BANK OF CANADA

Financial System Review

June 2004

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Bank of Canada
June 2004

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The material in this document is based on information available to ***26 May*** 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

- Stronger-than-expected global economic growth has significantly reduced global macrofinancial concerns.
- The Canadian financial system has benefited from an improved global economic outlook, continued favourable financing conditions, and ongoing efforts by corporations to strengthen their balance sheets.
- Rapid adjustment of financial asset prices worldwide cannot be ruled out, as markets respond to changing expectations regarding policy interest rates in several countries.

Economic forecasts of global growth in 2004 have been revised upwards significantly. In addition, favourable financing conditions and the efforts of firms to restructure their balance sheets have reduced financial vulnerabilities worldwide.

The strengthening performance of the global economy contributed to a substantial rise in corporate profits and share prices in 2003, improving the quality of firms' credit and increasing the willingness of investors to assume risk.

Over the past year, several factors have played a role in the significant increases in the prices of various financial assets. These increases were also highly correlated. This issue of the *Review* examines a possible reversal in these factors, including further changes in market expectations about increases in policy interest rates, especially in the United States. The analysis presented here suggests that, overall, economic fundamentals should continue to support the prices of financial assets globally. However, other factors, such as a reduction in leverage and risk tolerance, could put additional pressure on asset prices.

On balance, conditions in the Canadian financial system have improved since the autumn. The profitability of Canadian banks rebounded throughout 2003 and the beginning of this year. Improved risk management has allowed banks to sustain lower losses on loans than during previous business cycles. Other financial institutions also posted solid results.

Canadian banks have increasingly focused their activities in the retail market, including the mortgage market, which has also contributed to their financial success. New trends in the Canadian housing and mortgage markets are evaluated in this *Review*, especially in terms of the implications for housing prices, financial institutions, and financial stability. The analysis suggests that these trends pose only a minimal risk to the Canadian financial system.

Risks to the global financial system remain, however. In particular, the U.S. current account deficit, which is matched by corresponding imbalances elsewhere in the world, has increased since 1997. In the long term, these global imbalances will need to be resolved. The extent of the impact that these adjustments will have on the global financial system depends on its flexibility and on the soundness of macroeconomic policies.

Highlighted Issues

Two issues are discussed in this section: factors that are affecting the prices of financial assets worldwide and the structural features of the Canadian markets for housing and mortgage financing.

Factors affecting the prices of financial assets worldwide

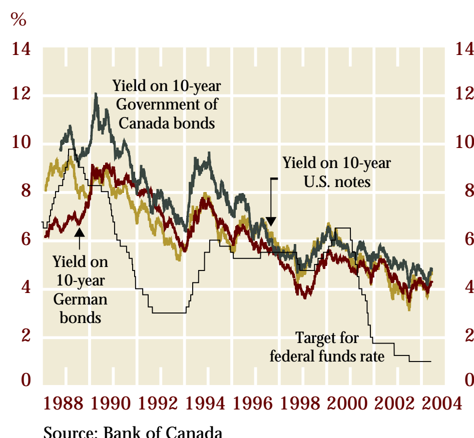
A set of favourable circumstances led to impressive gains in the prices of financial assets worldwide in 2003. Although these price movements have consolidated since the beginning of 2004, their strong correlation with each other in 2003 has raised concern about the risks of a similarly correlated reversal. In this section of the *Review,* we look at some of the factors that have been supporting global valuations and discuss their sustainability. The discussion suggests several reasons why the risk of a general reversal in these factors is limited. It also suggests, however, that investors should prepare for increases in policy rates and for the possibility of some further decline in asset prices. Indeed, since mid-April, prices for certain financial assets have already declined.

Ample global liquidity

In 2003, weakness in aggregate demand, low inflation, and accommodative monetary policy combined in most industrialized countries to help push yields on government securities to historic lows (Chart 1). This, in turn, contributed to a flow of funds into riskier assets, with higher perceived returns—notably, equities, corporate bonds, emerging-market debt, and real estate.

Global equity markets have appreciated by 20 to 30 per cent since March 2003 (Chart 2). Prices of corporate and emerging-market bonds have also risen markedly, resulting in much narrower yield spreads against government securities (Charts 3 and 4). In Canada and the United States, weighted average corporate spreads have declined by about 80 and 165 basis points, respectively, and now stand at roughly one-third of the highs recorded in October 2002. The spread compression has been most dramatic for the lowest-rated bonds. Spreads on emerging-market bonds, as measured by J.P. Morgan's Emerging Market Bond Index (EMBI+), have also fallen about 515 basis points from a recent peak in October 2002 and, as of late May, stand at about 510 basis points.

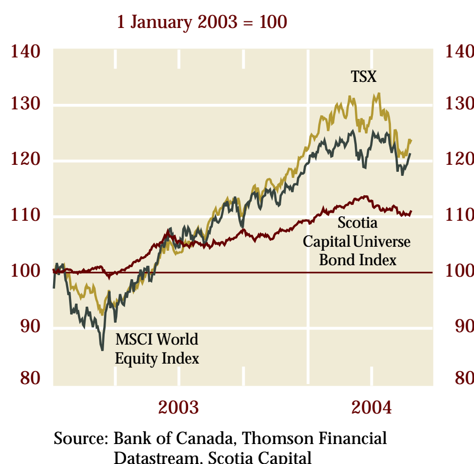
Chart 1 U.S. Policy Rate and Yields on Government Bonds



Source: Bank of Canada

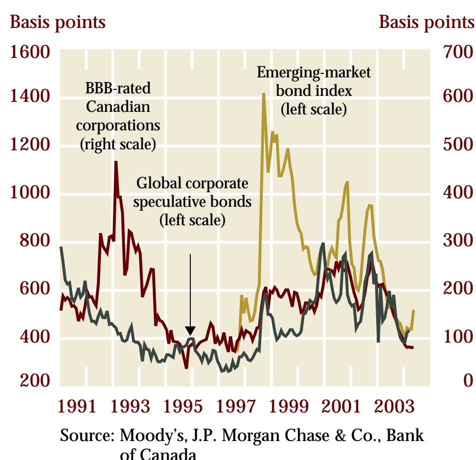
Chart 2 Price Indexes for Equities and Corporate Bonds

1 January 2003 = 100



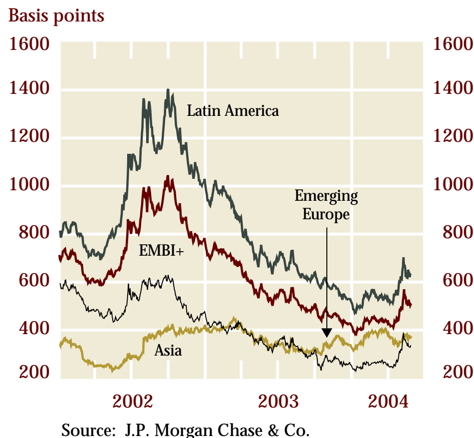
Source: Bank of Canada, Thomson Financial Datastream, Scotia Capital

Chart 3 Bond Spreads Relative to U.S. Treasuries



Source: Moody's, J.P. Morgan Chase & Co., Bank of Canada

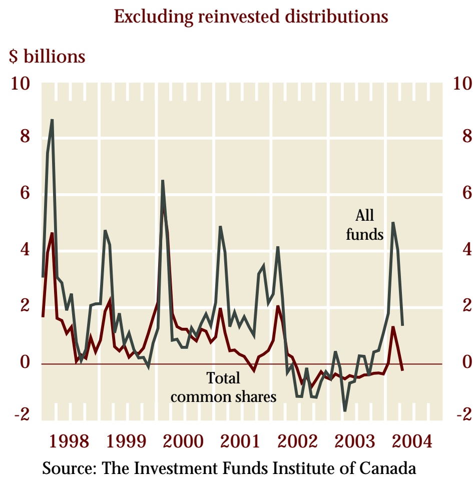
Chart 4 Sovereign Bond Spreads (EMBI+)



Source: J.P. Morgan Chase & Co.

Chart 5 Net New Sales of Mutual Funds in Canada

Excluding reinvested distributions



Source: The Investment Funds Institute of Canada

Strong demand for riskier assets

As indicated above, North American equity markets recorded impressive gains in 2003. (See Box 1 for an assessment of current equity markets against common valuation measures.) This performance has contributed to strong net inflows into mutual funds, including, more recently, equity funds (Charts 5 and 26). Retail investors appear to have renewed their interest in equities, and the impact on investor confidence of corporate scandals and the sharp downturn in the equity market of 2001 seems to have receded.

Across a range of global prices for financial assets, several measures indicate that investors were willing to bear more risk in 2003.[1] These measures suggest that there was a generalized increase in the demand for risky assets in 2003. As of April 2004, however, these measures indicate a reversal in investors' perception of risk.

Globally, net capital flows to emerging markets increased sharply in the final months of 2003. The Institute of International Finance expects a further increase in net flows in 2004, with the bulk of capital coming from private creditors. Commercial banks were net lenders to emerging-market countries in 2003 for the first time since 1997. This rise in net capital flows suggests increased investor appetite for risk. However, anecdotal evidence received since mid-April suggests that capital flows to emerging markets have turned negative. This may be related to a reduction in portfolio leverage and diminished investor tolerance for risk associated with upward revisions to expectations regarding U.S. interest rates.

Low supply of riskier assets

Although the gross issuance of high-yield U.S. corporate debt rose 120 per cent in 2003, reaching a near-record level of US$149.1 billion, it is estimated that 80 per cent of this was for refinancing purposes.[2] Canadian firms also moved aggressively to refinance their debts at lower costs. As a result, there was a record gap in 2003 between gross and net bond issuance as a

1. State Street, UBS, Deutsche Bank, J.P. Morgan, the IMF, and the BIS have all developed measures of risk appetite or aversion.
2. Estimate by J.P. Morgan. A record of US$150.8 billion was raised in 1998.

Box 1

North American Equity Valuations

Various methods are commonly used to assess whether stock markets are reasonably valued. (See Hannah 2000.) Price-earnings ratios, the dividend-discount model, and Tobin's Q are commonly used "rules of thumb." Each approach has its shortcomings, but valuable insight can be gained by comparing current measures with their historical averages.

Price-earnings ratios can be calculated from either actual or forward (12-month-ahead forecasts) earnings (Chart A). Large deviations from the mean typically generate increased scrutiny.

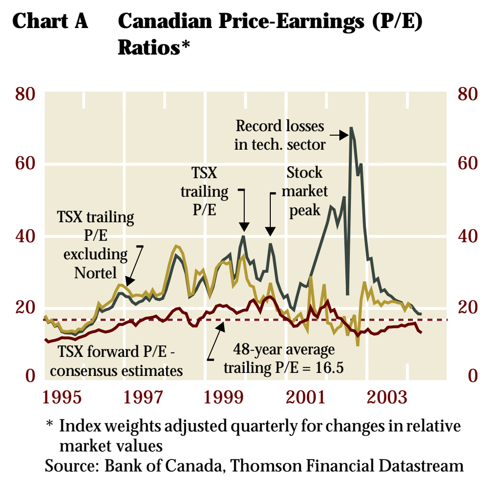
The dividend-discount model comes in many forms, all of which attempt to assess share-price valuations by deriving the flow of dividends that they imply. In its simplest form, the model yields the growth rate of dividends that, if sustained forever, would "validate" current share prices (Table A). If the implied long-run real growth rate of dividends is above the long-run growth rate of real GDP, then share-price valuations can be interpreted as unsustainable, since, by implication, dividends (and corporate profits) as a share of GDP would increase implausibly. The results are, however, sensitive to the assumed equity-risk premium. Although historically it has averaged around 3 per cent in Canada, some argue that the premium has diminished in recent years.[1] If correct, this would increase the sustainable level of share prices for a given future evolution of dividends.

Tobin's Q (Chart B) compares the value of the stock market with the net worth of firms at market prices. When Q is greater than one, firms can issue equity at a value that is higher than the replacement cost of their assets. This would imply either that stocks are overvalued or that the market is expecting higher growth in earnings from intangible assets (such as human capital or franchise value), or both.

All three of these simple measures suggest that North American stock valuations are similar to those seen in 1997, when corporate profits were also rising. In addition, price-earnings ratios are near or slightly above their historical averages, and the marginal cost of capital is roughly equal to its marginal return. The dividend-discount model, however, suggests that, unless the equity-risk premium is below its historical average, current North American equity markets embody a higher real dividend growth rate than should be expected, given long-run growth rates for real GDP.

