BANK OF CANADA

Financial System Review

December 2003

Members of the Editorial Committee

The Bank of Canada's *Financial System Review* is published semi-annually. Copies may be obtained free of charge by contacting

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Bank of Canada
December 2003

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The material in this document is based on information available to 3 December unless otherwise indicated.

The phrase “major banks” in Canada refers to the six largest Canadian commercial banks by asset size: the Bank of Montreal, CIBC, National Bank, RBC Financial Group, Scotiabank, and TD Bank Financial Group.

Introduction

This section of the Financial System Review *examines the recent performance of the Canadian financial system and the factors, both domestic and international, that are influencing it. In each issue, one or more subjects of particular interest are discussed as highlighted topics.*

Key Points

- An improving economic environment and a stabilization in corporate credit quality have contributed to better results for financial institutions.
- The risks associated with the ability of Canadian households to meet their financial obligations under changing financial conditions appear to be within manageable levels.
- The financial system has experienced some significant changes in the prices of financial assets, but has responded in a resilient fashion.

A key development during the second half of 2003 is the substantial improvement in the global macrofinancial environment. The economic outlook for the industrialized economies, after deteriorating during the first half of the year, has been revised upwards since the summer. Financial institutions in the United States and Europe are reporting improved financial results. Nevertheless, risks associated with global imbalances remain, and in Canada the stronger dollar will affect the financial positions of those sectors with a strong net export orientation.

Stronger economic conditions have helped to stabilize the earlier decline in corporate credit quality, both globally and in Canada. Default rates and credit-rating downgrades on corporate debt have diminished. A declining need to add to loan-loss provisions contributed to the strong increase in profitability reported by Canadian banks in the second half of the year. Canadian banks have fared well over the current business cycle, compared with earlier cycles, attesting to their strong underlying position. Other financial institutions have also reported improved results.

In the face of past heightened losses on corporate lending exposures, the relative strength of the Canadian household sector has been a welcome source of support for the financial sector. An assessment of the potential impact of changes to the financial environment, such as higher interest rates or a fall in housing prices, on the ability of households to service their debt suggests that the risks in this area are within manageable levels.

In the context of an improving economic environment and an increase in investors' appetite for risk, there were some large movements in financial prices during recent quarters. Yields on long-term bonds fell to very low levels in June, before subsequently rising. Equity prices have risen steadily since the second quarter, as investors anticipate improved corporate earnings. Against the background of rapidly growing U.S. international indebtedness, global exchange rates have been dominated by a decline in the value of the U.S. dollar, such that the Canadian dollar has appreciated significantly. The Canadian financial system has adapted to these changing conditions in a resilient fashion.

International efforts to buttress investor confidence in capital markets, including revised standards for financial reporting and auditing, have continued. The importance of better oversight and of high-quality financial reporting has recently been emphasized by the expanding investigation of trading practices in the U.S. mutual fund industry, which has revealed further issues related to market conduct.

Highlighted Issues

Issues discussed in this section include the recent evolution of the financial position of the household sector and the financial performance of the Canadian banking sector over the current economic cycle.

Financial position of the Canadian household sector

For the banking sector, the continued strength of returns on retail lending has been an important offset to the earlier deterioration in corporate credit quality and reduced investment banking activity.[1] In the following discussion, we focus on the evolution of household indebtedness and the potential impact on the household sector of changing financial conditions.

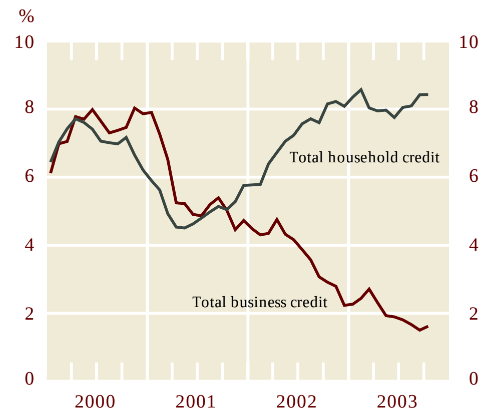
It is important to note that this analysis draws upon broad-based indicators of household financial conditions. While this provides useful information, varying conditions across different household income levels could also have important implications that are not captured in the discussion.

Household credit

The growth of household credit has been persistently strong over recent years, in sharp contrast to the sustained slowing in business credit (Chart 1).[2] Household credit represents approximately one-half of the total loan exposure of financial institutions, much of it held by chartered banks (Chart 2). While the relative weakness in business credit primarily reflects reduced demand owing to economic conditions, losses on business loans have encouraged banks to place increased emphasis on the household sector, including retail lending and wealth-management activities.

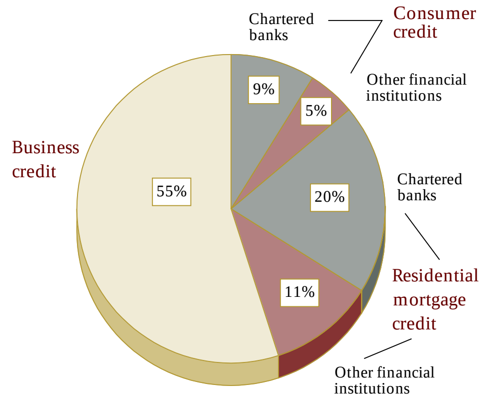
Chart 1 Household and Business Credit

Year-over-year rate of growth



Source: Bank of Canada

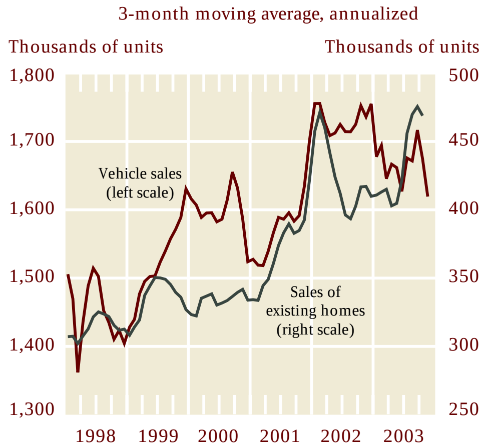
Chart 2 Distribution of Lending by Financial Institutions, 2003



Source: Bank of Canada, based on year-to-date average balances as of October 2003

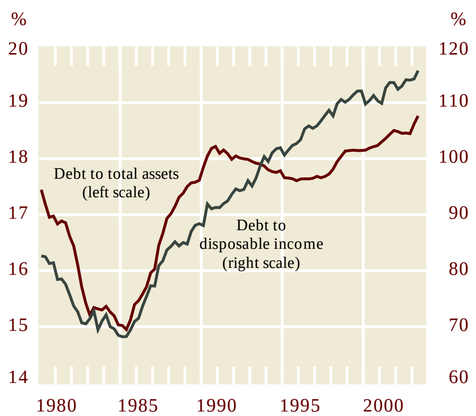
1. For a discussion of the financial position of the Canadian corporate sector, see the “Highlighted Issues” section of the June 2003 *Financial System Review*.
2. The growth in credit to small businesses has been much better sustained, however, than that to large firms.

Chart 3 Housing and Vehicle Sales



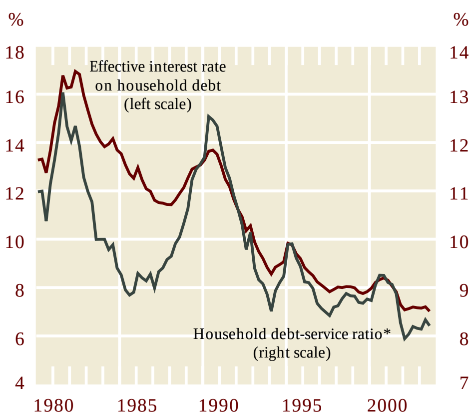
Source: Statistics Canada

Chart 4 Household Debt Ratios



Source: Statistics Canada and Bank of Canada calculations

Chart 5 Household Sector Debt



* Does not include principal repayments.
Source: Statistics Canada and Bank of Canada calculations

The strength of household credit reflects the growth in both mortgage and consumer credit (the latter including vehicle loans, credit card loans, renovation loans, and lines of credit). This growth has, in turn, been stimulated by the strength of the domestic housing market and of auto sales, respectively (Chart 3). Although the growth of consumer debt has tended to outpace the accumulation of mortgage debt, mortgages still account for almost 70 per cent of total household debt.

The expanded use of lines of credit, now held by just over one-half of Canadian households, has contributed to the overall growth in consumer credit. Amounts outstanding under credit cards have shown particularly strong growth. In addition, stimulated by strong house prices and low mortgage rates, a growing proportion of homeowners are refinancing their mortgages with a view to increasing the amount borrowed against their home equity. Based on recent survey evidence, the average size of the increase is about $33,000.[3]

The securitization of household debt has been another significant trend in consumer debt since the mid-1990s. Securitization allows banks to restructure their exposure to these loans, effectively selling it in the form of bonds to a range of investors.

Servicing household debt

Consumer indebtedness, in Canada and elsewhere (e.g., the United States and the United Kingdom), has risen to high levels. A common measure of household indebtedness, the ratio of debt to personal disposable income, has risen steadily to about 115 per cent (Chart 4). In addition, households have a range of other financial obligations (e.g., payments on rental accommodation) that can affect their financial outlook. This has raised questions regarding the ability of households to service their debt and meet their financial obligations if circumstances change.

Several factors have likely contributed to this increased indebtedness. One is the higher level of household assets, which includes financial assets, real estate, and other real assets. The household debt-to-asset ratio has been relatively stable since 1990, exhibiting only a modest

3. Clayton Research, drawing upon survey results from September 2002 to June 2003.

upward trend in recent years. Financial innovation and more efficient financial intermediation (between borrowers and lenders) have also facilitated credit growth.

More importantly, the cost of servicing debt has remained low throughout the current cycle, aided by the decline in consumer and mortgage interest rates (Chart 5). Mortgage debt remains the largest component of household debt, and mortgage interest payments relative to personal disposable income are at 20-year lows (Chart 6). Homeowners have increased principal payments relative to income in recent years, which has meant that interest and principal payments together have not declined in the same manner (relative to income).

Other indicators of the degree of financial stress affecting households also remain positive. For example, personal bankruptcies have been relatively stable since the early 1990s (Chart 7). Mortgage loans in arrears have declined in recent quarters. The pace at which delinquent credit card balances have been written off has remained relatively stable (at about 3 per cent in recent quarters), with the delinquency rate itself (balances more than 90 days in arrears) remaining well below earlier peaks (Chart 8).

Potential challenges

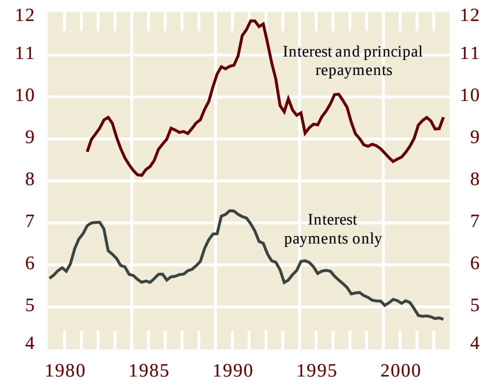
Despite this favourable performance, questions remain as to the impact that changing financial conditions might have. For example, given current levels of indebtedness, are households significantly vulnerable to an increase in debt-servicing costs should interest rates move higher? Additionally, given the importance of mortgage lending, are households vulnerable to a deterioration in the housing market and falling prices? In either case, if the ability of borrowers to service their debts was significantly compromised, the reduction in credit quality would adversely affect lending institutions.

