

COSTS AND BENEFITS OF EXCHANGE RATE STABILITY: CANADA'S INTERWAR EXPERIENCE

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In January 1929, the Canadian government suspended gold exports and implemented a floating exchange rate regime that endured until the onset of World War II. In sharp contrast to the experience of other countries that left the gold standard, Canada's deflation and declining economic activity continued until 1933. This paper examines why the Canadian government chose to follow a restrictive monetary policy and how that policy affected the Canadian exchange rate. We show that the chosen policy was rational—given the government's assumptions and objectives—and that it was consistent with fiscal policy. In so doing, we argue that the government's commitment to monetary stability was credible. We show that one can explain the Canadian exchange rate's behavior by a simple expectations-based model of exchange rate determination, given external events and the government's monetary policy.

I. INTRODUCTION

The experience of the Canadian economy during the Great Depression was unique in several ways. Like many small open economies, Canada abandoned the gold standard at the onset of the Depression. But unlike most of these (e.g., Argentina and Australia), Canada allowed neither the exchange rate to depreciate nor prices to rise. Canada allowed concern for its standing among international creditors to dominate domestic economic concerns. Other nations gave domestic economic concerns precedence over depreciation and permitted a partial default on foreign liabilities (Eichengreen and Portes, 1987). The Canadian government adopted a restrictive monetary policy, acting as if it were still bound by gold standard rules.

This paper examines both why the Canadian government chose to follow a restrictive monetary policy and how that policy affected the Canadian exchange rate. We show that, given the government's

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assumptions and objectives, the chosen policy was both rational and consistent with fiscal policy. Thus, we argue that the government's commitment to monetary stability was credible. We also show that, given external events and the government's monetary policy, one can explain the Canadian exchange rate's behavior by a simple expectations-based model of exchange rate determination.

In the remainder of this section, we describe more carefully the Canadian exchange rate's actual behavior. In section II, we describe the Canadian financial system as it existed during the late 1920s and the 1930s. Then, in section III, we examine the costs and benefits of the government's commitment to monetary stability. Section IV incorporates our analysis of government behavior into an explanation of the Canadian dollar's behavior. The concluding section summarizes our results and suggests implications for contemporary economic policy.

Figures 1 and 2 show the behavior of the Canadian dollar. Figure 1 shows the behavior of the Canadian dollar–British pound exchange rate and the Canadian dollar–U.S. dollar exchange rate. All three countries were on the gold standard in 1928, when the exchange rates were C\$4.86=£1 and C\$1=U.S.\$1. The figure shows that between January 1929—when Canada suspended the gold standard (see section II)—and September 1931, the Canadian dollar remained at or very near the gold standard parity. In September 1931, Britain abandoned the gold standard. Figure 2 shows that the pound depreciated by about 30 percent with respect to the U.S. dollar and that gold—that is, the price of an ounce of gold—rose from approximately £4.25 to £5.50. The Canadian dollar price of gold also rose but by less, reflecting a depreciating Canadian dollar with respect to the U.S. dollar and an appreciating Canadian dollar with respect to the pound. In March 1933, the U.S. also abandoned its traditional parity of \$20.67 per ounce of gold. The price of gold then rose gradually from \$20.67 to \$35.00 between March 1933 and January 1934. Figures 1 and 2 show that after 1934, all three currencies had depreciated against gold to about the same extent. Thus, the Canadian exchange rate, with respect to both currencies, had returned to approximately the gold standard parity.

Our analysis of exchange rate behavior focuses particularly on why the Canadian dollar did not depreciate before October 1931 and why the Canadian dollar appreciated with respect to sterling between October 1931 and March 1933. We suggest that the answers lie with the macroeconomic policies that the government pursued over the period.