1. Based on the historical difference between earnings yields and estimated long-run real interest rates.

Chart A Canadian Price-Earnings (P/E) Ratios*



* Index weights adjusted quarterly for changes in relative market values
Source: Bank of Canada, Thomson Financial Datastream

Table A

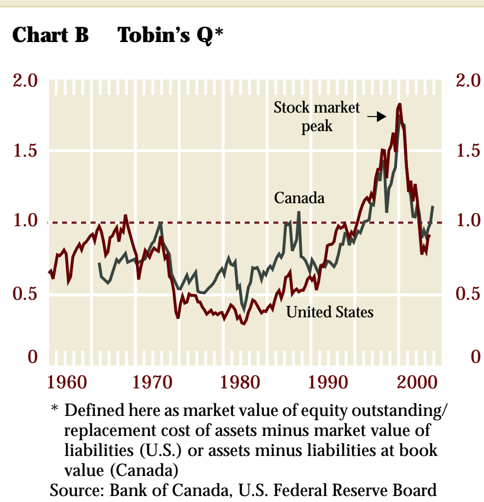
Dividend-Discount Model

Per cent

	Implied real long-run growth of dividends, assuming a risk premium of:				Real dividend growth	Equity-risk premium	Real GDP growth
	2%	3%	4%	6%	Historical average 1958–2003		
TSX March 2004	2.9	4.0	5.0	7.0	3.3	3.1[a]	3.6
TSX 1997 quarterly average	2.5	3.5	4.5	6.5			
United States S&P 500 March 2004	2.4	3.4	4.3	6.4	3.5	4.3	3.4

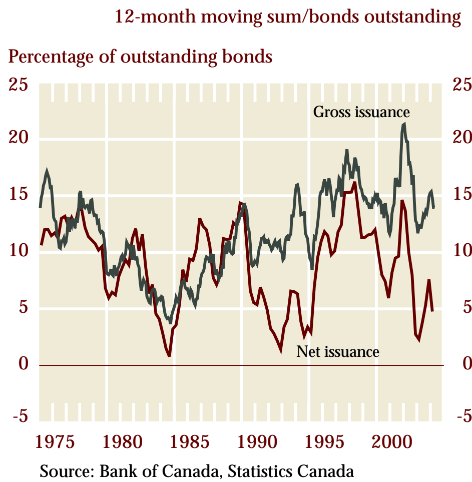
a. Calculated over the 1990–2003 period in light of data limitations

Chart B Tobin's Q*



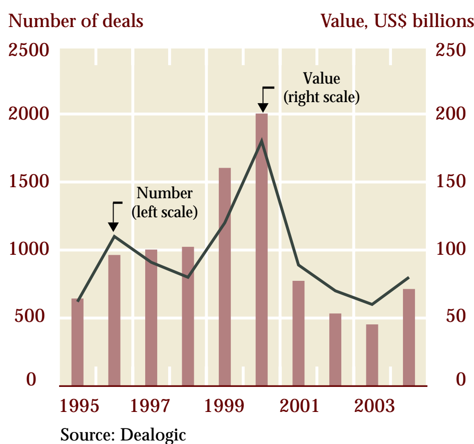
* Defined here as market value of equity outstanding/replacement cost of assets minus market value of liabilities (U.S.) or assets minus liabilities at book value (Canada)
Source: Bank of Canada, U.S. Federal Reserve Board

Chart 6 Issuance of Canadian Corporate Bonds



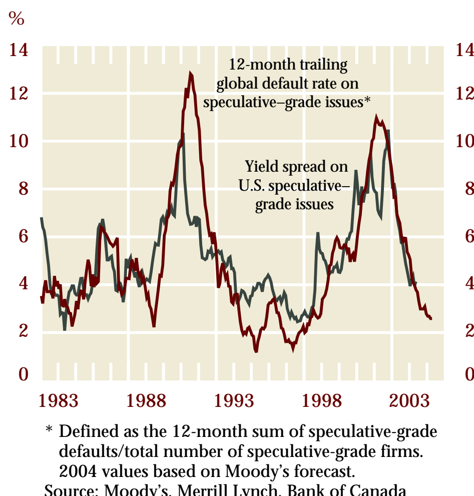
Source: Bank of Canada, Statistics Canada

Chart 7 Global Initial Public Offerings (IPO)



Source: Dealogic

Chart 8 Indicators for Corporate Bonds



* Defined as the 12-month sum of speculative-grade defaults/total number of speculative-grade firms. 2004 values based on Moody's forecast.
Source: Moody's, Merrill Lynch, Bank of Canada

percentage of outstanding Canadian corporate bonds (Chart 6).

Similarly, liability-management operations represented the majority of capital transactions by emerging markets in 2003, as governments took advantage of low interest rates. These operations were aimed at improving the structure of their domestic and external debt.[3]

Very recently, there are signs that the supply of higher-yielding riskier assets may be growing. Initial public offerings of equities have risen thus far in 2004, particularly in Asia (Chart 7). Net issuance of high-yield securities has also risen so far this year. Nonetheless, despite rising demand for riskier assets, global net bond and equity issuance reached a multi-year low in 2003, and is generally expected to remain moderate.

Diminished credit risk

The significant narrowing in corporate bond spreads in 2003 can also be attributed to a decline in perceived overall credit risk. Global default rates have fallen from almost 11 per cent in early 2002 to just over 5 per cent in early 2004, and are forecast by Moody's to fall below 3 per cent by the end of the year (Chart 8).

Several technical factors are also contributing to the expected decline in global credit risk. The significant number of defaults over the 2000–2002 credit cycle removed a large pool of speculative-grade borrowers from global bond-yield indexes, thus increasing the aggregate credit quality of the pool of issuers tracked by those indexes. In addition, Moody's estimates that U.S.-dollar-denominated corporate refunding requirements over the next three years will fall by approximately one-third, because several firms refinanced at favourable longer-term rates over the past year. (A reduction in refunding risk translates into a lower probability of default.)

Finally, the liquidity of the corporate bond market has improved considerably over the past several years, contributing to the more efficient pricing of credit risk. For instance, the annualized turnover in Canadian corporate bond markets now represents 32.5 per cent of outstanding

3. These activities included lengthening the maturity profile of the debt, obtaining the release of collateral, and reducing potentially volatile debt linked to either foreign exchange or short-term interest rates (IMF 2004).

bonds, and trading volumes are more than double their levels in 1998, a time when market illiquidity exacerbated the widening of spreads.

Fundamentals are improving

The broad-based compression in global bond spreads and the rise in equity prices through 2003 and into 2004 also reflect improved prospects for the global economy, emerging-market fundamentals, and strengthened corporate balance sheets and profitability.

In recent years, many emerging markets have adopted market-oriented macroeconomic policies.[4] The adoption of floating exchange rates, better debt-management strategies, and the lowering of inflation rates have put emerging markets in a better position to deal with adverse shocks. Current account surpluses and the accumulation of foreign exchange reserves in many countries have also reduced external vulnerabilities. This has helped over 50 per cent of sovereign emerging-market bond issues to receive an investment-grade rating, whereas only 10 per cent received such a rating in 1998, at the height of the financial crisis in emerging markets.

In the United States, strong gains in productivity have supported corporate profit margins. In 2003, Canadian corporate profits also rose 37 per cent from 2002. Profits as a share of GDP are now above their historical average (Chart 9). According to the May poll of market analysts by Thomson Financial, Canadian corporate earnings are expected to grow by a further 26.4 per cent in 2004.

Current risks

Despite the improvement in the global economy and in corporate fundamentals, risks for current asset valuations remain. First, the global economy continues to face risks from persisting global imbalances. (See p. 12 of this *Review*.) The adjustment process involved in reducing these imbalances is complex and could entail economic disruption. Second, heightened geopolitical uncertainties could also weigh on the prices of certain financial assets.

Third, owing to the strong correlation in price gains for riskier assets in 2003, there could be a strong, similarly correlated reversal. Such a reversal could be triggered, for example, by large upward revisions to expectations regarding policy interest rates. Such an unexpected increase could reduce the demand for riskier assets by those investors who are targeting notional returns. It would also erode the profitability of highly leveraged trades that were structured to take advantage of very low interest rates. The current environment of ample liquidity and low volatility has also allowed trading portfolios based on value-at-risk (VaR) capital thresholds to become increasingly leveraged. A general reduction of portfolio leverage, should it occur rapidly, would also lead to increased volatility.

The valuations of emerging-market debt have reversed this year in response to a change in expectations regarding the extent and timing of future policy tightening by the U.S. Federal Reserve (Chart 10). The reaction has been significant. Recent price movements may also be indicative of risks reminiscent of the sharp increase in Brady Bond spreads that occurred when the Fed began increasing policy rates in 1994 (Chart 11).[5,6] Spreads for most countries, however, remain below their long-term averages. Nevertheless, rising interest costs for certain emerging-market countries, such as Brazil, could make it more difficult for these countries to manage their debt obligations over the medium term.

Assessment of the factors that have been supporting global valuations suggests that several of them should continue to support the prices of global financial assets. The global economy is in the early stages of a cyclical expansion, and improving corporate fundamentals should help underpin asset valuations. The relatively low levels of net new corporate and equity issuance should also continue to support market valuations. Many emerging-market countries have also covered a large share of their borrowing needs for 2004.

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4. Examples include Chile and Mexico, where solid policies have been implemented for over a decade, and Russia, which has undertaken impressive structural reforms. More recently, Brazil has adopted tax and pension reforms that contribute to a better macroeconomic framework.

5. Brady Bonds are U.S.-dollar-denominated bonds issued by an emerging market and are collateralized by U.S. Treasury zero-coupon bonds.

6. More generally, however, experience suggests that a gradual rise in the cost of capital can occur without a major disruption in emerging-market financing, provided that investor tolerance for risk and market liquidity remain supportive.

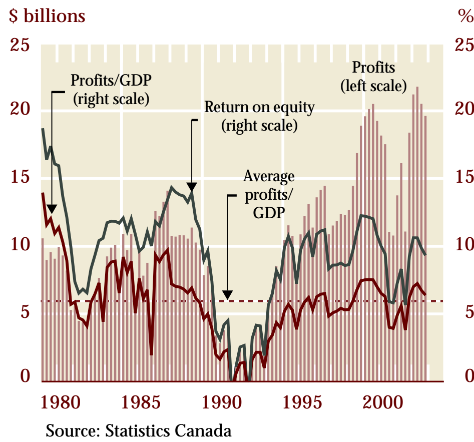


Chart 9 Profitability of the Canadian Non-Financial Sector

Source: Statistics Canada

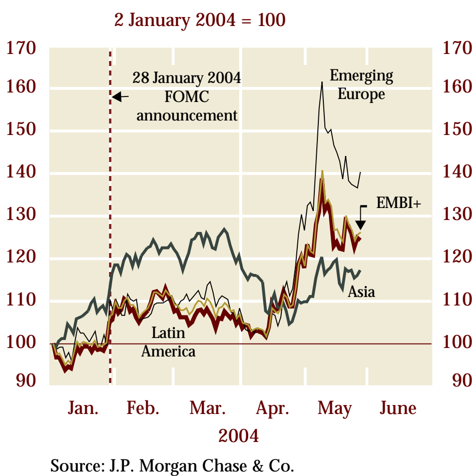


Chart 10 Sovereign Bond Spreads (Emerging-Market Bond Index +) Relative to U.S. Treasuries

Source: J.P. Morgan Chase & Co.

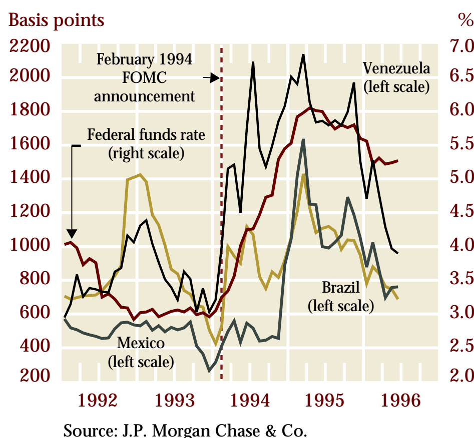


Chart 11 Spreads on Brady Bonds over U.S. Treasuries

Source: J.P. Morgan Chase & Co.

The assessment also suggests, however, that investors should prepare for the possibility of some further decline in financial asset prices. This could result from a potential reduction in investor leverage and risk tolerance associated with changes in expectations regarding increases in policy interest rates in several countries. In addition, investors should be aware that portfolio diversification may not be as beneficial as in the past if a correlated reduction in global asset prices were to occur.

