

Restructuring the Canadian financial system: explanations and implications

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1. Introduction

This paper explores the major financial restructuring of the Canadian financial system over the past thirty years, the motivating factors behind this change, and considers implications for monetary policy and financial stability.

Historically, the Canadian financial system was based on five principal groupings of financial institutions: chartered banks, trust and mortgage loan companies, the co-operative credit movement, insurance companies, and securities dealers. In the post-war period, there have been several changes to the Canadian Bank Act in response to market-driven developments in the financial industry. In the second half of the 1980s and early 1990s, major legislative reforms were introduced to accommodate the financial restructuring that was taking place during this time. In 1987, changes to federal and provincial legislation permitted chartered banks to enter the securities industry through subsidiaries, and non-resident securities dealers were generally permitted to operate in Canada. By 1992, further reforms had been implemented, which permitted federal financial institutions to diversify into new financial businesses (including the provision of full consumer and commercial lending powers to trust and insurance companies), eliminated reserve requirements, and permitted banks and loan companies to offer portfolio management advice. Some of these expanded powers could be offered in-house, while others had to be offered through subsidiaries.

There are, at least, three primary factors that appear to have motivated and influenced the financial restructuring process in Canada. The first factor is the information and technology revolution, which has increased the efficiency and competitiveness of global financial markets, and has provided consumers and firms with a wealth of investment and borrowing alternatives at lower costs. The second factor is the changing financial habits of the “baby boom” generation as they go through their life cycle. This demographic shift has recently exerted significant effects on savings behaviour and the structure of financial markets as baby boomers prepare for their retirement. Finally, the third factor is the effect of a volatile inflation and interest rate environment in the past thirty years, which has influenced the way households and firms manage their financial affairs.

These factors, facilitated by financial restructuring and legislative changes, have led to significant changes in the Canadian financial system over the past thirty years. There has been a considerable amount of consolidation owing to a number of mergers and acquisitions within the financial services sector. Consequently, assets have been re-distributed among industry participants, relatively new financial markets, such as repo markets, have become fully developed, and significant improvements have been made in the range of financial investment choices available to consumers, such as mutual funds. Overall, the Canadian financial industry has become a more competitive, innovative and efficient system.

Although there has been a significant amount of financial restructuring in Canada over the past thirty years, there is little evidence to suggest that the monetary transmission mechanism has been affected. Analysis shows that the broad business-cycle characteristics and correlations over the 1990s are similar to those of the 1960 to 1989 period. Neither does an examination of the instabilities in the models used at the Bank of Canada suggest that there has been a fundamental change in the transmission mechanism, although restructuring has affected our monetary data, and hence has forced

¹ We would like to thank Chuck Freedman, Clyde Goodlet, Mingwei Yuan, David Laidler and Anne Françoise Rensonnet for their guidance, support and helpful assistance in preparing this paper. The views expressed are those of the authors; no responsibility for them should be attributed to the Bank of Canada.

a re-consideration of how we measure money. These findings should not be surprising given that market forces have for many years dominated the transmission of monetary policy effects in Canada, and financial restructuring has reinforced these market forces.

Finally, we consider implications for financial stability. We show that there have been a number of innovations in the supervisory regime during the last decade to maintain financial stability. We point to several influences that are likely to continue to affect financial restructuring in Canada (and in other countries as well). These include the increasing complexity of financial services, the blurring of generic distinctions among financial service firms, greater international linkages, better appreciation of moral hazard, and improved risk-proofing of payments and other clearing and settlement systems. Looking ahead, these trends may result in a more focused mandate for supervisors, and in the use of a more rules-based approach in the conduct of supervision, along the lines of a prompt corrective action regime. Finally, there may be an increased emphasis by central banks on issues related to macro-financial stability.

The paper is organized as follows. Section 2 describes the general framework of the Canadian financial system and outlines the legislative amendments made over the past thirty years. Section 3 explains in detail the primary factors that have affected the financial restructuring process. Section 4 recounts the speed and breadth of financial restructuring that occurred in the late 1980s and 1990s. Sections 5 and 6 explore whether financial restructuring has fundamentally affected the monetary transmission mechanism. And finally, Section 7 considers current trends that may affect financial stability and identifies possible implications of these trends for regulatory practice.

2. Historical background²

The Canadian financial system can be considered to be among the most highly developed in the world. Historically, Canadian financial institutions chose to organize themselves in five principal groupings: chartered banks, trust and mortgage companies, the co-operative credit movement, insurance companies, and securities dealers.³ Traditionally, chartered banks have been involved in personal and commercial lending, as well as personal and business deposit-taking. Trust and mortgage loan companies, as well as co-operative credit movements (credit unions and caisses populaires), primarily specialized in consumer and residential mortgage lending, while at the same time competed with chartered banks for personal deposits. Life insurance companies sold insurance and annuities, and securities dealers were involved in underwriting and selling bond and stock issues.

Unlike some countries, Canadian legislation requires the separation of chartered banks and commercial firms through the absence of both upstream and downstream linkages.⁴ Since 1967, Canadian banks have been required to be widely-held, which means that no person or entity can beneficially own more than 10% of any class of shares of a bank. However, after 1980, Schedule II banks, which were a newly introduced class of banks, could be started and owned on a closely-held basis.⁵ Trust and loan companies could be closely-held by commercial interests.

² This discussion follows Freedman (1992, 1998).

³ Legislative structure supported the financial institutions' desire to specialize in one of these five groupings. More recently, legislation has adapted to support financial institutions as they choose to become less specialized.

⁴ A "downstream" link refers to a controlling ownership position held by a financial institution in a non-financial corporation. An "upstream" link refers to a controlling position held by a non-financial corporation in a financial institution.

⁵ A bank where no person or entity can beneficially own more than 10% of any class of shares is referred to in the Bank Act as a Schedule I bank, while a Schedule II bank refers to all other banks where a person can beneficially own more than 10% of any class of shares (defined as a significant interest). However, at the end of the first 10 years of the life of a Schedule II bank, steps must be taken to ensure that no persons holds a significant interest in the bank. Foreign banks and eligible non-bank Canadian financial institutions that are themselves widely-held are not subject to this 10 year limitation.

In terms of regulatory responsibility, the federal government is generally responsible for the banking sector, provincial governments for the co-operative sector (credit unions and caisses populaires) and the securities industry. Trust and insurance companies can be incorporated either federally (and supervised by a federal agency) or provincially (and supervised by a provincial agency), although the vast majority of companies are federally regulated (at least when measured by assets controlled by these companies).

The most interesting regulatory requirement, perhaps, is the inclusion of a “sunset” clause in Canadian banking legislation, which requires a periodic reassessment and updating of the laws governing Canadian banks. This formal process of re-examining the legislative arrangements approximately each decade through the post-war period has led to some significant revisions to the Canadian Bank Act. Moreover, this requirement has, in part, allowed Canadian financial legislation to respond and adapt effectively to pressures that arose with the evolution of the financial industry.

There are numerous examples of how Canadian legislation has been responsive and adaptive to market-driven developments in the financial industry. In the 1980s, various financial institutions, which historically had specialized in different areas, became interested in broadening their range of permitted activities. In part, this desire derived from their experience with the difficult financial markets of the late 1970s and early 1980s, which left financial institutions concerned that they might not have the flexibility to cope with some of the challenges they expected to face in the coming decade.

As a step towards accommodating this desire, in 1980, during the formal re-examination proceedings of the Bank Act, amendments were made to permit domestic banks to wholly own mortgage loan and venture capital subsidiaries, and their financial service powers were broadened. The mortgage loan subsidiaries could raise deposits that were exempt from reserve requirements, allowing banks to compete more effectively in the mortgage lending market with trust companies, whose deposits were not reservable. At the same time, foreign banks were allowed to establish banking subsidiaries in Canada.⁶

By the mid-1980s, however, several factors began to play an important role in intensifying the pressures for major legislative restructuring. Among some of the more important factors were:

- the need to modernize legislation governing non-bank financial institutions;
- the need to re-examine the business powers for different types of financial institutions;
- the need to deal with concerns of self-dealing, conflicts of interest, and concentration of ownership in closely-held ownership arrangements;
- the need to address concerns about the structure of the deposit insurance system and the adequacy of the supervisory structure, after the costly failure of many trust and mortgage companies, and two small banks, in the 1980s;
- the need for harmonization between federal and provincial regulatory policies; and
- the need to take account of the increased importance of internationalization and securitization.

Although all of these factors contributed in some way to the future process of legislative change, the first three factors were the main catalysts for initiating change, for during this same period, banks were strongly expressing a desire to enter the securities business. This, in part, was a reaction to the trend for large corporate borrowers to move away from bank loans to securities markets for financing. As well, some banks were already engaged in the securities business outside Canada, and viewed access to the domestic securities business as an important means of providing better service to their customers. More generally, it was felt that the entry of Canadian financial institutions into the domestic securities business could provide a new source of capital to support the growing importance

⁶ Foreign banks had already entered Canada as financial corporations and were making loans financed largely through the issuance of commercial paper. They were not subject to the Bank Act prior to 1980.

of that industry. Finally, given that the major institutions would be competing in the same business lines, it was increasingly recognized that reserve requirements, essentially a tax on banks, were a source of competitive inequity.

In response to these pressures, major legislative reforms were introduced and that further changed the structure of the Canadian financial system, which were not triggered by the “sunset” clause. In 1987, changes to federal and provincial legislation accommodated the desire of chartered banks to enter into the securities industry through subsidiaries. Up until this time, banks were permitted to invest in corporate securities for portfolio management purposes, underwrite and distribute government bonds, buy and sell securities on an agency basis, and distribute corporate securities as members of a selling group. However, until the 1987 amendments, they were prohibited from underwriting corporate securities. Also in 1987, legislative reforms were introduced that generally permitted non-resident securities dealers to operate in Canada.⁷

By 1992, the financial restructuring process intensified as major reforms governing all federally regulated financial institutions were implemented in response to developments affecting the entire financial services industry.⁸ During the 1980s, trust companies were experiencing an increase in demand for shorter-term savings deposits because of inflation uncertainty and interest rate volatility. They were also concerned that the demand for residential mortgages, the major asset they held, would decline because of demographic factors. To avoid the risk involved in mismatching the terms of assets and liabilities, and to ensure an adequate range of assets in which to invest depositors’ funds, these companies sought the ability to invest in floating rate and short-term assets, primarily commercial loans.

Similarly, life insurance companies, in response to changing consumer preferences, were shifting their activity away from traditional life insurance products towards short-term deposit-like instruments, and term and group insurance products. Consequently, they too wished to be able to diversify into assets that better matched their liabilities. In addition, life insurance companies and commercial banks wanted to be able to round out their product lines and compete more effectively for fiduciary business and retirement savings, which were expected to be a growing business.