With respect to the first issue above, by making a number of illustrative assumptions, it is possible to estimate the level of the debt-service ratio for different interest rates. For example, suppose short-term interest rates were to rise from current levels (of 2.75 per cent) into the range of 4.5 to 6 per cent.[4] With attendant increases in rates for consumer and mortgage loans, then,

4. This represents a range around the average short-term rate for the last 10 years.

Chart 6 Mortgage Payment Ratios

Per cent of personal disposable income



Source: Statistics Canada and Bank of Canada

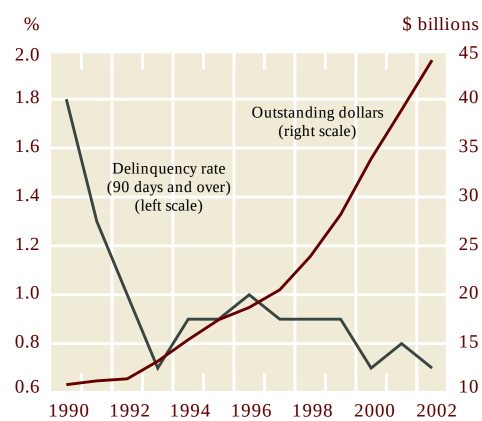
Chart 7 Financial Indicators

* 3-month moving average

Source: Statistics Canada and Canadian Bankers Association

Chart 8 Credit Card Debt

Visa and MasterCard



Source: Canadian Bankers Association

Table 1

Household Assets*

Per cent of total

	Directly held	Mutual funds	Pension funds	Total
Real estate[a]	36	-	5	41
Equities	6	5	13	24
Bonds	3	2	8	13

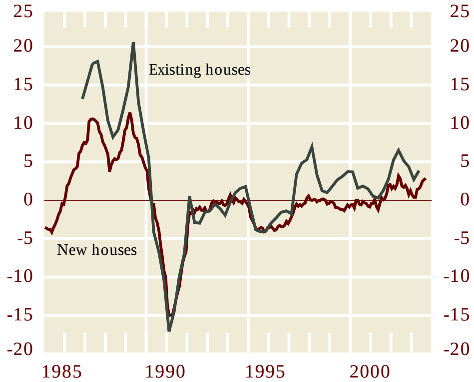
* In addition to the categories of assets identified here, household assets also include other real assets and deposits.

Note: These data are based on the valuation methods as described in Statistics Canada's *A Guide to the Financial Flow and National Balance Sheet Accounts*. Cat. no. 13-585E, Occasional. Figures are Bank of Canada calculations.

a. Real estate exposure through mutual funds is about 0.25 per cent. Pension funds hold a combination of residential and commercial real estate.

Chart 9 Growth in Real House Prices*

Year-over-year percentage change

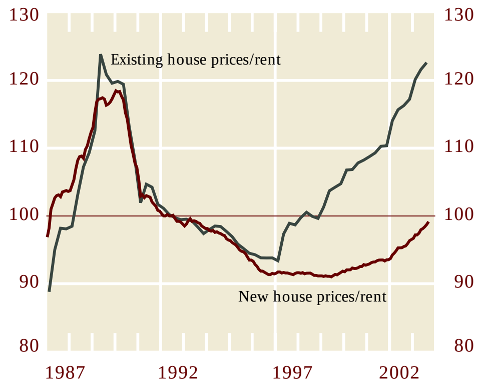


* Deflated by total CPI

Source: Statistics Canada and Royal LePage

Chart 10 Housing Price-to-Rent Ratios

1992=100



Source: Statistics Canada and Bank of Canada calculations

under some simplifying assumptions, the debt-service ratio would climb into the corresponding range of 8.5 to 10.5 per cent.[5] Even at these levels, however, the debt-service ratio would remain well below earlier peaks (recall Chart 5).

Other components of the financial portfolios of households are also directly affected by changes in interest rates. The prices of bonds, which make up about 13 per cent of household wealth (whether held directly or through mutual funds or pension funds), fall when interest rates rise (Table 1). However, the impact of even a substantial fall in bond prices on household wealth would be relatively small.

Real estate assets are a much more important component of household wealth.[6] With mortgage lending representing a substantial portion of the exposure of Canadian bank and non-bank financial institutions, a decline in house prices could adversely affect household credit quality.

Over the past several years, house prices in Canada have continued to increase at a reasonably moderate rate despite slower economic growth (Chart 9). In addition, the value of house prices compared with rental rates (the latter often proxied by the rented-accommodation component of the CPI) suggests that prices for existing homes have risen to relatively high levels (Chart 10). Nevertheless, the rate of increase in the prices of both new and existing homes has been much lower than was the case in the late 1980s. The price-to-rent ratio is also sensitive to the choice of proxy for the rental rate, suggesting that this indicator must be used with caution.[7]

5. In practice, the higher debt-service ratio would not be reached immediately, since it would take time for existing loans to be affected. These figures incorporate assumptions about intermediation spreads, the yield curve, and mortgage refinancing. In addition, we assume an unchanged debt-to-income ratio.
6. Not only are real estate assets a large proportion of wealth, but changes in housing wealth have a much larger estimated impact on consumer spending than equivalent changes in stock market wealth (see Pichette and Tremblay 2003).
7. For example, adjusting the price-to-rent ratio by calculating the discounted value of expected future rental payments, and thereby reflecting the impact of low interest rates, would produce a lower path for this ratio. Note also that the series for prices of existing homes is not adjusted for quality, which may affect the results.

A key factor affecting the demand for housing, aside from demographic developments, is its current affordability. The average mortgage payment in Canada, whether measured in terms of absolute dollars or as a percentage of income, is at a relatively low level, particularly when compared with earlier peaks (recall Chart 6). One measure of housing affordability is per capita income relative to house prices (an increase in the index represents greater affordability). When prices of existing homes are used to construct the index, this measure shows that despite the increase in prices, affordability remains at a level that is near its average over the 1990s (Chart 11).[8]

It is useful to place these developments in an international context. In a number of countries, such as the United States, the United Kingdom, Australia, Ireland, and several continental European countries, the pace of increase in housing prices has been similar or higher than in Canada. In a few countries (e.g., Australia and the United Kingdom), the rate of increase has raised concerns over a potential bubble in house prices that could lead to a significant retrenchment in prices (Chart 12).

In Canada, however, the pace of increase over the past several years has been substantially less than was experienced in the last half of the 1980s. In addition, the affordability of homes relative to income levels has declined only modestly, while low interest rates have, in turn, held mortgage payments at relatively low levels.

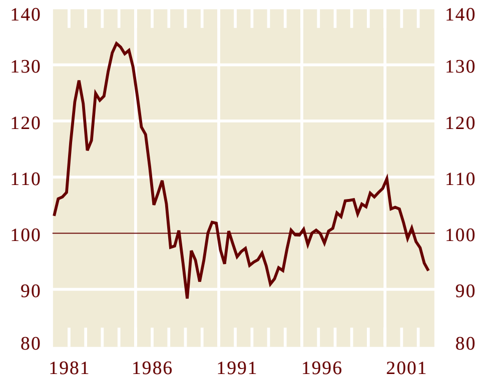
This evidence indicates that a significant retrenchment in house prices in Canada is an unlikely scenario going forward. Higher interest rates would indeed increase the carrying costs on both mortgage and consumer debt. However, debt-service ratios would rise only modestly from the current low levels. This suggests that the potential risks relating to household credit quality remain manageable.

Cyclical performance of the banking sector

The cyclical economic slowdown that occurred globally and in Canada during the past several years, together with the deterioration in corporate credit quality that accompanied it, has

Chart 11 Housing Affordability Index

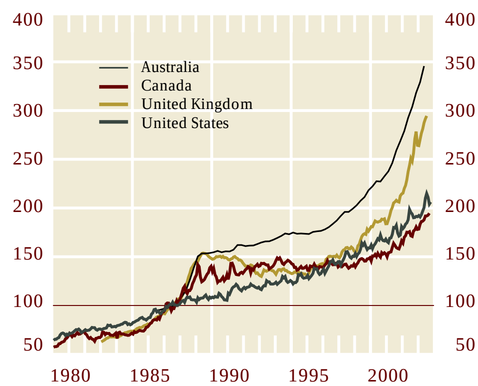
Per capita personal disposable income over existing house prices (1997=100)



Source: Statistics Canada and Bank of Canada

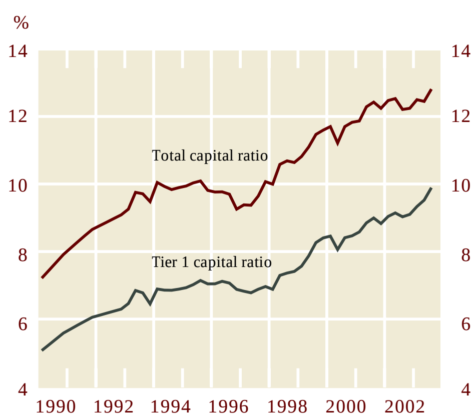
Chart 12 International Levels for House Prices

1987=100



Source: Statistics Canada (Canada and U.S.), Australian Bureau of Statistics, Halifax plc (U.K.)

Chart 13 Bank Capital Ratios

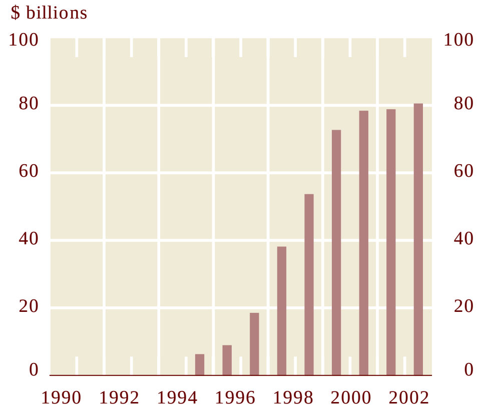


Source: Office of the Superintendent of Financial Institutions (OSFI)

8. An even more positive result would be obtained if the prices of new homes were used.

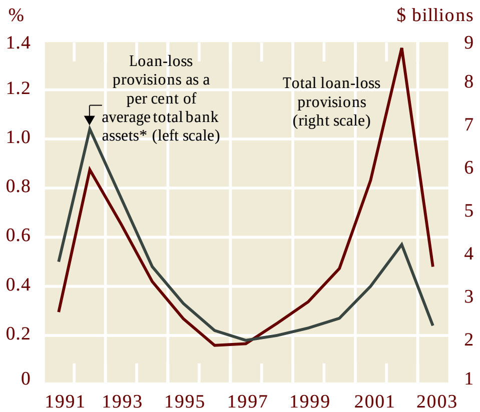
Chart 14 Securitization by Financial Institutions

Total credit



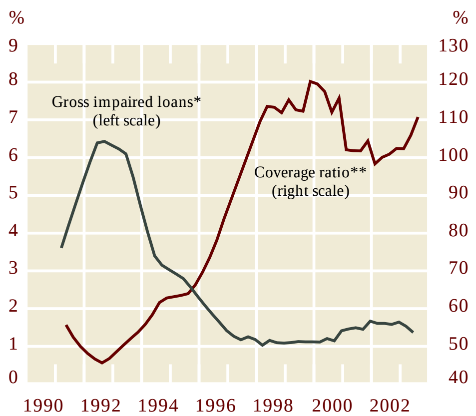
Source: Bank of Canada

Chart 15 Bank Loan-Loss Provisions



* Assets on a taxable equivalent basis
Source: Canadian Bankers Association, Bank of Canada, and OSFI

Chart 16 Asset Quality: Major Canadian Banks



* Relative to loans and acceptances less allowances
** Total loan-loss allowance/Gross impaired loans
Source: OSFI

affected Canadian financial institutions. How banks have performed in this environment, especially in relation to earlier cyclical episodes, provides insight into their underlying soundness.

Comparisons with earlier periods should recognize the substantial amount of structural change that has occurred in the financial system. Supervisory changes have enhanced the overall robustness of financial institutions, encouraging, for example, higher levels of bank capital (Chart 13), and provisioning practices have been expanded with the increased use of general allowances.[9] Canadian banks have embraced new financial instruments, both to expand their revenue sources and to assist them in managing their risk exposures. Securitization of both consumer and business credit is one area in which Canadian banks have become active (Chart 14). Practices for managing financial risk have also evolved steadily (Box 1).

Banks have also endeavoured to diversify their revenue sources and portfolios, both by product and, in some cases, by geographic area. For example, net interest earnings represent approximately one-half of revenue today versus 70 per cent in 1990–92. However, to the extent that product diversification introduced greater exposure to financial asset prices, it may also have introduced greater volatility into bank revenues. Institutional change has resulted in the major banks now accounting for two-thirds of the residential mortgage market, compared with 40 per cent 10 years ago (having absorbed a number of the other mortgage-lending institutions).

