

Twentieth Century Monetary Regimes in Canadian Perspective

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Abstract: Three monetary regimes — the gold standard, a regime of ‘socialism in many countries’ and the post-Bretton Woods regime — and difficult transitions between them have shaped the economic history of the twentieth century. The regimes consisted of coherent sets of government policies and equally importantly, the public expectations about policy and each made different decisions about which of the trilemma of policy goals — fixed exchange rates, domestic policy independence and integrated capital markets — to subordinate. Canada, as a small, open economy dependent on access to international capital markets, provides a revealing window on the monetary regimes and the transitions between regimes. The gold standard supported relatively smooth integration of the expanding Canadian economy into the pre First World War international economy, but proved disastrous in the changed environment that led to the Great Depression. Although Canada was unique with its floating exchange rate it experienced the success of the post war the Bretton Woods era. The collapse of the regime under the stress of internationally integrated capital markets set off an inflationary transition that again demonstrated the difficulties of regime transition. A new stable regime required two decades of learning about the new economic environment by both government and the public.

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The economic history of the twentieth century has revolved around dominant policy regimes. There have been three recognisable monetary policy regimes in which the relationships between international and domestic monetary policy differed. The current regime, which evolved uneasily in the 1970s and 1980s after the collapse of the Bretton Woods arrangements, is best understood in the context of its predecessors. While the monetary arrangements of the major economies — Britain, continental Western Europe and particularly the United States — have had the greatest impact on the international regime, the experience of Canada — a small, trade-committed economy embedded within the Atlantic trading network — provides an interesting window on regime evolution. In fact, Canada’s history may illustrate the nature of the regimes and the stresses that led to and accompanied regime changes more clearly than histories of the larger economies.

I focus on monetary regimes and, of course, I wish to distinguish between a regime — where the key point is that individuals and institutions make decisions based on beliefs about the underlying character of economic policy — and particular policy actions that monetary authorities may undertake.¹ The twentieth century experienced three monetary regimes: the Gold Standard, a regime of “socialism in many countries” that encompassed the Bretton Woods era and the post-Bretton Woods period of market determined floating exchange rates. The centrality of maintaining the value of domestic money in terms of an external standard (specie) occupied the primary policy position in the Gold Standard regime. Despite the vicissitudes of the First World War and its aftermath, the Gold Standard regime should be thought of as persisting until the 1930s. In contrast, in the regime of “socialism in many countries”² domestic stabilization policy dominated. The regime attempted to retain convertibility to an external standard, both as a secondary goal and because perceptions of the collapse in the early 1930s saw fluctuating exchange rates as destabilizing. With this regime governments managed the international value of money through the instruments of national planning — including particularly, exchange controls on international capital flows. The final regime of floating exchange rates emerged from the

collapse of the Bretton Woods system. By the 1960s increasing volumes of international trade, increasing commitment to free markets and disillusionment with government controls unleashed international capital movements that were inconsistent with the Bretton Woods regime and that could not effectively be controlled by monetary authorities. The current regime has accepted market determined international exchange rates as a part of a system of reduced direct government involvement in the day-to-day operation of markets although regional monetary unions have proven attractive in parts of the world.

The Great Depression of the 1930s and the Stagflation of the 1970s marked the two twentieth century regime transitions. Modern theories of monetary dynamics cast both these major events as primarily monetary phenomena. It is hardly accidental that regime transitions have been historically interesting periods. The policy regime, although they characterize actions of the public authorities, equally importantly influences private actions. A regime's effect arises from the combination of the policy actions and the behaviour of private individuals who act on their perceptions of how the economy and economic policy interact. A policy regime transition, first of all, involve a demonstrable failure of the hitherto prevailing regime. In addition, the early period of a new regime involves a period of learning — conditioned by understanding (correct or otherwise) of the failure of the previous regime. The learning is two sided. On one hand, the public authorities need to learn how to operate within the new regime. On the other, private decision-makers need to develop understanding of both the new policy regime of the public authorities, and new expectations about how the economy works in the new regime.

The differences among the monetary regimes reflect the constraints on monetary arrangements that monetary historians have taken to calling the monetary “Trilemma.”³ The balance of payments, and particularly international capital flows, either influence domestic monetary supplies and/or create convertibility crises under a fixed exchange rate. Consequently a stable monetary regime can only possess two of the three following characteristics: (1) a fixed exchange rate, (2) an active domestic monetary policy aimed at domestic goals that may conflict

with international equilibrium, and (3) free international capital mobility. The twentieth century's monetary regimes represent three different choices from this menu. Under the international gold standard, domestic money was subject to international constraints. The collapse of the system occurred when political pressures led governments to use monetary policy for domestic goals. The 'socialism in many countries' regime emerged as an international regime in which domestic policy goals — particularly full employment — dominated domestic monetary (and other economic) policy. At the same time, convertibility among currencies at fixed exchange rates was also desired. This was achieved with extensive post-war controls on international capital movements. The very success of the post-Second World War regime in stimulating economic growth and increasing globalization ultimately contributed to its collapse. National economies emerged from the relative autarchy of the 1930s and the difficult post war years. Increasingly, successful growth was seen to rest on market economies' abilities to generate technology and respond dynamically to changing circumstances. Moreover, globalization of technology and trade became increasingly important characteristics of economies that were experiencing unprecedented growth. In this environment, restrictions on international capital mobility became difficult to maintain and were also increasingly seen as undesirable. When domestic policy goals (particularly in the United States) became incompatible with the fixed exchange rates the regime collapsed. The current regime has evolved to continue to embrace domestic policy activism and once again to accept integrated capital markets. These two goals have been reconciled by acceptance of market determined exchange rates among currencies.

