

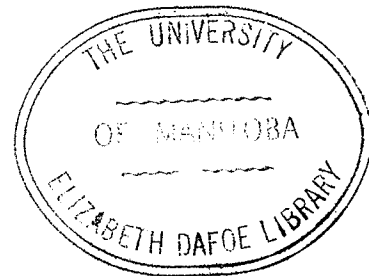
PUBLIC DEBT MANAGEMENT IN CANADA 1946-1959

By

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ABSTRACT

The main purpose of this study has been to review public debt management operations in Canada from 1946 to 1959, to determine what specific policies were being pursued, and to ascertain whether there was in effect a comprehensive debt management policy.

The evidence suggests that debt management decisions have been made to meet the requirements of particular periods, and not within the framework of any discernible policy. Even a major operation like the Conversion Loan of 1958, seems to have been hastily conceived and executed, and there is no prior or subsequent evidence to show that it fitted into the framework of any debt management policy.

It has been suggested that the formulation of a debt management policy, in outline, could ease the impact of debt management operations on the financial sector of the economy, and could assist in avoiding the circumstances which led up to the ill-fated Conversion Loan. Some possible policies have been discussed, but no attempt has been made to work out and define a particular policy for use in Canada.

TABLE OF CONTENTS

LIST OF TABLES	Page iii
INTRODUCTION	1
Chapter	
I. BACKGROUND	4
Monetary Policy 1946-1959	4
The Role of the Bank of Canada in Debt Management . .	23
The Canadian Exchange Rate 1946-1959.	31
II. SOME THEORETICAL CONSIDERATIONS.	36
III. DEBT MANAGEMENT 1946-1959.	58
Debt Management 1946-1954	58
Debt Management 1955-1959	65
IV. THE CONVERSION LOAN: 1958	88
Background and General Characteristics.	88
The Economic Impact of the Conversion Loan.	97
V. THE PUBLIC DEBT: ITS SIZE AND THE DISTRIBUTION OF OWNERSHIP.	119
VI. DEBT MANAGEMENT TECHNIQUES	149
FOOTNOTES.	158
BIBLIOGRAPHY	165

LIST OF TABLES

Table		Page
I.	Changes in Government Securities Holdings Prior to Refundings 1957-1959	26
II.	Government of Canada Direct and Guaranteed Securities Outstanding 1946-1960.	64
III.	Distribution of Maturities of Government of Canada Direct Securities Issued (Ex-Treasury Bills and Savings Bonds) 1946-1960	74
IV.	Government Security Portfolios During the Conversion Loan July - September 1958	100
V.	Bank of Canada Monthly Holdings of Government of Canada Direct and Guaranteed Securities 1958 and 1959.	102
VI.	Government of Canada Direct and Guaranteed Securities Average Monthly Yields 1958-1959	105
VII.	Net New Issues of Securities 1953-1959	112
VIII.	Total Debt and Interest Payments As a Percentage of Gross National Product 1946-1960	120
IX.	Government of Canada Direct and Guaranteed Debt as a Percentage of Total Government of Canada, Provincial, Municipal, Corporation, and Institutional Bonds 1952-1959.	121

LIST OF TABLES (continued)

Table		Page
X.	Chartered Banks' Holdings of Government Securities 1947-1960	124
XI.	Changes in Certain Chartered Bank Assets 1950-1959. . .	126
XII.	Security Holdings of Insurance, Mortgage and Trust Companies 1947-1959	133
XIII.	General Public Holdings of Government of Canada Direct and Guaranteed Securities 1946-1959.	139
XIV.	Sales and Selected Assets of Canadian Non-Financial Corporations 1947-1957.	142
XV.	Bank of Canada Holdings of Government of Canada Direct and Guaranteed Securities 1946-1960.	144
XVI.	Bank of Canada Holdings of Government Securities 1947-1960	145
XVII.	General Public Holdings of Government Securities 1947-1960	147

INTRODUCTION

In this study an attempt has been made to analyze debt management policy in Canada for the period 1946 to 1959, mainly with a view to determining what, if any, debt management policy was applied during this period. In the course of examination it was necessary to consider monetary policy, exchange rate policy, and the relation between the Treasury and the Bank of Canada, as they affected debt management. It cannot be claimed, however, that exhaustive treatment has been given to any one of these subjects.

Unfortunately, the submission of the Minister of Finance to the recent Canadian Royal Commission on Banking and Finance was not available to members of the public at the time my examination was in progress. No doubt, this document could have thrown much light on certain aspects of post-war debt management, especially on the government's assessment of the Conversion Loan operation. This submission would have been especially useful, as the submission of the Bank of Canada had little to say on the problems which arose in the area of debt management.

There has been no evidence that during the period 1946 to 1959, the authorities were implementing any long-term debt management policy. The policies that can be discerned were based on the exigencies of particular periods, and seem to stand independently, rather than as modifications or implementations of a settled debt management policy.

In the early post-war period monetary policy was based on the

expectation that an expansionary monetary policy had to be pursued in order to encourage investment; at the same time large budgetary surpluses made it possible to reduce the public debt. Thus fiscal policy--or rather fortuitous surpluses--and monetary policy, reinforced a debt management policy geared to maintaining bond prices. This policy of supporting bond prices was maintained until 1950, when inflationary pressures caused the Central Bank to abandon it. The next decisive period in debt management came in the 1957-1958 recession, when government anti-cyclical policy necessitated heavy market borrowing to meet budget deficit. Debt management policy at this time, particularly the Conversion operation, was designed to remove what was considered an excessive amount of short-term government debt from the market, in order to make monetary policy more effective, and to make possible government borrowing on the scale envisaged.

There is evidence that the bunching of short-term government debt in the market in 1958, was due, in some measure, to the debt management policy, or lack of policy, in the intervening years. Before 1958, it does not seem that lengthening of the average maturity of the debt was a major policy objective. Emphasis seems to have been placed on reducing the volume of Victory bonds, and on taking advantage of opportunities for reducing the interest cost of the outstanding debt.

The Conversion Loan of 1958 was the major debt management operation undertaken during the post-war period. The transaction was not entirely satisfactory, save in the sense that the bond market was

cleared of a huge volume of short-term bonds. There were adverse effects on interest rates, especially after the Central Bank had to abandon support of the issue, and there may have been a hardening of the market against long-term issues of government securities. A large part of the difficulty which arose, however, can be traced to a sudden change in the economic outlook in Canada, and to the response of the Canadian financial market to an equally sudden change in interest rate expectations among United States investors. Both these changes occurred just at the time that the Conversion operation got underway and, undoubtedly, complicated the smooth consumation of the undertaking.

In spite of the magnitude of this Conversion Loan, one hesitates to identify it with any recognizable debt management policy; for, by 1959, the authorities had already built up a substantial amount of short-term government debt through new borrowing and refunding operations, and this was to reverse, to a large extent, the effect of the Conversion on the amount of short-term debt outstanding.

CHAPTER I

BACKGROUND

Monetary Policy

In the early post-war period Canada was faced with the problem of reconversion to a peacetime economy; with a public debt which had substantially increased; and with disruption in the economy of many of her foreign customers. The government had committed itself to maintaining a high and stable level of employment and, with this objective in view, endorsed such policies as anti-cyclical budgeting and the maintenance of low interest rates to encourage investment. Although many persons, both in and out of the government anticipated a period of unemployment, the transition period was one in which little unemployment was experienced and, in which the major problem was that of keeping inflation in check. For example, between June, 1946 and June, 1957, the cost of living index rose by approximately forty-five points. During this period there were three marked inflationary spells: the first from July, 1946 to December, 1948; the second from June, 1950 to December, 1951; and the third from June, 1955 to June, 1957.

The exchange rate which had been pegged at a discount from the United States dollar in 1939, was revalued to parity in 1946, and remained pegged at this level until 1949. The fixed exchange rate and the emphasis on stable bond prices imposed certain rigidities on the economy, and were in great measure responsible for the inflationary

conditions prior to the end of 1950. W. H. Hood comments on the period 1946 to 1948 as follows:

. . . Progress was made in relaxing many of the wartime economic controls but an unwillingness to allow freer movement of prices in the bond markets and exchange markets added to the need for fiscal controls and many direct controls over supplies and demands. Such pressures as were not restrained by these measures had their vent in rising prices of goods and labour services.¹

And Neufeld comments in a similar vein that: ". . . while flexible action was required, rigidities were imposed by the fixed exchange rate and the continuous bias towards stable bond prices."²

The period 1946 to the early 1950's was one in which debt management, monetary policy, and fiscal policy were, more or less, in harmony. The objective of maintaining stable bond prices was politically feasible and was in keeping with the expansionary monetary policy designed to stimulate investment. At the same time large budgetary surpluses could be used to reduce the amount of the public debt.

Since the early 1950's, however, different problems have developed. There has been a continually recurring need to curb inflationary tendencies in the economy; budgetary surpluses and debt redemption have given way to deficits and large government borrowings; and there has been a substantial deterioration in the balance of payments on current account, together with large inflows of foreign capital. In these circumstances the original harmony between debt management, fiscal policy, and monetary policy has been largely destroyed.

The Period July, 1946
to December, 1949

This was a period of large budgetary surpluses and an easy money policy. Monetary expansion was the price to be paid for safeguarding against a possible slump, by maintaining stability in the bond market and by creating an atmosphere in which government debt financing could be undertaken without difficulty if required. During the period there was massive conversion of government securities into cash as the general public sought to satisfy demands pent up during the war, and as alternative investment opportunities arose. But this huge conversion was not reflected in bond prices; the only slight downward decline being allowed in 1948.

Most types of investors at the end of the war owned a great deal more government securities, in relation to their total assets, than they had ever held before. Such large holdings would not be required in peacetime either for liquidity or for purposes of portfolio diversification. Thus, as other investment opportunities became available there was bound to be substantial liquidation of governments. In such an event, either the prices of government securities could be allowed to fall as competition developed in the demand for funds; or government cash surpluses could be used to take up the securities released by private investors, thus maintaining government security prices; or the Central Bank and the chartered banks could absorb the liquidation by other investors and so provide some of the funds for other investments through monetary expansion. The burden of adjustment

in this early post-war period fell mainly on the banking system and partly on government surpluses.³

Budgetary surpluses amounting to \$374, \$676, and \$596 million dollars respectively were realized between 1946 and 1948. But although these surpluses must have had some restraining influence on demand, the influence was limited by the fact that the central bank did not act to offset bank cash which was freed by the redemption of bank held debt. The chartered banks were thus left free both to buy securities and expand their loans. Neufeld argues that:

. . . the central bank managed cash so that the chartered banks would not have to go to the market as net sellers of government bonds, and in the first part of the period it ensured that the banks would be large buyers of them in the market. When towards the end of the period the banks did begin to sell government securities it was not because of a tight cash position; it was probably because of the relative unattractiveness of government bond yields and the fear of a downward readjustment of bond prices.⁴

During the period the Bank of Canada absorbed large amounts of short- and medium-term government bonds from the market, and the government deposits with the Bank were substantially reduced. Government accounts also gave support to the bond market, although this did not always cause monetary expansion. Between November 30, 1946, and December 31, 1947, the Securities Investment Account bought some \$688 million of government securities, purchasing 70 per cent of this amount in 1947. Since these purchases were made for the most part with funds arising out of the loss of gold and foreign exchange, they resulted in no net monetary expansion.⁵

Further support was given to the bond market by the large

amount of redemptions of government bonds which took place. Direct and guaranteed funded debt was reduced by \$710 million, and banking issues by \$596 million. The effect of all this official support was to produce a "rigid stability" in bond prices during the period.

Drawing down of foreign exchange balances became a serious problem by 1947. These drawings were occasioned mainly by heavy demands on official loans made to foreign governments. Exchange reserves reached a low of \$461 million at the end of 1947, and extensive controls on imports had to be introduced.

The Period December, 1948
to December, 1951

Between August, 1948 and May, 1950 there was stability in the economy. Signs of a recession had begun to appear in the United States and, in Canada, the rise in prices eased and there was some unemployment. The official support which had been given to the government bond market continued; the central bank bought short-term bonds, expanding bank cash, and allowing an increase in the liquidity of the economy. With evidence of the leveling off of price increases, the threat of unemployment, and signs of a recession in the United States, the old policy of the Bank of Canada, that of maintaining bond prices by expanding bank cash, now became suited to prevailing conditions.

The subsequent period, extending to the end of 1951, was characterized by very different economic conditions, and was a period

in which, for the first time since its establishment, the central bank was called upon to combat strong inflationary pressures in the economy. By mid-1950, there were signs of a sharp business recovery in the United States, and an increase in expenditure on natural resource development in Canada--financed mainly by foreign direct investment. Later, developments surrounding the outbreak of the Korean War were to be superimposed on these expansionary trends. The outbreak of the war brought on heavy demands for goods, partly in anticipation of war scarcity, and partly as a result of heavy defence expenditures; but demand was also expanded by rising foreign demand for Canadian raw materials.

Another development complicated the task of monetary management during this period. It will be recalled that in 1946 the value of the Canadian dollar was set at par with that of the United States. In 1949, however, soon after the British devaluation, the Canadian dollar was devalued to a rate 9.1 per cent below the United States dollar. This new rate was considered too low and speculative inflows of funds developed on a massive scale in anticipation of an upward revaluation. Between July and October, 1950, it is estimated that some \$700 million entered the Canadian market.⁶

For a time the government was able to sterilize this inflow through sales to the banks of non-negotiable Deposit Certificates, but by August it had to obtain assistance from the central bank. During the next two months the Bank of Canada furnished the Exchange Fund

Account with \$393 million through temporary purchases of foreign exchange. To offset the effect of these purchases on the reserves of the chartered banks the Bank sold some \$337 million of securities during the same period. The bulk of these sales comprised bonds in the category of more than two years to maturity, and a large proportion of these were taken up by foreigners. Foreign investors are estimated to have acquired some \$174 million in Dominion bonds during the period.⁷

On September 30, 1950, the government announced the abandonment of a fixed exchange rate for the Canadian dollar. This decision had the effect of cutting off the heavy inflow of capital almost immediately. In order to stabilize the market, now newly set free, the Bank of Canada continued to acquire foreign exchange--increasing its holdings by \$77 million in October--partly offsetting its purchases by sales of short-term securities. Its portfolio of shorts was reduced by more than \$40 million during the month.

While the central bank was assisting the government in absorbing the huge capital inflow, it was able, through its large sales of securities, to keep bank cash ratios low; bank cash increased by some \$18 million and the banks were forced to sell securities in order to expand their loans. Sales of securities both by the Bank of Canada and the chartered banks were accompanied by only a small decline in bond prices. This relative stability in bond prices was due mainly to the strong non-resident demand. When, however, the Bank acted to

stabilize the newly freed exchange market, it did not completely offset its purchases of foreign exchange, and the chartered banks were able to expand loans without selling securities and to build up their cash ratios.⁸

In the last quarter of 1950, there was some reduction in bank cash and tight cash control and maintenance of low cash ratios continued into 1951. At first the banks were able to achieve some monetary expansion by running down their cash ratios, but, by and large, they were able to expand loans only through large sales of securities and this switching was accompanied by a major fall in bond prices. The substantial amount of switching which took place between late 1950 and early 1951, led the central bank to obtain an agreement on a loan ceiling from the banks in February, 1951.

After September, 1950, bond prices fell and the pattern of yields changed significantly. Short-term bonds rose in yield much more sharply than long-term bonds. Bank rate was raised for the first time since 1944, going from one and one-half per cent to two per cent. This was probably an indicator that the authorities intended to pursue a policy of credit restraint. In the face of the inflationary threat posed by the Korean War, the policy of supporting bond prices had to be abandoned. It was more important to contain the liquidity of the economy even if this meant a downward pressure on bond prices through large sales by the chartered banks. With the chartered banks being large net sellers of securities it is not surprising that the prices of shorts declined more than that of longs, since banks hold mainly

short-term securities. All bond prices, however, fell well below par. Nevertheless, the Bank of Canada did not abandon altogether its support of the government bond market, and by December, 1951, its portfolio of such securities had risen by more than ten per cent. As McLaury says: ". . . under a selective policy the Bank continued to purchase long-term issues sold to the banks by their customers and never refused to buy short-term governments."⁹ There is evidence, however, that the Bank did seek, by allowing official demand to lag, to push down the prices of long-term governments so as to slow down the sales of the banks and insurance companies.

The Period 1952 to 1954

The period of mildly flexible interest rates continued into the third quarter of 1953. After this, government bond prices rose sharply and continued moving upward until early 1955. This change in trend has been attributed to rising United States bond prices commencing in mid-1953. Neufeld states that:

. . . The Bank of Canada does not appear to have prompted the initial change, although it did not resist it and probably approved of it, for the chartered banks' cash position was not eased materially and the banks did not really begin buying government securities until after mid-1954.¹⁰

It should be noted, however, that in this period the banks did not depend heavily on Treasury bill sales to finance the increase in their loans. In most months of loan expansion the banks were in a position to expand total assets, or had their cash replenished by the redemption of Deposit Certificates.

We have seen that the inflationary pressure which began building up in the economy since 1950 forced on the authorities the basic decision to abandon the policy of supporting government security prices. This change in policy had to be adopted if the monetary authorities were to have a freer hand in meeting inflationary conditions. But the central bank could not abandon entirely its responsibility for market stability. When in the last three quarters of 1952 the chartered banks reduced their holdings of Treasury bills by \$150 million, these bills were taken up by the Bank of Canada.

Between 1953 and 1954, definite steps were taken towards establishing a money market in Canada. In 1953, the government changed its regular issue of Treasury bills from a fortnightly to a weekly tender, and diversified its offerings by introducing 9-month bills to supplement the 3-month bills then being offered. In 1954, the Bank of Canada introduced repurchase agreements with thirteen dealers, involving Treasury bills and other short-term securities with less than three years to maturity. The purpose of this was to assist dealers in financing large inventories in the hope of diversifying the ownership and broadening the market for these forms of debt. Also in 1954 an amendment to the Bank Act introduced a variable minimum cash ratio of eight per cent in place of the statutory five per cent. Since the chartered banks customarily worked to a ten per cent reserve ratio, the effect of this amendment was to lower the reserve ratio which the banks did in fact keep from ten per cent to eight per cent,

thus producing excess reserves in the system to the amount of some \$200 million.

By the last quarter of 1953 there appeared a downturn in economic activity, and this was to continue until the end of the year. Under these circumstances, the central bank relaxed its policy of restraint introduced in 1950 and the changes relating to the money market and the Bank Act were allowed to come into operation under conditions of monetary ease. The Bank of Canada made no attempt to absorb excess reserves in the banking system by the sale of securities, but left the commercial banks to adjust gradually to the new reserve ratio.

The result of the changes in the money market were immediate.

McLaury states that:

Actually, the Bank had been trying for several years to induce the banks to seek outside buyers for bills by gradually increasing the spread between its buying and selling rates. But this inducement had failed to achieve results--of the \$450 million in bills outstanding at the end of 1952, less than \$30 million was held outside the banking system.

By the end of 1954, over \$200 million was held by non-bank investors.¹¹

The Period 1955 to 1957

The economic downturn which commenced in 1953 had begun to be reversed by the early part of 1955. In fact, by the middle of that year the economy was operating at the full employment level. The major expansionary force was expenditure on housing, but by 1956, emphasis had shifted to non-residential construction, increases in

inventories, and rising expenditures on machinery and equipment. In addition to the pressure of demand on labour and materials there was, in 1956, a huge increase in the deficit on current account in the balance of payments. This deficit had risen from \$692 million in 1954 and \$432 million in 1955, to \$1,372 million in 1956. In spite of the deficit the Canadian dollar rose to a premium of six per cent over the United States dollar by August, 1957. The large balancing capital inflow has been attributed to several circumstances: The increasing spread between Canadian and United States interest rates, resulting in heavy provincial, municipal and corporate financing in the United States; an increase in the European demand for Canadian securities after the Suez crisis of 1956; and continuing direct investment in Canada by United States companies.¹²

It will be recalled that the Bank of Canada did not attempt to mop up the large excess reserves in the banking system following the changes made in the Bank Act in 1954. In fact, in pursuit of its policy of monetary ease, the Bank had reduced its discount rate in February, 1955 from two per cent to one and one-half per cent. In addition, although chartered bank reserves had declined from 8.9 per cent in January, 1955 to 8.3 per cent in June, 1955, the central bank, because of its debt management responsibilities, could not maintain reserves at this level. By June, the Bank had begun easing the market in preparation for a large refunding on July 1. Its portfolio of government securities increased by some \$100 million in the month of June--primarily through the purchase of Treasury bills--and this

increase was not reversed until August, 1955. The result was that chartered bank reserves rose by \$25 million in July and continued rising until November.¹³

By April, 1955, loans by the chartered banks began to increase at a more than seasonal rate. This rate of increase continued until June, 1956, by which time these loans had increased by some \$1 billion, or nearly one-third. Because of the possession of excess reserves and the central bank's debt management activities, the banks did not have to sell government securities to finance loans until some time in August, 1955. From August to November the banks financed loans mainly by sale of government securities--from mid-August to mid-November chartered banks' holdings of bills dropped by some \$150 million (35 per cent), and their holdings of bonds by some \$200 million (6 per cent). This huge switching operation was taking place at the same time as the Bank of Canada was reducing its portfolio of governments by the sale of bills, and was offsetting the Bank's restrictive policy.

It is not surprising then that the Bank of Canada induced the chartered banks to agree to hold a fifteen per cent liquid asset ratio--comprising cash, day loans and Treasury bills--in order to limit the capacity of these institutions to liquidate government securities in order to increase their loans.

One of the prime factors affecting the facility with which the banks could liquidate government securities was the developing money market. As McLaury says:

In the light of events since 1954, there can be little doubt that the initial impact of the money market's development was to make the chartered banks more liquid, both in terms of the maturity distribution of their government securities portfolio and in terms of the liquidity of any given maturity of short-term asset.¹⁴

From early in 1956, significant changes were taking place in the composition of the short-term public debt, and in its distribution among the various holders. The amount of outstanding Treasury bills was being rapidly increased to meet the chartered banks' demands arising out of the newly introduced liquid asset ratio; and the non-bank public was increasing its holdings of short-term government bonds and reducing its holdings of Treasury bills.

Some monetary expansion continued until mid-1956, but, even when the money supply was not permitted to expand, an increase in velocity through sales of government securities by the banks, and the use of idle balances permitted further loan expansion. Since the Bank of Canada held the view that the over-all rise in interest rates during the year was as large as could be permitted without damage to financial markets, it, no doubt, considered it undesirable to attempt to offset the increase in velocity. Thus, between the end of July, 1955 and the end of June, 1956, when the expansion in loans tapered off, the chartered banks had achieved a net reduction of about \$1 billion (26 per cent) in their portfolios of government securities.

The Bank maintained a tight control over credit throughout the second half of 1956 and most of 1957. The boom conditions leveled off early in 1957, but economic activity continued at a high level.

Even so, the tapering off of this expansionary phase and a sudden increase in the labor force due to an unusual flow of immigrants, mainly from Hungary, caused a rise in unemployment.

The Period 1958 to 1959

The slack in business expansion which commenced in 1957 continued into 1958. The government, in its attempts to apply anti-cyclical fiscal policies, was faced with the need to go to the market to borrow a substantial amount of new money to meet the budget deficit which it was incurring. In addition, it was apparently worried over the fact that there was a considerable bunching of outstanding government securities in the short-term category. Faced with this situation, the Minister of Finance announced on July 15, his decision to give holders of Victory Bonds the option of exchanging their holdings for new Conversion bonds of longer maturity. This was a massive effort to lengthen the average maturity of the outstanding public debt. It was an operation of such magnitude that its side effects were the dominant issue in monetary policy during 1958 and 1959.

From the point of view of the announced objective, the Conversion operation was highly successful. Ninety per cent of the \$6.4 billion of outstanding Victory bonds were exchanged for new Conversion bonds, and more than thirty per cent of these were converted into the longest issue. One consequence of the operation was that the Bank of Canada undertook to peg the market in all maturities of government securities. This action was, of course, tantamount to monetizing a large part of the public debt.

Unfortunately, just when the conversion campaign was launched, signs of a revival in economic activity appeared both in Canada and in the United States. When United States bond prices began to fall rapidly, large scale selling developed on the Canadian market. The result was that from mid-July to mid-September, the Bank of Canada's holdings of government bonds rose by some \$335 million. These purchases of bonds were only partly offset by the sale of \$265 million in Treasury bills, most of them to the highly liquid banks.¹⁵ In spite of this the Bank continued support of the two longest Conversion issues until November, when, because of the monetary expansion involved in further pegging of these prices, support was withdrawn.

In facilitating the Conversion operation, the Bank of Canada had allowed a huge increase in the money supply. According to the governor of the Bank:

. . . in the fourteen months from the end of July 1957 to the end of September 1958, assets of the chartered banks rose by \$1,535 million as a result of central bank operations which increased their cash reserves and enabled them to expand their loans and investments. For this period as a whole, nine-tenths of this increase took the form of purchase of government securities, and bank cash reserves also increased very substantially. Loans and other investments in total did not rise . . .¹⁶

At the end of September, 1958, therefore, the banks were in a very liquid state, and this excessive liquidity was due entirely to debt management operations during the year. In fact, from July, 1957, to the end of October, 1958, the banks' total holdings of governments rose by some \$1 billion. It is not surprising, then, that the Bank of Canada decided to allow no further increase in the money supply after

the Conversion operation was completed. To achieve this objective the Bank had, not only to avoid the purchase of securities coming on the market through government cash issues and sales by the banks, but also to take steps to offset the seasonal return flow of currency in January. This operation involved reduction of the Bank's portfolio of short-term governments to a dangerously low level. Its holdings of Treasury bills fell to \$7 million, and its holdings of bonds in the two years or less to maturity category dropped to \$17¹/₄ million by the end of January.

