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# Canada: Financial System Stability Assessment—Update

This update to the Financial System Stability Assessment on Canada was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on January 15, 2008. The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Canada or the Executive Board of the IMF.

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CANADA

# Financial System Stability Assessment—Update

Prepared by the Monetary and Capital Markets Department

Approved by Jaime Caruana and Anoop Singh

January 15, 2008

This Financial System Stability Assessment (FSSA) is based on work undertaken during the Financial Sector Assessment Update of Canada, which included visits to Ottawa, Toronto, and Montreal in February and September 2007. The findings were further discussed with the Canadian authorities during the Article IV consultation mission in November 2007. The authorities have implemented the principal recommendations of the 2000 Financial Sector Assessment Program (FSAP). The key findings of this report are:

- **Canada's financial system is mature, sophisticated, and well-managed.** Financial stability is underpinned by sound macroeconomic policies and strong prudential regulation and supervision. Deposit insurance and arrangements for crisis management and failure resolution are well-designed.

- **The stress tests show that the major banks can withstand sizeable shocks.** The main stress scenario assumes a recession one-third larger than in 1990–91. Although capital drops below the regulatory minimum, it remains adequate. Banks also appear to be able to withstand specific large single factor shocks for credit, market, and liquidity risk.

- **The banking system thus appears sound, but faces some challenges.** Although credit risk remains central, the global financial turmoil since mid-2007 has highlighted the information and liquidity risks in the structured finance products that Canadian banks too have embraced in recent years. Vulnerabilities may also arise from attempts, building on a secure domestic position, to enter highly competitive foreign markets or complex activities, as has sometimes been the case in the past.

- **There would be advantages in moving towards a single securities regulator.** Significant improvements to the regulatory system have been made as a result of the creation of the Canadian Securities Administrators (CSA), including those that will be brought about by the implementation of the passport system. Even so, moving further to a single regulator would allow policy development to be streamlined, reduce compliance costs, and improve enforcement.

The mission was headed by Hervé Ferhani and was composed of Karl Habermeier (deputy chief), Ashok Bhatia, Ana Carvajal, Francois Haas, Elias Kazarian, John Kiff, Vladimir Klyuev, Jack Ree, Miguel Segoviano (all IMF), and Pierre-Yves Thoraval (consultant).

*FSAPs are designed to assess the stability of the financial system as a whole and not that of individual institutions. They have been developed to help countries identify and remedy weaknesses in their financial sector structure, thereby enhancing their resilience to macroeconomic shocks and cross-border contagion. FSAPs do not cover risks that are specific to individual institutions such as asset quality, operational or legal risks, or fraud.*

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## Glossary

| | |
|---|---|
| ABCP | Asset-backed commercial paper |
| ABS | Asset-backed securities |
| ACSS | Automated clearing settlement system |
| AIRB | Advanced internal ratings-based approach |
| AMA | Advanced measurement approach (to operational risk) |
| AMF | Autorité des Marchés Financiers |
| ATS | Alternative Trading System |
| Bps | Basis points |
| BCP | Basel Core Principles |
| BoC | Bank of Canada |
| BSI | Banking stability index |
| BU | Bottom-up |
| Canadian AS | Canadian Accounting Standards |
| CAR | Capital adequacy ratio |
| CCF | Credit conversion factor |
| CCP | Central counterparty |
| CDIC | Canadian Deposit Insurance Corporation |
| CDO | Collateralized debt obligations |
| CDS | Clearing and Depository Services |
| CDSX | Settlement system developed by CDS |
| CIS | Collective investment schemes |
| CP | Core Principle |
| CPSS | Committee on Payment and Settlement Systems |
| CSA | Canadian Securities Administrators |
| CSD | Central Securities Depository |
| CSF | Chambre de la Securité Financière |
| CT | Consistency tests |
| DBRS | Dominion Bond Rating Service |
| DTC | Depository trust company |
| DVP | Delivery-versus-Payment |
| EL | Expected losses |
| ELA | Emergency lending assistance |
| FISC | Financial Institutions Supervisory Committee |
| FSAP | Financial Sector Assessment Program |
| FSSA | Financial System Stability Assessment |
| FX | Foreign exchange |
| GMD | General market disruption |
| IDA | Investment Dealers Association of Canada |
| IOSCO | International Organization of Securities Commissions |
| L&H | Life and health |

