

70 Years of Central Banking: The Bank of Canada in an International Context, 1935–2005

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- *Canada's experience with central banking has unique features, but inflation outcomes in the twentieth century were also affected by global forces.*
- *Canada adopted central banking in the 1930s (relatively late) in response to the economic and, more importantly, political turmoil of the times.*
- *Following World War II, Canada was a pioneer in floating the exchange rate, and success encouraged broader international acceptance of floating rates.*
- *Monetarism was an early weapon in the attack on the inflation engendered by the end of the Bretton Woods system in the 1970s, but had limited success.*
- *Since the early 1990s, "inflation targets" have been seen as crucial to maintaining low inflation.*

On 11 March 1935, the Bank of Canada opened its doors. What did it see? An economy in turmoil and well-wishers from all sides of the political and economic spectrum who believed the Bank could solve their problems. Did it? What did the Bank do? That is too large a question for a 15-minute talk. We will leave aside important questions about the Bank's role in financial stability, currency management, and debt management, focusing instead on the question of monetary policy and, specifically, on the Bank's contribution in an international context: What did central banks in general do over the past 70 years, and where was Canada a notable innovator?

At the beginning of the twentieth century, a monetary orthodoxy had been created, wherein a "developed" country had a monetary unit defined as a given weight of gold and a central bank that managed the note issue and protected the value of the currency. These institutions were challenged by World War I, and especially the debts and reparations that lingered after the war, but the system was more or less re-established in the mid-1920s. By the early 1930s, the exigencies of the Great Depression led many countries to abandon the convertibility of their currency into gold, but this was widely seen as a transitory phenomenon, and a return to some link to gold was anticipated.

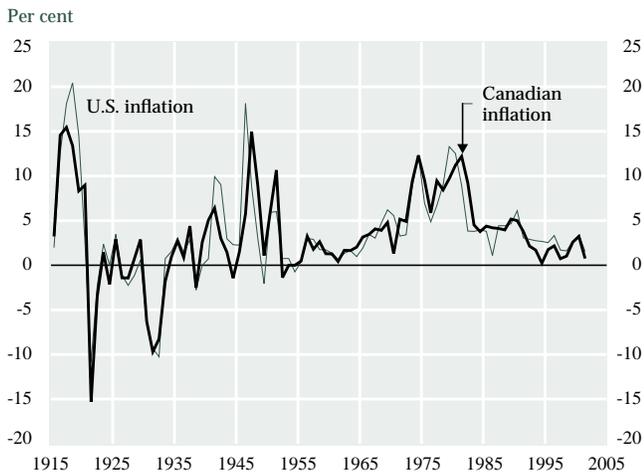
During World War II (what Temin [2002] and others have called the later phase of the second Thirty Years' War), exchange rates and foreign exchange—like many other prices and quantities—were administered by government fiat. At the conclusion of the war, at the famous hotel in Bretton Woods, New Hampshire, delegates from 44 countries designed a new international monetary regime. They established the Interna-

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Chart 1

70 Years of Inflation

(12-month rate of change in the consumer price index, December)



Source: Cansim I: US - D139105; Canada - P100298

tional Monetary Fund (IMF) and the World Bank; countries would gradually open up their current accounts, and currencies would become convertible; the United States—which had in fact banned the holding of gold by private individuals—would maintain the convertibility of the dollar into gold at its traditional parity, and other countries would simply maintain convertibility of their currencies into U.S. dollars, thereby creating indirect gold convertibility. The gold standard that had provided a nominal anchor to the monetary system from the 1880s to 1914 was re-established, but the chain was now rather elastic (Redish 1993).

The Bretton Woods pact finally ended in 1973, when the United States suspended the gold convertibility of the dollar.¹ The subsequent decade is known for the “Great Inflation,” which, in Canada and the United States, peaked at the end of the decade at about 15 per cent (annualized). The early 1980s saw aggressive disinflation in both countries, and inflation rates have stabilized at around 2 per cent in the majority of the G-7 countries since the last decade of the twentieth century.