In the context of the changes described above, Canadian banks have fared well in the recent more adverse environment. This is particularly apparent when comparisons are made with the previous economic cycle in the early 1990s. Despite the need to increase loan-loss provisions over the past several years, largely in response to the deterioration in corporate credit quality, provisions as a percentage of bank assets have remained much lower than in the early 1990s (Chart 15).

9. General allowances cover potential losses in a portfolio (perhaps for a particular industrial sector) where the losses cannot yet be identified with individual credits. These allowances may be in addition to provisions on specific loans.

Box 1

Managing Market Risk

Among the approaches used by banks to help them assess market risk are two different, but complementary, techniques, known as value at visk (VaR) and stress tests.[1]

Value at risk

VaR is a measure of the adverse impact that changes in interest rates and prices could have on the value of a bank's portfolio returns over one or more days. The probability distribution of these returns and their cross-correlations are assumed to be the same as those observed over recent history.

A threshold for the maximum expected portfolio loss can then be determined with a certain probability. For example, a 99 per cent confidence level suggests that the threshold would be exceeded on only one out of every 100 days.

The table below provides examples of the VaRs arising from different types of market risk for the trading portfolios of Canada's five largest banks in 2002. Note that some of these risks can offset each other (the diversification effect). Total market risk, whether measured over a one- or ten-day period (depending on the preference of the bank), is very small compared with the banks' Tier 1 capital bases.[2]

Value at Risk for the Average Trading Portfolio, 2002

99 per cent confidence level, Can$ millions

Type of market risk	One-day VaR			Ten-day VaR	
	CIBC	RBC	TD	BNS	BMO
Interest rate	8.5	6.0	nr	23.5	22.3
Credit spread	5.8	nr	nr	nr	nr
Equity	8.3	8.0	nr	11.5	5.0
Foreign exchange	0.8	3.0	nr	5.4	3.5
Commodity	1.0	nr	nr	2.5	1.8
Diversification effect	(11.5)	(6.0)	nr	(17.9)	(3.9)
Total	$12.9	$11.0	$14.6	$25.0	$29.6
% of Tier 1	*0.12*	*0.07*	*0.15*	*0.15*	*0.26*

nr = not reported
Source: 2002 annual reports of each institution

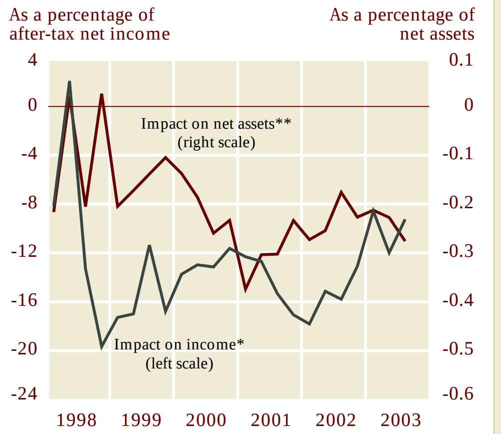
1. Market risk represents potential financial losses owing to the changing prices of financial assets. Credit risk is another important risk, involving the possibility that financial obligations (such as loan repayments) will not be met.
2. VaR results can change significantly from one day to the next. The maximum daily VaR is a measure of the upper bound of such variation. For example, the largest one-day total VaR for RBC in 2002 was $18 million, and BMO's largest 10-day VaR was $45.8 million (not shown). These maximums are also quite small compared with bank capital.

Stress tests

During periods of market stress, actual returns and correlations may differ significantly from historical experience. In this case, VaRs would not be a useful reflection of risk. As a result, stress tests were designed to measure the risk arising from possible scenarios with unknown probabilities.

One such scenario regularly considered by banks is the impact of a hypothetical one-percentage-point shift in interest rates. The chart below illustrates the sum of the results for this scenario for the largest Canadian banks.[3]

Interest Rate Sensitivity: Major Banks



* Impact on the consolidated after-tax net income from a 1 per cent increase or decrease in interest rates, whichever is greater
**Impact on the consolidated economic value of net assets from a 1 per cent increase in interest rates

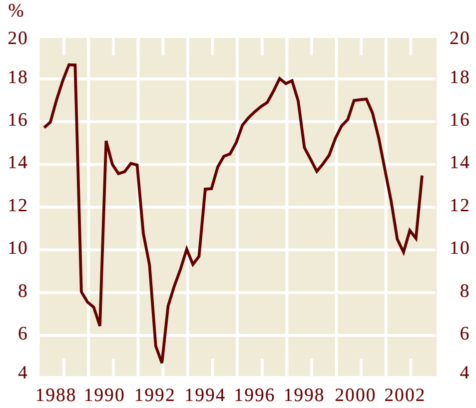
The green line shows the impact on bank income from a one-percentage-point change in interest rates sustained over a whole year (either an increase or decrease, depending on which has the more adverse effect at the time). The burgundy line shows the impact on net assets from a sustained one-percentage-point increase.

As of the third quarter of 2003, such a shift in rates would have reduced annual after-tax net income by 10 per cent and the value of net assets by a rather small 0.28 per cent.

3. This and several other scenarios can be found in the annual reports of most banks.

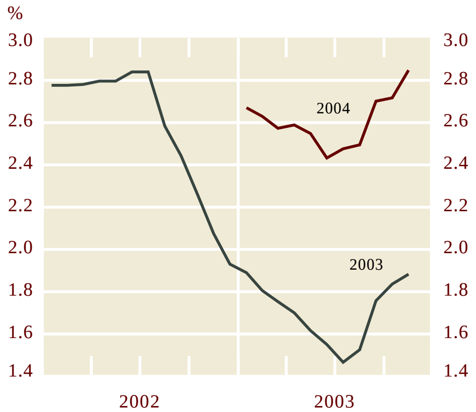
Chart 17 Return on Equity of Major Canadian Banks

4-quarter moving average



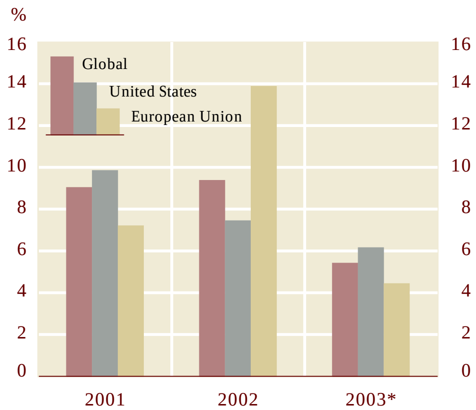
Source: Canadian Bankers Association

Chart 18 Evolution of Consensus Estimates for Annual Growth: Industrialized Economies*



* North America, Western Europe, and Japan
Source: Consensus Economics

Chart 19 Default Rates for Speculative-Grade Issuers



* 12 months to October
Source: Standard & Poor's

The level of impaired loans has also stayed relatively low and, in turn, the coverage ratio (total loan-loss provisions relative to impaired loans) has remained over 100 per cent (Chart 16). This last outcome has been facilitated by the development of deeper secondary markets for loans, which banks have used to sell off portions of their loan books. In particular, several major Canadian banks have indicated their desire to reduce their exposures in certain areas, such as exposures to high-risk corporate and foreign loans, and to increase their focus on retail lending and wealth management.

The possibility has also been raised that the exposure of banks to certain sub-prime credits, such as credit cards, would contribute to larger losses. But the evidence suggests that the risks here have been well managed, with recent delinquency rates on credit cards below those of earlier periods (recall Chart 8).

In this context, bank profitability has remained strong, with profits declining only modestly before rebounding in recent quarters. Return on equity has fared relatively well compared with developments in the early 1990s (Chart 17). Overall, this suggests that the banking system has been able to address the challenges of the past several years from a fundamentally sound position.

The Macrofinancial Environment

Global economic uncertainty has eased in recent months. While risks remain, the prospects for global recovery have brightened, led by a pickup in the United States and stronger-than-expected growth in Japan. This situation has favourable implications for financial stability.

Global environment

Consensus projections for economic growth in 2003 and 2004 in the industrialized economies have been revised upwards in recent months (Chart 18). The improvement in economic conditions, combined with the ongoing efforts of firms to strengthen their balance sheets, has contributed to a reduction in financial stress. For example, global corporate default rates have fallen in recent months. The global default rate for speculative issuers, based on Standard & Poor's 12-month rolling average, fell to 5.4 per cent at the end of October from 9.4 per cent at the end of last year (Chart 19). The global credit ratio for downgrades per upgrade fell to 2.0 in the third quarter, from 3.1 in the second, and 4.6 in the first, and the proportion of issues under review for possible downgrading declined.

Globally, financial markets have improved significantly. Credit spreads have continued to narrow, and equity market prices have risen, supported by improved earnings prospects and an increase in the risk appetite of investors. Bond issuance by corporations has been robust.

Although a global economic recovery appears to be underway, risks associated with global imbalances remain. The configuration of growth in recent years has exacerbated external trade imbalances, since global growth has relied heavily on the United States (Chart 20). Government indebtedness has also worsened in a number of industrialized countries, a process that may not be sustainable, particularly in view of aging populations. Global rebalancing will likely involve a number of factors, including further structural reforms in some countries, additional adjustment in real exchange rates among currencies in industrial and emerging-market economies, and in some cases, fiscal consolidation.

Emerging markets

Equity markets in emerging economies, in both domestic-currency and U.S.-dollar terms, have risen strongly since March (Chart 21). Sovereign bond spreads continued to decline from peaks reached in October 2002 (Chart 22). A contributing factor may have been that low yields on industrial-country bonds have increased investor appetite for higher-yielding emerging-market debt.

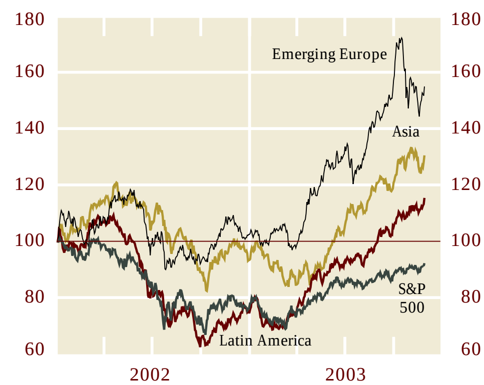
Contributing to the decline in bond spreads was Moody's decision on 8 October to upgrade Russia's external debt to investment grade. This reflected the government's commitment to prudent fiscal and debt-management policies (Chart 23), the creation of a macroeconomic stabilization fund (for use in the case of a downturn in commodity prices and government revenues), and lower political risk. However, recent concerns regarding investor rights under the Russian legal system have somewhat dampened enthusiasm for Russian assets.

Chart 20 External Balances: United States

Source: U.S. Bureau of Economic Analysis

Chart 21 Stock Market Indexes (US$)

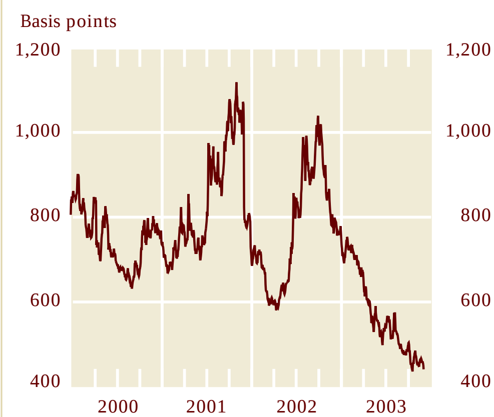
1 January 2002 = 100



Source: Thomson Financial Datastream

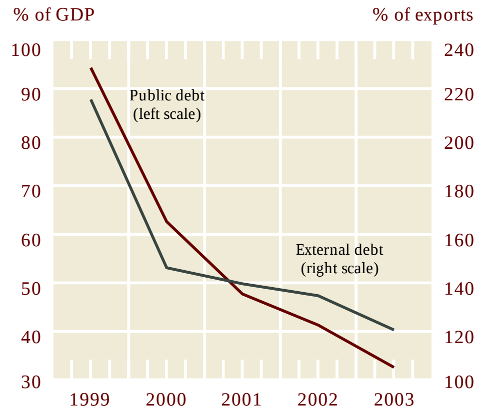
Chart 22 Emerging-Market Bond Index (EMBI+)

Spread over U.S. Treasuries



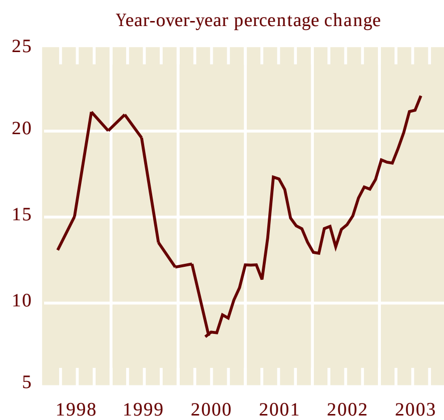
Source: J.P. Morgan Chase & Co.