I. Gold Standard

Canada's experience in the first third of the twentieth century illustrates both the strength and the weakness of the classical gold standard. In the years before, during and after the First World War, the gold standard supported, with a smooth monetary expansion, extremely rapid, foreign capital financed, development based on the opening of the Canadian prairies. During the late 1920s and early 1930s, in contrast, the international environment had changed. Despite

Canada's abandonment of official convertibility of domestic currency into gold in 1929, the monetary policy regime and the public's reaction to monetary developments remained that of the gold standard. Under this regime, the international monetary contraction, particularly exacerbated by the collapse of the American banking system, resulted in similar monetary contraction in Canada.

For nearly a generation beginning in the mid-1890s Canada experienced an exceptional development boom. This was, as the Dominion Government propaganda announced, "the Last Best West." The construction of railroads and the settlement of the Canadian prairies culminated the process of bringing the vast continental landmass of North America into a Europe-centred world economy with a firmly established gold standard monetary regime. Although growing population and limited agricultural land in Europe contributed to the settlement for export agriculture, the improved technology of transportation that innovations in steam and metal production primarily drove frontier expansion. By its very nature, settlement beyond existing frontiers requires the importation of labour and capital. Farm-making required capital, and more significantly, the transportation infrastructure — railroads and urban nodes of the distribution system — were among the greatest nineteenth century users of capital. Throughout North American, the capital had come from established core areas of the Atlantic economy. In the United States the majority of the capital had come from established eastern centres with European, and particularly British, financing making important contributions, particularly to the capital needs of the expanding railroads. Early twentieth century Canada had only a rudimentary industrial core and the extent of the expansion dwarfed the savings capacity of the economy. The prospects for profitable exploitation of Canada's resources were rosy and external capital was easily attracted (as Canada's resource abundance has continued to present profitable investment opportunities that exceed domestic investment desires through the twentieth century).

The transfer of British capital to early twentieth century Canada within the gold standard has been widely studied as a case in which the operation of the gold standard could be closely

observed.⁴ The pioneering studies thought of the gold standard in terms of a price-specie flow mechanism in which monetary adjustment occurred as a result of international gold flows in response to a balance of payments disequilibrium. Viner's classic study (like most studies of the pre-war gold standard) found less gold movement than he had expected, but concluded that in the early twentieth century Canada's well-developed banking system that was closely integrated with both London and New York had played a key role. He argued that banks' secondary reserves in London and New York responded to the balance of payments surplus created by international lending to Canada and played the role that David Hume attributed to gold flows. The underlying mechanism, however, was essentially that of the gold flows in David Hume's famous price-specie flow thought-experiment.

Modern thinking on balance of payments adjustment points out that there is no reason to think that money is the passive player in adjustment. Rather, money is exceptionally quick to adjust and will likely lead anticipated trade and long-term capital adjustments rather than lag. Observation of the recent international monetary regime with its increasing globalization and freedom from exchange controls shows that short-term capital movements as well as long-term movements are active elements in exchange markets. The Canadian economy a century ago, however, already had a banking system that was both well-integrated into major international markets and depended on international capital markets. Trevor Dick and John Floyd⁵ have shown that the international gold standard regime provided Canada with the monetary accommodation it needed for its boom. Integration of national monetary systems brought about by capital market integration in a world where investors could count on exchange rate stability allowed Canadian banks to expand the national money supply in response to the expanding economy by using international markets to alter their asset portfolios. Monetary expansion did not require a price inflation to obtain reserves because banks could easily acquire gold or equivalent assets through foreign transactions to expand the money supply to finance the expanding economy. Canada's

expansion occurred easily in the gold standard regime because Canada's money supply was a part of the larger gold standard monetary system.

Post-First World War Canada illustrates less benign consequences of the gold standard regime. Both public policy and the expectations of economic decision-makers saw the national monetary system firmly integrated into a larger gold standard system. Two characteristic problems of fixed exchange rates occurred, one — the problem of adjustment to an idiosyncratic shock — in the 1920s and the other — the loss of control of domestic money to international condition — in the 1930s. During the 1920s, Canada, along with other primary product exporters, experienced the type of idiosyncratic shock that proponents of flexible exchange rates have highlighted as a problem of fixed exchange rate systems.⁶ When economic shocks effect two economies sharing a monetary standard (with fixed exchange rates) differently restoration of equilibrium requires different movements of the general price level in the two economies. In the 1930s the gold standard transmitted monetary contraction to Canada. Although Canada had suspended the convertibility of its domestic currency into gold, Canada shared the gold standard regime's monetary contractions that emerged from the asymmetry of the gold standard and from the collapse of the American banking system.

The First World War was the twentieth century's decisive watershed, but it did not mark a change in the monetary regime. Temporary suspension of convertibility during the war and inflationary wartime public finance were accepted as contingent features of the gold standard.⁷ Both governments and the private sector expected a rapid return to the gold standard despite the problems raised by wartime inflation and political concessions made during the war to secure the co-operation of organized labour.⁸ Canada's wartime involvement (adjusted, of course, for the size of the economy) considerably exceeded that of the United States, but the war had involved an export boom — of both agricultural and industrial goods — that left the Canadian dollar strong during the immediate post-war turbulence. Consequently the gold, and thus the international, value of the dollar was unchallenged. The sharp post-war recession in 1920/21 led to a rapid fall

in the price level with only modest unemployment because market participants perceive a need for lower post-war prices in the gold standard regime.