Therefore, the 1992 amendments covered three broad regulatory areas. First, they allowed for a broadening of business powers so that federal financial institutions could diversify both into new financial and limited non-financial services. Some of these expanded powers could be offered in-house, while others had to be offered through subsidiaries. For instance, banks and life insurance companies were allowed to own trust companies, and banks and trust companies to own insurance companies. In terms of the expansion of in-house powers, trust and insurance companies were given full consumer and commercial lending powers, and banks and loan companies were permitted to offer portfolio management advice. As a result, Canadian financial institutions were able to develop into conglomerates with involvement in a variety of financial areas, but because of limitations on investments in non-financial businesses they could not become (German-style) universal banks. The expansion of business powers accommodated the desire by financial institutions to offer a wider range of products and services that have increased the linkages between Canadian financial institutions.

Second, the 1992 amendments required any federally regulated financial institution with more than \$750 million in capital to have 35% of its voting shares widely-held and publicly traded on a Canadian stock exchange within five years of reaching this capital level. However, in some cases, ministerial exemption from this rule is available under the Bank Act.

Finally, the 1992 reforms strengthened corporate governance with new rules on self-dealing, and by requiring financial institutions to establish a Conduct Review Committee, comprised of a majority of

⁷ There were also important changes made to the regulatory framework in 1987, as well as 1995, the most important being the creation of a single supervisory body in 1987, and a clarification of its mandate in 1995. For further details on the supervisory innovations, see Section 7.1.

⁸ At this same time, the “sunset” clause which required a periodic re-examination of banking legislation was extended to include non-bank financial institutions, and the re-examination period was shortened from ten years to five.

directors that are not affiliated with the institution, to ensure that procedures are in place for compliance with the new rules on self-dealing. As well, the 1992 amendments required some representation on the Board of Directors by unaffiliated individuals, and enhanced the duties and responsibilities of the board of directors.

Although the 1987 and 1992 legislative reforms were fairly significant, the financial restructuring process for Canada is far from over. In 1996, the Payments System Advisory Committee was established to contribute to the government's examination of issues related to accessibility and the oversight of the payments system. In this same year, the Task Force on the Future of the Canadian Financial Services Sector was established. This committee's broad mandate was to study public policies affecting the financial services sector, and focus their attention on improving the competitiveness and efficiency of the sector in the face of globalization and technological innovations, while at the same time enhance the industry's contribution to job creation and economic growth. As of September 1998, the Task Force has made their recommendations, which will no doubt influence the next set of legislative amendments that will bring us into the next century.

In summary, the Canadian financial industry traditionally was a highly structured system based on five principal groupings of financial institutions. However, as pressures began to intensify for major financial restructuring, and as Canadian legislation adapted to developments in the marketplace, the traditional structure has become blurred. Furthermore, as the tradition of adaptive legislation continues, the financial restructuring process will no doubt continue, which will facilitate the development of a more competitive and efficient financial system.

3. The causes of financial regulatory change

Clearly, there have been numerous changes in Canadian financial regulation. However, these developments have not occurred in a vacuum; on the contrary, they have been motivated by more fundamental influences which are considered in this section. There are, at least, three underlying economic factors that have been the catalysts for financial restructuring in Canada and around the world: (i) the technology and information revolution; (ii) demographics; and (iii) the variability of inflation and interest rates.

3.1 The technology and information revolution

The rapid development of computer technology and with this, the spectacular improvements in the access to worldwide information in the past two decades, is probably the single most important factor facilitating and driving financial restructuring around the world. Technological developments have improved efficiency, and intensified the speed of innovation in terms of new financial products and the delivery of banking services. Furthermore, technology has permitted the globalization of markets and has revolutionized information systems. As a result, this has given households and businesses easier access to financial alternatives.

There have been numerous developments in the financial services sector as a direct result of technological innovations.⁹ To begin with, there have been significant improvements in the efficiency of the electronic processing of transactions. These efficiency gains have led to a merging and outsourcing of backroom operation activities of large Canadian banks to take advantage of the economies of scale.

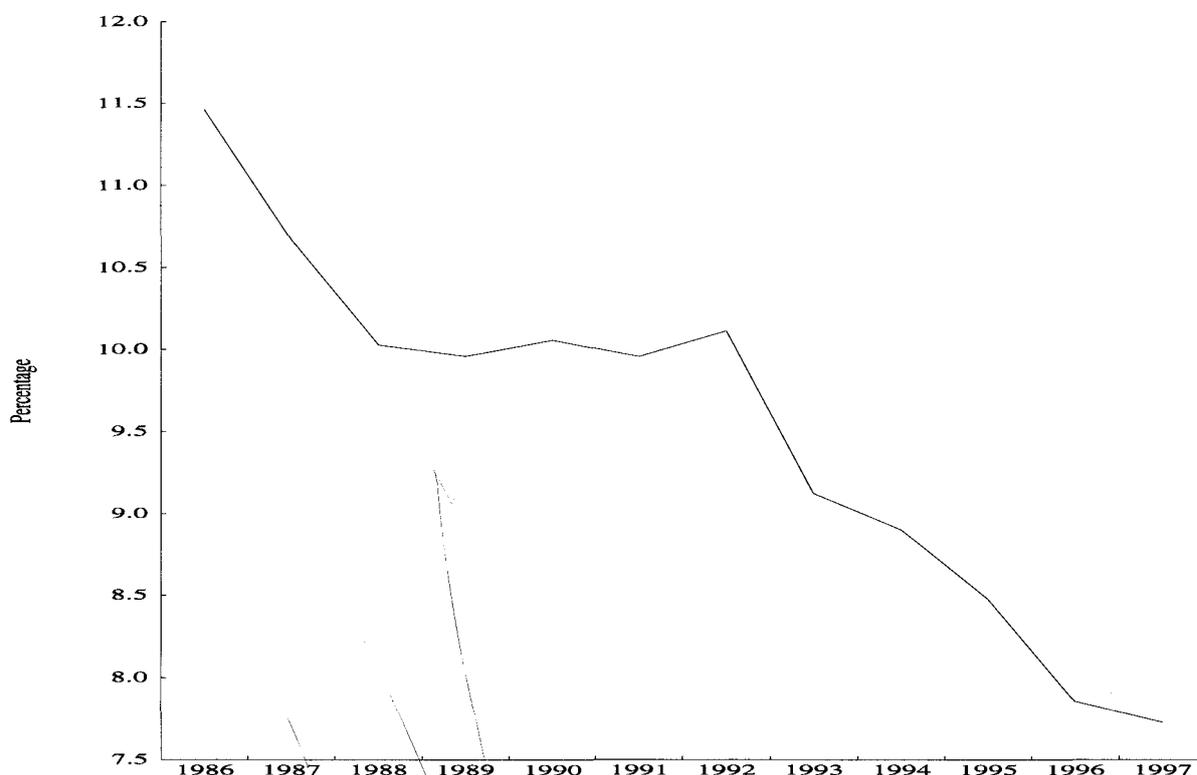
In addition to increasing the efficiency of data processing, the improvements in information technology have facilitated the development of new instruments and markets that permit the disentangling of financial service functions – functions which were once considered largely

⁹ For a more detailed analysis of how technological developments have changed the financial services sector in Canada, see Freedman and Goodlet (1998).

inseparable.¹⁰ As a result, the risk exposure related to various financial services that any individual financial institution faces can now be reduced. For example, it used to be the case that when a bank made a mortgage loan it was responsible for the processing of payments over the lifetime of the loan, and for taking on the credit risk associated with this loan. However, with the development of securitization, a bank can now package the residential mortgages on its books for resale in the form of mortgage-backed securities. The development of the securitization market has allowed institutions to reduce their credit risk and borrowing costs, as well as free up liquidity and capital for other purposes. Repo and foreign exchange swap markets are other examples of ways financial institutions can now unbundle and re-bundle their financial service functions, which enables them to manage their risk more effectively, and in turn permits them to offer their customers a broader range of services.

Although this technological revolution has provided the industry with the means to develop new products and instruments, and has made certain aspects of the sector more efficient, technology and its impact on the availability and accessibility of information has also influenced the financial activities of households and businesses. With ever-increasing financial news coverage and wider access to the Internet, information on alternative investments around the world is now available to households and businesses as never before.

Figure 1
Canadian private non-financial corporations
Bank loans/Total liabilities



Source: Statistics Canada.

¹⁰ According to Merton and Bodie (1995, p. 5), there are six basic functions provided by the financial industry:

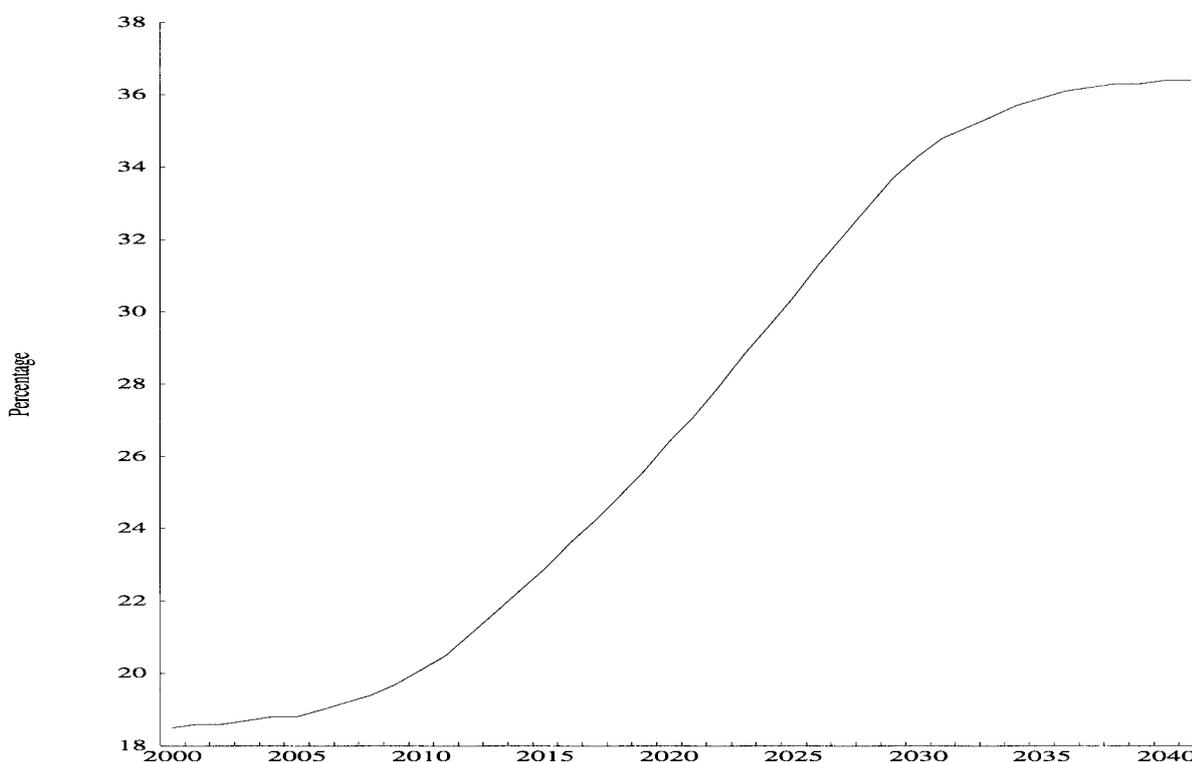
- (i) to provide ways of *clearing and settling payments* to facilitate trade;
- (ii) to provide a mechanism for the *pooling of resources* and for the *subdividing* of shares in various enterprises;
- (iii) to provide ways to *transfer economic resources* through time, across borders, and among industries;
- (iv) to provide ways of *managing risk*;
- (v) to provide *price information* to help coordinate decentralized decision-making in various sectors of the economy; and
- (vi) to provide ways of *dealing with the incentive problems* created when one party to a transaction has information that the other party does not or when one party acts as agent for another.

