



BANK OF CANADA

Financial System Review

December 2005



The Financial System Review and Financial Stability

The financial system makes an important contribution to the welfare of all Canadians. The ability of households and firms to confidently hold and transfer financial assets is one of the fundamental building blocks of the Canadian economy. As part of its commitment to promoting the economic and financial welfare of Canada, the Bank of Canada actively fosters a safe and efficient financial system. The Bank's contribution complements the efforts of other federal and provincial agencies, each of which brings unique expertise to this challenging area in the context of its own institutional responsibilities.

The financial system is large and increasingly complex. It includes financial institutions (e.g., banks, insurance companies, and securities dealers); financial markets in which financial assets are priced and traded; and the clearing and settlement systems that underpin the flow of assets between firms and individuals. Past episodes around the world have shown that serious disruptions to one or more of these three components (whether they originate from domestic or international sources) can create substantial problems for the entire financial system and, ultimately, for the economy as a whole. As well, inefficiencies in the financial system may lead to significant economic costs over time and contribute to a system that is less able to successfully cope with periods of financial stress. It is therefore important that Canada's public and private sector entities foster a financial system with solid underpinnings, thereby promoting its smooth and efficient functioning.

The *Financial System Review* (FSR) is one avenue through which the Bank of Canada seeks to contribute to the longer-term robustness of the Canadian financial system. It brings together the Bank's ongoing work in monitoring developments in the system and analyzing policy directions in the financial sector, as well as research designed to increase our knowledge. The strong linkages among the various components of the financial system are emphasized by taking a broad, system-wide perspective that includes markets, institutions, and clearing and settlement systems. It is in this context that the FSR aims to

- improve the understanding of current developments and trends in the Canadian and international financial systems and of the factors affecting them;
- summarize recent work by Bank of Canada staff on specific financial sector policies and on aspects of the financial system's structure and functioning;
- promote informed public discussion on all aspects of the financial system, together with increased interaction on these issues between public and private sector entities.

The FSR contributes to a safe and efficient financial system by highlighting relevant information that improves awareness and encourages discussion of issues concerning the financial system. The Bank of Canada welcomes comments on the material contained in the FSR.

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December 2005

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Contents

Developments and Trends	1
<i>Financial System Risk Assessment.....</i>	3
Overview.....	3
Highlighted Issues	5
The Macroeconomic Environment.....	10
The Financial System.....	14
<i>Important Financial System Developments.....</i>	17
Highlighted Issue	17
The Financial System.....	18
Reports	25
Introduction	27
Strengthening Defined-Benefit Pension Plans	29
The Use of Microdata to Assess Risks in the Non-Financial Corporate Sector.....	37
Policy and Infrastructure Developments	43
Introduction	45
Analyzing the Evolution of Financial Instability Risk	47
Simulation Analysis: A Tool for Examining the Balance between Safety and Efficiency in Canada's Large Value Transfer System.....	55
Research Summaries	65
Introduction	67
Endogenous Market Incompleteness with Investment Risks	69
An Analysis of Bank Closure Policy under Alternative Regulatory Structures	73
An Empirical Analysis of Foreign Exchange Reserves in Emerging Asia.....	77

Developments and Trends

Notes

The material in this document is based on information available to **25 November** 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.

Assessing Risks to the Stability of the Canadian Financial System

The *Financial System Review* is one vehicle that the Bank of Canada uses to contribute to the strength of the Canadian financial system. The Developments and Trends section of the *Review* aims to provide analysis and discussion of current developments and trends in the Canadian financial sector.

The first part of the Developments and Trends section presents an assessment of the risks, originating from both international and domestic sources, that could affect the stability of the Canadian financial system. Key risk factors and vulnerabilities are discussed in terms of any potential implications for the system's overall soundness. The second part of this section examines structural developments affecting the Canadian financial system and its safety and efficiency; for example, developments in legislation, regulation, or practices affecting the financial system.

The current infrastructure, which includes financial legislation, the legal system, financial practices, the framework of regulation and supervision, and the macroeconomic policy framework, significantly influences the way in which shocks are transmitted in the financial system and in the macroeconomy, and thus affects our assessment of risks.

Our risk assessment is focused on the vulnerabilities of the overall financial system, and not on those of individual institutions, firms, or households. We therefore concentrate on risk factors and vulnerabilities that could have systemic repercussions—those that may lead to substantial problems for the entire financial system and, ultimately, for the economy. In examining these risk factors and vulnerabilities, we consider both the likelihood that they will occur and their potential impact.

Particular attention is paid to the deposit-taking institutions sector, because of its key role in facilitating financial transactions, including payments, and its interaction with so many other participants in the financial system. For instance, these institutions assume credit risks with respect to borrowers such as households and non-financial firms. Thus, from time to time, we assess the potential impact that changes to the macrofinancial environment may have on the ability of households and non-financial firms to service their debts.

Risk factors and vulnerabilities related to market risks are also examined. The potential for developments in financial markets to seriously affect the financial position of various sectors of the economy and, ultimately, to disrupt the stability of the Canadian financial system is assessed.

Financial System Risk Assessment

Overview

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

- In general, the financial health of Canadian financial institutions, households, and non-financial corporations remains robust.
- The Canadian financial system remains exposed to the risk of a disorderly resolution of global imbalances. While this risk is low over the near term, it remains a key consideration over the medium term.
- While global financial markets and asset prices have proven to be resilient in the face of several negative shocks, including the sharp rise in energy prices, the potential for a significant price reversal in riskier assets remains.
- Overall, the Bank of Canada concludes that the risk of a shock having a significant negative impact on the Canadian financial system is small.

Overall Assessment

Since the release of the last *Financial System Review* in June 2005, the global and domestic financial systems have remained sound.

Globally, benign macroeconomic conditions have supported financial stability. Healthy economic growth and low interest rates have helped financial institutions, non-financial corporations,

emerging-market economies, and the household sector to maintain or strengthen their financial positions, for the most part. Although key risks remain, the possibility that a shock could have a significant negative impact on the Canadian financial system is small.

Canadian developments

Despite the past appreciation of the Canadian dollar and substantial increases in energy costs, the overall financial situation of the Canadian non-financial corporate sector remains robust, based on an analysis of indicators available through the third quarter of 2005.

Similarly, the household sector appears to pose a low risk to the financial system, despite a continued rise in indebtedness and sharply higher energy-related expenditures. Indeed, updated simulations initially conducted for the December 2003 and 2004 *Reviews* continue to indicate that a return of policy rates to more normal levels should not materially impair the credit quality of household debt. The likelihood of a marked reversal in house prices in major Canadian markets also appears limited.

Overall, the credit quality of the assets of the Canadian banking sector has remained strong and close to recent cyclical highs. The quality of assets continued to contribute to the very strong financial results reported by major Canadian banks in the first half of 2005. In this context, the agreement by CIBC in the third quarter to settle the Enron class action litigation initiated against them has not materially altered the Bank's assessment of the soundness of the Canadian banking system. The strong capital position of the banking sector continues to provide institutions with a buffer should adverse economic or financial developments occur.

Other financial institutions in Canada, such as securities dealers, life, health, and property and casualty insurance companies, also continued to report robust profitability. The financial consequences of hurricanes Katrina, Rita, and Wilma are not expected to have a significant effect on the financial strength of Canadian insurers.

Global risks

Since the time of the last *Review*, financial markets have experienced a number of adverse shocks, including sharply higher energy prices and some concerns about a possible rise in inflation. Nonetheless, to date, financial markets seem to be adjusting to this period of greater uncertainty in an orderly fashion. Indeed, despite increases in uncertainty resulting from these and other shocks, global risk appetite remains robust.

On 21 July, China revalued the renminbi by 2.1 per cent and announced a mechanism permitting future changes to its exchange rate, which would be made with reference to a basket of currencies. The small revaluation will likely have little effect on the state of global imbalances.

While the current scenario regarding the stability of the global and domestic financial systems is benign, growing imbalances could pose challenges to financial stability in the future. Since June, global economic growth and favourable interest rate differentials have led to ample capital flows that have allowed smooth financing of global imbalances. This has, however, also increased the imbalances themselves and, thus, the possibility of a disorderly resolution remains a key risk over the medium term.

As well, the prices of riskier assets appear to reflect investor expectations of an extended continuation of favourable financial developments.¹ For instance, since June, credit spreads on corporate bonds and most emerging-market sovereign debt have remained near cyclical lows. This raises the concern that financial risks may be underpriced. Thus, the potential for a significant price reversal in riskier assets remains.

There is also a risk that the increases in gasoline and natural gas prices since June may cause a persistent rise in inflation in some countries. This could lead to a sharp reversal in the prices

of risky assets, if long-term bond yields rise sharply, or if global investor appetite for risk falls.

Major banks, which play a key role in the domestic financial system, appear well positioned to manage potential adverse movements in asset prices. As indicated above, the sector continues to be well capitalized. These institutions also maintain risk-management practices that should limit the negative impact of financial market volatility on their financial positions.

The implications of persistently low yields on long-term bonds are also a key risk consideration to monitor. Should the current factors driving the high current levels of desired global savings relative to business investment remain in place over the medium term, long-term bond yields could remain below those previously deemed appropriate in light of the economic fundamentals. Such an outcome would have implications for many financial system participants, and these are discussed in this *Review*.