| | |
|---|---|
| LGD | Loss given default |
| LoLR | Lender of last resort |
| LVTS | Large value transfer system |
| M&A | Mergers and acquisitions |
| MBS | Mortgage-backed securities |
| MFDA | Mutual Fund Dealers Association of Canada |
| MMoU | Multilateral Memorandum of Understanding |
| MoU | Memorandum of understanding |
| MS | Macroeconomic scenario |
| MX | Montreal exchange |
| NSCC | National Securities Clearing Corporation |
| OECD | Organization for Economic Cooperation and Development |
| OSC | Ontario Securities Commission |
| OSFI | Office of the Superintendent of Financial Institutions |
| OTC | Over-the-counter |
| P&C | Property and casualty |
| PMD | Portfolio multivariate density |
| PoD | Probabilities of default |
| ROSC | Report on the Observance of Standards and Codes |
| RS | Market Regulation Services Inc. |
| RSSS | Recommendations for Securities Settlement Systems |
| S&P | Standard and Poor's |
| SA | Standardized approach |
| SF | Single factor shocks |
| SLF | Standing liquidity facility |
| SPRA | Special purchase and resale agreement |
| SROs | Self regulatory organizations |
| TFT | Trade-for-Trade |
| TSX | Toronto Stock Exchange |
| TSXV | TSX Venture Exchange |
| UL | Unexpected losses |

## Executive Summary

**The Canadian financial sector is among the world's most highly developed.** The institutions, markets, infrastructure, safety nets, and oversight arrangements that comprise the system are sophisticated, and include a full range of financial intermediaries. Canadian financial and capital markets trade a broad range of equity, debt, and derivative instruments, in material volumes, supported by modern clearing and settlement systems. The Canadian authorities have implemented the principal recommendations of the 2000 FSAP.

**The five large banking groups that form the core of the system are conservatively managed and highly profitable.** They have achieved strong risk-based capital ratios, modest returns on assets, and high returns on equity. However, the "widely held" rule for large banks limits the concentration of bank share ownership and thus the scope for mergers and for foreign entry through acquisition. The legal framework has enabled Canadian banks to concentrate on their profitable domestic retail franchises, leaving many large domestic borrowers to look abroad for wholesale funding. Canadian banks' foreign strategies have focused on retail markets, mainly in the United States and the Americas.

**The stress tests suggest that the large Canadian banks are able to withstand a broad range of shocks.** These banks are exposed to a common set of shocks, through their domestic and United States business, and through the Caribbean and Latin American markets into which they have diversified. In the main stress scenario, which entails a severe recession, capital for some banks drops below the regulatory minimum, but remains adequate. Although credit risk continues to be the central challenge, the global financial turmoil since mid-2007 has highlighted the information and liquidity risks embedded in the structured finance products that Canadian banks have embraced in recent years, and writedowns are beginning. Vulnerabilities may also arise from attempts, building on a secure domestic position, to enter highly competitive foreign markets or complex activities, as has sometimes been the case in the past.

**The current turbulence in global credit markets has affected Canada's asset-backed commercial paper (ABCP) market.** The Canadian authorities have encouraged a market-led restructuring of the C$ 35 billion of nonbank-sponsored ABCP at the heart of the crisis, and an agreement in principle has been reached. Reflecting developments at the global level, financial institutions have also faced the unusual challenge of reduced liquidity in the money market, with a significant risk of spillovers. Banks may need to consolidate their conduits on balance sheet with attendant capital charges and writedowns, which the regulators consider to be manageable. In the future, greater transparency in conduits and other structured finance products will be necessary, supported by reliable ratings, and the authorities should ensure that market participants continue to move in this direction.

**The focused review of the Basel Core Principles for Effective Banking Supervision (BCP) found the Office of the Superintendent of Financial Institutions (OSFI) to be compliant with the four revised principles.** Bank supervision is reliance-based as a means of reducing duplication and controlling regulatory costs. However, the need to assess risk in a complex and evolving financial services environment would seem to require some additional resources for supervisory cross-checking of banks' submissions, including on-site.