Structural features of the Canadian housing and mortgage-financing markets

In this second Highlighted Issue, selected features of residential home financing are assessed with a view to drawing inferences about their implications for the efficiency and stability of the Canadian financial system. These assessments are made in light of recent Canadian developments and evidence from other countries of how such features can contribute to financial system risk.

These features can affect the financial system through various channels. First, with Canadian real estate assets accounting for 45 per cent of personal net worth (2003Q4), housing equity represents an important component of household net worth and thus influences investment and consumption decisions, as well as access to various sources of credit. Second, the introduction and growing popularity of financing options (such as variable-rate or high-ratio mortgages) may affect the dynamics of house prices. Third, the leveraged nature of the financial arrangements supporting transactions in the housing market can amplify the impact of changes in house prices on personal net worth. Fourth, residential mortgages are an important segment of the loan portfolios of many financial institutions.

Overall, the analysis presented below suggests that mortgage-lending practices are becoming increasingly flexible. At the current time, these developments are also found to support financial stability.

Only 54 per cent of homeowners, representing 37 per cent of households, have mortgages. Nevertheless, mortgage debt accounted for 61 per cent of total household debt in the fourth quarter of 2003. Residential mortgages

are also a key business line for financial institutions, for example, representing nearly half of the loan portfolio of chartered banks in Canada (Chart 12). Moreover, recent decisions announced by a number of major banks to focus on the retail sector suggest that residential mortgages will likely remain a strong component of their loan activity. One of the longer-term structural features supporting the growth of the residential mortgage sector has been the introduction, over the last 30 years, of innovative and flexible mortgage products (Table 1).

The choice of mortgage term and type can have important implications for the financial condition of households and for the dynamics of the housing market. For example, in the case of variable-rate and short-term mortgages, changes in interest rates have an immediate impact on the obligations associated with the loans, thereby affecting the affordability of and demand for housing, as well as the credit risk associated with mortgage loans for financial institutions. While variable-rate mortgages can enhance housing affordability and demand on average, they can also increase the sensitivity of households' overall debt-service burden to changes in interest rates.

Many homeowners, particularly first-time buyers, prefer the security of a fixed-rate mortgage. Currently, 59 per cent of all (fixed- and variable-rate) mortgages have 5-year terms (Chart 13).[7] Nonetheless, a noteworthy recent trend in the current low and stable interest rate environment has been the growing popularity of variable-rate mortgages. These now account for 21 per cent of all residential mortgages (Chart 14).

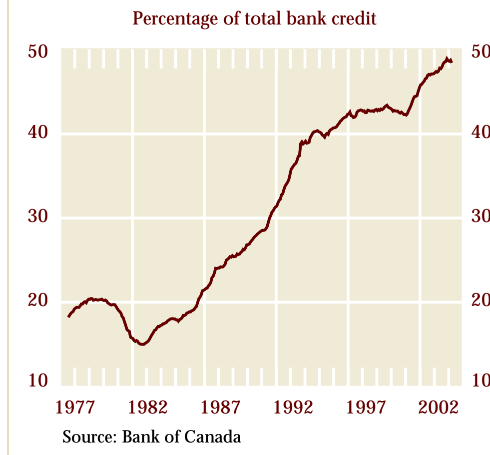
Another important way that mortgage lending practices can interact with the financial system and with house-price dynamics is through the willingness of households to incur, and lenders to finance, higher leverage. In aggregate, the credit exposures that can result from higher loan-to-value ratios have the potential to stimulate the housing market, as well as to increase credit risk in the event of a deterioration in the housing market or in debt-service capacity.

The Bank Act (c. 46, s. 418) allows banks to extend conventional mortgages up to 75 per cent of the value of a residential property. When less

7. See Montplaisir (1996–97) for an examination of the maturity structure of the Canadian household sector's balance sheet.

Chart 12 Chartered Bank Residential Mortgage Credit

Percentage of total bank credit



Source: Bank of Canada

Table 1

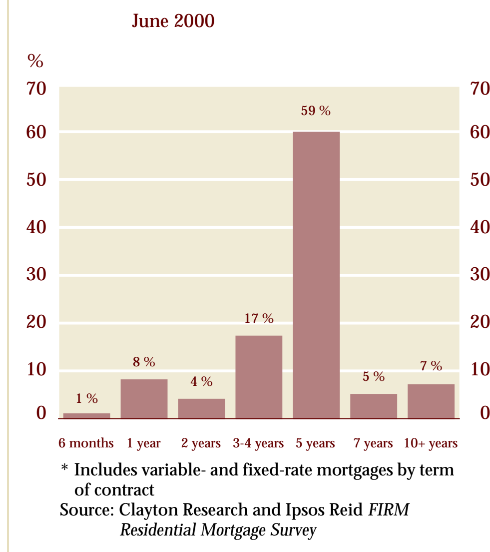
Mortgage Characteristics

Characteristic	Early- to mid- 1970s	2000–2004
Terms and rates	Predominantly five-year closed mortgages	Closed, open, and convertible mortgages. Variable-rate, multi-rate, or fixed-rate mortgages. 6-month, 1-, 2-, 3-, 4-, 5-, 7-, and 10-year mortgages.
Rates and incentives	Posted rates	Discounted mortgage rates Incentives including cash-back
Payment options	Monthly payments only	Monthly, biweekly, weekly, and accelerated payment options
Portability	Not available	No charges with portable mortgages
Prepayment provisions	No prepayment allowed	Some prepayment provisions

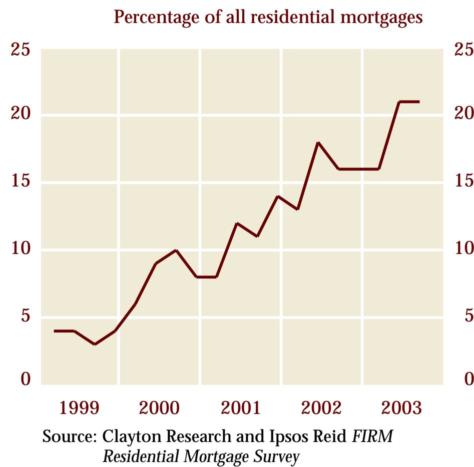
Source: Canadian Bankers Association

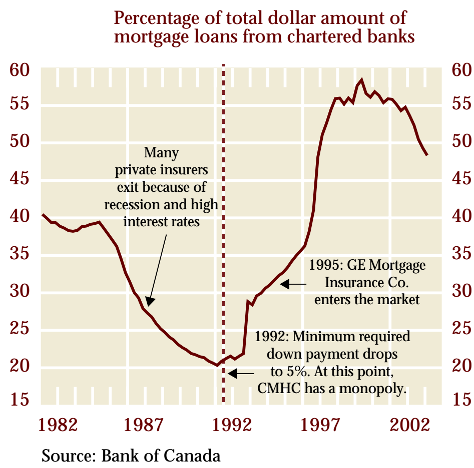
Chart 13 Original Mortgage Term*: Canada

June 2000



* Includes variable- and fixed-rate mortgages by term of contract
Source: Clayton Research and Ipsos Reid *FIRM Residential Mortgage Survey*





than 25 per cent of the value of the property is provided as a down payment, the Bank Act requires this amount of the mortgage to be insured to protect the lender against borrower default. In practice, however, mortgage insurers insure the total amount of the mortgage in these circumstances. The rise in insured mortgages during the 1990s illustrates the popularity of these "high-ratio" mortgages. It also shows the increased access to mortgage financing that followed the decrease in the required minimum down payment from 10 to 5 per cent in 1992 (Chart 15). Mortgage insurers in Canada have recently broadened the eligible sources of funds for the minimum down payment for selected borrowers to include borrowed funds. It is still too early to assess what impact, if any, the introduction of this feature will have on housing-market leverage or house-price dynamics.

The increasing number of insured mortgages has been supported by the introduction of Mortgage-Backed Securities issued under the National Housing Act (NHA MBS), which are guaranteed by the Government of Canada. Outstanding NHA MBS more than tripled between 1998 and 2003. They have widened the funding sources available to institutions extending mortgages and, as of December 2003, represent 10.6 per cent of mortgage balances.[8]

The trends towards variable-rate and high-ratio mortgages, together with the mortgage characteristics in Table 1, have increased the range of financing options available to households. Although some of these instruments could also, in principle, increase the financial vulnerability of some households, raise the potential amplitude of cyclical peaks and troughs in house prices, and heighten the credit risk facing mortgage lenders, these risks appear to be reduced by Canada's generally conservative mortgage-credit culture. This is partly illustrated by the proportion of variable-rate mortgages in Canada, which is well below that in many industrialized countries, including the United Kingdom and Australia. Canada's regulatory infrastructure further diminishes these risks. Overall, the Bank for International Settlements characterizes Canada as among the group of countries with mortgage-

8. Since mortgage-prepayment options in Canada are limited, and since most mortgages have a term of five years or less, the risk of prepayment to investors and issuers of MBS is smaller than in the United States.

lending practices most conducive to financial stability.[9]

The Macrofinancial Environment

Global economic growth has been stronger than expected in recent months. Although risks remain, there is increasing evidence that the global recovery is proceeding at a solid pace. Macroprudential concerns have consequently been significantly reduced since the autumn of 2003.

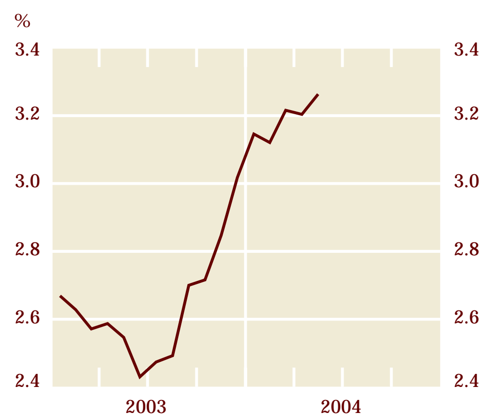
Global environment

Consensus projections for economic growth in 2004 in the industrialized economies have been steadily revised upwards since the middle of last year (Chart 16). This reflects large upward revisions to growth expectations for Japan, the United States, and the United Kingdom. Expectations for growth in the euro area have remained basically unchanged. This greater economic strength, continued favourable financing conditions, and ongoing efforts by corporations to strengthen their balance sheets have led to a reduction in financial stress. This is reflected in the marked decrease in global default rates last year (Charts 8 and 17). The global default rate for speculative corporate issuers, as measured by Standard & Poor's 12-month rolling average, fell to 4.7 per cent in December 2003 and to 3.5 per cent in April 2004 from 9.5 per cent at the end of 2002. The current rate is now well below the average of 5.3 per cent since 1981.

Global imbalances

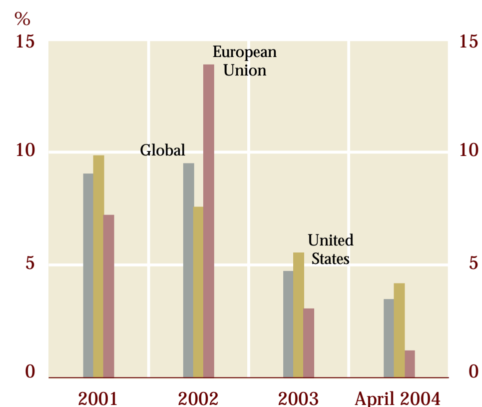
Although prospects for global economic growth have improved markedly, uncertainties remain. A key risk continues to be the persistence of U.S. external imbalances, which mirror external imbalances elsewhere, especially in Asia (Chart 18). Various policy or structural changes are desirable to facilitate the reduction of these imbalances. Such changes would also contribute to the internal economic stability of the countries concerned.

Chart 16 Evolution of Consensus Estimates for Annual Growth of Industrialized Economies in 2004*



* North America, Western Europe, and Japan
Source: Consensus Economics and Bank of Canada calculations

Chart 17 Default Rates on Speculative-Grade Bonds



Source: Standard & Poor's

9. Tsatsaronis and Zhu (2004). This assessment was based on the prevalence of features that have been found to contribute to variability and with short-run dynamics of housing prices.