Other potential sources of risk are judged to be less significant. These include the risk to the Canadian financial system posed by a correction in domestic and/or international house prices and the economic difficulties faced by some non-financial industries. Indeed, a relatively small number of industries, such as auto manufacturing, wood and paper products, and computer and electronic manufacturing, have experienced considerable financial stress over most of the period since 2001. With the further rise in the Canadian dollar since mid-2004 and substantial increases in the costs of energy and other raw materials, profits remained relatively weak in many of these industries towards the end of last year and during the first three quarters of 2005. Thus, the credit quality of their debt has worsened. It is unlikely, however, that Canadian financial institutions, which have well-diversified portfolios, would be strongly affected by the deteriorating credit quality in these industries.

Overall, the Bank of Canada concludes that the Canadian financial system remains sound.

1. Riskier assets include equities, corporate debt securities, and emerging-market debt.

Highlighted Issues

The potential impact on the domestic financial system of low long-term bond yields, as well as the financial position of the Canadian household sector, is discussed in this section.

Financial system implications of low yields on long-term bonds

Prepared by Christopher Reid

Given the current low yields on government bonds, many investors have sought to enhance their returns by increasing their investments in riskier assets. Previous issues of the *Review* have noted that a significant increase in government bond yields could have spillover effects in other markets, possibly triggering a sharp decline in the price of riskier assets, exacerbated by the illiquid nature of these assets. In some countries, such an increase in government bond yields could be triggered, for instance, by a disorderly adjustment to global imbalances or by heightened inflationary risk from the recent surge in gasoline and natural gas prices.

While significantly higher bond yields are possible, it is important to consider the financial system implications of long-term yields remaining low. Such an outcome could occur if the current factors driving the strong levels of desired global savings relative to business investment remained in place over the medium term. The implications of this scenario include continued low profitability of carry trades, an ongoing financial burden for pension funds, and possible support for asset prices above sustainable levels, including the price of volatility protection.

The flattening of the yield curve (i.e., long-term yields are only modestly higher than short-term yields) that has accompanied the removal of monetary stimulus in many industrial countries has been accentuated by investors searching for higher financial returns. A flat yield curve diminishes the profitability of the interest rate carry trade, which generally involves borrowing at low short-term rates and lending at higher long-term rates.² A decline in the profitability of the carry trade is likely to be felt most acutely by banks and by certain hedge funds. The impact on U.S. banks may be as much as 15 to 25 per

cent of earnings per share (Hendler 2005). There is a risk that those banks may compensate for a decline in carry-trade profitability by taking on risks in other areas, which could have implications for their financial strength. For instance, many U.S. banks have significantly increased their capital allocation to financial market trading activities, including developing their energy-trading capabilities.

Pension funds, many of which currently have funding deficits, would continue to be challenged by the increase in the discounted value of their liabilities that resulted from the decline in yields on long-term bonds. In response, pension funds may choose to take on more risk in their asset portfolios in order to achieve higher returns to offset increasing liabilities. Alternatively, the higher cost of deferred benefits may weaken the financial position of sponsoring firms.³

The current yield-curve environment also has implications for asset prices more generally. Low, risk-free nominal yields have generally encouraged investors to take on more risk in their asset portfolios. This has supported the prices of risky assets and raises the concern that financial risk may have become underpriced and that large-scale reversals could occur.⁴ Spreads in the corporate bond market are exceptionally low, with little compensation for differences in credit quality. For instance, the current difference between A-rated and BBB-rated bonds in Canada is about 30 basis points, compared with an average differential of about 75 basis points since 1998.

If speculative mispricing exists more generally, prolonged low yields on long-term bonds would likely exacerbate the consequences of a potential future reversal in the prices of risky assets. Indeed, as long as the prices of risky assets remain high, so does the risk of a sudden price decline. Nevertheless, major banks in Canada appear well positioned to manage potential adverse movements in asset prices. Their use of modern

2. See Box 1 on page 20 of the June 2005 *Review* for a backgrounder on carry trades.

3. See the Report "Strengthening Defined-Benefit Pension Plans" on page 29 of this *Review* for more on the challenges facing defined-benefit pension plans in Canada.

4. Current prices for risky assets also reflect the remarkable performance of the world economy in recent years and the better allocation of risks permitted by new financial instruments such as collateralized debt obligations (Armstrong and Kiff 2005) and credit default swaps (Reid 2005).

risk-management practices, such as value at risk and stress testing, should limit the adverse impact of financial market volatility on their trading portfolios.

Many investors are also augmenting their current returns by selling volatility protection through a variety of financial products. Although volatility protection is traded mainly in the options market through products such as swaptions, caps, and floors, or indirectly through assets that contain an option component, such as mortgage-backed securities, it is also increasingly traded as a financial instrument in its own right (e.g., variance swaps). The seller of volatility protection receives a premium, but will suffer a net loss if there is a sharp increase in market volatility. Should such volatility occur, the buyer of protection receives compensation from the seller.

Measurements of interest rate volatility have fallen continuously since their recent peak at the end of 2001 and remain near historical lows (Chart 1). The decline in volatility likely reflects several fundamental factors, such as steady economic growth. Anecdotal evidence gathered from market intelligence suggests that the search for higher financial returns has led an increasing number of investors to sell volatility protection to boost their portfolio returns.⁵ This may, in turn, have caused the price of volatility protection to fall below the level suggested by the fundamentals.

Volatility protection may also be mispriced because new entrants into this market may not fully understand or properly value the risks associated with selling such protection. A significant increase in volatility would likely lead to large losses among some investors, particularly those market participants who sold “uncovered” volatility protection without a clear understanding of the underlying risks related to this strategy.⁶ Large losses could thus lead to an increase in counterparty risk, which, in turn, could negatively affect the financial system. There is, therefore, a risk that the increased use of the strategy of selling volatility protection has increased the

5. Participation in volatility trading had been confined to sophisticated investors, such as hedge funds and the proprietary trading desks of large banks.

6. For example, an uncovered call refers to a short call option position where the call writer does not own the underlying asset.

Chart 1 Volatility of Yields on 2-Year and 10-Year Canadian Bonds*

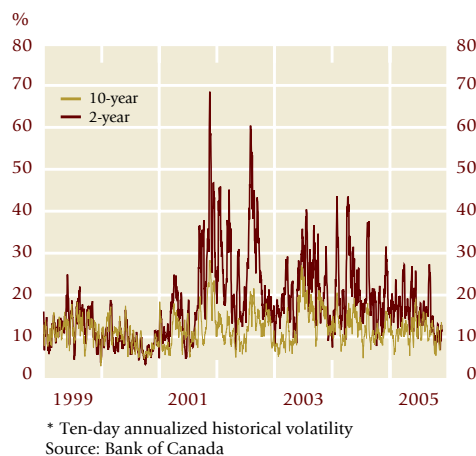


Chart 2 Financial Position of Canadian Households

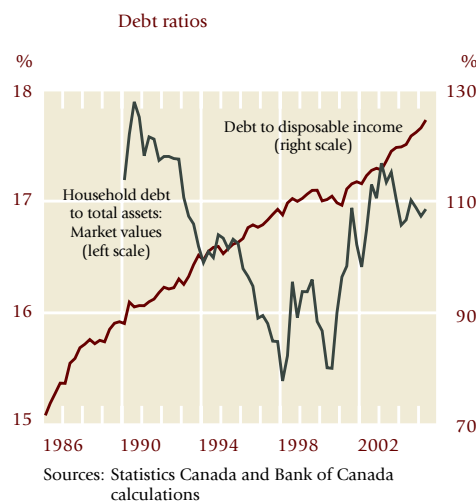
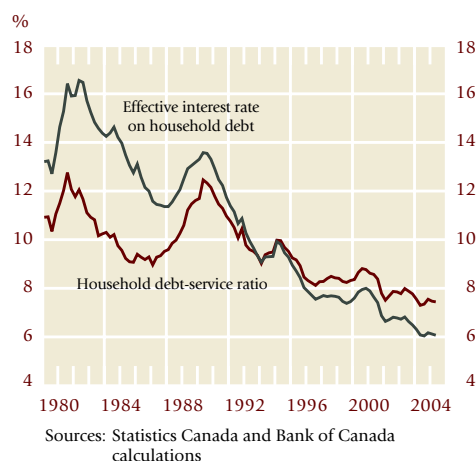


Chart 3 Household Sector Debt



exposure of some financial system participants to a significant financial shock.

Overall, a persistence of low or declining yields on long-term bonds may cause a reallocation of risk in the activities of the banking sector, cause stress on pension fund sponsors, and could contribute to the possible mispricing of risky assets and volatility protection. The implications for the financial system of low yields on long-term bonds thus remain a key concern for medium-term risk.

Financial position of the Canadian household sector: Autumn 2005

Prepared by Virginie Traclet and Dylan Hogg

The financial health of Canadian households is important to the banking sector because of the high exposure of Canadian banks to household credit. The rising indebtedness of households is often cited as a cause for concern. This Highlighted Issue updates the analysis of the financial situation of Canadian households presented in the December 2004 *Review*. Our conclusions remain broadly unchanged: despite a further increase in indebtedness, a return of policy rates to more normal levels should not materially diminish the ability of households to service their debts. Moreover, a significant reversal in house prices in major Canadian markets is unlikely. As a result, financial system risks relating to the Canadian household sector appear to remain low.

Servicing household debt

Total household credit, consisting of mortgage and consumer credit, continued to advance at a rapid pace over the past year. Growth in household debt has outpaced the rate at which household income is rising, with the ratio of household debt to disposable income reaching a new high at 124.5 per cent in the second quarter of 2005 (Chart 2). But since the increase in indebtedness has been accompanied by rising asset values, the ratio of total debt to total assets remained broadly unchanged from a year earlier at about 17 per cent (Chart 2).