FIGURE 1
 Exchange Rates, Canada/USA, Canada/UK, 1928 = 100
 Monthly, Seasonally Adjusted

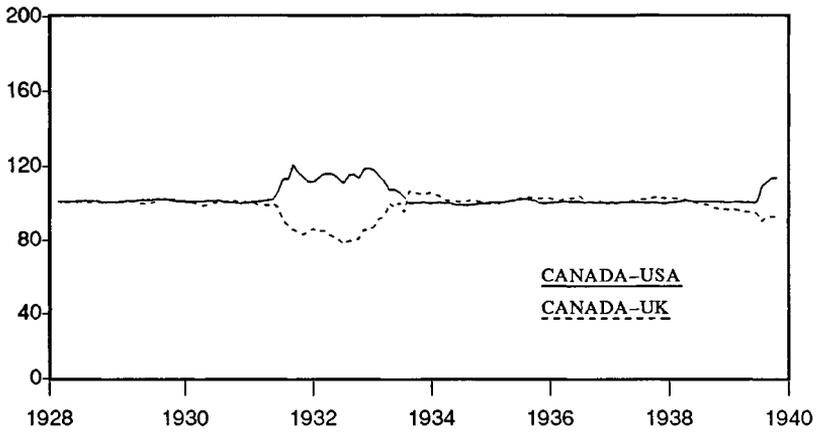
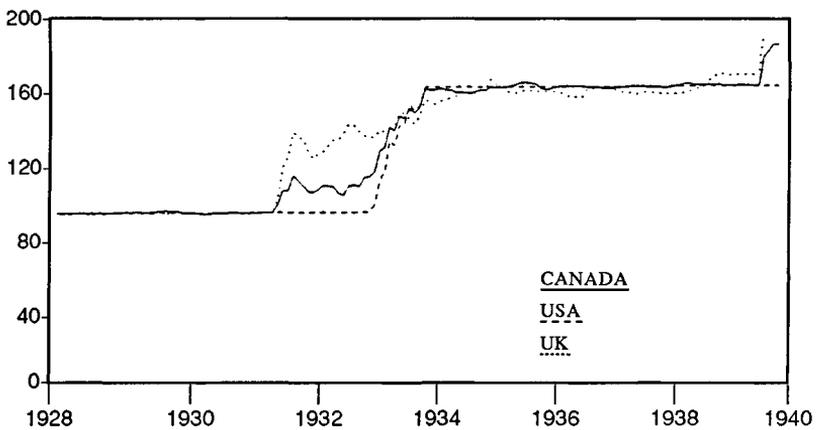


FIGURE 2
 Price of Gold, 1928 = 100
 Monthly



II. CANADIAN FINANCIAL INSTITUTIONS

Canada returned to the gold standard in 1926 following a 12-year suspension that began with the onset of World War I. The circulating money stock at that time was composed of gold and subsidiary coin in the hands of the public, government-issued Dominion notes in the hands of the public, and commercial bank-issued notes and deposits.

Dominion notes were Canadian government-issued notes that were convertible on demand into gold coin. They were issued under two pieces of legislation: the Dominion Notes Act and the Finance Act. The Dominion Notes Act permitted the government to issue \$63.5 million notes with a 25 percent gold reserve, with all notes exceeding \$63.5 million backed 100 percent by gold. Legislation of this type was first passed in 1870 and had since been amended to raise the limit from \$9 million to \$63.5 million. The second authority for note issue—the Finance Act—permitted the government to lend Dominion notes, with no reserve requirements, to chartered banks pledging appropriate collateral. These loans were made at the Finance Act discount rate. The Dominion Notes Act of 1870 also granted the government a monopoly on issuing notes less than \$5 in value. By the 1920s, the Dominion notes outstanding were mostly small notes in the hands of the public and large-denomination (\$50,000) notes that the banks used as reserves.

The banking system comprised 10 chartered banks, each with many branches. The banks issued notes and held demand deposits and time deposits. The banks' liabilities were not subject to reserve requirements, though banks had to hold 40 percent of their reserves in the form of Dominion notes. Bank liabilities were not legal tender. If a bank could not redeem its demand deposits and notes on demand in gold or Dominion notes, it risked losing its charter.

