

The Evolution of Canadian Monetary Policy:
Successful Ideas Through Natural Selection

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Section 1. Introduction and *The Way Ahead*

The theme of this conference is that economists and policymakers should debate less about whether it is desirable to have “more” or “less” government and instead we should focus our debate on how to get “better” government. Some ideologues will always identify more with better while others will always identify less with better, but such dogmatic positions rarely contribute to our understanding or to better public policy. More balanced and objective observers like Ian Stewart will admit that in some situations a new government program is likely to add to overall welfare while in other situations it is the elimination of an existing program that will deliver the welfare benefits. Context matters.

In my view, “better” government can be viewed at two levels. At the micro level, the pursuit of better government requires that we design our public programs and policies to deliver the intended outcome in the most efficient or effective manner. We might have some disagreements about how best to achieve such efficiency, but I suspect there would be little disagreement about this basic principle. At the macro level, having better government means improving our determination about which activities we choose to locate in the public sphere

¹ This paper was written for a Festschrift in honour of Ian Stewart, and presented at a conference sponsored by the Centre for the Study of Living Standards, in Ottawa, April 19-21, 2011. All errors are mine.

and which ones we choose to leave to private agents. Though this is bound to be more controversial than the micro-level concept, a useful guiding principle is something like “Government should only do what only government can do.” Though I am unable to establish the pedigree of this principle, I first recall hearing it invoked by Paul Martin in the early 1990s.

This principle recognizes that many things cannot successfully be done by the private sector, and are best left to governments. These include both explicit “market failures”, situations in which the free market fails to produce an efficient outcome, and those more nebulous and controversial situations in which the market is deemed to produce undesirable, though perhaps still efficient, outcomes worthy of government attention. Examples include policies aimed at altering the distribution of income and preventing individuals from specific actions which may harm themselves.

The principle equally recognizes, however, that many and perhaps most activities in the economic sphere are best left to the private sector, and thus clear limits should be placed on the government’s role in the economy. It is therefore consistent with what has been called the “informal defence” of free markets (Lipsey 1984). This defence argues that relatively free markets, in contrast to those characterized by significant government intervention, more quickly adapt to changing circumstances, provide greater incentives for innovation and thus for rising living standards, and lead to a greater decentralization of decision-making power with implications for an increase in personal freedom.

In recognizing the benefits derived from relatively free markets as well as the situations in which governments can improve overall welfare, the principle suggests a balanced and pragmatic approach to determining the appropriate role of government in a modern economy. It is crucial to recognize that markets very often allocate resources in ways far better for society than can governments, not least because of the practical limitations on what government actions are able to achieve; but it is equally important to note those circumstances where governments can play a useful role in improving resource allocation and thus overall welfare. The costs and benefits of any specific government intervention should therefore be examined within the context of the specific market setting. Analysis should play a larger role than ideology.

The idea that having a better “underlying framework” for government policy within a market system can result in fewer undesirable intrusions on personal freedoms is an important theme in *The Way Ahead (TWA)*, a document published by the Canadian government in the fall of 1976 and motivated by the perceived need to restructure government policies at a time when macroeconomic challenges were increasing. From his senior position within the Privy Council Office at the time, Ian Stewart played a key role in drafting this document, and his fine sense of balance regarding the appropriate role of government in a modern economy is everywhere on display. As Stewart describes a few years later in a collection of articles written about the Trudeau era, *The Way Ahead* was seen as offering a middle ground between alternative, extreme views of the government-economy nexus:

... While rejecting both minimalist and excessively interventionist government, it sought to define a “new middle”—an updating of the Keynesian consensus more in accord with leaner times.

By this middle road the Trudeau administration sought to combine the principles of the Just Society with an economic policy based on a commitment to fiscal and monetary responsibility and less direct government intervention. (Stewart 1990, p. 117)

The Way Ahead is a fascinating paper. Actually, it reads more like two papers, one laid atop the other. The first is an analysis of the causes and consequences of inflation, and also some discussion about its cures. This paper is very much a “period piece” in that it describes inflation—especially its causes—in more complex terms than would be found in either an academic or government document written today. Most macroeconomists today would make a crucial distinction between temporary and transitional inflation on the one hand, and sustained or long-run inflation on the other. And they would agree that many different kinds of economic shocks can affect a country’s temporary rate of inflation. For better or worse, however, contemporary macroeconomists would also argue that a country’s long-run rate of inflation is almost exclusively determined by that country’s monetary policy. I mean this in the *ceteris paribus* sense: other things being equal, a sustained change in monetary policy is now seen to be *the* cause of a sustained change in the rate of inflation.

Despite the fact that the TWA view of inflation is quite dated, the paper contains a key point about one of the serious problems with inflation. High inflation creates problems in society—primarily related to income redistributions—that invite government intervention as a partial policy solution, and such interventions inevitably lead to reductions in personal freedoms. So a policy justification for maintaining low and stable inflation is to prevent the need for an undesirable expansion in the role of government in society.

If all of the discussion related to inflation is removed from *The Way Ahead*, a very different but still fascinating second paper remains. After thirty years of post-war development and expansion of the welfare state in Canada, and also the macroeconomic confusion and disruption caused by the first OPEC oil shock, the paper offers a nuanced view of the appropriate role of government in a modern economy. The paper emphasizes the importance of using relatively free markets for the organization of activity—for encouraging innovation and also for maintaining crucial individual freedoms. It also recognizes the clear need for government intervention to solve certain problems that private markets are ill-suited to solve—including the provision of public goods, the appropriate pricing of externalities, and the reduction of severe inequities. While advocating active use of government, however, it acknowledges the limits of government action and also the danger that a creeping scope of government may threaten fundamental liberties. *The Way Ahead* offers both a balanced and realistic view of government in a modern economy.