By the mid-1920s, wartime conditions that supported the Canadian dollar had passed and Canada, along with other primary product exporters, faced balance of payment problems arising from a collapse of primary product prices. Canada's internal price level was now too high to be consistent with the international value of the Canadian dollar. Domestic deflation resulted during the later 1920s. In retrospect it seems likely, as proponents of flexible exchange rates point out that a fall in the value of the exchange rate would have had less detrimental impact on output and employment than the general deflation. Additional deflationary pressure arose in 1928 when the U. S. Federal Reserve restricted credit. Canadian authorities were unwilling to increase deflationary pressure and the Department of Finance did not increase its discount rate.⁹ Within the fixed exchange rate regime, however, this created a fundamental inconsistency. The Canadian banks could profit by borrowing in Ottawa and lending in New York. Canada immediately experienced a sharp loss of gold reserves. In response, the Department of Finance first attempted to stem the gold loss by informal pressure on the banks but in early 1929, decided to protect remaining reserves by ceasing converting Dominion notes to gold although the statutes were not formally changing until October 1931.¹⁰

The end of convertibility of Dominion Notes into gold did not end Canada's gold standard monetary regime.¹¹ Although the government had removed the formal link between gold and the value of the dollar, the price of gold in Canadian dollars remained essentially unchanged until the British abandoned gold in October 1931 and allowed the pound to depreciate. Thereafter, until the American devaluation in March 1933, the price of gold and American dollars in Canadian dollars rose but only by about a third of sterling's devaluation. As a result the Canadian price of gold relative to the old standard lay between the American and British price and remained somewhat closer to the unchanged American price. After March 1933, the exchange rate between Canadian

dollar and both the U. S. dollar and sterling returned to essentially the old par where it remained until the war in 1939.¹²

The stability of the Canadian exchange rate in the 1930s provides a particularly clear illustration of working of a monetary regime — in this case the gold standard. The stability of the Canadian exchange rate resulted from market equilibrium rather than from any official action to peg the exchange rate. The Canadian dollar had lost its legal convertibility into gold and the government did not buy and sell foreign exchange reserves to peg the exchange rate. Rather both the government's monetary and fiscal policy and the expectations of private exchange market participants preserved the rate at par. The Government felt, on one hand, that there would be little to gain in combating the Depression from an inflationary policy and also faced losses from its significant debt obligations denominated in foreign currency, which devaluation would have increased in Canadian dollar terms. Furthermore, the Government feared that an inflationary expansionary policy would weaken confidence in the dollar, lead to capital flight and jeopardise Canada's excellent credit standing in international capital markets. As a result, Government policy remained committed to gold standard orthodoxy. The banks did not expand their credit because they felt that they would soon again face the constraints of gold convertibility. As a result, the private sector in turn did not place pressure on the exchange rate. As Bordo and Redish state:¹³

The banks, as well as the nonbank public, believed that the government was committed to exchange rate stability. Therefore, the banks expected that eventually they would have to return the stock of their liabilities to its pre-suspension value.

Canada thus effectively maintained a gold standard monetary regime during the Depression despite the 1929 suspension of gold convertibility. As a result, Canada suffered doubly from the gold standard during the Depression. Initially, Canada faced the pressures on primary product exporters which, under the fixed exchange rate of the gold standard forced price deflation and the

associated problems of unemployment. Then the global monetary supply contracted. At first asymmetries of the restored gold standard forced monetary contraction on countries experiencing balance of payments deficits — particularly Britain and Germany — while the prominent surplus economies — United States and France — sterilized gold inflows. Then monetary crisis, first in Europe and then in America, accelerated contraction. The most important crisis arose in the United States. Failures of weak single office American banks increased from 1930 without effective intervention by the Federal Reserve System. As a result, individuals switched their monetary holdings from bank deposits to currency and banks increased their reserves. This increase in demand for high-powered money led to a spectacular decline in bank money and the overall money supply despite an increase in the high powered monetary base as gold continued to flow to the United States. Under the gold standard regime, Canada's money supply was determined by international monetary conditions. Although the Canadian banking system, unlike its American counterpart, remained stable and maintained its customers' confidence, Canadian monetary aggregates followed time paths that were very similar to their American counterparts.¹⁴

II. Socialism in many countries (policy independence and government responsibility for economic performance)

Governments responded to the failure of the gold standard regime by shifting the primary focus of policy to domestic goals. After the Second World War, Canada, however, enthusiastically supported the Anglo-American move to reform the international monetary regime to remove both what was perceived as the 'beggar thy neighbour' policies of the late 1930s and the failures of the gold standard. The post-war recovery proved a success — in sharp contrast to the experience that had followed the First World War — but during this period the Bretton Woods system was not fully implemented. Exchange controls were pervasive and European currencies were not fully convertible into U.S. dollars. By the 1950s, however, the Bretton Woods system, which included continuing exchange controls on international capital movements,

supported an era of unprecedented economic growth. Nonetheless, it is clear in retrospect that the system contained contradictions that led to its ultimate failure.

The fixed exchange rates, with provision for change in case of ‘fundamental disequilibrium,’ and domestic policy independence that underlay the Bretton Woods system required the restrictions on international capital movements to operate successfully.¹⁵ Canada’s history under this regime was unconventional because, uniquely among the OECD countries, Canada did not retain a pegged exchange rate for a significant portion of the period. From 1950 to 1962 the Canadian dollar floated, generally at a small premium on the U.S. dollar. It seems clear, however, that Canada remained within the general international monetary regime. Its macroeconomic history (although clearly heavily influenced by purely domestic policy choices) illustrates the problems inherent in the regime.