A major development in household credit has been a surge in personal lines of credit (PLCs) since 1999, reflecting a substitution away from personal loans and credit card debt, which typically bear higher interest rates and a less flexible payment structure. The growth of PLCs

enhances welfare by allowing households to more effectively smooth their consumption and reduce their debt-servicing costs.⁷

Indeed, despite rising indebtedness, the estimated cost of servicing debt has remained very low: interest payments on existing debt represented 7.6 per cent of household disposable income in the second quarter of 2005, up only slightly from the historical low of 7.3 per cent in the same quarter of 2004 (Chart 3).

The ability of households to service their debt obligations can be further assessed by monitoring a number of indicators of the degree of financial stress affecting households, such as credit card delinquencies, mortgage arrears, or impaired loans (Chart 4). These indicators do not signal concern regarding the ability of households to service their debt. Notably, the rate of impaired consumer loans has decreased sharply over the past three years.

Interest rates are expected to rise as monetary stimulus is reduced. It is, therefore, important to assess households' ability to meet their debt obligations in an environment of higher interest rates. To do this, we simulate the impact of higher interest rates on the household debt-service ratio (Chart 5).⁸ We consider two scenarios: a gradual rise in the overnight interest rate to a range of 4 to 6 per cent (with a midpoint of 5 per cent), and an extreme stress-testing scenario where the overnight rate jumps to 9 per cent, reminiscent of the 1994–95 period, before settling down to 5 per cent. In the scenario where interest rates gradually rise, the debt-service ratio would rise to between 8.5 and 10 per cent by the beginning of 2008, and settle at somewhere between 8.8 and 11.3 per cent by 2011. These levels remain below the peaks reached in 1981 and 1990 and bracket the 1980 to 2004 average for the debt-service ratio. In the stress-testing scenario, the debt-service ratio rises quickly to

7. Growth in PLCs has also been supported by rising house prices, which has led to the greater availability and use of secured credit. Developments in the housing market are discussed in the next section.
8. Box 1 in the December 2004 *Review* describes the methodology involved in this simulation exercise. Key assumptions include holding the debt-to-income ratio constant at its current level over the simulation period. This implies that changes in interest rates over the simulation period do not affect aggregate income relative to indebtedness.

12 per cent before falling to slightly over 10 per cent, still below previous peaks.

These simulations indicate an increase in the debt-service ratio to a rate of about one-half percentage point higher than those reported in the December 2004 *Review*. Increases in the debt-service ratio, such as those seen in the stress-testing scenario and at the upper bound of the other scenario, could adversely affect the quality of household credit. Furthermore, the sensitivity of households to a given level of the debt-service ratio may differ from that in 1980 or 1990. Indeed, the increase in the cost of energy has weighed on consumer confidence this autumn, and may reduce the ability of some households to manage debt-servicing costs for a given level of the debt-service ratio. Nevertheless, a steady flow of income remains the key factor in the ability of households to service their debt. In this respect, current prospects for economic conditions remain supportive.

Overall, our results do not signal any significant concerns as to the ability of households to service their debt. It should be noted, however, that the above assessment is based on the analysis of broad-based indicators of household financial conditions. While this provides useful information, the distribution of levels of household indebtedness and income could have important implications for the financial system that are not captured by aggregate data. Some comfort can be taken from the fact that the Canadian market for mortgage debt comprising elevated credit risk is relatively small, and that lenders in this market appear to focus on borrowers whose credit quality is just below that of prime borrowers.⁹

House prices

Developments in house prices may have a significant impact on the financial health of households and, consequently, on that of lending institutions. Indeed, real estate represents the largest asset of households.¹⁰ The assessment of developments in Canadian house prices is therefore key to determining the ability of households to meet their future debt obligations.

9. See the discussion on page 17 of this *Review* for a discussion of the subprime mortgage market in Canada.

10. Real estate represented about 38 per cent of total households assets in the second quarter of 2005.

Chart 4 Canadian Financial Indicators

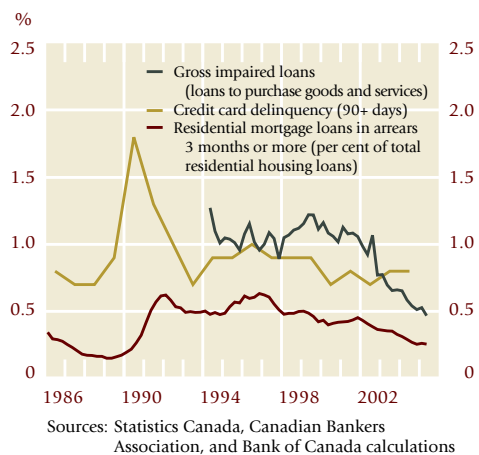


Chart 5 Projections for the Debt-Service Ratio Based on Different Paths for the Overnight Rate

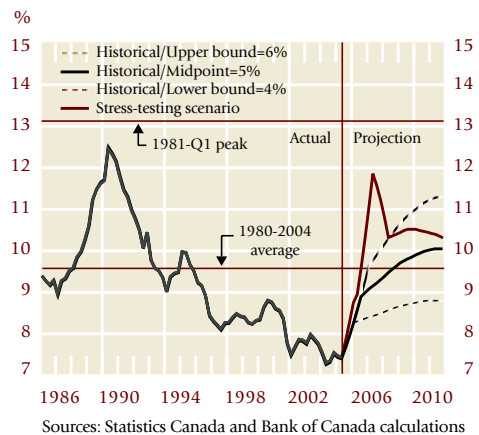


Chart 6 Developments in Real House Prices

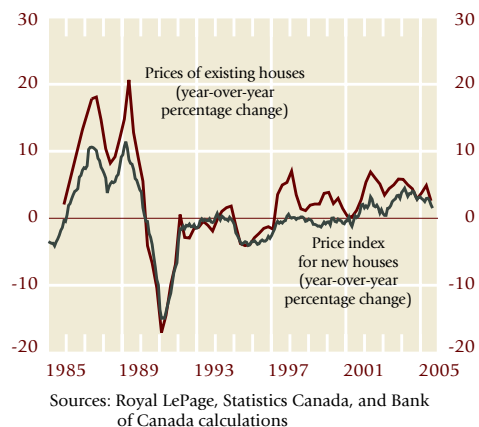
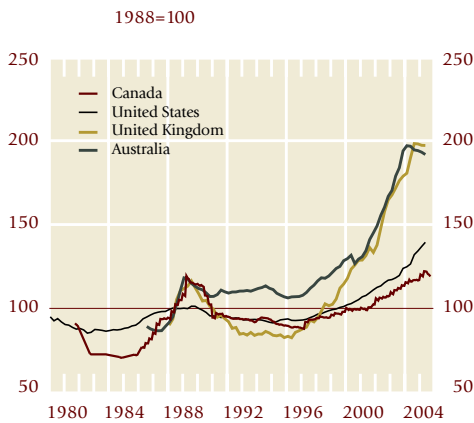
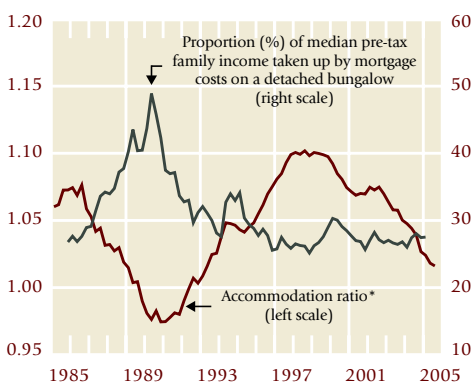


Chart 7 International Prices for Existing Houses – Real*



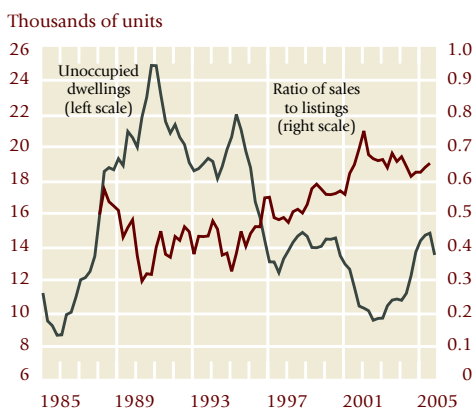
* Deflated using national consumer price indexes
Sources: Bank of Canada and Royal LePage (Canada), Office of Federal Housing Enterprise Oversight (OFHEO) (U.S.), Australian Bureau of Statistics (Australia), Office of the Deputy Prime Minister (U.K.)

Chart 8 Affordability of Housing and Accommodation



* The accommodation ratio is equal to the rented-accommodation component of the CPI divided by the owned-accommodation component of the CPI.
Source: Statistics Canada

Chart 9 Housing-Supply Indicators



Sources: Bank of Canada and Multiple Listing Service

After an extended period of flat prices in the 1990s, Canada has experienced increases in house prices in the past few years. These increases, however, have been much more subdued and more gradual than those observed in Canada in the late 1980s (Chart 6), and much more subdued than those in several other countries (Chart 7). In addition, they appear to have been supported by fundamental factors, including rising real disposable income in the second half of the 1990s and low interest rates. And, in contrast to the late 1980s, there are very few signs of speculative activity in the Canadian housing market.¹¹ Houses are apparently being purchased mainly for owner occupancy and because home ownership is currently very affordable by historical standards (note the affordability measure plotted in Chart 8).¹² Finally, it should be noted that the pace of increase in house prices has moderated recently: the inflation-adjusted price of existing houses rose by 4.4 per cent in the second quarter of 2005 from that a year earlier—well below the 6.9 per cent increase in the same quarter in 2002—and the pace of increase in the price index for new housing has been steadily decreasing since June 2004 (Chart 6).