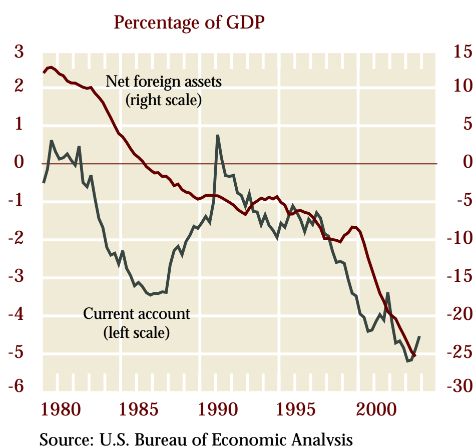


Chart 18 External Balance: United States

Source: U.S. Bureau of Economic Analysis

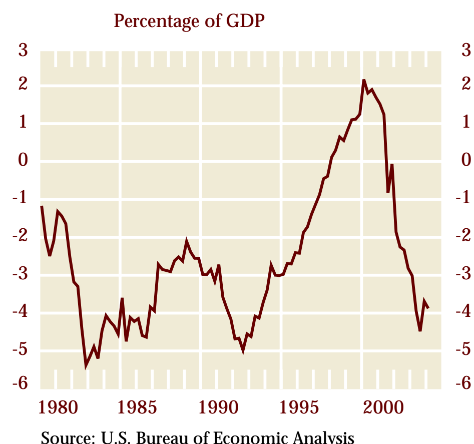


Chart 19 U.S. Federal Government Net Savings

Source: U.S. Bureau of Economic Analysis

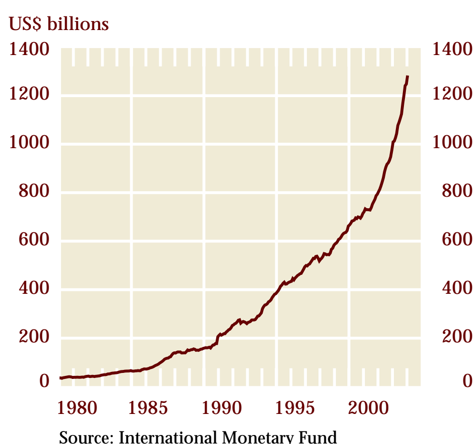


Chart 20 Currency Reserves: Emerging Asia

Source: International Monetary Fund

In the United States, fiscal restraint would reduce the demand for external savings and would contribute to the adjustment in the current account (Chart 19). Structural reforms that would increase the rate of potential growth in Europe and Japan could also help to raise the demand for U.S. goods and services. Part of the required adjustment is a change in real exchange rates to bring about a reduction in the relative prices of U.S. goods and services with respect to those in other countries, especially in Asia. Such an exchange rate adjustment would be facilitated if most emerging markets in Asia were to moderate their policies on foreign exchange intervention to allow for greater flexibility in their exchange rates (Chart 20). This would also help to alleviate some of the risks raised by such policies for the internal economic stability of these countries. (See Box 2.)

The resulting change in the composition of growth within countries, as well as the real exchange rate changes that it implies, pose risks, especially in the adjustment period. It will also entail economic disruption as resources move from export-oriented to domestic-oriented sectors in countries whose currencies are appreciating, and vice versa in the United States. Overall, the adjustment process involved is likely to be complex and could affect the global financial system through several channels, including changes in exchange rates and potential changes in the prices of financial assets. The extent of the impact will depend on the flexibility of the financial system and on the type of macroeconomic policies adopted.

Other potential risks in the global economy

In light of the evidence of a solid global recovery, the current accommodative policy rates in many countries will need to become less stimulative over time. Higher interest rates (particularly in the United States) could, in turn, negatively affect corporate and emerging-market borrowers through a higher cost of capital. (See Highlighted Issues on page 8 of this *Review* for further discussion of this risk.) Higher interest rates might also weigh on the housing and equity markets, thus affecting household balance sheets.

Household spending in the United States and in certain other countries has contributed significantly to the current global recovery. In many countries, however, household debt increased substantially in recent years and now stands at

Box 2

The Growth of Foreign Exchange Reserves in the Emerging-Market Economies of Asia

Trends

Foreign exchange reserves held by emerging-market economies (EMEs) in Asia have ballooned over the past decade (Chart 20). This is the case for countries with exchange rate regimes that are managed floats, as well as for those with fixed exchange rates. By the end of 2003, the region's foreign exchange reserves, excluding gold, had risen to approximately US$1,300 billion from US$370 billion at the end of 1995. China alone had accumulated US$400 billion in reserves. This box examines the implications of this policy for financial and economic stability in these countries, which are already coping with excess demand. The growth of these holdings can affect the performance of these economies, which in turn, can affect Canada by way of commodity prices or other channels.

Considerations

The desire of the Asian authorities to accumulate such sizable reserves stems partly from their wish to safeguard against financial crises. Indeed, in light of the steady succession of financial crises in recent years, accumulating reserves by running large current account surpluses may reflect a greater aversion to risk.[1] The sheer volume of the reserves, however, suggests that other factors may have played a role.[2] One explanation can be found in efforts by the region's central banks, particularly China's, to contain the appreciation of their nominal exchange rates or to avoid revaluations of their currencies against the U.S. dollar.[3] China's reluctance to detach its currency from the U.S. dollar undoubtedly stems from a desire for stability and continuity. Although China weathered the 1997 Asian crisis quite well, that was probably partly because of the relatively closed nature of its capital account, with capital controls sheltering the economy from sudden reversals in capital flows.[4]

Consequences

The accumulation of reserves cannot continue indefinitely without affecting domestic economies. In particular, the ability to effectively neutralize the impact of such reserves on the money supply is limited. The more that authorities resist market pressures for an appreciation of their currency, the more they expose themselves to the risk of being unable to control the expansion of the money supply and of credit. This, in turn, can provoke a cycle of overheating and recession. In the absence of adequate instruments to monitor and control credit, there is a real risk of financial bubbles or an increase in bad loans.

Even though China possesses a vast reservoir of inexpensive labour, pressures will eventually affect the prices of other resources, such as land and skilled labour. Indeed, inflation has recently been rising in China. The real exchange rate will adjust eventually, either through an increase in the nominal exchange rate or through an acceleration in domestic inflation. Moreover, bank credit is rapidly expanding, giving rise to excessive investment in some sectors. This could exacerbate the difficulties that Chinese banks are already experiencing with unproductive loans. Authorities there are aware of the risks that this would entail, and consequently, they increased the reserve ratios of commercial banks last summer and recently initiated additional measures to tighten credit.

Conclusion

The ongoing accumulation of foreign exchange reserves in the emerging-market economies of Asia presents two types of risk to financial stability. First, it could provoke financial instability by increasing the amount of unproductive bank loans, which is already high. Second, it could increase domestic financial instability by leading to high and variable inflation. Introducing gradual flexibility into the exchange rate would help to mitigate these risks.

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1. Asian EMEs posted current account surpluses equivalent to 4 per cent of GDP in 2003.
2. A recent IMF study concludes that the foreign exchange reserves accumulated in the region since 2002 are significantly higher than would be required as a precautionary measure (IMF 2003).
3. The analysis presented pertains to China but is generally applicable to other Asian EMEs.
4. See Box 2 on page 14 of the December 2003 *Review.*

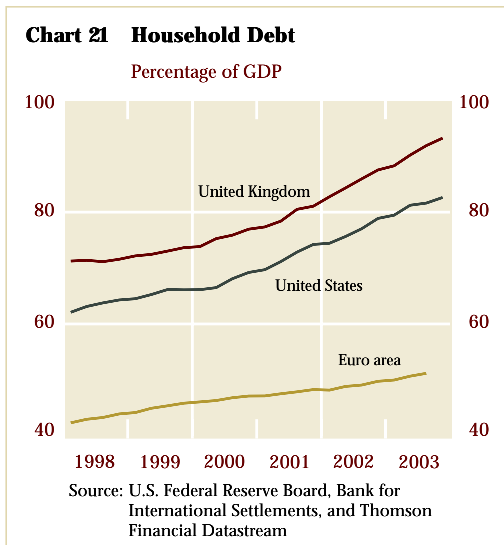


Chart 21 Household Debt

Source: U.S. Federal Reserve Board, Bank for International Settlements, and Thomson Financial Datastream

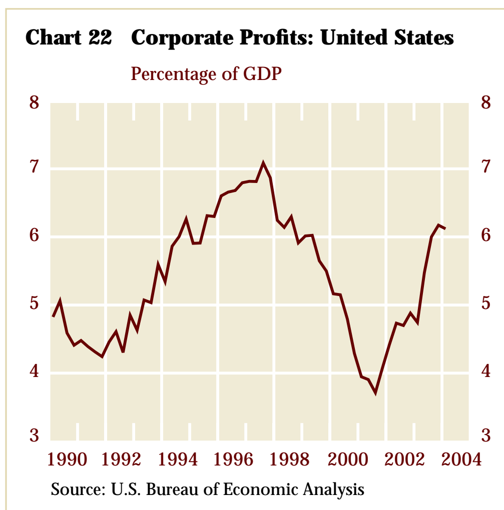


Chart 22 Corporate Profits: United States

Source: U.S. Bureau of Economic Analysis

an elevated level (Chart 21). Mortgage debt represents the largest share of household liabilities. This higher household indebtedness should be seen against the background of rising household net wealth boosted by higher prices for houses and other assets. Nevertheless, in some countries, the higher level of indebtedness has increased the vulnerability of households to variations in interest rates, income, and asset prices. This could be the case in the United Kingdom, where a large portion of mortgage contracts carry a variable interest rate and where concerns have been voiced about the sustainability of the strength of the housing market. On the other hand, the financial conditions of the household sectors in the United States and the euro area raise fewer concerns. As well, inflation rates are at relatively low levels in these areas, mitigating the risk of substantially higher interest rates. If central banks remain successful in keeping inflation low, stable, and predictable, debt-servicing costs are unlikely to reach the highs recorded in the past.

A number of corporations remain highly indebted, and some continue to face a drain on financial resources from underfunded pension plans.[10] However, business profitability has generally improved, given cost reductions, productivity gains, and the positive effects on earnings resulting from the global recovery. Indeed, profits as a share of GDP in the United States stand well above the averge since 1990 (Chart 22). In Japan, the number of business failures has declined by 33 per cent from its high in October of 2001. In the euro area, the situation appears less certain, however, owing to the slower pace of the economic recovery. In addition, the debt of non-financial corporations in the euro area, as a percentage of GDP, is high at about 62 per cent, a level comparable to that in the early 1980s.

Nevertheless, the financial systems in most major countries generally appear able to withstand significant adverse shocks. Stress tests carried out by the IMF for the U.K. and German banking sectors point to the resilience of these countries' financial systems (Deutsche Bundesbank 2003; Hoggarth and Whitley 2003). In aggregate, the banks possessed sufficient capital to

10. See Box 3 on page 19 of the December 2003 *Review* for a discussion of developments in global pension funds and Standard & Poor's (2004).

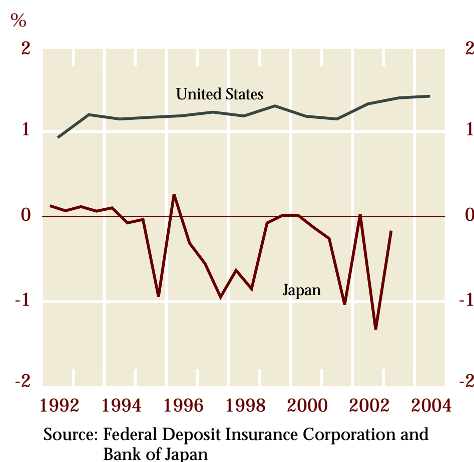
cushion the losses assumed in the stress tests. This likely continues to be true today. In the United States, bank profitability, as measured by the return on assets, is at an historic high (Chart 23). The banking sectors in some other countries remain fragile, however. In Japan, although bank profitability, as measured by the return on assets, improved in the first half of fiscal 2003, it nevertheless remains slightly below zero. Non-performing loans in Japan have also declined from the peak reached in the first half of 2002, but still represented about 7 per cent of total loans as of September 2003. China's state-owned banking system appears insolvent, according to some experts (Lardy 1998), with estimates for non-performing loans ranging between 25 and 40 per cent of total loans. These countries have, however, taken measures to improve the health of their banking systems. In Japan, for example, many banks have been placed on credit watch with positive implications.

Government-sponsored enterprises

Concerns about the adequacy of the regulatory oversight of U.S. housing-related government-sponsored enterprises (GSEs), as well as the appropriateness of their implicit government guarantee, have recently resurfaced and been voiced by policy-makers in the United States. Given the complexity and the leveraged nature of GSE balance sheets, these institutions may not be fully covered against various financial risks. (See Chart 24 for an assessment of the sensitivity of these institutions to one form of financial risk.) Should a financial risk materialize against which the GSEs are not well protected, the U.S. financial system could face problems given the size of GSE balance sheets (Chart 25).

