

The Canadian Fixed-Income Market: Recent Developments and Outlook

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- *The composition of the Canadian fixed-income market is changing, with securities issued by private issuers accounting for an increasing proportion of the market. This trend is generally expected to continue in future years.*
- *Shrinking federal government financial requirements are raising some important issues with respect to the future of the fixed-income market, as it remains unclear what would fill the pivotal benchmark and hedging roles that Government of Canada securities currently play.*
- *Another evolving trend in the market is the emergence of electronic trading platforms. These platforms have the potential to facilitate the price-discovery mechanism, increase cost efficiency, and improve the liquidity and transparency of the market.*

The Canadian market for fixed-income securities is in the midst of a structural transformation that parallels similar changes occurring in other national financial markets around the globe. Shrinking federal government financial requirements raise questions about the consequences of falling marketable debt issuance by the Government of Canada. At the same time, corporations are raising their issuance of marketable debt, benefiting from easier and cheaper access to capital markets as well as from increased investor demand for corporate bonds.

Government of Canada securities currently constitute a predominant proportion of outstanding fixed-income instruments and also play pivotal roles in capital markets. For example, they serve as reference benchmarks for the valuation of other traded securities as well as for establishing the costs that households and businesses face when borrowing funds from financial institutions. As such, they contribute to the mechanism through which monetary policy affects economic activity. They also act as hedging vehicles, allowing participants in the fixed-income market to better control their exposure to risk. Moreover, their creditworthiness and liquidity make Government of Canada securities a popular asset for many types of market participants, such as pension funds and insurance companies.

With the corporate market still fairly underdeveloped and illiquid compared with the market for Government of Canada securities, there are generally few benchmarking and hedging alternatives. A reduction in the supply of marketable government debt therefore transcends the market for Government of Canada

securities, potentially raising broader issues about the efficient working of Canadian financial markets. Several measures are being implemented by regulatory bodies and other institutions, such as the Bank of Canada, to mitigate these concerns by preserving and enhancing the liquidity of the market.

Another emerging trend in the fixed-income market is the rapid development of technological innovations such as electronic trading platforms. Depending on how widely these systems are accepted by market participants, they could significantly alter the market's liquidity and transparency, as well as its efficiency.

This article starts with some background information about the fixed-income market and its regulatory framework. The two main developing trends that are affecting the market, namely the shift in its composition and the emergence of electronic trading, are then discussed.

Background

The Canadian market for fixed-income securities is decentralized, over-the-counter, and quote-driven. A small group of dealers act as market-makers, keeping an inventory of securities and standing ready to buy or sell at quoted rates. The fixed-income market is primarily a wholesale market, where most of the trading is done by institutional investors. An investor¹ wishing to enter into a transaction usually contacts dealers active in the market and trades with the counterparty quoting the best price. In addition to having access to the dealers' inventory of securities, the investor can also access the primary market for Government of Canada securities by submitting bids through an investment dealer eligible to participate at auctions. The investor can also participate through a dealer in new issues of provincial, municipal, or private sector debt, which are usually distributed through syndicates rather than through auctions.

In addition to trading with investors, dealers trade among themselves, mainly to offset or hedge some of the risk arising from their transactions with customers. They can trade directly with each other or through one of the four inter-dealer brokers that, as their name indicates, act as facilitators for transactions between dealers. Dealers generally prefer to use a broker

1. Because of the considerable size of typical money market and bond transactions, institutional investors such as pension funds, mutual funds, and insurance companies dominate trading activity, with individual investors participating in fixed-income markets mainly through the business services of these institutions.

because it allows them to trade with their competitors in a more anonymous fashion.

Compared with the order-driven equity market, transactions in the fixed-income market tend to be larger and not as frequent. The higher privacy of the over-the-counter structure allows fixed-income market participants to conduct these large trades with less price impact than if real-time trade information was more readily available to other market participants.

Market Regulation

The Canadian fixed-income market has developed without a national regulator with broad rule-making and supervisory powers. The market is instead monitored by a number of organizations, notably the various provincial securities commissions comprising the Canadian Securities Administrators (CSA), and the Investment Dealers Association of Canada (IDA). Because they are responsible for issuing Government of Canada securities and support well-functioning secondary markets for these securities, the Bank of Canada and the Department of Finance also take an interest in the oversight of these markets.

Canadian Securities Administrators

The CSA is a committee composed of the various provincial securities regulators. Although it does not have regulatory powers in itself, the CSA provides the market with a forum that facilitates policy discussion and harmonization among provincial regulators. It aims to foster fair and efficient markets, maintain public and investor confidence in the integrity of those markets, and protect investors from inequitable and fraudulent practices.