These adjustments in house prices are consistent with improving supply in the market for new homes—illustrated by the gradual increase in the number of recently completed but unoccupied dwellings—as well as in the resale market (Chart 9). They are also consistent with easing conditions in rental markets across Canada, as illustrated by rising national rental vacancy rates (from 1.6 to 2.7 per cent between 2001 and 2004). The combination of rising house prices and easing rental conditions has led to a gradual decrease in the accommodation ratio, which compares the relative cost of renting a dwelling with that of owning a home

11. This does not exclude the fact that some purchases are made for investment purposes; i.e., houses turned into rentals after purchase. Indeed, CMHC estimates that condominiums owned by investors for rental account for about 20 per cent of condominiums in Toronto (CMHC 2004).
12. Affordability made home ownership feasible for a broader range of potential buyers, including younger and single buyers. This led to a strong demand from first-time home buyers. See Royal LePage 2004 and 2005.

(Chart 8).¹³ This situation should lead prospective buyers to reconsider their home-buying intentions, thereby moderating increases in house prices.

Taken together, these developments support the view that a significant reversal in house prices in Canada is unlikely. The analysis does not, however, exclude the possibility that some imbalances may exist in certain local or specific segments of the Canadian housing market. Based on the overall analysis, risks to the financial system related to the Canadian housing market remain limited.

The Macrofinancial Environment

The global economic expansion has maintained a healthy pace in recent months. Nevertheless, higher world energy prices have led to increased economic and financial uncertainty.

The global environment

Despite increased energy costs, expectations for economic growth in industrialized countries in 2006 have been revised up since the June 2005 *Review* (Chart 10). Activity in many emerging-market economies, especially those in Asia, is also projected to remain robust, and growth prospects in Japan have improved substantially. Expectations for growth in the United States remain solid, despite the impact of three hurricanes. As a result, financial market participants expect the U.S. federal funds rate to rise to about 4.75 per cent by the middle of next year.

Healthy corporate profits and favourable financing conditions continue to moderate the levels of various indicators of financial distress, such as default rates. According to Standard & Poor's, the global corporate default rate for speculative issuers, on a 12-month rolling-average basis, was 1.6 per cent in October, a level similar to the eight-year low recorded in March 2005 (Chart 11). It remains significantly below

the long-term (1981–2004) average of 4.96 per cent.

Emerging markets

Yield spreads on emerging-market bonds, as depicted by the Emerging Market Bond Index (EMBI), reached a historical low of 238 basis points on 25 November and thus remain well below their historical average (from 1998) of 705 basis points (Chart 12). The drop in the EMBI is partly attributable to a general improvement in macroeconomic conditions in emerging markets and also reflects very low bond yields in industrialized countries that provided investors with incentives to move towards high-yielding emerging-market bonds. This search by investors for higher yields led to portfolio reallocations towards riskier assets, including the bonds of emerging markets. This is reflected in sizable new inflows into the secondary market for EMBI bonds. The Institute of International Finance expects net private capital flows to emerging markets to reach a record high US\$345 billion in 2005, surpassing the previous record of US\$323 billion reached in 1996 prior to the Asian crisis.

Although these narrow spreads have been maintained for two years, they may not continue. Indeed, low real interest rates in industrialized countries and abundant liquidity are cyclical. As well, the global appetite for risk is subject to change. As many central banks in the industrialized countries reduce monetary policy stimulus, the economic fundamentals in many emerging-market countries will likely become more important in determining the level of yield spreads. Hence, there are renewed concerns that current valuations have outpaced fundamentals, resulting in a risk of a possible sell-off of emerging-market assets, leading to increased volatility and a sudden decrease in their prices. Should this occur, the direct impact on the Canadian financial system would likely be limited. For instance, the direct exposure of the Canadian banking sector to emerging markets represents only 2.5 per cent of their total assets.

Developments in Asia

The unwinding of global imbalances remains a key issue for the stability of the global financial system. Two elements that would contribute to

13. The accommodation ratio is equal to the rented-accommodation component of the CPI divided by the owned-accommodation component.

Chart 10 Evolution of Consensus Estimates for Annual Growth of Industrialized Economies*



an orderly correction of global imbalances are increased exchange rate flexibility and an increase in the domestic demand (or a reduction in household savings) in Asian countries. China revalued the renminbi by 2.1 per cent on 21 July and announced a mechanism that permits future changes to its exchange rate to be made with reference to a basket of currencies. Additional pressure has been placed on some Asian exchange rates by the budgetary impact of rising energy subsidies. At the same time, strong public support in Japan for the government's privatization of postal savings and insurance has improved the outlook for economic reform and sustained growth in Japan (Chart 13). Nonetheless, the resolution of global imbalances is likely to require a more widespread adjustment in foreign exchange rates and savings across Asia.

The United States

In the United States, attention has recently focused on the economic impact of hurricanes, the sharp increases in U.S. house prices, and rising inflation expectations.

In certain regions of the United States, nominal house price increases appear to have outpaced movements in the underlying fundamentals. The U.S. nationwide house price index rose 75 per cent from 1997 to 2005. A sizable portion can be attributed to the increases in California (160 per cent), in Massachusetts (126 per cent), and in New York (103 per cent) (Chart 14).¹⁴ Excluding these three states, house prices have risen by 53 per cent over the same period.

Increasing policy rates and heightened inflation expectations could lead to higher mortgage rates, thereby curbing future increases in house prices in the United States. However, recent experience in some countries that had had sharp increases in house prices, such as the United Kingdom and Australia, suggests that adjustments in the housing market could be relatively gradual and modest and have only a negligible effect on the overall health of the domestic financial system (Chart 15). It thus appears that

Chart 11 Default Rates on Speculative-Grade Bonds

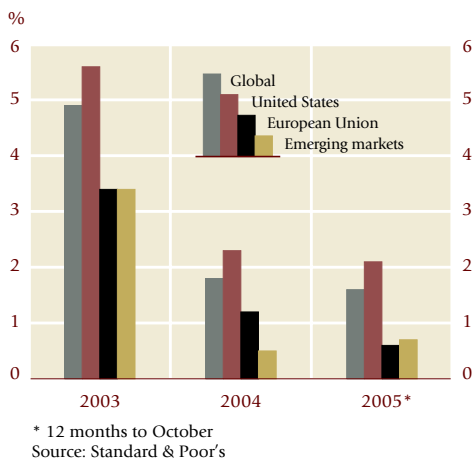
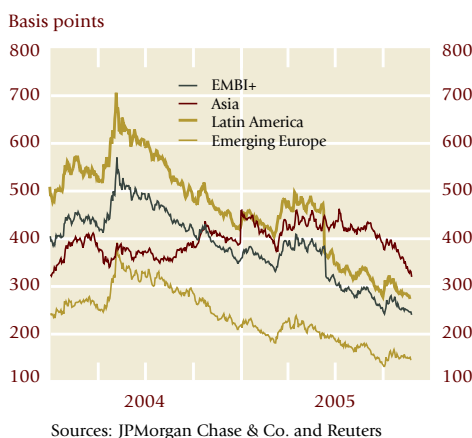


Chart 12 Sovereign Bond Spreads



14. The OFHEO data set includes only mortgage lending below \$360,000. Several metropolitan areas (most notably in California) require homeowners to borrow well in excess of this to finance their purchase, thus the index may understate the true contribution of California to the national housing market.

the potential adjustments to U.S. housing prices would be unlikely to shake the stability of the overall U.S. financial system.¹⁵

The full impact of hurricanes Katrina, Rita, and Wilma on the U.S. financial system is difficult to evaluate at this time. According to the Insurance Information Institute, the number of anticipated claims will easily exceed the previous record of two million claims received from the four Florida storms in 2004. Preliminary estimates suggest that insured losses could exceed US\$50 billion.¹⁶ This is well above the cost of Hurricane Andrew in 1992 that eventually led to some insurance bankruptcies because of concentrated exposure to risk. Since then, however, the insurance industry has adopted risk-management systems to limit risk concentrations to acceptable levels. As a result, Standard & Poor's does not expect any solvency issues for insurance and reinsurance companies involved with the 2005 hurricane season (Standard & Poor's 2005). A more probable channel of stress on the financial system is through personal and business bankruptcies resulting from the hurricanes. The magnitude of these bankruptcies will be known only as the number of uninsured businesses and individuals is revealed.

The Canadian financial system appears to be in a position to easily withstand the impact of a potential adjustment in U.S. house prices or adverse developments related to the recent hurricanes. The direct exposure of Canadian banks to the entire U.S. private sector (households and businesses) represents only about 10 per cent of their total assets, and only a very small fraction of these would be affected.¹⁷

The Canadian economy

Economic growth in Canada picked up in the second quarter of 2005 (Chart 16). Indeed, the Bank now feels that the Canadian economy was operating at its production potential at mid-year.