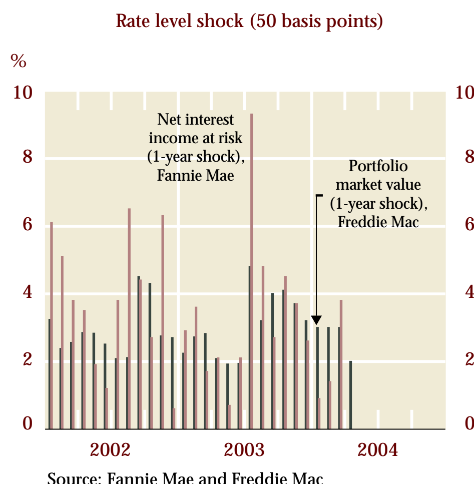
A bill seeking to change the regulatory oversight of these enterprises was again recently proposed by Congress. A key feature of this bill was the transfer of oversight of Fannie Mae and Freddie Mac from the Office of Federal Housing Enterprise Oversight to a new division in the U.S. Treasury.[11] This bill was, however, not signed into law. The U.S. government is currently

Chart 23 Banks' Return on Assets



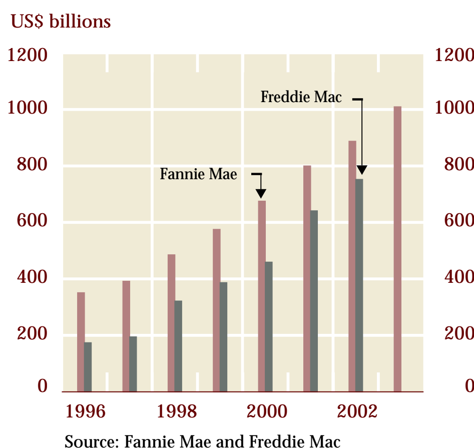
Source: Federal Deposit Insurance Corporation and Bank of Japan

Chart 24 Sensitivity to Interest Rate Risk: Fannie Mae and Freddie Mac



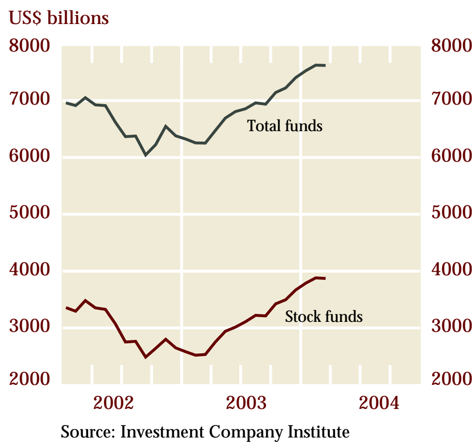
Source: Fannie Mae and Freddie Mac

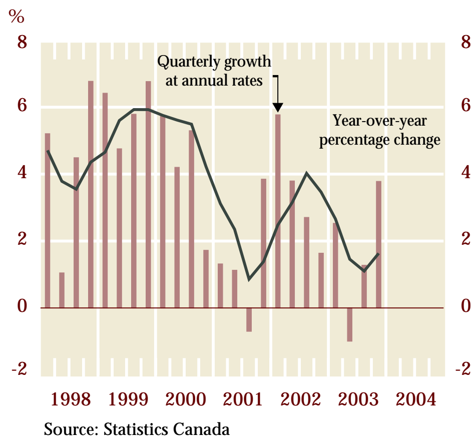
Chart 25 Total Assets: Fannie Mae and Freddie Mac



Source: Fannie Mae and Freddie Mac

11. Fannie Mae and Freddie Mac are congressionally chartered companies owned by private shareholders. They acquire home mortgages from the lenders that initially extended credit and aim to help low- and moderate-income Americans purchase homes.





looking into various means available under the current legislative framework to increase regulatory oversight of these enterprises. Federal Reserve Chairman Greenspan has also expressed support for increasing the regulatory oversight of these institutions and has argued for the effective removal of the implicit government guarantee from which these institutions are perceived to benefit (Greenspan 2004).

Mutual fund industry

Several instances of improper and/or illegal practices (*late trading* and *market timing*) were uncovered in the mutual fund industry in 2003. Although the scandal centred in the US$7.1 trillion mutual fund industry, many of the issues identified are also relevant in other jurisdictions. The practices uncovered resulted in reduced returns to most fund investors, in whose best interest the fund company is supposed to act. Another set of issues relate to inappropriate fee disclosure by sellers of mutual funds. These issues have prompted regulatory responses in the United States. In Canada, regulators are investigating mutual fund practices.

Strong net inflows into U.S. and Canadian mutual funds since these practices were uncovered suggest that the regulatory response and rising valuations were effective at maintaining investor confidence and preventing outflows from the mutual fund industry (Chart 26). Such outflows could have proven disruptive to financial markets.

Canadian Developments

Canadian economy

Aggregate output in Canada, after little change between the first and third quarters of 2003, rebounded towards year-end (Chart 27). In 2004, economic growth is expected to come primarily from private domestic demand, supported by monetary stimulus and by solid household and business confidence. The expected boost to Canadian exports from the improvement in global economic conditions will be dampened by the 2003 appreciation of the Canadian dollar.

Households

The financial health of Canadian households is increasingly important to the banking sector in light of the greater emphasis placed by Canadian

banks on retail lending. Overall, the risks relating to household credit quality are relatively low.[12]

Household indebtedness, measured by the ratio of debt to disposable income, has continued to rise, reaching a record high of 118 per cent. However, the higher level of household assets has kept the total household debt-to-asset ratio from rising significantly (Chart 28). The cost of servicing these higher levels of indebtedness has also remained near historic lows, owing to low consumer and mortgage interest rates (Chart 29). Although personal bankruptcies and the rate of credit card delinquency increased slightly in 2003, they have remained relatively stable since the mid-1990s. Residential mortgage arrears have remained low (Chart 30). In the fourth quarter of 2003, the savings rate fell to 1.5 per cent from 3.2 per cent a year earlier. While this rate is extremely low, wealth-adjusted savings, which account for increases in wealth arising from higher housing and other asset valuations, remain relatively stable.

Corporate sector

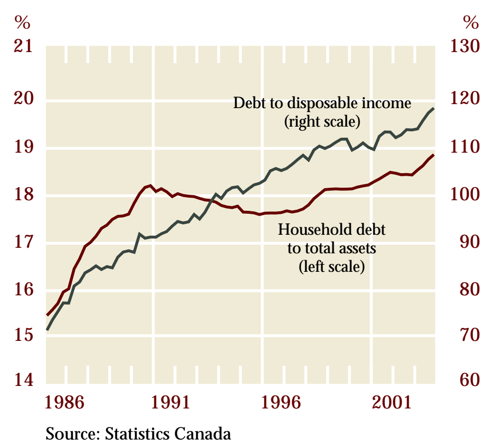
The financial position of the non-financial corporate sector improved through 2003. The aggregate debt-to-equity ratio fell further (Chart 31), and profitability remained strong. This has contributed, in part, to the improved confidence of firms since the third quarter of 2003 (Chart 32).

Corporate credit quality has also continued to stabilize since December 2003, though there was a slight increase in the number of companies downgraded by Standard & Poor's. Overall for 2003, Moody's ratio of downgrades to upgrades for financial corporations remained above one, but declined from a 9-year high of 6.4 in 2002 to 2.0 (Chart 33), and fell further to 1.0 in the first quarter of 2004.

The 16 per cent real appreciation of the Canadian dollar relative to the U.S. dollar in 2003 is, however, expected to weigh on corporate profits in 2004. To date, the impact of the appreciation of the Canadian dollar on corporate profits has been limited mainly to certain sectors with a strong net export orientation. (See Box 3.)

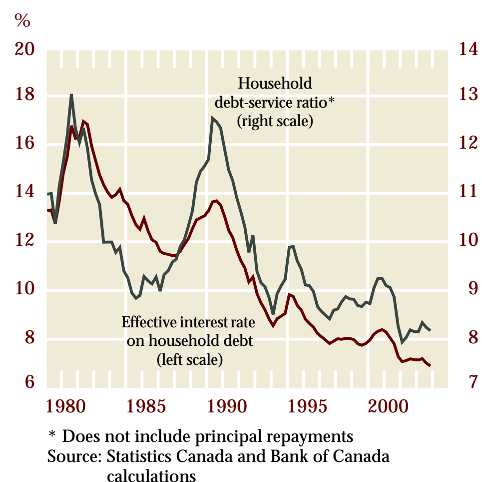
12. See the December 2003 *Financial System Review* for a detailed discussion of the health of the Canadian household sector. (Also, see p. 9 for a discussion of structural features of the housing and mortgage markets.)

Chart 28 Financial Situation of Canadian Households



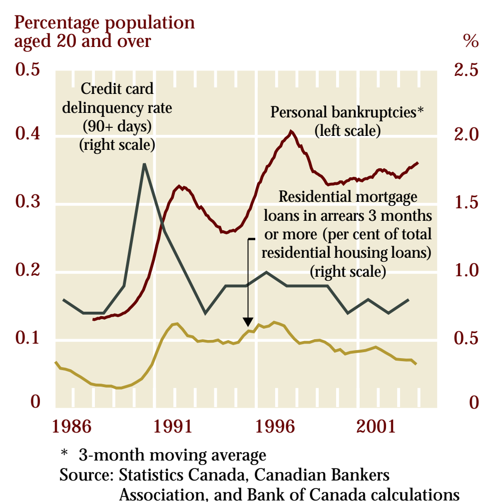
Source: Statistics Canada

Chart 29 Household Sector Debt



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

Chart 30 Canadian Financial Indicators



* 3-month moving average
Source: Statistics Canada, Canadian Bankers Association, and Bank of Canada calculations

Chart 31 Financial Position of the Canadian Non-Financial Corporate Sector

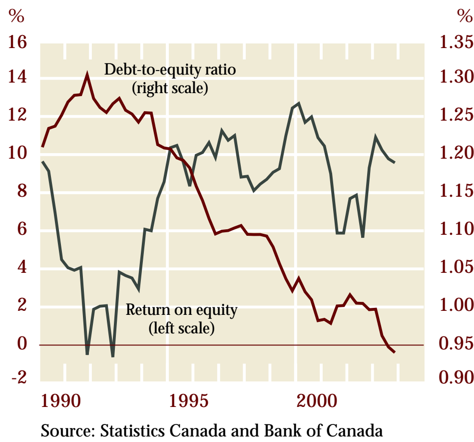


Chart 32 Canadian Business Confidence

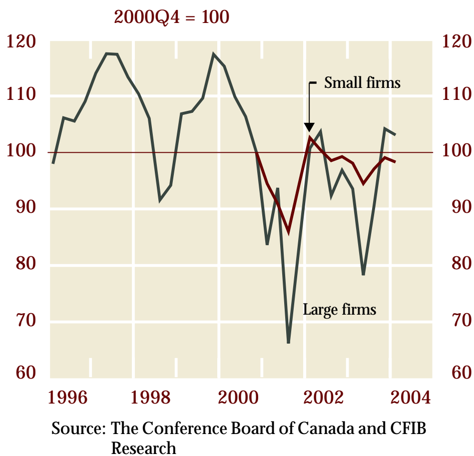
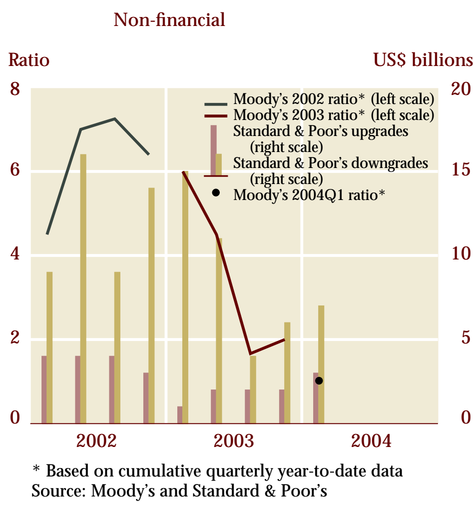


Chart 33 Canadian Corporate Downgrades/ Upgrades



Indeed, for many exporters strong commodity prices and U.S. growth are likely to significantly mitigate the impact on profits.

Many corporations continue to face important costs in meeting their long-term obligations on employee retirement benefits. (See "What Is the Funding Status of Corporate Defined-Benefit Pension Plans in Canada?" on page 45 of this *Review.*) Although it appears that only a few pension funds face funding difficulties so severe that they pose a serious financial risk to the corporation, firms with deficits in defined-benefit pension plans are likely to be more vulnerable to other shocks such as an economic downturn.