Chart 23 Debt: Russia



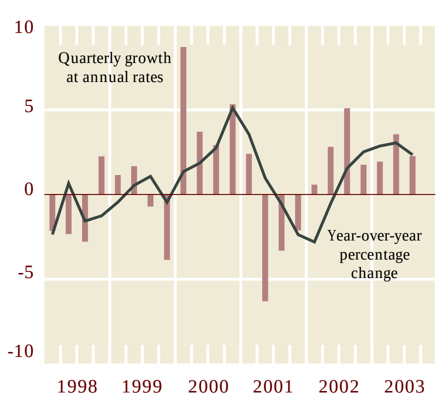
Source: J.P. Morgan Chase & Co.

Chart 24 Domestic Credit Growth: China



Source: International Monetary Fund, *International Financial Statistics*

Chart 25 Real GDP Growth: Japan



Source: Thomson Financial Datastream

In China, real GDP is increasing at a very rapid rate, rising by 8.5 per cent in the first nine months of the year. This rise has been driven by strong investment in fixed assets and robust consumer demand. The strength in economic activity has coincided with a strong expansion in the money supply and in credit aggregates (Chart 24). Concerned over the inflationary risks of such a rapid expansion of credit, China's central bank raised the reserve requirements for banks in September and tightened lending standards.

Concerns have mounted with respect to the state of China's banking system. Although the expansion of lending has led, at least in the short term, to a decrease in the proportion of bad loans in the banking system, estimates of bad loans within mainland China's banking system remain very high.[10] This reflects many years of non-commercially based lending to state enterprises.

Efforts to strengthen China's banking system are underway. The four state banks (Box 2) plan to sell US$6 billion in non-performing assets. A number of restructuring proposals are currently being considered, including an increase in the authorized limit to foreign ownership of Chinese banks, and a further liberalization of interest rates to better reflect credit risk. The authorities have also committed to liberalizing access by foreign banks to the Chinese market by 2006. The country's first bank-supervisory law could be adopted in the near future.

Argentina reached agreement with the IMF on a new economic program in September, which effectively rolled over existing Fund loans of US$12.55 billion. After defaulting two years ago, Argentinian authorities have recently begun the process of restructuring their stock of non-performing loans from private creditors. They are aiming for a 75 per cent reduction in the nominal value (of about $100 billion), although this is meeting with considerable resistance from bondholders.

Japan and Europe

Economic activity in Japan has improved (Chart 25). Equity prices have increased by about 35 per cent from their lows at the end of April, which, in turn, has had a positive effect

10. Standard & Poor's, for example, estimates bad loans at 45 per cent of total loans.

Box 2

The Structure of the Chinese Banking System

The Chinese banking system is dominated by the "big-four" state commercial banks (SCBs): the Industrial and Commercial Bank of China, the Agricultural Bank of China, the Bank of China, and the China Construction Bank. These banks have sectoral lending responsibilities, with the Bank of China being responsible for foreign exchange and trade finance. The bulk of their lending has been directed to state-owned enterprises. Together, the SCBs account for about two-thirds of the total assets of the country's banking system. Four government-owned asset-management companies were established in 1999 to facilitate the resolution of bad debts at the large state banks.

China also has three policy banks: the State Development Bank, the Export-Import Bank of China, and the Agriculture Development Bank. Their principal role is to finance infrastructure and other long-term projects supported by the state. Their assets represent about 10 per cent of total banking assets.

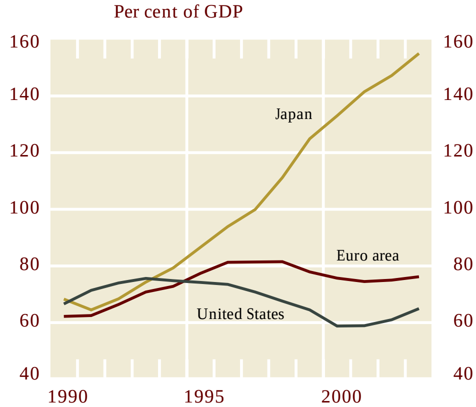
Ten joint-stock medium-sized commercial banks are also in operation. In most cases, these are owned by state enterprises or public sector entities. Four of these banks are listed on the domestic stock markets. In recent years, these institutions have expanded at a brisk pace through mergers with other banks and strategic alliances with foreign banks. The banking system also includes more than 100 city commercial banks, about 30,000 rural credit co-operatives, and a host of trade and investment corporations.

Participation by foreign banks is negligible because of the various restrictions they face in the conduct of their business. Foreign banks can engage in local-currency business only in specific geographic areas. They are not able to take retail deposits, and lending is subject to quantity restrictions. Foreign banks are, however, expected to play an increasing role in the Chinese financial system in the future, following China's accession to the WTO. In 2004, foreign banks will be able to conduct unfettered domestic-currency business with Chinese enterprises, and geographic restrictions will be lifted. In 2007, they will be able to conduct local-currency business with Chinese individuals and will have full national treatment.

In recent years, foreign banks have tried to increase their penetration of the Chinese banking market. In December 2001, the HSBC and the International Finance Corporation (IFC), the private investment arm of the World Bank, bought, respectively, 8 and 5 per cent of the Bank of Shanghai, one of the largest city commercial banks. The IFC recently bought a 1.6 per cent stake in the Minsheng Bank, the only privately owned bank in China. China's banking regulator will allow foreign banks to hold up to 25 per cent of a Chinese bank in the future, compared with the current limit of 15 per cent.

Chart 26 Gross Financial Liabilities: General Government

Per cent of GDP



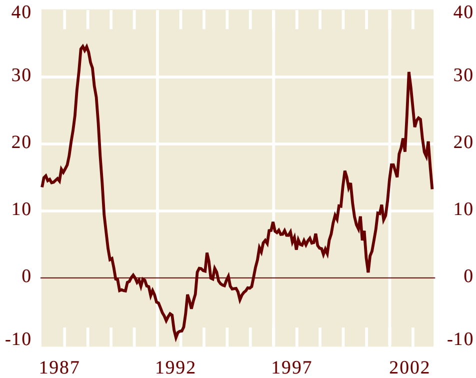
Source: Organisation for Economic Co-operation and Development

on bank profitability (since banks hold a large amount of shares in non-financial corporations). Corporate bankruptcies have generally declined, and credit downgrades in the third quarter were lower than a year ago. The situation remains difficult, however, with most observers expecting only modest growth over the medium term accompanied by persistent deflation. Government indebtedness is rising rapidly, a situation that does not appear sustainable over the longer term (Chart 26).

Efforts to revitalize the banking sector continue. Many of Japan's largest banks have announced plans to improve internal efficiency and reduce their workforce. The Bank of Japan has also announced plans to extend its program of purchasing stocks from banks to help improve their balance sheets. At the end of September, however, the Industrial Revitalisation Corporation announced that its own appraisal of assets used as collateral by the six problem borrowers it has

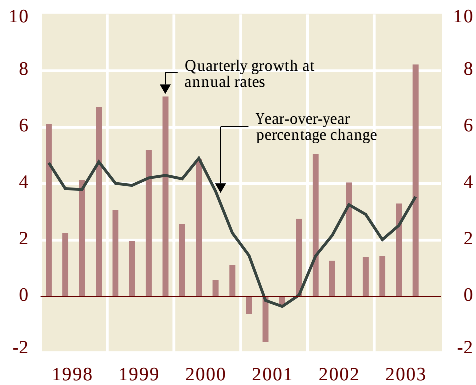
Chart 27 House Price Index: United Kingdom

Year-over-year percentage change



Source: Halifax plc

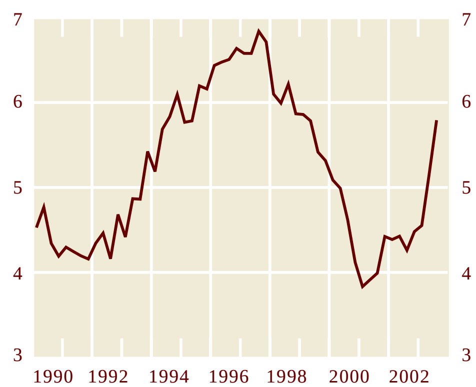
Chart 28 Real GDP Growth: United States



Source: Thomson Financial Datastream

Chart 29 Corporate Profit: United States

Profit as a share of GDP



Source: U.S. Bureau of Economic Analysis

agreed to support was lower than the assessment of the original lending banks. This may imply the need for further increases to loan-loss reserves. At the end of November, the government nationalized Ashikaga Bank.

Economic activity in Europe remains weak, with only limited growth in the euro zone in the last three quarters. This has contributed to ongoing pressure on the European corporate sector. Credit downgrades continued to outpace upgrades by a wide margin in the third quarter. Twenty-five per cent of the companies rated at the parent level in Europe were listed with a negative bias, a proportion similar to the situation last year. Owing to Germany's weak economy and the pressures on its banking sector, some corporations there are experiencing increased difficulty in obtaining bank loans.

In the United Kingdom, the rate of increase in housing prices continues to moderate (Chart 27). Nevertheless, concerns over a possible bubble in this sector remain (recall Chart 12). Since personal debt is at an elevated level, a significant decline in house prices could have an important adverse impact on the financial health of the household sector.

The European insurance sector has come under considerable pressure in recent years, owing partly to lower valuations for equity assets and higher insurance payments. This has been reflected in a series of credit-rating downgrades, with Standard & Poor's and Fitch recently downgrading the large German reinsurer Munich Re. The German government announced that it would provide support to domestic insurers by allowing them to deduct from taxes their losses on equities. More generally, insurance companies have moved to raise additional capital to buttress their financial positions.

United States

Economic activity in the United States strengthened considerably in the third quarter (Chart 28). Although some of this rebound may reflect temporary factors, such as a large contribution from recent tax relief, analysts have become more confident about the possibility of a sustained recovery. Corporate profits have risen significantly (Chart 29), and there is some evidence of a turnaround in employment.

U.S. corporations continue to improve their balance sheets. Total liabilities as a per cent of cash flow have declined recently, although the ratio remains elevated by historical standards.

In contrast, U.S. consumer indebtedness continues to increase, and debt-service ratios are high by historical standards. A recent study published by the U.S. Federal Reserve (Dynan, Johnson, and Pence 2003) examined a broad definition of household financial obligations (including other recurring financial expenses, such as rental payments). This measure shows that financial obligations, as a percentage of disposable income, are also at relatively high levels (Chart 30).

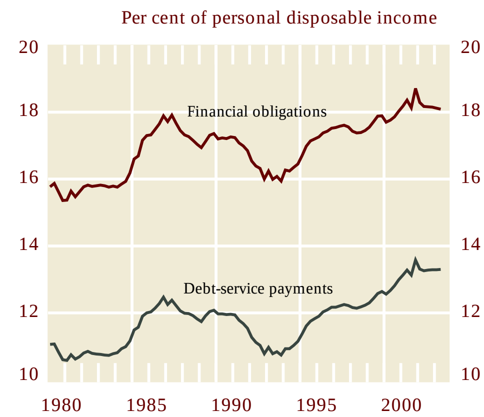
Owing to the beneficial effects of low interest rates and sustained demand for consumer loans, U.S. banks and savings institutions maintained record profitability in the third quarter. The industry's return on assets reached a record high of 1.4 per cent in the first half of the year (Chart 31). The third-quarter results were aided by continued improvement in credit quality, allowing banks to reduce new additions to loss provisions. Consolidation in the U.S. banking sector, after several years of reduced activity, took a large step forward in October when Bank of America announced its intention to merge with FleetBoston. The merged entity would become the second largest U.S. bank in terms of assets (Table 2).