The growing recognition of the limitation of government actions also played a leading role in the development of monetary policy in many countries over the past forty years. This paper examines the evolution of Canadian monetary policy from the late 1970s and argues that a process of “natural selection” has led to the creation and refinement of our current and very successful inflation-targeting system.

Section 2 reviews some of the key lessons that economists and policymakers learned over the years, and how these lessons led to the adoption of our current regime. These lessons range from the “discovery” of the supply side of the economy and the recognition of the costs of high inflation to the limitations of monetary policy and the role played by a flexible exchange

rate. Section 3 briefly examines what may be the largest current and future challenge faced by the Bank of Canada and other central banks around the world: the need to ensure financial stability. Two aspects of this issue are addressed: the need for central banks to “lean” more aggressively against measurable financial excess and the need for governments to establish better “macro prudential” regulation and oversight. Research on both aspects of financial stability is still in its infancy, and so our thinking on this issue will hopefully improve considerably over time.

In Section 4, however, I argue that the current Canadian government does not appear to be spending much time thinking about these issues, possibly because the current system is viewed as adequate and the government would rather focus its attention on something more politically appealing. I close with the idea—perhaps channelling Ian Stewart in *The Way Ahead*—that better regulation and oversight does not necessarily mean more regulation or more government. Designing better regulation now, while financial markets are relatively quiet, may prevent the need for the large and dramatic government interventions that would surely be the response to a future financial crisis in which one or more major institutions failed.

Section 2. The Past Evolution of Canadian Monetary Policy

Canadian monetary policy, like that in many other developed countries, has changed significantly over the past four decades, and most of this change reflects our learning about various aspects of the functioning of the economy, the behaviour of individuals, and the limitations of central-bank actions. This evolution of monetary policy embodies the “natural selection” of good and workable ideas.

A. The Missing Half of the Aggregate Economy.

The predominant view among academic and policy-minded macroeconomists until the mid 1970s was that a focus on the demand side of the economy was entirely appropriate for understanding aggregate fluctuations and changes in inflation. Changes in the various

components of aggregate demand were the primary drivers of changes in the level of economic activity, and the “management” of these components with fiscal and monetary policy was believed to be an effective means of dampening swings in the business cycle. Moreover, inflation was seen to be the consequence of excessive demand.

As an indication of the extent of such “demand dominance” in our thinking, one needs only flip through the introductory textbooks of the day. The content of a good principles textbook lags well behind the developments occurring on the frontiers of the discipline, as is probably appropriate given the time required to learn which of the new ideas are truly good ones. A good introductory textbook tends to present the things that the profession is pretty sure about, the things that we as economists think we know with a high degree of confidence. A quick scan of the leading textbooks of the era reveals the main macroeconomic model to be the Keynesian Cross, in which the price level is assumed to be constant, and anything resembling the supply side of the economy is absent. The management of aggregate demand figures prominently. A Phillips Curve sometimes makes an appearance, but it is often treated as a “menu of choice” between the desired level of output (or unemployment) and the desired level of inflation, rather than as the adjustment process stemming from factor markets in disequilibrium. There is certainly no AD/AS model determining the equilibrium level of real GDP and the price level, for the simple reason that the AS curve had yet to be conceived, and without an AS curve it makes little sense to draw an AD curve.²

With the arrival of the OPEC oil shocks in 1973 and 1979, the supply side made a dramatic appearance—into macroeconomic outcomes and also into the minds of macroeconomists. These shocks led to reductions in real GDP growth and increases in inflation, previously thought to be two things that did not occur together. The events were so unusual as to require a new label; “stagflation” was the appropriate term coined by Paul Samuelson.

² For example, the third Canadian edition of *Economics* by Lipsey, Sparks and Steiner (Lipsey et al 1979) contains no systematic discussion of the role of the supply side in determining aggregate fluctuations. Its fourth edition, published in 1982, contains the full AD/AS framework, although even then the role of supply shocks is far smaller than what appears in future editions of the text.

The stagflationary episodes of the 1970s, once they came to be understood, clarified two points for macro policy. First, supply shocks needed to be built into our macro models in order to provide a better understanding of the nature of fluctuations; the AD/AS apparatus soon became the workhorse model in policy thinking and macro teaching. Second, large negative supply shocks presented policymakers with a dilemma: a policy response that validated the supply shock had the benefit of dampening the effect on output and employment, but only at the risk of starting a wage-price spiral that would reflect the entrenchment of agents' rising inflationary expectations. The 1970s were perhaps the beginning of our collective education regarding the importance of anchoring inflation expectations, and how difficult the control of inflation becomes when no such anchoring exists.

B. The Costs of High Inflation.

It has long been understood that one of the serious consequences of inflation is that it generates unintended and probably undesirable redistributions of income—between workers and firms, borrowers and lenders, and governments and taxpayers. Such redistributions depend on the incompleteness of institutional arrangements that could in principle, but likely at considerable cost, be modified to provide full indexation.