The Bank's determination to keep the money supply in check was to a great extent foiled by the high liquidity of the chartered banks. The shift from government securities to loans was in this case even more rapid than the shift in 1955. The governor of the Bank of Canada states that:

After the total amount of money ceased expanding in October, 1958, and the banks' total resources leveled off, a large scale expansion began in loans and non-Government investments, which had to be largely matched by sales of Government securities to the public. From September 30, 1958, to September 30, 1959 such loans and non-government investment by the banks . . . rose by \$1,390 million or 20 per cent. During the same period the banks' holdings of Government of Canada securities fell by \$1,065 million as compared with an increase of \$1,380 million from July 31, 1957 to September 30, 1958.¹⁷

Of course, this shifting in the portfolios of the chartered banks must have put severe pressure on the security markets. For the year September, 1958 to September, 1959, for example, the amount of short-term marketable government debt rose by approximately \$1.1 billion; for the same period chartered banks reduced their holdings

of shorts by about \$.5 billion; and the Bank of Canada more than offset an increase in its holdings of shorts by sales in the two to five year category. Thus the general public was called upon to absorb some \$1.6 billion in government securities. In the Bank's determination to keep the money supply stable, and to avoid "agreements" with the banks and other financial institutions, interest rates were allowed to rise without intervention to unprecedented levels. Whereas the Bank had waited some four months in 1955 before putting the brake on monetary expansion, it acted in 1958 as soon as signs of an upturn in business activity appeared. Thus the switching by the banks out of governments was almost immediate.

By August, 1959 the banks were under severe reserve pressure and were forced to make drastic reductions in their day loans and to run down their holdings of Treasury bills. The dealers were forced to resort to the Bank of Canada, and the day loan rate rose to six per cent. The Bank was, in the circumstances, forced into accepting some \$75 million in Treasury bills partly through repurchase agreements (\$50 million) and partly at the tender of August 6. It was unable in the prevailing atmosphere to offset these acquisitions. By August 13, the Treasury bill rate had risen to 6.16 per cent. The Minister of Finance took the view that this rate represented too high a cost to the government and rejected some bids already submitted, reducing the amount of bills awarded accordingly, and the tender for the following week. With these strong measures by the government backing up the central bank's policy, the chartered banks had no

alternative but to cut back on their loan expansion.

Looking at post-war monetary policy, we can say that generally, prior to 1950, there was little conflict between debt management and monetary policy. For the period 1946 to 1950, the Bank of Canada made no attempt to apply a restrictive monetary policy, especially in such a way that would affect the prices of government securities. Also, between 1946 and the end of 1949, government surpluses were used to retire a large amount of public debt. For this period, direct and guaranteed debt was reduced by \$1.5 billion (some 9 per cent), and there were further reductions in 1951 and 1952. For its temporary cash requirements the government relied on the sale of non-marketable Deposit Certificates and Notes to the banking system, avoiding possible marketing problems. Finally, the few refunding operations required prior to 1950 posed no problems. In 1951 and 1952 there was one refunding operation each year, and so the Bank could concentrate on monetary policy, even in early 1950's, when it was applying a restrictive policy for the first time.¹⁸

Since the early 1950's, however, circumstances have changed. For the last six fiscal years the government has incurred a deficit on current account and in most years a deficit on the non-budgetary accounts as well. Consequently, between 1954 and 1959, the public debt rose by some \$1 billion. Most of this debt has been raised directly from the market, instead of by direct loans from the banking system. Thus debt management problems have loomed larger, and the Bank of Canada's debt management responsibilities have become more onerous.

At the same time the problem of controlling inflationary forces in the economy has become more acute. With these developments there was bound to be conflict between debt management objectives and the objectives of monetary policy. We have seen how debt management responsibility slowed the Bank's application of a restrictive policy in 1955, but the critical example remains that of 1958 to 1959, when debt management problems, and the government's cash requirements, all but dominated monetary policy objectives.

THE ROLE OF THE BANK OF CANADA IN DEBT MANAGEMENT

The Bank of Canada is responsible for the technical management of the public debt. In the words of the Bank: "The responsibility for debt management lies with the Government. The Bank of Canada's role in this field is that of fiscal agent and adviser."¹⁹ In its advisory capacity the Bank:

. . . prepares monthly, and revised weekly, a detailed projection of the Government's sources and uses of cash and its month-end cash balances. Comparisons (of these) are made with projections prepared independently in the Department of Finance.²⁰

The Bank also:

. . . records and analyzes the evidence available on the shifting distribution of outstanding debt (with particular emphasis on nearby maturities) security prices and yields, and the flows of funds in the capital market as reflected in both new issue activity and secondary dealing.²¹

Consultation between the Treasury and the Bank is continuous and close, and the Bank advises on the timing and tailoring of new issues of

securities. Thus, although final responsibility for debt management rests with the Minister of Finance, there is close administrative co-operation with the Bank in this matter, and advice from the Bank may at times play an important part in formulating debt management policies.

One commentator has claimed that the Bank may have used its advisory functions to foist on the Minister of Finance debt management policies which may have had as their primary aim the achievement of some monetary policy objective.. A. H. Cameron, in his submission to the Canadian Royal Commission on Banking and Finance, states as follows:

Originally the Bank may not have sought too much responsibility for debt management, but this grew . . . when larger refundings plus the post-1957 deficits found the Finance Department lacking a well-staffed Debt Management Division, with its own economists, etc. . . .

Sometimes the Bank may have been more conscious of its monetary aims when it gave government debt management advice, without full explanation. The 1958 Conversion was extolled as a 'clean up' for 'short-term debt' . . .²²

On these and other grounds Cameron urges that all debt management responsibility should be transferred from the Bank to the Treasury.

In addition to giving advice and handling the technical details relating to new issues, the Bank has acted to ease market reception of refundings and new issues. This it has done by acquiring securities due for refunding, and by supporting issues coming on the market until such time as these issues have been placed fairly permanently. The Bank offers, that is, a kind of underwriting service for government

security issues. The Bank has also acted to ease the cash position of the commercial banks prior to, and after, new issues and refundings, making it possible for the banks to meet the credit requirements of security dealers during periods when issues are being distributed.

These activities, designed to facilitate debt management, have, at times, been in conflict with the requirements of monetary policy. On such occasions either debt management or monetary policy has suffered. On some occasions dealers too have suffered when support was withdrawn from the government bond market before they could dispose of their inventories.

Table 1 shows changes in the Bank of Canada's portfolio of government securities prior to refundings, between 1957 and 1959. Prior to this period, on July 1, 1955, when the government issued \$700 million of three year bonds to refund a \$600 million maturing issue and to raise \$100 million of new money, the Bank, for the one month preceding the issue and for the two weeks following, bought up some \$120 million of Treasury bills, thus raising bank reserves from 8.3 per cent in June to 8.5 per cent in July.²³

For the refunding issue of October 1, 1957, the Bank was unable to maintain its support for the market for any prolonged period. Thus, while the day loan rate fell from $3\frac{1}{4}$ per cent to $2\frac{1}{4}$ per cent just prior to the refunding, it had climbed back to $\frac{1}{4}$ per cent by October 9, as the banks came under severe reserve pressure. Nevertheless, the Bank did acquire a substantial amount of the maturing issue, thus reducing the impact of the operation on the market. During the

TABLE I

CHANGES IN GOVERNMENT SECURITIES HOLDINGS PRIOR TO REFUNDINGS 1957-1959

Wednesdays

Millions of Dollars

Bank of Canada					Chartered Banks	Refunding Offerings
Date	Treas. Bills	Two Years and Under	Over Two Years	Total	Treas. Bills	
<u>1957</u>						
9/4	\$537	\$718	\$1169	\$2423	\$822	October 1, 1957
9/11	535	745	1168	2447	833	\$700 replaced by
9/18	512	775	1182	2468	883	\$400 1-year
9/25	459	781	1171	2410	926	\$300 2-years
10/2	419	760	1173	2353	910	
11/6	516	786	1148	2449	823	December 15, 1957
11/13	491	806	1146	2443	839	\$650 replaced by
11/20	487	847	1133	2467	824	\$200 2-years
11/27	458	869	1119	2446	808	\$400 3-years
12/4	441	888	1115	2443	820	
12/11	468	899	1121	2488	796	
12/18	479	777	1215	2471	782	
<u>1958</u>						
3/5	522	779	1063	2364	805	May 1, 1958
3/12	511	812	1041	2364	798	\$600 replaced by
3/19	506	842	1035	2383	788	\$200 1-year
3/26	486	878	1038	2402	795	\$400 3-years
4/2	480	899	1028	2407	789	\$200 12-years
4/9	441	937	1034	2412	769	\$150 20-years
4/16	404	1007	1051	2462	794	\$950
4/23	346	1009	1085	2439	859	
4/30	321	1009	1103	2433	905	
5/7	339	659	1440	2438	872	
<u>1959</u>						
8/12	301	205	2181	2687	890	October 1, 1959
8/19	287	214	2171	2671	893	\$550 replaced by
8/26	287	232	2154	2672	900	a wide range
9/2	270	254	2131	2654	913	of options
9/9	270	255	2125	2650	896	

TABLE I (continued)

Bank of Canada					Chartered Banks	Refunding Offerings
Date	Treas. Bills	Two Years and Under	Over Two Years	Total	Treas. Bills	
1959						
9/16	\$280	\$254	\$2119	\$2653	\$898	
9/23	293	254	2118	2666	925	
9/30	297	257	2117	2672	930	
10/7	343	164	2140	2647	894	
1959						
11/4	357	224	2069	2651	1005	December 15, 1959 \$300 replaced by \$200 5-year CNR
11/11	333	245	2061	2639	980	
11/18	307	276	2057	2640	993	
11/25	308	278	2057	2643	1039	
12/1	314	571 ^a	1777 ^a	2661	944	
12/9	328	577	1776	2681	1017	
12/16	324	482	1798	2604 ^b	973	

^aSwitch in maturity category of issue due December 1, 1961.

^bLarge drop offset in part by increase in "all other accounts."

SOURCE: B. K. McLaury, The Canadian Money Market, Its Developments and Its Impact, p. 75.

month preceding the refunding, its holdings in the category 2-years or under increased by some \$60 million while its holdings of Treasury bills showed an equivalent decline. The same procedure can be presumed to have taken place in the December 15 refundings of 1957 and 1959, even though the purchases of maturing issues were not completely offset.

Conditions in mid-1958 and mid-1959 made it impossible for the Bank to engage in this type of operation. In the circumstances following the Conversion loan of 1958, the Bank could not have acquired maturing issues without allowing some monetary expansion. Similarly, in 1959, with heavy bank selling and with the increases in the amount of Treasury bills outstanding, the Bank was unable to acquire maturing securities prior to the October 1 refunding without occasioning undesirable monetary expansion.

The Bank's abandonment of market support for the Conversion issue has already been mentioned. This occasion would seem to represent the most severe conflict between the Bank's monetary policy objectives and its debt management responsibilities. It will be recalled that the Bank, in its determination to apply the brakes immediately on monetary expansion, withdrew its support for Conversion issues even when this meant rising interest rates and a widening of the differential between United States and Canadian bond prices, with all its implications for the exchange rate.

Attempts by the Bank to ease the market reception of new and refunding issues has sometimes been classified as rigging the market.

Such a view seems to be based on the policy of the United States Federal Reserve System which eschews any attempt at "sweetening" the market prior to and during the issue of government securities. The major problem posed by the Bank's activities in this sphere is the possibility of conflict with monetary policy. Recent experience has shown that in a period of heavy deficit financing, when the government is often in the market for large sums, the central bank is not in a position to offer such support if general economic conditions call for a tightening of credit. On this ground it seems inadvisable to rely on the Bank for the performance of a debt management service which it may not always be in a position to carry out. It may be argued also, that the central bank's position in the financial system should preclude it from any activity which facilitates the operations of any single borrower--even if that borrower is the government. For these reasons it may be suggested that the objectives of debt management policy should be carried out with less reliance on the Bank of Canada than is the present practice.

In addition to its assistance in debt management the Bank of Canada also handles purchases and sales of securities for certain government accounts. The most important of these are the Securities Investment Account--used to invest surplus government cash, for the acquisition of bonds for cancellation, and for the purchase of external-pay bonds when exchange rates are favourable; the unemployment Insurance Fund--no longer significant from our point of view since 1961, when government bond holdings of the fund were cancelled and replaced

with non-marketable redeemable 3 and 3/4 per cent bonds; and the Purchase Fund--set up in June, 1961, to be used for the acquisition of long-term bonds for cancellation, and possibly to influence the yield structure and to stabilize the market.

The effect of purchases and sales of securities from these funds is the same as that involved in the Bank's normal monetary operations. It has been argued that control over buying and selling for these funds has been used by the Bank in the past to further policies not related to the purposes for which the funds were established. Scott Gordon has commented at length on the use of the Unemployment Insurance Fund during the Conversion Loan of 1958. Among other things he had this to say:

Before going on to discuss the effects of the Conversion Loan on the Fund some features of the pre-Conversion portfolio might be noted. The rather large holding of long-term bonds is explainable by the fact that until 1957 the assets of the Fund were relatively stable, and the managers tried to maximise income by purchasing the longer term issues with a higher yield. But, there was one surprising transaction in the Fund in February 1958 that proved to be a prelude of strange things to come. Over the winter of 1957-1958 the Fund had been experiencing a fairly heavy net outflow which led to the sale of shorter term securities including some of the Victory Bonds. Yet the managers bought for the Fund \$15 million of a new long-term bond issue, the C.N.R. 4's of February 1, 1961, when this was experiencing some difficulty in the market. One does not normally find a fund that is under liquidation pressure simultaneously buying long-term bonds; the action at this time in supporting a new government issue suggests that the Fund was being managed not for the welfare of its beneficiaries, the unemployed, but to facilitate government debt management operations.²⁴

The Investment Dealers Association raises a somewhat different objection to the management of these funds by the Bank of Canada, but nonetheless suggests that responsibility for buying and selling for

these funds be taken from the Bank.

There is doubt that the Central Bank should act as agent for Government accounts and Purchase Funds as this seems to centralize a disproportionately large amount of the total funds which are actively in the market. Such accounts might be handled by the Department of Finance or by establishing separate trading functions for each account, thus reducing possible conflict with monetary policy.²⁵

THE CANADIAN EXCHANGE RATE

1946-1959

It will be remembered that in 1939, the value of the Canadian dollar had been set at a discount from that of the United States. At that time exchange controls were introduced and all foreign exchange holdings were transferred to the Exchange fund Account. The Fund purchased foreign exchange by drawing on the government's account at the Bank of Canada, but since this account was replenished by transfers from the government's accounts at the chartered banks, there was no direct effect on bank reserves.

Because of Canada's strong trade ties with both the United States and the United Kingdom, it was important that the value of the Canadian dollar should bear some relationship to both these currencies. Consequently, when the United Kingdom devalued its currency in 1949, Canada sought to adopt a rate which would maintain something close to the established relationship between the three currencies. Thus, the Canadian dollar--which had been revalued to parity with the United States dollar in 1946 as an anti-inflationary measure--was now valued at some ten per cent below the United States dollar.

Unfortunately, it was not possible to hold this rate for any length of time. The commencement of the Korean War in 1950, gave a boost to Canadian exports to the United States, and there was a sharp increase in the inflow of American capital, mainly for investment in the export-oriented natural resource industries. It became clear, under these circumstances, that the ninety cent rate was too low, and speculators began to transfer large amounts of funds into Canada in anticipation of an upward revaluation. The authorities were hard put to accommodate these large capital inflows without undesirable monetary expansion. On September 30, they announced that the exchange rate would no longer be fixed, but would be allowed to fluctuate freely.

The decision to adopt a freely fluctuating exchange rate was made at a time when for the first time monetary policy was being adopted in Canada as a restrictive device. The close links between the money and capital markets of Canada and the much larger United States markets make it impossible for Canada to be unaffected by developments in the American security markets. The flow of funds across the border can respond in such magnitude to changes in interest differentials as to play havoc with the Canadian money supply. The floating exchange rate, however, could be expected to isolate the domestic money supply from such capital inflows, and could therefore allow some scope for an independent monetary policy in Canada.

After the foreign exchange market was set free the central bank did continue to act to iron out wide short-term swings in the

rate, but by 1952, after the rate reached parity with that of the United States dollar, it showed considerable short-term stability. Between 1952 and 1960, for example, quarterly changes in rates never exceeded two per cent. This stability has been attributed to the equilibrating short-movements in short-term capital flows, and not to any fundamental equilibrium in the balance of current account and long-term capital flows.²⁶

During this period--1952 to 1960--when the free exchange rate worked well, the monetary authorities could carry out policies which occasioned sharper rises or falls in interest rates in Canada than in the United States. As R. E. Artus says:

In 1952, when inflationary pressures were still strong, Canadian longer-term interest rates continued to rise after the level of rates in America had stabilized, and from late 1953 to mid-1955, when unemployment was causing some concern, both long-term and short-term rates in Canada were allowed to fall quite markedly relative to those in the United States. Thereafter, as the investment boom gathered pace the interest rate differentials widened again.²⁷

But the independence of monetary policy in Canada can easily be overstated. R. R. Rhomberg has argued that it was the fact that Canadian monetary policies did not diverge to any marked degree from United States policies which has accounted for the slight swings in the exchange rate between 1952 and 1960. He states that:

A joint consideration of the estimated effects of the short-term and long-term interest differential on Canada's foreign exchange market points to the paramount importance of Canadian monetary policy in the determination of the exchange rate and also to the relatively small scope for Canadian monetary action independent of monetary policy in the United States. . . . In long-run perspective, the relatively small deviations of the Canadian exchange rate

from parity with the United States dollar must be explained by reference to the close coordination of Canadian financial policies with the policies pursued abroad, chiefly in the United States.²⁸

Whichever way we look at the matter, we can conclude that for the period 1952 to 1960, the floating exchange rate and monetary policy were in harmony. But, in addition to inducing flows of funds, the exchange rate also affects the flow of goods and services, and indirectly, the level of employment. We may ask therefore what has been the effect of the free exchange rate on the level of employment.

Between 1950 and 1956, unemployment could hardly have been considered a problem. In fact, the real problem facing the authorities throughout most of this period was that of containing inflationary tendencies. Even so, the exchange rate, if anything, tended to reinforce full employment tendencies, by rising when employment was rising and falling when employment was falling. When, after 1957, unemployment became a serious problem, however, the exchange rate moved in a way which tended to undermine policies aimed at increasing employment. Comparative credit tightness in Canada in 1956 and 1957, and the boom in investment, resulted in the raising of large amounts of capital in the United States--by corporations and junior governments--for investment in Canada. The movement of these funds into Canada led to a rise in the exchange rate from par in 1956 to a premium of some six per cent in 1957. When later in 1957 signs of recession and unemployment appeared, the capital inflow continued due to the differential which had developed between Canadian and United States interest rates.

The problem worsened when in mid-1958 the government undertook its Conversion Loan issue. Some three months after the Conversion issue was launched the Bank of Canada ceased to support the issue on the grounds that the most immediate problem it faced was that of controlling expansion in the money supply. The new bonds were allowed to be absorbed through the process of declining prices, and this caused a further major widening of the differential between Canadian and United States bond prices, and a consequent worsening of the exchange rate situation.

In these circumstances most policies designed to improve the employment situation through increasing exports and reducing imports were nullified, at least in part, by the premium on the Canadian dollar. The free exchange rate can, therefore, be said to have been a successful device until the unusual differential between Canadian and United States bond prices developed. One of the main contributors to the widening differential after 1957 was the Conversion Loan issue of 1958.

CHAPTER II

SOME THEORETICAL CONSIDERATIONS

There has been a great deal of controversy surrounding the timing of debt management operations and, the emphasis to be placed on the objectives to be achieved by such operations. One school stresses the desirability of using debt management policies to reinforce anti-cyclical fiscal and monetary policy; another school urges a debt management policy which is neutral as far as its effects on monetary policy are concerned.

Debt Management As An Economic Stabilizer

According to the anti-cyclical school, the authorities responsible for debt management should seek to sell long-term bonds and to buy or retire short-term bonds in periods of inflationary pressures in the economy. This action would have the effect of mopping up excess liquidity in the economy, and of siphoning investment funds off the market. In times of recession, on the other hand, the authorities should endeavour to sell short-term bonds and to buy or retire long-term bonds. This action would have the effect of increasing the liquidity of the economy and of releasing funds to the long-term market.

Several authors have expressed doubts on the extent to which this type of operation could benefit the economy. If the authorities engage in anti-cyclical debt management operations, the main influence

of their policy on the market would be through the effects which such a policy would have on interest rates--both short-term and long-term. Thus the question is essentially one of assessing the effects of changes in interest rates on long-term and short-term expenditure and, the effects of changes in interest rates on the supply of short-term and long-term funds.

When the actual operation of lengthening the average maturity of the debt as a deflationary measure--or the shortening of the debt as an anti-deflationary measure--is being considered, the analysis tends to become somewhat more complicated. Let us suppose, for example, that the Treasury borrows funds in the long-term market and uses these funds to retire short-term debt. Since by this switching operation funds are taken from the long-term market and put into the short-term market, it is likely that there would be a rise in long rates--which would be deflationary,--and a fall in short rates--which would be inflationary. Thus, the final consequences of the operation would depend upon the way in which short-term expenditure and the supply of short-term funds respond to changes in the short rate, as compared with the way in which long-term expenditure and the supply of long-term funds respond to changes in the long rate.

Now let us take a look at the way in which expenditure can be expected to respond to rate changes. There are two questions to be asked here:

1. What is the effect on expenditure of a change in the level of rates?

2. What is the effect on expenditure of a change in the structure of rates?

Warren L. Smith puts forward in some detail the classical view of the effect of changes in rates on long-term investment as compared with the effect on short-term investment. He states:

. . . If businessmen attempt to evaluate investment projects scientifically, using a profit-maximisation criterion, they may proceed by comparing the present value of the expected future returns from the project with the projects's cost. If value is greater than cost, the firm will invest; if cost is greater than value, it will not invest. Since a given change in the rate of discount employed will have a much greater effect on the present value of long than of short-term investments, it would appear that a rise in the long-term interest rate is more likely to push a significant amount of investment below the margin of profitability than would a similar rise in the short-term rate. According to this view, the interest elasticity of long-term investment is likely to be substantially greater than the interest elasticity of short-term investment.¹

There have been several strong arguments against this view. It has been argued, for example, that in estimating future profits, factors exogenous to a firm may tend to be more important than factors over which it has more direct control. Considerations relating to the demand for its products, labour and material costs, the possibility of changes in technology and in methods of production, the possibility of new competing products, all affect, both the yield sought on investment, and the payback period. Because of the amount of uncertainty which these considerations introduce, the rate of return which a firm may expect on an investment may include a large element for risk--that is risk to the borrower of funds--which is likely to make the actual market rate of interest a factor of much smaller significance than the

previous argument would lead on to conclude. In fact, a survey carried out in England by the Oxford Economists' Research Group in 1939² showed that firms did not consider an investment, notwithstanding the market rate of interest, unless it promised to pay returns in the twenty per cent to thirty per cent range.

The growth in internal financing may be another factor which has tended to make the market rate of interest of less significance in the decisions of investors. Similar effects may be expected to follow where crude rules of thumb such as the average-payout period--which takes no account of the current rate of interest, but provides a rate of discount against the uncertainties of investment--are used.

R. S. Sayers comments on the question of interest rates and economic policy as follows:

. . . a firm's lending rate is not equal to its borrowing rate. Even for very large firms, unless a firm takes business risks not pertaining to its main activities it cannot temporarily invest its liquid resources except at the relatively low rates obtainable on bank deposits or on government bonds. Consequently, if a firm already had liquid resources, even a sharp rise in interest rates would not deter it from making capital outlay which previously seemed profitable. The smaller the firm, the more important the liquid asset consideration.

. . . the rates at which capital can be obtained are not the same for all firms. Because loans are necessarily tied to the uncertainties of individual businesses, widely different interest rates can be--and are--charged to particular borrowers. This risk valuation is highly subjective, and the business capital market is divided into an infinite number of pockets between which money does not readily spill over in either direction as soon as established price differential is disturbed. A change in interest rate therefore does not cause a spill over of funds. Keeping differentials constant, but induces changes in expectations which completely open or shut channels through which money flows into the market for real resources. The effect of interest rate on capital outlay arises partly because interest rate changes provoke changes in the absolute availability of capital for particular purposes.³

Thus, according to Sayers, changes in interest rates may affect investment without changing the profit calculations of businessmen. They may, that is, have an indirect effect by altering the willingness of financial institutions to grant credit, or even to float bonds and stock.

