

Research Department
Federal Reserve
Bank of
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Canadian Targets

The United States has not been alone in its attempt to reduce inflation by slowing monetary growth, specifically by attempting to hit numerical targets for the growth of the money supply. At least several of the major foreign central banks shifted to monetary-aggregate targeting within the past decade, especially after the adoption of flexible exchange rates in 1973. Canada's experience in particular deserves close scrutiny because of the general similarity of the Canadian and U.S. financial structures. More importantly, Canada has been quite successful in reducing money (M-1) growth over time, yet it has lost ground against inflation in recent years. This article examines Canada's attempt to use money targeting to contain inflation, and what its attempt might mean for other countries.

Choice of M-1

The Bank of Canada targets M-1 (cash and *non-interest bearing* checking accounts) because of empirical evidence showing a fairly stable long-run relationship between M-1 growth and nominal GNP growth. It has also favored that measure because of its generally predictable relationship to the level of short-term interest rates. The Bank believed that, by operating on the demand for money through interest rates, it could influence the direction of M-1 and (eventually) the growth of nominal GNP.

Prior to October 1979, the Federal Reserve also employed the Bank of Canada's operating procedure of using interest rates to control the money supply. (Since October 1979, the Federal Reserve of course has emphasized control over bank reserves, rather than interest rates, as a means of achieving greater control over the monetary aggregates). The Bank of Canada chose its operating instrument, however, because of a desire to avoid destabilizing fluctuations in interest rates. In its view, increased interest-rate volatility could produce increased exchange-rate volatility, which could then add to domestic infla-

tionary pressures—since a depreciated dollar (but not an appreciated dollar) would affect cost-of-living adjustments. Also, the Bank felt that interest-rate volatility could lead to higher risk premiums in long-term bond yields, which could then lead to a reduction in capital formation.

Limitation of targeting

The Bank of Canada initiated money-growth targeting in November 1975, when it set an annual target range of 10 to 15 percent for the M-1 aggregate. Since that time, it has lowered the target range on five separate occasions to the present range of four-to-eight-percent annual growth. The Bank has been largely successful in reducing money growth over this period, and in fact has been able to hit the midpoint of the M-1 target quite closely (see chart).

However, this pinpoint accuracy is somewhat deceiving, because the Bank of Canada will only revise monetary targets downward when the trend rate of M-1 growth has stabilized near the midpoint of the current target range. This practice may appear somewhat arbitrary, but it has the distinct advantage of reducing money growth carry-over from one target period to the next. This can arise if the monetary authorities act aggressively near the end of the target period to hit the numerical targets, thus producing inappropriate money growth at the beginning of the subsequent target period. The money-growth spill-over problem faces the Federal Reserve and other central banks who uniformly use the end of each calendar year as the designated endpoint when setting growth targets.

More importantly, Canadian practice has differed from American practice because of the Bank of Canada's occasional shift in priorities from monetary targeting to exchange-rate targeting. In other words, the Bank of Canada sometimes has concentrated on stabilizing the exchange rate by maintaining a constant

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interest-rate differential between Canadian and U.S. rates. In March 1982, for example, Canadian M-1 fell by 2.3 percent below the September 1980 base-period level, and it is now considerably below the four-to-eight-percent target range. This reflects such factors as a four-percentage-point increase in Canada's official discount rate over that period. Despite the occasional shift in emphasis from monetary to exchange-rate factors, the Bank of Canada has been largely successful in reducing M-1 growth over the past half-dozen years. Still, some critics believe that the Bank's emphasis on exchange-rate targets may have undermined public confidence in its overall monetary policy.

Inflation and demand shift

Despite the deceleration in money growth, however, Canadian inflation has actually accelerated in recent years. In 1981, for example, the inflation rate hit 12.5 percent—higher than in any year since 1971. The persistence of high inflation thus has led to a torrent of criticism against the Bank of Canada's policies. In this view, the Bank of Canada's reduction in money growth—instead of causing a decline in the inflation rate—actually produced a systematic downward shift in the demand for money.

According to this argument, the reduced money growth raised domestic interest rates to historically high levels, and this provided the impetus for banking innovations which permitted Canadian firms to economize on their transaction balances. Specifically, Canadian chartered (commercial) banks under certain conditions began automatically to transfer surplus demand deposits into overnight interest-bearing deposits. The proliferation of such cash-management services reduced the need for transaction balances, so that previously estimated money-demand functions produced overestimates of the demand for such balances. Thus, the Bank of Canada's monetary policy apparently was less restrictive than would be implied by the downward trend in M-1 growth:

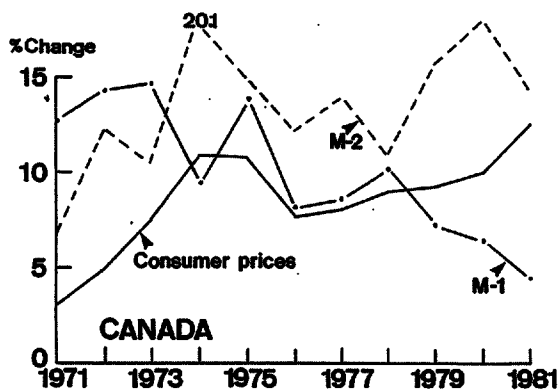
The Bank of Canada recognized that the nation's poor inflation performance may have reflected this factor, as well as other special factors such as the sharp rise in oil prices during the 1970's. In its 1979 annual report, the central bank said, "Innovations in banking practices... have contributed significantly to the relatively low rate of growth of M-1—a rate that understates the effective growth of M-1." Because of the growing use of cash-management services by major Canadian corporations, "It appears in retrospect that monetary policy would have been better if there had been a more rapid reduction of M-1 growth rates during 1975 to 1977."