Initiatives currently being pursued by the CSA focus on increasing the transparency of fixed-income markets by subjecting certain types of transactions to real-time transparency standards. Increased transparency is intended to improve the integrity of the market, encourage more trading, and enhance liquidity. There is ongoing debate between various market participants and observers on the optimal level of transparency that would be beneficial for the growth and the efficiency and liquidity of the market. The debate centres on the trade-off between the benefits of increased transparency and the potential negative impact on market liquidity of mandated public dissemination of trade-related information, given the unique characteristics of the fixed-income market in terms of relatively large average trade size and low frequency of trades, as well as a high concentration of market participants.

Investment Dealers Association of Canada

The IDA is a self-governing body that regulates the business activities and capital-adequacy requirements of investment dealers. According to its mission statement, its role is to “foster fair, competitive and efficient capital markets by encouraging participation in the savings and investment process and by ensuring the integrity of the marketplace.” The IDA achieves this goal by auditing and reviewing the conduct of its members to ensure that they comply with protocols concerning matters such as employee competence, capital adequacy, and the handling of client accounts.

In 1998, the IDA adopted *Policy No. 5: Code of Conduct for IDA Member Firms Trading in Domestic Debt Markets*. This set of guidelines applies to IDA member firms as well as to customers and counterparties with which member firms conduct business. *Policy No. 5* is aimed specifically at promoting and maintaining the integrity of the Canadian market for debt securities as well as encouraging liquidity, efficiency, and active trading in this market. Possible sanctions against firms or their personnel who are in violation of *Policy No. 5* include fines of up to \$1 million per offence and, if the breach of conduct is related to Government of Canada securities, the suspension or removal of eligible bidder status for auctions of such securities.

The IDA is considering formalizing and strengthening its role in the fixed-income market by becoming the market’s designated regulator. This would imply overseeing the entire debt market and not just the activities of IDA member firms. The IDA is currently conferring with the CSA to clarify its potential roles and responsibilities, as well as to determine the infrastructure necessary for fulfilling this expanded mandate.

Bank of Canada and Department of Finance

As the federal government’s fiscal agent, the Bank, on behalf of the Department of Finance, is responsible for administering and setting the terms and conditions for auctions of Government of Canada securities. These terms and conditions aim to preserve the integrity of the primary market for Government of Canada debt by preventing the manipulation of the auction process and by promoting the maintenance of public confidence in the process. Measures were taken in 1998 to prevent market participants from acquiring excessive amounts of a specific issue, which might otherwise allow them to control (or “squeeze”) the issue (Harvey 1999). Examples of such measures include the establishment of maximum bidding limits and the separation of bids submitted by dealers for

their own accounts from those submitted on behalf of clients. Dealers and investors wishing to submit bids at auctions are also required to report their holdings of the securities being issued. If a dealer’s holdings exceed a certain threshold, its bidding limit is adjusted downwards.

As well, the Bank is involved with the Department of Finance, the IDA, and provincial securities agencies in maintaining the integrity of the secondary market for Government of Canada securities and in promoting market conditions that favour active trading and lending of securities as well as market efficiency and liquidity. For example, the Bank contributed to the consultations that led to IDA *Policy No. 5* and continually monitors the market for situations in which the policy may apply. This activity contributes to investor welfare and helps provide a reliable source of low-cost funding for the government.

In recent years, the composition of the fixed-income market has been altered significantly by the simultaneous shrinking financial needs of the federal government and the steady rise in corporate issuance.

An Overview of Market Structure

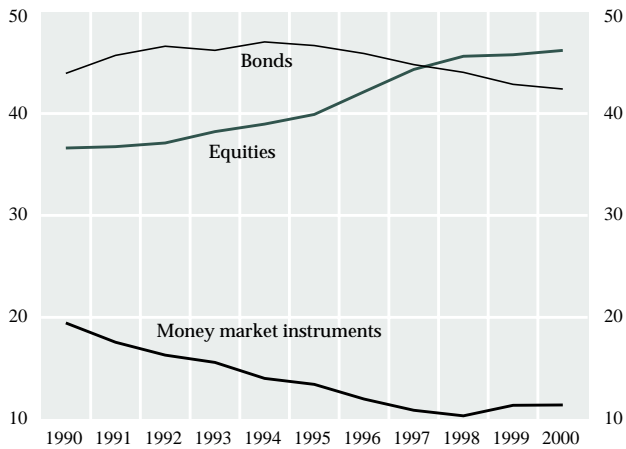
Canadian financial markets have grown considerably during the past decade, with the stock of outstanding marketable securities (bonds, money market instruments, and equities) increasing by approximately 115 per cent over the period to reach \$2.4 trillion in 2000 in terms of the price at which investors have acquired their securities holdings.² Although equities constitute an increasing proportion of that stock, exceeding bonds in 1999, fixed-income securities nevertheless remain an important segment of capital markets. Taken together, bonds and money market instruments made up almost 55 per cent of the total stock of financial instruments denominated in Canadian dollars in 2000. Chart 1 illustrates this change in the composition of financial markets.