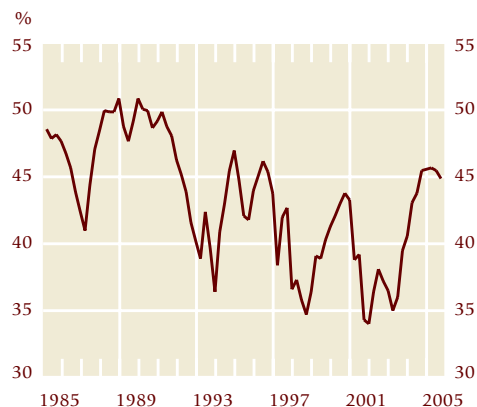
15. Other factors may increase the extent to which a decline in U.S. house prices could affect the U.S. financial system. These include the increasing prevalence of non-traditional mortgage products and the easing of traditional credit underwriting practices. See Schmidt Bies (2005).

16. Insurance Information Institute, October 2005.

17. See the Financial Institutions section on page 15 of this *Review* for more on the impact of recent hurricanes.

**Chart 13 Consumer Confidence Index*:
Japan**

Seasonally adjusted

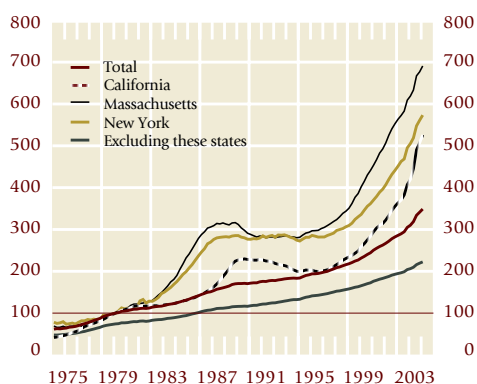


* Ranges between 0% (all consumers expect conditions to worsen) and 100% (all consumers expect conditions to improve)

Sources: Thomson Financial Datastream and Cabinet Office

Chart 14 House Price Index: United States

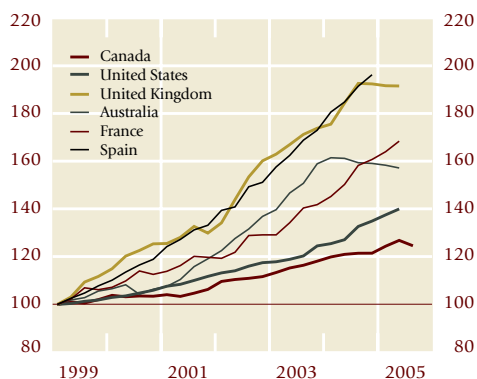
1980Q1=100



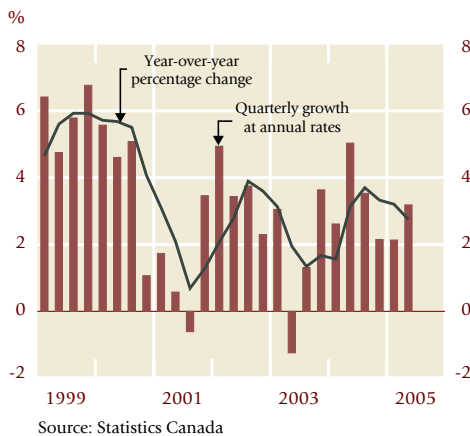
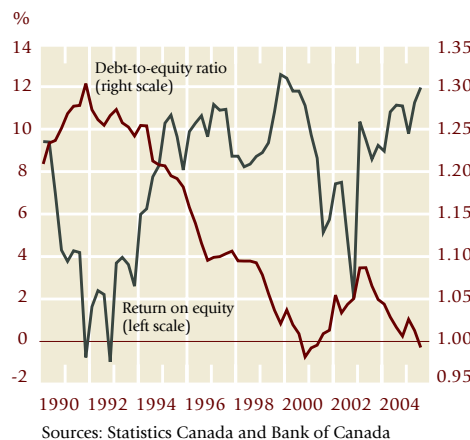
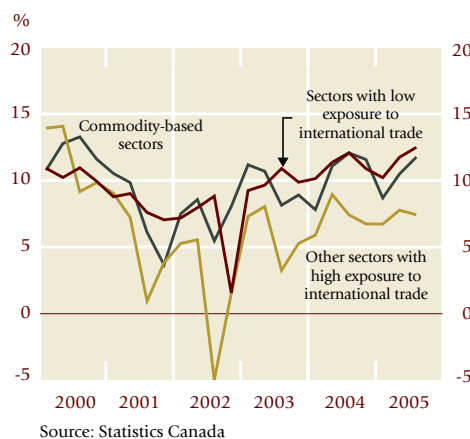
Sources: OFHEO and Bank of Canada calculations

Chart 15 International House Prices – Real*

1999Q1=100



* Deflated using national consumer price indexes
Sources: Bank of Canada and Royal LePage (Canada), OFHEO (U.S.), Australian Bureau of Statistics (Australia), Office of the Deputy Prime Minister (U.K.), INSEE (France), Bank of Spain (Spain)

Chart 16 Real GDP Growth: Canada**Chart 17 Financial Position of the Canadian Non-Financial Corporate Sector****Chart 18 Quarterly Financial Statistics for Enterprises: Rate of Return on Equity for Selected Sectors**

(See the October 2005 *Monetary Policy Report*.) Economic expansion is expected to continue to be supported chiefly by marked gains in final domestic demand. But the drag on real net exports arising from the past appreciation of the Canadian dollar is likely to lessen in 2006 and 2007.

Corporate Sector

The financial position of the non-financial corporate sector remained quite robust in the first three quarters of 2005. Profitability has been at a high level since early 2004, and leverage continued to be very low so far this year (Chart 17).

In the first three quarters of 2005, profitability remained quite strong in most sectors with a low exposure to international trade, as well as in the oil and gas extraction sector (Chart 18). However, the profits of some of the non-energy, commodity-producing sectors did ease from the very high levels reached in the second half of 2004, partly reflecting the impact of both the past rise in the Canadian dollar and sharp increases in the costs of energy and raw materials.

Profitability in most of the other industries with a high exposure to international competition (other than commodity producers) remained comparatively weak. Many firms in these industries continued to adjust to the past appreciation of the Canadian dollar, the high level of energy and raw-materials costs, and increasing competition from emerging markets.

While profitability, overall, remained quite high, the confidence of large firms has decreased since the third quarter of 2004 (Chart 19). The confidence of small firms has also fallen off since early 2005, owing partly to the substantial increase in fuel prices.

Industry

A number of industries, such as auto manufacturing, wood and paper products, and computer and electronics manufacturing, have been subject to considerable financial stress over most of the period since 2001. These industries account for about 12 per cent of the debt of the non-financial business sector. They also represent about 12 per cent of the Canadian banking sector's total loans and overdrafts to non-financial enterprises. Thus, although adjustments may be painful for those directly affected, the risks that these industries pose to the soundness of the financial system are limited.

Nonetheless, the further rise in the Canadian dollar since mid-2004 and substantial increases in the cost of energy and other raw materials exacerbated these industries' difficulties.

The profitability of Canada's auto manufacturing industry, as a whole, has hovered near its 16-year average (Chart 20). However, many auto parts companies in Canada (and in the United States) are continuing to experience serious financial problems. A key issue for most of these firms is that U.S. auto manufacturers, given sharply rising health-care and pension costs, are continuing to press for cost savings from their suppliers.¹⁸

Profitability in the wood and paper products industry has fallen markedly since the third quarter of 2004, reflecting such factors as the appreciation of the Canadian dollar and the surge in energy costs (Chart 21). Indeed, many pulp and paper companies are undertaking a considerable restructuring of their operations.

Rates of return in the electronics and computer manufacturing industry remained much lower than normal in the first three quarters of 2005 (Chart 22). Both the appreciation of the Canadian dollar and ongoing competitive pressures from firms in emerging markets are continuing to exert significant downward pressure on profitability.

The recent sharp rise in fuel costs is also likely to have significant adverse effects on the profitability of the Canadian air transport industry.

Elsewhere, grain producers are being adversely affected by the weakness of global grain prices, the appreciation of the Canadian dollar, sharp increases in energy and freight costs, and the lower-than-normal quality of this year's crop in Western Canada.¹⁹

The Financial System

Financial Markets

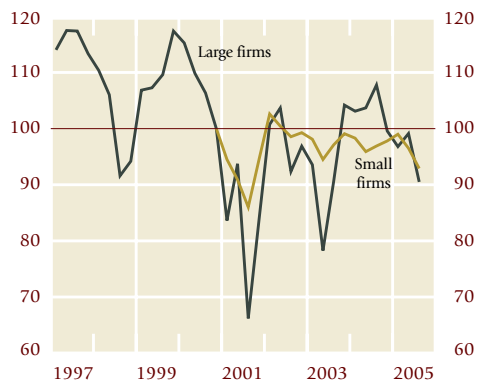
Since the time of the last *Review*, global financial markets have experienced a number of adverse shocks, including sharply higher energy prices and some concerns about a rise in inflation.