Because of the highly concentrated nature of the banking system—the three largest banks held 75 percent of the system's assets—close cooperation among individual banks was possible. This was facilitated by the Canadian Bankers' Association (CBA), an organization involved primarily in educating bank officers. The CBA also ran the clearinghouse and, by an amendment to the Bank Act in 1901, the government recognized the CBA as "an agency for the supervision and control of certain activities of the banks" (Watts, 1972, p. 18).

In late 1928, the government failed to raise the Finance Act discount rate to a level comparable with that of the New York market. This led to a dramatic decline in the government's gold reserves. The banks borrowed Dominion notes from the Finance Department, made the government convert them into gold, and then

exported the gold to invest in the New York market. The government's declining reserves forced it to react, and the Minister of Finance used moral suasion to stop the Canadian banks from exporting gold. From early 1929 until the formal embargo on gold exports on October 19, 1931, gold exports were halted by this informal arrangement. Frank Knox (1939, p. 20), the leading historian of this period's policy, noted that "the price of foreign exchange was free to vary according to conditions in a free market."

Suspension of the gold standard, both before and after 1931, was an awkward arrangement. Banks were required to convert their liabilities into Dominion notes at all times. Convertibility of Dominion notes into gold was not suspended until 1933. However, the government argued that because gold coin could be neither exported nor melted down, individuals would be no better off if they received gold than if they received Dominion notes. And the government, in fact, refused to redeem Dominion notes in gold.

In this paper, we argue that the government's credible commitment to a stable monetary policy was the critical determinant of the Canadian exchange rate during the 1930s. Canada's unique financial institutions suggest two alternative hypotheses: (1) that the banking sector's oligopolistic nature had a significant impact on the stock of money, or (2) that the absence of a central bank impeded the practice of monetary policy.

First, the Canadian banks were a tightly knit group and could have operated as a collusive monopoly. Had the government been willing to lend reserves under the Finance Act at a fixed nominal discount rate, the banks could have increased their liabilities. The theory of a seignorage-maximizing money issuer suggests that the banks would have been able to profit greatly from inflation (Bailey, 1956, pp. 93-110). This theory assumes, however, that the inflation would have been permanent. We argue that 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. This could be done only by redeeming the liabilities in gold before returning to the gold standard. The banks' inflationary policies would have raised the value of gold, however, and the required gold purchases would have eliminated most of the potential seignorage gain. Thus, given their expectations of government policy, the banks had little incentive to generate an inflationary monetary expansion.

The banks' potential profit clearly depended on the discount rate's remaining fixed. The government's refusal to raise the discount rate in 1928 and in early 1929 raises this possibility, but the Department

of Finance's stance apparently had changed by mid-1929. A letter from the Minister of Finance to the CBA President in August 1929 contained a copy of a memo—prepared by the Department of the Finance for the House of Commons—stating that the Department was willing to control the banks by changing the discount rate:

If the Treasury should at any time feel convinced that Dominion notes issued to banks against securities are being used other than for the purpose for which they are issued, the rate of interest charged the banks for such issues will be raised to a rate which will prohibit such misuse (Archives of the Bank of Nova Scotia No. 69-52, Sec. 1, File 84 "Gold" Memorandum on Exchange and Gold Reserves and Operations of the Finance Act, 1914).

The second alternative explanation for the Canadian exchange rate's surprising behavior during the 1930s is the absence of a central bank. One could argue that Canada lacked the institutions to affect a depreciation of the exchange rate. Two arguments oppose this hypothesis. Although no central bank existed in Canada, the main functions of a central bank were provided by alternative institutions. For example, the CBA operated a clearinghouse and the Department of Finance operated a discount window. Lack of a central bank would not have prevented the government from altering the discount rate or "printing money."