2. Source: Statistics Canada, National Balance Sheet Accounts

Chart 1

Share of the Financial Markets, by Type of Security

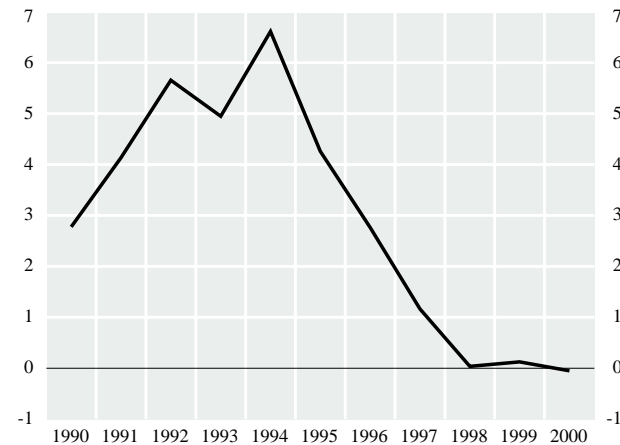
Per cent



Source: Statistics Canada, National Balance Sheet Accounts

Chart 2

Ratio of Net Bond Issuance in Canadian Dollars, Government of Canada vs. Private Sector



Source: Bank of Canada Banking and Financial Statistics

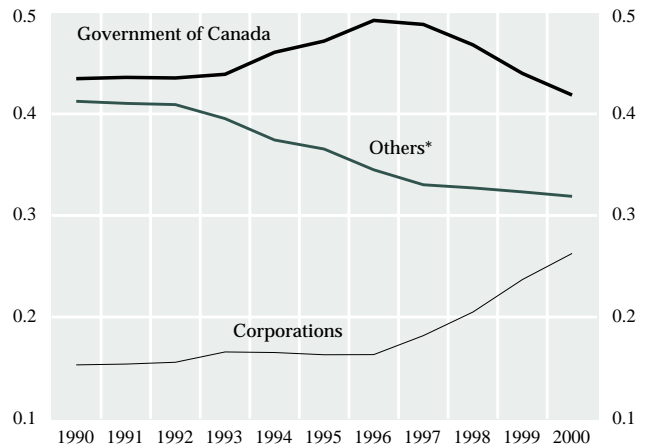
In recent years, the composition of the fixed-income market has been altered significantly by the simultaneous shrinking financial needs of the federal government and the steady rise in corporate issuance. While both these trends are examined later in more detail, it is worth noting that corporations are responsible for an increasing proportion of the stock of marketable debt. Chart 2, which shows the ratio of net new bond issues placed in Canada by the federal government relative to those placed by corporations, illustrates the

profound changes that the bond market is experiencing. Although this ratio has historically been somewhat volatile, its striking decline in the latter part of the 1990s signals an evolving trend in terms of marketable-debt issuance. As shown in Chart 3, one consequence of the substitution of corporate bonds for government marketable debt is that Government of Canada bonds now account for only about 38 per cent of the stock of outstanding bonds compared with roughly 46 per cent when their share of the market peaked in the mid-1990s.

Chart 3

Share of the Market for Bonds Denominated in Canadian Dollars, by Type of Issuer

Per cent



Source: Bank of Canada Banking and Financial Statistics

* Other domestic bonds include bonds issued by provincial and municipal governments as well as by other public institutions.

Developing Trends

The changing composition of the fixed-income market

The market for Government of Canada securities

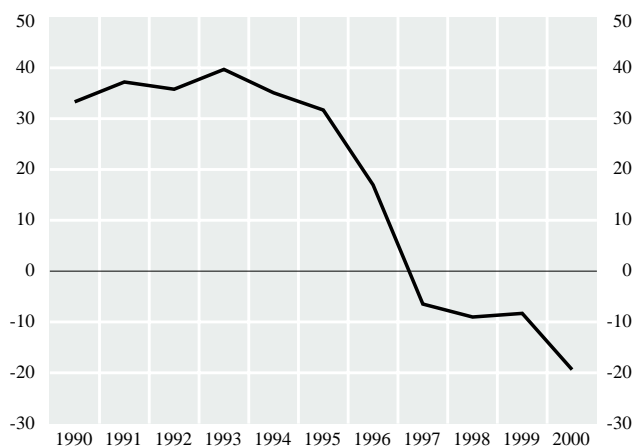
The federal government eliminated its operating deficit in the mid-1990s, achieving a surplus in the 1996/97 fiscal year. Since then, with the strong performance of the Canadian economy and fiscal discipline, the government's financial needs have been virtually eliminated³ (Chart 4).