**The regulatory framework for the securities market in Canada in most respects implements the International Organization of Securities Commissions (IOSCO) Principles.** While the assessment relies largely on the framework for Ontario and Quebec, most of the provinces have a robust legal and institutional framework for the regulator and for most of the areas covered by securities regulation. There are gaps in the regulation and supervision of collective investment schemes, although the most significant problems would be addressed with the implementation of National Instrument 31–103 on Registration Requirements. Enforcement of securities laws also needs further improvement. In addition, there is scope to improve the coordination among the provincial regulators to eliminate gaps and overlaps, and to make efficient use of resources.

**There would be advantages in moving towards a single securities regulator.** Significant improvements to the regulatory system have been made as a result of the creation of the CSA, including those that will be brought about by the implementation of the passport system. Nevertheless, in the view of the staff, there would be merit in consolidating regulatory and oversight functions in one agency. A single regulator would allow policy development to be streamlined, allowing Canada to respond more quickly to local and global developments. It would probably also reduce costs for market participants, since there would be only a single set of fees. A single regulator would have enforcement authority in the whole country, and therefore would eliminate the inefficiencies created by the limited enforcement authority of individual provincial regulators. In addition, the existence of a single regulatory authority responsible for administrative enforcement would help to simplify coordination with other enforcement agencies. A single regulator could be structured in different ways, including the "common" regulator recommended by the Crawford Panel.

**The Canadian Depository Securities Settlement System is sound, efficient and reliable, and it complies with almost all Recommendations for Securities Settlement Systems (RSSS).** The legal basis for the system's operation is solid, its functionality is well developed, its procedures to mitigate credit, liquidity and operational risks are appropriate, and its governance structure is effective and transparent. Recommendations focus on steps to further enhance risk management procedures and the regulatory environment.

## MAIN RECOMMENDATIONS

**High priority**

- Careful monitoring and management is needed of the fallout from turmoil in the global money and credit markets, which has led to problems in the Canadian nonbank sponsored ABCP market. Given the significant risk of spillovers to the banking system, all of the relevant authorities need to regularly review possible measures in view of emerging information.

- Market participants should be encouraged to take steps to ensure that conduits and other structured finance products are sufficiently transparent, supported by reliable ratings, and the authorities should ensure that market participants continue to move in this direction.

- Given the need to assess risk in a complex and evolving financial services environment, OSFI may wish to consider allocating additional resources for cross-checking of the submissions provided by financial institutions, including in on-site inspections.

**Medium priority**

- The Bank of Canada (BoC) may wish to regularly conduct stress tests, as an input for its Financial System Review. There is already close cooperation on financial stability analysis between OSFI and BoC, and it would be desirable to build on this in developing a system-wide approach.

- Transparency would be buttressed by reducing the room for discretion and forbearance in bank intervention and resolution. Currently, the "structured early intervention" regime provides for, but does not mandate, specific supervisory actions as certain capital thresholds are breached. Similarly, the Minister may not approve certain CDIC interventions for public interest reasons.

- There would be advantages in moving beyond a passport system towards a single securities regulator. A single regulator would allow policy development to be streamlined, would likely further reduce costs, and improve enforcement.

**Lower priority**

- Clearing and Depository Services (CDS) could assess the benefits and costs of acting as a central counterparty (CCP) for trade-for-trade (TFT) transactions.

- A securities lending facility could be introduced to reduce settlement failure; CCP functions should be separated from the CDS functions; and the concentration of settlement cash for U.S. dollar-denominated securities in a single settlement bank should be reduced.

- OSFI and the provinces should ensure that the regulatory framework for pension funds focuses increasingly on the adequacy of risk management practices and resources, in addition to the traditional solvency approach.

Other recommendations are found in the body of the FSSA and in the Reports on the Observance of Standards and Codes (ROSCs).

# I. Macroeconomic and Financial Environment

## A. Macroeconomic Setting

1. **Canada's institutional strength and robust framework for macroeconomic policies have underpinned solid growth and inflation performance** (Table 1). Real GDP has expanded by over 3 percent per year on average over the past decade. Inflation targeting has anchored expectations and kept inflation close to the 2 percent target. Canada's federal government has recorded ten annual surpluses in a row, and sustained current account surpluses have improved the net international investment position over the last decade. Although the Canadian economy is well diversified, the large commodity sector and the high share of exports to the United States expose Canada to a few closely related external shocks.