The bulk of the empirical evidence which has been collected on the problem has failed to show any conclusive sensitivity of either short-term or long-term rates to changes in the rate of interest. The Oxford studies of 1938 and 1939, showed that:

. . . There seemed to be a strong tendency to be affected by the facilities for raising capital or borrowing money, as distinct from the actual cost of such finance. Free resources in the hands of the firm was also a powerful factor affecting expansion. The fact that the firm had ample resources or had no difficulty in borrowing was more important than the cost of borrowing.⁴

More recent studies have failed to bring out conclusive evidence to support a different viewpoint. Even the evidence produced on interest rate effect in the case of public utilities and residential housing, areas in which investment activity is characterized by a low degree of uncertainty and long-lasting plant, has been mixed. The Radcliffe Committee found that ". . . when we confined our questions strictly to the direct effect of interest rate changes in making businessmen alter their decisions to buy or sell goods and services, we were met by general scepticism."⁵

Changes in rates are likely to have little effect on short-term investment. This applies particularly to investment in inventories, where the importance of stocks in the production process and the possible speculative profits may outweigh interest considerations.

Similarly, changes in interest rates are unlikely to affect the volume of consumer expenditures.

We may conclude, then, that a change in the maturity structure of the debt--on the present evidence--cannot be expected to have any significant effect on the volume of investment, and that whatever effect it may have would be more pronounced with respect to long-term investment, and would be selective rather than general in character.

Let us consider now the possible effect of changes in long-term and short-term rates on the supply of funds in these markets. This, of course, involves the assumption that the markets are connected and that funds can, and do, shift from one market to another, depending on interest differentials. Generally, short-term securities are better substitutes for money than long-term securities; consequently it can be expected that a small change in interest rates would induce more shifting from money to short-term securities than from money to long-term securities. Thus to induce an increase in the supply of funds in the long-term market would require a larger increase in the rate than would be required to induce a shift of similar magnitude in the short-term market.

Perhaps the crux of the matter regarding the use of debt management as an anti-cyclical device is summed up in Smith's statement as follows:

. . . It is difficult to see what can be accomplished in the way of contracyclical control of aggregate spending by means of debt management that cannot be accomplished more effectively by Federal Reserve monetary policy. Debt management, at least as presently conducted by the Treasury, is a cumbersome instrument of stabilization policy, because it is difficult to

time in a flexible way and because the Treasury is almost unavoidably concerned about its success in raising money. Monetary policy is a superior instrument of economic stabilization, because the Federal Reserve possesses a high degree of administrative flexibility and because the maintenance of economic stability is its major responsibility.⁶

Of course, this is not to argue that debt management should not be exercised with overall economic conditions in mind. It stresses, rather, the fact that the debt management authorities must lodge all of the outstanding debt somewhere and, consequently, cannot take steps to further policies like credit restraint, if such steps would occasion significant risk of failure of new issues or attrition on refunding or exchange issues.

Some Alternatives to an Anti-cyclical Debt Management Policy

There have been two main proposals put forward as alternatives to anti-cyclical debt management policy. The first, put forward in its most radical form by Milton Friedman, aims at making debt management operations completely neutral in terms of monetary side effects. The second, advanced by W. L. Smith, aims at minimizing the interest cost of the public debt.

For Friedman, "The main need with respect to debt policy seems . . . to be . . . to simplify and streamline in such a way as to keep debt operations from themselves being a source of instability, and to ease the task of coordinating Treasury debt operations and Reserve open market operations."⁷ It is his view that the tailoring of security issues to meet the needs of investor groups and the attempt to achieve wide

distribution, lengthened maturity and minimum interest cost have led to what he calls: ". . . a bewildering maze of securities of different maturities and terms, and lumpiness and discontinuity in debt operations, with refunding of major magnitude occurring on a few dates in the year.⁸ And so:

. . . Instead of proceeding at a regular pace and in a standard way to which the market could adjust, debt management operations have been jerky, full of expedients and surprises, and unpredictable in their impact and outcome. As a result they have been a continuing source of monetary uncertainty and instability.⁹

As a means of remedying these defects, Friedman makes two sets of suggestions; one for adoption under a system of 100 per cent reserve banking, and the other for adoption under the existing system. Here, we are mainly interested in the latter proposals. These comprise three main recommendations along with two suggestions of somewhat less significance for our present purpose. His main proposals may be summarized as follows:

1. That the tap issues, like savings bonds, should be retained in their present form since they do little harm to effective monetary policy, and changes in the outstanding amounts take place gradually.
2. That all other debt should be issued in one of two standard forms: (a) in the form of a short-term security, such as a 90-day bill or any other convenient comparable maturity, (b) in the form of a long-term bond--preferably a consol--or one with an eight to ten year maturity when issued.

3. That both types of marketable securities should be issued at regular and frequent intervals, and that the amount to be sold at each interval should be stated well in advance, and should vary smoothly from one sale to the next.¹⁰

Admittedly, these proposals can go far in removing market uncertainty about debt issuing and refunding operations. It is not clear, however, that they contain any element which would ensure a certain maturity structure of the outstanding debt. For example, the maturity structure may still be shortened--with all the implications for monetary policy--both through the passage of time and through the issue of a larger proportion of the suggested short-term security than of the long-term. One may also argue that efforts by the debt management authorities to diversify holdings of the debt has a dual purpose. It may lead to lower interest costs, but it also may reduce the necessity of making excessive demands for funds in any single segment of the market. This is especially applicable in the case of sales of longs. In the Friedman proposals, as we have noted, the authorities would carry out selling operations in only two segments of the market. It may be that thinness in the long-term segment may not permit operations on the scale needed to place all the long-term securities which the authorities wish to place.

Another suggestion along the same lines as Friedman's has been made by T. C. Gaines. This one, however, combines the quest for regularizing and streamlining offerings with an appreciation of the

need for having issues which match the supply of funds in a given maturity sector, and with provisions for issuing debt in several maturity sectors. According to Gaines:

The most important first step in an effort to develop more effective public debt management techniques is to routinize refunding. First, a schedule of short-term debt should be developed containing 3-month, 6-month, and 1-year obligations that are automatically rolled over into similar new securities at maturity. Second, a similar structure of intermediate and longer-term maturities should be established which, again, would automatically be refunded into securities of identical term at maturity.¹¹

Gaines proposes that for longer-term bonds, offers of exchange options into new longer-term bonds should be made well before these securities reach maturity, and that the amounts scheduled for refunding at any time should be small enough to match the normal flow of investment funds in the maturity sector being used.¹²

These proposals attempt to provide some predictability in the issuing operations of the authorities, but they go much further than Friedman's in recognizing the limitations placed on debt management policy by the securities market itself.

Another suggested alternative to counter cyclical debt management policy is discussed, but not actually endorsed by W. L. Smith. According to this suggestion, the debt management authorities would carry out cash borrowing and refundings entirely with a view to minimizing interest costs. They would leave economic stabilization entirely to the monetary authorities.

. . . Thus the Treasury would concentrate its borrowing in the short-term market during prosperous times, despite the fact that short-term rates would be high during such periods.

Most of this short-term debt would be rolled over at low interest cost during recession periods when interest rates fell, . . . while some extension of long-term borrowings would be conducted in recession periods.¹³

While Smith himself points out the complexities involved in an attempt to use the criterion of minimizing interest costs, it is Friedman who makes the most pertinent comment on the idea. To him, it is legitimate for government to seek to borrow as cheaply as possible consistent with its other objectives. But:

. . . In the first place, the meaning of borrowing 'as cheaply as possible consistent with its other objectives' turns out to be extremely complex. The relevant criterion is not total money interest payments to the public--these could be made zero simply by monetizing the debt, which is to say producing inflation Nor is the relevant criterion the interest per dollar of debt, or the average interest rate. For this would imply that the form of the debt had no effect on its amount.¹⁴

The Structure of the Debt; Its Influence on Economic Stability

Although switching operations aimed at making marginal changes in the debt structure are unlikely to aid significantly in achieving economic stability, the structure of the debt itself may be an important force aiding or impeding economic stability. The growth of the public debt during and since World War II, the increasing importance of large financial institutions, and, in Canada, the post-war development of the money market, have strengthened the influence of monetary policy. At the same time, however, the substantial growth in short-term government debt, representing readily shiftable assets, creates conditions in which a tightening of credit and rising interest rates induce substantial dishoarding of cash balances and a rise in velocity.

Experience shows, for example, that with increased use of flexible monetary policy since the war, changes in the holdings of government securities of commercial banks have followed a fairly cyclical pattern.

Opinions differ on the effects of changes in velocity on the impact of monetary policy. Minsky argues that under credit restraint:

Higher interest rates . . . induce institutional changes in the money market which have the effect of increasing lending ability . . . The rise in rates feeds back upon the institutional framework. With rising rates the incentives to find new ways to finance operations and new substitutes for cash assets increases.¹⁵

Such institutional changes as take place in periods of credit stringency are not discarded in periods of credit ease; the result is that changes in velocity are not symmetrical in both directions. For Minsky, ". . . These changes (in lending ability) may or may not lead to a sufficient increase in financing ability to effect the same increase in financing as would have occurred if there had been no central bank constraint."¹⁶

Lawrence Ritter regards changes in velocity as a sort of release valve which modifies the harshness of the impact of monetary restraint.

While it is literally true that changes in velocity 'offset' changes in the supply of money, they are unlikely to do so completely, if the liquidity function has an interest elasticity less than infinity and the consumption and investment functions are at all responsive to changes in the cost or availability of funds. The partial offset which it gives provides the central bank with a margin of flexibility and safety, allowing it to restrain growth in the money supply without causing a sudden financial crisis.¹⁷

Ritter backs up this view with an argument that there is a maximum possible velocity increase under any given circumstances.

S. W. Rousseas argues, on the other hand, that although ". . . for any increase in velocity . . . there exists some decrease in the availability of credit (rise in the rate of interest) which would just offset the velocity change . . ." the relevant question is whether this effective rate of interest lies within the institutional range of interest rates.¹⁸ In Rousseas' view there are both a lower and an upper limit on interest rates, and this means of offsetting velocity may be limited.

George Garvey lays little stress on the limitations which changes in velocity may impose on restrictive monetary policy. In his view, ". . . So long as monetary authorities are aware of the nature, extent, and possible range of these . . . reactions, changes in velocity can be taken into account when determining the magnitude and timing of the required policy actions."¹⁹

Both the Radcliffe Committee and Mr. Coyne are of the view that there is no effective limit to velocity increase. In fact, Mr. Coyne believes that the central problem of monetary policy is estimating and influencing velocity. While the Radcliffe Committee in its report states that ". . . We have not made more use of this concept because we cannot find any reason for supposing, or any experience in monetary history indicating, that there is any limit to the velocity of circulation . . ."²⁰ Mr. Coyne in reply to a question by Senator Leonard, seeking to ascertain whether there is an effective limit to

an increase in velocity of circulation, had this to say; "we have never found it. It might be very dangerous to try to find it. I think most periods of inflation . . . have come to an end before the effective limit in the velocity of circulation has been reached."²¹

Whether or not there is an effective limit to velocity, it would seem that the structure of the public debt should be such that the supply of short-term government securities is large enough to allow of velocity changes which would ease the harshness of the impact of monetary policy. At the same time, the supply should not be so large as to allow continuing increases in velocity to offset monetary restraint. The actual relationship of velocity to the supply of liquid assets would depend upon the elasticity of the liquidity preference curve, and on whether the curve tends to shift with institutional changes as Minsky claims. These two factors, in turn, would depend upon the institutional facilities which influence the conversion of idle balances into active money in the short-run.

Debt Management and the Structure of Rates

J. M. Culbertson has set out the factors which combine to determine the structure of rates. These include:

1. The difference in liquidity between long-term and short-term debt.
2. The attractiveness of debts of different maturities on the basis of expectation as to future changes in rates.
3. The effects of changes in the short-run in maturity structure of the supply of debt and rigidities in the

maturity structure of demand for it.

4. Differences in the cost of lending related to debt maturity.²²

Some theorists stress expectations of borrowers and lenders concerning future interest rates, both in explaining changes in the structure of rates over time, and in explaining the structure of rates at any given time. Thus, expectation on the part of borrowers and investors that rates will rise would lead to a shift in the supply of funds from the long to the short-term market, and a shift in the demand for funds from the short to the long-term market. These shifts would cause the long rate to rise relative to the short rate. Further, if investors were prepared to shift funds between the various maturity sectors on a national basis, and if all investors shared the same expectations with certainty, the long rate would be equal to the average of the expected short rates over the given period.²³

In practice, however, most lenders have some preference for liquidity, mainly because of the possibility of having to meet some unforeseen contingency in the future: while some lenders--mainly banks and non-financial corporations--consider liquidity a major consideration. As Culbertson says:

The existence of some cash needs that are definite and relate to the near future and a large volume of needs that are indefinite but may have to be met in the near future creates a demand for liquidity in general, a preference for debt that can be liquidated on short notice on relatively certain terms.

Such general liquidity preference is a matter of degree, and the extent to which it exists is not a matter of logic, but of institutional arrangements, economic conditions, and national temperament.²⁴

This preference for liquidity is the main factor stimulating the demand for short-term assets, a demand which may be enhanced in times when rates are expected to rise. On the other hand, the supply of the most liquid short-term assets is comprised of currency and bank deposits, which are controlled by the central bank, and government securities and savings bonds which are controlled by the debt management authorities. The type of securities issued in respect of the public debt, therefore, can have an effect on the structure of rates. Since the authorities can alter the structure of the outstanding public debt, and since the public debt represents a large proportion of total debt in the economy, the authorities can act in this sphere to offset undesirable changes in the maturity structure of private debt, or to offset other factors affecting the general liquidity of the economy. For example, with changes in economic activity, the maturity structure of private debt may change, for, as Culbertson says:

. . . Changes in the relative proportions of long- and short-term private debt outstanding are largely associated with shifts in importance among activities characteristically financed by types of credit--changes in business inventory holdings, in fixed investment expenditures, developments in securities speculation--rather than with changes in the characteristic maturity of the debt used to finance given activities.²⁵

In addition, the activities of financial intermediaries tend to increase the general liquidity of the economy. These institutions can provide their creditors with liquid assets while lending the funds so obtained on long-term.

In spite of the activities of financial intermediaries, changes

taking place from time to time in the maturity structure of private demand for funds cannot always be matched by changes in the asset preferences of investors. The flow of funds between markets for debt of different maturity is limited by factors such as legal limitations on the type of assets certain financial institutions may hold; the desire for portfolio diversification; and the investment standards which financial institutions adopt from time to time. Such market forces are able to have important influences in the structure of interest rates.

Changes in the maturity structure of outstanding public debt is one means of helping to match, as closely as possible, the demand for and supply of funds in the different maturity sectors and, consequently, of mitigating the resultant changes in the structure of rates. Since the magnitude of debt management operations in the market are frequently much greater than that of central bank operations, such operations may be more important in so far as the yield curve is concerned. At least one, however, author claims that central bank operations can have only a limited effect on the yield curve.

. . . To the extent that open market operations changed the supply of governments available to private investors at different maturities it would have some influence on the yield curve. This might be of especial importance at the onset of recession when long rates tend to lag behind short-term in their initial decline to a greater or less degree. But permanently to influence the structure of rates by limited open market operations is another question. In view of the high degree of substitutability between longer and shorter term government securities, (open market) operations are too small, relative to the total market.²⁶

The Maturity Structure of the Public Debt

For the debt management authorities, the maturity structure of the public debt has special significance. For them it sets the pattern of successive refundings which must be handled. As Abbott puts it:

. . . It outlines, in chronological form, the sequence of problems that the debt managers must solve; that is, it shows by successive time periods the volume of obligations coming due that must either be paid off or refunded if the government's credit is to be preserved.²⁷

The maturity structure of the debt at any time is closely tied in with the pattern of ownership. Issues of securities are usually tailored to meet the needs of different groups of investors and it is this tailoring of issues which determines the maturity structure of the outstanding debt. One can say, as another way of looking at the question, that holdings of government securities may be classified either as investment assets or liquidity assets. Any significant change in holdings of government securities towards the liquid asset function would lead to a shortening of the average maturity of outstanding debt. Similarly, any major shift towards holding government securities as investment assets would lead to a lengthening of the average maturity of the outstanding debt. Of course, such shifts may be due to investor preference or to debt management policy.

Over a long-term period the authorities must keep in mind the needs of the market, since if these needs remain consistently unsatisfied, the possibility of large scale liquidation of government security holdings would be likely to create serious problems. Thus,

while changes in the maturity structure of publicly held debt can have important effects on the market and on the structure of rates, the demands of the market are a prime determinant in establishing any given maturity structure.

We have already made mention of the influence which the maturity structure of the debt can have on the structure of interest rates and on the liquidity of the economy. Both these influences may be major considerations in debt management policy.

It is worth noting that the average term of maturity of the debt automatically shortens with the passage of time. This shortening process increases the liquidity of the economy, and makes it necessary for the authorities to seek to issue long-term securities even in periods when no budgetary deficits are being incurred.

The Public Debt and Fiscal Policy

The public debt is a natural outgrowth of past and present fiscal policy. The financing of cash deficits result in increases in the holdings of government assets in the investment accounts of the central bank, commercial banks, and the general public. Where deficits are financed by borrowing direct from the banking system, it results in the creation of new money, which, in turn, finds its way into the cash balances of the general public when deficit expenditures are incurred. In like manner, deficits financed through non-bank borrowing may reduce the cash balances of the general public and add to the asset holdings of this group. But the deficit expenditure would tend to restore the cash balances of the non-bank public to its previous

level.²⁸

The size of the public debt can therefore be increased or reduced by appropriate fiscal policy. The importance of this point for debt management policy is stressed by the Radcliffe Committee:

It is not only that debt management has cardinal importance among monetary measures; it also has important implications for fiscal policy. For the debt ought not to be regarded as a given total, whose structure alone can be manipulated. If all possible courses in manipulating the structure threaten serious disadvantages, this can be a reason for aiming at a bigger Exchequer cash surplus (or smaller deficit), so as to lessen the difficulties of management of the debt. . . . The debt is not, that is to say, to be regarded as a residual among the quantities of economic policy.²⁹

Somewhat similarly, some have argued that excessive reliance on monetary policy as opposed to fiscal policy in times of inflation has tended to aggravate the problems of debt management. As this argument goes, cash budget surpluses in times of inflationary pressure would ease debt management difficulties in two ways; by making it possible to retire debt at a later date; and by reducing private demands for credit, thus removing the necessity for credit tightening and rising interest rates.³⁰

Debt Management and Monetary Policy

The close relationship which exists between debt management and monetary policy is directly related to the central position which government securities hold both in the securities markets and in the mechanism of control employed by the central bank. A broad definition of debt management would actually include a large area of what is considered monetary policy. As Smith says:

. . . One way to define debt management would be to say that it includes all measures that affect the size and composition of the stock of outstanding claims against the Federal Government (including the Federal Reserve System). On this definition, debt management would encompass all cash borrowing, debt retirement, and cash refunding operations of the Treasury, and also all open market operations of the Treasury, and also all open market operations of the Federal Reserve System.³¹

Milton Friedman places a great deal of emphasis on this similarity in consequence between the open market operations of the central bank and the debt management operations of the Treasury.

As an economic matter, . . . , the accounts of the Federal Reserve and the Treasury must be consolidated to determine what monetary action government is taking or to judge what the effects of such action are likely to be . . . A change in the maturity composition of the debt in the hands of the public can be achieved without a change in the amount of high-powered money either by offsetting Federal Reserve sales and purchases or by offsetting Treasury issue and redemption of securities.³²

Inevitably, debt management operations have the same impact on the financial markets as would some operations in monetary management; but it would be meaningless to look on both types of operations as being identical since they have different objectives. The debt management authorities are concerned with decisions relating to the types of securities which should be sold to finance budget deficits or build up cash balances; the types of securities which should be retired from budget surpluses or drawing down cash balances; and the types of securities which should be issued in refunding operations. Whatever decisions are made on these questions have an impact on the terms on which financial assets are held and traded, and so, on credit conditions in general. The Radcliffe Committee states: ". . . The size

of the debt, in relation to other financial assets of the private sector and the maturity distribution it has historically acquired, make it impossible for the authorities to adopt a neutral policy, even if they wanted to so so."³³

The main objective of the debt management authorities is to secure and maintain a degree of stability in the pattern of ownership of the debt at reasonable cost. But the fact that the debt has become very large relative to other economic variables, and the important part which it plays in the financial structure of the economy, have made the economic side effects of the pursuit of this objective a major consideration in debt management policy. When the monetary side effects of debt management policy are not in harmony with monetary policy, then monetary policy may be severely handicapped. Similarly, when monetary policy is not in harmony with some immediate and urgent debt management requirement, then debt management may be severely handicapped.

The other side of the coin is, of course, the fact that the monetary authorities in their open market operations can, and do, influence both the size and maturity composition of the publicly held debt. These influences, however, are not as significant for debt management policy as the monetary side effects of debt management are for monetary policy.

CHAPTER III

DEBT MANAGEMENT - 1946 to 1954

During the war years the public debt of Canada increased substantially. From 1939 to 1945 total direct and guaranteed debt rose from \$4,539 million to \$17,484 million, an increase of some 380 per cent. All of this increase in the debt was lodged in Canada; indeed, non-resident holdings of government debt declined during this period. The distribution of the increase in holdings of public debt between 1939 and 1945 was as follows:

	1939 to 1945	1945 to 1954
	Millions of Dollars	
Bank of Canada	\$1,613	\$ 380
Chartered Banks.	2,557	- 193
Government Accounts.	683	383
Non-Residents.	- 254	- 430
Refundable Tax	184	- 184
Financial Institutions	1,645	- 606
Non-Financial Corporations	993	- 600
Provincial Governments	244	177
Municipal Governments.	62	- 67
Non-Corporate Sector	5,163	- 883
	<hr/>	<hr/>
	\$12,890	\$-2,029
	<hr/>	<hr/>

A large proportion of the increase in government debt was placed with financial institutions, non-financial corporations and private individuals. Together these groups absorbed some 56.6 per cent of the total increase, the bulk of which was in the hands of the non-corporate sector. It was inevitable that with the return to peacetime conditions large amounts of these securities would come onto the market as alternative investment opportunities became available, and as consumers sought to satisfy demands held in check during wartime.

The authorities were not disposed to allow government bond prices to fall; partly because of the desire to safeguard the investments of persons who had supported the war effort with their savings, and partly because a policy of maintaining low and stable interest rates was thought appropriate for the reconstruction period. In order to maintain stable bond prices the bonds coming on the market had to be absorbed either by the banking system or by government accounts.

Between 1946 and 1949, financial corporations had reduced their holdings of government securities by \$208 million; non-financial corporations by \$480 million; and the non-corporate sector by \$866 million. For the same period the chartered banks reduced their holdings by \$394 million. Only the Bank of Canada (\$157 million), non-residents (\$96 million), and Provincial Governments (\$86 million) increased their government security holdings, while the government reduced the amount of total debt by \$1,655 million. Thus, the Federal Government and the Bank of Canada absorbed some \$1.8 billion of government securities while financial institutions, non-financial

corporations and private individuals divested themselves of some \$1.55 billion. As W. C. Hood indicates in dealing with the period 1946 to 1948:

. . . Consumers were net suppliers of funds, directly and indirectly, through financial institutions, to other sectors, especially business: the financial institutions, themselves net sellers of federal bonds . . . , greatly increased their financial accommodation of business through the increase of bank loans and the purchase of bonds and stocks.¹

If we look at the period 1945 to 1954, the tendencies illustrated above become even more pronounced. From 1945 to 1954, financial institutions reduced their holdings of government bonds by \$606 million, non-financial corporations by \$600 million, and the non-corporate sector by \$833 million. At the same time the Bank of Canada increased its holdings by \$380 million, and government accounts by \$383 million, while the total debt was reduced by \$2,032 million. For this period the chartered banks' portfolio of government securities fell by \$193 million.

Over most of this period (1945-1954) the authorities were following a policy of lending strong support to bond prices. For the early part of the period the level of rates on government bonds was rigidly maintained and although some downward adjustment in prices was permitted in 1948, the policy of stabilizing prices was not abandoned. It was not until the inflationary pressures of 1950 that the policy was discontinued.

As can be seen from the figures on the previous page, the support for the bond market took the form of purchases by government accounts, cash redemptions, and central bank purchases. Purchases by

the Bank of Canada, of course, led to monetary expansion; this kept the chartered banks in a position to be net buyers of government bonds, or allowed them to expand their loans without becoming large sellers in the market.

It has been argued that the large budgetary surpluses which were achieved after the war did, to some extent, tend to curb the inflationary tendencies generated by the support of bond prices. Hood, however, puts forward the view that the use of such surpluses to retire debt, in fact, neutralized their anti-inflationary impact.

. . . The broad picture, then, is of government exerting pressure on the economy both directly and indirectly--directly by increasing its demands for real goods and services and indirectly by returning taxes to bond holders and thus supporting the demands of others for real goods and services.²

At any rate, a large part of the government surpluses must have been due directly to the inflationary consequences of pegging bond prices in a market in which heavy selling was taking place. On the other hand, had it not been for the fact that large amounts of debt were redeemed, and that government accounts absorbed a substantial amount of securities, the Bank of Canada could not have maintained bond prices at the levels achieved without a dangerous amount of monetary expansion. In this sense, at least, the surpluses were anti-inflationary.