3. Based on its latest budget, the federal government is expected to have some small financial requirements of \$1.9 and \$1.0 billion, respectively, in fiscal years 2001/02 and 2002/03.

Chart 4

Government of Canada Net Borrowing

\$ billions



Source: Statistics Canada

Since the early 1990s, the Government of Canada has also taken measures to reduce the vulnerability of its public debt portfolio to swings in interest rates by increasing the proportion of long-term, fixed-rate securities. Government of Canada bonds now account for about two-thirds of the government's debt, whereas in fiscal 1992/93, they made up about 50 per cent. Because of this initiative, the bond market has not been affected to the same extent as the money market by the government's reduced financial needs. As shown in Tables 1 and 2, the outstanding stock of Government of Canada bonds continued to grow, while that of treasury bills plateaued in the 1992 to 1995 period. Although the stock of treasury bills has been declining since the government started to accumulate fiscal surpluses in fiscal 1996/97, the outstanding stock of government bonds has been maintained at its peak of about \$300 billion. The composition of the overall Canadian bond market has, however, been altered somewhat since 1997, since the growth of the corporate bond market has led to a small decrease in the proportion accounted for by Government of Canada bonds. In contrast, over the same period, the stock of Government of Canada treasury bills has declined by roughly 20 per cent (Table 2). As a result, treasury bills made up only 32 per cent of money market securities in 2000, compared with 64 per cent in 1995, before their stock started to decline. From Tables 1 and 2, it can be seen that the outstanding stock of securities issued by private entities has been increasing strongly in recent years, a trend discussed in more detail in the

Table 1

Outstanding Bonds Denominated in Canadian Dollars

\$ billions

	Government of Canada bonds	Corporate bonds*	Other domestic bonds**	Total
1990	138.3	62.0	167.4	367.7
1991	157.3	69.4	185.2	411.9
1992	172.1	75.2	197.6	444.9
1993	198.3	88.2	210.0	496.5
1994	226.2	94.0	212.3	532.5
1995	249.8	98.3	219.8	567.9
1996	277.8	104.3	220.2	602.3
1997	298.9	124.2	225.3	666.6
1998	299.4	145.4	230.2	675.0
1999	301.9	179.4	243.1	724.4
2000	301.0	207.3	253.0	761.3
2001***	296.6	228.5	253.4	778.5

Source: Bank of Canada Banking and Financial Statistics (Tables G6 and K8)

* Includes bonds and asset-backed securities issued by corporations

** Includes bonds issued by provincial and municipal governments as well as by other public institutions

*** For 2001, this table shows the outstanding stock as of 31 August instead of at year-end.

Table 2

Outstanding Money Market Securities Denominated in Canadian Dollars

\$ billions

	Government of Canada treasury bills	Commercial paper*	Asset-backed paper	Bankers' acceptances	Other short-term securities**	Total
1990	135.4	29.3		44.1	14.2	223.0
1991	147.6	28.8		36.2	14.0	226.6
1992	159.5	26.3		22.0	17.7	225.5
1993	165.9	28.0	3.7	26.2	16.6	240.4
1994	159.6	31.9	3.7	26.6	18.1	239.9
1995	160.1	35.6	4.8	30.7	17.9	249.1
1996	135.2	31.2	8.7	34.0	17.4	226.5
1997	108.8	35.9	22.4	40.2	17.1	224.4
1998	87.1	40.1	41.4	45.9	17.4	231.9
1999	93.5	51.5	52.9	47.1	18.0	263.0
2000	78.7	55.8	60.3	51.5	20.2	266.5
2001***	84.3	50.0	59.8	48.7	19.0	261.8

Source: Bank of Canada Banking and Financial Statistics (Tables G6 and F2)

* Includes paper issued by finance companies and by other financial and non-financial corporations

** Includes treasury bills issued by provincial and municipal governments, as well as commercial paper issued by foreign corporations

*** For 2001, this table shows the outstanding stock as of 31 August instead of at year-end.

next section. Table 3 shows that the market for interest rate futures contracts has also grown substantially, as evidenced by the significant rise in the open interest on these contracts.