Where does the Bank of Canada fit into this story? The behaviour of inflation is evidence of the important background fact that there can’t be a completely idio-

1. The United States was following an inflationary policy that was inconsistent with the dollar being the central reserve currency. See Bordo (1993).

syncratic Canadian story—inflation rates, at least, performed more or less the same in Canada and the United States (Chart 1).² However, there can still be an important role played by the Bank of Canada. Perhaps the Bank managed to minimize the negative consequences of inflation and disinflation for the Canadian economy? Perhaps Canadian policy led U.S. policy? Perhaps Canadian policy was implemented more efficiently? Again, we focus on only a piece of the answer, on the half-dozen issues where Canada, for better or worse, was slightly out of step with (ahead or behind!) international experience:

- lack of a central bank in the early years
- the floating rate in the Bretton Woods period
- the explicit monetarism of the mid-1970s
- the adoption of inflation targets in the early 1990s, and
- the implementation of monetary policy with standing facilities in the 1990s.

The Establishment of the Central Bank

The core Western countries operating on the gold standard (e.g., the United States, the United Kingdom) all had central banks that held a monopoly over the note issue and performed, to differing extents, such functions as clearing house, lender of last resort, and central reserve depository. The gold standard, however, operated as a nominal anchor that severely constrained their ability to operate monetary policy.

Canada also held to the gold standard, but without a central bank. Notes were issued by competing private banks and, like central bank notes, were convertible into gold on demand.³ The government did issue a statutorily limited amount of notes in small-denomination (up to \$5) notes, which constituted about 20 per cent of the note issue, and “large legals.”⁴ Both were legal tender and convertible into gold on demand. The government also operated a discount

2. The U.S. data are used because they are easy to find; a more complete graph would have inflation rates for all of the G-7 countries, but the picture would be broadly the same.

3. More correctly, they were converted into legal tender, which included gold coin and Dominion notes (see below).

4. Large legals were Dominion notes in large denominations that were only legal tender between banks and were therefore “theft-proof” and superior to gold as a means of handling reserves. Data for 1913 (McIvor 1958, 67).

window at which the banks could borrow Dominion notes. The association of the chartered banks—the Canadian Bankers’ Association (CBA)—operated the clearing house. While attempts to establish a central bank had been made at various times in Canadian history, the system appeared to function relatively well. So why create a central bank in 1934?

In a previous paper (Bordo and Redish 1987), we argue that the primary reason was political expediency. A variety of constituencies were in favour of a central bank: Western populists wanted to take the power to create money out of the grubby profit-maximizing hands of eastern banks; others believed that a central bank would remove the potential power of money creation from the greedy hands of government. Academic economists argued that a central bank would “manage the currency and credit in the best interests of the Canadian economy” and would provide impartial economic advice to the government, as well as facilitating greater international co-operation and policy coordination (McIvor 1958, 144).

Ironically, one of the strongest arguments traditionally adduced for central banks—that they can be a necessary lender of last resort—was substantially weakened in the early 1930s when one-third of U.S. banks failed, while no Canadian bank did.⁵ The CBA argued against the establishment of a central bank on the grounds that note issue by the private (chartered) banks created elasticity in the money supply that enabled the Canadian system to handle shocks particularly well.

The Bank of Canada was established to satisfy a political desire for government action during the most serious business-cycle downturn Canada had experienced.

Perhaps the critical argument for a Canadian central bank was “national pride.” The 1930s was generally a decade of assertive nationalism: the founding of Trans-Canada Airlines (forerunner of Air Canada), the creation of the Canadian Broadcasting Corporation (CBC), and the passing of the Statute of Westminster

5. We note, however, the argument of Kryzanowski and Roberts (1993) that it is unclear whether this reflected financial soundness or regulatory forbearance.

were three other features of this time. At two major international conferences designed to restore and maintain the international financial system, the International Financial Conference in Brussels in 1931 and the World Economic Conference in 1933, the major powers called on all developed economies to establish a central bank to provide the tools for international coordination. Finally, Prime Minister Bennett, speaking in 1933, declared that he had in fact decided in December 1931 to establish a central bank:

I learned to my surprise that there was no direct means of settling international balances between Canada and London, that the only medium was New York, and the value of the Canadian dollar would have to be determined in Wall Street. I made up my mind then and there that this country was going to have a central bank (Stokes 1939, 65).