Furthermore, along with improvements to information availability, technology has provided greater access to global financial markets and alternative methods of financing. As can be seen in Figure 1, bank loans as a proportion of total corporate liabilities have fallen from the mid-1980s, as other instruments such as equity, bonds, bankers acceptances and commercial paper became more important sources of funds for Canadian corporations. Technological improvements have undoubtedly had some effect on the declining rate of bank loans in the late 1980s and early 1990s.

3.2 Demographics and the “baby boom” generation

Along with rapid advances in information technology, a second factor affecting the financial sector has been demographics, particularly the changing financial habits of the “baby boom” generation as they go through their life cycle. In approximately ten years, the first wave of post-war baby boomers will begin to retire. This demographic shift is illustrated in Figure 2, which shows the expected path of the “old-age dependency ratio” (defined as the number of people aged 65 and older divided by the working population, that is, people 18 to 64 years old). As can be seen from the graph, this ratio begins to rise at the turn of the century from its current level of 18% and is projected to be nearly 35% by the year 2035.

Figure 2
Old age dependency ratio in Canada
 Retired/Working population



Note: “Retired” is defined as aged 65+, and “working” as 18 – 64.

Source: Official medium growth scenario from Statistics Canada.

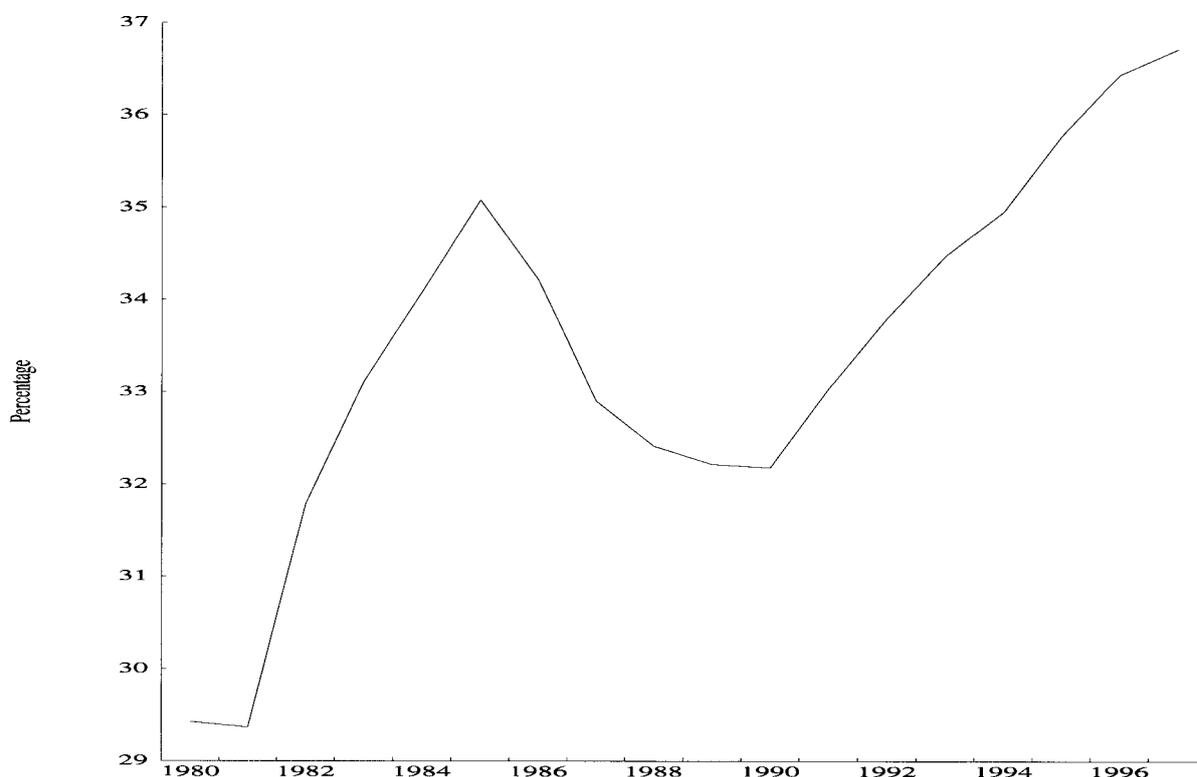
Baby boomers are having significant effects on aggregate savings behaviour and the structure of financial markets.¹¹ For example, as the ratio of old to young escalates and as fiscal policy has

¹¹ For a more detailed discussion on the implications of an ageing population for the United States see Cogley and Royer (1998), and for world-wide implications see Bank for International Settlements (1998).

retrenched, there is growing concern about the future of public sector pensions and the adequacy of the social safety net. Under these circumstances, baby boomers are preparing for their futures by increasing their own personal savings through purchases of financial assets. As a result, mutual funds, private pension funds, and other institutional assets are growing in importance.

Trends in the data confirm that Canadians have been increasing their financial asset holdings. As can be seen from Figure 3, the level of financial asset holdings by households as a proportion of total household wealth has risen from 30 to 37% over the past twenty years. Furthermore, it appears that there has been a shift from savings accounts and fixed term deposits to bond and equity mutual funds. As can be seen in Figure 4, savings deposits (notice and fixed term deposits) as a proportion of total personal deposits (which include Canadian Savings Bonds and bond and equity mutual funds) began to drop rapidly during the 1980s as the popularity of mutual funds and other financial assets began to rise. Further evidence of a portfolio shift from savings deposits to mutual funds can be seen in the Canadian broad money aggregates. Figure 5 presents the year-over-year growth rates for M2+, which includes savings and fixed term deposits, and M2++, which also includes Canadian Savings Bonds and mutual funds held at all financial institutions. From this graph, it is clear that mutual funds have become an extremely important savings instrument for Canadian households in the 1990s.

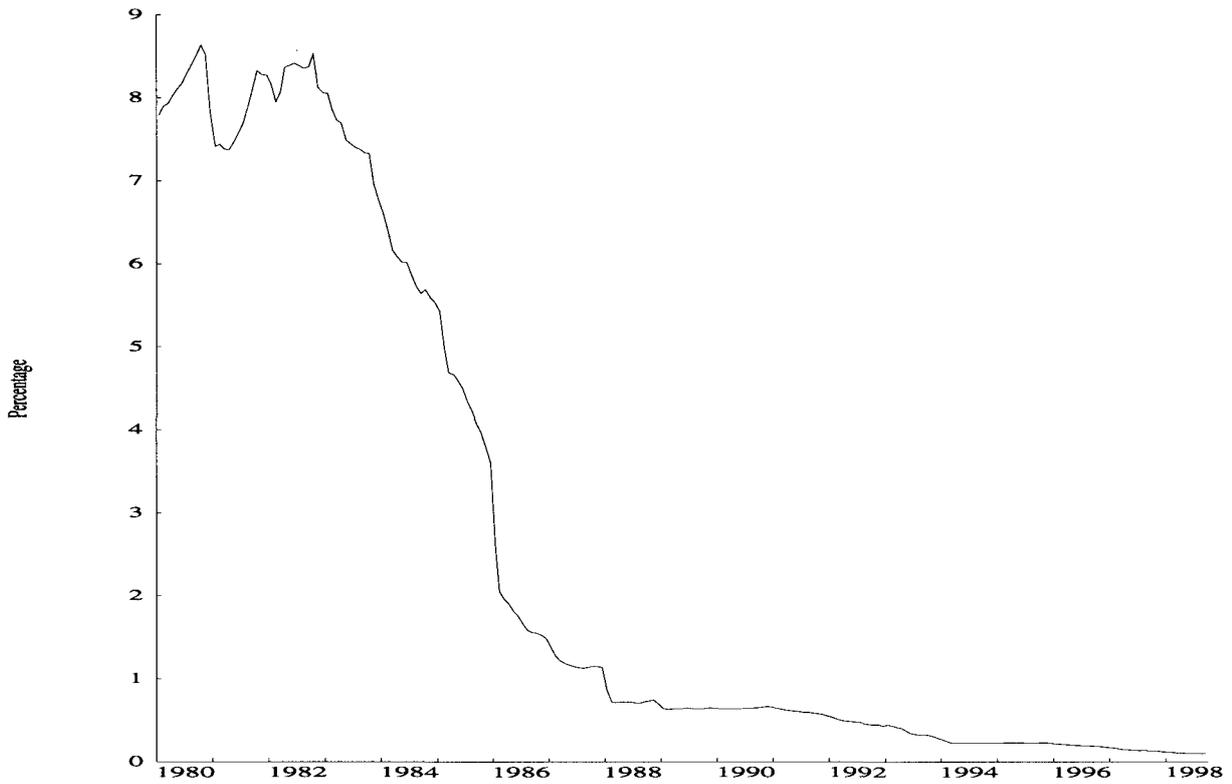
Figure 3
Canadian households and unincorporated businesses
Financial assets/Total assets



Source: Statistics Canada.