Table 3

Average Open Interest on Interest Rate Futures Contracts

Thousands of contracts

	Futures contracts on 3-month bankers' acceptances (BAX)	Futures contracts on 10-year Government of Canada bonds (CGBs)
1993	35.5	11.8
1994	74.5	25.9
1995	89.6	21.5
1996	91.6	21.1
1997	145.9	32.2
1998	236.5	45.8
1999	214.4	43.3
2000	213.4	48.8
2001*	198.5	59.2

Source: Montreal Exchange

* For 2001, this table shows the average open interest up to 31 August instead of for the full year.

Anecdotal evidence suggests that the reduced issuance of Government of Canada securities has contributed to a decline in the liquidity of that market, with investors increasingly adopting a buy-and-hold strategy that further curtails the effective supply of these instruments (i.e., the supply of securities in the hands of active market participants). Trading activity in Government of Canada treasury bills has also declined since issuance was at its peak, dropping more rapidly than the stock of securities itself. Table 4 shows that the weekly turnover of treasury bills, defined as the ratio of their weekly trading volume to their outstanding stock, declined from 0.549 in 1995 to 0.232 in 2001. While the weekly turnover for Government of Canada bonds increased concurrently with their stock in 1996 and 1997, it has declined significantly since then, even though the stock of outstanding bonds has remained fairly steady. As shown in Table 5, weekly turnover volume has fallen from 0.317 in 1997 to 0.236 in 2001.

The share of the securities industry's revenues stemming from trading in fixed-income products has also been on a declining trend. A number of foreign firms have recently stopped playing a market-making role in the Canadian market, citing low profitability. Moreover, anecdotal evidence suggests that institutional investors are increasingly opting for passive, lower-cost investment strategies, such as indexation, rather than active management. This reduces trading activity. Interest from international investors has also fallen off in recent years, given that the yields on Government

Table 4

Weekly Money Market Turnover, Annual Average

	Government of Canada treasury bills	Commercial paper*	Bankers' acceptances	Other short-term securities**	BAX***
1995	0.549	0.616	0.444	0.187	0.499
1996	0.601	0.582	0.447	0.225	0.505
1997	0.475	0.599	0.434	0.215	0.537
1998	0.364	0.549	0.429	0.265	0.553
1999	0.246	0.501	0.447	0.253	0.541
2000	0.275	0.519	0.477	0.243	0.450
2001****	0.232	0.537	0.552	0.237	0.445

Source: Bank of Canada Banking and Financial Statistics (Tables F11, G6, and F)] and the Montreal Exchange

* Asset-backed securities are included with commercial paper in this table.

** Includes treasury bills issued by provincial and municipal governments, as well as commercial paper issued by foreign corporations

*** Turnover computed by dividing trading volume by open interest

**** For 2001, this table shows the average turnover up to 29 June instead of for the whole year.

Table 5

Weekly Bond Turnover, Annual Average

	Government of Canada bonds	Corporate bonds*	Other domestic bonds**	CGBs***
1995	0.244	0.012	0.020	0.190
1996	0.303	0.010	0.022	0.201
1997	0.317	0.012	0.018	0.157
1998	0.270	0.014	0.024	0.160
1999	0.202	0.013	0.027	0.146
2000	0.195	0.014	0.022	0.122
2001****	0.236	0.014	0.024	0.114

Source: Bank of Canada Banking and Financial Statistics (Tables F12, G6, and K8) and the Montreal Exchange

* Includes bonds and asset-backed securities issued by corporations

** Includes bonds issued by provincial and municipal governments, as well as by other public institutions

*** Turnover computed by dividing trading volume by open interest

**** For 2001, this table shows the average turnover up to 29 June instead of for the whole year.

of Canada securities have been lower than those on their U.S. counterparts.

Since issuance patterns and the practices of market participants are exerting downward pressure on the effective supply of Government of Canada securities, market prices are increasingly influenced by so-called technical factors, thereby deviating from what economic fundamentals would suggest. For example, if the issuance of Government of Canada bonds is expected to be reduced, investors would likely be

willing to pay a scarcity premium to buy these bonds, providing that no close substitute or alternative investment vehicles are available. For example, anecdotal evidence suggests that such a scarcity premium, resulting from a reduction in the effective supply of long-term bonds, contributed importantly to the inversion of the long end of the yield curve that occurred in 2000. This premium was partly the result of an announcement by the U.S. Treasury Department that it might reduce its debt faster than expected.⁴ This announcement came after a decision by the Canadian federal government in April 1998 to decrease its issuance of long-term bonds, reducing the auction frequency from quarterly to semi-annually. In the future, a significant reduction in the effective supply of a given Government of Canada security could lead to a situation where some supply/demand imbalances arise for that security, so that it becomes very expensive to borrow in the market for repurchase agreements. (In market parlance, that security would be said to be “on special” in the “repo” market.) An increase in the frequency and/or the severity of these episodes would likely make market participants more reluctant to take short positions in the Government of Canada securities market, which would reduce the market’s effectiveness in fulfilling its hedging and benchmarking roles. Unless market participants begin using securities other than Government of Canada bonds for benchmarking purposes, such distortions would likely affect borrowing costs and, potentially, other administered rates, such as mortgage rates.