2. **While Canada's medium-term economic perspectives are broadly favorable, a deceleration is expected in the near term.** The anticipated slowdown in the United States and the recent strength of the Canadian dollar will dampen net exports, while financial turmoil may curtail credit availability and crimp domestic demand. Real GDP growth is expected to slow to 2 percent on average in 2008, with risks skewed to the downside.

## B. Structure of the Financial System

### Overview

3. **Canada has a highly developed financial system, dominated by a handful of full-service banks** (Table 2). Banks represent a limited source of long-term funding or more sophisticated financial products, although their investment arms play a role in securing funding for large Canadian corporations through capital markets. With few barriers between financial sub-sectors, banking groups are the dominant players in a number of nondeposit-taking business lines, such as mutual funds. Equity financing represents 38 percent of long-term business credit, and bond financing 34 percent. Life insurance accounts for about 9 percent of total financial assets and mutual funds for about 16 percent.

### Banks

4. **Banks represent about 60 percent of total financial system assets.** Among banks, the "big five" (Royal Bank of Canada, TD Canada Trust, Bank of Nova Scotia, Bank of Montreal, and Canadian Imperial Bank of Commerce) hold more than 85 percent of total bank assets. Foreign banks' presence, while increasing, remains limited to less than 10 percent of bank assets. The larger banks also lead securities underwriting and merchant banking, and are among the largest asset managers.

## Table 1. Canada: Selected Economic Indicators

(Annual change in percent; unless otherwise noted)

| | | | | | Estimate | Projection |
|---|---|---|---|---|---|---|
| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| **Real GDP** | 1.9 | 3.1 | 3.1 | 2.8 | 2.6 | 2.0 |
| Net exports 1/ | -2.5 | -1.0 | -1.7 | -1.4 | -1.1 | -1.7 |
| Final domestic demand | 3.7 | 4.1 | 4.5 | 4.7 | 3.8 | 3.4 |
| Private consumption | 3.0 | 3.4 | 3.8 | 4.2 | 4.1 | 3.0 |
| Public consumption | 3.1 | 2.5 | 2.2 | 3.3 | 3.1 | 3.0 |
| Private fixed domestic investment | 6.3 | 8.1 | 8.1 | 7.1 | 4.2 | 5.0 |
| Private investment rate 2/ | 17.2 | 17.8 | 18.4 | 19.2 | 19.7 | 20.4 |
| Public investment | 5.4 | 5.0 | 10.9 | 8.1 | 1.7 | 3.7 |
| Change in business inventories 1/ | 0.8 | 0.1 | 0.3 | -0.2 | 0.0 | 0.4 |
| GDP (at current prices) | 5.2 | 6.4 | 6.5 | 5.2 | 5.6 | 3.9 |
| **Employment and inflation** | | | | | | |
| Unemployment rate | 7.6 | 7.2 | 6.8 | 6.3 | 6.0 | 6.2 |
| Consumer price index | 2.7 | 1.8 | 2.2 | 2.0 | 2.1 | 1.4 |
| GDP deflator | 3.3 | 3.2 | 3.4 | 2.4 | 3.0 | 1.9 |
| **Exchange rate (period average)** | | | | | | |
| Real effective exchange rate | 11.1 | 5.4 | 6.1 | 5.9 | 4.5 | ... |
| Nominal effective exchange rate | 10.5 | 6.2 | 7.0 | 6.8 | 5.0 | ... |
| Bilateral exchange rate with United States | 12.1 | 7.7 | 7.5 | 6.8 | 6.1 | ... |
| Level (in U.S. dollars) | 0.71 | 0.77 | 0.83 | 0.88 | 0.93 | ... |
| **Indicators of financial policies (national accounts basis)** | | | | | | |
| Federal fiscal balance 2/ | 0.3 | 0.8 | 0.1 | 0.6 | 0.4 | -0.1 |
| Provincial fiscal balance 2/ 3/ | -1.2 | -0.7 | 0.7 | -0.2 | -0.2 | 0.0 |
| General government 2/ 4/ | -0.1 | 0.8 | 1.6 | 1.0 | 0.8 | 0.5 |
| General government net debt 2/ 5/ | 38.6 | 34.4 | 30.1 | 27.6 | 25.3 | 23.9 |
| Three-month treasury bill yield (in percent) | 2.9 | 2.2 | 2.7 | 4.0 | 4.2 | 3.9 |
| Ten-year government bond yield (in percent) | 4.8 | 4.6 | 4.1 | 4.2 | 4.3 | 4.1 |
| **Balance of payments** | | | | | | |
| Current account balance 2/ | 1.2 | 2.3 | 2.0 | 1.6 | 1.0 | 0.1 |
| Merchandise trade balance 2/ | 4.6 | 5.1 | 4.6 | 3.5 | 3.3 | 2.0 |
| Export volume | -2.1 | 5.2 | 2.4 | 1.0 | 1.6 | -2.0 |
| Import volume | 3.1 | 8.8 | 8.1 | 5.2 | 5.2 | 3.2 |
| Invisibles balance 2/ | -3.4 | -2.8 | -2.6 | -1.9 | -2.3 | -1.9 |
| **Saving and investment 2/** | | | | | | |
| Gross national saving | 21.2 | 22.9 | 23.8 | 24.2 | 23.9 | 24.0 |
| General government | 2.3 | 3.3 | 4.4 | 4.0 | 3.7 | 3.4 |
| Private | 18.9 | 19.6 | 19.4 | 20.2 | 20.1 | 20.6 |
| Personal | 4.5 | 4.6 | 3.8 | 6.2 | 5.9 | 6.3 |
| Business | 14.5 | 14.9 | 13.9 | 14.0 | 14.2 | 14.3 |
| Gross domestic investment | 20.0 | 20.7 | 21.7 | 22.5 | 22.9 | 23.9 |