The large budgetary surpluses made it unnecessary for the Bank of Canada to aid the government in its financing. Most of the securities held by the Bank were converted into 6-month Treasury notes. These amounted to \$750 million by May 1947, and remained at that figure until \$200 million were redeemed in 1955. On May 1, 1956, the remainder of these certificates were redeemed, partly offset by a sale of

securities (\$500 million) from the Securities Investment Account to the Bank.³ The Bank made no direct advances to the government until November, 1951, and although there were twelve of these up to the end of 1953, they were never outstanding for more than ten days.

Only on one occasion during this period did the government have to turn to the Bank for assistance in financing. This was during the exchange crisis of 1950, when after a brief period in which purchases of foreign exchange were financed through the sale of non-negotiable deposit certificates to the banks--a procedure to which the banks objected on the grounds that the rate of interest paid was too low--the government, in August, sought assistance from the Bank of Canada. As stated earlier, from August to October, 1950, the Bank had purchased \$393 million of foreign exchange from the Exchange Fund.

For the period 1945 to 1954 as a whole, debt management in Canada presented no problems, and the policies followed were straightforward. The policy of supporting bond prices though primarily monetary policy, ensured that the huge post-war release of government securities could be absorbed without capital losses to the holders, and without disturbing effects on the market; the large government surpluses made it possible to absorb large amounts of these bonds without monetary expansion, and kept the government out of the market for new money. It was not until after the early 1950's that debt management became something of a problem.

For the most part debt management policy was in harmony with monetary policy until the inflationary pressures of 1950 forced the central bank to abandon its policy of supporting government bond prices

in order to keep a tighter control on bank cash reserves. Between 1950 and 1953, another conflict also appeared. It became clear that in times when the monetary authorities are enforcing a tight money policy the chartered banks can be expected to reduce their portfolios of Treasury bills and government bonds in order to increase their loans. Under such circumstances any attempt to resist a fall in bond prices would cause monetary expansion. Even more important, barring specific agreements, only falling bond prices (rising yields) could be expected to bring bank selling to a halt.

Since 1953 the government seems to have decided to raise all funds in the market, avoiding direct placements with the banking system. As we have seen, the \$750 million of Treasury notes which the Bank of Canada held since 1947 were replaced by marketable securities in 1955 and 1956. Similarly, the last of the Deposit Certificates (\$200 million) held by the chartered banks were redeemed in May, 1953, with the proceeds of an increase of \$200 million in Treasury bills. (See Table II.) This may have increased the technical problems of debt management.

Changes in government bond yields and in the pattern of yields which took place during the period 1946 to 1954, must be attributed to monetary policy rather than to debt management. The sharp rise in rates from 1950 to 1953--the only large rate change in the period--was the result of the restrictive monetary policy in force in the face of an inflationary threat.

TABLE II

GOVERNMENT OF CANADA DIRECT AND GUARANTEED SECURITIES OUTSTANDING 1946-1960

Millions of Dollars

Direct Funded Debt Outstanding									
Date	Treas. Bills	Treas. Notes	Deposit Certificates	Other Unmatured Market Issues	Matured and Outstanding	Canada Savings Bonds	Total	Guaranteed Funded Debt	Total Outstanding
1946	\$ 450	\$606	\$490	\$13,983	\$32	\$1,237	\$16,789	\$ 515	\$17,313
1947	450	750	-	13,480	22	1,440	16,142	565	16,707
1948	450	750	100	13,215	35	1,410	15,960	518	16,478
1949	450	750	-	12,766	53	1,227	15,246	573	15,819
1950	450	750	300	12,552	51	1,218	15,321	571	15,892
1951	450	750	200	12,196	21	1,194	14,811	523	15,334
1952	450	750	200	11,995	19	1,250	14,664	522	15,186
1953	650	750	-	12,066	19	1,632	15,117	520	15,637
1954	780	750	-	10,854	74	2,090	14,548	918	15,466
1955	1,225	500	-	10,952	30	2,433	15,140	860	16,000
1956	1,575	-	-	10,298	27	2,541	14,442	793	15,234
1957	1,625	-	-	10,145	18	2,649	14,436	728	15,165
1958	1,495	-	-	10,993	10	2,895	15,393	1,023	16,416
1959	2,077	-	-	10,496	16	3,212	15,801	1,334	17,135
1960	1,985	-	-	10,466	25	3,594	16,071	1,676	17,747

Source: Bank of Canada, Statistical Summary, 1960, p. 46.

DEBT MANAGEMENT - 1955 to 1959

In the period 1955 to 1959, debt management provided serious problems. The government surpluses of the early post-war period gave way to deficits as anti-cyclical fiscal policy came to be more vigorously employed. From the fiscal year 1954-1955 to the fiscal year 1959-1960, the government had a deficit on its budgetary accounts in every year except 1956-1957. The deficit on current account for these years totalled \$1,245.9 million. In addition, there were substantial deficits on the non-budgetary accounts for most of these years. For example, while in the fiscal year 1957-1958, the government had a deficit of \$38.6 million on current account, its overall cash requirement was \$164.9 million. Similarly, while for 1958-1959 and 1959-1960 the budgetary deficits were \$609.3 million and \$413.1 million respectively, the overall cash requirements were \$1,273.3 million and \$375.5 million respectively.

These large deficits meant that the government had to be in the market most of the time, seeking to raise substantial sums of new money in addition to refinancing maturing issues. From the end of 1954 to the end of 1959, the total debt outstanding rose by \$1,669 million, and the direct and marketable debt by almost \$1 billion. Such large sales of new securities posed a special problem in a market not very receptive to long-term government bonds. They must have also created special problems for the Bank of Canada which acts as the government's technical adviser, and endeavours to smooth the way for new issues coming on the market.

During 1955, direct and guaranteed debt was increased by \$550 million. In this year both government deposits and total debt were increased. The Bank of Canada took up \$150 million of the debt, government accounts took up \$290 million, and the general public took up \$370 million. Chartered banks were net sellers to the amount of \$250 million. There were large shifts in the public holdings of government securities; the general public bought \$290 million of Treasury bills and \$340 million of Canada Savings Bonds and sold \$250 million of other issues.

In 1956, on the other hand, the government used both its deposits and its surplus to pay off debt. Net retirement of market issues amounted to \$888 million and the change in different categories of debt was as follows:

Millions of Dollars			
	New Issues	Retirements	Net Change
Market Bonds			
Direct	\$650	\$1,305	\$-655
Indirect	-	67	- 67
Treasury Bills.	-	-	+350
Treasury Notes.	-	-	-500
Matured and Outstanding	-	-	- 3
Exchange Rate Valuation			
Adjustment	-	-	- 13
Total Market Issues	-	-	-888
Canada Savings Bonds.	877	769	+108
			<hr/>
			\$-780
			<hr/>

While the government was reducing total debt outstanding, the banks sold some \$915 million of bonds and bought some \$315 million of Treasury bills, reducing their portfolios of government securities by some \$600 million. At the same time insurance companies reduced their holdings by \$137 million. The general public--excluding insurance companies--were net sellers to the amount of some \$40 million. The Bank of Canada and government accounts between them took up only some \$40 million of the bonds; the remainder were retired by the government. This substantial retirement of debt has drawn the comment from Hood that:

. . . once again in post-war Canada, inflationary developments were accompanied by a debt management policy which involved using the cash surplus and indeed some of the cash as well, to retire debt . . . the bulk of the debt taken up . . . in this way was drawn from the chartered banks . . . it was only as far back as the recession of 1954 when a large block of this debt had been acquired by the banks.⁴

In spite of the large amount of retirements during 1956, only \$250 million of the \$650 million of bonds issued was in the long-term category; this was part conversion of the 5th Victory Loan due January 1, 1959, to bonds due March 15, 1998. The main result of the retirements, from the point of view of debt management, seems to be the maintenance of a certain amount of stability in bond prices in the face of heavy selling activity by the banks and insurance companies.

In 1957, the amount of direct and guaranteed marketable debt outstanding--excluding Treasury bills--declined by \$227 million. For the same year Treasury bills outstanding rose by \$50 million, and Canada Savings Bonds by \$108 million, making for a net decline of \$69

million in the total debt as compared with \$766 million in 1956.

The Bank of Canada increased its holdings of government securities by \$37 million, while government accounts were net sellers to the extent of \$151 million. Life insurance companies sold a net amount of \$50 million, while financial corporations sold, on balance, \$175 million. Most other groups under the heading of General Public were net buyers, and this category as a whole reduced its portfolio of government debt by only \$28 million. The chartered banks, who were net sellers of government securities up to August 1957, increased their holdings by \$117 million for the year as a whole.

All the bonds issued by the government during 1957 were in the short-term category--up to two years to maturity--these totalled \$1,350 million.

The year 1958 was one of exceptional activity in the field of debt management in Canada. The government, faced with a huge cash deficit--amounting to some \$1,273.3 million in the fiscal year 1958-1959--had to go to the market to raise substantial sums in the course of the year. For the first half of 1958 the amount of direct and marketable securities outstanding increased by \$516 million, while government accounts--mainly the Unemployment Insurance Fund--reduced their holdings by \$237 million, and the non-bank public made net sales of some \$45 million and reduced holdings of Canada Savings Bonds by \$178 million.

The large amount of securities coming on the market was taken up mainly by the chartered banks (\$691 million), and the Bank of Canada

(\$107 million). Yields on long-term governments were relatively stable from January to May of 1958, while yields on short bonds and bills, which had begun to decline since August, 1957 continued to fall until July of 1958. The selling of securities therefore took place without any discernable effect on interest rates.

During the first half of the year the government issued \$300 million CNR bonds (February 3), and \$950 million of direct debt (April). This latter issue was made up of short-term bonds, the longest having a term of three years to maturity. The banks bought substantial amounts of this issue, provided large short-term loans to security dealers to finance inventories of the issue, and took up large amounts of government long and medium-term securities from the general public. The result was that two months after the issue, banks' holdings of government securities had risen by \$500 million.

All these debt management transactions resulted in a great deal of monetary expansion. Currency and chartered bank deposits held by the general public rose by \$692 million. This was made up of an increase of \$429 million in currency and chartered bank deposits, and a reduction of \$262 million in government deposits with the Bank of Canada.

As early as the first half of 1958, one could not consider the market as particularly receptive to government bonds. By June, there were definite signs of a market weakening and by July, market conditions were such that an issue of \$400 million 5-month bonds had to be sold directly to the Bank of Canada and the chartered banks. It was then

that the government announced its decision to launch the Conversion Loan campaign. This was described by the Governor of the Bank of Canada in his 1958 report as: ". . . designed to lengthen out the government debt by selling long-term bonds to the public in exchange for short-term Victory Loan issues they already held, which could be done more readily than by selling long-term issues for cash."⁵ The report also indicated that: ". . . A further objective was to remove uncertainty about the disposition of the bulk of the Government's maturities which had been adversely affecting all borrowers, and to enlarge the possibility of future financing."⁶

These statements, and the Conversion Loan will be dealt with in Chapter IV. For the moment we can simply look at the results of the Conversion issue as they affected the maturity structure of the public debt outstanding. Of the \$6.⁴ billion of eligible securities, ninety per cent were converted. Some \$3.5 billion of those were shifted to maturity dates in 1972 and 1983. The operation raised the average maturity of government marketable securities from six years to some ten years and seven months. From this narrow point of view the operation must be regarded as being a success, but several commentators have since pointed to the effects which the Conversion issue had on market stability and on the level of interest rates in Canada; effects which were considered very undesirable indeed.

During the year the Bank of Canada added to its portfolio of governments to the amount of \$19⁴ million. In addition, the Conversion operation forced the Bank to make a substantial shift in its portfolio

from short to long-term bonds. The Bank had acquired a large amount of Victory Bonds which it exchanged for long-term Conversion bonds, and it was also obliged to take up large amounts of long-term bonds from the market while supporting the Conversion Loan. In the period July to September, when the operation was taking place, the general public were net sellers of securities to the amount of \$560 million, and government securities outstanding rose by \$391 million. The Bank of Canada was a net buyer to the extent of \$176 million, chartered banks to the extent of \$560 million, and government accounts to the extent of \$92 million. It is clear from this that the Conversion Loan was achieved at the expense of a considerable increase in the money supply, and the lodging of a substantial amount of government debt, at least temporarily, in the banking system.

The magnitude of the debt management operations carried out in 1958 can be seen from the fact that gross issues of government direct and guaranteed debt jumped from \$1.37 billion in 1955, \$1.53 billion in 1956, and from \$2.6 billion in 1957 to \$9.2 billion in 1958. Net new issues of government securities were \$535 million in 1955, \$766 million in 1956, \$70 million in 1957 and \$1,252 million in 1958.

In 1959, the demands on the capital markets as a result of government debt management were somewhat reduced. In total \$871 million of new money was raised on the market, while gross sales of direct and guaranteed bonds totalled some \$2.9 billion. Up to the third quarter of the year the chartered banks were large sellers of government bonds. With both government and the banks sellers of bonds, the general public absorbed some \$1.75 billion of government securities

during the year. The heavy selling by the banks and the issues by the government put pressure on interest rates, and substantial increases in rates--which had commenced in the third quarter of 1958--continued into 1959. The market showed little appetite for government bonds and most of the new money raised by the government in 1959 was raised by means of Treasury bills. Treasury bills outstanding increased by \$582 million, while only \$289 million of new bonds were issued.

One of the problems of debt management which came to the fore in the period 1955 to 1959 was that of the average maturity of the outstanding marketable debt. In 1946, the average maturity of government direct and guaranteed marketable debt outstanding stood at nine years and eleven months; since that time there was a steady decline, and by the end of 1957, the average maturity stood at six years. The bunching of securities in the short end of the maturity structure meant that the government would be faced with a continuing heavy re-funding programme in addition to raising new money. It also meant that the economy was becoming more liquid, and this increased liquidity was to have an impact on monetary policy.

The shortening of the average maturity of the outstanding marketable debt was only partly due to the passage of time. From 1946 to 1957, the bulk of such securities issued fell in the categories two years and under, and over two years to five years to maturity. For \$4,207 million of securities issued in the category two years and under, and \$4,160 million in the category over two years to five years, only \$400 million was issued in the category over five years to ten years, and \$1,700 million in the category ten years and over. Thus, over

seventy-nine per cent of the marketable securities issued between 1946 and 1957 were in the range of maturities of two years to five years. In fact, securities of term to maturity in excess of ten years--and payable in Canadian dollars--were issued only in 1948 (\$150 million), 1950 (\$350 million), 1953 (\$100 million), 1954 (\$700 million), and 1956 (\$250 million). (See Table III.) Gross issues of indirect debt in the post-war period up to 1959 amounted to \$1,301 million, of which \$310 million was issued in the maturity range over five years to ten years, \$200 million in the maturity range over two years to five years, and \$791 million in the maturity range over ten years.

It is not clear whether this pattern is due to the fact that the market was unreceptive to intermediate and long-term government issues. While outstanding government debt in the category over five years to ten years rose from \$2,269 million in 1946 to \$3,496 million in 1957, debt in the category over ten years to maturity fell from \$8,915 million in 1946 to \$1,866 million in 1957. What is indeed surprising is that after its failure to use these maturity sectors of the market more fully up to 1957, the government proceeded to issue, in 1958 alone, \$1,267 million of securities in the over five years to ten year range, and \$3,869 million in the over ten years to maturity category. This 1958 effort was the last attempt up to 1960 to sell any significant amount of long or intermediate-term securities, and we shall deal with it in Chapter IV. After 1958, the government reverted to short-term issues mainly because the market had become totally unreceptive to longer-term government securities.

TABLE III

DISTRIBUTION OF MATURITIES OF GOVERNMENT OF CANADA
DIRECT SECURITIES ISSUED (EX-TREASURY BILLS
AND SAVINGS BONDS) 1946-1960

Millions of Dollars

Date	Two Years and Under	Over Two Years to Five Years	Over Five Years to Ten Years	Over Ten Years
1946	\$ 333	\$ 400	-	-
1947	33	-	-	-
1948	325	140 U.S.	-	\$ 150
	33	-	-	-
	500	-	-	-
1949	33	300	-	100 U.S.
1950	300	325	\$ 400	350
	-	395	-	50 U.S.
1951	200	-	-	-
1952	300	150	-	-
1953	100	200	-	100
	400	300	-	-
1954	200	550	-	300
	-	700	-	400
1955	-	700	-	-
1956	150	-	-	250
	250	-	-	-
1957	400	-	-	-
	300	-	-	-
	250	-	-	-
	400	-	-	-
1958	200	400	1,267 C	200
	400	1,021 C	-	150
	300	-	-	1,367 C
	300	-	-	2,152 C
	300	-	-	-
1959	85	100	-	-
	115	250	-	-
	144	-	-	-
	94	-	-	-
	135	-	-	-
	125	-	-	-

TABLE III (continued)

Date	Two Years and Under	Over Two Years to Five Years	Over Five Years to Ten Years	Over Ten Years
1960	\$ 300	\$ 100	\$ 80	-
	-	200	-	-
	-	249	-	-
	-	140	-	-
	-	300	-	-
Total	\$6,705	\$6,920	\$1,747	\$5,569

Source: Bank of Canada, Statistical Summary, several issues.

Debt retirement during the post-war period was geared mainly to supporting bond prices. There seems to have been some attempt at reducing interest charges, but no concerted effort was made at lengthening the average maturity of the debt. In 1946 for example, \$400 million of bonds with coupon rate of $1\frac{3}{4}$ per cent were sold on November 1, payable November 1, 1950. On the same date \$43 million of bonds due November 1, 1956, with coupon rate at $4\frac{1}{2}$ per cent were called and retired. In 1947, retirements included \$56 million of bonds due October 15, 1952 and \$38 million due November 1, 1957. In 1948, \$500 million of bonds with coupon rate of $1\frac{3}{4}$ per cent were issued on November 1. On the same date, \$277 million of bonds due November 1, 1958, and with coupon rate of $4\frac{1}{2}$ per cent were called and retired, and \$60 million of bonds with coupon rate of $3\frac{1}{4}$ per cent, due November 15, 1951, were also called and retired. In 1949, \$300 million worth of bonds were issued on November 1, due November 1, 1952, with coupon rate of $1\frac{1}{2}$ per cent. On the same date \$290 million of bonds due November 1, 1959, with coupon rate of $4\frac{1}{2}$ per cent were called and paid. In 1950, on June 1, \$95 million of bonds due June 1, 1955, with coupon rate of 3 per cent were called and paid. Finally, in 1954, \$550 million of bonds were issued on June 1, Due December 15, 1956, with coupon rate of $2\frac{1}{4}$ per cent, and \$200 million of bonds due November 15, 1954, were issued on July 23, with coupon rate of $1\frac{1}{2}$ per cent. On October 1, \$1,111 of bonds due May 1, 1957, with coupon rate of 3 per cent were called and retired, and \$88 million due June 1, 1958, with coupon rate of 3 per cent were also called and retired. All

of these transactions resulted in a shortening of the average maturity of the debt.

These transactions would indicate that lengthening of the average maturity of the debt was not a major objective of debt management policy until fairly recently. It was apparently more important to the authorities to reduce the public debt, and in so doing to remove some of the Victory Bonds ahead of their maturity dates. For example, \$1,111 million of the 4th Victory Loan due on May 1, 1957, was called and retired on October 1, 1954; similarly, \$250 million of the 5th Victory Loan due on January 1, 1959, was called and redeemed on September 15, 1956.

The amount of outstanding Treasury bills, which had remained constant at \$450 million since 1946, was increased by \$200 million in 1953 in order to retire the last of the Deposit Certificates held by the chartered banks. An increase of \$130 million took place in 1954--to meet the needs of the developing money market--and a further increase of \$845 million took place between 1955 and 1957. This latter increase was, for the most part, to meet the chartered banks' increased need for liquidity due to the introduction of the 15 per cent liquid asset ratio in 1955. In 1958, there was a reduction of \$130 million in the amount outstanding, but by 1959, this had given way to an increase of some \$582 million. The rapid increase in the volume of bills outstanding in 1959 can be considered as being primarily a debt management operation; it can be traced to the necessity to raise huge sums to meet the government's deficit in a market which showed little

appetite for government bonds. This was the first time in the post-war period that the amount of Treasury bills outstanding was increased as a means of raising funds rather than as a means of supplying liquid assets to the money market or the banking system.

As a result of the large increases during the period 1955 to 1957, and in 1959, Treasury bills at the end of 1959 comprised almost 15 per cent of the government's marketable direct debt as compared with 5 per cent at the end of 1953. A substantial amount of the increase since 1953 has been taken up by the banks to meet the liquid asset ratio--for the period end 1953 to end 1959, bank holdings of bills rose from \$245 million to \$983 million. Non-bank holdings, which had been insignificant up to 1953 (\$24 million), increased to more than \$800 million in August, 1959, accounting for more than 40 per cent of the amount outstanding at that date. At the end of 1959, such holdings stood at \$755 million.⁷

The volume of short-term bonds (two years and under to maturity) has increased unevenly since 1946, rising from \$1,347 million at the end of 1946 to a peak of \$3,303 million on June 30, 1958. At the end of 1959 the amount outstanding stood at \$2,867 million. None of this increase seems to be a result of deliberate policy on the part of the authorities. McLaury states that:

There is no evidence that the authorities consciously increased the supply of outstanding short-term bonds (as they did Treasury bills) specifically to meet the needs of the . . . money market. In fact, their problem was quite the opposite; the disinclination of the public to hold long-term government issues forced the authorities to concentrate their efforts on preventing too great a bunching at the short end.⁸

Some \$4,200 million of the \$10,467 million of securities issued from 1946 to the end of 1957 were in the short-term category. In the massive Conversion effort of 1958, the amount of short-term bonds outstanding was reduced from \$3.3 billion on June 30, to \$1.8 billion on September 30, but by December 31, 1959, the figure had risen again to \$2.86 billion. In total, therefore, the amount of Treasury bills and short-term bonds--highly liquid assets--amounted to some \$4.94 billion at the end of 1959 as compared with \$3.75 billion at the end of 1956, some \$4.16 billion at the end of 1957 and some \$3.81 billion at the end of 1958.

Prior to the central bank's efforts at developing the money market in Canada, short-term government bonds and foreign money market securities provided the main short-term marketable investments available to the non-bank public. As we have seen, with the broadening of the Treasury bill market in the early 1950's the non-bank public increased considerably its holdings of bills. In the meantime, the volume of outstanding short-term bonds had declined in 1954 and did not begin to rise again until 1956. Consequently, the amount of such bonds in the portfolios of the non-bank public declined until 1956, when they were again at the level at which they stood in 1952 and 1953. From mid-1957 to mid-1958, the non-bank public was releasing short-term bonds, but soon after the Conversion Loan this trend was reversed and they expanded their holdings from under \$500 million to some \$1.7 billion between September 30, 1958, and September 30, 1959.⁹

The figure of Canada Savings Bonds outstanding after declining

steadily from 1948, began to increase from 1952. The phase of greatest increase took place between the end of 1952 and the end of 1955, when the amount of such bonds outstanding rose from \$1,250 million to \$2,433 million. Somewhat smaller increases took place in 1956, and 1957 (\$108 million each year), but in 1958 and 1959, there were again substantial increases of \$246 million and \$317 million respectively. (See Table II.) At the end of 1958, Canada Savings Bonds accounted for 17.6 per cent of total debt, and 32.3 per cent of the publicly held debt.

The steady increase in the volume of these non-marketable government obligations outstanding has ensured the Treasury a supply of cash and this has, in some small measure, reduced the demands of the government on the market during a period of deficit financing. Even in times when there are government surpluses, increases in the amount of non-marketable obligations outstanding can be used to retire marketable debt. Thus, this steady growth in the outstanding amount of Canada Savings Bonds can be important in the management of the government cash balances.¹⁰ On the other hand, excessive use of this type of security can result in such heavy redemptions that the government may have to go to the market at an inconvenient time to raise funds for Savings Bond redemptions. The Investment Dealers Association has recommended that these bonds should be used purely as a saving instrument. They recommend that:

. . . Canada Savings Loan issues in the future be offered as a pure savings instrument and that the maximum amount available to any one buyer be examined. . . . The general consensus of

opinion of the members of the Investment Dealers' Association is that the maximum amount to any one buyer should not exceed \$5,000 and that the selling emphasis should be in the area of the payroll savings for the small investor.¹¹

The most serious failure of debt management up to 1958 was the failure to sell sufficient long-term bonds to avoid an intolerable shortening of the debt. This may have been due to uncertainty about the depth of the intermediate and longer-term markets without significant official support, or it may have been due to the fact that the debt management authorities have not sought to force up rates on long-term and intermediate-term bonds in order to bring about a widening of the market for these maturities. In fact, throughout the period 1946 to 1957, for every period in which yields changed, yields on shorter-term maturities showed greater percentage changes than yields on longer-term maturities, and there was a more or less, steady closing of the gap in yields between short and long-term theoretical bond yields.