The federal government is, however, committed to preserving the integrity of the market for Government of Canada benchmark issues, and is adopting initiatives to enhance market liquidity and to alleviate some of the pressures on the effective supply of these securities. The government has, for example, progressively increased the target size for 5-, 10-, and 30-year benchmark bonds and has approved new rules that allow bonds that have been stripped to be reconstituted above the original amount stripped. The government has also implemented a program in which it buys back bonds that have become relatively illiquid. This program allows the government to increase the size of current benchmark issues more rapidly than would otherwise be possible. It enhances liquidity by allowing market participants to hold a larger

proportion of their portfolios in liquid benchmark issues rather than in illiquid bonds. The program is being expanded (on a trial basis) in the first quarter of 2002 to allow dealers to directly exchange illiquid bonds for benchmark issues. Another initiative being pursued is the possibility of lending some of the Bank’s holdings of Government of Canada securities to market participants when demand imbalances arise. Discussions are ongoing with market participants to iron out the details of the program, which would reduce the frequency and severity of “specials” and thus help maintain the liquidity and efficiency of the market for repurchase agreements.

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The market for securities issued by the private sector

While the market for Government of Canada securities undergoes these changes, the private sector is intensifying its participation by issuing an increasing amount of marketable debt. As shown in Table 1, the outstanding stock of corporate bonds (including asset-backed securities) has slightly more than doubled since the mid-1990s, reaching \$228.5 billion in 2001. Corporate bonds accounted for 29 per cent of the stock of the overall Canadian bond market in 2001, compared with 17 per cent in 1995.

The Canadian market for corporate bonds has been slower to develop than that of the United States, partly because of the limited investor base, the previous high financing needs of the public sector, and the relative ease with which corporations can issue debt outside of Canada, mainly in the United States (see Miville and Bernier 1999). As shown in Table 6, the U.S. market for corporate bonds issued by domestic

4. This question has recently resurfaced following the suspension of 30-year bond issuance by the U.S. Treasury.

Table 6

Country Share* of the World Bond Market for Domestic Issues** in 2000

Per cent

	Government bond market	Corporate bond market	Overall bond market
United States	46.0	57.4	49.1
Euro area	17.9	16.9	19.8
Japan	22.9	12.4	17.7
United Kingdom	2.4	0.9	3.4
Canada	2.2	1.3	1.7
Australia	0.4	1.0	0.6
Other countries	8.2	10.1	7.7

Source: Merrill Lynch, *Size and Structure of the World Bond Market*

* The content of this table has been computed by converting international issues into U.S. dollars.

** This table excludes debt issued by foreign entities.

firms is by far the most mature in the world. It is also the only one with a deep and liquid high-yield component.⁵ Its growth has been aided by a well-developed infrastructure as well as a large global investor base. Historically, the development of the U.S. corporate bond market has also been helped by the fragmented U.S. banking system, which encourages corporations to obtain market-based financing.

Many non-U.S. corporations, particularly those that are smaller or have a lower credit rating, find the U.S. market to be a more receptive and reliable source of funding. Foreign corporations whose revenues are denominated in U.S. dollars, or who have sizable operations in the United States, also often find it advantageous to issue debt in U.S. dollars, since this allows them to hedge their cash flows against foreign exchange risk. Canadian corporations have not been an exception to this rule. Natural resource firms, which are important issuers of marketable debt and whose revenues are generally denominated in U.S. dollars, are an example.

As mentioned previously, the “investment-grade” Canadian corporate market has been maturing, benefiting from several factors that are affecting both investor demand for corporate bonds and the cost of issuing marketable debt. One important underlying trend that is helpful to market development is the increased institutionalization of savings. Small investors have been holding a rising proportion of their savings in mutual funds or pension plans, which are traditionally important holders of corporate bonds.

5. The high-yield market is composed of bonds issued by corporations with a credit rating that is not “investment grade” (i.e., lower than BBB).

Furthermore, increasingly sophisticated institutional investors, striving to actively improve the risk-reward payoff of their portfolios, are conducting more credit analysis to identify investment opportunities in the corporate bond market. Some institutional investors have also relaxed some of their portfolio-investment rules and fiduciary constraints in order to increase their participation in the corporate market.