U.S.-government-sponsored housing enterprises (GSEs), Fannie Mae (Federal National Mortgage Association) and Freddie Mac (Federal Home Loan Mortgage Corporation), are key participants in the U.S. market for mortgage-backed securities. Questions mounted last summer as to how they managed their interest rate exposure, and the magnitude of their potential vulnerability to volatility in bond yields through their hedging operations. In October, U.S. Treasury Secretary John Snow proposed the creation of a new Treasury-based regulator that would have increased oversight of the GSEs.[11]

The U.S. securities industry is also likely to earn record profits this year (Chart 32). The improvement relative to 2002 was initially narrowly

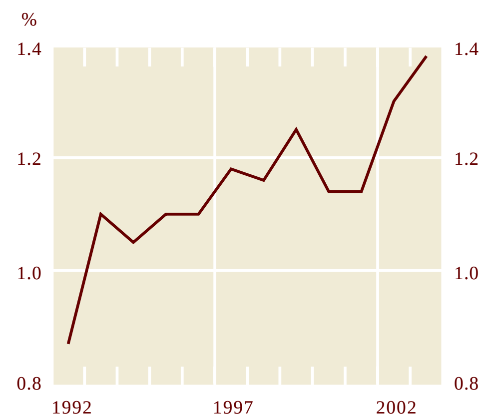
11. In Canada, the federal housing agency, Canada Mortgage and Housing Corporation, operates differently. It does minimal direct mortgage funding and does not hold retail mortgages that carry an embedded prepayment option. Furthermore, oversight powers are provided to the Treasury Board through the Financial Administration Act.

Chart 30 Household Debt: United States



Source: U.S. Federal Reserve Board

Chart 31 Return on Assets: All Institutions Insured by the FDIC



Source: U.S. Federal Deposit Insurance Corporation

Table 2

Largest U.S. Banks (by assets)

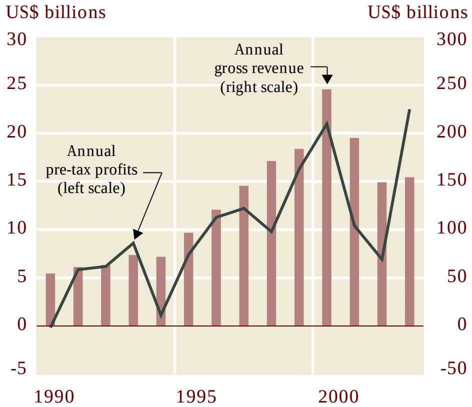
As of 31 December 2002

	$billion
Citigroup	1,097
Bank of America/FleetBoston	851
J.P. Morgan Chase & Co.	759
Wells Fargo	349
Wachovia	341
Per cent of total bank assets	48

Source: U.S. Federal Deposit Insurance Corporation

Chart 32 Securities Industry: United States

NYSE member broker-dealers



Source: U.S. Securities Industry Association

based (particularly in bond trading and issuance), but in the third quarter there was evidence that revenue growth has broadened.

Corporate governance and financial oversight

Efforts to increase investor confidence in financial reporting and auditing standards are being undertaken globally. In July, an international task force, commissioned by the International Federation of Accountants (IFAC) and chaired by John Crow, former Governor of the Bank of Canada, released its report, *Rebuilding Public Confidence in Financial Reporting: An International Perspective*. The report stresses that recent financial scandals are symptoms of deeper problems and proposes a range of actions to address low credibility in financial reporting.[12]

The International Accounting Standards Board (IASB) and U.S. Financial Accounting Standards Board (FASB) are spearheading efforts to bring about greater convergence in global accounting rules. The IASB met with U.S. and Canadian officials in October to review progress, but it is generally accepted that the process will take several years. The FASB will soon release proposed accounting changes that would bring U.S. rules more closely in line with international standards.

To promote confidence in global auditing standards, a new Public Interest Oversight Board will be established to monitor the international auditing standards established by the IFAC's International Auditing and Assurance Standards Board.

In the United States, hedge funds and mutual funds, both of which have become increasingly important investment vehicles, have come under increased scrutiny. A staff report from the Securities and Exchange Commission (SEC) recently recommended that hedge-fund managers be required to register with the SEC as investment advisers. The hedge funds would then have to provide information to the SEC that could be used to conduct audits.

12. Appendix 3 of the report contains a useful summary of the international initiatives that have been undertaken. A more recent summary of Canadian initiatives may be found in the article by Armstrong, page 53 of this *Review*.

The U.S. mutual fund industry has also come under investigation as a result of questionable sales and trading practices. The investigations have led to a number of internal company audits to identify the scope of these activities, and some firms have set aside funds to cover the costs of litigation and potential investor restitution. In some cases, large investors have released specific mutual fund companies from their investment advisory roles, but the overall impact on investor confidence is not yet clear. There is a broadening array of proposals regarding improved oversight of the mutual fund industry.

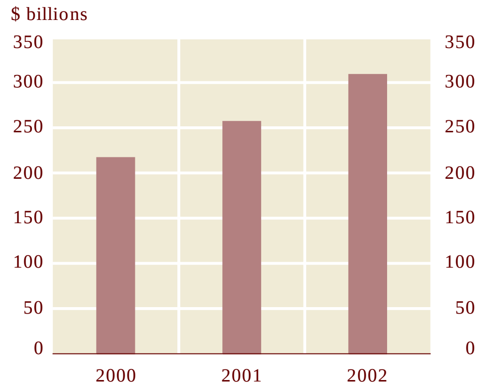
Post-retirement benefits

Corporations continue to face significant costs in meeting their obligations on long-term employee pension benefits. Weak equity prices reduced plan assets, while historically low interest rates increased the present value of liabilities (outweighing the positive impact from higher bond prices), leading to a sharp increase in the underfunding of plans. At the end of 2002, reported corporate funding shortfalls were about $19 billion in Canada. As a result, firms faced higher contribution costs. More recently, there has been an increased focus on the cost to firms of other post-retirement employee benefits, especially health-care costs (Chart 33). Often, no specific assets have been set aside to fund these obligations.

Nevertheless, the rebound in equity prices from earlier low levels suggests that the financial positions of pension plans will improve. Similarly, higher interest rates would reduce plan liabilities (although this would be partly offset by reduced valuations for bond assets). In Canada, one indicator of the financial health of pensions (based on a model pension plan that is designed to reflect the behaviour of a standardized pension plan) shows some improvement from the lows reached earlier in the year (Chart 34). The U.S. Pension Benefit Guaranty Corporation estimates that total underfunding for U.S. firms will also decline somewhat in 2003 (Chart 35). Nevertheless, global authorities have come under pressure to monitor the health of pension plans more closely and, in some cases, to introduce changes to reduce the pressures on funding (Box 3).

Chart 33 Aggregate Funded Status for S&P 500 Companies: Other Retirement Benefits*

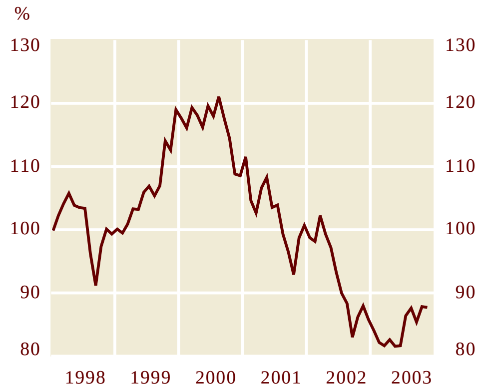
Deficit



* Excludes pension plans
Source: CSFB Research

Chart 34 Mercer Pension Health Index: Canada

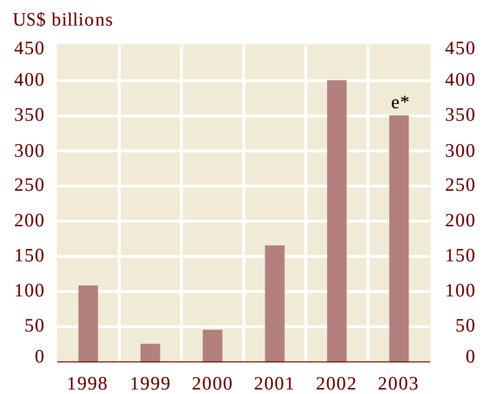
Ratio of assets to liabilities



Source: Mercer Human Resource Consulting Limited

Chart 35 Pension Underfunding: United States

Insured single-employer plans



* e = estimate for 2003
Source: U.S. Pension Benefit Guaranty Corporation

Box 3

Government Initiatives Regarding Pension Funds: United States and Canada

U.S. legislative authorities are examining various proposals to reduce short-term funding burdens for U.S. corporations relating to their defined-benefit pension plans, with a view to introducing more substantive changes at a later date.

Currently, firms are required to use the 30-year government Treasury yield (adjusted upwards by 20 per cent) for discounting plan liabilities. To reduce the pension-funding costs of corporations, the Bush administration has suggested that pension liabilities be valued using a highly rated corporate yield curve, which would reduce the assessed value of liabilities. However, the proposal would also require firms with highly underfunded plans to immediately fund any increase to benefits or lump-sum payments. Elements of this plan are being considered by the U.S. Congress.

In early October, the House of Representatives proposed a temporary measure that, for two years, would allow firms to value pension liabilities using the yields on highly rated corporate bonds. The House resolution has yet to be debated by the U.S. Senate.

The U.S. Pension Benefit Guaranty Corporation has estimated that the House proposal would reduce corporate pension plan contributions by US$26 billion over the next two years.[1] Alternatively, Credit Suisse First Boston has estimated that, depending on the final nature of the changes, companies in the S&P 500 index could save approximately US$18 billion in pension contributions next year (see chart).

The Bush administration has also proposed that firms disclose more information about the funding status of their employee pension plans. In September, the U.S. Financial Accounting Standards Board issued a draft of proposed rules that would improve financial statement disclosures for defined-benefit plans. For example, it would require firms to report a breakdown of plan assets, covering items such as equity, debt, and real estate.

In Canada, the Office of the Superintendent of Financial Institutions (OSFI) has recently announced several pension-related supervisory measures to better identify the risks faced by federally regulated pension plans, to promote better management of those risks, and to improve its readiness to deal with any problems. Among the initiatives underway to strengthen OSFI's supervisory practices is the increased use of solvency testing on the pension plans it regulates in order to determine those warranting further watching.

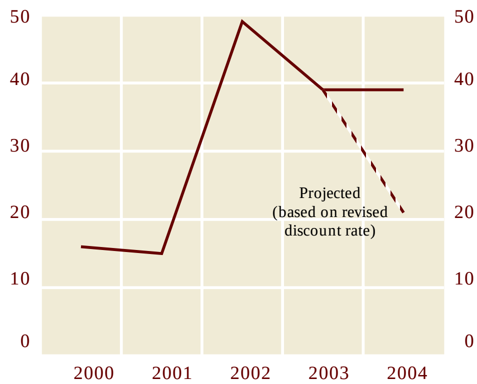
The Accounting Standards Oversight Council recommended in July that the Accounting Standards Board (AcSB) explore ways of improving the disclosure of information on the performance of corporate pension plans in Canada. The Council's view is that various improvements to disclosure could benefit Canadian investors and other stakeholders. These improvements should include a better presentation of contributions and pension expenses, and information regarding a pension fund's asset mix and the assumed rate of return on different asset classes. In response, the AcSB has developed a new draft standard, which is expected to become effective in 2004.

The Canadian Association of Pension Supervisory Authorities (CAPSA) released draft governance guidelines in July designed to help pension plan administrators implement good governance practices. The CAPSA Pension Plan Governance Committee worked with an industry task force to develop the guidelines together with a Governance Self-Assessment Questionnaire. The guidelines and questionnaire are expected to be finalized after a testing exercise involving pension plan administrators.

U.S. Pension Plan Contributions*

S&P 500 companies with defined-benefit pension plans

US$ billions



* 2003 and 2004 are estimates
Source: Credit Suisse First Boston

1. See the 14 October testimony of Steven A. Kandarian, executive director of the Pension Benefit Guaranty Corporation, before the Special Committee on Aging of the United States Senate.

Canadian developments

Domestic factors that influence developments in the Canadian financial system include the state of the Canadian economy, the financial position of the household and corporate sectors, and developments within specific industrial sectors.

Canadian economy

Aggregate output in Canada changed little from the first to the third quarter of 2003 (Chart 36). An important factor behind the weakness of aggregate activity during this period was a sharp drop in inventory investment. A number of unusual shocks (e.g., SARS, BSE, and the Ontario electricity blackout in August) also helped to further dampen economic activity.