The Bank of Canada, then, was established to satisfy a political desire for government action during the most serious business-cycle downturn Canada had experienced. The Bank expected that the gold standard would be re-established, perhaps in an environment of greater international coordination.⁶

Floating in a Sea of Fixed Currencies

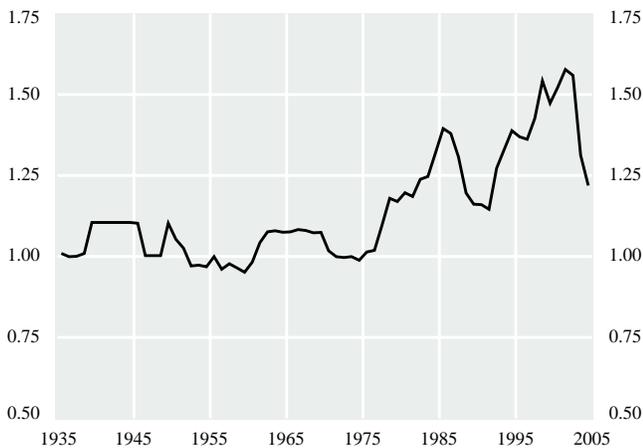
Canada had been an enthusiastic contributor to the Articles of Agreement that established the IMF. Canadian officials had argued that Canada would be a definite beneficiary if a stable system of exchange rates were established after World War II, rather than returning to the somewhat chaotic exchange rate system of the late 1930s, when some currencies were inconvertible and payments were cleared bilaterally rather than multilaterally.

The Canadian dollar was fixed against the U.S. dollar during the war, and in July 1946, was revalued to parity against the U.S. dollar (Chart 2). In late 1949, Canada joined Britain and a number of other countries in devaluing against the dollar, returning to the wartime rate of 90 cents. But through 1950, capital inflows generated by investment opportunities in the resource sector, and accelerated by the onset of the Korean War, led to a significant increase in international reserves. This in turn encouraged speculation that Canada would revalue, generating short-term capital inflow;

6. The Bank of Canada Act required that notes be convertible into gold on demand, with the provision that the government could suspend convertibility if it so desired, which it immediately did.

Chart 2

Price of a U.S. dollar (in Can\$)



Source: 1950 on, Cansim II: V37426 Noon spot rate; December observation
Before 1950, Bank of Canada *Statistical Summary*, various years

in October 1950, the decision was made to float the dollar. The Minister of Finance (speaking in 1952) stated that, “No one could decide with any reasonable assurance what new fixed rate could be maintained. We had no choice but to leave the rate free to find its own level in the market” (cited in Wonnacott 1960, 58).

The decision to float the currency in the absence of either fiscal exigency or financial crisis was possibly without precedent. The government argued—at least as rhetoric for allaying the concerns of the IMF—that the float was a transitory adjustment mechanism rather than the permanent adoption of a fiat money currency.

Surprisingly to some, the float itself was relatively tranquil—at least for the first decade. The Canadian dollar appreciated and by mid-1952 was at a 4 per cent premium relative to the U.S. dollar. It remained in the \$1 to \$1.05 range through the 1950s before depreciating well below parity with the onset of the Coyne Affair in 1961. In that traumatic event in Canadian monetary history, the Minister of Finance requested the resignation of James Coyne, Governor of the Bank since 1955. Coyne initially refused, but resigned six weeks later, after a government bill declaring the governorship vacant was defeated in the Senate. The stability of the currency in the 1950s became a key data point in the debate over fixed vs. flexible exchange rates that raged in the late ‘60s and early ‘70s. Advocates of flexible rates argued that the Canadian experience showed that flexible rates would not necessarily bring the competitive devaluations and currency chaos of the

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With hindsight, there are a couple of caveats: (a) Canada was a small open economy, and (b) was operating in a larger world that had maintained its nominal anchor. The first didn’t require hindsight! Writing in 1935, Lionel Robbins had stated “While it may be quite possible, and not necessarily very harmful to the rest of the world, for small countries acting in isolation to attempt to solve their local problems by such expedients [i.e., flexible exchange rates], their general adoption in the big financial centres can only lead to perpetual confusion and instability” (cited in Wonnacott 1960, 21). Without necessarily buying into the second half of this statement, we can note that what works for a small open economy may not work for a global system.