Overall, however, risks to the financial system from the corporate sector remain small. Indeed, despite the appreciation of the Canadian dollar and some weakness in aggregate demand in 2003, and despite the need for many firms to make special payments to meet obligations on employee retirement benefits, the Canadian corporate sector, in aggregate, appears robust.

Industry sector

Even so, a limited set of industries, often with a high exposure to international trade, continued to be under financial stress last year and into early 2004. This group accounts for only about 10 per cent of the output of the non-financial business sector, however, and thus poses only a limited risk to the Canadian financial system.

Profitability weakened significantly in the wood and paper industry towards the end of 2003 (Chart 34). Although the appreciation of the Canadian dollar contributed to the profit decline, other factors, such as excess capacity, high energy costs, and U.S. duties on softwood lumber were also maintaining downward pressure on rates of return. As a result, the credit ratings of several forest-products companies have been downgraded (especially those with exposures to newsprint sales). Recent strong gains in the prices for both lumber and other wood products should contribute to a recovery in the industry's profitability.

Some Canadian steel manufacturers have also seen their financial position worsen considerably, given the strong Canadian dollar and continued high costs for energy and raw materials. The need to raise employer contributions to meet long-term obligations for employee pension plans is another source of downward

Box 3

Surveys of Foreign Exchange Hedging by Canadian Corporations

The Canadian dollar appreciated by 16 per cent in real terms relative to the U.S. dollar in 2003, raising questions about its impact on corporate profits, corporate credit quality, and, ultimately, the financial system more generally. In January 2004, the Bank of Canada sent a questionnaire to the major financial institutions active in the Canadian-dollar market. The questions focused on the foreign exchange hedging activities of their corporate customers. The following are the common themes among the responses. It should be noted that the responses varied significantly among financial institutions in light of differences in their client bases.[1]

First, financial institutions indicated that most corporations were less hedged through 2003 and currently remained less hedged relative to what had been the case in the past. Reflecting this currency exposure, and the relative importance of the trade sector to the Canadian economy, survey respondents estimated that, on average, Canadian firms negatively affected by the Canadian dollar's strength over the last year outnumber those positively affected. Respondents estimated that about half their clients had been negatively affected by the dollar's appreciation since early 2003. The other half of their client bases are about equally split between those positively affected and those who experienced no material currency effect.

The financial institutions' view on the proportion of firms affected by the appreciation is supported by similar responses to questions in the Bank's survey of companies.[2] The Bank's survey also showed that over half of the firms affected by the appreciation are currently using some type of financial instrument to help manage their exposures. The use of such instruments by companies adversely affected by the appreciation was close to 60 per cent, higher than the use by favourably affected companies (close to 50 per cent). Responses also indicated that large firms were more likely to be using financial hedging instruments than smaller ones.

Second, despite the effects of the currency appreciation on exporters' profit margins, most respondents felt that the majority of their client base had either adjusted, or would be able to adjust, to the stronger Canadian dollar—at least to the levels at the time of the survey, approximately 74 to 77 U.S. cents. Although more firms were negatively affected by the Canadian dollar's strength than were positively affected, of the firms adversely affected, most experienced only "moderate" effects. Financial institutions did not expect the currency's strength to have any significant adverse impact on the credit quality of their overall loan portfolios.

Third, although most firms are managing to adjust to the higher value of the currency, a minority are having significant difficulty. Moreover, those firms most severely affected are often the least able to respond effectively, either by hedging or by adapting their business processes. The squeeze on profit margins has made it more difficult for such firms either to get extended credit lines from their bankers (necessary to underwrite hedging programs) or to implement investments aimed at enhancing productivity (despite cheaper prices for imported machinery).

Fourth, financial institutions indicated that the accounting rules governing derivatives (FAS 133 in the United States and AcG 13 in Canada) have affected corporate hedging practices. These standards, which govern the reporting of derivatives, have made it more difficult for firms to attain "hedge accounting" status—that is, cost or accrual accounting treatment—for their currency hedges. The default-reporting protocol for derivatives is mark-to-market, which most firms prefer to avoid because it potentially makes their earnings statements more volatile.[3] This has reportedly led some firms to reduce, or in a minority of cases, eliminate, their hedge coverage, which has allegedly exacerbated the negative impact of the Canadian dollar's appreciation.

Hedging activities and the financial system

Overall, insights drawn from these surveys suggest that about half of corporations were partially hedged, and that the appreciation of the Canadian dollar in 2003 does not pose significant risks to the Canadian financial system.

1. A more detailed description of responses will be released shortly.
2. Four times a year, the Bank directly interviews 100 businesses across Canada. For a review of the answers to the questions on the adjustment to the appreciation of the Canadian dollar by businesses, see <www.bankofcanada.ca/en/mpr/pdf/survey/mpr_survey0404.pdf>.
3. Mark-to-market reporting protocols better reflect actual market positions, and are considered more appropriate by accounting standard-setters.

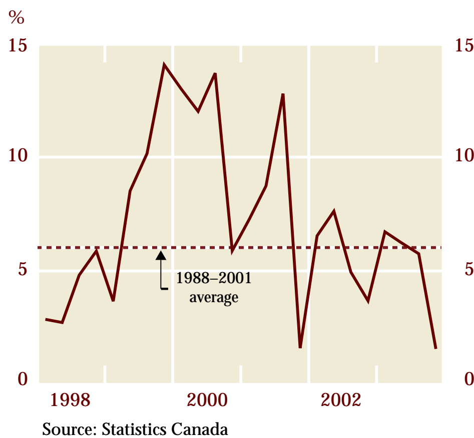


Chart 34 Return on Equity: Wood and Paper Manufacturing

Source: Statistics Canada

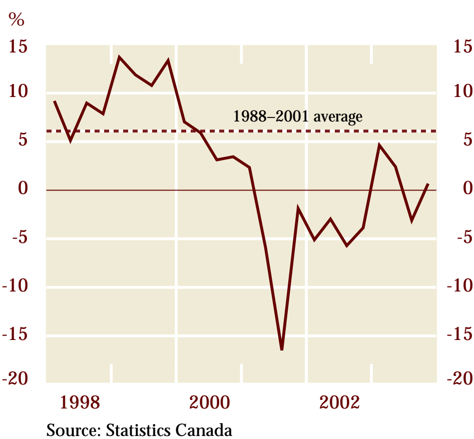


Chart 35 Return on Equity: Electronics and Computer Manufacturing

Source: Statistics Canada

pressure on expected profitability. As a result, several companies are planning major restructuring measures to lower their operating costs in order to better compete with foreign producers. The recent surge in global steel prices, if sustained, is also likely to help stabilize the financial position of this industry.

The financial situation in Canada's livestock industry remains weak, following the appearance of a case of BSE in the United States in late December, which was linked back to Canada. With the continuing ban on imports of live cattle from Canada, Canadian cattle prices remain relatively low. However, financial aid to cattle producers from the Government of Canada is likely to mitigate some of the losses.

The electronics and computer manufacturing industry returned to a marginal level of profitability in 2003, following substantial losses in 2001 and 2002 (Chart 35). This reflected substantial cost cutting, the marked upturn in real global spending on computers, and increased demand for advanced wireless components. These factors were partly offset, however, by the rise in the value of the Canadian dollar. Moreover, a major Canadian company in this industry recently had its long-term debt rating downgraded because of ongoing investigations into its financial statements.

Profitability in Canada's airline and aerospace manufacturing industries, after falling sharply in 2003, is likely to improve this year, reflecting both an expected recovery in air transportation activity and the impact of cost-cutting measures. The recent sharp increase in fuel costs, as well as the higher contributions required for employee pension plans, constitute important offsetting factors.

The Financial System

Since December 2003, the Canadian financial system has benefited from the stabilizing effects of marked improvements in global growth prospects, continued favourable financing conditions, ongoing efforts by corporations to strengthen their balance sheets, and continued sound macrofinancial conditions.

Financial markets

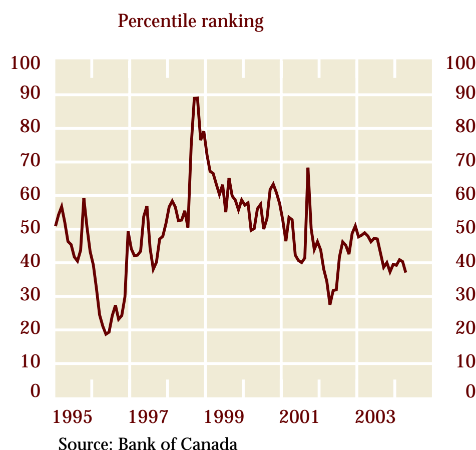
Currently, financial market conditions are largely influenced by the evolution of views on U.S.

economic and employment growth, as well as by the impact of future increases in policy rates on financial asset prices. Their effect on the external value of the U.S. dollar is a major channel by which changes to the economic outlook are transmitted to the financial sector.

Global financial markets generally witnessed higher prices for riskier assets in 2003. Although these developments reflect improved fundamentals that have largely been incorporated into asset prices, the trade-off between risk and return is an important factor for investors to consider when acquiring such assets. (See Box 1 on page 6 for a more detailed discussion of factors affecting valuations of financial assets.) A significant amount of uncertainty also surrounds the extent to which future unanticipated increases in interest rates will affect investor behaviour and risk appetite.

Domestically, the Financial Stress Index (FSI) is one way of assessing how much stress the financial system is under at a given time (Illing and Liu 2003). Recent movements in the FSI have remained near the bottom quartile, reflecting the smooth absorption of recent developments by the Canadian financial system (Chart 36).

Chart 36 Financial Stress Index for Canada



Source: Bank of Canada

On 30 March 2004, the Canadian Securities Administrators implemented new rules for disclosure and governance practices. These new rules are Canada's regulatory response to the global corporate scandals that have been uncovered since 2001 and aim to improve the quality of corporate financial statements and, hence, investor confidence. The new rules apply to most listed companies in Canada.[13] The rules include shorter deadlines for filing financial statements; certification of disclosure by CFOs and CEOs; enhanced disclosure requirements for off-balance-sheet items, related-party transactions, and executive compensation; as well as specific qualifications for audit committee members, and participation by auditing firms in the Canadian Public Accountability Board.

Canadian financial markets have been affected by rapid technological and financial innovation, greater international and local capital

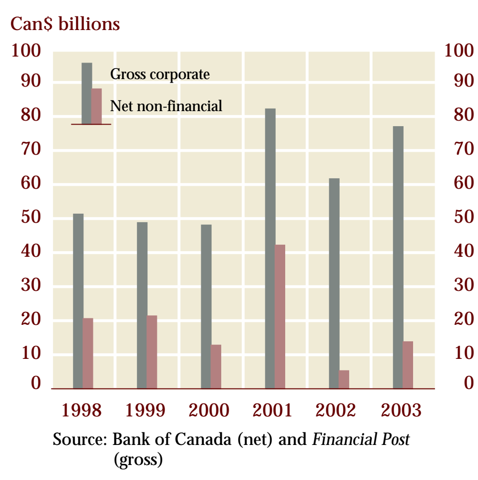
13. In May 2004, the Government of Canada released a proposal for amendments to the Canada Business Corporations Act. These are aimed at enhancing the transparency and accountability of corporations to investors and shareholders. See <www.strategis.ic.gc.ca/corporate_governance>.

Table 2
Size of Credit-Derivatives Markets
US$ billions

Instrument	1998	1999	2000	2001	2002	2003
Credit derivatives						
-BIS triennial survey	108			695		
-British Bankers' Ass'n	350	586	893	1189		
-Risk Magazine			360	1241	2120	
-ISDA				919	2192	3584
Global debt securities[a]	4292	5361	6369	7506	9195	11681

a. Statistics on global debt securities compiled by the BIS include money market instruments, bonds, and notes but exclude loans.

Chart 37 Canadian Corporate Debt Issued in U.S. Dollars and Canadian Dollars



Source: Bank of Canada (net) and *Financial Post* (gross)

flows, and new financing methods. In response to these changes, industry participants have called for a reform of the current securities regulatory structure. Proposals for reform are discussed in Box 4. As well, the securities industries of Canada and the United States are moving to straight-through processing (STP) to clear and settle securities transactions. STP will improve service and efficiency, reduce costs, and lower risks. (See Box 5.) The Bank of Canada supports the efforts by all Canadian participants to take the necessary steps to ensure that the June 2005 implementation date for STP will be met.