M-2 versus M-1

In Canada, a different choice of monetary aggregate perhaps could have given a better indication of the degree of monetary restraint. Indeed, Canadian M-2 growth has shown little, if any, deceleration in the past six years, which may help explain the continued high inflation rate in that country. Moreover, the velocity of M-2 has remained fairly stable as compared to the upward trend in M-1 velocity.

These developments led critics to suggest that the Bank of Canada should have chosen the broader M-2 monetary aggregate, rather than M-1, in its monetary targeting. The central bank's preference for M-1, at least in part, stems from its desire to use interest rates as an operating instrument. In this regard, M-1 growth is much more amenable to an interest-rate targeting procedure than M-2, which incorporates a wide range of interest-bearing deposits.

Critics argued that the Bank of Canada could have imposed regulations to limit the growth of M-2—as, for example, Great Britain did by imposing restrictions on the growth of banks' interest-bearing eligible liabilities (IBER's). If for example, the growth of their IBER's exceeded a certain percentage each month, U.K. banks were required to place non-interest bearing deposits with the Bank of England.



Whenever banks reached these official limits, they found it increasingly unprofitable to compete with other financial institutions for funds, producing disintermediation away from the banking system. However, this in turn contributed to a breakdown in the relationship between the inflation rate and U.K.'s broad monetary aggregate.

Lessons of Canadian experience

High and volatile interest rates, coupled with advances in computer technology, have prompted Canadian banks to develop cash-management services which allow firms to economize on transaction balances. In an analogous sense, the Federal Reserve found a similar downward shift in U.S. M-1 money demand as a consequence of an upsurge in cash-management services. Monetary control has become more difficult, however, because of these ongoing structural changes in the demand-deposit component of M-1. Still, both the Bank of Canada and the Federal Reserve remain firmly committed to monetary-aggregate targeting, and to the control of M-1 in particular.

Both central banks tend to believe that shifts in the (M-1) money-demand function can be offset by adjustments in target-growth ranges. The Bank of Canada noted one such factor when it lowered the M-1 target range to four-to-eight percent in early 1981. It argued that a reduction in M-1 targets was warranted at that time because daily-interest savings accounts (included in M-2) had grown partly at the expense of balances previously held in household personal-checking accounts.

Similarly, the U.S. probably also experienced a downward shift in M-1 demand in recent years because of the increasing importance of money-market mutual funds (included in M-2) and other cash-management innovations. Indeed, this is a major reason why the Federal Reserve permitted M-1 growth to fall below its target range last year, at a time when

M-2 growth slightly exceeded the upper boundary of its target range.

The Canadian experience suggests the wisdom of looking at more than one money-stock definition to gauge the tightness or ease of monetary policy. In the 1975-81 period, the Bank of Canada's monetary policy was not nearly as restrictive as the deceleration in M-1 growth had indicated. By contrast, Canadian M-2 growth showed little or no deceleration over this period—a pattern consistent with the persistence of inflation. Further evidence favoring multiple aggregate targeting is supplied by the Bank of England's recent abandonment of sterling M-3 as the sole indicator of monetary policy. This move was prompted by the failure of the chosen monetary indicator, sterling M-3, to track U.K. employment and output losses during the 1980-81 period. If nothing else, the Canadian and U.K. experiences suggest that the Federal Reserve should continue its policy of setting policy based on several monetary aggregates instead of relying on one money stock measure alone.

In addition, the Canadian experience undermines the argument that incentives for financial innovation will disappear in this country as interest-rate ceilings are phased out, as they are scheduled to do under the terms of the Monetary Control Act of 1980. In Canada, chartered-banks' deposit rates remained freely competitive with money-market rates, and consequently the Canadians did not develop a market for repurchase agreements as the Americans did. Nonetheless, Canada has experienced serious monetary-control problems arising from financial innovations. This suggests that financial innovations would have occurred—even in the absence of interest-rate ceilings—in U.S. financial markets, because of such factors as high interest rates and advances in computer technology.

—Kenneth Bernauer

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding	Change from 5/26/82	Change from year ago	
			Dollar	Percent
Large Commercial Banks	6/2/82	5/26/82		
Loans (gross, adjusted) and investments*	159,850	478	10,597	7.1
Loans (gross, adjusted) — total #	139,130	553	11,813	9.3
Commercial and industrial	43,865	301	6,091	16.1
Real estate	57,198	71	4,790	9.1
Loans to individuals	23,329	25	383	1.7
Securities loans	2,026	172	446	28.2
U.S. Treasury securities*	6,246	68	150	2.3
Other securities*	14,474	143	1,045	6.7
Demand deposits — total#	42,119	4,883	194	0.5
Demand deposits — adjusted	26,317	169	2,327	8.1
Savings deposits — total	31,164	698	808	2.7
Time deposits — total#	95,246	49	14,133	17.4
Individuals, part. & corp.	85,530	198	14,059	19.7
(Large negotiable CD's)	35,656	103	3,860	12.1
Weekly Averages of Daily Figures	Week ended 6/2/82	Week ended 5/26/82	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	65	97		83
Borrowings	98	23		84
Net free reserves (+)/Net borrowed(-)	- 33	74		- 2

* Excludes trading account securities.

Includes items not shown separately.

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