The difference between anticipated and unanticipated inflation also matters. Even in the absence of complete indexation, agents who expect future inflation could incorporate that expectation into their wage or interest-rate agreements, thereby preventing such income redistributions. Indeed, academic economists usually rely on this distinction to argue that it is only unanticipated inflation that presents a serious policy problem, as the costs associated with a fully anticipated (and moderate) inflation are quite small.

Central bankers, however, tend to dislike this distinction. While accepting the academic point that a perfectly anticipated high inflation may not be that costly, they reject that one has ever occurred. Based largely on their experience from high-inflation episodes, they note the high correlation between a country's average rate of inflation and the volatility of that country's inflation rate. Such volatility is seen as generating two types of uncertainty, both of

which are damaging to the functioning of a modern market-based economy. First, the volatility of the inflation rate suggests uncertainty about inflation itself; in the absence of complete indexation, this implies swings in unanticipated inflation that lead to changes in *ex post* real wages, real interest rates, and real tax revenues. Second, and perhaps more important, high and uncertain inflation undermines the functioning of the price system and diverts resources away from the production of inherently valuable goods and services and toward dealing with the problems caused by inflation. In an economy in which movements in relative prices send signals about scarcity and plenty and lead consumers and producers to respond through changes in quantities, high and volatile inflation introduces a great deal of noise into the system. A world with no inflation is complicated enough as there are many real reasons for changes in relative prices; adding volatile inflation to the mix simply results in workers and firms and governments making more mistakes than they would otherwise make.³

C. The High Cost of Disinflation.

If lessons regarding the economic cost of high inflation were sobering, the cost of *reducing* inflation eventually came to be seen as so large that it provided one of the key motivations for ensuring that inflation, once reduced to low levels, was maintained there.

Inflationary expectations, and the speed with which they adjusted to an announced policy of reducing inflation, played a central role in determining the costs in terms of reduced output and employment. The “sacrifice ratio”, the output loss (expressed as a percentage of potential output) per percentage-point reduction in the inflation rate, was seen to be an important function of the credibility possessed by the central bank (Ball 1994). Prior to the U.S. and Canadian disinflations of 1980-82, one set of observers argued that rational and forward-looking expectations implied that the credible and visible announcement of intended disinflation would lead to a rapid reduction in actual and expected inflation, with the result that output and employment losses would be small and brief. Others argued that expected inflation

³ See Ragan (1998) and the many references there for a detailed discussion of the costs of inflation and inflation volatility, including the effects of inflation on relative-price variability.

would be slow to adjust to the policy change and that the output and employment losses would be large and enduring. As it turned out, the reality was somewhere in the middle; inflation fell sharply, the contraction in activity was deep, but a healthy economic recovery began very quickly.

In retrospect, it is easier to conclude that credibility is indeed important in reducing the costs of disinflation but that, for good reasons, the Bank of Canada and the U.S. Federal Reserve probably did not have much credibility at the time. After all, the previous decade had not revealed these central banks capable of keeping a lid on inflation, no matter how much they claimed to dislike it. Today, after almost twenty years of inflation targeting, the Bank of Canada has established a great deal of credibility with regard to its commitment to maintaining low and stable inflation, and it is understandably reluctant to take any actions that would diminish it.

Another part of the lesson regarding the high cost of disinflation involves what other policies, in addition to a conventional tightening of monetary policy, might be applied as part of an overall disinflation policy package. In his evaluation of the success of the Anti-Inflation Board (AIB), which operated from 1975 through 1978, McCallum (1986) argues that the AIB successfully reduced the rate of growth of nominal (and real) wages below what would otherwise have occurred, and thus was instrumental in helping Canada avoid a deep recession in the late 1970s. In contrast, with the disappearance of the AIB in 1978, there was no such force preventing the rise of wages in the early 1980s, with the result that Canada experienced a much deeper recession. McCallum is essentially arguing that in a world with solidly entrenched inflation expectations, the AIB reduced the sacrifice ratio by helping to dampen the upward drift of Canada's Aggregate Supply curve.

With the benefit of hindsight, we might say that if the central bank lacks sufficient credibility to convince private agents that it is serious about disinflation—credibility which would presumably act directly on inflation expectations—an institutional arrangement like the AIB can be a reasonable substitute. Laidler (1976) agrees that AIB-style wage-and-price controls can, in principle, be a useful part of an overall policy package designed for disinflation, but he

argues that it would rarely if ever be sufficient; still necessary to a sustained disinflation is a sustained tightening in monetary policy.

Another point made by McCallum (1986) relates directly to one of the central themes from *The Way Ahead*: a major cost of high inflation is that it forces governments to intervene to address some of the problems that inflation creates, but such interventions invariably restrict individual freedoms. He talks of the undesirable choice that confronts policymakers when considering disinflation and the use of AIB-style controls:

... Unless one believes that the inflationary upsurges of the past decade are a never-to-be-repeated thing of the past, it is likely that at some time in the future Canada will again be forced to choose either a major recession without controls (as in 1982) or a much less major recession with controls (as in the mid-1970s). ... [T]his is a most unpalatable choice to have to make, since the benefits of controls in terms of lower unemployment must be set against the unquantifiable but nevertheless very major costs in terms of a general distaste for large-scale government intervention ... (McCallum 1986 p. 142).