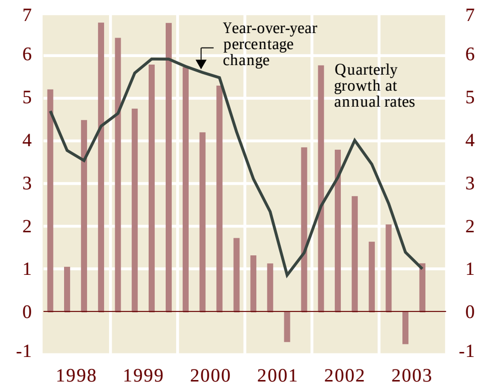
There are, however, several encouraging developments that support the view that growth in the Canadian economy will strengthen in 2004. Growth in final domestic demand has remained robust, and the adverse effects of some of the recent unusual shocks are starting to dissipate. However, the boost to Canadian exports from the further anticipated improvement in global economic conditions will be dampened by the rise in the Canadian dollar over the past year.

Household and corporate sectors

The financial situation of households remains healthy. Rising debt levels are being supported by low debt-service costs and ongoing growth in assets and incomes.[13] Consumer confidence continues at a high level.

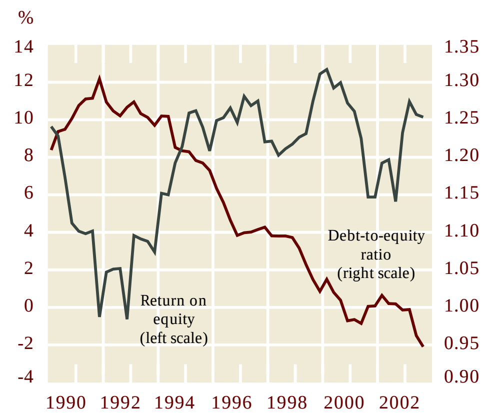
The financial position of the non-financial sector continued to improve in the first three quarters of 2003. The aggregate debt-to-equity ratio fell further, reaching a very low level (Chart 37). The return on equity is very strong, although having eased somewhat from earlier record levels as a result of reduced prices for energy commodities and the impact of the stronger Canadian dollar. Indeed, the confidence of both small and large firms improved in the third quarter of 2003, given an increasingly shared view that near-term economic conditions would improve (Chart 38). Corporate credit quality showed further improvement in

Chart 36 Real GDP Growth: Canada



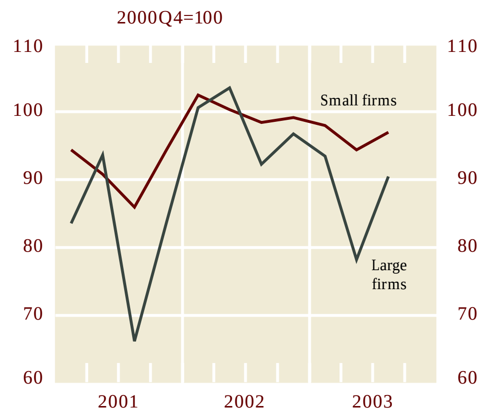
Source: Statistics Canada

Chart 37 Canadian Corporate Sector: Return on Equity and Debt-to-Equity Ratio



Source: Statistics Canada and Bank of Canada

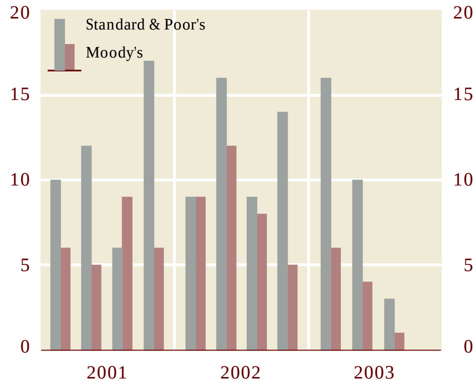
Chart 38 Canadian Business Confidence



Source: The Conference Board of Canada and CFIB Research

13. For further discussion of the financial position of the Canadian household sector, see Highlighted Issues, on page 4.

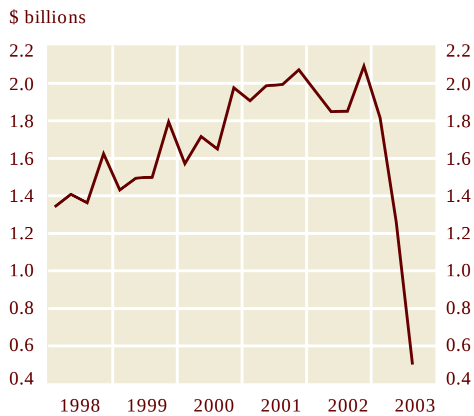
Chart 39 Credit-Rating Downgrades: Canada



Source: Moody's and Standard & Poor's

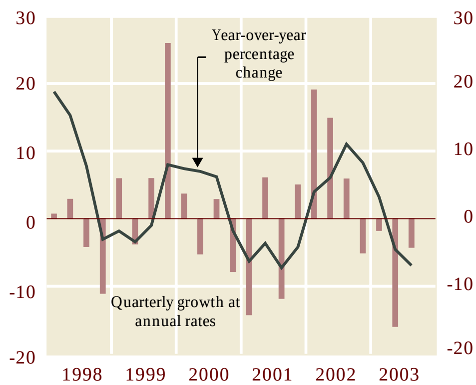
Chart 40 Farm Cash Receipts

Cattle and calves



Source: Statistics Canada

Chart 41 Real Output Growth: Steel



Source: Statistics Canada

the third quarter, as the number of companies downgraded continued to decline, with few defaults recorded to date in 2003 (Chart 39).

Industry

Although the financial condition of the overall non-financial corporate sector is relatively healthy, some industries continue to be under financial stress. Activity levels and profitability in the airline and aerospace manufacturing industries fell sharply in the second quarter from already-low levels, mainly owing to the adverse economic effects of the SARS outbreak. As a result, some firms in these industries are restructuring their operations and balance sheets. More recently, there has been a partial recovery of activity in the airline industry.

The financial situation in Canada's livestock sector has also deteriorated, following the appearance of one case of BSE in Alberta (Chart 40). However, a number of countries have partially lifted the ban on Canadian beef products since early August.

The financial positions of many of those sectors with a strong net export orientation continue to be adversely affected by the appreciation of the Canadian dollar. In particular, the rise in the value of the Canadian dollar is likely to have an especially significant negative impact on the profitability of high-tech manufacturing industries. Indeed, profitability in the electronic and computer manufacturing industry deteriorated in the third quarter of 2003, with manufacturers of telecommunications equipment still facing weak demand.

As well, steel manufacturers have seen their financial positions worsen considerably (Chart 41), given weak demand and prices, the strong dollar, and high costs for raw materials and energy. While producers of non-ferrous metals and forest products would typically benefit from the marked increase in global prices for both non-ferrous metals and lumber, a major offsetting factor has been the appreciation of the Canadian dollar.

The near-term financial prospects of North American automakers remain weak owing to global excess capacity, the high cost of sales incentives, and the need to shore up their pension plans. Credit ratings have come under downward pressure.[14]

14. In recent months, the credit ratings of Ford and DaimlerChrysler have been downgraded.

The Financial System

The recent improvement in the global macrofinancial environment follows a period during which the Canadian financial system faced a weaker domestic economy and a number of external shocks. This was reflected in past heightened levels of uncertainty, increased risk aversion by investors, and a deterioration in corporate credit quality.

The reaction of the financial system over the last couple of years points to its underlying resiliency in the face of these challenges. Indicators designed to measure the contemporaneous degree of stress reinforce the view that these adverse events did not produce a high degree of stress in the financial system (Box 4). Other recent indicators, discussed below, point to a favourable performance in the second half of this year.

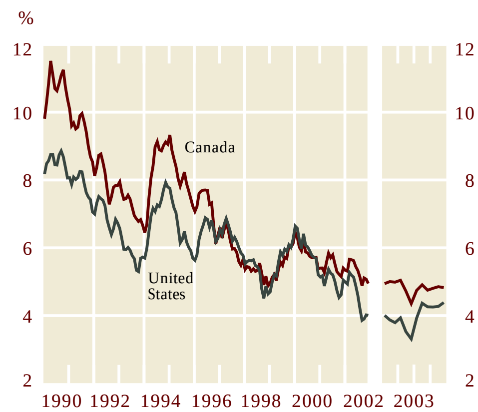
Financial markets

Recent quarters have seen some substantial movements in the prices of financial assets and in currency valuations. Bond yields experienced substantial volatility during the summer and into early autumn. In addition, the Canadian dollar and other currencies resumed their upward path against the U.S. dollar after a brief pause during the summer.

Fixed-income credit markets

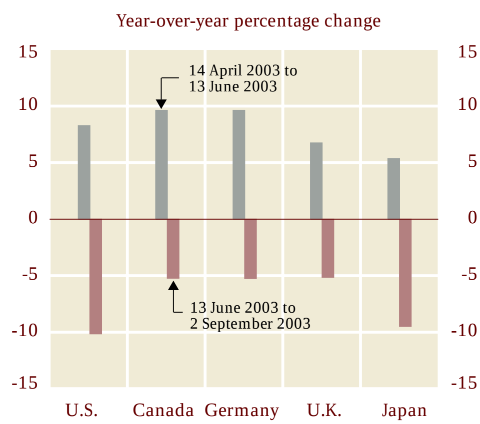
Government bond yields in Canada and the United States have been particularly volatile in recent months, moving higher after reaching historic lows in mid-June (Chart 42). The sharp movements created substantial gains and losses for bondholders over relatively short periods (Chart 43). While the rise in yields broadly reflected growing optimism about the prospects for global economic growth, other factors also helped to reverse the earlier decline. The 25 June policy decision of the U.S. monetary authorities and the accompanying communications marked an important turning point, with the Federal Reserve's more optimistic economic outlook for the U.S. economy ultimately shared by many market participants. Technical factors also played a role, as hedging in the mortgage market amplified movements in yields in both directions (Box 5). In addition, the expected increase in U.S. government budget deficits and,

Chart 42 Yield for 10-Year Benchmark Bonds



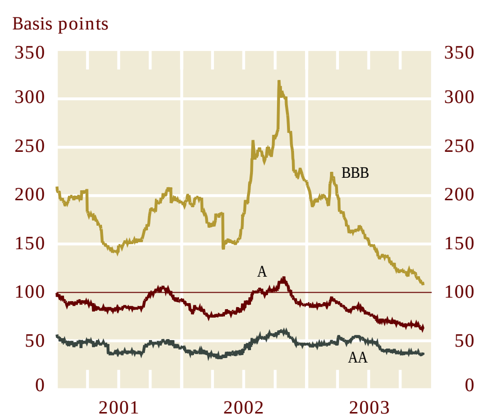
Source: Thomson Financial Datastream

Chart 43 Global Bond Markets: Total Returns



Source: Bank of Canada calculations

Chart 44 Spreads on Investment-Grade Securities: Canada



Source: Merrill Lynch

Box 4

Measuring Stress in the Financial System

Financial stress is the force exerted on economic agents by uncertainty and by changing expectations of loss in financial markets and institutions. Extreme levels of stress are sometimes referred to as crises.

The financial stress index (FSI) is one way of ranking how much stress the financial system is under at a given point in time (see chart). It is not a leading indicator of stress.

This box describes how to interpret the FSI. Details about the components and construction of the index are discussed in the report entitled "Measuring Financial Stress" on page 43 of this *Review*.

Interpreting the FSI

The FSI is an ordinal ranking of stress in the financial system expressed as a percentile. For example, a value of 75 indicates that the level of stress is greater than it was on 3 out of every 4 days since the beginning of 1980. However, a change in the level of the index does not imply a one-for-one change in the actual amount of stress.

The FSI was designed to focus on periods of elevated stress, reflecting the fact that stressful periods are episodic rather than a normal cyclical feature of the financial system.