For the most part debt management does not seem to have been guided by any long-range policy, for there are no signs of any techniques designed to implement such a policy. One can argue that debt management policy has been guided by market conditions rather than by conscious long-range policy. The Radcliffe Committee has commented at length on this matter:

Their (the authorities) view that demand (for longs) could not be stimulated by dropping prices--a device not easy to accept--was based mainly on the belief that the market for gilt-edged securities is dominated by expectations--as any market in long-term securities must be--and that it is the expectation of what prices will be tomorrow or next week, and

not expectation of next year's prices, that matters. But this attitude has also been strongly influenced by a belief that the long-run interest of the Government as a debtor was best served by orderly markets, and that orderly markets implied abstention from disruption of ruling prices just as much as it demanded official intervention to steady a demoralized market. . . . A deliberate marking-down of the prices at which the Government broker was willing to sell would have been regarded in the market as arbitrary juggling with the capital values of the Government's own creditors, and this would have seriously damaged Government credit at the Government's expense of paying the debt for many years to come.¹²

It is clear from this, that at least in the United Kingdom, market conditions are the main determinant of the quantity of longs offered for sale.

A satisfactory technique of debt management must take into account, not only the impact of debt management on the capital market, but also the need to prevent undesirable and unintended shortening of the debt maturity structure. In practice, as marketable public debt has shifted into shorter maturity categories, it has made possible an increase in the velocity of the money supply and, as Gaines says:

The funds in effect provided by the increase in velocity have been channelled into the capital market, the Treasury through its policies has been a net supplier of capital funds. Credit expansion through this process has been most difficult for the monetary authorities to reach.¹³

Neufeld in dealing with the question of excess liquidity in the Canadian economy comments that:

The problem of excess liquidity might be less intractable if the Bank of Canada permitted even greater fluctuations in interest rates during the upswing in economic activity than it has done in the past and in that way avoid having to expand the money supply for the sake of bond prices; it might be that greater fluctuations would not themselves upset the capital market, and would reduce decisively the amount of bonds sold

during the upswing. The problem arising from the maturing of government debt during the upswing, and the consequent increase in liquidity of the banks and other institutions without capital loss, might be met in part by rigid control over the size of the floating and short-term public debt.¹⁴

There may be some doubt about the effectiveness of rising interest rates in slowing down the shifting out of government in periods of rising economic activity. As Samuel B. Chase, Jr. says:

. . . It can be argued that a bank need not be deterred from expanding its loan portfolio simply because losses are realized when securities are sold to raise funds for the loan expansion. Such losses have been suffered whether or not the bank shows them on its books; a decline in the market value of security holdings is a fact that cannot be avoided by refraining from selling the issues.

If a bank is to maximize the earnings on its investible resources, the relevant question in determining whether it should continue to hold any security it now owns is whether, if it held funds equal to the market value of its holdings. . . , it could find a more attractive alternative use for the funds.¹⁵

We have already seen in Chapter II that for periods of loan expansion by the banks in Canada, it was the question of liquidity and not the losses on sales of securities that was the prime factor in slowing down the shift out of government bonds and Treasury bills.

The central problem with respect to the maturity structure of the debt seems to be that although there is a certain firm demand for short-term securities--a liquidity demand which can be expected to be fairly stable--when the supply of government short-term securities exceeds this demand, as it seems to have done in Canada in the later post-war period, the shifting of such bonds can provide serious problems for the monetary authorities, and a bunching at the short end means more frequent and larger debt refunding operations. But the problem

of converting some of these short bonds into longer term bonds which would be firmly held is on the whole not easily solved; and in Canada, standing close to the large United States financial markets, does present a special challenge.

The debt management authorities may make long-term bonds attractive enough to ensure that they can be sold. In this way, one can assume, they can produce an interest rate structure which would bring about achievement of the desired debt structure. But higher interest rates may discourage investment in the private sector and more important, would have an uneven impact in the process. This may work well, none~~the~~-less, if resources released from the private sector are being used by the public sector, but this is unlikely to be the case in periods of high unemployment as have been experienced in Canada since 1957. Further, as Canadian experience has shown, too large a differential between Canadian and United States interest rates can induce inflows of capital into Canada which could have unsettling consequences on the foreign exchange market.

There are some things which can be done to lengthen the average maturity of the debt without significantly raising interest rates. A systematic policy of advance refunding could be put into operation. Under such a policy outstanding bonds with several years to maturity would be exchanged for new longer-term bonds of about equal market value. By this means a lengthening of the average maturity would be achieved without having to go to the market with new cash issues, and without the unsettling effects in the market of replacing short-term

maturing issues with long-term cash issues.¹⁶

In the United States the technique of advance refunding has worked satisfactorily since its inception in 1960. Robert P. Mayo, writing in May, 1961 could claim that:

. . . Even though interest rates eased very little more during the summer, the movement was sufficient to permit the Treasury to move into its first large-scale advance refunding in early September . . . This advance refunding offered holders of the $2\frac{1}{2}$'s maturing in 1961 through 1969 the opportunity to extend their maturities into longer $3\frac{1}{2}$ per cent bonds. Investor response to the advance refunding was substantial . . . Almost \$3.5 billion of long-term bonds were placed in the hands of investors whose primary interest is in the long-term market.

. . . The impact of moving this large volume of securities from one maturity range to another was done smoothly without upsetting the market.¹⁷

Another method of debt lengthening has been applied with some measure of success in the United States. This involves the selling of intermediate term bonds during periods of falling economic activity. Such bonds tend to be taken up by the banks who will usually be seeking to maintain earnings in the face of falling loan demand and interest rates, and who may have their reserves increased through action by the monetary authorities. These intermediate term securities may prove more difficult for the banks to dispose of in periods of expanding economic activity than would short-term bonds. The Hon. Robert B. Anderson of the United States Treasury Department has indicated that during the 1957-1958 recession:

Only \$3 $\frac{1}{2}$ billion of truly long-term bonds--over ten years maturity--were sold in the last two months of 1957 and the first half of 1958, but \$17 $\frac{1}{2}$ billion of securities maturing in four to ten years were marketed. Banks subscribed heavily to these intermediate-term securities; their total loans and investments expanded at a rapid rate; and, as a consequence,

a substantial amount of monetary growth occurred.¹⁸

We have already noted that for the entire post-war period up to September, 1958, only \$400 million of securities was issued in the over five years to ten years to maturity range, and this involved one issue in 1950. It is not clear why a greater effort was not made to use this maturity sector of the market, especially since at the end of 1950, when the sole issue was made, the total amount of unmatured direct and guaranteed government securities in that maturity range stood at \$4,983 million, substantially higher than it had been since 1946, and higher than at any time since, with the exception of 1953.

If we look at the problem of lengthening the average maturity of the debt from the point of view of investors of long-term funds--that is, from the standpoint of the market--we will find that the largest potential holders of government long-term bonds are the life insurance companies and public and private pension funds. These two groups have been reducing their investment in government bonds as a result of the greater attractiveness of private long-term investment. The contractual obligation of life insurance companies makes it necessary for them to obtain a certain average return on their portfolios. As long as the yield on government bonds does not ensure such an average return, these investors are likely to seek alternative outlets for their long-term funds. To a lesser degree the same argument applies in the case of pension funds. To attract funds from these sources the yield on government securities--taking into account their other attractive features--must be competitive with that of private long-term investment.

The low and stable bond prices which obtained from 1946 to 1950--with some increase in 1948--was a matter of deliberate policy. But even when concerted support of the market was abandoned in 1950 interest rates rose but slightly until 1958. For example, the yield on fifteen year theoretical bonds, which stood at 2.75 in January, 1946, was only 2.94 in February, 1955, rising from then to 4.73 in September, 1957 and declining to 3.70 by December of that year. All the increases in interest rates in this period were the result of monetary policy and not of any attempt to sell long-term bonds. The policy of supporting bond prices may have actually inhibited attempts to sell these securities.

It is possible to take another view of the post-war debt management; that is to regard the objective as that of expediting the absorption of the swollen debt--a legacy of the war--into the financial structure of the country. According to this view the debt management problems of the last few years can be expected to ease as the proportion of non-government debt to total debt expands. As this happens, government debt--with its superior liquidity and safety--should sell more easily. Of course, this view overlooks the consequences of continued deficit financing on increasing the amount of public debt outstanding.

CHAPTER IV

THE CONVERSION LOAN 1958: BACKGROUND AND GENERAL CHARACTERISTICS

On July 19, 1958, the Minister of Finance announced in the House of Commons the government's decision to offer holders of Victory Bonds the option of exchanging these wartime issues for new Conversion bonds of longer maturity. In making the announcement the Minister had this to say:

During the next few years there will mature in quick succession the whole of the remaining wartime Victory loans. The total amount of the five victory loans falling due between now and 1966 is over \$6,400 million. This is a very large sum and it constitutes more than 60 per cent of our outstanding funded debt, excluding the special categories of Canada Savings Bonds and treasury bills.

This large volume of early maturities overhanging the market has made it very difficult to plan an orderly program of debt management and has contributed greatly to the general feeling of uncertainty which has prevailed in our bond markets for the past few years. This uncertainty in the market for prime Canadian bonds has had inevitable effects on the market for provincial, municipal and good corporate bonds.

We have therefore decided to clear away this heavy congestion of early maturities and to lay the foundation of an orderly and sensible program of public debt management.¹

The heavy schedule of maturities was not the only problem in debt management which the government faced. For the fiscal year 1958-1959, Government had to raise substantial amounts of new funds to meet deficits on both the budgetary and non-budgetary accounts. The budget had forecast a net cash requirement of some \$1.4 billion. The huge

program of deficit financing must have been at least as pressing a consideration as the problem of refinancing debt. The amount of new financing which had to be undertaken was not much less than the amount of refinancing to be handled; while the total public debt increased by \$1,251 million in 1958, the amount of bonds issued in previous years and falling due in that year amounted to \$1,905 million.

When the Minister delivered his budget speech on June 17, 1958, he set the amount of gross government borrowing at \$3.4 billion. ". . . During this fiscal year (1958-1959) we shall need to sell bonds or other securities in total amount of close to \$3,400 million."² At that time the government gave no indication that it considered going to the market to sell \$3,400 million of securities as posing any particular problem. Indeed, the Minister's words conveyed a rather fluid approach to debt management, and gave no hint of any clear-cut policy designed to meet an urgent debt management problem.

It will be our aim to offer acceptable volumes of longer term bonds whenever suitable opportunities occur, and to spread the remainder sensibly between short and mid-term maturities.

While the prospective increases in our debt will be quite substantial during the next year or two, the net burden of the public debt will remain well below what we carried quite easily only a few years ago.³

There was nothing in these words to indicate any urgent debt management problem or to suggest the need for any massive debt management operation. It is clear that some development after the budget speech played a considerable role in prompting the Conversion operation.

The Minister of Finance gave some indication of this. Speaking

in Committee of Supply on September 4, 1958, he stated:

Now, it was a change in the market condition which was occurring at that time which necessarily had a very direct influence on our thinking and our approach to the problem of borrowing. Beginning on June 16, the day before the budget speech, there set in in the financial markets of the United States a rapid weakening which affected the strength of the bond market immediately, and that communicated itself to Canada . . . we had to take account therefore, of this weakening influence in the financial markets in the United States, a situation where yields were rising and the quoted values of securities of . . . the federal government, were dropping rapidly.⁴

There is no doubt that a weakening did develop in the financial markets of the United States in mid-1958, and that this weakness did have some effect on the Canadian markets; but as early as May 1, 1958, an issue of \$950 million made by the Canadian Government (\$600 million refunding and \$350 million new funds) had, in effect, ended up in the banking system. Describing the market reception of this issue the Bank of Canada Report for 1958 has this to say:

. . . By this time market expectations were changing and the general public, excluding investment dealers, did not add to its holdings of Government securities during the period in which the issue was marketed, the public's purchases of new bonds being offset by its sales of existing issues. The banks, which were in a strong cash and liquid asset position, bought substantial amounts of existing short and mid-term issues on trade-outs from the public, provided very large short-term loans to security dealers to finance inventories of securities following delivery of the new issues on May 1st, and also bought large amounts of the new issues for their own portfolios.⁵

It is clear, then, that the government was experiencing difficulty in selling bonds on the market as early as May, 1958.

By early July, the debt management authorities faced a market very unreceptive to any new issues, and were forced to place \$400

million of bonds directly with the Bank of Canada and the chartered banks on July 15, in order to meet the need for new financing. On July 19, the Conversion Loan operation was announced.

The circumstances at that time could be summarized as such that the government, faced with its greatest peacetime demand for new cash to meet its deficit, and with a substantial amount of the marketable debt coming due for refunding in 1958, 1959, and 1960, was in a position where it was imperative that a large proportion of the issues should be made in long-term bonds. If this was not done, then clustering of maturities in the short end of the maturity range could pose a serious debt management problem in the years immediately ahead. But the possibility of selling new long-term bonds was not encouraging at a time when the general public had shown a marked disinclination to increase its holdings of government bonds.

The solution which the debt managers employed was an ambitious one. They set out to lengthen the maturity of some 60 per cent of the marketable debt. The results of the operation are given in the following table.⁶

The operation involved changing, in two months, the maturity of some 13 per cent of total Canadian bonds outstanding, and some 21 per cent of all Government of Canada, Provincial, Municipal, Corporation and Institutional bonds payable in Canadian dollars. Before Conversion, 17 per cent of the public debt (ex. Savings Bonds) was in maturities over ten years. Afterwards, some 45 per cent was in such maturities. Before Conversion, 39 per cent of the debt (ex. Savings

Bonds) was in the under two years to maturity category. After Conversion, 25 per cent was in this category. From a purely technical point of view therefore the operation can be considered a success. Five and eight tenth billions dollars (some 90 per cent) of the \$6.4 billion of outstanding Victory bonds were converted, and of this, \$2.15 billion (some 33 per cent) were converted into the longest (25 year) issue. The average maturity of the debt rose from six years and four months on June 30, 1958, to ten years and six months on September 30, 1958.

RESULTS OF THE CONVERSION LOAN

Millions of Dollars

Issues Eligible for Conversion	3% Dec. 1 1961	3 3/4% Sept. 1 1965	4 1/4% Sept. 1 1972	4 1/2% Sept. 1 1983	Residual Uncovered	Total
3% Jan. 1, 1956-1959	\$ 654	\$ 94	\$ 58	\$ 100	\$ 42	\$ 947
3% June 1, 1957-1960	366	447	172	133	46	1,165
3% Feb. 1, 1959-1962	-	726	238	298	54	1,316
3% Oct. 1, 1959-1966	-	-	489	584	223	1,296
3% Sept. 1, 1961-1966	-	-	410	1,037	245	1,692
Total	\$1,020	\$1,267	\$1,367	\$2,152	\$ 610	\$6,416

The Conversion Loan, however, involved certain costs, both in terms of dollars and cents, and in terms of economic consequences. For the present, we shall confine ourselves to the financial costs of the operation. The immediate cost to the Federal Treasury amounted to some \$71 million, made up as follows:

\$42.4 million for premiums
 19.478 million for commissions
 7.3 million for issuing fees
 1.495 million for advertising, and
 1.265 million for administrative costs.

In addition, the interest payable on the \$6.4 billion of bonds rose from \$192.48 million before conversion to \$250.705 million after the operation, an increase of some \$58.2 million (about 30 per cent).⁷

Dealer commissions on the sale of Conversion bonds were graduated according to maturity and were as follows:

on the 3 per cent $3\frac{1}{4}$ year issue $\frac{1}{4}$ of one per cent;
 on the 3 $\frac{3}{4}$ per cent 7 year issue $\frac{1}{2}$ of one per cent;
 on the $\frac{4}{4}$ per cent 14 year issue $\frac{3}{4}$ of one per cent;
 on the $\frac{4}{2}$ per cent 25 year issue 1 per cent.

The issuing fee on all maturities was $\frac{1}{4}$ of one per cent. No sales commission or issuing fees were paid on bonds converted by the Bank of Canada, government accounts or chartered banks for their own portfolios; and sales to corporations on the "exempt" list carried commissions of $\frac{1}{4}$ of one per cent on the $3\frac{1}{4}$ year issue, and $\frac{1}{2}$ of one per cent on all other issues.⁸ Issuing fees paid amounted to some

\$7 million, and commissions amounted to \$20 million; the chartered banks (including the Montreal City and District Savings Bank, and the Quebec Savings Bank) received some \$8.085 million in commissions and some \$4.770 million in issuing fees.

A cash adjustment payment was made to persons converting. This, as the Minister of Finance stated in the House on July 19, 1958, was ". . . in order to adjust equitably the current market prices and yields of the old bonds to the new offerings . . ."9 The actual cash adjustment paid depended on the issue turned in and on the new bond taken in exchange. These adjustment payments the Minister of Finance claimed to be necessary in order to equate the five issues to be converted, which although having the same interest rates, were quoted in the market at different values because of the different maturities.¹⁰ The total of such payments was some \$42.4 million.

The distribution of the \$6.4 billion of bonds on the last day of business before the commencement of the Conversion Loan campaign on July 14, was as follows:¹¹

Bank of Canada (approximately)	\$1.25	Billion
Chartered Banks	1.4	Billion
Government Accounts435	Billion
Large Institutional Investors (the 1,200 on the exempt list) . .	1.2	Billion
Private Individuals	2.1	Billion
	<hr/>	
	\$6.385	Billion

Note: It has been estimated that some two million persons in the Private Individual category held Victory Bonds.

Immediately before the operation got underway the banking system and government accounts held some \$3.1 billion of Victory Bonds and the general public some \$3.3 billion. Approximately half of the bonds to be converted were in the hands of the general public, and of this, one-third was in the hands of institutional investors (those on the exempt list). Only about 33 per cent of the bonds were in the hands of private individuals.

Among the issues converted were issues which were not due for repayment until between 1960 and 1966. The 6th Victory Loan was to become due on June 1, 1960; the 7th on February 1, 1962; the 8th on October 1, 1963; and the 9th on September 1, 1966. Additional interest charges to the original date of maturity of these issues would amount to some \$13 million on the 6th Victory Loan; some \$44 million on the 7th; some \$91 million on the 8th; and some \$165 million on the 9th. The total extra interest to original maturity on these issues from the date of conversion is therefore some \$314 million.

The Minister of Finance, speaking in Committee of the House on September 4, 1958, gave reasons for including the longer maturities in the Conversion Loan. He stated:

. . . There are several reasons: Those who responded in time of war to Canada's necessity and subscribed to victory loan bonds were not divided into rigid categories. I do not think it would have gone very well if we had sought to discriminate now in the Canada conversion loan offering among the holders of different maturities of victory loan issues. In the second place, if we had to do this tremendous effort and incur this expense in the course of promoting the campaign, does it not make good sense to include the five in the one operation.

. . . these latter series of victory loan bonds have a callable feature. They are callable five years before maturity and from the point of view of the investor that uncertainty has a very unsettling effect. To the extent that this eighth and ninth series represent about \$2.5 billion overhanging the market, with all the uncertainty attached to them and the depressing effect that has on values surely it was good sense and good business to take in now all the outstanding series of victory loans.¹²

We can ignore, for present purposes, the argument with respect to equity and to cost. But we must point out that the Minister's analysis of the effect on the market of the callable features of the eighth and ninth Victory Loan bonds is not entirely justified. With all of these issues selling below par, and likely to continue to do so for the foreseeable future, there was little real threat that the government would exercise its call option. In any case, the Minister could have removed any uncertainty which he thought to exist by announcing that the call option on these bonds would not be exercised.

On May 28, 1959, the Minister offered a more complete explanation. Speaking in the House, he said:

Conversion of all five victory loan issues was more equitable, more efficient and less costly than a piecemeal approach could possibly have been. Fundamental to the project was the idea that it would be easier to sell the public long-term bonds in exchange for bonds which they already held than to sell them long-term bonds for cash. The prospects of cash requirements of the Canadian government for several years ahead were also a major consideration. It was urgently important to improve the government's debt structure, to reduce the overhang of refinancing which would have to be done in addition to new money financing and to put as much of the government's debt as possible on a long-term basis.¹³

It is clear from this statement that the main reason behind the inclusion of the later maturities was the necessity to force up the average

maturity of the debt. To do this, it was necessary to induce a large body of holders of securities to hold longer term issues, since there was little prospect of marketing any large amount of long-term bonds.

The rates of interest set on the Conversion bonds were the highest paid on government issues for at least two and a half decades. One investment dealer (Gairdner and Company) in a bulletin issued on August 22, 1958, had this to say about the rates:

The argument which for the average investor must top all the others is the 50 per cent improvement in yield from 3 per cent to $4\frac{1}{2}$ per cent, if conversion is effected into the long-term 1983's.

The conversion bonds, notably the $4\frac{1}{2}$ per cent of 1983 enjoy a higher rate of interest than any offered for 25 years. During 20 of the past 25 years, long-term Canada bonds stayed close to the 3 per cent level.¹¹

The Minister of Finance laid the claim that the rates reflected market yields prevailing at the time while taking into account the size of the operation. In the next section we shall investigate, among other things, whether this claim is accurate or not.

THE ECONOMIC IMPACT OF THE CONVERSION LOAN

The Conversion Loan operation had several economic repercussions. The most immediate of these was the monetization of a large portion of the public debt. In order to avoid chaotic market conditions during the conversion period (July 15, to September 15), fixed prices were established for large institutional holders of Victory Bonds--those on the exempt list--who wished to sell rather than to convert. At the same time, holders of these bonds who were not on the exempt list were

allowed to buy and sell in the open market.¹⁵ A disparity developed between these two markets, and on August 7, the Bank of Canada announced its intention to make markets in all maturities of government bonds.¹⁶

The Minister of Finance made some allusion to developments in the market on September 9, 1958. Speaking in the House, he stated that:

Dealers found there were some holders of victory bonds who preferred to sell their bonds rather than convert them and other investors who did not own victory bonds but wanted to buy new conversion bonds for cash. Sales and purchases of victory bonds did not always match off for each dealer each day and price fluctuations occurred which made it sometimes possible for investors to sell victory bonds for cash and buy conversion bonds for cash on more favourable terms than by a straight conversion. Such a situation was increasingly causing delays in conversion as some investors held off to see if they could obtain better terms, and it involved discrimination.

Continuing, the Minister explained that:

On August 7, on the strong recommendation of the national committee formed to promote the conversion loan, fixed prices were stipulated at which distributors might buy victory bonds from customers. The effect of these prices was to put matched cash transactions and straight conversion on the same basis so far as dealers remuneration and investor cost are concerned.¹⁷

What the Minister did not say was that the Bank of Canada had also stepped in to help remedy the situation.

Just about the time that the Conversion operation began, signs of a recovery in economic activity began to appear, and both in Canada and in the United States, bond prices began to fall rapidly. In Canada, expectations of rising interest rates were reinforced by the awareness that the government was facing a huge deficit, which necessitated heavy borrowing. In these changed circumstances the Bank

of Canada was faced with absorbing large sales by the public. From mid-July to mid-September, the Bank's portfolio of government bonds was increased by \$335 million, and these purchases were only partly offset by sales of \$265 million of Treasury bills, most of which were bought by the chartered banks. (See Table IV) On September 15, the Bank ceased to support all but the two longest Conversion issues. From that date to the early part of November, when it abandoned support of these latter maturities, the Bank absorbed a further \$140 million in long-term bonds, offsetting this, in part, by further sales of Treasury bills, this time to the general public. For the year 1958, as a whole, the Bank was a net purchaser of governments to the amount of \$194 million.

If we look at the money supply for the year 1958, we will find that from December 31, 1957 to December 31, 1958, total currency and chartered bank deposits increased from \$11,923 million to \$13,247 million, an increase of \$1,324 million. At the same time the government's net withdrawal of funds from the market amounted to \$1,360 million--some \$1,250 million in new money, and \$110 million reduction in the security holdings of government accounts. The increase in money supply therefore was almost equal to the net new borrowings of the government.

The Bank of Canada was forced, not only to increase the money supply, but also to radically alter the composition of its portfolio of government securities. The Bank's decision to make a market in all maturities of government securities was made, as was pointed out earlier,

TABLE IV

GOVERNMENT SECURITY PORTFOLIOS DURING THE CONVERSION LOAN

July - September 1958

Millions of Dollars

Bank of Canada					Chartered Banks
Date	Treas. Bills	Gov'ts 2 Years to Maturity	Gov'ts 2 Years to Maturity	Total Gov'ts	Treas. Bills
July 16	\$ 378	\$1,148	\$1,055	\$2,575	\$ 854
23	355	1,137	1,103	2,595	904
30	340	1,161	1,078	2,578	915
August 6	319	1,196	1,065	2,579	905
13	325	1,210	1,099	2,634	931
20	256	1,225	1,129	2,610	962
27	198	1,225	1,159	2,581	1,005
September 3. . . .	176	1,246	1,196	2,618	1,047
10.	133	1,249	1,218	2,600	1,069
17.	111	1,262	1,270	2,644	1,075
24.	86	353	2,229	2,667	1,090

Source: B. K. McLaury, op. cit., p. 80.

at a time when the bond market in Canada was following a downward trend which had become evident in the New York bond market some time earlier. Under these circumstances, the Bank's decision to undertake to purchase Victory bonds at par, amounted to the creation of an artificial market for these bonds. The more sophisticated public was quick to take advantage of the situation and sold large amounts of its Victory bonds to the Bank for cash; realizing the windfall capital gains involved in the sudden change in the market value of these bonds. At this time the general public was moving out of government bonds and into cash and short-term securities, a course of action quite contrary to what the debt management authorities must have planned. Scott Gordon has claimed that some dealers and large institutional holders refused to be lured into conversion, and the Bank offered these holders special private deals that allowed them to exchange Victory Bonds for short-term securities from the Bank's portfolio, instead of Conversion Bonds.¹⁸

The increase of \$275 million in general public holdings of government securities was made up of an increase of \$246 million in Savings Bonds, and \$126 million in Treasury bills, and a reduction of some \$97 million in holdings of other government securities.