18. General Motors has recently announced a number of measures to significantly reduce its costs.

19. The federal government recently announced emergency financial assistance for grain and oilseed producers.

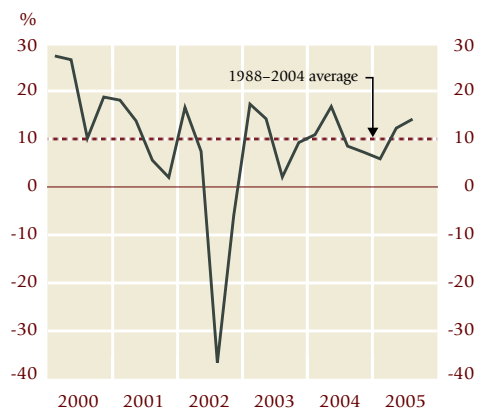
Chart 19 Canadian Business Confidence

2000Q4=100



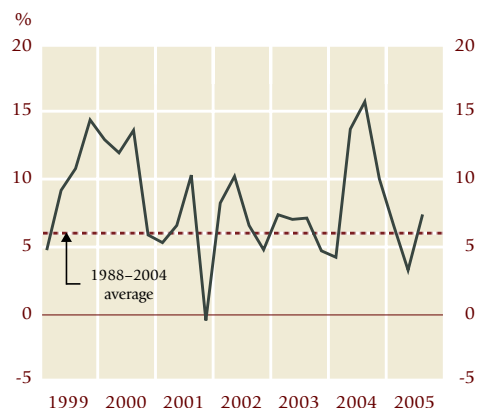
Sources: The Conference Board of Canada and CFIB Research

Chart 20 Return on Equity: Automotive Manufacturing

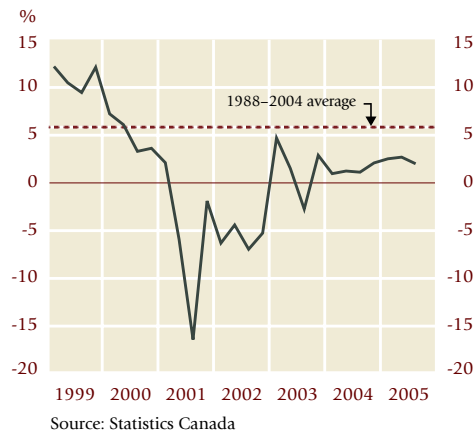
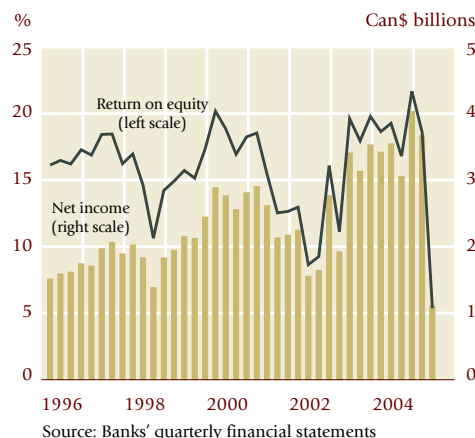


Source: Statistics Canada

Chart 21 Return on Equity: Wood and Paper Manufacturing



Source: Statistics Canada

Chart 22 Return on Equity: Electronics and Computer Manufacturing**Chart 23 Yields on 10-Year U.S. and Canadian Bonds and Spread on Canadian Corporate High-Yield Bonds****Chart 24 Bank Profits**

In Canada, discussions about the tax treatment of the income trust sector had added some uncertainty to financial markets.

Prices of government bonds have declined, particularly those on long-term U.S. Treasuries whose yields are now well above the levels of June 2005. Global equity prices have continued to move higher, driven partly by strong profits, led by the energy sector. U.S. equity indexes have lagged somewhat, mainly because of rising interest rates and mounting inflation concerns in the United States. Nevertheless, the risk appetite of investors remains relatively strong. For instance, credit spreads (outside of the auto sector) remain near cyclical lows (Chart 23).

To date, financial markets seem to be adjusting to this period of greater uncertainty in an orderly fashion. But additional sources of risk to global financial markets remain, including the possibility of a disorderly adjustment of global imbalances and the adverse implications of investors' continued search for higher financial returns.²⁰

Financial Institutions

The combined financial performance of major banks fell sharply in the third quarter of 2005 (Chart 24). The decline in bank profits was largely attributable to a one-time charge of Can\$2.5 billion on CIBC earnings arising from an agreement in principle to settle the 2003 Enron class action litigation initiated on behalf of investors in Enron securities.²¹ CIBC has stated that, after taking this large charge into account, its Tier 1 capital ratio will remain above the minimum levels set out in OSFI's guideline in its Capital Adequacy Framework (CIBC 2005).

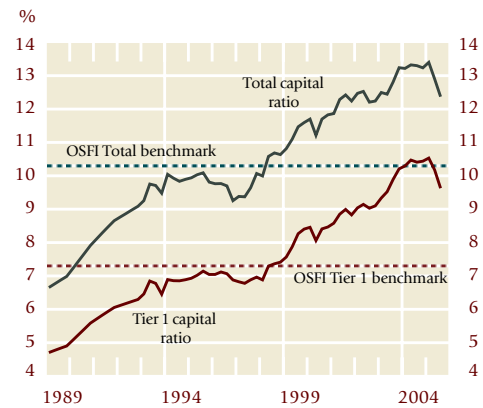
Overall, the implications of the CIBC charge to earnings do not alter the Bank of Canada's assessment of the overall long-term soundness of the banking system. Major Canadian banks reported very strong financial results in the first half of 2005. Average return on equity over that period was about 20 per cent. The diversified

20. Recall the discussion on page 5 of this *Review* on the implications of low long-term bond yields for the financial system.
21. The Royal Bank and the Toronto-Dominion Bank have yet to settle the class action suit initiated by former Enron investors. Private sector analysts expect that any settlement on the behalf of these banks would be substantially less.

business strategy of major banks has supported continued strength in their financial results. The credit quality of their assets also appears to remain high. Furthermore, the very strong capital position of the sector provides institutions with a buffer should adverse economic or financial developments occur (Chart 25).

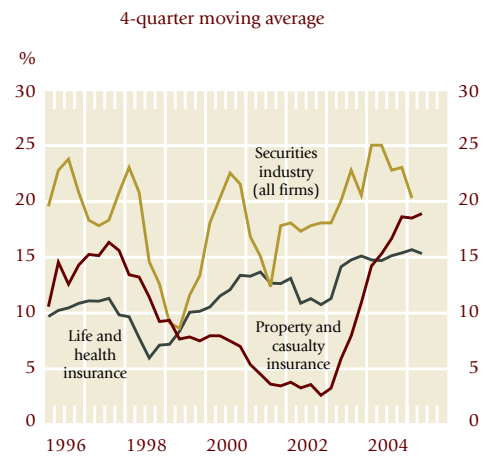
The property, casualty, and life insurance industries in Canada continued to report robust profitability over the first two quarters of 2005 (Chart 26). It is expected that hurricanes Katrina, Rita, and Wilma will negatively affect those Canadian companies with operations in the United States.²² But the financial consequences of the hurricanes are not expected to have a significant effect on the financial strength of these companies in light of their robust capital position. The securities industry in Canada has also maintained high profitability.

Chart 25 Capital Ratios of All Banks Operating in Canada



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

Chart 26 Return on Equity



Sources: OSFI, Investment Dealers Association, and Bank of Canada calculations

22. Private sector analysts expect Canadian insurers to report about Can\$550 million in after-tax charges.

Important Financial System Developments

This section of the *Developments and Trends* examines structural developments affecting the Canadian financial system and its safety and efficiency.

Highlighted Issue

The subprime mortgage market in Canada

Prepared by Jim Day

Until very recently, the self-employed, those with a blemished credit history, or those without an established credit history, had difficulty obtaining a mortgage in Canada. This market is now being tapped by a small group of niche lenders. These lenders have experienced strong growth in the past five years by catering to borrowers who do not fit the credit-scoring criteria of major banks. This has increased the efficiency of the financial system by allowing households across a broader range of creditworthiness to obtain mortgage financing and thus become homeowners. But the development of this market in Canada, referred to as the subprime mortgage market, also raises potential risks from a financial stability perspective. This section presents stylized facts about the subprime mortgage market in Canada, together with implications for the financial system.²³

The term “subprime” refers to any lending that has elevated credit risk. Subprime mortgages are rated by their perceived risk: A-, B, C, and even D. Credit scores are used extensively by institutions to determine the appropriate level of risk. Another group of higher-risk mortgage loans are known

as “Alt-A” loans. Borrowers in this group often have good credit scores, but documentation describing their income or employment is limited. Loans that are outside the typical debt-to-income ratios and mortgages with high loan-to-value ratios would also fall into the Alt-A category.

The major players in Canada’s subprime mortgage market are Equitable Trust, Home Trust, Xceed Mortgage, Bridgewater Financial, Wells Fargo Financial Corp., and GMAC Residential Funding (through broker Mortgage Intelligence). The vast majority of subprime mortgage loans are made through mortgage brokerages and their network of agents. One subprime lender estimates the potential size of the subprime mortgage market in Canada to be about \$55 billion (9 per cent of the current total residential mortgage market), suggesting potential growth for this market of \$45 billion. In the United States, subprime mortgage loans make up about 11 per cent of all mortgage loans (up from just 1 per cent to 2 per cent in the early 1990s) and accounted for about 20 per cent of all new mortgage loans in 2004.

Subprime loans have higher risk of default and are more labour-intensive to administer. Lenders are compensated for this by charging higher interest rates and fees than they would for traditional mortgages. How much higher the mortgage rate is depends on factors such as credit score, size of the down payment, and the property type (e.g., single-family home or condominium) and location. Generally, FICO (Fair Isaac and Company) credit scores above 680 are considered prime (scores range from 300 to 900) and would qualify a person for the best, or

23. This analysis is based on the limited statistics that are currently available, as well as on anecdotal sources, including newspaper articles, research reports, and corporate financial statements.

close to the best, mortgage rates. Scores between 600 and 680 are considered near prime.