Periods of elevated stress

The FSI reached its highest levels, indicated by the 99th percentile of the overall distribution, during the recessions of the early 1980s and the early 1990s, owing to the conjunction of high interest rates, bankruptcies, bond defaults, and bank loan losses. The FSI also peaked briefly as a result of the market turmoil surrounding the problems with the European exchange rate mechanism (ERM) in 1992. The most dramatic increase in the FSI occurred just after Russia's debt default in 1998, which precipitated a major shift in global demand away from risky assets.[1]

Other notable periods of elevated stress include 1985–86, when several small Canadian banks failed or underwent distressed mergers, the 1987 stock market crash, and the aftermath of the 11 September terrorist attacks.

1. For a more detailed discussion of notable episodes of financial stress, see Chant et al. (2003, 61–89).

Periods of calm

The threshold between relative calm and elevated stress is subjective. However, below the 75th percentile, few of the peaks in the FSI can be associated with significant financial events.

Recent movements in the FSI

Recently, the FSI has dipped into the bottom quartile of the historical distribution. This reflects the fact that the financial system has responded resiliently to recent shocks, including sharp movements in bond yields and elevated exchange rate volatility.

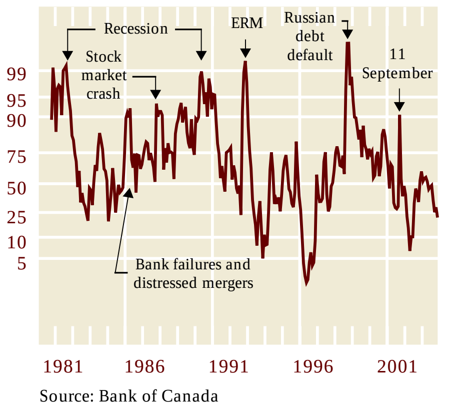
Indeed, the financial system's capacity to absorb shocks over the past several years, such as the collapse in high-tech share prices and record global corporate bond defaults, appears to be much greater than during previous economic and credit cycles.

Using the FSI

The financial stress index complements the many other tools that the Bank of Canada uses to assess whether financial conditions are improving or deteriorating. The specific level of the index has no direct implications for policy, and in no sense should the index be seen as a target.

Financial Stress Index for Canada

Percentile ranking

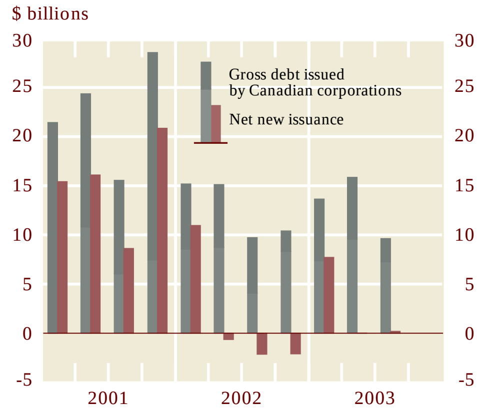


Source: Bank of Canada

hence, the supply of U.S. Treasuries placed upward pressure on yields.

Yield spreads between corporate and government debt have continued to fall in the second half of the year (Chart 44), as investors have demonstrated a greater willingness to bear credit risk. After a brief seasonal lull in borrowing activity during July and August, gross corporate bond issuance has picked up. Over the course of the year, issuance of Canadian-dollar bonds has remained relatively strong compared with that of U.S.-dollar bonds (Chart 45). Net issuance has been subdued, however, as firms access alternative sources of financing and continue to improve their balance sheets.

Chart 45 Corporate New Issuance



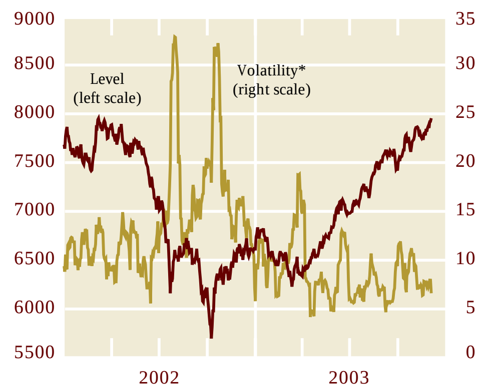
Source: Bank of Canada

Equity markets

North American equity markets have strengthened steadily over the course of 2003. Technology has been the strongest sector, while international indexes have also appreciated substantially. This appreciation has occurred in an environment of relatively low volatility, with volatility measures remaining below their longer-term averages (Chart 46).

Corporate earnings continue to support equity markets. Approximately two-thirds of U.S. firms in the S&P 500 exceeded consensus expectations for earnings in both the second and the third quarters. Profits for firms listed on the TSX increased strongly in the third quarter.

Chart 46 S&P/TSX Index Level and Volatility



* Ten-day annualized historical volatility
Source: Thomson Financial Datastream and Bank of Canada calculations

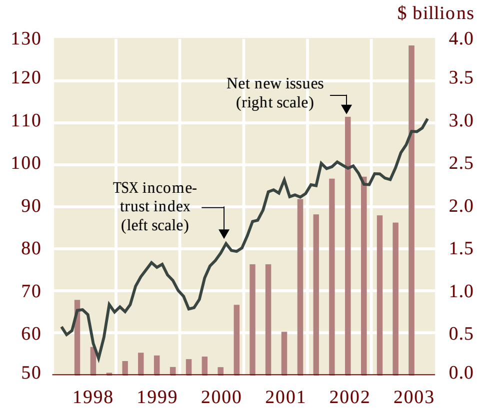
Box 5

Dynamic Hedging Strategies

Portfolios containing mortgages and mortgage-backed securities (MBS) must be frequently rebalanced because almost all mortgages written in the United States allow the payer the right to fully prepay the mortgage without penalty. This is analogous to the payer owning (being long) a call option on mortgage rates. If the payer is long on this option, then by definition, the mortgagee (or the holder of the MBS if the loan is securitized) is short the call option. Investors may wish to hedge this short position, otherwise their portfolios would be exposed to large and unpredictable shifts in duration.

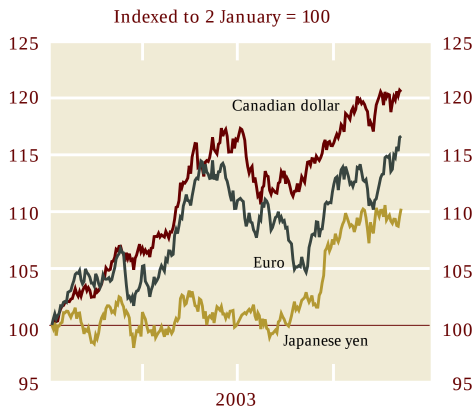
Thus, investors may undertake dynamic hedging. This entails holding a long position in an underlying security (typically a Treasury bond or interest rate swap) that offsets the sensitivity of the option to changes in the underlying interest rate (the *delta* of the option). This is known as *delta hedging*. Delta, however, changes as the underlying level of interest rates changes. As a result, the portfolio is properly hedged for only a short period of time and must be frequently rebalanced. This rebalancing entails increasing exposure as yields fall (having to buy bonds when their price rises), or decreasing exposure as yields rise (having to sell bonds when their prices fall). Since the rebalancing transactions involve purchases when prices are rising and sales when prices are falling, they have the potential to exacerbate sharp price changes in either direction.

Chart 47 Income Trusts



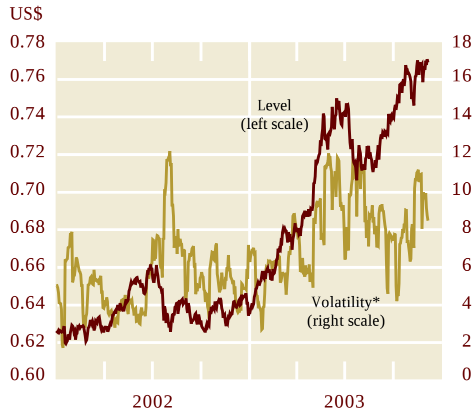
Source: Thomson Financial Datastream and Bank of Canada

Chart 48 Relative Performance of Currencies vs. the U.S. Dollar



Source: Thomson Financial Datastream

Chart 49 Exchange Rate (U.S./Can.) and Volatility



* Ten-day annualized historical volatility
Source: Thomson Financial Datastream and Bank of Canada calculations

The continued strong performance of equity markets has raised some concerns about valuation levels. While estimated forward price-earnings ratios for the TSX and the S&P 500 have risen in recent months, they remain at levels close to their long-run averages. Price-earnings ratios for the technology sector, however, are substantially higher, presenting the possibility of a correction.

Despite some concerns about valuations, and in certain cases reductions in distributions, the income-trust market in Canada has continued to expand (Chart 47), supported by increased interest from U.S. investors. The market has become an important source of financing for Canadian businesses.[15] Securities regulators have put forward proposals, however, to improve the disclosure related to new trust offerings.

Foreign exchange markets

A dominant feature in foreign exchange markets has been the broadly based weakening of the U.S. dollar (Chart 48). The decline in the value of the U.S. dollar since the summer has coincided with a shift in market focus away from U.S. economic recovery and towards concerns over the sustainability of global economic imbalances, including the U.S. current account deficit (especially in an environment of increased government borrowing). The Canadian dollar was supported by other factors as well, such as firm commodity prices and the smaller amount of excess capacity in the Canadian economy than in the U.S. economy. Volatility in the Canadian-U.S. exchange rate that arose from the uncertainty created by SARS and BSE has diminished (Chart 49).

The higher value of the Canadian dollar affects the financial system through several channels. It may adversely affect the profitability of corporations that have a substantial net exposure to foreign trade.[16] It will also affect the value of various financial assets and liabilities. For example, firms (including financial institutions) with net U.S.-dollar liabilities would benefit (e.g., through a decline in the Canadian-dollar value of debt), while those with net U.S.-dollar assets could be adversely affected. Some Canadian financial firms have reported an adverse impact on foreign earnings as a result of the

15. See article by King, on page 77 of this *Review*.
16. See Bank of Canada (2003, 24).

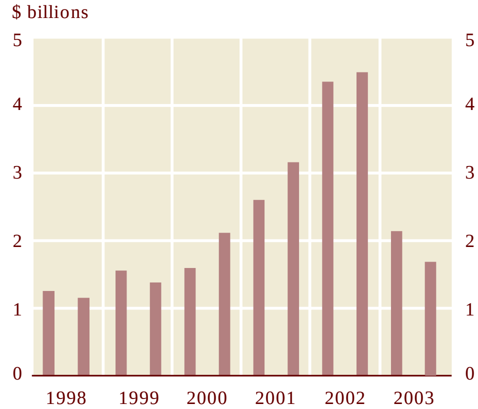
dollar's appreciation, but this has occurred within an environment of strong overall profitability. Canadian firms have generally reported strong profits in recent quarters.

Financial institutions

The Canadian banking system reported strong financial results in the second half of the fiscal year (ending 31 October). The major banks recorded an average return on equity of almost 20 per cent in the third quarter, declining somewhat in the fourth quarter.[17] Regulatory capital held by banks rose to record levels (12.8 per cent).

Bank profitability was aided by a reduced need to add to loan-loss provisions. After sharply increasing the pace at which they added to provisions over the last couple of years in the face of declining credit quality, new loss provisions fell to $3.8 billion in 2003 (Chart 50).

Chart 50 Provision for Credit Losses: Major Canadian Banks*



* Calculated from quarterly financial statements published by the six major Canadian banks
Source: Bank of Canada

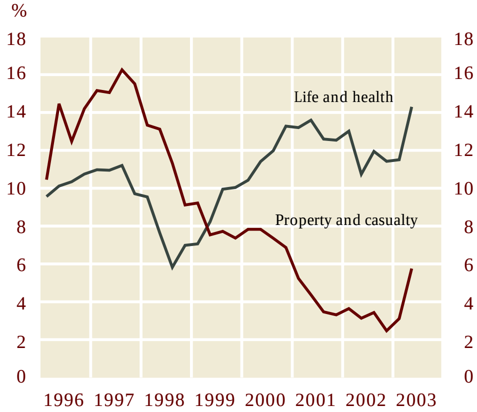
While banks have faced higher losses on their corporate loan exposures, retail banking has proved to be a relatively stable source of revenue. As a result, several banks have indicated that they are increasing the emphasis on their retail and wealth-management operations, while selectively reducing their corporate exposures.[18] Some banks are making substantial portions of their "non-core" corporate exposures available for sale on secondary markets and taking writedowns as they are revalued. Exposures to sectors that have experienced significant financial problems, such as telecommunications and cable, and power and power generation, have fallen.