In order to contain the effect of the large purchases of Victory Bonds--which it proceeded to convert into long-term Conversion bonds--the Bank of Canada had to dispose of large amounts of Treasury bills and short-term bonds. As a result the average maturity of its portfolio of governments was lengthened substantially. (See Table V.) In the words of the Bank of Canada Report of 1958:

TABLE V

BANK OF CANADA MONTHLY HOLDINGS OF GOVERNMENT OF CANADA
DIRECT AND GUARANTEED SECURITIES--1958 AND 1959

Millions of Dollars

Date	Other Maturities					Total
End of	Treas. Bills	2 Years and Under	2 Years to 5 Years	5 Years to 10 Years	Over 10 Years	
<u>1957</u> December	\$ 467.1	\$ 779.2	\$ 666.6	\$ 301.4	\$ 213.3	\$2,427.5
<u>1958</u> January	493.9	771.6	638.7	287.5	142.0	2,333.7
February	521.2	771.8	696.8	241.0	127.4	2,358.2
March	480.1	893.8	664.3	239.8	131.0	2,409.1
April	320.7	1,009.0	668.9	292.5	141.9	2,433.0
May	325.9	676.4	790.6	337.5	301.5	2,431.9
June	370.5	1,125.6	370.8	373.7	296.1	2,536.7
July	340.0	1,162.0	263.2	503.9	308.3	2,577.4
August	184.2	1,236.5	283.3	527.7	358.4	2,590.0
September	70.1	350.6	604.7	463.3	1,212.6	2,701.2
October	50.1	253.0	593.6	463.3	1,291.1	2,651.0
November	34.0	261.4	592.9	471.2	1,317.4	2,677.0
December	35.9	245.2	551.8	462.5	1,326.4	2,621.8
<u>1959</u> January	6.6	173.5	544.7	457.6	1,321.8	2,504.1
February	90.6	119.0	534.6	453.7	1,316.0	2,513.9
March	161.0	91.5	521.2	451.7	1,325.1	2,550.5
April	199.0	104.7	510.4	451.8	1,324.3	2,590.9
May	188.0	237.1	407.2	454.5	1,325.9	2,612.7
June	251.2	162.0	388.3	466.7	1,350.8	2,619.0
July	236.5	210.5	374.7	460.8	1,347.4	2,629.9
August	273.6	251.8	362.5	436.7	1,334.1	2,658.6
September	297.2	257.2	361.2	434.0	1,322.0	2,671.6
October	357.6	224.5	333.5	422.8	1,314.2	2,652.6
November	303.6	284.8	324.4	422.9	1,310.0	2,645.6
December	305.9	514.5	61.0	424.6	1,314.7	2,620.6
<u>1960</u> November	404.2	514.7	378.8	217.8	1,187.2	2,702.7
December	404.4	354.4	526.9	217.9	1,187.2	2,689.7

Source: Bank of Canada, Statistical Summary, 1960, p. 4.

. . . This shift resulted from the exchange of all of its own holdings of Victory Loan issues for longer-term Conversion issues, from market purchases of Conversion and other issues during and after the campaign, and from sales of other (short-term) government bonds and Treasury bills.¹⁹

Table VI shows monthly changes in the composition of the Bank of Canada's holdings of Government of Canada direct and guaranteed securities for 1958 and 1959. From June, 1958, to September, 1958, roughly the period of the Conversion, the Bank's holdings of such securities of over ten years to maturity rose from \$296.1 million to \$1,212.6 million. By the end of December, 1958, the figure had risen to \$1,326.4 million. At the same time the Bank was reducing its holdings of Treasury bills from \$370 million at the end of June to \$70.1 million at the end of September, and to a low of \$6.6 million at the end of January, 1959. Holdings of securities of two years and under to maturity rose sharply from the end of May, 1958 (\$676.4 million) to the end of August (\$1,236.5 million) but began falling after August and reached a low of \$91.5 at the end of March, 1959.

During the year 1958, therefore, the Bank of Canada increased its holdings of securities of over ten years to maturity from some 8.7 per cent, to approximately 50 per cent of its total portfolio of governments; and reduced its holdings of short-term securities (Treasury Bills and bonds with less than two years to maturity) from about 51.3 per cent to some 10.7 per cent of its total portfolio of governments. Even if this did not impair the Bank's ability to carry out its prime function of monetary management--and the Governor of the Bank claimed that it did not--it did constitute an extraordinary

TABLE VI

GOVERNMENT OF CANADA DIRECT AND GUARANTEED SECURITIES
AVERAGE MONTHLY YIELDS 1958-1959

	2 $\frac{1}{2}$ %	3%	2 3/4%	3%	3%	3%
Month	July 1/59	Oct.1/59	Apr.1/60	Dec.15/60	May 1/61	Dec.1/61 C
January	-	3.862	-	3.857	-	-
February	-	3.415	-	3.595	-	-
March	-	3.165	-	3.385	-	-
April	-	2.95	-	3.185	-	-
May	2.492	2.80	-	2.97	2.975	-
June	2.612	3.00	-	3.075	3.062	-
July	2.288	2.704	-	2.944	2.954	-
August	2.152	2.49	-	2.805	2.845	-
September	2.755	2.902	-	3.07	3.075	3.19
October	2.778	2.946	3.134	3.192	3.194	3.314
November	3.045	3.365	3.707	3.887	3.875	4.002
December	3.582	4.026	4.306	4.516	4.55	4.63
January	-	-	4.385	4.612	4.625	4.695
February	-	-	4.645	4.847	4.875	4.885
March	-	-	4.725	4.875	5.027	5.015
April	-	-	4.872	4.88	5.054	5.026
May	-	-	5.345	5.325	5.40	5.325
June	-	-	5.398	5.596	5.576	5.448
July	-	-	5.387	5.687	5.747	5.595
August	-	-	5.917	6.065	6.175	6.075
September	-	-	5.764	6.274	6.34	6.326
October	-	-	4.552	5.287	5.692	5.845
November	-	-	4.285	4.852	5.327	5.45
December	-	-	3.89	4.578	4.988	5.10

TABLE VI (continued)

	3%	3 3/4%	3%	2 3/4%	3 1/2%	4 1/2%
Month	Oct. 1 1959/63	Sept. 1 65 C	Sept. 1 61/66	June 15 67/68	May 1/70	Sept. 1 72 C
January	3.90	-	3.78	3.72	-	-
February	3.69	-	3.612	3.725	-	-
March	3.635	-	3.577	3.592	-	-
April	3.384	-	3.41	3.44	-	-
May	3.262	-	3.347	3.352	-	-
June	3.495	-	3.542	3.412	3.702	-
July	2.872	-	3.242	3.54	3.958	-
August	2.547	-	2.985	3.57	3.987	-
September	3.087	3.915	3.295	3.682	4.056	4.315
October	3.666	4.098	3.624	3.984	4.136	4.298
November	3.995	4.532	4.212	4.27	4.397	4.625
December	4.478	4.816	4.406	4.45	4.514	4.75
January	4.437	4.767	4.137	4.477	4.53	4.707
February	4.515	4.855	4.22	4.625	4.585	4.787
March	4.722	4.935	4.50	4.825	4.842	4.907
April	4.732	4.866	4.58	4.744	4.868	4.822
May	4.967	5.187	4.84	4.95	4.965	5.042
June	4.454	5.39	4.87	4.866	5.01	5.186
July	4.94	5.365	4.907	4.815	4.987	5.17
August	5.215	5.875	5.047	4.985	5.217	5.007
September	5.428	6.202	5.23	5.214	5.414	5.732
October	5.25	5.787	5.377	5.215	5.247	5.467
November	5.18	5.667	5.30	5.198	5.165	5.52
December	5.214	5.802	5.444	5.238	5.27	5.668

TABLE VI (continued)

	$3\frac{1}{2}\%$	$3\frac{3}{4}\%$	$3\frac{1}{2}\%$	$4\frac{1}{2}\%$	$3\frac{3}{4}\%$
Month	June 1/74-76	Jan. 15/75-78	Oct. 1/79	Sept. 1/83 G	Sept. 15/96- Nov. 15/98
January	3.902	3.945	3.897	-	3.99
February	3.905	3.965	3.862	-	4.00
March	3.94	3.985	3.89	-	4.027
April	3.894	4.0016	3.856	-	4.036
May	3.835	4.007	3.80	-	4.047
June	3.917	4.08	3.83	-	4.09
July	3.938	4.244	3.924	-	4.216
August	4.022	4.30	4.02	-	4.252
September	4.122	4.34	4.10	4.565	4.265
October	4.21	4.444	4.19	4.556	4.364
November	4.432	4.612	4.345	4.772	4.58
December	4.47	4.738	4.406	4.846	4.708
January	4.482	4.725	4.425	4.817	4.717
February	4.545	4.777	4.475	4.88	4.74
March	4.837	4.92	4.722	4.955	4.837
April	4.758	4.79	4.658	4.89	4.726
May	4.92	4.952	4.875	5.05	4.84
June	4.97	5.07	4.936	5.21	4.842
July	4.947	5.062	4.90	5.22	4.805
August	5.117	5.252	5.035	5.337	4.872
September	5.384	5.568	5.232	5.606	5.016
October	5.322	5.512	5.197	5.58	4.977
November	5.267	5.52	5.162	5.51	4.93
December	5.318	5.562	5.222	5.586	4.99

TABLE VI-A

SPREAD ON GOVERNMENT BOND YIELDS SEPTEMBER, 1958 TO SEPTEMBER, 1959

	3%	3%	3%	3%	3 3/4%	3%	2 3/4%
Date	Dec.15/60	May 1/61	Dec.1/61	Oct.1/59-63	Sept.1/65	Sept.1/61-66	June 15/67-68
September '59	6.274	6.34	6.326	5.428	6.202	5.23	5.214
September '58	3.07	3.075	3.19	3.087	3.915	3.295	3.682
Spread	3.204	3.265	3.136	2.341	2.307	1.935	1.532

	3 1/2%	4 1/2%	3 1/2%	3 3/4%	3 1/2%	4 1/2%	3 3/4%
Date	May 1/70	Sept.1/72	June 1/ 74-76	Jan.15/ 75-78	Oct.1/79	Sept.1/83	Sept.15/96 Mar.15/98
September '59	5.414	5.732	5.384	5.568	5.232	5.606	5.016
September '58	4.056	4.315	4.122	4.34	4.10	4.565	4.265
Spread	1.358	1.417	1.262	1.228	1.132	1.041	.751

Source: Bank of Canada, Statistical Summary, 1958-1959

maturity structure in the portfolio of a central bank. Generally, the Bank requires its holdings of longs for purposes of stabilizing the bond market, and for effecting changes in the rate structure--and even for some of these operations offsetting sales of shorts may have to be made;--for its most important function, that of controlling the money supply, however, it operates primarily in the short-term market. It seems fair to conclude, therefore, that insofar as the Bank can be expected to seek to alter (shorten) the maturity structure of its portfolio in order to provide itself with adequate tools for monetary management, these long-term holdings can be said to overhang the market in a sense in which the old Victory bonds did not.

We have seen that soon after the Conversion Loan was launched signs began to appear that the 1957-1958 recession had reached bottom. In view of the huge expansion of the money supply which had occurred before and during the Conversion, the Bank of Canada's policy was to allow no further increase once the campaign was ended. As business activity began to pick up in the last quarter of 1958, the Bank was faced with the handicap of swollen bank holdings of governments--a result of the Conversion operation.

From their low point at the end of July, 1957 to their peak at the end of October, 1958, (excluding a temporary direct loan to the Government) the banks' total holdings of government securities rose by about \$1 billion.²⁰

To achieve its objective of stabilizing the money supply the Bank had only to prevent an increase in cash reserves which were already down to 8.2 per cent at the end of October, and to take care of the seasonal return flow of funds to the banks after Christmas. During

1959, the cash reserves of the chartered banks were kept reasonably stable and "chartered bank deposits and assets remained approximately constant."²¹ This was accomplished in spite of mounting pressure on the security markets in August, and in the face of unprecedented and prolonged pressure on the money market.

The entire expansion in bank loans, which accompanied the recovery of late 1958 and 1959, was financed through velocity increases. As private demand for bank credit increased, the banks became net sellers of government securities on a substantial scale (selling some \$500 million between September, 1958 and September, 1959), and thus, as the Governor of the Bank of Canada stated in his report for 1959, " . . . The pressure of rising private demand for bank credit was . . . transmitted to the securities market."²² In addition to private demands for funds, the government drew on the market to the extent of \$871 million in net new issues of securities, and increased the amount of its outstanding short-term debt by some \$1.1 billion (approximately 33 per cent), between September, 1958 and September, 1959. For the period September, 1958 to September, 1959, therefore, the general public was called upon to absorb some \$1.6 billion of short-term securities. The magnitude of this absorption can be seen from the fact that general public holdings of government direct and guaranteed short-term securities rose from \$481 million at the end of 1954 to \$1,687 million at the end of September, 1959. For 1959 as a whole, the general public added \$1,750 million to its holdings of government securities.

This large absorption of government bonds by the general public was only possible because of the sharp increases in interest rates which took place in 1959. As the Governor of the Bank of Canada stated in his 1959 report:

The increase in interest rates which took place made it more expensive to raise money in financial markets whether by new borrowing or through the sale of existing investments, but also correspondingly increased the rate of return available to savers with money to lend or invest.²³

If we look at Table VI we will find that yields on short-term government bonds began to rise in September, 1958 and continued sharply upward until September, 1959. Yields on longer-term bonds started rising earlier and did not register increases as sharp as those on short-term bonds. There were apparently three forces at work here: the still substantial government deficit financing and its concentration in the short-term sector; the heavy selling of short-term bonds by the banks; and the sudden withdrawal of central bank support for the Conversion issues, which left these issues to find permanent lodgement through falling prices. Thus, although the Conversion Loan was intended to clear the market of a heavy overhang of short-bonds so that new financing would be done in the short-term market, the general public was disposed to hold increasing amounts of shorts only at substantial increases in yields.

It may be argued that the Conversion operation, because of the suddenness with which it was conceived and executed; its magnitude; the artificial prices which were provided for bonds by the Bank of Canada; and the suddenness with which the Bank's support was withdrawn, had

an unsettling impact on the market, and tended to make the public regard government bonds as unsatisfactory liquid assets--that is as assets with unstable market values. The fact that the market had shown signs of uncertainty some time before the operation was carried out only strengthens this argument.

Let us look now at what had been happening as regards net demands on the market for securities. Table VII shows annually the net new issues of securities between 1953 and 1959. During 1954, 1956, and 1957, the government was making a net contribution of funds to the market through the reduction of the public debt. In 1953 and 1955, it issued 35.8 per cent and 30.7 per cent respectively of the net new issues of securities repayable in Canadian dollars. In 1958, net new issues of securities was substantially greater than any of the other years, with government issues amounting to 48.2 per cent of the total (payable in Canadian dollars). In 1959 the total new new issues of securities fell below the 1958 figure, but remained at a high level. Of the amount of \$2,038 million, 42.7 per cent represented net new issues of government securities.

In 1958 and 1959 there was a sharp increase in the amount of new money raised in the Canadian bond market and most of this increase was accounted for by the sudden upsurge of government borrowing. In fact, in both these years Provincial Governments and corporations raised less new money in the Canadian market than they did in 1957. Up to the end of September, 1958, the pressure on the market from this large scale increase in government borrowing was eased by the

TABLE VII

NET NEW ISSUES OF SECURITIES 1953-1959

Millions of Dollars

	1953		1954		1955		1956		1957		1958		1959	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
Government of Canada Bonds Treasury Bills and Notes	\$ 457	\$ -6	\$ -297	\$ -4	\$ 399	\$ -60	\$ -500	\$ -116	\$ -52	\$ -68	\$ 1,383	\$ -2	\$ 289	\$ -149
	-	-	130	-	195	-	-150	-	50	-	-130	-	582	-
Total	\$ 457	\$ -6	\$ -167	\$ -4	\$ 594	\$ -60	\$ -650	\$ -116	\$ -2	\$ -68	\$ 1,253	\$ -2	\$ 871	\$ -149
Non-Government Bonds Provincial	160	111	246	47	261	-50	348	191	505	44	470	144	323	233
Municipal	126	56	222	18	217	17	141	83	181	97	209	118	194	119
Corporate & Other	267	105	399	82	383	-39	594	208	574	382	480	185	103	21
Total	\$ 553	\$ 272	\$ 867	\$ 147	\$ 861	\$ -72	\$ 1,083	\$ 482	\$ 1,260	\$ 523	\$ 1,159	\$ 447	\$ 620	\$ 373
Corporate Stock	209	28	172	1	421	41	687	3	546	-31	298	2	412	2
Finance Co. Paper	56	-30	-39	-	59	-	94	-	48	-	-111	-	135	-

TABLE VII (continued)

	1953		1954		1955		1956		1957		1958		1959	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
Total Bonds	\$1,010	\$266	\$ 700	\$143	\$1,455	\$-132	\$ 433	\$366	\$1,258	\$455	\$2,412	\$445	\$1,491	\$224
Bonds and Stocks	1,219	294	872	144	1,876	- 91	1,120	369	1,804	424	2,710	447	1,903	226
All Securities	1,275	294	911	144	1,935	- 91	1,214	369	1,852	424	2,599	447	2,038	226

Source: Bank of Canada, Statistical Summary, 1959, p. 78.

expansion of the money supply and by the fact that the banking system was absorbing large amounts of government securities. From that date to the last quarter of 1959, however, with the dampening down on expansion in the money supply, and the upsurge in business activity, the situation was reversed. The pressure on the bond market arising from net issues of securities was aggravated by the fact that the banks were now large net sellers of government bonds and bills. In analyzing the rise in interest rates which took place during the period, these circumstances must be assessed against the background of the effects of the Conversion Loan and the consequent attitude of the general public to holding government securities.

As Professor Barber argues, the effect of the Conversion Loan on the portfolios of members of the general public was to make those portfolios less liquid than they previously were. The average term to maturity of public holdings of government securities (ex. Savings Bonds) moved from seven years at the end of 1957, to thirteen years and four months at the end of 1958; at the same time the proportion of public holdings of government securities in the category five years and under fell from 47.7 per cent at the end of 1957 to 30.5 per cent at the end of 1958.²⁴

In addition to its effect on portfolio liquidity, the Conversion also introduced some instability into the price of government bonds. This instability was made more severe by the fact that the market was already weakening when the operation was undertaken; and by the general awareness that deficit financing by the government was likely to

continue for some time, with consequent increases in interest rates, but with the threat of a fall in prices if a tight money policy had eventually to be applied. One investment dealer writing to the Governor of the Bank of Canada on July 16, 1958, had this to say:

We also see:

1. Absolutely no evidence of any cutback in Federal spending.
2. . . . Monetary expansion in the order of roughly \$1.25 billion since August, 1957. . . .
3. Enough deficit financing in the next year or three to cause considerably more monetary expansion, or much higher interest rates in the long end of the market, or both, and when the inflationary pressures become severe, there may be a need for a severe money squeeze . . . with depressed bond prices.

These considerations should therefore cause us to counsel clients to preserve liquidity at all costs.²⁵

The effect of these forces--the need for liquidity, and the uncertainty about bond prices--was to push up the yield which investors desired before they would part with funds, and to make sales of long-term bonds very difficult indeed. With the pressure of heavy selling by the banks and the government, yields on short-term bonds rose more rapidly than yields on longs, and the differential between short-term and long-term yields narrowed appreciably between September, 1958 and September, 1959.

Table VI-A shows yields (on an average monthly basis) on Government of Canada bonds between September, 1958 and September, 1959. It will be seen that while yields on the 3 per cent December 15, 1960 rose from 3.07 to 6.27; on the 3 per cent May 1, 1961 from 3.07 to 6.34; and on the 3 per cent December 1, 1961 from 3.19 to 6.33;

yields on the $3\frac{1}{2}$ per cent October 1, 1979 rose from 4.10 to 5.23; on the $4\frac{1}{2}$ per cent September 1, 1983 from 4.56 to 5.61, and on the $3\frac{3}{4}$ per cent September 15, 1996--March 15, 1998 from 4.26 to 5.02. The spread in yield narrowed from 3.20 on the shortest bond included in the table, to .751 on the longest.²⁶

We may close this discussion on the economic consequences of the Conversion Loan with some comments on the effect of the rising yields on the Canadian foreign exchange. As interest rates in Canada rose sharply following the Conversion, the differential between United States rates and Canadian rates widened appreciably, as the following table indicates.

INTEREST RATE DIFFERENTIALS 1955-1961

Date	Canada	United States	Differential
<u>Three-Month Treasury Bills</u>			
1955 - November 1	2.23	2.03	.20
1956 - March 31	2.64	2.17	.47
1957 - May 16	3.78	2.89	.89
1958 - February 27.	2.86	1.20	1.66
1959 - August 13.	6.16	3.15	3.01
1960 - December 1	3.95	2.33	1.62
1961 - January 5.	3.34	2.23	1.11
<u>Long-Term Bond Yields</u>			
	<u>Canada^a</u>	<u>United States^b</u>	<u>Differential</u>
1955 - January 12	3.33	2.75	.58
1956 - October 3.	3.91	3.22	.69
1957 - February 6	4.13	3.22	.91
1958 - November 26.	4.66	3.66	1.00
1959 - October 21	5.50	3.96	1.54
1960 - December 28.	5.41	3.80	1.61
1961 - January 4.	5.36	3.81	1.55

^a $3\frac{3}{4}\%$ 75-78 Canada

^b $3\frac{1}{4}\%$ 78-83 United States

Source: R. E. Artus, "Canada Pegs Its Dollar," The Banker, June, 1962, p. 367.

Note: For Treasury bills the figures compare the Canadian average tender rate on Thursdays with the United States rate on the preceding Monday. The dates given for long-term bonds are all Wednesdays. The table shows the widest positive margin on Canadian rates in each year on this basis--though this is not necessarily the actual peak for the year in question.

The differential between Canadian and United States rates had begun to widen in late 1956, but two sudden jumps occurred in 1958 and 1959, with the differential widening most on short-term securities. Even with the sharp increase in these differentials the Bank of Canada maintained a tight grip on the money supply. The Bank apparently held the view that it was more important to contain inflationary forces than to act to reduce the rising differential between Canadian and United States rates.

The differential in rates, and the restrictive monetary policy in force in Canada led to heavy borrowing by Canadians in the United States market. It can be seen from Table VI that from 1956 through to 1959 there were large net sales of new Canadian securities abroad, and these were made mainly in the United States. The figures of net sales of new bonds outside of Canada by provincial and municipal governments and corporations are as follows:

1956	\$482 million	1958	\$447 million
1957	\$523 million	1959	\$373 million

The continuing transfer of these large amounts into Canada contributed to an increase in the premium on the Canadian dollar. The value of the Canadian dollar which stood at a premium of some 2 per cent in January, 1958 vis-a-vis the United States dollar, rose to a premium of closer to 6 per cent in September, 1959.

Provincial governments, municipalities and private corporations were not the only ones to use the United States market. McLaury states that:

. . . under the pressure that developed in 1959, the banks obtained funds for use in Canada by soliciting foreign current deposits which they did not offset with investment in foreign currency assets. (There are no specific reserve requirements against foreign currency liabilities.) The result was the same as if the banks had sold an equal volume of securities in the domestic market. The cost involved depended on the relative rates of interest in New York and in Canada and the cost of forward cover. Apparently the banks found this cost less than that which they would have incurred on additional sales of securities, for they acquired more than \$100 million in this fashion over the course of the year.²⁷

The Leader of the Opposition, Hon. Lester Pearson, was making a valid point when, speaking in the House on September 4, 1958, he asked the Minister of Finance whether he thought". . . that the long-term effect of this conversion basing our interest rates at $4\frac{1}{2}$ per cent, may have the possible effect of increasing the premium on the Canadian dollar."²⁸ As matters turned out, when unemployment became a serious problem, exchange rate movements proved inconducive to the needs of domestic policies aimed at encouraging the growth of employment. While such anti-cyclical policy necessitated increasing exports and reducing import competition, the exchange rate was rising rather than falling, and this was making less effective most policies designed to stimulate internal expansion.

CHAPTER V

THE PUBLIC DEBT: ITS SIZE AND THE DISTRIBUTION OF OWNERSHIP

The Size of the Public Debt

The gross public debt, which stood at \$17,313 million at the end of 1946, was reduced during every year (except 1953, 1950, and 1955) up to 1957. Since 1957, the debt rose from \$15,616 million to \$17,747 million in 1960. (See Table IX.) As a percentage of gross national product the debt has fallen considerably; from 146 per cent in 1946 to 49.4 per cent in 1960. A similar pattern can be observed in the debt outside of the Bank of Canada and government accounts.