In the post-war period, resource exports — now mainly minerals rather than agricultural products — remained dominant in Canada’s international accounts with important consequences. Primary product prices remained volatile and, as in the inter-war years, external events continued to require adjustment of Canada’s real exchange rate. The U.S. dollar-based fixed exchange rate system that emerged required prices to adjust downwards if negative resource price shocks were not to result in unemployment. But, in Canada, as elsewhere, commitment to economic and social policies to equalize income and preserve full employment reduced the downward flexibility of wages and imparted an inflationary bias into the economy. In hindsight, the challenge that international capital movement provided was particularly clear in Canada. Although Canada shared the post-war aversion to ‘speculative capital movements’ it required more capital than could be raised by domestic savings. As a result, Canada remained more open to international capital movements than many other post-war economies.

The Canadian dollar came out of the war strong as a result of wartime and immediate post-war export booms.¹⁶ In 1946 the Canadian dollar was pegged at par with the American dollar, up from the wartime valuation of the U. S. dollar at \$1.10 Canadian dollars. Quite soon, however,

Canada experienced balance of payments difficulties that led to re-imposition of war-time exchange controls. Exports declined, little foreign investment occurred and Canada made a generous post-war loan to Britain. In the general 1949 post-war realignment, Canada devalued to the wartime \$1.10 to the American dollar. In 1950, the new fixed Bretton Woods peg again came under pressure. Resource prices rose as the Cold War heated and the Korean crisis worsened. In addition, American direct investment in Canada resumed resulting in balance of payments surplus. The Canadian authorities attempted to resist the inflationary pressure that the international regime was placing on the economy but speculative short-term capital betting on an upward valuation of the Canadian dollar exerted greater pressure than the government could resist. As was characteristic of the Bretton Woods system, domestic policies that were at variance with the external value of the currency combined with the possibility of a peg adjustment provided speculators with a one-way bet that created an exchange rate crisis. In October 1950, the Canadian authorities surrendered to the need to adjust the real exchange rate and the accompanying pressure from speculative capital flows. But instead of establishing a new fixed rate with higher value for the Canadian dollar they obtained IMF permission for a temporary float (actually to last 12 year) of the exchange rate. The Canadian dollar rose immediately and reached a value of US\$1.04 in 1954 under the influence of the Korean boom. Although the Canadian dollar floated for the next decade and the Canadian authorities neither accumulated nor lost significant international reserves, the value of the dollar remained in a narrow range at a few percent above par with the U.S. dollar. Canada had effectively revalued the dollar and then coordinated domestic monetary policy to international (read United States) conditions.

The end of Canada's floating exchange rate is best understood, somewhat paradoxically, as a devaluation in the Bretton Woods regime caused by a domestic monetary policy that was inconsistent with international monetary conditions. The stability of Canada's flexible exchange rate through the late fifties was achieved at a political cost that eventually led to a foreign exchange crisis, an effective devaluation and finally a pegging of the Canadian dollar. In 1954,

James Coyne succeeded Graham Towers, the original governor, as governor of the Bank of Canada. Coyne attempted to adjust to post war conditions and establish some Bank of Canada independence from the Government. During the Depression and wartime years the Bank, like central banks elsewhere, had seen itself as an instrument of government policy.

Coyne came into conflict with the populist Conservative government of John Diefenbaker elected in the summer of 1957. Coyne adopted a restrictive monetary policy (in part, at least, in a mistaken belief that higher interest rates would stimulate savings and reduce American purchase of Canadian assets). The government, in contrast, adopted activist policies for development, particularly outside of central Canada, and ran regular budget deficits. Canadian economists at the time, reflecting the regime's domestic focus, generally applauded the Keynesian stimulus of the budget and criticized the Bank's restrictive policy. Coyne's monetary policy, however, was kept consistent with monetary policy in the United States (which also experienced unsatisfactory growth and increased unemployment in the later years of the Eisenhower presidency) and exchange rate stability (in fact the exchange rate rose slightly in the late 1959s).

Conflict between Coyne at the Bank of Canada and the Deifenbaker government — reflecting conflicting goals of the monetary regime — came to a head in the spring of 1961. Donald Fleming, the Minister of Finance, demanded Coyne's resignation but Coyne refused. The government then introduced legislation for his removal. After an acrimonious personal and political debate and the bill's failure in the Senate that provided him a partial vindication, Coyne finally resigned.

The Government, and the Bank, then adopted a more expansionary policy and sought a fall in the exchange rate. Speculators quickly reacted to the new policy stance by shifting funds out of Canada. The government lost control of the exchange rate depreciation despite a massive expenditure of reserves in an attempt to stabilize the Canadian dollar at \$0.95 U.S. In May 1962 the Canadian dollar was pegged at 92.5 cents U.S. Even this rate — a devaluation of over 10 percent — proved hard to defend and Canada was forced to borrow from Britain, the United

States and the IMF and adopt domestic austerity policies — in direct opposition to the governments aim in the previous year — to support the new exchange rate. The crisis passed as investors developed more confidence in a new Liberal Government and as the United States adopted more expansive policies.