D. The Instability of Money Demand.

Throughout the 1960s and early 1970s there was growing support for the idea that controlling inflation in a sustained manner required controlling the rate of growth of the money supply. A coherent policy package was provided by Milton Friedman (1960) and a decade later its appeal had only increased. In Friedman's Presidential Address to the American Economic Association of December 1967, roughly half of the speech is devoted to the idea that, to avoid the kinds of mistakes that central bankers with too much discretion and too little information are bound to make, monetary policy should be put on "auto pilot" to ensure a constant rate of growth of the money supply (Friedman 1968).

By the mid 1970s, with inflation higher and more volatile and apparently not under obvious control by policymakers, the appeal of monetary targeting continued to grow. It was well recognized that the success of such a policy relied on the existence of a stable relationship between the volume of transactions in the economy and the quantity of money demanded;

only with such a stable and predictable money-demand relationship could changes in the supply of money lead to predictable changes in interest rates, with then predictable changes in aggregate demand, output, and inflation. And during the 1960s and early 1970s, this relationship appeared to be stable. As late as 1976, David Laidler argued the benefits of monetary targeting as an effective substitute for wage-and-price controls and made the following claim:

... It turns out that ... there exists a stable relationship in the economy as a whole between total national spending and the amount of money that the economy requires to carry on its business. The existence of such a relationship for an enormous variety of times and places, including the contemporary Canadian economy, is one of the best established facts of applied economics. (Laidler 1976 p. 183)

The relationship may well have been stable and predictable during the decades preceding 1976, but it took only a few short years for the financial innovations of the late 1970s to put an end to the Bank of Canada's monetary targeting. Having commenced the formal targeting of M1 in 1975, a policy seen as a useful complement to the Anti-Inflation Board, the approach never worked as well as the Bank's economists hoped (Crow 2009a, Freedman 2002). With the ongoing financial-market innovations and the resulting swapping of funds between bank accounts of various kinds, the measure of M1 was rarely confined to the Bank's proscribed target ranges for growth; in response, the Bank formally terminated the policy in 1982. As Gerald Bouey famously said in 1983: "We didn't abandon M1; M1 abandoned us!"

E. The Limitations of Monetary Policy.

By the mid 1980s, a growing consensus was emerging among macroeconomists and central bankers regarding the genuine and significant limits to what monetary policy could accomplish. It presumably follows that real limits should be placed on what we ask central bankers to achieve. In thinking of these limitations, it is useful to make the distinction between the set of macro variables that can *ever* be influenced by central bankers and those that can be

influenced in a *sustained* and *systematic* fashion. Once these latter qualifications are imposed, the limitations of monetary policy become quite stark.

Consider these limitations along three dimensions. The first is the number of policy instruments available to central bankers. For conventional monetary policy, there is but a single instrument: the central bank's balance sheet. This balance sheet reveals the fundamental truth that central banks create money and inject it into the financial system by using it to purchase government securities (or perhaps foreign exchange). We can think of the use of this instrument in terms of altering short-term interest rates or in terms of altering the quantity of money, but these are just different sides of the same coin.⁴ The second is the important distinction between the short-run and long-run effects of monetary policy; while monetary policy can have a profound influence on a large range of variables over a period of a few years, there emerged a growing understanding that these short-run effects eventually get unwound in the long run, leaving an enduring change only on the level or growth path of nominal wages and prices. Finally, the distinction between nominal and real macroeconomic variables is central to monetary policy; since the central bank's instrument is fundamentally about a nominal object—money—it is not surprising that the ultimate influence of monetary policy will apply to nominal variables only.

Implicit in this view of the limitations of monetary policy is the absence of a stable long-run trade-off between the rate of inflation and the level of real GDP or the rate of unemployment; the long-run Phillips Curve is vertical. In convincing the academic profession and community of policymakers that these limitations for monetary policy were real and needed to be taken very seriously, there was perhaps no more influential work than Friedman (1968). His specific arguments in favour of maintaining a constant rate of money growth, presented in the same paper, have long since fallen by the wayside; but his arguments regarding the limitations of monetary policy have had an enormous and enduring influence on the economics profession. Indeed, his ideas regarding the absence of a long-run trade-off

⁴ In the last few years of financial crisis and recession, we have seen central banks in many countries take extraordinary or “unconventional” policy actions, but at their base these actions are just creative ways of using the central banks' balance sheets.

between inflation and unemployment, together with those of Edmund Phelps (1972), have become such a standard part of the economists' intellectual toolkit that in our principles textbooks we often no longer attach their names to the ideas—almost as if such labelling would be an admission that the ideas are still unsettled and open to debate.

F. The Role of a Flexible Exchange Rate.

As a small and open economy, it is natural that Canadian economists and policymakers tend to place more emphasis on the role of the exchange rate than do our counterparts in larger economies in which trade is relatively less important. In addition, Canada has had more experience in operating with and learning about a flexible exchange rate, since we spent many of the post-war years outside the Bretton Woods system (Powell 1999). This has given us a great deal of time in which to learn about how a flexible exchange rate can play a useful role within a coherent framework for monetary policy. Central to this learning has been the distinction between the real and nominal exchange rate, and the different causes of their changes over time.

The nominal exchange rate is, of course, nothing more than the Canadian-dollar price of a unit of foreign currency. If domestic monetary shocks have an enduring effect only on the domestic price level, as would be the case if money is neutral in the long run, then the external manifestation of this neutrality is that the nominal exchange rate will adjust in the same direction and by the same percentage, thus leaving the real exchange rate unaffected. The same is true for foreign monetary shocks, although in this case the movements will be in the foreign price level and the exchange rate. So in the face of monetary shocks, *ceteris paribus*, price levels and the nominal exchange rate will adjust over time, but real exchange rates will eventually return to their initial levels.⁵

⁵ As Dornbusch (1976) made clear in his classic paper, forward-looking expectations and short-run price rigidities ensure that monetary shocks will cause real exchange rates to respond to monetary shocks much more in the short run than in the long run.