Canadian subprime lenders indicate that they are primarily targeting borrowers just outside the comfort zone of major banks. As well, they are, for the most part, not offering some of the non-traditional mortgage products including features with elevated risks that have become more common in the United States. For example, only one Canadian subprime lender is offering an interest-only mortgage product. Thus, Canadian subprime loans are less likely to go into default. This is reflected in the fact that one subprime lender posted a 5-year rate only about 150 basis points above the best prime mortgage rates of major banks, while the premium in the United States for the riskiest eligible borrowers can be more than 500 basis points over the best rate.

This level of selectivity by Canadian lenders appears to have contributed to somewhat lower delinquency rates compared with those of their U.S. counterparts: the delinquency rates at Canadian subprime lenders are two to four times the level at the major banks. This is broadly comparable to the delinquency rate on U.S. prime mortgage loans.

To assess the vulnerability of Canadian subprime lenders and the potential implications for the domestic financial system, it is useful to consider the percentage of subprime mortgage loans that are insured. In Canada, federal law requires that mortgages granted by federally regulated financial institutions and having a loan-to-value ratio greater than 75 per cent carry mortgage insurance. This provision protects the lender in the case of borrower default. The two largest subprime lenders in Canada are both federally regulated. In fact, both have a policy of lending only up to a maximum loan-to-value ratio of 75 per cent. Even if it is not required by law, they still choose to insure a significant portion of their mortgages.²⁴

Canadian subprime lenders securitize a greater share of their mortgages than do major banks. Almost all of the insured loans of the top two subprime lenders are securitized and sold under CMHC's NHA mortgage-backed securities program. Since very few insured mortgages are kept

on the balance sheet of the subprime lenders, it is the risk profile of the uninsured portfolio maintained as assets that will determine what effect any change in economic conditions might have on the credit quality of those assets.

As stated above, the two largest subprime lenders in Canada fall under the oversight of OSFI and are subject to its rules and guidelines. While not under OSFI regulation, the other major subprime lenders are publicly traded companies; the public availability of their financial reports aids market discipline.

Over the longer term, potential financial system vulnerabilities could arise from the subprime market. This could occur if economic conditions weaken and/or if interest rates rise. Such developments would likely affect subprime borrowers to a greater degree, since prime borrowers generally have more financial resources available to them. The risk that this market poses to the financial system would be somewhat greater if Canadian lenders started to follow their U.S. counterparts in targeting riskier borrowers and offering riskier mortgage products. However, it does not appear that the developing subprime market in Canada is posing an imminent risk to the soundness of the domestic financial system.

Rather, the development of the subprime market in Canada has increased the efficiency of the financial system by allowing households across a broader range of creditworthiness to obtain mortgage financing and thus become homeowners.

The Financial System

Financial Markets

In October 2005, the board of directors of the Investment Dealers Association of Canada (IDA) approved a proposal to create a trade association to represent the brokerage industry, as well as a separate regulatory body to oversee the activities of brokers and their employees. This decision was taken to address concerns about potential conflicts of interest and, ultimately, to maintain investor confidence in the self-regulatory organization. Member firms will vote on the proposal before year-end.

24. Source: Bank of Canada calculation based on company financial statements

Box 1**The Structure and Evolution of Markets for Energy Derivatives**

Deregulation, together with recent geopolitical events, has spurred a tremendous growth in derivative markets for oil, natural gas, and electricity. The volume of energy contracts traded on the New York Mercantile Exchange (NYMEX) has increased from 41.5 million contracts in 1990 to 118.9 million in 2004 (105.4 million as of September 2005). To put this in context, in April 2005, roughly 5.7 million oil futures contracts traded on the NYMEX, which translated into an underlying (notional) value of approximately US\$286 billion.

Exchange-traded derivatives have been around for some time, with oil futures and options contracts trading since the late 1970s in the United States. More recently, electronic energy-trading systems that specialize in over-the-counter (OTC) energy instruments have emerged, including the Intercontinental Exchange (ICE) in the United States. In Canada, the NGX (owned by the TSX), which began operations in 1994, currently trades roughly \$40 billion annually in notional value of energy derivative contracts. But it trades predominantly physical electricity and natural gas (spot) contracts. The development of these markets is important for the financial system, since they can enhance both its efficiency and its stability.

Like most derivatives, energy derivatives were initially developed to enable energy market participants to hedge against market risk. The new competitive environment that resulted from deregulation amplified the need for energy derivatives, such as exchange-traded futures and options, or off-exchange-traded more-customized instruments, such as forwards and basis swaps, to manage the price risks.¹ These instruments allow firms to better cope with the price uncertainty of a deregulated environment. (See U.S. Department of Energy (2002) for more on risk-management practices in the energy sector.)

Compared with those who invest in equities, bonds, and foreign exchange instruments, energy producers and industrial energy consumers face relatively larger market risks, given the volatility of the underlying energy-commodity prices (Table A). The higher volatility of energy prices relates to the greater sensitivity of wholesale energy markets to non-financial (or non-macroeconomic) events, such as weather. Moreover, natural gas and, more importantly, electricity, face geographic and storage constraints. These imply that local supply shortages or gluts cannot be easily balanced against non-local offsetting imbalances. Without access to financial contracts on energy, producers and

industrial consumers face a relatively higher probability of sharp changes in their financial health.

This brings us to the market-efficiency benefits of energy derivatives. Since energy derivatives allow energy-related firms to better manage their risks, this implicitly lowers their cost of capital (and/or lowers their probability of default). To the extent that firms face costs related to financial distress, the existence of derivatives (by reducing these costs) increases the profitability of any given investment.²

By introducing clearing services for OTC trades, energy exchanges like the NGX, ICE, and NYMEX have also allowed a reduction in the amount of collateral required to back OTC trading and, in the end, the aggregate level of OTC trading counterparty risk. Centralized clearing also makes it easier and less costly for non-traditional participants, such as hedge funds, pensions funds, and investment banks, to enter the energy market and trade with energy producers and industrial consumers, because their counterparty risk concerns are averted.

Table A

Volatility in Energy Prices and Financial Markets*

Electricity	403
Natural gas	78
WTI crude oil	42
S & P 500	13.4
10-year Canadian bonds	9.5
U.S. Dollar/Canadian dollar	4.6

* Average annualized volatility calculated using sample ranges beginning between 1990 and 1995, ending in 2005.

1. Since producers had little incentive to expand supply, the regulation of energy markets led to increasingly acute supply shortages, thus driving the need for deregulation.

2. Allayannis and Weston (2001) show that firms that are more likely to come under duress are likely to use derivatives. Other studies show that increased hedging activity by firms increases firm value (U.S. Department of Energy 2002).

On a different note, a number of developments have spurred a tremendous growth in financial energy-trading markets (oil, natural gas, and electricity). The emergence of these markets has allowed traditional energy market participants (such as utilities, refiners, and oil and gas producers) to hedge their exposures to energy risks more effectively. The implications of these developments for Canada's financial system are assessed in Box 1.

Other recent financial market developments include the issuance by a number of sovereign debt managers of ultra-long bonds. The potential implications of this development for financial system efficiency are discussed in Box 2.

Globally, capital markets are becoming increasingly liberalized and integrated. Within this context, authorities are working to implement a more coherent set of global accounting standards in order to contribute to a more efficient allocation of capital from savers to borrowers. The rationale for these efforts, as well as their prospects for enhancing the efficiency of the domestic financial system, are discussed in Box 3.

Financial Institutions

Over the last several years, numerous factors, including the low returns on traditional financial instruments, have encouraged retail investors to purchase complex financial instruments from securities dealers.²⁵ These include instruments referred to as principal-protected notes, collateralized debt obligations, credit default swaps, and volatility protection. This development raises the need for authorities and securities dealers to promote the financial education of households to help them better understand the financial risks to which they are exposing themselves by investing in such products. Selling financial instruments with complex characteristics to retail investors also exposes securities dealers that market such products to reputational and legal risks. This, in turn, raises the need for Canadian

banks and dealers to maintain appropriate internal controls in order to effectively manage such legal and reputational risk.

Clearing and Settlement Systems

The Automated Clearing Settlement System (ACSS) clears and settles paper-based payments, such as cheques, and electronic items, including direct deposits and pre-authorized withdrawals. In February 2003, the Canadian Payments Association introduced a \$25 million cap on all paper-based payments clearing through the ACSS. This initiative was designed to encourage institutions to send their large-value payments through the Large Value Transfer System (LVTS), which has stronger risk controls and offers immediate finality and irrevocability of payment.²⁶

The \$25 million cap affected one particular payment category in the ACSS: the L-stream, which represents all paper-based payments with values of more than \$50,000. Although total L-stream values had been trending downwards prior to 2003, the cap caused an additional \$4 billion reduction in the L-stream value, to a daily average of \$7.5 billion (Chart 27). This decline has been partially offset by strong growth in the electronic payment categories. As a result, the total value of ACSS payments fell by only about \$3.5 billion when the cap was implemented and has trended upwards since the beginning of 2004 (Chart 28).

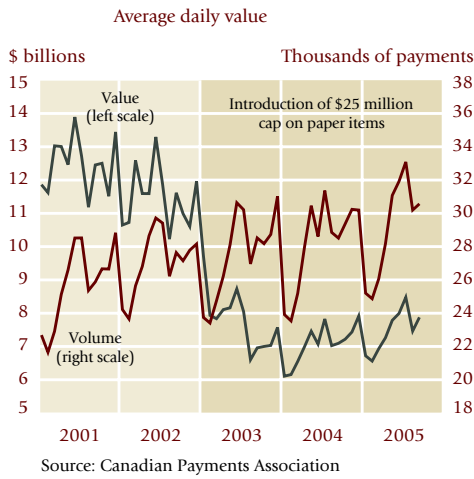
Prior to implementation of the cap, there was concern that large-value payments would not migrate to the LVTS, but would be transferred to other electronic payment categories within the ACSS; namely, Automated Fund Transfer and Electronic Data Interchange (AFT/EDI).²⁷ If such "leakage" occurred, one would expect an accelerated growth in AFT/EDI values after the cap was in place. Although continuing to grow very strongly, there is no evidence of any acceleration since February 2003 (Chart 29).