III. The Post-Bretton Woods Regime of Flexible Exchange Rates

The regime transition between the Bretton Woods system and the current regime of floating international exchange rates proved difficult. The resulting unsatisfactory monetary experience revealed features of both regimes. For many countries Keynesian domestic demand management had created inflationary tendencies, which had been restrained by the fixed exchange rate system. International currency arrangements must allow for adjustment of the relationship between price levels among countries (real exchange rates), as they become necessary. For Canada, as we have already seen, some, but by no means all, of the adjustment needs arise from the importance of volatile primary product among Canada's exports. Generally, in the post-Second World War regime of active demand management different rates of inflation inherent in domestic policy created different degrees of inflationary pressure among countries and put most of the pressure on fixed exchange rates. Throughout the period Germany's strong commitment to price stability, undoubtedly engendered by earlier inflationary experience contrasted with much more inflationary tendencies elsewhere in Europe. So long as the United States pursued policies that were non-inflationary and speculative capital flows from inflationary regimes were controlled by exchange controls, the Bretton Woods adjustable peg proved adequate, although by no means ideal. Nonetheless, periodic crises showed that the fixed exchange rate with provision for adjustment in response to fundamental disequilibrium magnified adjustment difficulties.

Domestically motivated rapid expansion of the American money supply in the 1960s, accompanied with a lag by monetary expansion elsewhere, brought about the collapse of the Bretton Woods regime.¹⁷ The American monetary expansion reflected both Keynesian policies to increase growth and the fiscal pressure arising from the combination of the Vietnam War and

expanding domestic social programs. Expansion of American money supply provided the environment for rapid expansion of monetary supplies elsewhere within the fixed exchange regime. The American balance of payments deficit created by inflation increased international holdings of dollars. The system put no constraints on American monetary expansion because the dollar was the central reserve currency of the international system and consequently official dollar holders were largely precluded from demanding conversion of their dollar holdings. Outside the United States, limits to monetary expansion had taken the form of demands for conversion of foreign holdings of domestic currency arising from balance of payments deficits into dollars.

By the late 1960s inflation and growing international dollar holdings raised issues of the adequacy of the reserve of the international regime which consisted primarily of dollars nominally at least convertible into gold. Speculative private funds began to purchase gold, as did some official holders. In 1968, the United States restricted its commitment to convert the dollar into gold at the official rate of \$35 per ounce to official holders. Private demand for gold was forced into an unsupported gold market where the price rose. Inflationary impulses continued to emanate from the United States and the situation had become increasingly unacceptable to various countries. In June 1970, Canada responded to accumulating dollar holdings by unpegging the dollar much as it had done in 1950. The Bretton Woods system effectively came to an end in May 1971, when Germany, whose attempt to pursue a non-inflationary policy had led to a massive inflow of speculative capital, allowed the deutsche mark to float in the foreign exchange market. Other countries quickly followed suit. The Canadian exchange rate initially rose relative to the U.S. dollar, reflecting the tighter monetary policy. Soon, however, Canada joined the majority of the industrial economies in the unsatisfactory stagflation of the 1970s.

By the late 1990s Canada, along with other OECD countries, had managed a successful transition to the floating exchange regime. Price stability has been achieved with an inflation rate of 2 percent or less for the last decade. Even though the economy shares the current general

economic slowdown, the past decade has been one of successful growth. Canada now has a monetary regime with flexible exchange rates in which price stability and economic growth have coincided. The new regime, however, has seen substantial fluctuations in the exchange rate with the United States. Today, some experts argue that the exchange rate shown excessive volatility. With the core economies of the European Union adopting a common currency and the Canadian economy is becoming even more integrated with that of the United States, they are suggesting monetary union with the United States.

Under the current regime the Bank of Canada has explicitly given primacy to price stability as the goal of monetary policy. The current policy is not phrased in terms of explicit targets for defined monetary aggregates, but the growth of the domestic money supply is among the indicators that condition policy. The most recent Bank of Canada Act gives the Bank considerable ability to pursue monetary policy independently of the fiscal policy of the government although the government's ultimate responsibility for monetary policy is spelled out. A broad inflation target is set by consultation between the Finance Minister and the Bank. In the event of conflict with the Bank, the Bank of Canada Act provides for specific, publicly disclosed, directive from the government to the Bank, which the Bank is obliged to follow. It is clearly understood, however, that if the government were to demand a monetary policy at variance to the judgement of the Bank, the Governor of the Bank would resign with the consequent implications for private market confidence in monetary affairs.

The transition to the present regime during the 1970s and 1980s, however, was the second most difficult monetary period of the century (after the Depression). Inflation exceeded ten percent per annum in the mid 1970s. After falling into single digits in the late 1970s, it again exceeded 10 percent in the early 1980s. At the same time, levels of unemployment remained high and there were recessions in 1974-5, 1981-2 and 1990-1. Conventional wisdom at the time and often since blames both inflation and the unemployment of the 1970s on the oil price shock early

in the decade. This seems an inappropriate. Events of the 1970s and 1980s are better interpreted as resulting from monetary forces that accompanied the change in regime.

The regime transition required both policy-makers and the public to learn about the new environment and it took a distressingly long time. Both had to change their expectations of how the economy worked and the development of new expectations took much longer than most economists — particularly ‘monetarist’ macro-economists — had expected. The learning was more difficult because the transition environment contained unusual economic circumstances. Some of the problems were inherent in the regime transition and some — particularly the oil price shock — were external to it. The first problem in transition arose from the inflation that caused by the American monetization of debt arising from the Vietnam War and Johnson’s Great Society and the monetary expansion that this permitted and/or required elsewhere in the fixed exchange rate Bretton Woods world. By the early 1970s recent monetary expansion and government budget deficits caused inflationary expectations that were widely, and rationally, held.