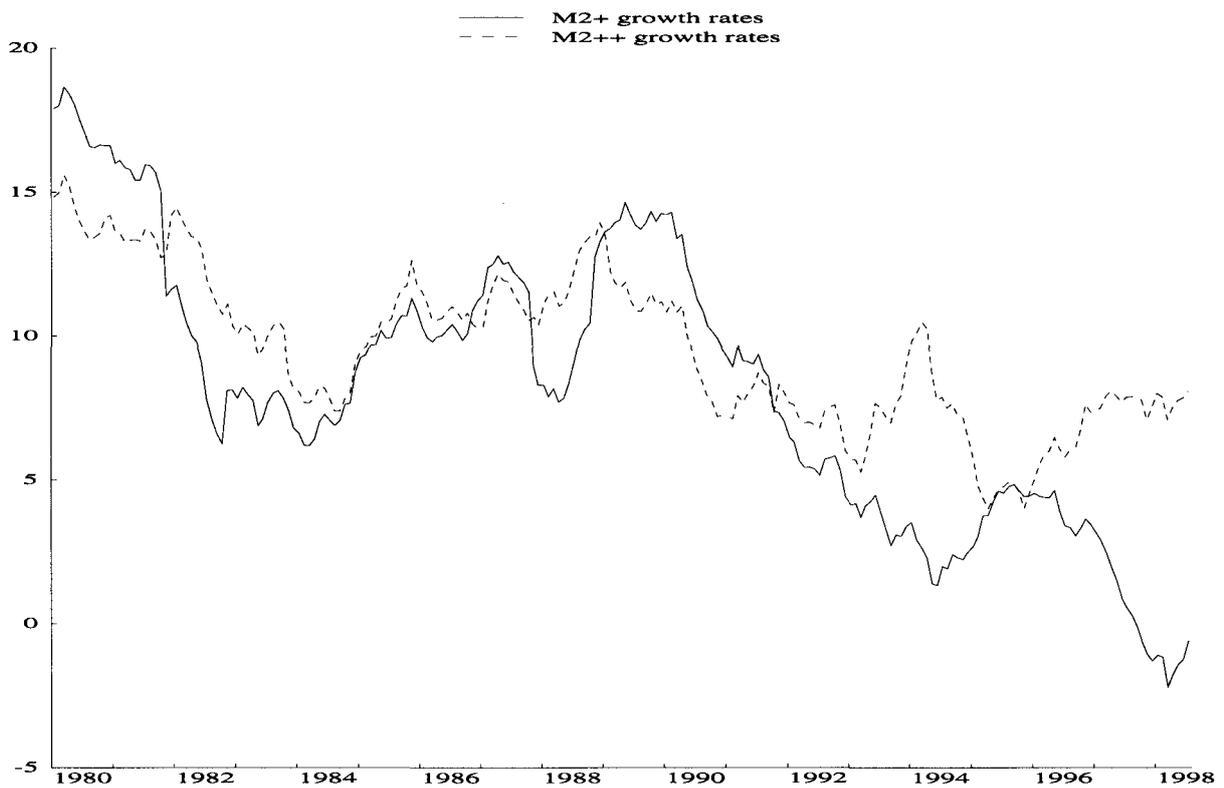
However, as baby boomers prepare for retirement by holding more of their wealth directly in financial form, and less in real assets, this has important implications on the scope and structure of domestic and international financial markets. Beyond the obvious consequences for the pricing and rates of return of financial assets, securities markets have to be highly efficient and developed to meet the demands of the investor. Furthermore, financial institutions have to become more sophisticated in the management of this wealth, and in providing information services that help their clients manage their wealth. Hence, regulatory policies will have to continue to accommodate the ever-changing financial environment in order for financial institutions to continue to meet the demands of their clientele.

Figure 4
Savings deposits as a percentage share of total deposits



Source: Statistics Canada.

Figure 5
Year-on-year growth rates for M2+ and M2++



Source: Bank of Canada.

3.3 The variability of inflation and interest rates

In addition to the technological revolution and an ageing population, a third economic factor influencing the structure of the financial sector is the variability of inflation and interest rates. From the period of severe inflation in the 1970s, to high real interest rates caused by domestic and foreign fiscal policy imbalances in the 1980s, to the current period of low and stable inflation in the 1990s, inflation and interest rates have been variable in Canada and abroad. In turn, this has influenced the expectations of consumers and their financial behaviour.¹²

Figure 6 presents real and financial assets as a percentage of total household assets over the past 30 years. As can be seen from the graph, in the 1970s when inflation was high, households tended to invest in real assets such as housing. In the 1980s, with higher short-term interest rates, consumers began to invest in more financial assets, such as short-term government bonds and fixed term deposits. By the 1990s, however, inflation and interest rates were low, and consumers responded by continuing to invest in financial assets, although in riskier forms, such as equities and mutual funds, to achieve better rates of return.¹³ Furthermore, as can be seen from Figure 7, at the aggregate level, households are becoming more indebted and therefore, potentially more exposed to volatility in interest rates.

Figure 6
Real and financial assets of households



Source: Statistics Canada.

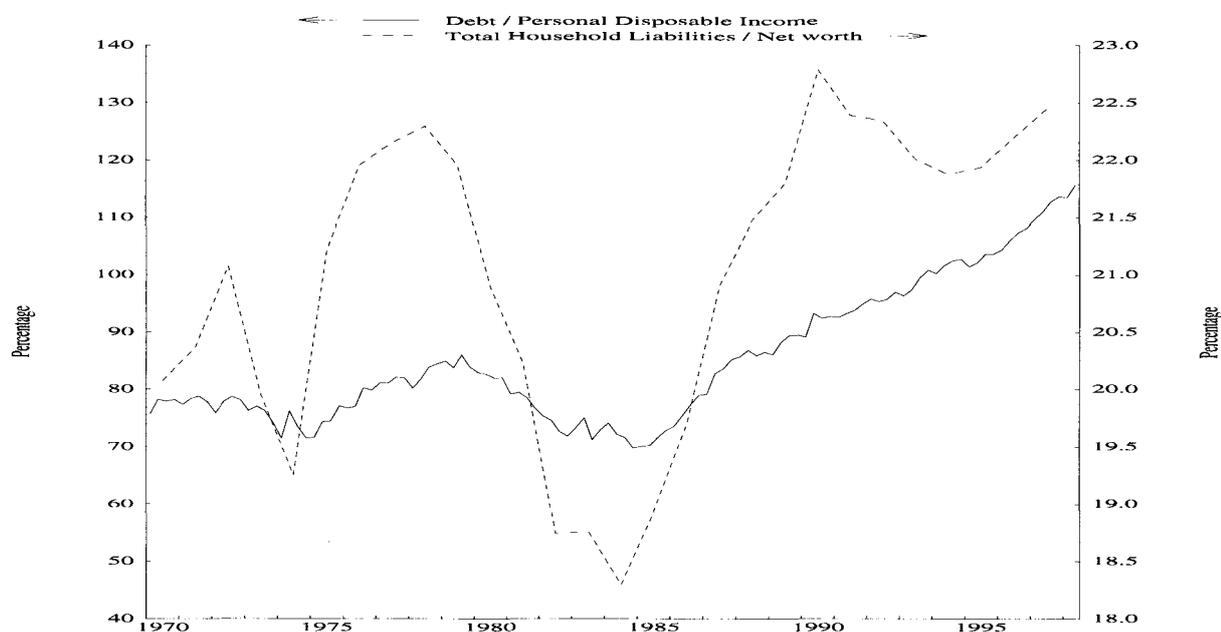
As the economic environment influences where consumers want to invest their money, this in turn conditions the behaviour of financial institutions. In the 1970s, savers preferred real assets, such as housing, so financial institutions had to be innovative and competitive in the residential mortgage

¹² For discussion of the evolution of monetary policy in Canada over the last few decades, see Crow (1988, 1993) and Armour, Engert and Fung (1996).

¹³ Other factors, such as demographics and fiscal policy, also influence the financial saving and borrowing habits of households.

market. In the 1980s, short-term bonds and fixed term deposits became more popular and the sector responded by marketing more aggressively on Guaranteed Investment Certificates (GICs) and savings accounts. Currently, in the 1990s, consumers are demanding innovative equity products, and because of changed legislation and advances in information technology, financial institutions can satisfy this demand through their mutual fund products and securities subsidiaries.

Figure 7
Household debt and liabilities



Sources: Statistics Canada and Bank of Canada.

4. The Canadian financial system today

As a result of the financial restructuring and legislative change motivated by these economic factors, the Canadian financial system has significantly changed over the past thirty years.¹⁴ The traditional structure of specialization has eroded as some financial institutions now participate in a wide range of banking, trust, insurance and securities activities. Foreign banks, which were not permitted in Canada twenty years ago, are now allowed to directly participate in the Canadian financial system through subsidiaries.¹⁵ Supervisory agencies have been strengthened through clearer mandates, greater resources and broader powers, and the deposit insurance system has introduced an element of risk-rating in its premium structure.

As an illustration of the striking array of changes in the Canadian financial system over the last 20 years, consider the redistribution of financial intermediary assets among the industry participants. Figure 8 presents the share of financial assets as a percentage of total industry assets from 1980 to 1997.¹⁶ As can be seen from the graph, deposit-taking activities have lost ground to securities activities

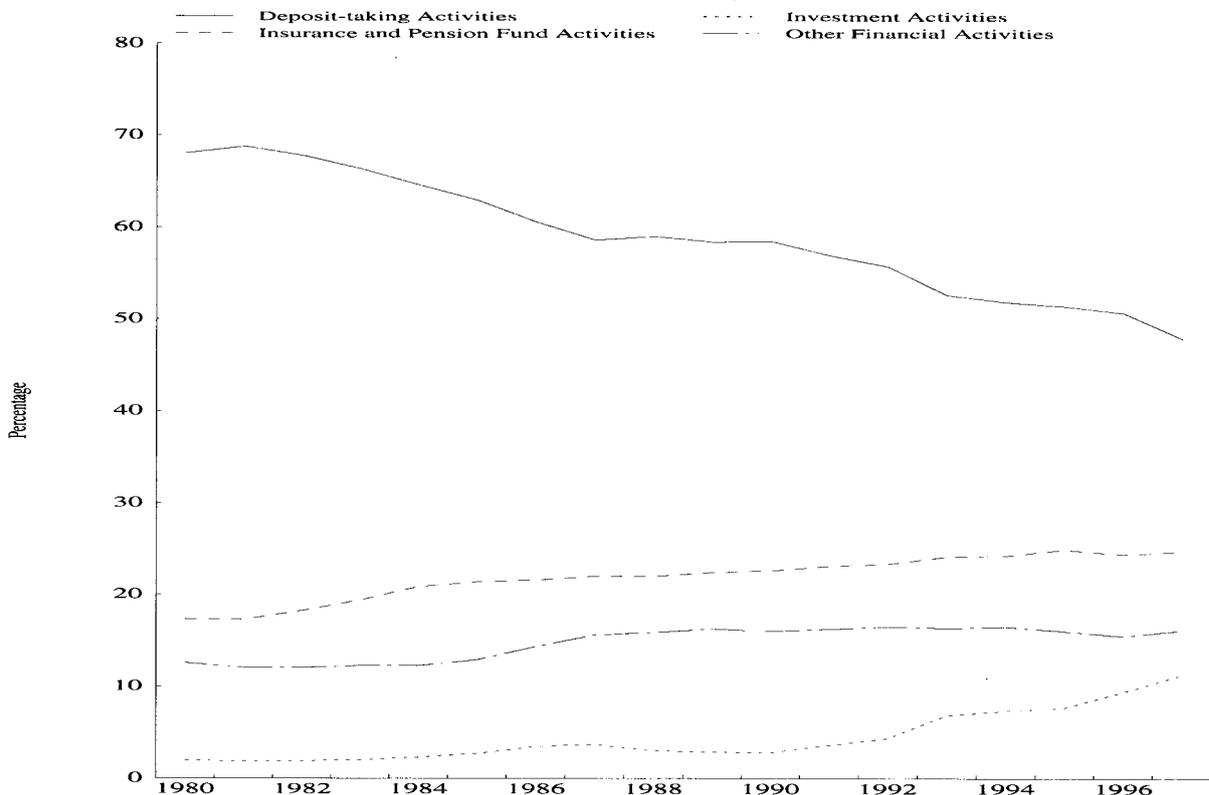
¹⁴ For more information on the structural changes to the Canadian financial system see Chant (1997) and Neufeld and Hassanwalia (1997).