Extending this argument, it is critical to contextualize the Canadian experience. We now know that having a nominal anchor is a key ingredient for successful monetary regimes. The Canadian experience, which was emphasized as being transitory in nature, and which occurred in a world where the leading currencies were attached (albeit loosely) to gold, was not able to provide evidence about the need for a nominal anchor. Thus, when flexible rates were widely adopted in the 1970s, it took time to develop monetary stability.

Monetarism

The 1970s have become known as the decade of the “Great Inflation,” and Canada, like many other countries, including the United Kingdom and the United States, experienced unprecedentedly high rates of inflation. Today, the causes and sources of the inflation are hotly debated, with blame being variously attributed to oil shocks, poor data, or poor economic models. In 1975, the rate of inflation in the Canadian consumer price index (CPI) hit 14 per cent, and the Canadian government responded. The government adopted

wage and price controls, and the Bank adopted monetarism as an anti-inflation policy. Monetarism in its purest form is associated with the *k* per cent rule proposed by Friedman (1960). He argued that the combination of the lags in policy-making, the imperfect information available to policy-makers, and the potential expediency of policy implied that countries should adopt constitutional amendments that required a monetary aggregate to grow at a fixed rate annually, that rate being something like 5 per cent.⁷

The end of the Bretton Woods system led many countries to search for a nominal anchor—a clear target for monetary policy—and as inflation rose, many adopted variants of this monetarist prescription. The Bundesbank targeted reserves; the Bank of England targeted sterling M3; the Bank of Japan announced forecasts for M2 beginning in 1978 (Bernanke and Mishkin 1992). In the United States, the Federal Reserve announced targets for three monetary aggregates, but appeared to be more interested in monitoring monetary growth than targeting it. Bernanke and Mishkin argue that Fed policy was not particularly restricted by monetary targets before Volcker's announcement of a new commitment to combatting inflation in October 1979.⁸ The Bank of Canada targeted M1 and chose a gradualist approach, starting with a target growth range for M1 of 10 to 15 per cent, and then over time lowering the range to 8 to 12 per cent and then 4 to 8 per cent. Relative to the Fed, the Bank was much more committed to the monetarist rhetoric, at least in the '70s.⁹

But the monetarist experiment was not a success. After an initial pause, undoubtedly helped by wage and price controls, inflation returned to double-digit levels, despite a growth rate of M1 that was less than the target rates for most of the 1975 to 1980 period. Essentially, a potent combination of very high nominal interest rates, reflecting inflationary expectations, and the diffusion of computing power dramatically reduced the demand for demand deposits.¹⁰ Households switched from demand deposits to daily-interest chequing accounts (which legally allowed the banks

to claim "notice" of withdrawals so were not demand deposits), while firms used sweeps to minimize their overnight balances.¹¹

In November 1982, arguing that "the targets abandoned us," the Bank officially ended M1 targeting. Yet Chart 1 shows that, by 1983, inflation had been, if not vanquished, at least brought under control. What ended the Great Inflation of the 1970s? There was no clear replacement for the policy target, and indeed there would be no new paradigm until the introduction of inflation-targeting in the early 1990s. The general consensus is that the Bank of Canada piggybacked on the U.S. anti-inflation policies by adopting an implicit exchange rate target. As the United States raised interest rates, and the U.S. dollar appreciated, Canada chose to follow U.S. rates up. The result was a negative rate of real money growth (M2), a 4 per cent decline in real gross domestic product (GDP), and a fall in inflation from 12.5 per cent in 1981 to 5.8 per cent in 1983.