Comparing the exchange rate's behavior before and after the Bank of Canada began operations in 1935 provides more compelling evidence that lack of a central bank was not the critical determinant of such behavior. Elsewhere, we have estimated univariate and bivariate models of the Canadian exchange rate, money stock, and price level (Bordo and Redish, 1987a, pp. 405–418) and found that "the introduction of the Bank of Canada did not alter the money supply process in Canada, and did not affect the evolution of the key nominal variables in the economy" (p. 414). In that paper, we argue that the Bank of Canada was instituted in a response to political repercussions of the Great Depression, and that the Bank concerned itself with no macroeconomic policy other than debt management during the 1930s.

Canadian financial institutions were unusual—i.e., no central bank and an oligopolistic chartered bank system—yet the evidence suggests that these characteristics were not the determining factor in the behavior of the exchange rate.

III. THE GOVERNMENT'S POLICY DECISION

In early 1930, the government vowed to maintain the exchange rate at its traditional parity and not to expand the money stock by

either issuing unbacked Dominion notes or reducing the gold backing of the notes. The government gave three reasons for this policy:

(1) The potential benefits of depreciation/monetary expansion, in terms of reduced unemployment, were uncertain (see House of Commons, *Debates*, 3rd session, 17th Parliament, p. 650).

(2) A depreciation would increase costs of servicing the foreign currency-denominated debt (see House of Commons, *Debates*, 1st session, 17th Parliament, p. 78).

(3) Monetary expansion would cause a flight from the dollar (see House of Commons, *Debates*, 4th session, 17th Parliament, p. 3208).

Responding to frequent questions from members of the radical United Farmworkers of Alberta, the government reiterated its policy in the House of Commons. This was widely reported in the newspapers, so that the government's views were well known. Whether the government's policy commitment was credible, however, depended on (1) whether the public perceived the policy as reflecting the government's self-interest and (2) the extent to which it was compatible with other government policies. As table 1 shows, the government ran a budget surplus until 1931 and then ran a deficit. The calculations have not been performed for Canada, but it seems likely that the Canadian government—like the U.S. government (Brown, 1956, pp. 857–879)—ran a budget surplus on a full-employment basis throughout the Depression years. Thus, the government's fiscal policy was consistent with a tight monetary policy.

We examine each of the government's arguments against monetary expansion/depreciation below.

A. *Depreciation and Economic Recovery*

Considerable evidence now exists that countries that depreciated their exchange rates early in the 1930s enjoyed a more rapid economic recovery than did those that maintained fixed exchange rates (see Eichengreen and Sachs, 1986, pp. 925–946). In 1931, however, the Leader of the Opposition, W. L. McKenzie King, reflected popular opinion:

This is a matter which is giving rise to a great deal of study on the part of the most thoughtful economists and the most earnest of social reformers and workers, and there is at the present time no general consensus of view which one can say is accepted (House of Commons, *Debates*, 2nd session, 17th Parliament, p. 2669).

TABLE 1
Government Expenditures and Revenues

	1928/1929	1929/1930	1930/1931	1931/1932	1932/1933
Expenditures					
Interest	124.989	121.566	121.289	121.151	134.999
Ordinary	225.963	236.213	268.269	254.252	223.529
Special	5.998	13.570	17.831	55.959	96.892
Total	356.950	371.349	407.389	431.362	455.420
Revenues					
Import Duties	187.206	179.429	131.208	104.132	70.072
Excise Duties	63.684	65.035	57.746	48.654	37.833
Sales Tax	83.007	63.409	34.734	59.606	82.191
Income Tax	59.422	69.020	71.048	61.254	62.066
Other Ordinary	62.144	64.518	54.851	56.063	54.474
Other Special	5.476	4.540	6.622	7.028	4.492
Total	460.940	445.952	356.210	336.737	311.129
Balance	103.990	74.601	(51.179)	(94.625)	(144.291)

Source: Canada, *Public Accounts*, various years.

