-date view of the extent to which such limits are pressing in.

I began this part of my remarks by noting that a feature of the past several years has been the policy imbalances in the world econ-

omy. Let me then conclude it by commenting upon some of the effects of those imbalances, including their implications for monetary policy.

By virtue of the weight of the United States in the world economy, its policies were a particularly important factor in the high real interest rates world-wide in the first part of the 1980s. Moreover, the markedly divergent thrust of fiscal policies in the major industrial countries has led to unprecedented current account imbalances and a roller coaster in exchange rate relationships. Given the extent of Canada's dependence on international trade and the degree of integration of world financial markets, we have necessarily been affected by such developments. For example, with the weakening until early 1985 of overseas currencies against the U.S. dollar and to a lesser extent against the Canadian dollar, our ability to compete against overseas producers deteriorated. More recently, with the weakness of the U.S. dollar, this situation has reversed.

The volatility in foreign exchange markets has also fostered uncertainty concerning the appropriate value of the Canadian dollar. As I indicated earlier, such uncertainty has at times constrained the Bank of Canada's scope for manoeuvre. In addition, the persistence of large budgetary deficits both here and abroad may have fed public concerns over the degree to which authorities are committed to the goal of price stability. Such concerns may also have been a factor in long-term interest rates that have remained well above current rates of inflation.

In this context, I would note that the major industrial countries have embarked on a broad co-operative approach to policy aimed at alleviating some of these problems. This initiative is welcome. However, in my view it is vital to avoid treating short-run market stability as more important than the underlying policy changes that are essential for economic balance and market stability in the medium term. In particular, the pursuit of short-term exchange rate stability cannot be pushed so far that it jeopardizes the good domestic price performance that is the key objective of monetary policy. Such an outcome would frustrate the medium-term goals that underlie what we are all trying to achieve through international economic co-operation.

#### Where Are We Now?

Let me now review how the Bank of Canada has been managing monetary policy in the light of these challenges.

Following the recession of 1981-82, the concern of the Bank was to support the economic recovery in the context of further declines in the rate of inflation. With a considerable amount of slack in the economy, the main risk on the inflation front was from price shocks caused by exchange rate movements. These shocks might have led to a resurgence of inflationary expectations and greater upward pressure on prices. As I described earlier, the avoidance of sharp depreciations of the exchange rate therefore received a good deal of weight in monetary policy decisions.

More recently, with our economy continuing to expand rapidly in the fifth year of the current recovery (although I am mindful that this expansion has not been equally shared across the country), we have had more concern over the possibility of inflation arising from excessive demand pressures -- economic overheating in some important industries and regions of the country.

In these circumstances it is more essential than ever to provide policy with a framework that is directed as clearly as possible at ensuring moderate expansion in dollar spending in the Canadian economy. Monetary aggregates have a significant role to play in this strategy.

Our research on monetary aggregates over the last few years has indicated that the aggregate M2, which is made up of personal non-transactions deposits at chartered banks as well as the currency and transactions balances that comprise M1, tends to move in tandem with total spending over horizons of one or two years. The aggregate M2+, which adds to M2 corresponding deposits at trust and mortgage loan companies and at credit unions and caisses populaires, has similar properties to M2. Furthermore, the various monetary and credit aggregates provide useful leading information on output and price developments.

Because they are broader in coverage than M1, M2 and M2+ are less prone to the shifts resulting from financial innovation that caused difficulties in the interpretation of M1. That is to say, such shifts are more likely to be from one component to another within a broader aggregate, and therefore less