Inflation Targets

In February 1991, the Minister of Finance and the Bank of Canada jointly announced that the Bank would target the CPI inflation rate.¹² At the time, the inflation rate was close to 6 per cent, and an initial target of 3 per cent for the end of 1992 (to be gradually reduced to 2 per cent by 1995) was announced. Inflation targeting has been broadly successful. Whereas in past decades monetary policy has been controversial and has generated heated debate in the literature, today, there is broad acceptance—possibly disinterest—amongst Canadians about the conduct of monetary policy.

Ironically, it was Governor Bouey who (in 1982) spoke of "finding a place to stand," because that is precisely what inflation targeting has provided. But it is important to remember what inflation targeting isn't. Inflation targets are not necessary to cause disinflation, or even to stabilize inflation; as noted earlier, the United States has a similar inflation history without explicit inflation targets. Inflation targets were not involved either in the end of the Great Inflation of the '70s, a much more critical anti-inflation step. Nor is there much evidence that they made the decline in inflation less expensive in terms of unemployment (Laidler and Robson 1993, 137). It should also be emphasized—as

7. That is, a rate that if accompanied by real growth of 3 per cent per year and a fall in velocity of 2 per cent per year would yield price stability.

8. Paul Volcker became Chairman of the Federal Reserve Board in August 1979.

9. See Bernanke and Mishkin's conclusion that the rather haphazard schedule for announcing new targets, and their base periods, implied a lack of commitment.

10. Freedman (1983, 103) notes that "Unlike the situation in the United States, deregulation played absolutely no role in the developments in either the household or the corporate sector." See also Courchene (1983, 37–51).

11. The differential reserve requirements (3 per cent for notice deposits, 10 per cent for demand deposits) were undoubtedly a factor in the banks' strategy. See Courchene (1983, 44).

12. The Bank of Canada was not the first central bank to adopt inflation targets. The Reserve Bank of New Zealand adopted them in March 1990.

the Bank has on many occasions—that inflation targeting is not inconsistent with a concern for employment (as required by the Bank of Canada Act).

What is inflation targeting? As conducted in Canada, it is an explicit commitment by the Bank of Canada to orient policy to attain a particular rate of growth of the CPI, currently 2 per cent. The tools that the Bank uses to attempt to attain that goal include (a) using a projection model to determine what overnight interest rate would be consistent with a 2 per cent inflation rate within 8 quarters, and setting the target for the overnight rate at that level,¹³ and (b) a communications strategy. There was a dramatic change in the transparency of monetary policy between 1994 and 2000. This is probably most starkly put by noting that, in 1994, individuals in the economy had to guess that the Bank had changed its monetary policy stance—there was no announcement. For example, Laidler and Robson (1993, 77) describe how “students of the Bank of Canada’s actions” may want to look at the spread “between overnight rates and the yields on such money market securities as T-bills” as an indicator of the stance of monetary policy. There were no announcements; there was no *Monetary Policy Report (MPR)*; the market would learn that the Bank’s policy had changed because the Bank was intervening at a different rate than yesterday morning.

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Have we come full circle? Have we just switched anchors? At the beginning of the twentieth century, the gold standard provided a nominal anchor for the monetary system, and central banks were seen as handmaidens to the gold standard, which could ease necessary adjustments and facilitate international co-operation. There is a broad congruence—inflation

13. In the language of Courchene (1976), the instrument of monetary policy is the overnight rate, and the intermediate target is the forecast of the inflation rate.

targets provide a visible, comprehensible characterization of the monetary regime—but there are definite limits to the parallels.

- The gold standard evolved over centuries, and its credibility reflected that history.
- The gold standard was, in an important way, an automatic system; inflation targets require greater skill.
- The gold standard was closer to a price level than inflation targets, since it did not incorporate base drift.
- Most significantly, the gold standard was an anchor that could shift arbitrarily (with gold discoveries or any changes in demand and supply to gold), and that imposed real resource costs; fiat money avoids these disadvantages.