Risks facing the banking system have declined, given the improved climate for credit quality. Uncertainty over the economic outlook, partly arising from the appreciation of the Canadian dollar, nevertheless raises the possibility of deteriorating financial conditions in some sectors to which the banks are exposed. However, their overall exposure to sectors that are likely to be most negatively affected by the dollar's appreciation (e.g., forest products, steel and other metal products, computer and electronic product

17. A one-time tax-related gain added substantially to third-quarter earnings at CIBC.
18. For further discussion of the Canadian banking system, see Highlighted Issues, page 4.

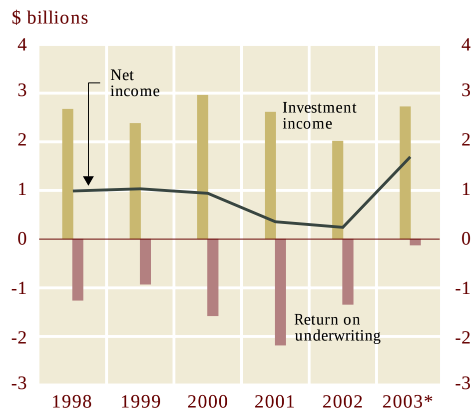
Chart 51 Return on Equity of Insurance Industry

4-quarter moving average



Source: OSFI and Bank of Canada calculations

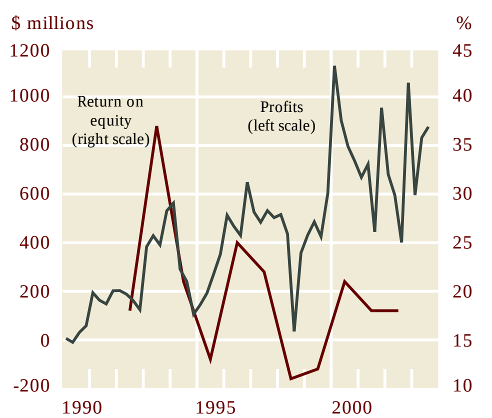
Chart 52 Net Income of Property and Casualty Industry



* First half annualized

Source: OSFI

Chart 53 Operating Profits: Securities Industry



Source: Investment Dealers Association of Canada

manufacturing, and motor vehicle parts) is relatively limited.

Financial results for the insurance industry, both life insurance companies and property and casualty companies, improved in the first half of 2003 (Chart 51). Life insurance companies in particular have posted favourable results during recent years. This has occurred despite their expansion into equity-based insurance products in the 1990s, and exposures to problem credits.

In September, Manulife Financial announced that it had reached agreement with U.S.-based John Hancock Financial to merge the two companies. If the required approvals are received, it is anticipated that the merger would occur in the first half of 2004. The merger would make Manulife the sixth-largest insurer (based on premiums) in the United States. The proposed merger follows that of two Canadian life insurance companies, Great West Lifeco and Canada Life, earlier this year.

The improvement in the profitability of property and casualty companies was from depressed levels. The industry has typically faced negative returns on insurance underwriting, which have been offset by investment income (Chart 52). However, rising underwriting losses (because rising claims were not fully offset by increased premium revenue) were accompanied by a decline in investment returns, such that net income fell sharply in 2001–02. The industry has moved to curb underwriting losses, partly through higher premium income.

The pace of increase in premiums has been contentious, as a number of businesses have identified rising insurance costs as a significant component in recent cost increases. Some provinces have proposed or undertaken initiatives with respect to the non-life insurance industry, generally with the objective of restraining increases in automobile insurance premiums. The longer-term impact of mandated changes in automobile premiums and limits on certain claims for the industry are not yet clear.

Operating profits in the securities industry, which have generally remained at historically high levels despite the earlier pullback in equity markets, rose in the second and third quarters (Chart 53). Revenues from investment banking activities have benefited from strength in (gross) corporate borrowings. The pace of common equity financings picked up in the second quarter (Chart 54), while the issuance of income trust units was at robust levels. Net sales of mutual funds have been slower to recover, as investors have apparently focused on other products, such as exchange-traded funds (ETFs) and income trusts. Outstanding debt in dealer-client margin accounts remains well below earlier peaks, suggesting that investors still remain cautious with respect to equity markets (Chart 55).

Clearing and settlement systems

Systems designed to clear and settle payments and other financial obligations are a key element underpinning the Canadian financial system (Box 6).

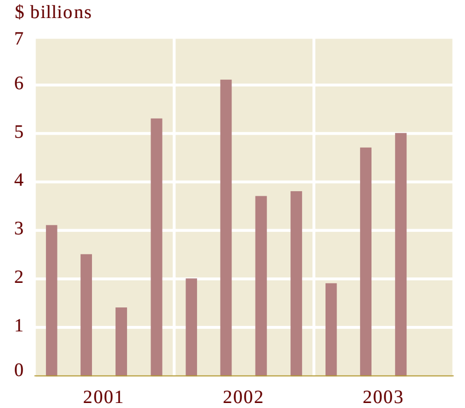
Recent developments

In July 2003, most equities that settled in the system called SSS/BBS were migrated to CDSX, the Canadian Depository for Securities' new settlement system, which began operating in March.[19] The migration of all remaining debt and equity issues in SSS/BBS to CDSX was finalized by the end of October, and SSS/BBS has now ceased settlement operations. CDSX now settles virtually all Canadian debt and equity instruments denominated in Canadian dollars. The migration to CDSX, which has strong risk controls, reduces risks previously associated with the settlement of instruments through SSS/BBS.

As of 1 November 2003, the Bank of Canada no longer backdates the results of the payments settling through the ACSS. Thus, the results of the ACSS settlement process will be recognized on the central bank's books when the items actually physically settle in the system, the day after the items are presented to be cleared. As a result, the clearing gains and losses of ACSS participants will no longer be reflected on the Bank of Canada's balance sheet in the form of deposits or advances on the day an item is cleared, but will appear on the balance sheet of the direct clearers as items in transit. Settlement risk does not change, but the reporting of this exposure is now on the financial statements of those who bear the risk.[20,21]

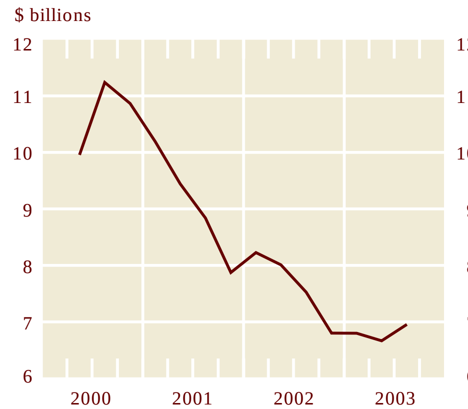
19. For more on CDSX, see McVanel (2003).
20. This change in the Bank's accounting does not affect the manner in which the Bank of Canada implements monetary policy.
21. For more on the move to next-day settlement in the ACSS, see Tuer (2003).

Chart 54 Common Equity Financing: New Issues



Source: Investment Dealers Association of Canada

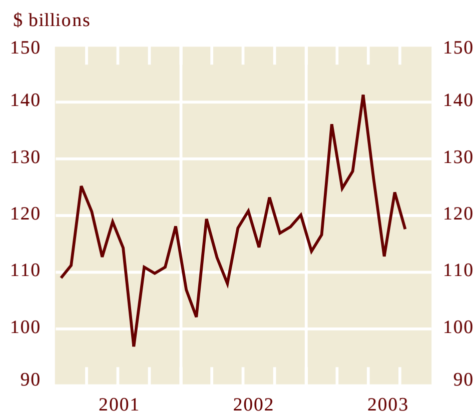
Chart 55 Outstanding Debt in Client Margin Accounts



Source: Investment Dealers Association of Canada

Chart 56 Value of Payments Processed by the LVTS

Average daily amount per month



Source: Canadian Payments Association

Box 6

Clearing and Settlement Systems in Canada

An essential component of the financial system is a robust set of arrangements to clear and settle payments and other financial obligations. Under the Payment Clearing and Settlement Act, the Bank of Canada designates, and has oversight responsibilities for, payment and other clearing and settlement systems that have the potential to pose systemic risk.

The Bank has designated and currently oversees the Large Value Transfer System (LVTS) for the exchange of large-value and time-sensitive payments, operated by the Canadian Payments Association, and CDSX for the clearing and settlement of Canadian debt and equity transactions, operated by the Canadian Depository for Securities. It has also designated and shares oversight responsibility with other central banks (including the U.S. Federal Reserve, the lead overseer) for the Continuous Linked Settlement Bank (CLS Bank). The CLS Bank is an international system for the settlement of foreign exchange transactions and currently deals in eleven currencies, including the Canadian dollar.

The Bank of Canada supplies services to the LVTS, CDSX, the CLS Bank, and the Automated Clearing Settlement System (ACSS), with the ACSS settling mostly smaller-value retail payments. The Bank provides settlement assets and liquidity, collateral and settlement-agent services, and also provides contingency arrangements for these settlement systems.

Chart 57 Value of Payments Processed by the ACSS

Average daily amount per month

Source: Canadian Payments Association

In August 2003, the six-month grace period for implementation of the $25 million cap on paper items clearing through the ACSS ended. This cap is intended to encourage the migration of these large payments to the LVTS, which has stronger risk controls (Chart 56). A survey taken during 2001 put daily flows of transactions in the ACSS exceeding $25 million at about $7 billion. In the September-October period, ACSS values had fallen by about $4 billion below their year-earlier levels, to an average of about $16 billion per day (Chart 57).

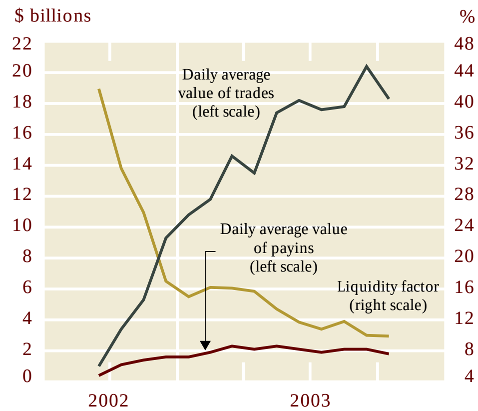
Four new currencies began settling through the CLS Bank in September 2003. These include the currencies of Sweden, Denmark, Norway, and Singapore. Settlement of foreign exchange trades through the CLS Bank in all currencies increased steadily to average about US$1 trillion per day through September and October. Canadian trades settled through the CLS have also grown to average about Can$19 billion per day over the same period, but the proportion of Canadian-dollar trades settled through the CLS remains at relatively low levels compared with other initial CLS currencies. The liquidity ratio (the ratio of the liquidity required to settle Canadian foreign exchange trades in the CLS, or "payins," divided by the value of trades settled) stands at about 10 per cent and is a measure of the liquidity savings generated by CLS settlement (Chart 58).

In June 2003, the board of the Canadian Payments Association approved a decision to move to Truncation and Electronic Cheque Presentment (TECP) with implementation targeted for late 2006. This will represent a fundamental change in the way that cheques are processed and cleared. With TECP, the electronic data image of cheques will be captured and forwarded to the relevant financial institutions, and the six million cheques and other paper items currently processed each day will no longer be physically exchanged. This will greatly increase efficiency in the cheque-processing system.

Overall, the impact of the 14 August power outage (and its continued effects in the days that followed) on the Canadian financial system was not severe. Business-continuity plans allowed clearing and settlement systems and their participants to respond well despite a few power-outage-related problems. When the power outage occurred, the CDSX settlement process had just begun, and settlement was delayed by about one hour, with no significant consequences for other clearing and settlement systems. On 15 August, the Bank of Canada responded to the increased demand for LVTS funds by financial institutions which arose from the uncertain effects of the blackout on their own operations and those of their clients. The target LVTS balance was increased to $1.1 billion from the $50 million announced the previous evening, and the Bank executed two rounds of Special Purchase and Resale Agreements. The Bank of Canada moved to its second site for more than a week following the outage, where operations were carried out successfully.

Chart 58 Value of Canadian-Dollar Foreign Exchange Trades Settled by the CLS Bank

Average daily amount per month



Source: Canadian Payments Association

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