Sources: Statistics Canada; and Fund staff estimates.

1/ Contribution to growth.
2/ In percent of GDP.
3/ Includes local governments and hospitals.
4/ Includes the balances of the Canada Pension Plan and Quebec Pension Plan.
5/ Includes local governments and hospitals.

## Table 2. Canada: Financial Sector Structure, End-2006

| | Assets | | |
|---|---|---|---|
| | In Billions of Can$ | In Percent of Total Assets | In Percent of GDP |
| **Banks** | **2,389.0** | **59.3** | **166.0** |
| Canadian | 2,214.0 | 54.9 | 153.8 |
| Foreign | 175.0 | 4.3 | 12.2 |
| **Trusts (including bank subsidiaries) 1/** | **254.7** | **6.3** | **17.7** |
| **Credit unions and caisses populaires** | **193.8** | **4.8** | **13.5** |
| **Life insurance companies 2/** | **346.5** | **8.6** | **24.1** |
| Canadian | 331.1 | 8.2 | 23.0 |
| Foreign | 15.4 | 0.4 | 1.1 |
| **Property and casualty (P&C) insurance** | **93.2** | **2.3** | **6.5** |
| **Mutual funds** | **660.2** | **16.4** | **45.9** |
| **Asset based financing and leasing 3/** | **92.3** | **2.3** | **6.4** |
| **Total** | **4,029.7** | **100.0** | **280.0** |

Sources: Office of the Superintendent of Financial Institutions; Credit Union Central of Canada; and Canadian Finance and Leasing Association.

1/ Assets of the bank subsidiaries are double counted in the consolidated bank assets.
2/ Excluding fraternals.
3/ Based on the 2005 Industry Survey by the Canadian Finance and Leasing Association.

5. **Financial performance of the major banks has been good in recent years**, with solid profitability, stronger asset quality, and comfortable capital ratios (Table 3). Core financial soundness indicators are among the best in the G-10 (Figure 1).

6. **The "widely held" rule for large banks limits the concentration of bank share ownership and thus the scope for mergers and for foreign entry through acquisition.** The legal framework has enabled Canadian banks to concentrate on their profitable domestic retail franchises, leaving many large domestic borrowers to look abroad for wholesale funding. Although the structure of the Canadian banking market is oligopolistic, available studies do not provide conclusive evidence that the large Canadian banks are in a position to abuse what market power they may have. Even so, the ability of the Canadian banks to garner large profits in low-risk activities suggests scope for steps to increase competition. This said, it is not clear that lifting the widely-held rule would achieve this objective, as such a step, by itself, could result in even greater market concentration.