B. Depreciation and the Government's Financial Status

Analyzing the effect of depreciation/inflation on the government's income, expenditures, and balance sheet is critical to assessing the benefits of monetary expansion/depreciation. To evaluate the effects completely would necessitate a model of the entire macroeconomy since, for example, tariff revenues depended on import levels and income taxes depended on income levels. At that time, the effects of depreciation on income levels were considered indeterminate so that contemporaries were uncertain as to the scale of these effects. (It is contemporaries' expectations of changes in government revenues that we examine here.)

Thus, we analyze the effect of depreciation/monetary expansion on the government's liabilities. Tables 2 and 3 show the extent of these liabilities and related interest obligations, while table 1 shows the impact of interest-bearing debt on total government expenditures. The tables illustrate that the Canadian government had a large outstanding debt and that the interest payments were about one-third of government expenditures.

To examine the potential impact of depreciation/monetary expansion on the government's balance sheet, we analyze the effects of two counterfactual policies. The first is a 15 percent increase in the stock of high-powered money in September 1930. We chose this date

TABLE 2
Funded Debt and Monetary Issues of the Dominion Government^a

	Outstanding September 30, 1930 (C\$m)	Outstanding March 30, 1932 (C\$m)
In sterling (Bf)	311.68	311.68
In U.S. funds (Bf)	165.90	240.97
In Canadian funds		
Gold bonds (Bdg)	1,444.12	790.31
Other (Bdc)	362.00	1,221.31
Total	2,283.75	2,564.28
Dominion notes outstanding (H)	169.57	157.34

^aData on funded debt include only direct liabilities and not indirect liabilities—that is, guaranteed debt issued by railroads. Debt includes matured but outstanding amounts and is gross of deductions for sinking funds. (Sinking funds were held only against foreign currency-denominated debt.)

Source: Canada, *Public Accounts*, 1930/1931 and 1931/1932; Moody's Manual of Investments, *Government Securities*, 1930, 1932.

TABLE 3
Interest and Maturing Debt Obligations

	September 1930– September 1931 (C\$m)	March 1932– March 1933 (C\$m)
Interest obligations		
London	11.14	11.14
New York	10.09	11.96
Canada—Gold	79.90	36.67
Canada—Nongold	16.71	61.49
Canadian Gold/New York		6.15
Miscellaneous	1.67	1.67
Total Interest Obligations	117.85	129.09
Maturing Debt		
Canada—Gold	52.93	34.45
New York	25.00	
Grand Total	195.78	163.54

because it coincides with the election of the Conservative Bennett government and with calls for a monetary expansion by some Members of Parliament. A 15 percent expansion is considered because the exchange rate actually depreciated by about 15 percent approximately one year later. The second situation we analyze is a 15 percent monetary expansion in March 1932. This date was chosen because the Prime Minister at that time seriously considered a memo recommending depreciation and monetary expansion. (The memo was given to him by the Inspector General of Banks and authored by the future first Governor of the Bank of Canada.) A 15 percent depreciation would have put the Canadian dollar at approximately the traditional parity with sterling, or $\text{£}1=\text{\$}4.86$.

Assume that a monetary expansion would lead to a proportionate depreciation of the exchange rate and inflation of the domestic price level. The policy's effect on the government's balance sheet would depend on the nature of government liabilities. The real value of Dominion notes would decline by the amount of the inflation, and the real value of government bonds payable in Canadian dollars would fall equally. Canadian bonds payable either in foreign currencies or in gold would not decline in real value. Depreciation would reduce the real value of the liabilities to an extent dependent on their composition.

If we relax the assumption that the exchange rate and price level increase proportionately with the monetary expansion, the direction of effect becomes ambiguous. (Bordo and Redish, (1987b) analyze these relationships more fully.) Consider the case in which the exchange rate depreciates but prices do not increase at all in the short run. The net gain from monetary expansion is the dollar amount of the expansion less the increase in the real value of bonds denominated in foreign currency. Because the government clearly felt that this latter case was the most relevant one, we assume those conditions in the counterfactual analyses.