In some ways, the growth of the corporate market has also benefited from the heightened use of passive indexation by some institutional investors as an investment strategy.⁶ As the corporate bond market grows and accounts for an increasing share of market indexes, institutional investors have to increase their holdings to match the index they are duplicating.

With interest rates perceived to be low in real terms, the recent interest rate environment has supported longer-term borrowing, and has allowed corporations to take advantage of the increased demand for corporate bonds. Provincial regulators have also taken initiatives to facilitate the registration of new issues. Companies are no longer required to file a new prospectus each time they wish to issue new debt, which significantly reduces their issuing costs. They can, instead, make known their intention to issue marketable securities up to a certain amount and take action only later when financial needs arise or when market conditions are right. Not only do companies retain flexibility with respect to the timing of a new issue, they can use the same prospectus to issue different types of securities (i.e., bonds, equities, preferred shares, etc.). Moreover, there has recently been a move towards harmonizing Canadian credit ratings with international standards, which may further enhance the attractiveness of the Canadian market.

Growth of the Canadian corporate market has so far been limited mainly to issues with a credit rating of A or better. Although the BBB investment-grade market has gained some momentum recently, the high-yield market in Canada remains in its infancy. Table 7 shows estimates of the distribution of the corporate bond segments of various bond indexes across credit categories. The breadth of securities available also remains limited, with financial institutions or well-established issuers dominating the corporate market. As shown in Table 5, the corporate market is also characterized by low trading activity, as the weekly

6. Investors following a passive investment strategy aim to replicate the performance of a benchmark, generally a market index, whereas those following an active strategy would strive to identify investment opportunities that would maximize the risk-adjusted return of their portfolios.

Table 7

Distribution of Corporate Bonds in Bond Indexes by Credit Rating (as of November 2001)

Per cent

Credit rating	Scotia Capital	RBC DS	Merrill Lynch
AA or better	23.3	23.5	23.0
A	58.8	55.9	64.1
BBB	17.9	20.6	12.9

Source: Scotia Capital, RBC Dominion Securities, Merrill Lynch

turnover of corporate bonds remains at levels significantly lower than that of Government of Canada bonds.

The decline in the stock of Government of Canada treasury bills has led money market investors to turn to other short-term instruments to meet their portfolio needs. Alternatives such as bankers' acceptances, commercial paper, and asset-backed securities have moved in to fill the void, and their outstanding stock has soared over the 1995–2000 period (Table 2). The futures market for 90-day bankers' acceptances (known as BAX contracts) has also grown considerably, and has established itself as one of the mainstays of the Canadian money market. The futures market is used to hedge exposure to variations in interest rates and to speculate on the direction of interest rates in order to enhance portfolio performance.

Anecdotal evidence suggests that, so far, investor demand for short-term corporate instruments is mainly geared towards well-known issuers with a high credit rating. Investor appetite for securities with a lower rating remains somewhat limited. The ability of short-term paper to fill some of the void created by the reduced stock of treasury bills can be attributed primarily to the fact that they are a relatively low-risk alternative to government debt for investors seeking to enhance their returns by positioning themselves in a slightly more risky portion of the credit spectrum.

The increased appetite of investors for corporate debt instruments will likely cause this market to develop further, with a greater variety of products available in terms of industrial sectors and credit categories. Liquidity and trading volume should improve as the market continues to grow.

But for this growth to continue, the market must have liquid benchmark issues that serve as a reference for pricing and hedging. Money market participants already use bankers' acceptances as benchmarks to establish the price of other short-term instruments. It

remains to be seen what type of securities could fill this important role in the bond market if the stock and liquidity of Government of Canada bonds were to decrease significantly. While highly rated corporate bonds are one of the candidates, they do not appear to be as well suited for such a role as bankers' acceptances are in the money market. The corporate bond market has the disadvantage of being significantly more fragmented than the market for bankers' acceptances, which is limited to chartered banks. From an investor perspective, the short time to maturity of bankers' acceptances also helps to make securities issued by one bank fairly close substitutes for those issued by another.

The increased appetite of investors for corporate debt instruments will likely cause this market to develop further, with a greater variety of products available in terms of industrial sectors and credit categories.

For the bonds of a given corporation to be used as benchmarks in the bond market, however, the size and the regularity of debt issuance would have to be of a magnitude sufficient for trading to reach a reasonably high level of liquidity. Bond prices for a given corporate security are typically influenced by too many idiosyncratic characteristics associated with that particular security for a situation similar to the money market's experience with bankers' acceptances to emerge in the bond market.