**Insurance**

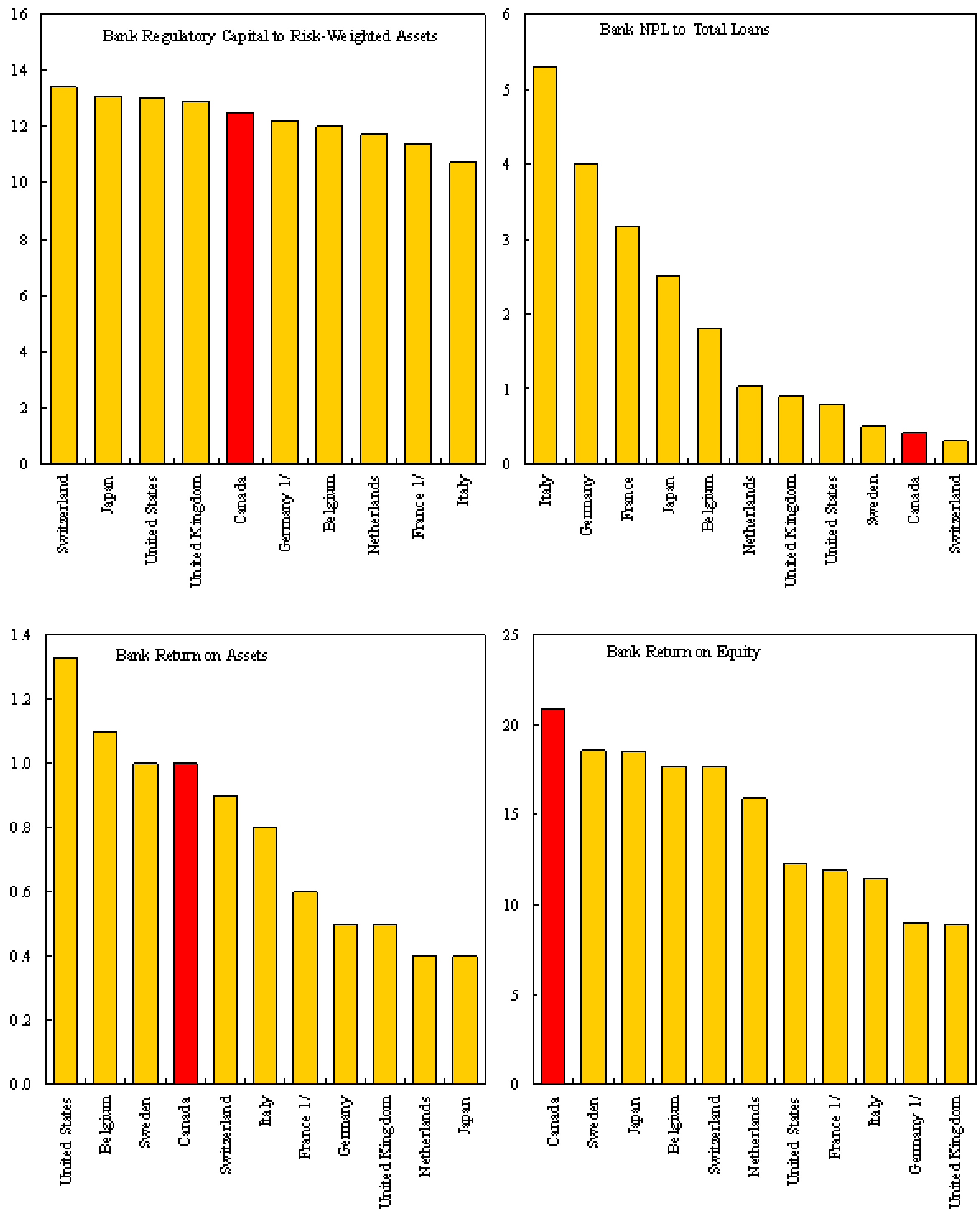
7. **The insurance industry is stable, profitable, and well-capitalized.** The life and health (L&H) insurance sector is dominated by three large domestic groups (accounting for 84 percent of the assets at the end of 2006). Both life and P&C insurers have been allowed to expand into other financial activities, through separately held subsidiaries, including banking and brokerage. Policy does not permit the consolidation of the largest life insurers, or their merger with the largest banks. Canadian life insurers are increasingly global, and earn more than 50 percent of their revenue outside Canada. The P&C insurance sector is more fragmented, with an important role for foreign insurers and those owned by provincial governments. Capital ratios comfortably exceed regulatory targets. Investment practices are conservative, with about 60 percent of assets held in investment grade bonds, and the geographic composition of assets roughly matching that of liabilities. Holdings of ABCP are minimal. Earnings have been high in both the L&H and P&C sectors in the last few years.