¹⁵ The Canadian federal government undertook to relax restrictions on foreign bank entry, including the commitment to allow foreign banks to branch directly in Canada, during the World Trade Organization financial services negotiations in December 1997.

¹⁶ We only consider the financial assets of the regulated financial institutions.

over the past twenty years.¹⁷ Investment activities have gone from accounting for 2 to 11.3% of total financial intermediary assets in Canada. The fastest growing participants in this sector are mutual fund providers, which have grown from 0.8 to 10.4%. Much of this growth can be attributed to portfolio adjustments out of directly held savings and securities in favour of holdings with professional portfolio managers in order to better diversify risk.

Figure 8
Share of financial industry assets



Source: Statistics Canada.

Furthermore, since the 1987 and 1992 legislative reforms, there has been a considerable amount of consolidation within the banking, trust, and insurance sectors. Table 1 presents summary statistics on the number of entries, exits, mergers and acquisitions for the major Canadian financial sectors. As can be seen from the table, most of the consolidation has taken place in the trust and insurance sectors. Although there were more exits than entries in the trust and loan sector, the most significant changes were brought about through mergers and acquisitions. A large number of acquisitions occurred after 1992 when legislation permitted Schedule I banks to own trust companies. However, there were many acquisitions prior to 1992 by trust and loan companies and other intermediaries, suggesting that financial restructuring was well under way prior to the legislative reforms.

Similarly, the insurance sector has experienced a large number of withdrawals and failures, and an even larger number of mergers and acquisitions. Although the 1992 legislation allowed banks and trust and loan companies to own insurance companies, these institutions have played a small role in the restructuring that has occurred over the years in the insurance sector. Most of the mergers and acquisitions in this industry were among insurance companies alone.

¹⁷ The national balance sheet accounts published by Statistics Canada for each sector do not include subsidiaries. For example, the deposit-taking institution data do not include the investment dealer subsidiaries, nor do they include assets booked outside of Canada.

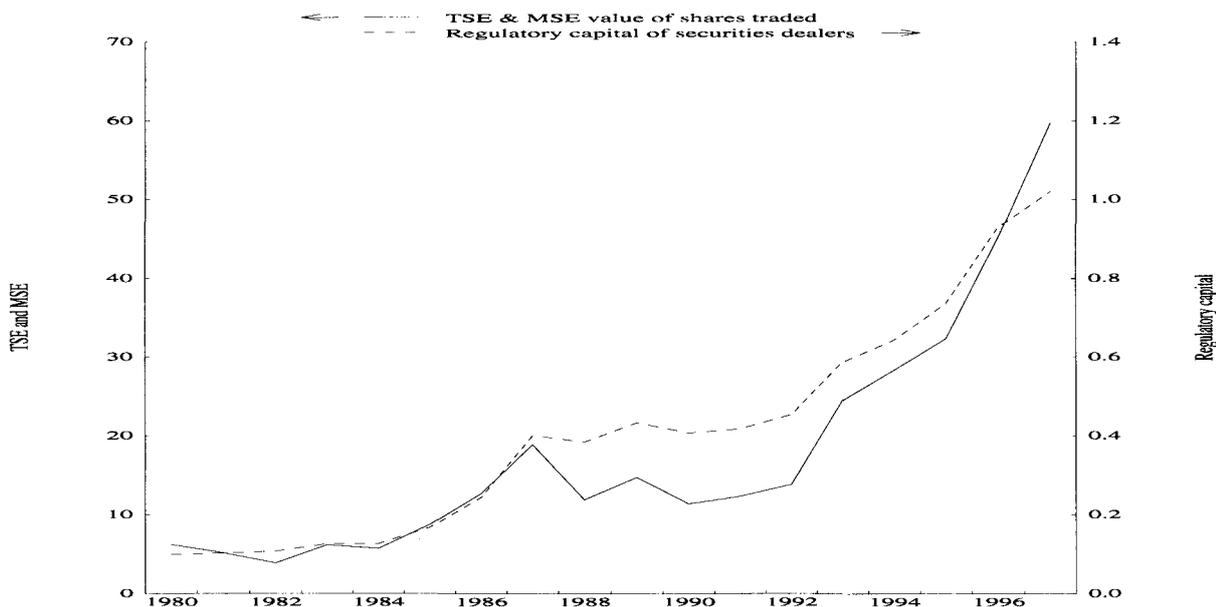
Table 1
Significant developments in the financial-services industry*

Type of institution	Entries since 1992	Withdrawals and closures since 1992	Acquisitions and amalgamations since 1987
Banks	8	10	23
Trust & loan companies	13	15	74
Insurance firms	17	62	107
Securities dealers (since 1987)	47	-	42
Other financial intermediaries	-	-	134

* This table has been updated from Neufeld and Hassanwalia (1997) with estimates based on annual publications from the Canada Deposit Insurance Corporation and the Conference Board of Canada.

As previously mentioned, the securities industry has been growing rapidly with a large number of new entrants, many of which are foreign firms. There has also been a significant amount of consolidation with the major banks taking over most of the large independent securities firms. As can be seen from Figure 9, the amount of regulatory capital in the securities industry has increased, at the same time that there has been a substantial increase in trading volumes on the major Canadian stock exchanges. Furthermore, the merging of the banking and securities industry has allowed banks to offer a range of savings and investment products, as well as investment advice, which further meet the needs of their clientele.

Figure 9
Securities industry indicators
 As a percentage of nominal GDP



Sources: Bank of Canada and Canadian Investment Dealers Association.

In summary, the Canadian financial system is much different from what it was twenty years ago. Legislative reforms accommodated this change. Other factors, such as failures, technology and globalization have also influenced the nature and pace of financial restructuring. The most notable structural adjustments have been the dramatic consolidation in the trust and insurance sectors, as well as the rapid growth in the securities sector. As the millennium approaches, and as factors such as technology, demographics, and policy continue to influence economic behaviour, there is no doubt that the very near future will bring further structural adjustments within the Canadian financial system.

In this respect, the recent Report of the Federal Task Force on the Future of the Financial Sector (1998) put forward a number of recommendations that would bring further change to the industry. Notably, the Report promotes increased entry into the industry and more competition through a liberalization of the rules governing the ownership of financial service firms, including banks. It also recommends wider access to the payments system, to accommodate the direct participation of insurance companies, investment dealers and money-market mutual funds in the payments system. The Task Force advocates that deposit-taking institutions be able to lease cars and sell insurance directly in their branches. As well, greater foreign bank entry is encouraged in two ways. First, the Report endorses the government's decision to permit foreign bank branching in Canada, consistent with the WTO agreement on trade in financial services (except for retail deposit-taking). Second, the Task Force recommends the removal of the withholding tax on interest paid to non-residents to facilitate foreign lending to Canadians.

In sum, a fundamental direction of the Task Force Report is to promote greater entry from more diverse sources, and more competition, which would thus accommodate continuing restructuring of the financial services industry in Canada.

5. Implications for the transmission mechanism: the theory

In the previous sections we described the three major factors that have been affecting the Canadian financial system. These factors are encouraging financial institutions to provide new products and services that enable individuals to expand and transform their financial portfolios cheaply and quickly. This broadening of financial markets and activities may have affected the response of individual economic agents to interest rate and exchange rate changes. But access to well-developed financial markets by agents does not mean that monetary policy actions lose their effectiveness. That is, the new products and services offered by financial institutions, and the changes in behaviour that access to these products might produce, do not necessarily diminish the ultimate control that monetary policy has over inflation.

Although, as we will see from the evidence presented in the next section, monetary policy does not appear to have lost its effectiveness as a result of financial restructuring, certain aspects of the transmission mechanism may have been affected in important ways. However, determining those aspects of the transmission mechanism which have been affected by financial restructuring requires the solution to a difficult identification problem. The transmission mechanism may have changed for reasons other than financial restructuring. In the absence of a reliable structural model of the transmission mechanism that includes a well-articulated financial sector, it is difficult to draw firm conclusions, and inferences are unavoidably impressionistic.¹⁸

One of the most important links between monetary policy actions and inflation involves economic agents adjusting their expenditures in response to interest rate changes. A monetary policy action (e.g., a change in the overnight rate) disturbs the structure of relative prices among assets, and between asset stocks and income flows. Over time, these disturbances change agents' desired structure of asset holding, and in turn agents change their expenditures as they attempt to regain equilibrium. Some of the effects show up in organized financial markets, where they affect borrowing costs, but others involve changes in assets not traded in organized markets – cash balances at one end of the spectrum and consumer and producer durables at the other. Financial restructuring is unlikely to have affected the basic nature of these qualitative features of the transmission mechanism as financial markets and financial decisions in Canada are, and have been, relatively free from artificial distortion.

The basic process of adjusting expenditures can be influenced at the margin by expectations of where interest rates are likely to move. Financial restructuring has resulted in economic agents becoming

¹⁸ Such a structural model is under development at the Bank of Canada. Early work on this model is described in Hendry and Zhang (1998).

more active in managing their financial portfolios with financial intermediaries taking on more of an advisory and facilitating role. This has made economic agents more aware of changes in financial market variables and may have affected the speed with which changes in interest rates affect expenditures. The effect could go either way, however. On the one hand, the majority of economic agents might view changes in financial prices as largely temporary and maintain relatively smooth expenditure patterns in the face of changing interest rates, at least initially. This would tend to lengthen the time lag between monetary policy actions and changes in inflation. On the other hand, the majority of economic agents might view as permanent the capital gains or losses that result from interest rate changes and adjust expenditures quickly to reflect the perceived change in wealth. This would tend to shorten the time lag between monetary policy actions and changes in inflation. In general, there is no reason to believe that the majority of economic agents will always form expectations in one way or the other, so that the changes in expectations that accompany financial restructuring might make the lag between monetary policy actions and inflation even more variable and unpredictable than it already is.