Before we undertake the analysis, we must clarify two empirical details. The government's attitude toward its gold bonds was an important determinant of the potential benefits of monetary expansion/depreciation. Gold bonds were those denominated in Canadian dollars and payable in gold. If the government honored the gold clause, a depreciation causing the price of gold to rise in Canadian dollars would increase the real value of gold bond liabilities. As table 2 shows, gold bonds constituted 63 percent of the government's funded debt in September 1930. After the depreciation in late 1931, however, the government refused to pay in gold to Canadian residents holding gold bonds. Instead, the government offered

Canadian legal tender—that is, Dominion notes. Foreign residents holding the same bonds were paid in gold.

The counterfactual analysis requires assumptions about the government's behavior toward foreign and domestic gold bondholders and about the proportion of each to the total. We assume that the government would have behaved toward gold bondholders as it actually did, and that nonresidents held 50 percent of the gold bonds.¹

The counterfactual analysis is complicated further by the conversion loan of 1931. Most gold bonds outstanding in 1931 were due during the mid-1930s and originally had been issued to finance World War I. To take advantage of the low interest rates in 1931, the government undertook a massive refinancing whereby individuals would convert their old bonds to new bonds with a 20-year term. The gold clause was removed or forgotten during this process. A possible—and, at first glance, very plausible—explanation of this omission is that the government foresaw the possibility of depreciation and wanted to maximize the benefits from such a policy. The subsequent decline in the value of the Canadian dollar lends considerable credence to this interpretation. If this were the case, then the counterfactual analyses become more complex. They must examine whether the government would have undertaken the conversion loan in early 1930 had it been considering depreciating later that year, and whether the conversion loan would have occurred in 1931 had the currency depreciated in 1930. Fortunately, a detailed investigation of the evidence suggests that the government was not acting strategically.

The first piece of evidence is that Canadians held most of the debt and that, as noted above, the Canadian government did not honor the gold clause on bonds held by Canadian residents. This reduced considerably the payoff to removing the clause. Further, the government was worried about its international reputation and so may well have determined that the cash savings on the foreign-held bonds was less than the cost of losing its reputation. Second, Department of Finance records concerning the conversion loan contain virtually no discussion of the change from gold bonds to non-gold bonds, suggesting that the change was not considered significant.²

1. No systematic data exist on the residence of the bondholders, but qualitative evidence suggests that 50 percent is an overestimate of foreign holdings.

2. Clearly, one could make the more sophisticated argument that the bond purchasers/converters recognized the change in the bonds' status and calculated the interest rate required to compensate them for the change in status. This calculation would have been based on (1) expectations of depreciation conditional on the changed incentives for the government to depreciate, and (2) expectations of the probability that the government would honor the gold clause. Again, the Department of Finance records containing correspondence concerning the Conversion Loan, minutes of meetings of the Loan Committee, and intradepartmental memos suggest that the government was not thinking in these terms.

We now analyze the two counterfactual policies: a 15 percent monetary expansion in September 1930 and a 15 percent monetary expansion in March 1932. In both cases, we make the extreme assumptions that the monetary expansion causes an immediate and proportionate depreciation of the exchange rate and that the domestic price level does not change. We choose these assumptions to reflect the government's priors.

In September 1930, a 15 percent monetary expansion would have yielded \$25.4 million in direct seignorage revenue. If half the gold bonds were paid in gold and all the foreign currency debts were honored, the increased liability would be \$179.95 million. If none of the gold bonds was redeemed in gold, the real value of liabilities would rise by only \$71.64 million. In either case, the net effect on the government's balance sheet is negative. This accounting measures the permanent effect, however, while the government apparently was more concerned with short-run costs. We examine the policy's potential effect on the value of maturing debt and interest due during the next 12 months. If 50 percent of debts due in gold were paid in gold and if foreign currency debts were paid in those currencies, the increased costs would be about \$17 million (interest owing in non-Canadian currency—\$62.85 million; principal owing in non-Canadian currency—\$51.46 million; 15 percent of \$114.31 million). If none of the gold debt were paid in gold, the cost would decrease to \$7.2 million ($\$47.9 \text{ million} \times 15 \text{ percent}$). Even using a one-year time horizon, the seignorage revenue would be offset considerably by the increased costs of foreign payments. Using the scenario most favorable to the government—no nonresident gold bondholders—the 15 percent expansion/depreciation would increase net revenue by \$18.2 million ($\$25.4 - \7.2 million). That would represent 6 percent of total tax revenue for the year.