Canada abandoned the Bretton Woods system in 1970 with the explicit intention of allowing the exchange rate with the U.S. dollar to appreciate to relieve the inflationary pressure. However, a new regime was not established at this time. The authorities were reluctant to allow any great movement in the exchange rate and as a result the beginning of the period of float may be seen as a modest devaluation of about 5 percent followed by a “dirty fix” against the U.S. dollar.¹⁸ As a result, Canada shared the accelerating U.S. monetary expansion and inflation of the early 1970s. The sharp slowdown of world monetary expansion in 1974 marked a break. The Canadian authorities adopted independent monetary policies while allowing the foreign exchange market to set the international value of the dollar. In mid 1975, the Federal government introduced wage and price controls and the Bank of Canada adopted a publicised policy of “monetary gradualism.” Together they were designed to bring inflation under control, but more slowly and with less disruption than seemed apparent in the United States.

The late 1970s' attempt to end inflation with "monetary gradualism" failed. The Bank set targets of gradually slowing M-1 growth from 10 to 15 percent in the first year of the policy to a non-inflationary range of 4 to 8 percent by 1981. The targets were met until 1980 but inflation failed to decelerate in conjunction with the decline in monetary growth. Having fallen to about six percent in the mid-1970s recession inflation accelerated towards double digits in the following years despite the slowdown of M-1 growth. In addition the Canadian dollar depreciated by about a fifth vis-à-vis the U. S. dollar. The episode was widely interpreted as a failure of the monetarist prescription. Late in 1978, although it announced no policy change, the Bank apparently lost faith in its monetary targets and pursued a range of poorly articulated goals including paying attention to the exchange rate. A drastic slowdown in monetary growth occurred in 1981 and a deep recession in 1981-2, amplifying developments in the United States.¹⁹

At the time many commentators attributed the failure of monetary gradualism to achieve a soft landing from the inflation to an inappropriateness of monetarist perceptions of the aggregate price formation process. In retrospect, this seems inappropriate. While the period demonstrated that monetarist forecasts were hopelessly optimistic about the cost of the transition to a non-inflationary policy regime, monetary explanations within rational expectations perceptions of macroeconomic behaviour provide the best explanations of the period. First, the reduction in money growth was too gradual. To a large extent this reflected monetary innovations that made M-1 a misleading measure of the growth of money in Canada. Second, the public's inflationary expectations — a key feature of a monetary regime — proved hard to change. Certainly, the public's continued inflationary expectations in the late 1970s had ample justification. Actual money growth considerably exceeded the M-1 growth that the Bank targeted. At least equally important, the Government's fiscal position — which involved a rapid expansion of expenditure finance by a ballooning of the public debt — challenged the credibility of non-inflationary monetary policy.

In 1981-2, recession, caused by dramatic monetary slowdown, brought an equally dramatic reduction in the rate of inflation — inflation measured by the GDP deflator fell from over ten percent in 1979 - 81 to the range of two to three percent in 1984-6. However, a consistent monetary regime was not yet in place. Concern about employment and recession stimulated a policy shift to monetary ease that resulted in a substantial increase in inflation (to over five percent) in the late 1980s. Canada — and many other countries — did not yet have a non-inflationary regime firmly in place. On one hand, the Bank of Canada had not established a credible policy stance in the floating exchange rate world, and, on the other, and partially as a consequence, the public continued to hold considerable inflationary expectation. Many Western European economies solved similar regime shift problems — although not without transition problems — by pegging their exchange rate to the German Mark and thus exploiting the credibility of the West Germany monetary regime. Canada, however, eventually achieved the transition by establishing national monetary credibility within a flexible exchange rate regime.²⁰

The final transition remained difficult even after two decades of attempting to establish the new regime. In the past decade the basis ingredients of the successful policy have become apparent. The Bank of Canada and the government had to develop, articulate and demonstrate a clear policy goal of low and stable inflation. Shifting policy goals and inconsistent policy targets had marked Canadian monetary policy in the 1970s and 1980. In 1988 John Crow, Governor of the Bank of Canada, announced that price stability should be the aim of monetary policy. Given the policy and inflation history of the recent past, it is hardly surprising that the credibility of this position took several years to establish. In the meantime, a dramatic reduction of monetary growth from its late 1980s spurt caused a severe recession in Canada in 1991-2. This recession, however, established the new monetary regime. The Bank of Canada did not respond to the recession with excessive monetary expansion and it became clear that the Bank was serious in its non-inflationary position. A key political element in the change occurred in 1991. In the 1991 Budget, the federal government emphasized that although the government had statutory ability of

the government to direct the monetary policy, the Bank would pursue anti-inflationary goals without interference. In addition, the government and the Bank together explicitly accepted a low inflation target.²¹ By 1993, various levels of government in Canada adopted policies to reduce the levels of public debt.

It is undoubtedly too soon to form a conclusive evaluation the flexible exchange rate regime in Canada. Since the early 1990s, the country has successfully operated a non-inflationary flexible exchange rate regime. Canada has retained considerable economic policy independence despite its position as a small open economy vis-à-vis the United States. Monetary policy has succeeded in delivering price stability with the consumer price index generally increasing in by between 1 and 2 percent annually (in the last year or so inflation has increased slightly to around 3 per cent). Critics of the present regime, however, focus on the volatility of the exchange rate with the United States. Since the late 1970s the Canadian dollar has fallen from approximately par with the U.S. dollar to its present value of about \$0.65. The decline has seen three periods of decline and a period of appreciation. A substantial portion of the long term fall occurred between 1977 and 1986 when the value of the Canadian dollar had fallen to about \$0.70. This decline primarily reflected the Canada's greater inflation over the period. The dollar then appreciated sharply in the late 1980s and early 1990s, peaking at about \$0.90 in 1991. This appreciation at least partially reflected a primary product boom and the exceptionally large premium of Canadian interest rates over American rates. There have been two subsequent periods of substantial downward movement. The first occurred between early 1992 and early 1994 and returned the value of the dollar to its level before the sharp appreciation. The rate fluctuated in that region until early or mid 1997 and then dollars value fell to around \$0.65 by mid 1998, a level around which it has fluctuated since. Critics of the current regime feel that the exchange rate has been excessively volatile with detrimental real effects on the Canadian economy and have urged a currency union with the United States.²² Supporters of the current regime, on the other hand, point out that statistical studies indicate that the broad movements in the real exchange rate have