A second important link between monetary policy actions and inflation involves the exchange rate, which affects the relative price of foreign relative to domestic products, and the relative value of assets denominated in foreign currencies relative to those denominated in the domestic currency. The effects of financial restructuring are likely to strengthen the exchange rate channel, at least to the extent that Canadians previously refrained from diversifying into foreign currency assets owing to a lack of suitable products and services.¹⁹ Given greater accessibility, it is possible that Canadians would increase their holdings of foreign currency assets which will increase the sensitivity of their wealth to exchange rate changes, with potential spillover effects on their expenditure decisions.

To summarize, we do not expect to find that financial restructuring has changed the ability of monetary policy to control inflation in the long run. It might, however, have changed certain aspects of the transmission mechanism. In particular, it might have changed the lag between monetary policy actions, real expenditures and inflation. It might also have made this lag more variable. How important this is for monetary policy is largely an empirical matter.

6. Implications for the monetary transmission mechanism: empirical results

In this section, we examine the evidence to see whether the changes described above have affected fundamentally the monetary transmission mechanism. First, we consider whether the stylized facts that describe the business cycle in Canada have changed in the last decade. Then, we review some simple vector autoregression (VAR) models to see if there is any indication that the economy's response to monetary policy actions has changed with financial restructuring. Finally, we discuss how these financial changes have affected some of the models that inform policy discussions at the Bank of Canada, and how the models are being adapted to these innovations.

6.1 Basic business-cycle data

First, we examine the major stylized facts describing the 1990s and compare these data with those of the preceding decades. If there were marked differences in the broad correlations among the major macroeconomic variables of interest, this would provide an indication that the nature of the business cycle, and perhaps the transmission mechanism, has changed.

Table 2 presents the standard deviations and autocorrelations of key real and nominal variables, as well as their correlation with real GDP. The stylized facts shown here are not suggestive of any change in the cyclical behaviour of the Canadian economy between these two periods. With regard to real

¹⁹ The exchange rate channel of the transmission mechanism encompasses the link between changes in domestic interest rates relative to foreign interest rates and changes in the exchange rate, as well as the link between changes in the exchange rate and changes in imports, exports and the substitution of these for domestic consumption and production.

variables, investment is more volatile than output while consumption is the least volatile, and this is consistent across the two periods. All the real variables are highly positively correlated with output and are highly autocorrelated in both periods. With regard to nominal variables, inflation is about as volatile as money growth, and the short-term interest rate is the least volatile. Moreover, prices become substantially less volatile in the second period, and we attribute this to the success of the Bank of Canada's strategy of targeting a low, stable rate of inflation. We also examined the variability of interest rates, monetary aggregates and credit aggregates from 1961 to 1998, but found no evidence of a trend in the variability of these time series.²⁰

In sum, the broadly unchanged nature of these characteristics of the key business cycle data suggest that there has not been any apparent change in the nature of the business cycle or the transmission mechanism in the last decade.

Table 2
Cyclical behaviour of the Canadian economy

Variables	Standard deviation (%)		Correlation with real GDP		Autocorrelation	
	1962Q1–89Q4	1990Q1–98Q1	1962Q1–89Q4	1990Q1–98Q1	1962Q1–89Q4	1990Q1–98Q1
Real:*						
GDP	1.57	1.29	1.00	1.00	0.82	0.82
Consumption	0.70	0.67	0.63	0.58	0.63	0.50
Investment	6.05	4.21	0.87	0.78	0.78	0.71
Hours worked	2.06	1.61	0.87	0.90	0.82	0.82
Nominal:						
M1 growth rate	1.65	1.62	-0.18	-0.44	0.12	-0.04
Interest rate	0.41	0.40	0.29	0.57	0.72	0.78
Prices	1.60	0.92	-0.47	-0.67	0.95	0.86
Inflation	1.97	1.92	0.35	0.08	0.51	0.30

* All the real variables and the price level are logged and then HP detrended. Money growth, the interest rate and the inflation rate are HP detrended. The real variables are in per capita terms. The data on hours worked span the 1976Q1 to 1998Q1 period only.

6.2 VAR-based evidence

It has become commonplace to consider the nature of the monetary transmission mechanism by examining the effect of innovations to a measure of monetary policy on other macro variables of interest.²¹ To examine whether the effects of monetary shocks in the most recent decade are different from those seen over the prior thirty years, we perform two exercises: first, for each of these two periods, we examine the impulse response functions (IRFs) from an estimated vector autoregression (VAR); second, we consider the percentage of the variance of major variables of interest that can be attributed to monetary policy, as measured by the variance decompositions from the VAR.

We examine a 5-variable VAR that includes money (M), a short-term interest rate (R), output (Y), the price level (P), and the exchange rate (PFX). Given the relatively short second sample (1990-98), we use monthly data to estimate the model. As well, the VAR is identified by Choleski decomposition due to the relatively short second sample. Output is measured by industrial production (which is available at a monthly frequency), the interest rate by the overnight rate, money by M1, the price level by the CPI (excluding indirect and tobacco taxes), and the exchange rate is measured by the price of foreign

²⁰ The variability of a variable at any time t is calculated as the variance of the sample up to time t .

²¹ See, for example, Sims (1986), Blanchard and Quah (1989), Christiano and Eichenbaum (1992), Cochrane (1994) and Fung (1998).

exchange, that is, the Canadian dollar price of the US dollar. The two sample periods we consider are 1961 to 1989, and 1990 to mid-1998; data on industrial production are available only from 1961. The ordering of the VAR is $[R M Y P PFX]$ and the VAR is estimated with six lags.

Figure 10
Impulse response functions to an R-shock for the 5-variable VAR

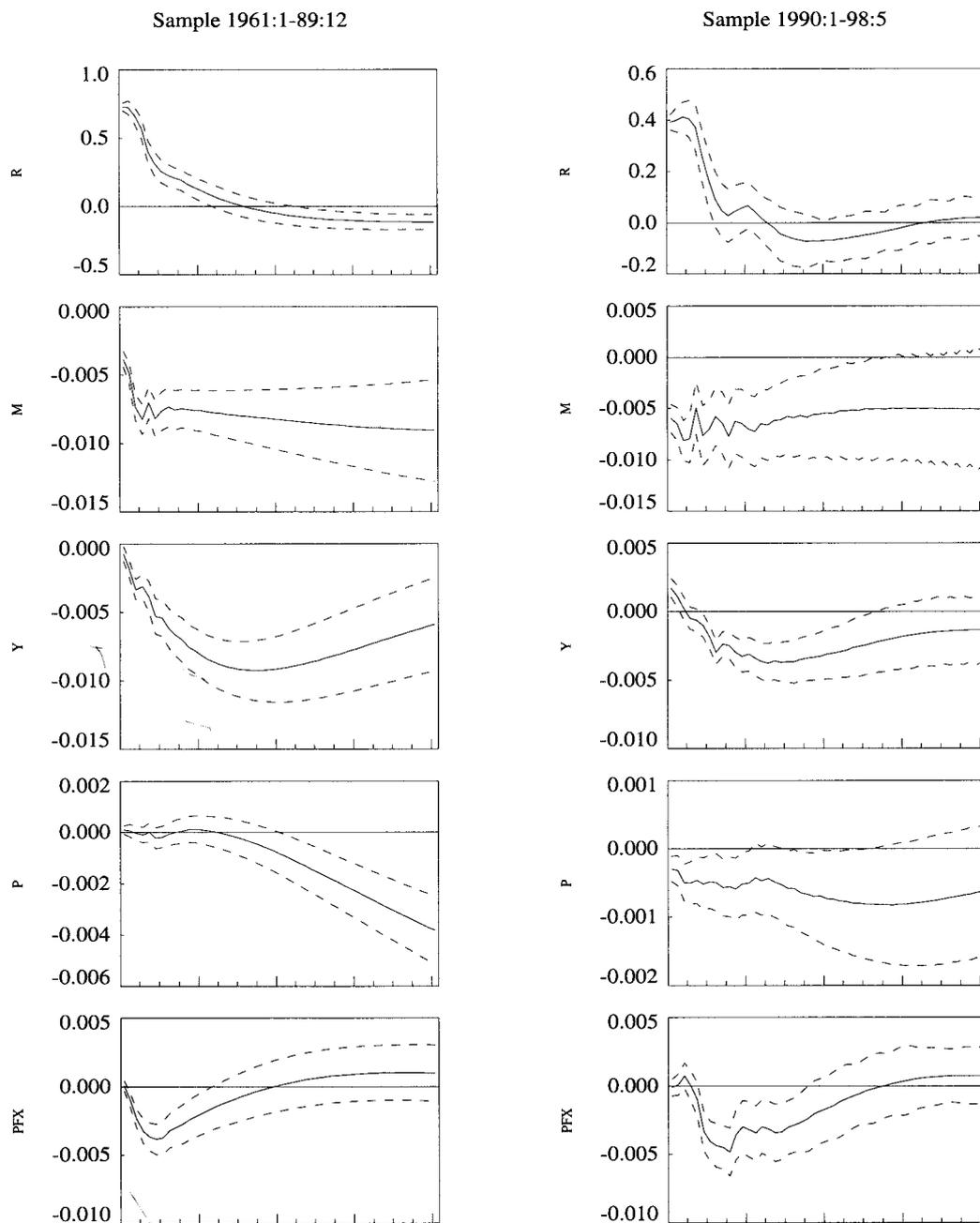


Figure 10 reports the IRFs of a monetary policy shock, represented by an innovation in the overnight rate, over a 48-month period. The solid line is the response function while the two dashed lines are the 1-standard-deviation confidence band (based on Monte Carlo simulations of 100 draws).²² In both sample periods, after a monetary policy tightening (a positive R-shock), the level of money falls

²² The results with the monetary policy shocks modelled as innovations to the monetary aggregate (M-shocks) are very similar to those described above, and are not given here.

rapidly, output contracts and there is a temporary decline in the price of foreign exchange, that is, a temporary appreciation of the Canadian dollar. The price response is more sluggish in the earlier period as prices start to decline significantly only after about two years – a fairly standard result. In comparison, the price response in the most recent period is much faster, consistent with increased credibility of monetary policy and a convergence of expectations around the Bank’s inflation target.

Table 3 reports variance decompositions for the first sample, 1961 to 1989, and Table 4 for the 1990s. In both periods, most of the variance of output is accounted for by its own shocks, especially over shorter horizons, which is generally consistent with previous studies. For example, in the first sample, the R-shock accounts for as little as 1% of the variation of output at short horizons, and up to 40% after two years. One difference across the two samples is that the R-shock explains more of the price variation in the second period, albeit a relatively small fraction. At the same time, an M-shock explains less of the price variation in the more recent period. Nonetheless, these results provide no compelling indication that the transmission mechanism has changed in a material way in the 1990s.