The second experiment is a 15 percent monetary expansion in March 1932. We undertake the same calculations. The monetary expansion would raise \$23.6 million of seignorage revenue. If half the gold bonds were redeemed in gold, the permanent increase in the value of outstanding debt would be \$142.17 million. If none of the gold bonds was paid in gold, the real value of the liabilities would rise by only \$82.9 million. If, on the other hand, we evaluate the impact on cash outlays during only the next 12 months, then these rise by \$9.97 million in the first case and by \$15.31 million in the second case. Again, the increase in the liabilities offsets considerably the gain of seignorage revenue.

In both cases, the monetary expansion generates net revenue for the government in the short run (12 months)—even under our strict assumption that domestic inflation does not occur and so does not

improve the government's fiscal position by reducing the real value of Canadian dollar-denominated bonds. In either case, however, the benefits are not large.

C. Depreciation, Capital Flight, and Reputation Effects

The final factor entering into the government's decision was the effect of depreciation on holders of Canadian liabilities. The government feared a capital flight—a speculative outflow of foreign capital. We may distinguish a permanent flight of capital from a temporary flight of capital. A temporary flight of capital involves an outflow of capital occurring when a currency depreciation is anticipated. Once the depreciation has occurred, the capital will return if currency stability is foreseen. A permanent flight of capital occurs if the depreciation or other event leads investors to revise permanently the risk premium associated with investment in a particular country.

In September 1931, the government's rhetoric aimed at preventing a short-run flight of capital by investors who might expect the Canadian dollar to depreciate with the pound sterling. From early 1929 on, however, the government also was concerned over averting a permanent flight of capital by investors who might expect Canadian securities to become riskier. The costs of such a flight from capital would depend on the nature of the capital market. They would be reflected in higher interest costs imposed by a higher risk premium or in a sharp decrease in the availability of funds if capital markets were imperfect and lenders were rationed.

The government's strategy, which relied on a degree of market segmentation, was to maximize its revenue while not offending foreign lenders. That is, the government treated Canadians and foreigners differently. The government assumed that had some market power in the Canadian loan market but none in the international capital market. This implied that the cost of defaulting to Canadian bondholders was less than the cost of defaulting to foreigners. Thus, non-Canadian holders of gold bonds were paid in gold. The Canadian strategy imposed some capital losses on foreign residents holding nongold Canadian dollar-denominated bonds, but these were minimal.

IV. EXPECTATIONS AND THE EXCHANGE RATE

We have argued that the government opted not to undertake an inflationary monetary expansion because it felt that the cost of losing its reputation as a sound debtor exceeded the potential benefits. Because the public gave credibility to the government's stated policy, the policy had an important impact on exchange rate expectations.

In the long run, the exchange rate is determined by the relative excess supplies of the two monies. However, foreign exchange is a financial asset whose price is determined in an asset market where expectations are critical. Therefore, changing expectations of future monetary policy are an important determinant of daily changes in the exchange rate.

The actual behavior of the exchange rate during the 1930s was described in the Introduction. In this section, we explain such behavior as resulting from changing expectations. These expectations were conditioned on the Canadian government's behavior and on foreign events presumably exogenous to the Canadian economy.

We divide the period into four subperiods: January 1929–September 1931, October 1931–March 1933, April 1933–December 1933, and January 1934 on. During the first period, the currencies of Canada's major trading partners and sources of capital—the U.S. and the United Kingdom—remained tied to the gold standard while the government repeatedly stated its “sound money” policy. Because of the government's credible commitment, the public had no reason to anticipate a depreciation and the exchange rate remained in equilibrium at the traditional parity of $C\$1=U.S.\1 and $C\$4.86=£1$.