The amount of debt in this category fell from 122 per cent of gross national product in 1946, to 39.3 per cent in 1960. (See Table VIII)

As a percentage of total debt (Government of Canada, Provincial, Municipal, Corporation and Institutional bonds) the total federal debt has also been falling steadily. From 1952 to 1959, it fell from 64.8 per cent to 50.3 per cent. (See Table IX)

Interest payments on the debt have fluctuated during the post-war period, rising from \$444 million in 1946 to \$461 million in 1949, then falling, and rising again to \$504 million in 1954; rising thereafter from \$519 million in 1957 to \$756 million in 1960. As a percentage of the gross national product interest charges fell almost consistently from 3.74 per cent in 1946 to 1.04 per cent in 1958, but

TABLE VIII

TOTAL DEBT AND INTEREST PAYMENTS AS A PER CENT OF GROSS NATIONAL PRODUCT 1946-1960

Millions of Dollars

Date	G.N.P.	Interest on Debt	% of G.N.P.	Total Debt	% of G.N.P.	Debt Exchange Bank of Canada and Gov't Acct.	% of G.N.P.
1946	\$11,850	\$444	3.74	\$17,313	146.0	\$14,491	122.0
1947	13,165	453	3.44	16,707	127.0	13,413	102.0
1948	15,120	453	2.99	16,478	109.0	13,200	87.3
1949	16,343	461	2.82	15,819	96.7	13,000	79.5
1950	18,006	427	2.37	15,892	88.2	13,082	72.6
1951	21,170	427	2.01	15,334	72.4	13,003	61.4
1952	23,995	441	1.83	15,186	63.2	11,814	49.2
1953	25,020	461	1.84	15,637	62.4	13,001	51.9
1954	24,871	504	2.02	15,466	62.1	11,995	48.2
1955	27,070	494	1.82	16,000	59.1	12,093	44.6
1956	30,098	524	1.74	15,234	50.6	11,290	37.5
1957	31,909	519	1.62	15,165	47.5	11,335	35.5
1958	32,894	544	1.04	16,416	49.8	12,488	37.9
1959	34,784	678	1.95	17,135	49.2	13,545	38.9
1960	35,928	765	2.10	17,747	49.4	14,137	39.3

Source: Bank of Canada, Statistical Summary, several years.

TABLE IX

GOVERNMENT OF CANADA DIRECT AND GUARANTEED DEBT AS A PERCENTAGE OF TOTAL GOVERNMENT
OF CANADA, PROVINCIAL, MUNICIPAL, CORPORATION AND INSTITUTIONAL BONDS 1952-1959

Millions of Dollars

	1952	1953	1954	1955	1956	1957	1958	1959
Total Public Debt . .	\$15,186	\$15,637	\$15,466	\$16,000	\$15,234	\$15,165	\$16,416	\$17,135
Total Bonded Debt . .	23,431	24,713	25,561	26,884	27,690	29,430	32,300	34,033
Percentage.	64.8	63.2	60.5	59.5	55.0	51.5	50.8	50.3

Source: Bank of Canada, Statistical Summary, 1959, p. 85.

rose from that date to 2.10 in 1960. (See Table VIII.)

The Distribution of Ownership
of the Public Debt

In discussing the size of the public debt we have to decide what debt concept it is most convenient to employ, and what other economic variables we shall use in order to place the debt in proper perspective. Smith argues that,

. . . the gross public debt, which is the most commonly used debt concept, contains important elements of fictitious debt and that exclusive attention to it gives an exaggerated impression of the size of the debt, its tendency to grow continuously, and the problems of managing it.

He is of the view that,

. . . for most purposes the publicly held debt is the appropriate concept to use, since this is the debt which must find lodgement with private investors and on which the treasury must pay interest.¹

We can accept Smith's concept of the debt as adequate for our present purpose. As we have seen in Chapter IV when we were dealing with the Conversion Loan of 1958, changes in the size or maturity structure of the public debt held by households and financial and non-financial institutions bring about changes in the liquidity of the portfolios of these groups, and affect both the level and the structure of interest rates. Further, changes in the volume and maturity structure of the publicly held debt can affect the interest cost to the government through their effect on the level and structure of interest rates. On the other hand, changes in the volume of public debt held by government accounts, which do not affect public holdings of the debt, are of little consequence for our analysis, even though such changes

may increase or reduce total debt. Similarly, changes in the volume of public debt held by the central bank, which do not affect public holdings of the debt, are important for our analysis in two circumstances only; first, where they result in a shift of government deposits from commercial banks to the central bank; and second, where they lead to net monetary expansion.

We shall first examine the changes that have taken place in general public holdings of government debt in Canada between 1946 and 1959. For purposes of this examination the category "general public" will be broken down into financial institutions, non-financial corporations, households and non-residents. Included among the financial institutions we find the chartered banks, insurance companies and the Quebec Savings Banks, while non-financial corporations include business firms and pension funds.

The Chartered Banks

Chartered Bank holdings of government securities stood at approximately 50 per cent of total bank assets in 1946. In 1947, there was a sharp rise in loans and a corresponding decline in holdings of government securities, and from that time to the end of 1950, government securities amounted to between 40 per cent and 43.2 per cent of banks' total assets. (See Table X.) The general trend since the end of 1950 has been a sharp decline in holdings of governments as a proportion of total bank assets, and marked cyclical changes in the volume of such securities held by the banks, together with a "marked shift away from longer-term government issues."² (See Table X.)

TABLE X

CHARTERED BANKS HOLDINGS OF GOVERNMENT SECURITIES 1947-1960

Millions of Dollars

Date	Treasury Bills	Other	Total	Total Debt	% of Total Debt	Total Assets ^a
1947	\$139	\$2,561	\$2,700	\$16,707	16.1	\$6,372
1948	129	2,881	3,010	16,478	18.2	6,956
1949	126	3,029	3,155	15,819	19.9	7,262
1950	129	3,001	3,130	15,892	19.6	7,783
1951	236	2,594	2,830	15,334	18.4	7,689
1952	139	2,767	2,905	15,186	19.1	8,112
1953	245	2,617	2,862	15,637	18.3	8,627
1954	363	3,003	3,366	15,466	21.7	9,248
1955	430	2,694	3,124	16,000	19.5	10,257
1956	743	1,781	2,524	15,234	16.5	10,308
1957	808	1,833	2,641	15,165	17.4	10,812
1958	956	2,565	3,521	16,416	21.4	12,089
1959	983	1,827	2,811	17,135	16.4	12,047
1960	974	2,084	3,057	17,747	17.2	

^aExcluding Canadian items in transit; acceptances guarantees and letters of credit; all other assets.

Source: Bank of Canada, Statistical Summary, 1959, p. 46.

As McLaury explains:

. . . Since the beginning of 1950, there have been four periods during which chartered bank loans have expanded rapidly, separated by three periods during which the banks have added substantially to their holdings of government securities; in three of the four periods of loan expansion (the exception being 1952-1953), the increase in the volume of loans outstanding was financed primarily by reduction in government security holdings. When the shifts from governments to loans reached the proportions that they did in 1955-1956 and 1958-1959, it is not difficult to appreciate the bank's need for liquidity solely from the point of view of minimizing losses on security sales in a declining market.³

(See Table XI.)

We pointed out in Chapter III that during the 1952-1953 loan expansion, the banks were in a position to expand their total assets, and the government redeemed Deposit Certificates which they held. There was therefore no need to sell government securities in order to expand loans.

The effects of portfolio switching on the proportion of government debt held by the banks can be seen from Table X. There we find that between the end of 1949 and the end of 1951, government securities held by the banks fell from 19.9 per cent to 18.4 per cent of total Government of Canada debt. This decline accompanied the loan expansion period extending roughly from August, 1950, to March, 1951. Similar changes can be traced to the loan expansion phases of May, 1955 to May, 1956, and September, 1958 to September, 1959. The table shows also that in periods of slack demand for loans the banks tend to build up their holdings of government securities.

The introduction of the 15 per cent liquid asset ratio in 1955

TABLE XI	
CHANGES IN CERTAIN CHARTERED BANK ASSETS 1950-1959	
Millions of Dollars	Month End

Approximate Periods of Rapid Changes	Change in Holdings in Government Securities ^a	Change in Volume of Loans Out- standing ^b	Change in Total Assets ^c
August, 1950 March, 1951 ^d . . .	\$ -458	\$ -603	\$ +58
July, 1951 July, 1952	+333	+59	+421
August, 1952 . . . August, 1953	-211	+663	+520
June, 1954 June, 1955	+827	+101	+1,244
May, 1955 May, 1956	-904	+1,198	+564
August, 1957 August, 1958 . . .	+1,427	-301	+1,568
September, 1958 September, 1959 . .	-1,063	+1,162	+171

^avalued at "not exceeding market value" prior to 1957; at "amortized value" thereafter.

^bTotal Canadian currency loans, except day-to-day loans; does not include investments or mortgages.

^cTotal of Bank of Canada notes and deposits, day loans, government securities, net foreign assets, Canadian currency loans, mortgages, and other Canadian securities. Does not include items in transit, contingent liabilities of customers, or "other assets."

^dIn February, 1951 the chartered banks agreed to a ceiling on loans.

Source: B. K. McLaury, op. cit., Table V-3, p. 276.

led to a substantial change in the composition of bank holdings of governments. By the time the banks had achieved the required liquid asset ratio, in May, 1956 their holdings of Treasury bills had risen from 3 per cent (on November, 1955) to 7 per cent of total assets, and their holdings of bonds in the over two-year category had fallen from 23 per cent to 14 per cent of total assets.⁴ Introduction of the liquid asset ratio also impounded a large proportion of the banks' most liquid assets, and made it necessary for them to concentrate more of their portfolios in the shorter maturities if they were to be able to shift out of governments without severe losses.

The main consequences of changes in bank holdings of government securities relate to changes in velocity, and can be considered outside the immediate scope of our analysis. It may be of interest, however, to deal briefly with velocity changes in the post-war period. If we define the money supply as comprising currency outside the banks and non-government demand deposits, we find that from the end of 1946 to the end of 1959, income velocity increased by some 85 per cent. About 25 per cent of this increase took place before 1950, mainly in 1947, and can be accounted for by the working off of excess liquidity built up during the war. The subsequent changes in velocity can be traced primarily to cyclical pressures. In 1951-1952, under the impact of the credit ceiling, velocity rose some 20 per cent in eighteen months. Between the end of 1955 and the third quarter of 1957, under central bank restriction on money supply, velocity rose by 25 per cent. In the subsequent recession velocity fell, but regained its previous

level in the recovery of 1959-

Insurance Companies

Life insurance companies are committed to fixed contractual obligations at stated rates of interest, and the income from their investments must be sufficient to cover these fixed liabilities. At the same time their receipts of new funds are usually in excess of the outflow of funds and administrative expenses, and so, the need for liquidity is not a pressing one. In addition, the receipt of income on outstanding investment, and the maturing and amortization of their investments, provide these companies with substantial sums for re-investment. As W. M. Hood and O. W. Main comment:

The influence of the Canadian life companies in the Canadian capital market must be assessed not only by the amount of new funds they bring to the market but also by the amount of funds they secure from the maturing of their assets, from the sale of assets, and from repayment on mortgages and loans. The amounts arising from disposal of assets or the repayment of loans in a year are normally two or three times the net new funds acquired from current operations. . . . When the life companies are trading in assets, or when there are heavy redemptions of outstanding securities they own, they may switch up to one-third of their assets. Thus the total amount available for new investment in Canadian assets by the life companies has reached as high as \$780 million in one year.⁵

The investment business of life insurance companies is primarily long-term in character. Their liabilities are usually long-term, and since cash inflow can be expected to exceed cash outflow, funds can be invested without too much regard being paid to liquidity. The main risk which these companies must guard against is the risk of changes in interest rates. Like most long-term investors. Life insurance

companies must seek to average out the yields on investments made in different time periods, and this poses special problems when the fund for investment is continually increasing. As Hood and Main contend:

A . . . risk against which they can insure themselves is the risk of changes in interest rates during the period of the investment. Unless the trustee is willing to gamble on changes in the interest rates, he should aim to hedge his position by matching his maturing assets against his maturing liabilities. If his fund were in equilibrium so that cash inflow just equalled cash outflow, it would be possible to protect his position provided there were no changes in the interest rate structure. However, in a growing fund, it will be more difficult, because . . . cash income will exceed cash outflow, and the proportion of long-term assets must exceed the proportion of long-term liabilities because liabilities can be met out of current operations for some time. . . . Indeed, with a continually growing fund, there would be no need to hold assets to maturity. If the trustee maintains his funds in such a way that his assets are of shorter length than his liabilities, then he is open to the risks of a decline in interest rates, and is speculating that they will increase.⁶

In addition to the portfolio policy stemming from the nature of life insurance liabilities, these companies are subject to legal limitations which have a direct bearing on the securities they may hold. In order to protect policyholders, the law stipulates, for example, that insurance companies may invest in: (a) fixed income securities backed by taxing power or real property, (b) corporation debentures, where the issuing corporation has paid dividends equal to or above a specified rate for the preceding five years, or has had earnings for that period of twice its annual interest requirements at the time of issue of the debentures.

If we look at the distribution of investment in the portfolios of life insurance companies since 1946, we find a steady drift away

from government securities and into investment in housing and corporate securities. While in 1945, 66 per cent of their assets were in government securities and 34 per cent were in private debt, in 1959, some 21 per cent of assets were in government (Federal, Provincial, and Municipal) securities, and 79 per cent were in private debt. Among private debt holdings in 1959, some 26 per cent represented corporation and other bonds and 37 per cent represented mortgages and sales agreements.

The high proportion of government bonds acquired during the war brought about an alteration in the security portfolios of the life insurance companies, and tended to reduce the average yield on their investment.

The accumulation of lower-yielding securities accentuated the decline in yield on investment that had been continuing since 1929. In 1929 life companies earned over 6 per cent on their investment, but by 1947, they were earning only $3\frac{1}{2}$ per cent. At that point, the yield was getting dangerously close to the rates set in calculating premiums, in spite of the improvement in mortality rates during the period.⁷

As one would expect, the current level of interest rates is an important consideration affecting life insurance demands for government securities. The contractual obligations of these companies make it necessary for them to earn an average minimum return on their investments. Thus, when the yield on government securities is below this required average minimum yield, life insurance companies must seek alternative investment outlets. In Canada, the post-war period has been largely one of relatively low and stable rates on government long-term bonds. For the period December, 1947 to September, 1957,

there were only two periods when the theoretical yield on Government of Canada 15 year bonds exceeded $3\frac{1}{4}$ per cent; these were in 1953 and 1957. It is not surprising therefore that life insurance companies have sought aggressively to find investment outlets which provide higher returns than government bonds. The main outlets have been the field of housing, where between 1946 and 1955, 2.3 billion dollars was invested in mortgages,⁸ and in which the companies had 37.2 per cent of their assets invested in 1959; and corporate bonds, in which the companies had placed 25.7 per cent of their assets in 1959.

In addition to the superior attractiveness, in terms of yield, of corporate bonds and mortgages, the continuing shortening of the average maturity of the public debt has undoubtedly been a factor in the shift away from government securities. One of the attractions of long-term bonds is the prospect of selling them at a profit as they near maturity, and as persons needing more liquid assets are willing to accept them at lower yields. As the average maturity of the debt has shortened the possibility of this type of return has diminished.

The reduced attractiveness of government bonds has led Hood and Main to conclude that:

. . .The continued decline in the holdings of government bonds . . . is not surprising, nor would it be surprising barring changes in the structure of interest rates, to see the trend continue until the life companies hold government bonds only for emergency purposes, or for lack of immediate opportunities for investment.⁹

This is a rather pessimistic view especially as government securities have much greater marketability than both corporate bonds and mortgages. In fact, since the sharp rise in interest rates

following the Conversion Loan of 1958, there are some small signs that insurance companies have at least halted the reduction in absolute holdings of government securities. Since 1947, the trend has been a continuing decline in both the absolute volume of government securities held, and in the proportion of total assets held in such securities. Table XII shows that while between 1954 and 1957, holdings of government securities declined from \$840 million to \$538 million, such holdings increased to \$557 million in 1958, \$617 million in 1959, and \$699 million in 1960. The shift in the allocation of investment seems to have been made at the expense of investment in corporation and other bonds. As a proportion of total assets, investment in corporation and other bonds declined from 26.7 per cent in 1958 to 25.7 per cent in 1959, and 24.7 per cent in 1960. Undoubtedly this is a very modest shift when one considers the considerable increase in long-term public debt due to the Conversion Loan; nevertheless, it demonstrates that at higher interest rates insurance companies can be induced to hold more government securities. Because the statistics do not show what proportion of the increased holdings of public debt is represented by short-term securities, however, it is not possible to deduce whether the new trend can be expected to continue for any length of time.

Trust Companies, Pension Funds,
and the Quebec Savings Banks

Table XII also gives figures of selected holdings of securities of Quebec Savings Banks, seven Mortgage and Loan Companies, and seven

TABLE XII

SECURITY HOLDINGS OF SEVEN MORTGAGE AND LOAN COMPANIES

Millions of Dollars

	1947	% of Assets	1948	% of Assets	1949	% of Assets	1950	% of Assets	1951	% of Assets	1952	% of Assets	1953	% of Assets
Government of Canada	\$ 64	24.9	\$ 48	17.8	\$ 41	14.1	\$ 37	11.7	\$ 43	11.4	\$ 44	10.9	\$ 45	10.3
Mortgage Loans and Agree- ments Sale	145	56.4	170	63.1	196	67.5	224	70.8	276	73.0	299	74.0	331	75.9
Total Assets	\$257		\$269		\$290		\$316		\$378		\$404		\$436	

	1954	% of Assets	1955	% of Assets	1956	% of Assets	1957	% of Assets	1958	% of Assets	1959	% of Assets
Government of Canada	\$ 57	11.3	\$ 54	9.6	\$ 46	7.7	\$ 46	7.2	\$ 57	7.98	\$ 54	6.9
Mortgage Loans and Agree- ments Sale	375	74.7	418	74.7	467	77.8	488	76.1	533	74.6	589	75.1
Total Assets	\$502		\$559		\$600		\$641		\$714		\$784	

TABLE XII (continued)

SELECTED SECURITY HOLDINGS OF SEVEN TRUST COMPANIES

Millions of Dollars

	1947	% of Assets	1948	% of Assets	1949	% of Assets	1950	% of Assets	1951	% of Assets	1952	% of Assets	1953	% of Assets
Government of Canada	\$129	43.0	\$131	39.8	\$139	38.3	\$146	36.5	\$133	32.1	\$123	28.4	\$121	27.5
Provincial Bonds . .	17	5.7	24	7.3	33	9.1	38	19.5	39	9.4	41	9.4	44	10.0
Municipal Bonds . . .	13	4.3	16	4.9	20	5.5	22	5.5	25	6.0	27	6.2	28	6.3
Corporate Bonds . . .	18	6.0	21	6.3	21	5.8	27	6.7	31	7.4	34	7.8	35	7.9
Mortgage Loan and Agreements Sale . .	68	23.0	76	23.0	86	24.0	100	25.0	117	28.2	125	28.9	137	31.1
Other Loans	15	5.0	17	5.2	16	4.4	17	4.2	20	4.8	20	4.6	18	4.0
Total Assets . .	\$300		\$329		\$362		\$399		\$414		\$432		\$440	

	1954	% of Assets	1955	% of Assets	1956	% of Assets	1957	% of Assets	1958	% of Assets	1959	% of Assets
Government of Canada	\$161	27.3	\$147	22.0	\$127	18.3	\$131	17.9	\$167	18.5	\$182	18.2
Provincial Bonds . .	67	11.3	88	13.2	70	10.1	75	10.3	111	12.3	96	9.6
Municipal Bonds . . .	37	6.2	43	6.4	39	5.6	38	5.2	44	4.8	43	4.3
Corporate Bonds . . .	61	10.3	69	10.3	84	12.1	99	13.5	111	12.3	142	14.2
Mortgage Loan and Agreements Sale . .	165	28.0	213	31.9	252	36.4	257	35.3	323	35.8	385	38.5
Other Loans	31	5.2	34	5.1	32	4.6	39	5.3	54	5.9	44	4.4
Total Assets . .	\$588		\$666		\$692		\$728		\$902		\$999	

TABLE XII (continued)

LIFE INSURANCE COMPANIES: ASSETS HELD IN CANADA

Millions of Dollars

	1954	% of Assets	1955	% of Assets	1956	% of Assets	1957	% of Assets	1958	% of Assets	1959	% of Assets	1960	% of Assets
Government of Canada	\$ 840	16.0	\$ 783	13.9	\$ 598	9.9	\$ 538	8.2	\$ 557	8.0	\$ 617	8.2	\$ 699	8.7
Provincial Bonds . .	354	6.7	354	6.3	389	6.4	415	6.3	414	5.9	462	6.1	526	
Municipal Bonds . .	328	6.2	374	6.6	399	6.6	427	6.5	456	6.5	507	7.0	547	
Corporate and Other Preferred and Other Stock . .	1,407	26.9	1,460	26.0	1,600	26.6	1,749	26.8	1,858	26.7	1,924	25.7	1,983	24.7
Foreign Bonds . .	116	2.2	130	2.3	138	2.2	139	2.1	160	2.3	171	2.2	176	
Foreign Preferred and Other	111	2.1	90	1.6	92	1.5	128	1.9	108	1.5	116	1.5	121	
Mortgage Loans and Sale Agree- ments . .	58	1.1	76	1.3	83	1.4	76	1.1	75	1.0	70	9.0	70	
Real Estate Policy Loans . .	1,519	29.0	1,812	32.3	2,120	35.2	2,367	36.3	2,529	36.4	2,787	37.2	3,011	37.6
	135	2.5	157	2.7	183	3.0	223	3.4	250	3.6	267	3.5	285	
	240	4.5	250	4.4	270	4.4	295	4.5	305	4.3	323	4.3	344	
Total Assets	\$5,226		\$5,608		\$6,009		\$6,511		\$6,933		\$7,474		\$8,007	

TABLE XII (continued)

SELECTED SECURITY HOLDINGS OF QUEBEC SAVINGS BANKS

Millions of Dollars

	1948	% of Assets	1949	% of Assets	1950	% of Assets	1951	% of Assets	1952	% of Assets	1953	% of Assets
Government of Canada	\$ 95.4	51.6	\$ 96.5	48.7	\$ 93.0	45.6	\$ 89.6	43.6	\$ 95.5	43.7	\$ 91.6	40.5
Provincial Bonds . .	41.6	22.5	46.4	23.4	51.5	25.2	48.6	23.6	48.1	22.0	49.0	21.6
Municipal Bonds . . .	19.4	10.4	22.5	11.4	25.2	12.3	27.8	13.5	33.1	15.1	37.3	16.5
Other Bonds	8.0	4.3	8.6	4.3	9.5	4.6	9.2	4.4	8.1	3.7	10.5	4.6
Insured N.H.A.												
Mortgages												
Other Mortgages . .	-		.2		.5		1.7		4.4	2.0	6.7	2.9
Loans Otherwise												
Secured	4.0	2.1	4.1	2.1	4.1	2.0	4.3	2.0	4.4	2.0	4.6	2.0
Unsecured Loans1		.1		.3		.5		1.7		3.0	1.3
Total Assets . .	\$184.8		\$198.0		\$203.7		\$205.1		\$218.1		\$225.9	

TABLE XII (continued)

SELECTED SECURITY HOLDINGS OF QUEBEC SAVINGS BANKS

Millions of Dollars

	1954	% of Assets	1955	% of Assets	1956	% of Assets	1957	% of Assets	1958	% of Assets	1959	% of Assets
Government of Canada	\$ 64.7	26.6	\$ 54.9	20.7	\$ 44.9	16.5	\$ 38.8	13.5	\$ 28.2	9.3	\$ 28.2	9.5
Provincial Bonds . .	68.0	27.0	80.0	30.0	83.2	30.5	85.6	29.9	102.1	33.7	89.7	30.1
Municipal Bonds . . .	46.9	19.3	56.7	21.4	56.0	20.0	52.2	18.2	53.3	17.5	46.5	15.6
Other Bonds	15.6	6.4	16.2	6.1	15.4	5.6	16.8	5.8	18.1	5.9	21.2	7.1
Insured Other:												
Mortgages and . . .	10.0	4.0	14.1	5.3	20.4	7.4	30.7	10.7	40.0	13.2	47.1	15.8
N.H.A Mortgages . .	2.7	1.1	5.6	2.1	9.2	3.3	10.1	3.5	10.7	3.5	10.7	3.6
Loans Otherwise												
Secured	5.0	2.0	5.9	2.2	7.8	2.8	8.8	3.1	6.5	2.1	7.1	2.4
Unsecured Loans . .	2.4	1.0	2.3	.86	3.2	1.1	4.0	1.4	5.6	1.8	6.2	1.6
Total Assets . .	\$242.9		\$265.1		\$272.7		\$285.7		\$302.9		\$298.0	

Sources for Table XII: Bank of Canada, Statistical Summary, 1959, p. 88; 1960, p. 92, 1960, p.97.

Trust Companies. These tables show that for each of these groups, Government of Canada securities have represented a declining proportion of total assets since 1947.

In the case of Quebec Savings Banks the volume of Federal securities held remained fairly stable until 1953 in the face of increases in total assets. In 1954, there was a sharp reduction in the holdings of such securities, and an equally sharp increase in the holdings of provincial and municipal bonds. Between 1953 and 1959, holdings of Government of Canada securities fell from \$91.6 million to \$28.2 million (from 40.5 per cent to 9.5 per cent of total assets).

In the case of the mortgage and loan companies and trust companies the story is also one of a reduction in the total assets held in Government of Canada securities. For these groups there was not a significant reduction in the volume of such securities, but rather a channelling of new funds into other investment outlets; mainly mortgages and corporate bonds.