Other candidates to reach benchmark status are interest rate swaps. These instruments are agreements between two parties to exchange one stream of cash flow against another. The most common form of swap involves the exchange of fixed interest rate payments on a notional principal amount against floating interest payments on the same amount over a specified period of time. The fixed rate at which parties conclude the transaction could serve as the benchmark for pricing other securities. Indeed, some believe that swaps might possess some advantages as pricing instruments, since they embody some credit risk and are therefore more closely related to the securities being priced than (risk-free) Government of Canada securities (Fleming 2000). Interest rate swaps also

have the advantage of having no underlying fundamental security. There is, therefore, no supply limit. Anecdotal evidence suggests, however, that the Canadian swap market is not very liquid and has limited depth in terms of active institutional participants and counterparties, which may constrain its development as an effective benchmark.

Electronic trading platforms

Trading practices in the fixed-income market could change significantly following the introduction of electronic trading facilities, which allow the automated execution of one or more steps in the trading process; namely, the transmission of orders, the execution of trades, and the dissemination of pre-trade (i.e., spot quotes and limit orders) and post-trade (i.e., transaction price and volume data) information. While these systems have the potential to increase market transparency, facilitate the price-discovery mechanism, and increase cost-efficiency (Bank for International Settlements 2000), regulation of alternative trading platforms should be carefully considered. For example, some forms of transparency requirements regarding real-time information can have disadvantages (particularly for large, wholesale trades), since they might affect the prices of the securities being traded, especially if the market for those securities is rather illiquid or underdeveloped.

These platforms, widespread in worldwide equity markets, are being rapidly introduced into international fixed-income markets. Close to 80 operating electronic bond-trading systems have recently been identified in the United States by the Bond Market Association in December 2001. The U.S. experience suggests, however, that individual trades on electronic trading platforms tend to be small and are concentrated in homogeneous, commoditized products such as Treasury and federal agency securities.

The Canadian domestic fixed-income market is still operating under a traditional structure, where most institutional trades are made over the phone. However, a group of major Canadian dealers recently announced their intention to create an electronic trading platform for Government of Canada bonds and treasury bills as well as certain corporate issues. This electronic trading system would provide institutions with consolidated real-time bids and offers from all participating dealers for each security. Investors would also have the opportunity to solicit trades with dealers of their choice.

Some firms have recently started to offer electronic trading in fixed-income securities to smaller non-

institutional investors, commonly referred to as “retail investors” in market parlance. More competition is likely to emerge in this sector with the upcoming launch of a retail distribution system based on a successful U.S. business model. According to current plans, several major Canadian dealers would participate in the system as liquidity providers. Retail clients of the various discount brokers and dealers would be able to access this liquidity pool and would be able to buy and sell fixed-income securities on-line from the liquidity providers quoting the best prices. This should provide retail investors with a more competitive pricing platform, enhance the transparency of the Canadian fixed-income market, and may lead to more trading by retail investors.

Because of the relatively small size of the domestic fixed-income market, it remains to be seen if such systems will be viable in Canada. Many attempts have failed internationally because of a lack of interest from market participants. With only a limited number of large institutional investors and with an increasing number of these adopting passive investment strategies, such a system may not generate enough activity to be profitable. The stagnant profitability of the fixed-income trading operations of investment dealers supports these doubts. Many market participants believe that electronic trading platforms will make institutional trading in benchmark bonds more efficient for relatively small transactions but that large ones will continue to be made over the phone, where bilateral negotiations can still take place.

Concluding Remarks

The Canadian fixed-income market is currently undergoing a period of change. Growth in the issuance of corporate bonds has been robust in recent years, with these securities now accounting for about 29 per cent of the overall bond market, compared with about 17 per cent in the mid-1990s. Privately issued debt should play an expanded role in the future. The virtual elimination of federal government financial requirements is also expected to contribute to the reduced dominance of Government of Canada securities. The important roles that these securities play in the market make this transformation quite significant for a number of reasons. Liquidity has already begun to erode somewhat, but could be supported by a series of initiatives implemented by market regulators and by the government to preserve the market's integrity. Liquidity might also be enhanced by the introduction of electronic trading platforms, which could improve market transparency and efficiency.

Literature Cited

Bank for International Settlements. 2000. *The Implications of Electronic Trading in Financial Markets*, November.

Fleming, M. 2000. "Financial Market Implications of the Federal Debt Paydown." *Brookings Papers on Economic Activity* 2: 221-51.

Harvey, N. 1999. "Recent Initiatives in the Market for Government of Canada Securities." *Bank of Canada Review* (Summer): 27-35.

Miville, M. and A. Bernier. 1999. "The Corporate Bond Market in Canada." *Bank of Canada Review* (Autumn): 3-8.