25. This development is part of the broader trend of households carrying increasing levels of financial risk. See pages 8 to 10 of the June 2005 *Review* for more on this issue.

26. For more information on this initiative see <http://www.cdnpay.ca/publications/news_ceiling.2asp>.

27. AFT contains credits (e.g., direct deposits) and debits (e.g., pre-authorized withdrawals). EDI is often used for payments between corporations.

Chart 27 Paper Items over \$50,000 (L-Stream) in ACSS



Moreover, there is continued effort to examine ways to move more large-value payments to the LVTS.²⁸ For example, efforts have been made to encourage the movement of entitlement payments²⁹ away from paper cheques to more efficient means, such as payment through the LVTS or directly into the securities settlement system.

Chart 28 Total Items Processed by the ACSS

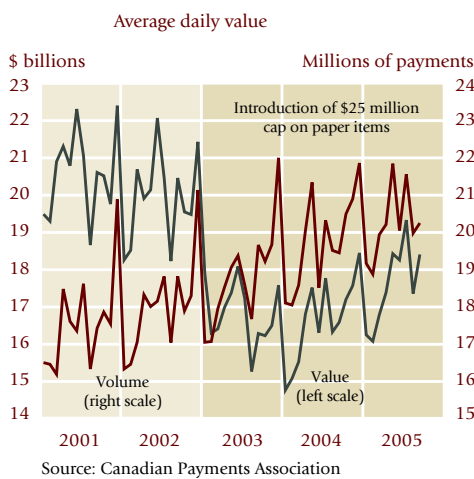
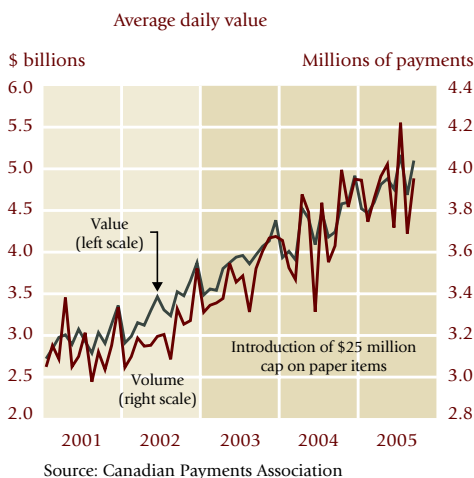


Chart 29 AFT/EDI Items in ACSS



28. A significant portion of the large-value cheques are associated with entitlement payments for the securities business. This inefficient process creates unnecessary cost for CDSX, the Canadian securities clearing and settlement system, and exposes the Canadian Depository for Securities to a small risk.
29. These are payments (e.g., interest and dividend) made to holders of securities by the issuers.

Box 2

Recent Developments in Ultra-Long Sovereign Bonds

Demographic trends, especially the aging of the workforce and the increase in life expectancy at retirement age, in combination with recent changes in accounting standards and pension fund regulations in Europe, have led pension funds to focus on the merits of matching pension fund assets with long-term liabilities. This interest has suited the objectives of a number of sovereign debt managers who see an opportunity to cost-effectively diversify their sources of funding to finance fiscal deficits.

As a result, some sovereign issuers have issued high-quality ultra-long bonds, with a maturity of up to 50 years. The issuance of these fixed-income instruments is in line with the policy conclusions of a recent G-10 report (2005). These bonds may enhance the stability and efficiency of the financial system by enabling pension funds and life insurers to better match their assets with their liabilities.

In February 2005, the French Treasury Agency (AFT) became the first sovereign issuer in recent years to sell ultra-long bonds by issuing €6 billion of 50-year bonds at a yield 3 basis points above that on the French 30-year benchmark bond. The issuance was successful and confirmed the growing interest of institutional investors in ultra-long bonds. Pension funds and asset managers were allotted 53 per cent of the issue. Bonds allocated to insurance companies and banks were worth, respectively, 14 per cent and 13 per cent of the amount issued. The geographic distribution of the issue confirms widespread interest in longer-term bonds. About 45 per cent of the distribution was outside the euro zone, with 7 per cent going to investors in North America. The AFT has indicated that the outstanding amount of the 50-year bond will be increased to €10-€15 billion in the future.

Following the AFT's 50-year issue, the U.K. government issued £2.5 billion of 50-year conventional gilts in an auction at 10 basis points below the yield on 30-year conventional gilts. The U.K. Debt Management Office (DMO) auctioned an additional £2.25 billion on 14 July to promote the liquidity of the original issue and, on 22 September, introduced through syndication the world's first 50-year inflation-linked bond. The nominal amount of this issue was £1.25 billion.

Table A provides details of these new ultra-long bond issues.

Current sovereign issuers of ultra-long bonds have indicated that their initiative was consistent with their funding strategies and not opportunistic. The issuance of ultra-long bonds may not be appropriate for sovereigns with limited borrowing requirements. However, it may enhance the efficiency of the financial system by providing benchmarks for non-sovereign issues, such as the 50-year euro-denominated bond issued by Telecom Italia in March 2005. The duration and the convexity of ultra-long bonds make them attractive fixed-income instruments for the hedging and arbitrage activity of other financial market participants.

Table A

Details of New Ultra-Long Bond Issues

	France (AFT)	U.K. (DMO)
Issuance mechanism	Syndication	Auction
Security type	OAT	Conventional gilt
Announcement date	23 February 2005	26 May 2005
Maturity date	25 April 2055	7 December 2055
Coupon	4%	4.25%
Amount issued	€6.00 billion	£2.50 billion
Total demand	€10.5 billion	£3.99 billion
Yield	4.21%	4.22%

Sources: Agence France Trésor and U.K. Debt Management Office

Box 3**The International Convergence of Accounting Standards**

As capital markets become increasingly liberalized and integrated globally, accounting standard-setters are working towards greater consistency in standards across jurisdictions. This should ultimately lead to a more efficient allocation of capital globally across companies and projects.

The use of a more coherent set of global standards would enhance the comparability of firms and industries across borders. The scope for markets to receive false signals about a foreign company's prospects because of a lack of familiarity with the standards used for its accounts should also be reduced. Investors should be able to make better-informed decisions about foreign investment opportunities and diversify their portfolios globally at a lesser cost.

The global convergence of accounting conventions would also lower the cost of financial reporting—and thus the cost of raising capital—for firms accessing capital markets in multiple countries by eliminating the need for duplication of financial statements. This would create greater competition for listings among marketplaces, potentially enhancing the efficiency of the financial system as a whole. For these benefits to materialize, however, standards for financial disclosure need to be sound, complete, and applied consistently across companies and jurisdictions.

International financial reporting standards (IFRS), the set of global norms developed by the International Accounting Standards Board (IASB), are already in use in over 90 countries, and standard-setters in a number of others are making progress towards harmonization.¹ The path towards national acceptance of global standards varies from one country to the next.² Many countries support the goal of global standards but find some aspects of IFRS too challenging to implement or incompatible with national values. Local standards might thus broadly—but not necessarily completely—converge with global conventions.

IFRS introduce the broad use of fair value accounting for financial instruments. This approach requires financial assets and liabilities to be valued according to current market conditions instead of historical costs. Market value may not be readily observable in some cases, which could open the door for manipulation of financial statements and introduce artificial volatility

in accounting data. Standard-setters are currently developing better guidance on how to apply fair value accounting objectively.

Work is under way to reconcile differences in the approaches underlying IFRS with those of U.S. standards. Indeed, given the importance of U.S. markets in the global financial system, removing existing gaps between IFRS and U.S. standards is crucial for achieving true global convergence. Differences can be attributed partly to the general preference of IFRS for broad principles, while U.S. standards are closer to prescriptive rules. There is wide support for convergence in the United States, and the U.S. Financial Accounting Standards Board (FASB) is collaborating with the IASB to minimize the gaps between their respective standards. But many doubt that full harmonization will be achieved, with U.S. standards likely to remain more prescriptive than IFRS. Benefits may, nevertheless, partly materialize. For instance, the Securities and Exchange Commission has indicated that it may reduce the burden on foreign firms accessing U.S. markets by allowing them to file statements prepared according to IFRS, providing sufficient progress is made in terms of convergence between IFRS and U.S. standards.

The Canadian Accounting Standards Board (AcSB) is proposing gradual convergence with IFRS by 2011 for public companies. The AcSB would participate in the ongoing development and refinement of global standards. Consultations were held on this issue earlier this year, and the AcSB is planning to finalize an action plan by March 2006. Both the AcSB and the Committee of European Securities Regulators (CESR) consider Canadian standards to be broadly equivalent to IFRS.

1. Source: Deloitte-Touche-Tohmatsu International Accounting Standards (www.iasplus.com)
2. The European Union adopted IFRS for publicly listed companies in January 2005. But implementation is deferred to 2007 for companies with securities listed in a country outside the EU, where another set of internationally accepted standards is used. Firms with only debt securities listed in public markets can also wait until 2007 to adopt IFRS.

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