Fixed-income credit markets

Global markets for credit derivatives, which transfer credit risk without transferring ownership of the underlying asset, have continued to grow rapidly since the mid-1990s (Table 2).[14] More recently, improvements in credit quality and investor search for yield have also contributed to the rapid development of these global markets. Credit derivatives have allowed investors to leverage (or acquire significant amounts of credit risk). Although the rapid development of these markets and the relative investor inexperience with such instruments had raised concerns about their impact on financial markets in the face of a rapid shift to higher interest rates or sudden shock affecting investor confidence, recent events, such as the orderly reaction of these markets to the Parmalat corporate scandal, as well as analytical work, have diminished such concerns (IMF 2004).

In Canada, gross and net issuance of corporate long-term debt exhibited divergent patterns in 2003. Market participants viewed 2003 as the second-best year ever for corporate debt issuance ($77 billion). However, the net debt-financing activities of non-financial firms in 2003 were low (Chart 37). This suggests that firms had little need for external funds in 2003, potentially because of the dampening effects of previous uncertain economic prospects for investment spending. Low net issuance of debt is also consistent with firms' emphasis over the past few years on improving corporate balance sheets.

14. Instruments for transferring credit risk can facilitate optimal allocation of credit risk in the economy. These markets also allow for more effective hedging of credit risk (Kiff 2003).

Box 4

Recent Developments in the Regulation of Canadian Securities Markets

Securities markets in Canada are regulated by 13 provincial and territorial agencies. While the statutes in each jurisdiction are similar to one another, they may be interpreted and applied differently from one jurisdiction to the next.

Over the last 40 years, there have been numerous proposals to reform the structure of securities regulation in Canada. The last attempt was in 1994 when the federal government proposed a uniform national structure for securities regulation in Canada. This proposal was shelved, however, because of divergent views between different levels of government on certain jurisdictional and political aspects.

Current proposals for reform

Three proposals for reform have recently been submitted to the public for consultation and debate. They are the uniform securities legislation project (USL), the passport system, and a single regulator. Provincial securities regulators have also been subject to important changes during the last two years. While these latest initiatives reform securities regulators within each province, the USL, passport, and single-regulator initiatives deal with the interprovincial and provincial-federal structure of securities regulation. All the reform proposals have common goals: to reduce the regulatory burden for market participants, foster investor protection, and enhance market efficiency and competitiveness.

The USL

Announced in March 2002, the USL is an initiative by the Canadian Securities Administrators to harmonize securities laws in Canada. It aims to eliminate differences in securities legislation across jurisdictions and to provide a national framework for securities regulation by developing a uniform securities act and rules for adoption in all jurisdictions across Canada within two years.

The passport system

In June 2003, the provincial ministers responsible for securities regulation published a discussion paper on an interprovincial securities framework. The paper proposed a passport system built on harmonized securities laws to ensure consistency across jurisdictions.[1] The passport system would allow a market participant to meet the requirements in every Canadian jurisdiction by meeting the requirements of only the primary regulator (determined using agreed-upon indicators). All jurisdictions adhering to the passport system would rely on a primary regulator for oversight and enforcement of the rules and requirements.

A single regulator

In December 2003, the Wise Persons' Committee submitted a report to the federal Minister of Finance recommending a single regulator and a single code of legislation for securities markets. The single regulator would be co-operatively created and overseen by the federal and provincial governments, with rules based on the USL initiative. The Committee advocates a collaborative approach on the part of the federal and provincial governments.

Recent provincial initiatives

In April 2003, the British Columbia Securities Commission (BCSC) proposed draft legislation. The model recommends a principles-based approach to securities regulation and a "plain language" approach with the objective of allowing market participants to better understand how securities regulation applies to them.

Introduced in April 2004, the New Brunswick bill will overhaul the current provincial regulatory regime and create a new Securities Commission, which will be funded by the industry. As well, both Saskatchewan and Quebec have proceeded with the merging of financial regulators.

Ongoing discussions

The federal and provincial governments and securities regulators are engaged in discussions with market participants on the most appropriate regulatory structure for Canada. All stakeholders share a common belief that the current structure needs to be more efficient and to better reflect changing market conditions. Within this context, the Government of Canada 2004 Budget indicated support for the conclusions reached by the Wise Persons' Committee. The Government of Canada has stated its intention to work with provincial and territorial governments to resolve this issue.

1. The discussion paper stressed the importance of harmonized securities laws for consistent rules across jurisdictions but did not identify the USL as a prerequisite for the implementation of the passport model. The USL is considered to be complementary to the passport system.

Box 5

Aiming for Straight-Through Processing in Canada

The Canadian Capital Market Association (CCMA) has been actively promoting straight-through processing (STP) in the Canadian securities industry since 2002.[1] The CCMA defined industry-wide STP as "seamlessly passing information electronically—on a timely, accurate, system-to-system basis—to all parties in the end-to-end securities transaction chain without manual handling or redundant processing." More practically, STP implies that once securities trade orders (for sale or purchase) have been executed, they will be matched, cleared, and settled without further manual input or changes from parties involved in the processes (e.g., custodians, brokers/dealers, investment managers, exchanges, transfer agents, depositories, and others).

Note that the CCMA's initial objective was to shorten the standard settlement cycle of three days after the trade date (T+3) to one day following the trade date (T+1) by June 2005. In July 2002, the CCMA changed the objective to STP, following a similar decision by the Securities Industry Association (SIA) in the United States.[2]

Efficiency, risks, and STP

The move to industry-wide STP is motivated by a desire to increase the efficiency of the securities settlement system and to maintain the competitiveness of Canadian securities markets.

Often overlooked by investors and issuers, the matching, clearing, and settlement processes are critical for securities transactions. These processes are interconnected and require all participants to communicate trade information in sequential and repetitive steps that currently still involve significant manual intervention. Thus, if a mistake is made at any point in the process, the transaction may not settle, may be delayed, or may carry errors related to the amount, volume, etc. These mistakes impose costs (additional to transactions costs) to participants.[3]

From a risk perspective, the increasing volume and value of transactions in recent years have raised operational risks and exerted additional stress on the settlement system. STP addresses these risks by significantly reducing settlement risk.[4] The adoption of new technology, standards, and best practices to achieve industry-wide STP should reduce operational risk and costs by eliminating inefficient processes. STP would also help manage a growing trading volume and, hence, expand the capacity to effectively and safely process securities transactions.

Another motive for STP is that by increasing the efficiency of the settlement processes and adopting comparable standards to those in the United States, Canadian capital markets will maintain competitiveness with global marketplaces.

STP milestones

The CCMA has completed its first milestone by publishing industry standards and best practices in December 2003. Participants can now update their in-house systems and processes according to the specified standards and best practices in an integrated fashion with the rest of the industry.

The next milestone, planned for December 2004, requires the enactment of relevant legislative, regulatory, and rule changes to facilitate the implementation of STP. Finally, industry-wide STP implementation is projected for June 2005.

1. Created in August 2000, the CCMA is a forum for industry experts to provide leadership and coordinate the industry-wide implementation of STP.
2. The SIA's position is that the industry needs to focus on more effective STP before converting to T+1. The change reflected industry concerns over the need to strengthen business continuity following the 11 September 2001 terrorist attacks in the United States and the concurrent downturn in the credit cycle.
3. According to a Cap Gemini Ernst & Young (2002) survey for CCMA, "inefficient securities settlement processes cost the Canadian securities industry an estimated $140 million a year."
4. Settlement risk has two components: (i) credit risk or counterparty risk; and (ii) operational risk, such as a breakdown in communication or human errors.

The income-trust market in Canada has continued its tremendous growth (Chart 38). Issuance in the fourth quarter of 2003 surpassed $4.6 billion. Proceeds from these income-trust issues have been used to fund new investment opportunities, retire debt, and/or return proceeds to shareholders. In this respect, this market can be viewed as a substitute for debt-market financing. It is still too early to assess what impact the 2004 Government of Canada budget measures proposing to limit the size of investment by pension funds in business income trusts may have on the growth of this market.

A positive development for participants in Canadian fixed-income markets is the introduction this spring by the Bourse de Montréal of a new futures contract on the 2-year Government of Canada bond. This contract will complement the current futures contract on 10-year Government of Canada bonds.

Foreign exchange markets

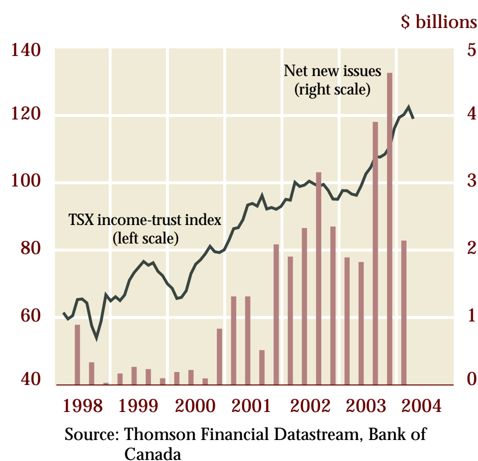
The U.S. dollar has been firm against most currencies since December 2003 (Chart 39). The Canadian dollar has stabilized relative to the U.S. dollar in a range of 71.5 to 76.5 U.S. cents and has depreciated relative to the currencies of its non-U.S. trading partners since early December.

Volatility in currency markets surpassed 2003 highs in early 2004 as market participants reacted to monetary policy signals and discussions of potential currency intervention (Chart 40). These factors also affected the Japanese yen, the appreciation and volatility of which had been dampened by significant intervention by the Bank of Japan through mid-March 2004. Volatility in the yen resumed in late March amid market speculation that intervention had been suspended, in light of evidence of an increasingly robust Japanese economic recovery. Overall, risks to the financial system related to developments in foreign exchange markets since December 2003 have been moderate.

Financial institutions

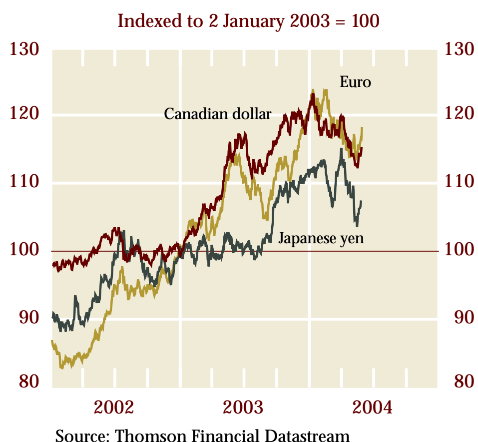
The six largest Canadian banks reported a sharp rebound in profitability at their fiscal year-end (31 October), which rose 52 per cent year-over-year to a record high $11.6 billion. The average return on equity rose sharply to 16.5 per cent in 2003 and has risen further to 19.1 per cent for the first quarter of 2004.

Chart 38 Income Trusts



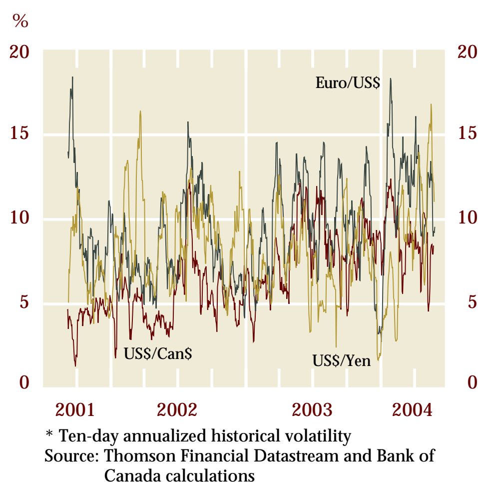
Source: Thomson Financial Datastream, Bank of Canada

Chart 39 Performance of Currencies against the U.S. Dollar



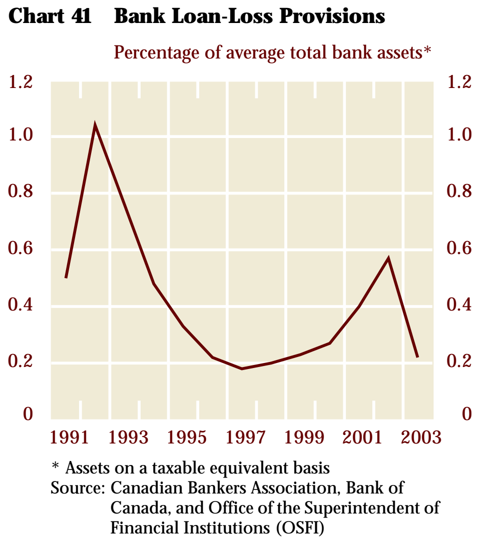
Source: Thomson Financial Datastream

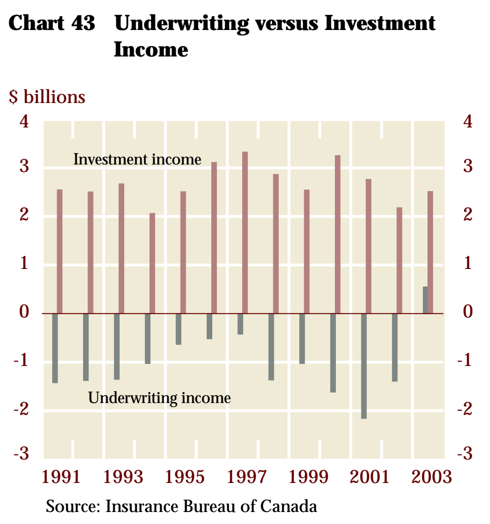
Chart 40 Exchange Rate Volatility*



* Ten-day annualized historical volatility

Source: Thomson Financial Datastream and Bank of Canada calculations





Revenues from investment banking rose as trading activity increased and the value of financial assets moved higher. Loan-loss provisions continued to be reduced. Lending to the retail sector also continued to be a reliable and substantial source of revenue. However, it appears that the 2003 appreciation of the Canadian dollar weighed on some bank profits by lowering the translated value of their earnings from U.S. operations.