The real exchange rate, in contrast, is the relative price of (baskets of) goods across international boundaries. While monetary shocks should have no sustained influence on the real exchange rate, there are many shocks that will. First, since non-traded goods play a large and increasing role in national consumption baskets, deviations in their prices across countries will lead to changes in real exchange rates. The Balassa-Samuelson effect shows how, with integrated labour markets within countries, differential productivity growth in the traded-goods sector across countries leads to wage changes that drive up the relative prices of non-traded goods in those countries with the highest productivity growth, thus creating a real appreciation (Dornbusch 1988). Changes in the relative prices of commodities, driven either by technological changes or by changes in demand, lead to real appreciations in commodity-exporting countries (Amano and Van Norden 1995, 1998). Finally, though it is much less visible in the data, changes in investors' perception of risk premia lead to capital flows that cause real appreciations in the capital-importing countries and real depreciations in the capital-exporting countries.

Given the many reasons for expecting real exchange rates to change over time, and also the tendency for aggregate price levels to be slow to adjust to real or nominal shocks, the case for maintaining a fully flexible nominal exchange rate is compelling. The decision to fix or peg the nominal exchange rate would require the authorities to choose some specific rate—but which rate should be chosen? Some would argue that the theory of purchasing power parity (PPP) could be used to select the “equilibrium” value of the exchange rate. However, PPP is based on the idea that real exchange rates are constant over time, which is clearly false, even over periods of several years (Sarno and Taylor 2002, 2003). One might argue that even if the “wrong” nominal exchange rate is initially chosen, eventual adjustments in price levels will get us to the “right” real exchange rate. But this gets us to another and more important strike against a fixed exchange rate.

One of the key arguments in favour of a flexible nominal exchange rate is that national price levels tend to be slow to adjust to shocks. As Friedman (1953) famously argued, if nominal price levels were fully and instantly flexible in response to shocks, a flexible exchange rate would be unnecessary because all of the needed adjustment in the real exchange rate would naturally and quickly occur through movements in price levels. The rigidity of wage and price

adjustment is the fundamental reason that a flexible exchange rate can act as an aggregate “shock absorber”. Canada has seen many episodes in which the movement of the nominal exchange rate has dampened the swings in aggregate output and employment caused by external shocks. Following the Asian crisis and subsequent plunge in commodity prices in the late 1990s, for example, the large depreciation of the Canadian dollar stimulated the central Canadian manufacturing and exporting sector, thus reducing the overall negative impact of the shock. Similarly, in the mid 2000s, rising world commodity prices led to a strong appreciation of the Canadian dollar; the booming commodity-export sectors in Western and Eastern Canada were offset to some extent by slower growth in the manufacturing heartland of Central Canada.

The view that nominal exchange rates should be left free to adjust to whatever shocks come along still leaves open one crucial question: should changes in the exchange rate influence the central bank’s policy actions and, if so, how? On this issue, the Bank of Canada has also learned considerably over time. The Bank knows well that different sources of exchange-rate movements require different policy responses. For example, a sustained increase in world commodity prices is itself a positive shock to Canadian aggregate demand and thus is likely to be met with a tighter monetary policy. Even though the shock will cause an appreciation of the Canadian dollar which tends to dampen the expansion, the overall effect is still positive for aggregate demand. In contrast, the adjustment of global portfolios away from foreign assets and toward Canadian assets will also cause an appreciation of the Canadian dollar, but such a shock, if significant and sustained, is likely to be met with a looser monetary policy. Having its origins in financial markets and not product markets, this shock has no direct effect on Canadian aggregate demand, although the subsequent currency appreciation still reduces Canadian net exports and thus the overall effect is negative. So, there can be no simple rule of thumb connecting a change in the exchange rate to a change in monetary policy; understanding the cause of the exchange-rate change is crucial.

This point is not easy to communicate with the public or with financial markets. In the mid 1990s, the Bank tried to explain these ideas by creating and publishing the Monetary Conditions Index (MCI), a weighted average of the exchange rate and an interest rate (Freedman 1995). It soon appeared, however, that financial markets viewed deviations of the

MCI from its “desirable” level as a clear indication of a policy change and thus a clear opportunity for a profitable trade. As a result, the Bank soon abandoned the MCI. In the mid 2000s, with rising commodity prices and a strengthening Canadian dollar, the Bank tried again, but this time by making an explicit distinction between “Type 1” (eg. commodity prices) and “Type 2” (eg. portfolio adjustments) sources of exchange-rate movements (Bank of Canada 2005, Dodge 2005, Ragan 2005). This explicit distinction, together with the cumbersome labels, seems now to be rarely made in speeches by the governor or deputy governors, although the logic of the basic argument is often clear in context. The appropriate role of a flexible exchange rate in the conduct of Canadian monetary policy remains a communications challenge for the Bank of Canada.