followed relative inflationary experience, interest rate differentials and movements in the world price of Canada's primary product exports. Under these circumstances, the flexible exchange rate has lessened the adverse effect of international shocks on a Canadian economy in which public policy and labour union strength have limited downward wage flexibility.²³

Conclusions

An economy's monetary arrangement face several challenges that are accentuated in economies integrated into international trading relationships. Canada's monetary experience in the twentieth century, particularly the history that has accompanied changes in monetary regimes, illustrates the policy problems that arose from the monetary trilemma. Money involve the potential for national policy activism (potentially either for price level stability or to ameliorate economic fluctuations), but also connects the domestic economy to the wider international economy. A fixed exchange rate facilitates international transactions and integration into global capital markets provides important benefits in mobilizing capital and in portfolio construction. The three goals —independent monetary policy activism, a fixed exchange rate and integration into global capital markets — have, however, proven inconsistent; only two can be realized at a time. The twentieth century's three monetary regimes — each for a time successful represented the three possible combinations of two out of the three goals. The gold standard subordinated domestic policy to international integration. The regime of 'socialism in many countries' elevated national policy independence to the primary goal, maintained fixed exchange rates and restricted financial market integration. The post-Bretton Woods regime has accepted floating exchange rates in order to accommodate financial market integration and national policy independence.

Although each policy regime showed periods of successful operation, the gold standard regime and the 'socialism in many countries' regime both collapsed under pressure from the subordinated monetary goal. To be sure the regimes collapsed under exogenous pressure — the First World War and America's involvement in Vietnam — nonetheless, both the collapses arose from the conflicts from monetary goals. Domestic policy demands undermined the gold standard;

increasing globalization and the international capital market integration that accompanied it undermined the Bretton Woods regime. The regime transitions that followed — the Great Depression and the stagflation years — marked the most difficult monetary periods of the century both because governments took time to learn a new set of consistent policies and because the public had to recognize the changed regime and learn how to respond.

Domestic forces and policies coloured Canada's experience in both transitions, but can equally be seen as largely the impact of international monetary regimes on a small, very open, economy. Canada's resource frontier tied development into the international economy throughout. On one hand, the development of the frontier economy involved international capital movements. On the other, the resource nature of the economy made it subject to idiosyncratic shocks that placed strains on domestic money and the economy and/or the exchange rate. The Great Depression in Canada reflected the dying gold standard. In the fixed exchange rate regime, the collapse of the wartime and post-war primary product boom first brought deflationary pressures to bear. Then, despite early abandonment of official convertibility, private belief in the monetary regime caused the money supply to contract sharply in step with the failing American banking despite the continued stability of banks in Canada. Canada's stagflation at the end of the Bretton Woods regime can be interpreted largely as errors in domestic policy but the resemblance between Canada's experience and events elsewhere indicates systematic forces at work. Floating exchange rates, although in principle freeing domestic policy, initially permitted underlying inflationary tendencies of the previous 'socialism in many countries' regime to surface. In addition, concern about exchange rate levels resulted in continued international spread of inflation. Equally important, establishment of a non-inflationary new regime had to overcome rationally held inflationary expectations on the part of the public. It took two decades of learning and experimentation by both the government and the public to establish the new successful monetary regime. Today, it should not be a surprise that the exchange rate — the currently subordinated monetary goal — should cause anxiety.

Endnotes:

¹ Thomas Sargent (1986) initially emphasized the idea of economic policy regimes in his discussion of rational expectations and particularly in the context of the end of the central European hyper-inflations of the 1920s. Peter Temin (1989) more recently has made the idea of the policy regime and its switch the central theme in his discussion of the Great Depression.

² The phrase, of course, comes from the title of Peter Temin's third lecture on the *Lessons of the Great Depression* (1989).

³ See Obsfeld and Taylor (1998) Bordo (1993) for an extended discussion.

⁴ See Viner (1924) and Cairncross (1953).

⁵ (1992). Also see Redish (1990) and Rich (1988).

⁶ See Freidman (1953) and Mundell (1961) for classic discussions of the merits of flexible and fixed exchange rates.

⁷ Bordo and "Good Housekeeping"

⁸ The massive German borrowing, primarily from the United States during the early 1920s that Carl Ludwick Holtferich (1986) has chronicled depended on investors' expectations of at least partial restoration of the gold value of the Mark.

⁹ Canada lacked a central bank until 1935. The Department of Finance, acting under Finance Act, however, provided elasticity to the money supply and a lender of last resort function, for banks to borrow Dominion notes on the presentation of approved security.

¹⁰ See Bordo and Redish (1988), pp. 118 – 120 and Eichengreen (1992), p. 240 –1 and also Chapter 8 more generally for a discussion of this period.

¹¹ The following section draws heavily on Bordo and Redish (1988).

¹² See Figures 1 and 2, p. 117 in Bordo and Redish, 1988.

¹³ (1988), p. 119.

¹⁴ See Betts, Bordo and Redish (1996) for an econometric investigation of Canada in the Great Depression.