Table 3
Choleski decomposition 1957:1 – 1989:12

Variance of	Shock and horizon															
	1 month				6 month				1 year				2 year			
	R	M	Y	P	R	M	Y	P	R	M	Y	P	R	M	Y	P
R	100	0	0	0	79	1	6	7	67	4	10	9	56	14	10	8
M	11	89	0	0	34	56	1	1	37	49	3	1	39	40	4	2
Y	1	0	99	0	12	2	83	2	24	3	64	5	40	3	39	8
P	1	1	4	94	1	5	3	88	2	13	3	75	2	32	3	53

Table 4
Choleski decomposition 1990:1 – 1997:12

Variance of	Shock and horizon															
	1 month				6 month				1 year				2 year			
	R	M	Y	P	R	M	Y	P	R	M	Y	P	R	M	Y	P
R	100	0	0	0	80	7	5	3	65	11	9	8	51	12	14	15
M	4	96	0	0	28	62	5	3	32	53	7	6	32	43	10	11
Y	4	4	91	0	7	12	67	7	19	21	45	7	39	22	26	7
P	2	10	3	85	8	10	7	60	13	8	16	50	17	9	18	39

6.3 Model instability and errors

One way that a change in the nature of the transmission mechanism can be revealed is through a breakdown in models that previously seemed reliable. In particular, such a shift could be revealed initially as substantial, sustained prediction errors of the key variables of interest, namely, output growth and inflation. Similarly, there could be significant shifts in model parameters. At the Bank of Canada, there are two broad classes of models that inform our outlook: output gap models and financial indicator models. In the last decade, both of these types of models have been affected by notable instability. In this sub-section, we review the nature of that instability and discuss whether it could be related to financial restructuring.

6.3.1 Output gap models

The expectations-augmented Phillips curve, in which the key determinants of inflation are the output gap and expected inflation, plays a central role in the Bank of Canada’s outlook. Yet, despite the

Bank's estimate that there has been considerable excess supply in the economy throughout the 1990s, which should have led to a sustained disinflation in recent years, inflation in Canada has been relatively stable since 1992. However, this model instability appears to have little to do with the recent financial restructuring in Canada; instead, work at the Bank of Canada suggests that there has been a shift in the process that determines inflation expectations.

Fillion and Léonard (1997) provide evidence that inflation expectations were essentially backward-looking in the 1970s, and were consistent with a long-term inflation rate of 4% in the 1980s. However, since about 1993, inflation expectations have been close to 2%. Incorporating these regime shifts, the Phillips curve does a reasonably good job of tracking inflation, including the 1990s. In contrast, a similar model, but with expectations driven exclusively by past inflation, predicts significantly lower inflation rates than those observed in the 1990s.

In sum, with the success of the Bank's inflation-control targets, forward-looking expectations seem to be increasingly anchored to the midpoint of the target range, that is, 2%. Thus, although the augmented Phillips-curve in Canada has shown instability in the 1990s, and was underpredicting inflation, a shift in the inflation-expectations process is the most likely explanation for this instability.

6.3.2 Financial indicator models

To inform the outlook for inflation and output growth, the Bank of Canada also considers several indicator models based on financial variables. One of the models used to forecast output growth is based on the term spread, that is, the differential between the 10-year government bond yield and the 90-day commercial paper rate.²³ Throughout the 1990s, this model overpredicted output, suggesting a change in the link between the term spread and output growth. The shift in the relationship is likely associated with risk premiums during the first half of the 1990s. These greater risk premiums, in turn, are probably related to high government debt and political uncertainty. Another possible explanation of the change in the relationship is that it is non-linear, or that price responds asymmetrically to supply and demand shocks: steeply-sloped yield curves might not have the same magnitude of effect on output as inverted yield curves.

The Bank of Canada also uses money-based indicator models to forecast both output and inflation. Bank staff have estimated a fairly stable long-term relationship between M1, interest rates, output and prices. When this relationship is included in a vector-error-correction model, it can be used to help forecast inflation over the coming two years.²⁴ The Bank also uses a simple (single-equation) indicator model based on real M1 to forecast near-term output growth.

As might be expected, the performance and interpretation of these models has been affected by the recent financial changes in Canada. Since the early 1990s, the growth rate of M1 has been far in excess of what would normally have been associated with the stable low rates of inflation observed in Canada this decade. And, beginning in the mid-1990s, the basic relationship underpinning this M1 model, the long-run demand for M1, began to break down. Figure 11 illustrates the changes in the coefficients of this money-demand relationship that has occurred in this decade.

This shift in the model seems to be related to several financial innovations and legislative changes that have affected the interpretation and information content of M1. For example, the 1992 legislative amendments eliminated reserve requirements over a two-year phase-out period to address the competitive inequity between banks and other deposit-taking institutions. This legislation meant that banks no longer incurred a cost to be passed on to demand deposit holders through lower interest rates on such deposits. As a consequence, business deposits that would have been placed in notice accounts, and excluded from M1, a decade ago, are now likely being drawn into current accounts in M1.

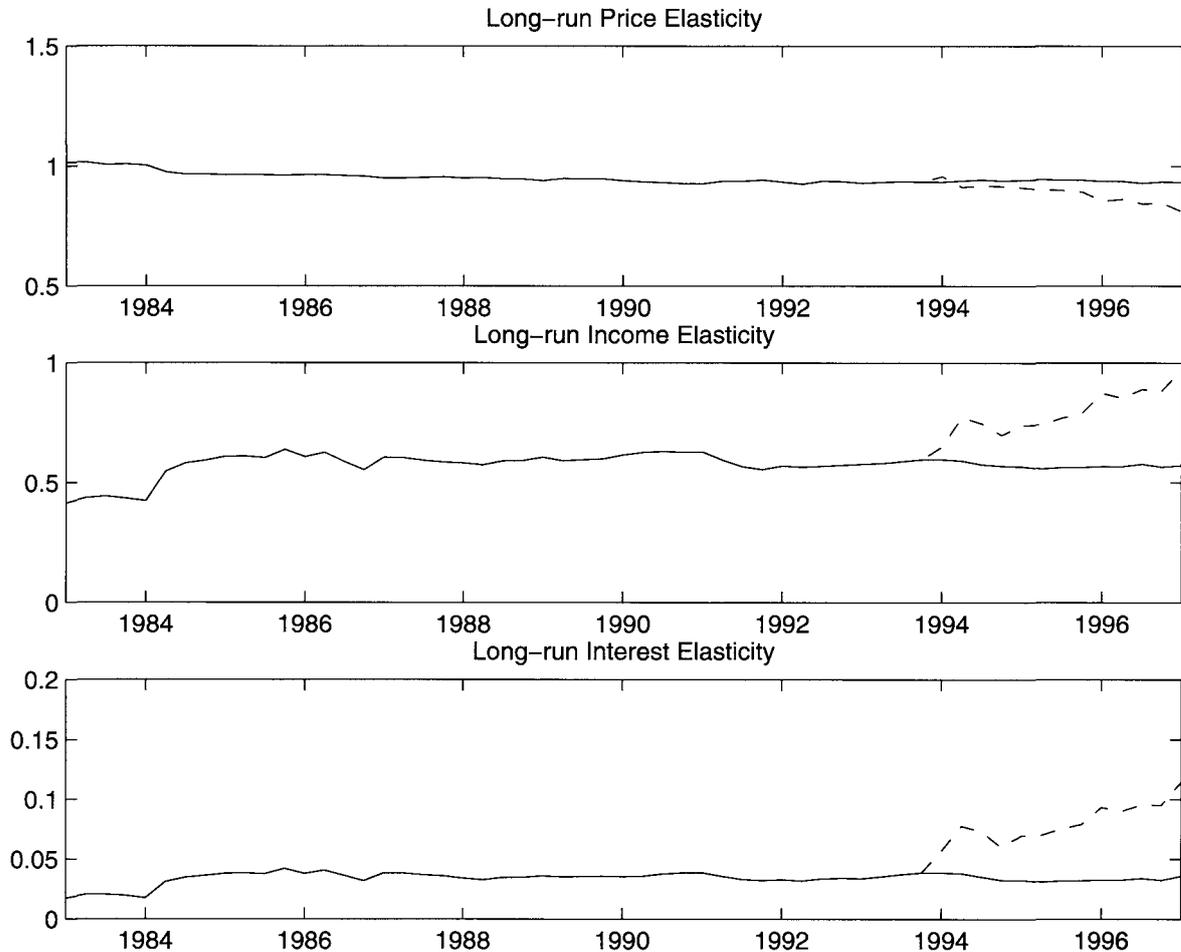
Another example is the 1987 legislative amendments that permit banks to own securities dealers. As Canadian banks developed investment dealer subsidiaries, the money balances held in investment

²³ For more details on this model, see Clinton (1995) and Côté and Fillion (1998).

²⁴ See Hendry (1995), Engert and Hendry (1998) and Fung (1998).

dealer accounts were included in personal demand deposits in M1. These balances are temporary cash balances that may eventually be used to purchase financial assets. However, these accounts pay a rate of return that rivals the money market rate, and often customers use these accounts as a temporary place to park their money during volatile markets. As a result, there has been a discrete shift of deposits into M1, related purely to financial restructuring.

Figure 11
Long-run money demand coefficients*



* The elasticities are estimated from rolling regressions based on Johansen-Juselius cointegration estimation. The dashed lines beginning in 1994 show the effects that the 1990s have had on the elasticities; the solid line plots the estimates from models including dummy variables starting in 1994 to help stabilise the elasticities.

Moreover, improved computer technology has allowed financial institutions to create new deposit products and services. These financial innovations have become increasingly difficult to classify in the standard categories of regulatory reporting systems. For example, banks have developed deposit products that provide all the features of basic chequing accounts, yet the rate of return on these accounts is linked to money market rates. In addition, even though the withdrawal notice requirement has been irrelevant for some time, household transactions balances are being classified both as demand accounts that are included in M1, and notice accounts that are excluded from M1. This has reduced the usefulness of M1 as a measure of transaction balances, at least as defined currently.

Similarly, technology has allowed vast improvements to be made in electronic financial services. The introduction of automatic teller machines, and telephone/PC banking enables customers to transfer their money from savings accounts to chequing accounts in a convenient and inexpensive manner. As a result, a broader measure of money might be representative of transactions money in an electronic

world. This may become an even more important issue should the demand for electronic money and digital cash becomes stronger in Canada.

In the 1980s, the Bank first used M2 and then M2+ as the representative measures of broad money in Canada.²⁵ However, in the last few years, the relationship between M2+ and nominal spending has become less reliable than in the past. While M2+ grew significantly faster than nominal GDP on average during the 1970s and 1980s, its growth fell short of GDP in the last five years. The main reason for lower-than-expected growth has been the enormous transfer of personal savings into non-money market mutual funds. Given these developments, the Bank of Canada has started to monitor more closely the evolution of alternative measures of broad money that attempt to internalize the substitution between savings deposits and mutual funds, such as M2++.