G. The Current State of Canadian Monetary Policy.

After many years, many shocks, and many lessons learned, central banks in most developed countries, including Canada, seem to have converged on some solid guiding principles for monetary policy. These can be boiled down to two key observations regarding how economies function and how monetary policy operates. First, there is a clear recognition that high and variable inflation is costly. Not all of these costs are easy to measure or even to simulate in simple macro models, but they are nonetheless real (Ragan 1998). Second, there is an equally clear acknowledgement that the rate of inflation is the single macro variable that monetary policy is able to influence in a sustained and systematic manner. With these two underlying principles, it is perhaps not surprising that monetary policy has evolved in many countries to the point where central banks explicitly target a low rate of inflation. Canada was the second country to formally adopt inflation targeting, in 1991, and many countries followed suit over the next twenty years. In retrospect, this evolution of monetary policy toward inflation targeting may seem obvious or inevitable, but it required the shocks and policy mistakes and learning that occurred over the previous thirty years; it really has been a “natural selection” of good and workable ideas.

How has the Bank of Canada performed since the adoption of inflation targeting? Others have provided an excellent review of Canadian monetary policy (Crow 2009a, and Laidler and Robson 1994, 2004), and so a detailed treatment here is unnecessary. But it is clear that the current regime has been a significant success. The early years witnessed a notable evolution of policy, with focus on both implementation and communication. The emphasis on the Bank's target for the overnight interest rate as its primary instrument, the establishment of eight fixed announcement dates per year, the regular publication of the *Monetary Policy Report*, and the increase in the number of public speeches are perhaps the most visible changes that took place during this period. The Bank's communications were aimed not just at explaining what it was doing and why, but also at the need to keep inflationary expectations anchored at the inflation target. As for performance, the Bank certainly delivered on its commitments. Between 1991 and 2007, the average rate of inflation was remarkably close to two percent, though there were brief periods when inflation strayed noticeably from the Bank's two-percent target (Melino 2011).

If the experience of 1991-2007 suggests a fully mature and well-functioning policy regime, the events since then reveal that regime's resilience. When the global financial system began to show its strains in the summer of 2007, and these strains eventually revealed deep and systemic problems, the Bank of Canada was able to respond effectively—to increase the liquidity available to financial institutions, reduce the fears of counterparty risk, and maintain the flow of credit.

By the fall of 2008 global financial markets were in full crisis. Even though the epicentre of the crisis was not in Canada, the globalization of financial markets assured that Canada would experience significant tremors. Canada's well-anchored inflation expectations, together with the Bank's long-established credibility in returning inflation to target, permitted the Bank to respond aggressively by sharply cutting its target for the overnight interest rate. By the spring of 2009, with its policy rate at its effective lower bound, the Bank was on the verge of implementing quantitative easing and perhaps even credit easing. The U.S. Federal Reserve and the Bank of England had already taken these steps, but the economic situation in Canada was then less dire. Though the Bank explained these policies in its April 2009 *Monetary Policy*

Report, they were never implemented. Instead, the Bank tried something less dramatic but no less innovative: it issued a commitment to hold its policy rate at its effective lower bound until the summer of 2010, conditional on the outlook for inflation. The payoff appeared almost immediately in the form of a reduction in long-term interest rates (He 2010).

Looking back on the period since 1991, and especially the last few years, it is difficult not to be impressed with Canadian monetary policy and the people charged with making it work. For almost twenty years, in the face of shocks from various sources, the Bank of Canada has upheld its commitment to keep inflation low and stable. Even the very dramatic events of the past few years have not revealed the Bank to be lacking in any substantive way, either with an insufficient ability to analyze and respond to unfolding events, or with insufficient command over institutional arrangements to make its policy actions effective.

Laidler (1999) emphasizes four elements of any “coherent monetary order”. The monetary-policy regime must: (a) have a well-defined goal; (b) the relevant authorities must have the power and abilities needed to achieve the goal; (c) private-sector agents must understand the goal and expect it to be achieved; and (d) the relevant authorities must be accountable to the electorate both for the choice of the goal and for their performance in achieving it. By this standard, Canada clearly has a coherent monetary order. The Bank of Canada and the Government of Canada have agreed upon a well-defined target for the CPI inflation rate. The Bank has the power and tools needed to keep inflation close to that target rate. The Bank’s inflation target is well known and constantly repeated in the Bank’s communications, and private-sector inflation expectations are well anchored at the two-percent target. Finally, the Bank of Canada is accountable for its actions and for the resulting rate of inflation, through the Minister of Finance and Parliament, to the Canadian people.

The successful evolution of Canada’s monetary policy over the past forty years is entirely consistent with the conference theme of emphasizing the need for “better” government as opposed to either “more” or “less” government. By controlling the amount of money in circulation, central banks have tremendous power at their disposal. But it is the intelligent and prudent use of this power that constitutes a successful monetary policy. By recognizing the limits of what this power can accomplish, together with learning some

important lessons about how it can best be used in various situations, the Bank of Canada has been able to make a very substantial contribution to the economic welfare of Canadians.

Section 3. Future Challenges for Canadian Monetary Policy

Despite this success, we should not to be blind to the possibility of making further improvements. One possible improvement to Canada's monetary policy would be to reduce the Bank's inflation target, to one percent or perhaps even to zero. The steady and continual erosion in the value of Canadians' money imposes real costs on those individuals who do not have fully indexed nominal incomes, and with the aging of the Canadian population the share of such people in the total population is likely to increase over the next few decades. Another possible improvement is to switch from inflation targeting to price-level targeting, so that any shocks to the price level get fully undone as the Bank's policy actions push the price level back to its predetermined path. Even if the targeted price level were to grow at an annual rate of two percent, this option has the advantage over the status quo of reducing long-run uncertainty in the price level.