¹⁵ Obsfeld and Taylor (1998).

¹⁶ I know of no comprehensive economic histories of this period. The more detail and political context may be found in Bothwell, Drummond and English (1989) pp. 70-2; 170-6 and 204-14.

¹⁷ For a complete discussion of the collapse of the Bretton Woods regime see Bordo (1993), pp. 74-80.

¹⁸ For detailed discussion see Courchene (1976) and (1981) The phrase is from (1976, p. 261). Canada's early experience with floating rates in the 1970s resembles the history of the floating exchange regime in the 1950s.

¹⁹ This period is discussed in Courchene (1981) and, particularly, Howitt (1986)

²⁰ See Laidler and Robson (1993) and Laidler (1993).

²¹ See Laidler and Robson (1993) Chapter 9 "The Political Aspects of the Price Stability Experiment."

²² These arguments are made by Grubel (1999) and Courchene and Harris (1999).

²³ A clear statement of this view, which is also held by the Bank of Canada, is Laidler and Poschmann (2000).

References:

- Betts, Caroline M., Michael D. Bordo and Angela Redish (1996), "A Small Open Economy in Depression: Lessons from Canada in the 1930s," *Canadian Journal of Economics* 29(1), (Feb.), pp.1-36.
- Bordo, Michael (1993), "The Bretton Woods International Monetary System: A Historical Overview" in Michael D. Bordo and Barry Eichengreen, eds., *A Retrospective on the Bretton Woods system : lessons for international monetary reform* (Chicago : University of Chicago Press)
- Bordo, Michael D.; Rockoff, Hugh (1996), "The Gold Standard as a 'Good Housekeeping Seal of Approval.'" *Journal of Economic History* 56, (June), pp. 389-428.
- Bordo, Michael and Angela Redish (1987), "Why did the Bank of Canada emerge in 1935?" *Journal of Economic History* 47 pp. 405-18.
- Bordo, Michael and Angela Redish (1990), "Credible commitment and exchange rate stability: Canada's interwar experience," *Canadian Journal of Economics* 23 (May) pp. 357-80.
- Bothwell, Robert, Ian Drummond and John English (1989), *Canada since 1945* (Rev. ed. Toronto).
- Cairncross, A. K. (1953), *Home and Foreign Investment, 1870-1913* (Cambridge).
- Courchene, Thomas (1976), *Money, Inflation and the Bank of Canada: An Analysis of Canadian Monetary Policy from 1970 to Early 1975* (Toronto: C.D. Howe)
- Courchene, Thomas (1981), *Money, Inflation and the Bank of Canada Volume II: An Analysis of Monetary Gradualism 1975-80* (Toronto: C.D. Howe)
- Courchene, Thomas J., and Richard G. Harris (1999). "From Fixing to Monetary Union: Options for North American Currency Integration." *C.D. Howe Institute Commentary* 127 (June). 28 pp
- Dick, Trevor and John Floyd (1992), *Canada and the Gold Standard: Balance of Payments Adjustment under Fixed Exchange Rates, 1871-1913* (Cambridge,).
- Eichengreen, Barry (1996), *Globalizing Capital: A History of the International Monetary System* (Princeton).
- Eichengreen, Barry (1992), *Golden Fetters: the gold standard and the Great Depression, 1919-1939*, (Oxford).
- Friedman, Milton (1953), *Essays in Positive Economics* (Chicago: Chicago U. Press), "The Case for Flexible Exchange Rates" pp. 157-203.
- Grubel, Herbert G. (1999), *The case for the amero: the economics and politics of a North American Monetary Union* (Vancouver: Fraser Institute).

- Holtferich, Carl-Ludwick (1986), "U.S. capital exports to Germany, 1919-1923 compared to 1924-1929," *Explorations in Economic History*, 1-32
- Howitt, Peter (1986), *Monetary Policy in Transition: A Study of the Bank of Canada, Policy, 1982-85* (Toronto: C.D.Howe).
- Laidler, David (1997), "Monetary Policy and Inflation Control in Canada: Editor's Introduction" in Laidler, *Where We Go From Here* (Toronto: C.D.Howe) pp. 1-26.
- Laidler, David, and Finn Poschmann (2000), "Leaving Well Enough Alone: Canada's Monetary Order in a Changing International Environment." *C.D. Howe Institute Commentary* 142 (May). 26 pp.
- Laidler, David, and William Robson (1993), *The Great Canadian Disinflation: The economics and politics of Monetary Policy in Canada, 1988-93* (Toronto: C.D.Howe,).
- Mundell, Robert (1961), "A Theory of Optimal Currency Areas" *American Economic Review* (Sept.) pp. 657-65.
- Obsfeld, Maurice and Alan Taylor (1998), "The Great Depression as a Watershed: International Capital Mobility over the Long Run." In Michael Bordo, Claudia Goldin and Eugene White, Eds. *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century* (Chicago). Pp. 353-402.
- Redish, Angela (1990), "Monetary lessons from Canada" *Journal of Monetary Economics* 26 pp. 489-99.
- Rich, Georg (1988), *The Cross of Gold: Money and the Canadian Business Cycle, 1867-1913* (Carlton).
- Sargent, Thomas (1986), "The ends of four big inflations," in Sargent, *Rational Expectations and Inflation* (New York : Harper & Row), pp. 40-109.
- Temin, Peter (1989), *Lessons from the Great Depression*, (Cambridge, Mass.: MIT Press)
- Viner, Jacob (1924), *Canada's Balance of International Indebtedness 1900-1913*. (Harvard)

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