Implementation of Monetary Policy Using Standing Facilities

The mechanisms for implementing monetary policy have evolved gradually over the decades, but the changes in the 1990s were sufficiently important that they merit special mention. These changes include:

- the phase-out of reserve requirements (1992–94)¹⁴
- the shift from focusing on the 3-month treasury bill rate to setting a 50-basis-point (bp) range for the overnight rate (mid-'94), implemented by manipulating the supply of settlement balances using changes in the amount of government funds on deposit and open-market operations
- first issue of the *MPR* (May 1995)
- setting the Bank Rate as the top of the target range for the overnight rate (rather than having it tied to the T-bill rate) and issuing press releases to announce changes in the target (February 1996)
- introduction of the Large Value Transfer System (LVTS) in February 1999 (see below)
- introduction of “fixed dates” for announcing monetary policy decisions (December 2000).

14. This change—the reduction of the required reserve ratio to zero—was less radical than it might appear. By the mid-1990s, the high demand for currency to stock automated teller machines, which also, of course, could be used to satisfy reserve requirements, combined with the stagnant demand for demand deposits, meant that the existing ratio was barely binding.

In the 1990s, the majority of large economies moved from a deferred net settlement system to a real-time gross settlement system, primarily to give real-time finality to large payments and to reduce systemic risk. In Canada, the LVTS came on-line in 1999, and at the same time the Bank also began paying interest on settlement balances. Direct clearers (mainly the large banks and non-bank financial institutions) now operate in an environment where the Bank provides (a) an infinitely elastic supply of settlement balances (collateralized) at the Bank Rate (defined as 25 bp above the target for the overnight rate), and (b) an infinitely elastic demand for deposits paying interest at the target overnight rate less 25 bp. The spread (which far exceeds the bid-ask spread on overnight loans of about 10 to 12 bp) is wide enough to encourage participants to use the market for overnight funds rather than the Bank's facilities.¹⁵

The net effect of the elimination of reserve requirements, the introduction of the LVTS, and the establishment of standing facilities for overdrafts and deposits has been to streamline the operation of monetary policy. The overnight rate stays very close to the target—far closer than in the United States for example (Woodford 2000), and the reserve tax that led to a distortional wedge between financial institutions (banks and others) and between different liabilities of the same institution (demand deposits and notice deposits) has been eliminated.

Conclusion

The Bank of Canada has been in operation for just over 70 years and has seen dramatic changes in the Canadian economy, in the structure of international finance, and in the nature of money. The change in the balance sheet of the Bank between March 1935 and March 2005 (Table 1) highlights some of the changes: the absence of gold on the asset side and the absence of bank reserves—or today's equivalent, deposits made by members of the Canadian Payments Association (CPA)¹⁶—on the liability side. Yet, as noted earlier, there is also remarkable continuity in its mission.

The current monetary situation would appear to be as calm as any that the Bank has experienced, but we

15. On a typical day, the average overnight rate is quite close to target, and use of the two facilities is limited.

16. CPA member deposits were less than \$1 billion in 2005.

Table 1

Balance Sheet of the Bank of Canada

	March 1935 \$ millions	March 2005 \$ billions
Assets		
Gold	106	
Government securities	152	42.9
Miscellaneous	11	0.9
Total	269	43.8
Liabilities		
Notes in circulation	45	
Notes in chartered banks	51	
Bank deposits	149	
Notes (including \$3 billion in banks)		41.7
Government deposits		1.4
Miscellaneous	24	0.7
Total	269	43.8

Note: The ratio of Bank of Canada assets to gross domestic product was 6 per cent in 1935, and 3 per cent in 2004.

Source: Bank of Canada *Statistical Summary*; and Bank of Canada website

should beware of complacency. The history of the Bank is one of being buffeted by both sharp crises and slower-moving evolutionary forces. One hundred years ago, in 1905, the gold standard was working smoothly, and the Canadian economy growing robustly. But the financial crisis of 1907, and the cataclysm of 1914, were not far distant. It is, of course, difficult to foresee the particular direction from which threats to the stability of the monetary system may come, but that they will come cannot be in doubt.

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In the meantime, the environment in which the Bank operates continues to evolve, and the forces of globalization and technological change (and the nature of the state), which have driven the evolution of central banking, will largely determine the look of the Bank in another 70 years.

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