Both policy refinements have advantages and disadvantages over the current system, and they have been well discussed and debated both inside and outside the Bank of Canada (Amano et al 2009, Ambler 2009, Melino 2011, Parkin 2009, Ragan 2011). The current agreement between the Bank of Canada and the Government of Canada expires this year, and we will soon see whether the new agreement includes either of these possible changes.

A more important challenge for Canadian monetary policy, however, is one that is not being so openly debated. The economic events of the past few years have brought to the fore the issue of "financial stability". The nature of the financial crisis led to the widespread recognition that we need to place much more emphasis on the interconnected nature of financial institutions within an overall financial system. Although there are different definitions of financial stability, most people's instinctive definition would probably emphasize the need for the financial system to be resilient to shocks that are large enough to cause the failure of a small number of financial institutions (Freedman and Goodlet 2007). Put differently, the failure

of a few financial institutions should not be able to cause the large-scale disruption or collapse of the entire system.

The pursuit of financial stability relates to central banks and monetary policy in two ways. The first is entirely in the hands of central banks; the second requires active coordination and communication between central banks and other government institutions.

A. “Leaning” Against Financial Excess.

There is a growing consensus that the cause of the 2007-09 financial crisis was a complex combination of many practises, policies, and institutional arrangements, most of which were deep within the financial system. White (2009) and Laidler and Banerjee (2008) argue convincingly that an important part of the problem was that central banks in many countries—including Canada—were too unwilling to “lean” against growing financial excesses, such as dramatic increases in financial leverage in the household and corporate sector, implicitly preferring to “clean up” whatever messes were created by the eventual financial collapse.

White (2009) and Parkin (2009) and others argue sensibly that we should not think of leaning in terms of the Bank of Canada’s formally targeting a set of asset prices. Not only is it unclear which small set of prices to target, but it is also unclear how to identify any given price increase as “inappropriate” or somehow disconnected from the underlying “fundamentals”. White’s concept of leaning is far less formulaic and more subtle than formal targeting would ever permit. If the Bank of Canada chooses to lean against financial excesses, it needs to look broadly at financial markets and use its discretion and judgement very carefully. It needs to cast its eyes over levels of asset prices and financial leverage that are deviating from their longer-run trends, and also examine the growth rates of monetary quantities and flows of credit that appear to be unusually large (Laidler and Bergevin 2010). White (2009) reminds us that many financial crises through history were preceded by the development of financial excess, and his guiding principle for policy is that careful but significant pre-emptive policy tightening is more

effective than the massive and sudden monetary expansions that typically follow financial crises.

An important unresolved issue in the “lean versus clean” debate is what a central bank should do when different macroeconomic indicators are suggesting different policy actions. For example, suppose that the “price stability” indicators suggest there is little threat of higher inflation in the near future; in this case, the likely policy action by the central bank would be to leave its policy interest rate unchanged. However, suppose at the same time some selection of “financial stability” indicators suggests an unhealthy build-up of financial excess, thus indicating a need to “lean” by increasing the policy interest rate. Should monetary policy be dominated by its concern to maintain financial stability even though it may be deviating from its inflation target? Or should it focus on the inflation target and let the financial excesses follow their own path? Since central banks have but a single instrument, and sustained inflation appears to be determined fundamentally by monetary policy, the possible divergence of these two sets of indicators suggests the need for additional policy instruments. This brings us to the second and perhaps more complex challenge for Canadian monetary policy.

B. Better “Macro-Prudential” Regulation and Oversight.

The interconnectedness of financial institutions means that as much attention by policy makers needs to be placed on ensuring the stability of the overall financial *system* as is regularly placed on ensuring the stability of individual institutions within the system. “Micro-prudential” regulation is directed at ensuring the prudent behaviour of individual institutions, taking the external environment as more-or-less given. “Macro-prudential” regulation is aimed at ensuring the overall stability of the financial system. It takes a broader perspective and thus is more complex. It recognizes not only the kinds of financial shocks that might occur, and from what sources, but also how the behaviour of individual institutions can influence the overall financial system. Spillovers and positive feedback loops, and thus the potential for systemic instability, are key themes in the macro-prudential mindset (Longworth 2011).

In Canada, the Office of the Superintendent of Financial Institutions (OSFI) plays the leading role in micro-prudential regulation and oversight. Yet OSFI does not act in a vacuum; through the regular meetings of the Financial Institution Supervisory Committee (FISC), OSFI is brought together with and receives advice from the Bank of Canada, the Canada Deposit Insurance Corporation, Finance Canada, and the Financial Consumer Agency of Canada. In this way, various policy authorities from different parts of the Canadian financial system can share their views and provide advice to OSFI regarding important issues that are likely to impact on the health of Canada's financial institutions (Le Pan 2009).

The focus of FISC, however, is to provide advice to OSFI regarding its central mandate, which relates to the prudent behaviour of individual financial institutions. Its key mandate is not about the wider concept of financial stability. Note also that securities regulators and representatives from Canada Mortgage and Housing Corporation—the largest provider of residential mortgage insurance in Canada—are not present at FISC. Given its narrow mandate and representation, therefore, FISC is not well-suited to be Canada's central body for macro-prudential regulation or oversight. To ensure financial stability in Canada's future, there is a need for something more.