In September 1931, the pound sterling left the gold standard and depreciated against the U.S. dollar by about 30 percent. The Canadian exchange rate no longer could remain at the traditional parity with both the U.S. dollar and the pound sterling. The government continued to stress the sound money policy. We suggest that agents decided to hedge their bets—by assigning the probability λ to resuming the fixed exchange rate at the traditional parity with the U.S. dollar and the probability $(1 - \lambda)$ to resuming the traditional parity with sterling. The path of the exchange rate is consistent with this hypothesis (see figure 1) and suggests that the value of λ was approximately 0.5.³

The U.S. left the gold standard in March 1933. By January 1934, the price of gold had risen from \$20.67 to \$35.00 an ounce. During this intermediate period, associated with great uncertainty in all three countries, the Canadian exchange rate again stayed between those of the pound and the U.S. dollar.

The U.S. fixed the price of gold at \$35 an ounce in 1934, while the U.K. allowed the pound to depreciate so as to reestablish the traditional parity of $£1=U.S.\$4.86$. This, of course, allowed the Canadian dollar to return to the traditional parity with both currencies. We argue that agents expected such a parity to be reestablished.

3. In Bordo and Redish (1987b), we report the results of an econometric estimate for λ . We conclude that $\lambda = 0.55$ before February 1934 and that $\lambda = 0.77$ after that date.

From 1934 until the onset of World War II, the Canadian exchange rate stayed at or near those parities.

V. CONCLUSIONS AND POLICY IMPLICATIONS

Canada left the gold standard *de facto* in early 1929, but the Canadian dollar did not depreciate *vis a vis* the U.S. dollar until Great Britain left the gold standard in September 1931. Even then, the Canadian dollar fell only half as much as did sterling until traditional parities were reestablished in 1934. We argue that Canada failed to increase the money stock, depreciate the currency, and enjoy the potential benefits realized by other countries pursuing such policies because the government was reluctant to depart from a policy consistent with a strict interpretation of gold standard rules. The government was reluctant to conduct an expansionary policy because it believed the latter's potential benefits—reduced unemployment, rising economic activity, increased tax revenue, increased seignorage, and reduced real value of its domestic obligations—were outweighed by the costs of increased interest payments on its outstanding foreign-held gold and other currency-denominated debt and by the costs of losing its reputation for sound money.

The public, including the banks, understood and believed the government's commitment to sound money and to a fiscal policy consistent with such a position. Hence, expectations of returning to the gold standard dominated exchange rate determination until September 1931. After that date, until the U.S. declared a higher U.S. dollar price for gold, the Canadian exchange rate was influenced strongly by the probabilities that the public attached to Canada's following the policy of its two principal trading partners.

The Canadian experience of the 1930s has important policy implications for the present. First, Canada clearly is a country that followed a consistent monetary and fiscal policy and made a credible commitment to sound money and exchange rate stability during the 1930s. Canada's 1930s experience has present-day relevance for countries such as Argentina and Brazil, which have been unwilling to follow such policies.

Second, Canada's willingness to honor its externally held debt also has relevance for today's less-developed country (LDC) debtors' threatening not to do so. Canada benefitted from its 1930s policy in that it was the last country to receive foreign loans before they dried up in 1932.

Third, Canada's sound money policy may seem well conceived in terms of present conditions but may not have been optimal at that time. The experiences of Great Britain, Sweden, Australia, and other

countries suggest that depreciation might have cut short the Great Depression's effect on Canada. (Canada's proximity to the U.S., however, likely would have tempered any expansion that might have resulted from depreciation.) These experiences suggest that interpreting the gold standard rules as being contingent on relaxing the gold basis during national emergencies, such as wars or depressions, may have been correct.

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