Overall, Canadian banks managed the 2001–02 decline in credit quality associated with the economic downturn much more effectively than was the case during and after the 1990–91 recession. Better portfolio diversification and risk-management techniques, lower interest rates more generally, as well as a less severe economic downturn, allowed loan-loss provisions as a share of average assets to peak at about half that held during the 1990–91 recession (Chart 41).

The life insurance industry continued to report sound financial performance in the fourth quarter of 2003, with a return on equity of 14 per cent. Strong balance sheets, conservative investment policies, and effective diversification helped insurers sustain profitability (Chart 42). Following recent merger activity, three dominant life insurers now exist in Canada; namely, Manulife, Sun Life, and Great-West Life.

The profitability of the property and casualty insurance industry improved significantly in 2003 (Chart 42). The industry posted a positive level of underwriting income for the first time since 1978 (Chart 43). Rising premium rates and improved investment incomes also allowed the industry to report a return on equity of 11.3 per cent for the year ending December 2003. Uncertainty about industry prospects remains, however, particularly regarding the performance of the automobile insurance market (which accounts for more than half of all premiums collected). Returns from this sector will depend on the outcome of recently introduced regulatory reforms aimed at improving market conditions for insurers and, in some cases, reducing premiums for consumers.

Operating profits in the Canadian securities industry grew in 2003, helping the industry post a third consecutive year of strong profits (Chart 44). Retail financial advisory business continued to grow, aided by the strong price gains of financial assets. This business segment benefited from robust investor participation in debt and equity markets, and, in some cases,

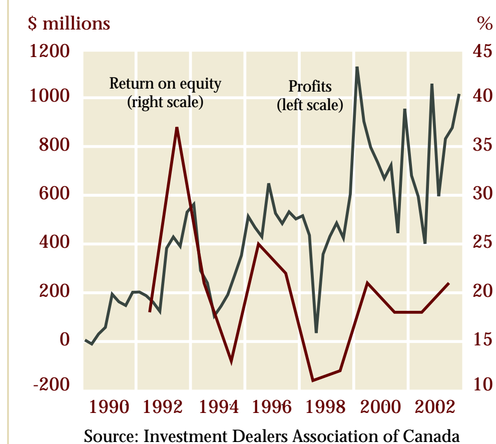
in unconventional investments, as investors searched for higher returns. Indeed, investor search for yield provided strong demand for fee-based services and products. This demand has helped fee-based revenue to double since 2000 (Chart 45).

Reports of first-quarter earnings for 2004 from large international investment banks indicate a sharp rise in revenue from fixed-income, currency, and commodity trading. These results have raised questions as to whether revenue growth in these markets could be achieved without increased risk taking.[15] In Canada, an assessment of the available VaRs reported in the financial statements of the major banks suggests that the market risk assumed by these institutions has been trending lower (Chart 46). In addition, capital maintained to cover overall risks has risen over the past few years as reflected by the evolution of capital ratios in the banking sector (Chart 47). Major banks thus remain well capitalized and appear well positioned to manage potential adverse movements in financial asset prices.

Clearing and Settlement Systems

A key component of the financial system is a robust set of arrangements to clear and settle payments and other financial obligations. The Bank of Canada supplies services to four such systems. They are the Large Value Transfer System (LVTS), for settling large-value or time-sensitive payments; the Automated Clearing Settlement System (ACSS), used mainly for smaller-value retail and some electronic payments; the CDSX, Canada's securities settlement system; and the Continuous Linked Settlement (CLS) Bank, an international system for settling foreign exchange transactions. Because of their systemic importance, the Bank has formal oversight responsibilities for the LVTS and the CDSX, and shares oversight responsibilities with other central banks whose currencies are included in the CLS Bank.[16]

Chart 44 Operating Profits: Securities Industry

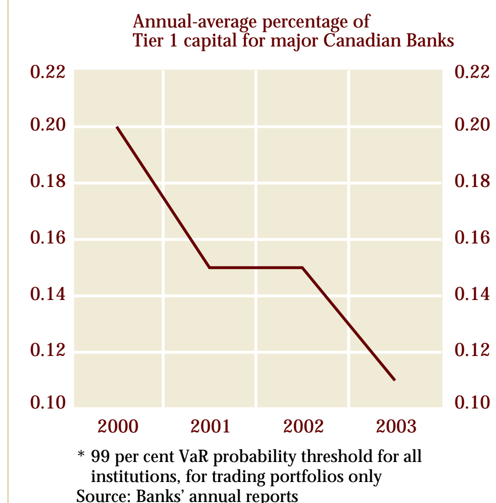


Source: Investment Dealers Association of Canada

Chart 45 Fee-Based Revenue: Securities Industry

Source: Investment Dealers Association of Canada

Chart 46 Value at Risk for Bank Trading Portfolios*

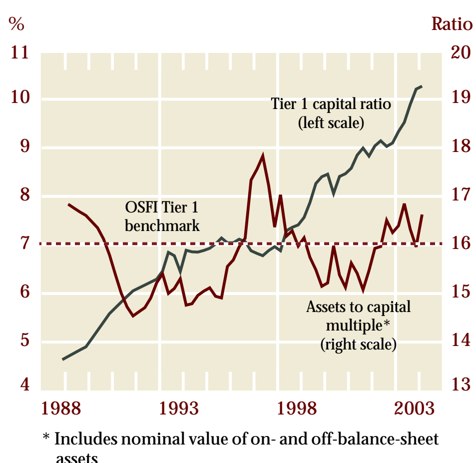


* 99 per cent VaR probability threshold for all institutions, for trading portfolios only

Source: Banks' annual reports

15. The principal tool used to measure market risk is value at risk (VaR). See the December 2003 *Financial System Review* (Box 1, page 10) for more on "Managing Market Risk."
16. The Federal Reserve is the lead overseer for the CLS Bank.

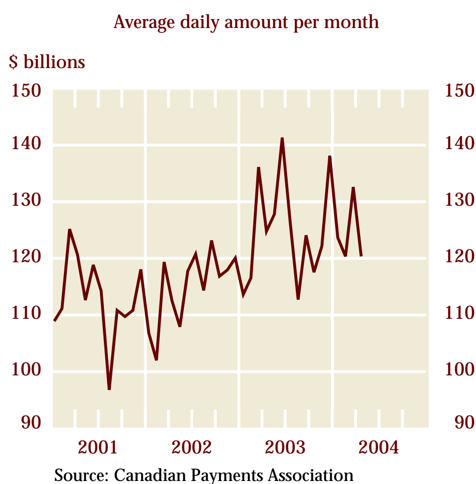
Chart 47 Capital and Leverage Ratios



* Includes nominal value of on- and off-balance-sheet assets

Chart 48 Value of Payments Processed by the LVTS

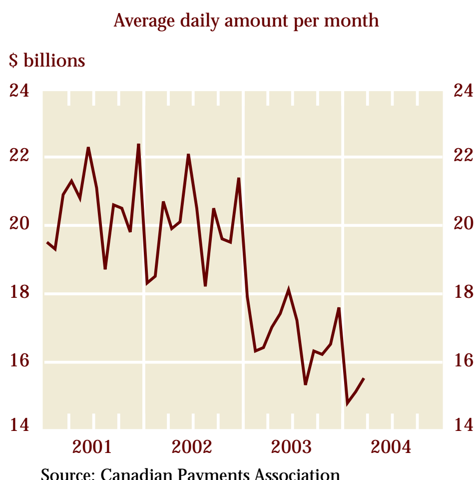
Average daily amount per month



Source: Canadian Payments Association

Chart 49 Value of Payments Processed by the ACSS

Average daily amount per month



Source: Canadian Payments Association

Recent Developments

In the first four months of 2004, the average daily value of payments processed by the LVTS was up by about 1.2 per cent over the corresponding period in 2003 (Chart 48). On 1 December 2003, LVTS payments hit a daily record of just over $200 billion, compared with an average daily value of about $125 billion in 2003. Payment flows in the ACSS averaged about $15 billion per day in the first quarter of 2004, down about $2 billion from year-earlier levels (Chart 49). The decline is due to the continued migration of large-value paper items from the ACSS to the LVTS, resulting from the cap of $25 million placed in 2003 on paper items allowed to settle through the ACSS. The liquidity savings generated by CLS settlement (see below) lead to a decline in LVTS payments related to foreign exchange transactions. But this decline has been masked by strong growth in other payments flowing through the LVTS.

Flows through the CLS Bank continue to increase. In March 2004, a record average of about 135,000 foreign exchange transaction sides per day, worth US$1.4 trillion, were settled in all 11 currencies. Settlement values hit a record US$2.2 trillion (about 260,000 transaction sides) on 20 January, the first business day following the Martin Luther King Jr. holiday in the United States.

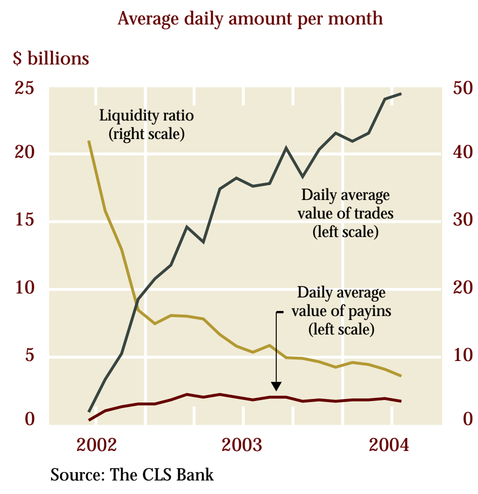
The value of Canadian-dollar trades settled through the CLS Bank increased to more than $24 billion per day in April 2004, compared with an average of about $22 billion in the first quarter of 2004. Nevertheless, because of the limited participation of domestic banks in CLS, this value remains at fairly low levels relative to the size of the Canadian foreign exchange market. Although estimates are subject to considerable uncertainty, about 25 per cent of Canadian-dollar trades are estimated to settle through CLS, whereas for all CLS currencies combined, this share is close to 50 per cent. The liquidity ratio provides a measure of the liquidity savings generated by CLS settlement. For Canada, this ratio stood at a record low of 7.3 per cent in April (Chart 50). This indicates that funding of just over $7 would be required to settle $100 worth of Canadian-dollar trades. (Liquidity savings will grow as the value of trades settled through CLS increases.) This compares with a liquidity ratio of about 2 per cent for all CLS currencies combined.

In 2004, the CLS Bank intends to start settling the Hong Kong dollar, the Korean won, the New Zealand dollar, and the South African rand once all CLS criteria are met and if regulatory approval is received. This follows the introduction of three Scandinavian currencies in 2003 (Danish, Norwegian, and Swedish), as well as the Singapore dollar.

In 2003, the Bank began meeting with operators and major participants of key clearing and settlement systems in Canada in order to explore the potential for strengthening the resilience of the financial system to severe shocks, such as the power outage of 2003. In 2004, the Bank is continuing to work with the Canadian Payments Association and the Canadian Depository for Securities to address business-continuity planning in clearing and settlement systems from a systemwide perspective.

Chart 50 Canadian-Dollar Foreign Exchange Trades Settled by the CLS Bank

Average daily amount per month



Source: The CLS Bank

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