Canada needs to create some new institutional structure with a clear focus on ensuring financial stability. Yet there can be considerable debate about what such a structure should look like, which policy authorities should be present, and who should be accountable for what. And there is naturally some debate about what role the Bank of Canada should play in such a structure, and to what extent its powers should be expanded.

On one side of the debate are those who are opposed to expanding the Bank's powers. Some on Parliament Hill might believe that any enhanced powers of regulation or oversight should lie with elected rather than appointed officials. There are also those who argue that getting the Bank of Canada more closely involved in regulatory affairs may expose it to excessive political influence and thus threaten its valuable operational independence. On the other side of the debate are those who focus more on the technical skills required from any effective macro-prudential regulator. Two observations make it easy to argue for an increased

role for the Bank (Crow 2009b). First, the Bank's expertise in macroeconomics and the macro role of financial markets likely exists in no other Canadian institution, so giving it some increased responsibilities in dealing with macro-prudential regulation seems only logical. Second, if new financial-market regulations involve cyclical indicators or thresholds of any kind, it will be incumbent on *someone* to determine when the cyclical "trigger" is pulled; given that the Bank controls the most important counter-cyclical tool in the government's policy arsenal, the Bank should clearly be involved in this decision.

Designing an institutional framework for macro-prudential regulation and oversight, and determining the Bank of Canada's appropriate role and responsibilities within it, are not simple tasks. It will require the Canadian government, first, to recognize the importance of the issue and, second, to take the time required in consultation and design to assemble the framework with the appropriate parties involved and responsibilities clearly assigned. Doing it right involves bringing together various policy authorities with different perspectives, different specialties, and different primary mandates. But such complexities are central to any structure devoted to taking a more systemic view of financial institutions and markets.

Section 4. Final Thoughts

The federal government needs to spend more time thinking about how best to ensure financial stability in the future. It needs to examine whether the current institutional arrangements provide the macro-prudential regulations and oversight necessary to prevent a crisis in the face of large future financial shocks. Perhaps the current arrangements are satisfactory, or perhaps they are seriously lacking; it is difficult to be sure without devoting much time and energy to a careful review of the issue. But the prudent and sensible and responsible action for the government is to make sure that the difficult questions are being asked, the genuine debates between various parties are being resolved, and the necessary responsibilities are being clearly assigned. Given the extent to which Canadian leaders have been accepting congratulations from around the world for having such a sound financial system, it would be embarrassing indeed to discover that this system actually lacked the resilience needed to withstand the next

set of shocks or pressures. No political price needs to be paid for quietly asking the right questions and making the appropriate institutional changes behind the scenes; an almost unthinkable political price will be paid if these actions are not taken soon and a future crisis occurs.

Ian Stewart would probably emphasize that getting this policy issue right—and getting the best institutional framework in place—is not necessarily about advocating “more” government. Rather, it is about ensuring that our underlying policies and policy frameworks are properly designed so that financial markets can be left to operate more-or-less on their own and function well in the face of various kinds of shocks. If the policy framework and macro-prudential regulations are working well, future economic shocks will be unlikely to lead to economic crises—and thus there will be less need for governments to intervene in large and dramatic ways.

There is an important balance to strike here. Some will argue that excessive regulation in financial markets will unduly stifle innovations and will reduce the dynamism of the financial sector. We surely need to recognize the importance of this sector in intermediating between the borrowers and the lender of the economy, as well as the role played by sophisticated financial instruments in achieving efficient intermediation. So there is a need to be wary of the dangers of excessive regulation. At the same time, however, we need to recognize that too little regulation—or regulation of the wrong sort—leaves us unduly exposed to the threat of future financial crises, and thus to the enormous costs that follow in their wake. The significant benefit to avoiding such crises warrants incurring the modest costs associated with better regulation; “more” government now may well allow “less” government in the future.

Economic crises naturally make government actions easier to justify. Any individual policy initiative may be sensible or not as a response to an economic or financial crisis, but the mere existence of the crisis makes it far easier for any government to act boldly, and to convince the people of the need for such bold action. The unfortunate corollary, however, is that when crises are past—even though the problems may still lurk beneath the surface—it is easy for politicians to move on to other things, secure in the belief that there is no longer a

need for serious policy changes. The fact that Canada's financial system fared far better over the past few years than did those in the United States or the United Kingdom may indicate that we have no serious policy challenges to solve within the financial sector. Or it may reflect the fact that we were lucky. Or perhaps it reflects a bit of both.

In any event, prudent behaviour on the part of government would be to hope for the best while planning for the worst, and to view existing challenges not as a political problem to avoid but as an opportunity through better policy design to secure a better economic outcome for future generations of Canadians. It seems appropriate to close with a quote from *The Way Ahead*, which applied as much to the need to solve the inflationary problems of the late 1970s as it does today to the imperative to think carefully about ensuring financial stability:

Canadians have always faced challenges and it would be naïve to assume that we will not continue to do so. Recognizing their existence is not cause for pessimism, but necessary in order to face them realistically and resolve them successfully. The coming decades offer tremendous opportunities to Canada and to Canadians. To seize these opportunities, however, requires a shared appreciation of the nature of the prospects and problems confronting us. (Canada 1977)

Such a shared appreciation, in turn, requires that the difficult questions get posed and the genuine debates get resolved. Only then can we hope to design policy frameworks that are resilient to the inevitable challenges that lay in our future.

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