Non-Financial Corporations

The major part of the excess funds of Canadian corporations is invested in government securities, and these corporations provide probably the best market for short-term bonds. From 1946 to 1959, however, with the exception of 1950, there has been a steady decline in the volume of Government of Canada securities held by non-financial corporations. (See Table XIII.) At the same time this group has added steadily to its holdings of "other securities." While holdings of

TABLE XIII

GENERAL PUBLIC HOLDINGS OF BANK OF CANADA DIRECT AND GUARANTEED SECURITIES 1946-1959

Millions of Dollars

	1946	1947	1948	1949	1950	1951	1952
Provincial Governments	\$ 316	\$ 334	\$ 363	\$ 398	\$ 427	\$ 426	\$ 430
Municipal Governments	129	120	102	96	81	70	71
Life Insurance Companies	1,766	1,754	1,579	1,412	1,222	1,072	1,001
Other Insurance Companies	162	173	188	202	216	241	264
Quebec Savings Banks	77	85	95	97	93	90	96
Trust and Loan Companies	189	196	186	186	189	177	166
Other Financial Insurances	190	187	126	127	138	151	124
Non-Financial Corporations	1,036	727	670	715	930	895	740
Industrial Pension Funds)							
All Other Residents) . .	-	4,667	4,333	4,106	4,071	3,750	-
Market Securities (residual))							
Non-Market Securities) . .	723	-	1,410	1,227	1,218	1,194	1,250
) . .	262						
Refundable Tax) . .	252						
Total Resident	10,083	9,273	9,052	8,566	8,585	8,066	7,887
Non-Resident	1,091	1,030	1,138	1,279	1,367	1,207	1,022
Total General Public	11,714	-	10,190	9,845	9,952	9,273	8,909
Total Debt	-	-	16,478	15,819	15,892	15,334	15,186
Government Accounts	918	-	-	-	-	-	-
Securities Investment Accounts . .	-	-	437	-	-	60	47
Unemployment Insurance Fund	-	-	505	574	636	765	859
Other	-	-	315	222	211	184	195
Total	-	-	1,257	796	847	1,009	1,102

TABLE XIII (continued)

	1953	1954	1955	1956	1957	1958	1959
Provincial Governments	\$ 435	\$ 481	\$ 498	\$ 506	\$ 466	\$ 456	\$ 525
Municipal Governments	68	58	87	68	53	85	75
Life Insurance Companies	955	840	783	5598	538	557	617
Other Insurance Companies	304	316	334	349	368	371	437
Quebec Savings Banks	92	65	55	45	39	28	28
Trust and Loan Companies	162	213	195	164	170	214	226
Other Financial Insurances	149	198	298	238	388	267)	
Non-Financial Corporations	695	615	715	750	575	545)	
Industrial Pension Funds	282)	-	-	294	298	304)	4,883
All Other Residents	-)	2,967	2,931	-	-	-)	
Market Securities (residual))	3,462)	-	-	2,639	2,620	2,619)	
Non-Market Securities	1,632	2,084	2,426	2,532	2,640	2,895	3,212
Refundable Tax	-	-	-	-	-	-	-
Total Resident	8,236	7,837	8,322	8,183	8,155	8,336	10,003
Non-Resident	903	792	647	583	538	632	722
Total General Public	9,139	8,629	8,969	8,766	8,693	8,968	10,725
Total Debt	15,637	15,466	16,000	15,234	15,165	16,416	17,135
Government Accounts	-	-	-	-	-	-	-
Securities Investment Accounts	119	-	200	160	-	125	50
Unemployment Insurance Funds	919	892	884	924	874	619	468
Other	276	312	407	434	492	514	405
Total	1,314	1,204	1,491	1,518	1,367	1,258	923

Source: Bank of Canada, Statistical Summary, 1959-1960, p. 56.

governments fell from \$727 million in 1947 to \$575 million in 1957, holdings of other securities rose from \$551 million in 1947 to \$1,641 million in 1957. (See Table XIV.)

Households and Non-Residents

From the available statistics it is not possible to make a useful analysis of changes in holdings of Government of Canada securities by households. It is possible to make the broad comment that while the holdings of Government of Canada marketable securities in the hands of private individuals has declined up to 1958, holdings of non-marketable securities (Canada Savings Bonds) have increased substantially; from \$723 million in 1946 to \$3,212 million in 1959. (See Table XIII).

Non-resident holdings of Government of Canada securities have registered a steady decline since 1951. Between 1947 and 1950, non-resident holdings rose from \$1,030 million to \$1,367 million, but from then until 1959, the volume of such holdings had fallen to \$722 million. The decline has been due mainly to the fact that the Federal Government has not been issuing securities payable in foreign currencies. The sharp rise in 1949 and 1950 can be explained by the speculative capital inflows which developed after revaluation of the Canadian dollar in 1949.

The Bank of Canada and Government Accounts

The volume of Government of Canada securities held by the Bank of Canada increased from \$1,879 million in 1947 to \$2,744 million in

TABLE XIV

SALES AND SELECTED ASSETS OF CANADIAN NON-FINANCIAL CORPORATIONS^a 1947-1957

Millions of Dollars/Percentages

Tax Year	Cash	% of Cash Sales	Government Securities ^b	% of Government Sales	Other Securities ^c	% of Other Security Sales	Sales
1947	\$ 884	4.9	\$ 727	4.0	\$ 551	3.1	\$18,048
1948	1,006	4.8	6670	3.2	533	2.5	21,075
1949	1,100	4.8	715	3.1	495	2.2	22,781
1950	1,255	4.9	930	3.6	492	1.9	225,827
1951	1,134	3.7	895	2.9	531	1.7	30,647
1952	1,267	3.8	737	2.2	714	2.1	33,245
1953	1,349	3.7	695	1.9	820	2.2	36,862
1954	1,515	4.0	623	1.6	916	2.4	37,968
1955	1,637	3.9	716	1.7	1,208	2.9	42,311
1956	1,547	3.2	753	1.6	1,428	3.1	48,461
1957	1,571	3.1	575	1.1	1,641	3.3	50,399

^aAll "fully instituted corporations" minus "finance," insurance, and real estate category, Taxation Statistics.

^bGovernment of Canada direct and guaranteed securities only.

^cIncludes stocks, bonds, mortgages, notes, agreements for sale, and all negotiable securities other than Government of Canada.

Source: B. K. McLaury, p. 241.

1960. As a proportion of total Government of Canada securities outstanding the Bank's holdings increased from 11.2 per cent in 1947 to a peak of 16.2 per cent in 1957-1958, and fell to 15.⁴ per cent in 1960. (See Table XV.) The growth in central bank holdings of governments up to 1958 was concentrated primarily in the short and intermediate-term categories. In 1946, \$1,195.⁴ million of the \$1,903 million of Government of Canada securities held by the Bank were of term to maturity under two years; in 1953, \$1,376.6 million of the Bank's holding of \$1,895.7 million was in this category. In 1954, the Bank held \$1,361.5 million of government securities in the under two years to maturity category, and \$410.8 million in the category over two years to five years, out of a total of \$2,053.6 million. In 1958, however, following the Conversion Loan, there was a drastic change in the composition of the Bank's portfolio of governments. (See Table XV.) At the end of 1958, out of a total of \$2,585.8 million in governments, \$823.9 million represented securities of five years or less to maturity, and \$1,788.9 million represented securities of over five years to maturity.

Holdings of Government of Canada securities by government accounts have fluctuated fairly widely over the period. As a percentage of total Government of Canada securities outstanding they have ranged from a low of .8 per cent in 1951, to a high of 9.9 per cent in 1956. (See Table XVI.)

We can conclude that for the most part, the changes which have taken place in the pattern of ownership of the public debt have been

TABLE XV

BANK OF CANADA HOLDINGS OF GOVERNMENT OF CANADA DIRECT AND
GUARANTEED SECURITIES 1946-1960

Millions of Dollars

As At 31/12	Treasury Bills	Other Maturities					Total
		2 Years & Under	Over 2 Years	2 to 5 Years	5 to 10 Years	10 Years	
1946	\$233.4	\$ 962.0	\$ 708.2	\$ -	\$ -	\$ -	\$1,607.2
1947	253.8	768.2	858.5	-	-	-	1,626.7
1948	249.5	984.2	779.1	-	-	-	1,763.3
1949	243.6	1,537.8	227.8	-	-	-	1,765.6
1950	262.7	966.6	712.5	-	-	-	1,679.1
1951	186.4	955.3	1,049.3	-	-	-	2,004.7
1952	282.9	1,176.9	767.2	-	-	-	1,944.1
1953	374.5	1,002.1	893.7	-	-	-	1,895.7
1954	168.5	1,193.0	410.8	410.8	297.3	152.5	2,053.6
1955	262.6	1,021.2	-	354.5	516.6	212.5	2,104.9
1956 ^a	505.2	519.7	-	629.7	507.2	232.0	1,888.7
1957	467.1	779.2	-	666.6	301.4	213.3	1,960.4
1958	35.9	245.2	-	551.8	462.5	1,326.4	2,585.8
1959	305.9	514.5	-	61.0	424.6	1,314.7	2,314.8
1960	404.4	353.4	-	526.9	217.9	1,187.2	2,285.4

^aOn December 31, 1956 the basis of valuation of securities held by the Bank was changed.

Source: Bank of Canada, Statistical Summary, 1955, p. 9;
1960, p. 4.

TABLE XVI

BANK OF CANADA HOLDINGS OF GOVERNMENT SECURITIES

Millions of Dollars

Date	Treasury Bills	Other	Total	% of Total Debt	Total Debt
					\$17,313
1947	\$ 254.	\$1,625	\$1,879	11.2	16,707
1948	250.	1,771	2,021	12.2	16,478
1949	244.	1,779	2,023	12.7	15,819
1950	263.	1,700	1,963	12.3	15,892
1951	187.	2,035	2,222	14.4	15,334
1952	283.	1,988	2,271	14.9	15,186
1953	376.	1,946	2,322	14.8	15,637
1954	169.	2,098	2,267	14.6	15,466
1955	264.	2,151	2,416	15.1	16,000
1956	507.	1,919	2,426	15.9	15,234
1957	469.	1,994	2,463	16.2	15,165
1958	36.	2,634	2,670	16.2	16,416
1959	309.	2,368	2,667	15.5	17,135
1960	407.	2,337	2,744	15.4	17,747

related mainly to changes in the maturity structure of the debt and to the relatively low yields on government securities. Generally, investors traditionally interested in long-term securities (life insurance companies, trust funds and savings banks) have sharply reduced the volume of government securities which they held, while investors mainly interested in liquidity--short-term investment--(banks and non-financial corporations) have shown more stability in their holdings of Government of Canada debt. For example, while the proportion of Government of Canada securities held by insurance companies fell from 10.6 per cent in 1946 to 3.3 per cent in 1958, the proportion held by non-financial corporations fell from 5.9 per cent in 1946 to 3.3 per cent in 1958, and that held by chartered banks fluctuated between 16.1 per cent and 21.7 per cent during the period 1947 to 1960.

If we look at general public holdings of Government of Canada securities--excluding savings bonds--we will find that the decline in holdings has been gradual. (See Table XVII) Between 1947 and 1957, holdings declined from 55.5 per cent to 39.8 per cent of total debt.. Since then they have risen to 42 per cent in 1960. The sharp decline in holdings of institutional investors seems to have been partly offset by debt redemption.

Holdings of Canada Savings Bonds increased rapidly since 1954, rising from 13.4 per cent of total public debt in 1947 and 10.4 per cent in 1953, to 20.2 per cent in 1960. The expanding use of savings bonds was the main factor offsetting the reduction in the proportion of the public debt held by institutional investors. As Table XVI

TABLE XVII

GENERAL PUBLIC HOLDINGS OF GOVERNMENT SECURITIES 1947-1960

Millions of Dollars

Date	Treas. Bills	Market Other	Issues Total	% of Total Debt	Canada Savings Bonds	% of Public Held Debt	Total Including Canada Savings Bonds	% of Total Debt	Grand Total
1947	\$ 48	\$9,225	\$9,273	55.5	\$1,440	13.4	\$10,713	64.2	\$16,707
1948	52	8,728	8,780	53.2	1,410	13.8	10,190	66.2	16,478
1949	71	8,547	8,618	54.4	1,227	12.4	9,845	62.2	15,819
1950	57	8,677	8,734	54.9	1,218	12.2	9,952	62.6	15,892
1951	28	8,051	8,079	52.6	1,194	12.8	9,273	60.4	15,334
1952	28	7,631	7,659	50.4	1,250	14.0	8,909	58.6	15,186
1953	24	7,483	7,507	48.0	1,632	17.8	9,139	58.4	15,637
1954	208	6,331	6,539	42.2	2,090	24.2	8,629	55.7	15,466
1955	494	6,043	6,536	40.8	2,433	27.1	8,969	56.0	16,000
1956	285	5,940	6,225	40.8	2,541	28.9	8,766	57.5	15,234
1957	289	5,756	6,045	39.8	2,649	30.4	8,693	57.3	15,165
1958	415	5,658	6,073	36.9	2,895	32.2	8,968	54.6	16,416
1959	755	6,758	7,513	43.8	3,212	29.9	10,725	62.5	17,135
1960	549	6,937	7,458	42.0	3,594	32.4	11,080	62.4	17,747

Source: Bank of Canada, Statistical Summary, 1960, p. 48.

indicates, the total amount of Government of Canada securities held by the general public comprised 64.2 per cent of total federal debt in 1947 and 62.4 per cent in 1960. Between 1947 and 1958, the proportion had declined from 64.2 per cent to 54.6 per cent. This decline was much smaller than the decline of general public holdings (excluding savings bonds) as a percentage of total public debt.

CHAPTER VI

DEBT MANAGEMENT TECHNIQUES

During the post-war period the government used several methods of placing securities. These included:

1. Placing illiquid low-yielding Deposit Certificates with the chartered banks.
2. Regular auctions of Treasury bills.
3. Placing short-term marketable issues with the banks.
4. Sales of securities through primary distributors.
5. Acquisition or underwriting by the Bank of Canada, or Government accounts for cash or in exchange for maturing issues.
6. Issuing Savings Bonds.

During the post-war period Deposit Certificates were placed with the chartered banks in 1950, when the government found itself faced with financial problems with respect to financing the large capital inflows. At that time the banks complained about the low yields and, since then, no further placements have been made. Short-term marketable issues were placed with the banks in 1954 and 1958. These were retired from proceeds of sales of Canada Savings Bonds.

Treasury bills are issued by weekly tender. Instead of carrying interest coupons they are sold at a price below par and the difference between the actual price paid and the par value received at maturity

constitutes the yield. Bills are issued each week for a thirteen or twenty-six weeks term, and are sold by auction. Tenders are received from banks and investment dealers tendering on their own behalf and on behalf of their customers. "Whoever offers the highest price for the quantity of treasury bills which he desires to buy obtains that quantity at that price. Whoever has offered the next highest price likewise obtains the quantity he wishes to buy at the price he has bid."¹ A bidder can submit more than one bid, and the Bank of Canada usually submits a reserve bid covering any part of an issue which has not been taken up. The government has the power to reject the bids received either totally or in part.²

Dealers base their weekly tender on the amount of bills they think they can sell. This depends on the change in the chartered banks' reserve position during the preceding week, and on the estimate of potential demand in the weeks following. Some dealers arrange pre-tender contracts with certain banks; under these contracts the dealer undertakes to supply a specified amount of bills at .02 per cent below the average tender rate.³ McLaury reports that:

. . . Apparently under certain circumstances it is possible for one or two dealers to pretty well corner the market, at least temporarily, in the issue up for auction. . . . On one occasion, a dealer reportedly took one-third or more of the entire tender, catching his colleagues with commitments they could not meet.⁴

For the most part bills have been used primarily as a liquidity instrument through which the banks could adjust their reserves without much difficulty, and as a means of developing the money market. Only

in 1959, were treasury bills used to any major extent as a means of raising money for the government. This has been discussed in Chapter III.

Other market issues are distributed through primary distributors. These include the eight chartered banks, the Quebec Savings Bank and the approved investment dealers; these institutions constitute, in effect, a large selling group. The Investment Dealers' Association describes the detailed arrangements as follows:

. . . Since 1961, the financial community has been given a few days advance notice of the government's intention to come to market on a specified date. On the morning of that day each primary distributor receives an 'offering wire' from the Bank of Canada informing him of the details of the loan, including the amount offered, price, coupon, payment, sub-agent. . . . In some issues the Bank offers each primary distributor a firm allotment which is usually accepted in full. Primary distributors are also permitted to apply for additional bonds, sometimes without limit and sometimes to a maximum which is related to the original allotment. On other issues primary distributors must apply for bonds, calculating how well the loan will be received before entering their application by wire.⁵

According to the Bank of Canada, in recent times, some 60 per cent of bonds available for marketing have been offered to primary distributors on a firm basis, while subscriptions have been invited for the remaining 40 per cent. Subscriptions have been limited to twice the quantity of bonds accepted by the distributor on a firm basis. When the subscription books are closed bonds which have not been accepted are distributed pro rata among primary distributors who have entered subscriptions.⁶

The price at which primary distributors may sell is agreed

when subscriptions are made, and this price is maintained until the Bank of Canada advises that it is no longer applicable. This is usually at the end of business on the day before delivery of the bonds.

It has not been possible to obtain information on the techniques of tailoring new issues of government securities. The Bank of Canada in its brief to the Canadian Royal Commission on Banking and Finance, provides the general comment that:

In order to keep abreast of changes in investor preferences and in the demand for funds, the central bank records and analyses the evidence available on the shifting distribution of outstanding debt (with particular emphasis on nearby maturities), securities prices and yields, and the flows of funds in the capital market as reflected in both new issue activity and secondary dealing.

There are frequent informal discussions with officials of the Department of Finance with regard to the economic and credit situation . . . as well as more specifically with regard to the timing, size and characteristics of the next offering.⁷

Of course, this gives us no firm information of the methods used to set the characteristics of new security issues, and does not help us much in discovering the problems which arise in this area of debt management. Without further information on the techniques used in designing the terms on which new securities are issued it is not possible to make any meaningful comment on this aspect of the management of the public debt. On the basis of the types of securities which have been offered since the war, one can conclude that there has been, in general, a great deal of flexibility in the tailoring of security issues, with maturities and rates of interest on new or refunding issues being adapted to changing credit conditions.

One of the major considerations with respect to issuing of securities is whether the government can be expected to place its securities in firm hands without some form of underwriting assistance, of a type which would ensure that the bonds could be held for some time after issue while they are being placed in the portfolios of investors. As we have seen in Chapter I the Bank of Canada does, to some extent, offer this type of assistance; this is done by providing the chartered banks with increased reserves so that they could meet the dealers' demands for credit to carry inventories of a new issue.

Since 1946 increasing use has been made of savings bonds. These non-marketable securities can provide investors with some alternative to the risk of price fluctuations. They are ideally suited to the small saver and make available to the authorities an important source of savings. They also help to broaden participation in the holdings of public debt. But, as R. V. Roosa states:

It is doubtful whether more than token holdings of savings bonds can find a place in the diversified portfolios of the market-wise and market-sensitive institutional investors, whose combined resources represent the greater share of the nation's supply of savings and investible funds. To them, market price fluctuations are the "stock in trade".⁸

Even when it is possible to lodge significant amount of savings bonds with institutional investors, changes in market rates may cause sizeable fluctuations in the amount of such bonds outstanding. It is likely, for example, that in times of credit stringency there may be a large amount of redemptions, necessitating the issuing of marketable securities. Roosa argues that the use of non-marketable securities

which are not redeemable, but which are convertible into short or intermediate-term securities may help to keep these securities locked in.

In Canada, the volume of savings bonds outstanding rose from \$1,237 million in 1946, to \$3,594 million in 1960. About one-fifth of gross sales in dollars and about one-half in number are accounted for by payroll deductions.⁹ One peculiarity of the program of savings bonds issues is the high proportion of redemptions. During the rapid increase in the volume of these bonds since 1954, redemptions and maturities have been as follows:

Millions of Dollars

Year	Sales	Redemptions and Maturities
1955	\$ 670	\$ 327
1956	877	769
1957	1,253	1,145
1958	844	598
1959	1,495	1,178
1960	947	564
<hr/>		
Total	\$6,068	\$4,581

The large amount of redemptions has prompted the Investment Dealers' Association to conclude that: ". . . From available evidence, it is certain they (savings bonds) are costly to sell and to service because cash redemptions well before final maturity date constitute a high proportion of original sales."¹⁰ The Association provides evidence to back up this view in Table IV-A of its submission to the Canadian Royal Commission on Banking and Finance. This table is reproduced below:

Total Sales (1946 Series 1 to 1961 Series 16)	\$10,408,715,000
Total Amount Outstanding as at January 1, 1962. . . .	4,079,000,000

Amount of Redemption and Maturities	6,329,715,000
Total Amount of Issues Maturing During 1947-1961. . .	1,503,172,000

Resulting Amount of Redemptions (1947-1961)	4,826,543,000
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Redemptions as percentage of total sales. . .	46.4 per cent
Maturing Issues percentage of total sales . .	14.4 per cent
Outstanding January 1, 1962 percentage of total sales.	39.2 per cent

Note: It has been assumed that the amount of each issue outstanding at January 1st, represents the total sales of such issue. The January 1st, figure represents on the average 90 per cent of total sales.¹¹

It can be seen from the table that a large portion of the proceeds of sales of Canada Savings Bonds is available to the government only for very short periods.

In 1960, savings bonds outstanding represented some 20.2 per cent of total Federal debt, and some 32.2 per cent of the Government of Canada debt in the hands of the general public. It would seem from the available evidence therefore that the use of this financial instrument has now been pushed to the limit of practicability. The range of debt instruments covers their basic characteristics of marketability maturity and yield (interest rate), and the major investor groups are guided by adjustments among the yield opportunities which marketable securities afford. For this reason savings bonds must be considered a limited range security, not designed to tap institutional sources of funds. In addition large sales of savings bonds, including

substantial sales to institutional investors may have repercussions for monetary policy, and for debt management. As we have already seen, such sales would raise the possibility of large redemptions during periods of credit stringency and would therefore necessitate recourse to the market to sell marketable issues. Such large scale redemptions would also tend to offset any tight money policy and, because of this, would make it necessary to put more pressure on bank reserves. Roosa even argues that the use of marketable securities has definite advantages for the monetary authorities. He states that: ". . . because credit policy may gain in effectiveness by reaching such investors (institutional) directly through open market operations in long-term government securities, the bulk of the Treasury debt should probably always be placed in marketable securities."¹²

General Comments

As we have already seen, possibly the main features of post-war debt management in Canada, as far as the selection of securities for issue is concerned, are the concentration on short-term bonds (save during the Conversion Issue of 1958), and the dependence on savings bonds.

With regard to the lengthening of the debt, we commented in Chapter III that more systematic use should be made of advance re-funding. It may be possible, in addition, to design very long-term bonds which would meet the needs of institutional investors, who have already developed techniques of providing long-term funds to the private

sector. This could be done in conjunction with advance refunding, and would, in some measure, ease the problem of refinancing. These long-term bonds can be offered in small issues at regular and frequent intervals, thus ensuring that the government taps a larger share of the current flow of savings. As was amply demonstrated in the case of the Conversion Loan of 1958, large-scale issues of long-term securities result in massive reshuffling of portfolios--at best, some investors will sell securities they hold in order to make room for the new issues--and may necessitate substantial underwriting through market purchases by the chartered banks, the Bank of Canada and the investment dealers. This underwriting would be for the purposes of holding the new bonds which would be placed into firm hands over a period of time, and as new savings come on the market.¹³

Most of the bonds issued by the Government of Canada during the post-war period carried no call provision. It would seem that if efforts are made to design long-term (40 to 50 year) bonds, then there may be the need to offer some improved yield on these securities. If call privileges are introduced, and a wide gap is created between the call date and the maturity date, investors may be induced to hold these securities because of the relatively high yield to call date, while the government would retain a hedge against a steady decline in interest rates in the future.

FOOTNOTES

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3. T. C. Gaines, Techniques of Treasury Debt Management, p. 256.
4. E. P. Neufeld, op. cit., p. 158.
5. Ibid., p. 159.
6. B. K. McLaury, The Canadian Money Market, Its Development and Its Impact, p. 45.
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9. B. K. McLaury, op. cit., p. 52.
10. E. P. Neufeld, op. cit., p. 174.
11. B. K. McLaury, op. cit., p. 57.
12. E. P. Neufeld, op. cit., p. 200.
13. B. K. McLaury, op. cit., pp. 87-88.
14. Ibid., p. 139.
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22. A. H. Cameron, Submission to the Canadian Royal Commission on Banking and Finance, 1962., p. 10.
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18. S. W. Rousseas, "Velocity Changes and the Effectiveness of Monetary Policy, 1951-1957," Review of Economics and Statistics, February, 1960, p. 28.
19. George Garvey, Deposit Velocity and Its Significance, p. 87.
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22. J. M. Culbertson, "The Term Structure of Interest Rates," Quarterly Journal of Economics, Vol. LXXI, November, 1957, p. 489.
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3. Bank of Canada Report, 1956, p. 66.
4. W. C. Hood, op. cit., p. 109
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25. A. H. Cameron, op. cit., p. 11.
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