The bottom line is that our measures of money have been affected considerably by financial innovation and restructuring. As this process undoubtedly will continue into the future, it is important to understand how these activities affect our data, our models, and our interpretations of economic behaviour and the outlook. However, the changes to the money data do not seem to represent a change in the fundamental economic behaviour that underpins the transmission mechanism; rather these changes have affected our ability to measure liquidity and money in the economy.

6.4 Summary

In this section, we considered whether there is evidence that the monetary transmission mechanism has changed in the 1990s. The broad business cycle facts and correlations, inferences from VAR models and the nature of model instabilities tend to suggest that the monetary transmission mechanism has not been materially affected by the financial sector changes occurring in Canada in the last decade. This is not too surprising given that market forces have for many years dominated the transmission of monetary policy effects in Canada, and financial restructuring has reinforced these market forces.

At the same time, these events have affected our monetary data, and our ability to measure the empirical analogues of what we mean by liquidity and money in the transmission of monetary policy.

7. Implications for financial stability

In this section we show how legislation in Canada has responded to financial restructuring so as to accommodate changing business practices, while at the same time providing for effective supervision. Looking ahead, we then identify continuing trends in the financial services industry and point to pressures for regulatory change that might accompany these trends.

7.1 Supervisory innovations

A critical part of protecting financial stability in a rapidly changing world is supervisory innovation. In this respect, there have been several legislative changes to the regulatory framework to keep pace with financial restructuring. For example, prior to 1987, there were two federal supervisory agencies – one for banking institutions and another for non-bank financial institutions. Given that the differences between these industries were disappearing, and that the linkages among them were increasing, these two supervisory agencies were merged into one supervisory body.

As well, the new Office of the Superintendent of Financial Institutions was given new powers, the most significant of which is the power to issue orders of compliance, that is, the power to require an institution to cease activities that the Superintendent considers to be unsound, or to undertake certain

²⁵ M2 includes M1 plus personal savings and non-personal notice deposits at chartered banks. M2+ includes M2 plus deposits at near-bank institutions, life insurance company annuities, and money market mutual funds. For a more detailed definition, see Bank of Canada Review: Notes to the Tables, January 1998.

actions which the Superintendent considers necessary for the safety of the depositors using the institution.

In addition, a new inter-agency committee was established, the Financial Institutions Supervisory Committee (FISC), consisting of the Superintendent of Financial Institutions, the head of the Canada Deposit Insurance Corporation, the Governor of the Bank of Canada, and the Deputy Minister of Finance. This committee is to ensure coordination and information exchange on supervisory matters that have implications for solvency, lender-of-last resort activity, and the risk of deposit insurance pay out. Hence, the FISC allows the Superintendent, who is responsible for judgements pertaining to the viability and solvency of financial institutions, to have the benefit of the views of the deposit insurer and the Bank of Canada when making supervisory decisions.

In view of the presence in the financial sector of closely-held ownership, commercial financial links, and common ownership of firms in different sectors of the financial industry, there were also major changes to cope with the potential problems of conflicts of interest and self-dealing. For instance, transactions between a financial institution and related parties are banned, though with some exceptions subject to rules for the oversight of such transactions. Institutions are also required to establish internal controls to screen transactions permitted under exceptions to the general ban. This is to be achieved by enhanced corporate governance, in particular by a strengthened role for the directors of the institution. Also, a director of a financial institution who resigns as a result of a disagreement with the other directors or officers of the company is now required to inform the Superintendent in writing of the nature of the disagreement. A similar provision exists if an auditor of an institution resigns or is replaced.

More recently, in 1995, the mandate of the Office of the Superintendent of Financial Institutions (OSFI) was clarified somewhat to focus on the role of depositor protection. The mandate now recognizes that failures of financial service providers are a part of a system in which reasonable risk-taking occurs, and that financial service providers carry on their business in a competitive environment that requires the management of risk. Equally, these revisions recognized a need for the Superintendent, or an institution, to take prompt remedial measures as an institution's capital becomes impaired. OSFI has published a "stages of intervention" that sets out the nature of the actions that could be appropriate to deal with financial institutions whose capital is declining. One can view this as an attempt by OSFI to reduce the discretion it is prepared to exercise in these cases. Changes also were made to the insolvency provisions governing regulated financial service providers that would permit the closure of such a firm while it still had positive equity. At the same time, these steps toward early intervention and prompt corrective action retained a good deal of discretion for the supervisor in choosing how to respond to a failing institution. Finally, the Canada Deposit Insurance Corporation recently introduced risk-based deposit insurance premiums to try to deal with the moral hazard that can arise in the presence of deposit insurance.

7.2 Current trends that could affect financial regulation

It is likely that economic and competitive pressures from the marketplace will continue to influence the evolution of regulatory policy and supervisory practice. Five broad trends associated with financial restructuring which might influence future regulation and supervision can be identified.

- ***Increasing complexity of financial services and firms***

Financial products have become more complex, and increasingly can be tailored to fit the characteristics and needs of customers. There is greater use of powerful information technology, new analytical techniques (related, for example, to derivative products), and a greater array of customers and counterparties.

- ***Blurring of generic distinctions among regulated and unregulated financial-services providers***

A financial service firm in Canada can provide a full range of products, and there are increased linkages and more transactions among institutions that historically were segmented in different

financial businesses. Also, unregulated firms such as Newcourt – a commercial lending and leasing firm – and GE Capital – have been expanding their activities in the financial services sector.

- ***Increasing international interdependencies***

The globalization of financial markets is producing greater interdependencies between Canadian and foreign financial institutions. For example, the financial needs of large borrowers are increasingly shared among international lenders which increases the need for shared information and risk assessment.

- ***Better appreciation of moral hazard***

Continuing experience with, and research into, explicit and implicit guarantees to the financial sector are leading to a better appreciation of the drawbacks of these guarantees in a complicated financial world. In this regard, supervisors at times have incentives to forbear, that is, not take timely action against failing institutions. This tendency may arise owing to the time-inconsistency of optimal policies, which can arise if supervision is not viewed as a dynamic problem or a repeated game. The tendency to forbearance sets up moral hazard problems, reduces allocation efficiency and provides incentives for firms to seek risk that, over time, undermine financial stability.

- ***Improved risk-proofing of clearing and settlement systems***

In the last 10 years, major clearing and settlements systems, including national payments systems, are increasingly becoming risk-proofed.²⁶ This development, in turn, is eliminating one of the principal motivations for supervisory forbearance of failing institutions.

7.3 Implications of current trends for regulatory practice

Increasing competition, the growing complexity of financial services and of financial service firms, the convergence of activities of regulated and non-regulated financial service providers, and an increasing risk of extending the safety net under a wider range of activities, suggest that further changes in regulation practice are appropriate.

- ***A more clearly focused supervisory mandate***

It might be helpful for supervisors to pursue a narrow mandate focused almost exclusively on the prudential assessment of financial institutions for the protection of depositors. This would imply that central banks should focus on controlling systemic risk and on contributing to macro-financial stability. As well, it might be helpful to provide supervisors with effective independence along with appropriate accountability mechanisms to government.

- ***Greater clarity of the “rules of the game”***

It might be helpful to limit the ambiguity of discretion and adopt rules-based practices that are transparent and incentive-compatible with market forces and that lead to outcomes that are more certain. For example, this could include a regulatory framework that provided for the exit of capital-impaired firms from the industry before all their equity is exhausted. The rules-based early intervention system associated with the US program of prompt corrective action is a good example in this regard.²⁷ Risk-proofing clearing and settlement systems can also help in this regard. Systems in which systemic risks have been appropriately dealt with, and in which the outcomes are known in advance should adverse events occur, will also add to system stability. The Lamfalussy Standards promote these types of systems.

²⁶ Bank for International Settlements (1990) sets out universally recognized standards for the design and operation of cross-border foreign exchange netting schemes, commonly referred to as the Lamfalussy standards. These standards have been applied to a wider range of systems. For more details on Canada’s large-value transfer system, see Freedman and Goodlet (1996). On the mechanics of netting, and in particular, on risk management in netting systems, see Engert (1992, 1993).

²⁷ This program was set out in the FDIC Improvement Act of 1991 (FDICIA). For more details on that program, along with an assessment of its first five years, see Benston and Kaufman (1997).

- *Improved jurisdictional compatibility*

It may be helpful to ensure international compatibility of regulations in both domestic and international jurisdictions. International compatibility prevents institutions from exploiting the “weakest link” in the regulatory net, thereby enhancing system-wide financial stability.

- *Increased focus on macro-financial stability*

Over time there may be a need for central banks to increase their focus on macro-financial stability as distinct from micro-financial stability. Micro-financial stability deals with the safety and soundness of individual financial institutions, and is aimed at protecting depositors. Macro-financial stability deals with the inter-relationships among institutions, and is concerned about shocks that can adversely affect a number of institutions in a similar way.

Accordingly, macro-financial stability is aimed at preventing disruptions to financial intermediation that can significantly disrupt macroeconomic activity. Put differently, macro-financial instability occurs when a financial disruption spreads among financial institutions so that it affects financial intermediation sufficiently to disrupt aggregate economic activity, and so undermines economic welfare.²⁸ Maintaining a distinction between macro and micro-financial stability is useful because ensuring that individual financial institutions are financially sound, and subject to prudent risk-management policies, is necessary, but might not be sufficient, to prevent a disruption in financial intermediation in aggregate. In other words, the systems, conventions and legal frameworks, etc. that link financial institutions are also important to ensuring financial stability.

8. Concluding remarks

In this paper, we provided an extensive review of the financial restructuring that has occurred in Canada over the past thirty years. Generally speaking, this process of restructuring has been associated with reduced barriers to entry into the financial services industry, an expansion of the business powers of financial service providers, and has led to some consolidation within the industry. We also explored the primary factors that have motivated and influenced these financial sector changes, namely, advances in information technology, demographics and the variability of inflation and interest rates.

We then examined whether these changes have affected the monetary transmission mechanism the 1990s. The broad business cycle facts and correlations, inferences from VAR models and the nature of model instabilities suggest that the monetary transmission mechanism has not been materially affected by the financial sector changes occurring in Canada in the last decade. This is not too surprising given that market forces have for many years dominated the transmission of monetary policy effects in Canada, and the financial restructuring has been consistent with this emphasis on market forces. However, these events have affected our monetary data, and how we need to measure the empirical analogues of what we mean by liquidity and money in the transmission of monetary policy.

Finally, we examined the implications for financial stability. We noted that there have been numerous innovations in the supervisory regime to help to maintain financial stability in the last decade. At the same time, we pointed to several factors that will continue to influence financial restructuring, and noted areas where the regulatory arrangements could change so that it continues to accommodate efficiency while ensuring that the financial system is stable and safe.

²⁸ Crockett (1997) provides a similar interpretation as he defines financial instability as a situation in which economic performance is potentially impaired by fluctuations in the price of financial assets or in the ability of financial intermediaries to meet their contractual obligations.

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