**Securities**

8. **Canada's sophisticated securities industry has benefited from particularly favorable conditions in recent years.** Total revenue amounted to C$ 15.9 billion in 2006, up 17.8 percent over 2005, while operating profits rose by one-third. The mutual fund industry is highly developed, with a majority of assets held in tax-deferred registered savings accounts. Among the 10 largest mutual fund managers, four are part of large Canadian banking groups, and three are part of financial groups in the United States and United Kingdom. Sound fiscal policy has resulted in declining government (and more recently provincial) debt issuance, but has been more than offset by corporate bond issuance. Trading

# Figure 1. Canada: Financial Stability Indicators, 2006

(In percent)




Sources: National authorities; and Fund staff estimates.

## Table 3. Canada: Financial Soundness Indicators

(In percent)

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | Latest |
|---|---|---|---|---|---|---|---|
| **Canada** | | | | | | | |
| Bank regulatory capital to risk-weighted assets | 12.4 | 13.4 | 13.3 | 12.9 | 12.5 | 12.1 | September |
| Bank capital to assets | 5.7 | 5.9 | 5.6 | 5.6 | 5.2 | 5.2 | October |
| Bank nonperforming loans to total loans | 1.6 | 1.2 | 0.7 | 0.5 | 0.4 | ... | |
| Bank provisions to nonperforming loans | 41.1 | 43.5 | 47.7 | 49.3 | 55.3 | 47.8 | September |
| Bank return on assets | 0.4 | 0.7 | 0.8 | 0.7 | 1.0 | 0.9 | July |
| Bank return on equity | 9.3 | 14.7 | 16.7 | 14.9 | 20.9 | 21.0 | July |
| **United States** | | | | | | | |
| Bank regulatory capital to risk-weighted assets | 13.0 | 13.0 | 13.2 | 12.9 | 13.0 | 13.0 | March |
| Bank capital to assets | 9.2 | 9.2 | 10.3 | 10.3 | 10.5 | 10.6 | March |
| Bank nonperforming loans to total loans | 1.4 | 1.1 | 0.8 | 0.7 | 0.8 | 0.8 | March |
| Bank provisions to nonperforming loans | 123.7 | 140.4 | 168.1 | 155.0 | 137.2 | 129.9 | March |
| Bank return on assets | 1.3 | 1.4 | 1.3 | 1.3 | 1.3 | 1.2 | March |
| Bank return on equity | 14.1 | 15.0 | 13.2 | 12.7 | 12.3 | 11.4 | March |
| **G-10 (median)** | | | | | | | |
| Bank regulatory capital to risk-weighted assets | 12.4 | 12.4 | 12.6 | 12.2 | 12.5 | ... | |
| Bank capital to assets | 5.2 | 5.0 | 4.8 | 4.9 | 5.3 | ... | |
| Bank nonperforming loans to total loans | 2.6 | 2.5 | 1.9 | 1.2 | 1.0 | ... | |
| Bank provisions to nonperforming loans | 65.2 | 71.2 | 64.5 | 59.7 | 55.3 | ... | |
| Bank return on assets | 0.5 | 0.5 | 0.7 | 0.7 | 0.9 | ... | |
| Bank return on equity | 9.1 | 11.7 | 13.2 | 12.7 | 17.7 | ... | |
| **G-10 (3rd quartile)** | | | | | | | |
| Bank regulatory capital to risk-weighted assets | 12.8 | 13.0 | 13.0 | 12.7 | 13.0 | ... | |
| Bank capital to assets | 6.9 | 6.9 | 6.6 | 6.1 | 6.2 | ... | |
| Bank nonperforming loans to total loans | 1.9 | 1.5 | 1.1 | 0.7 | 0.6 | ... | |
| Bank provisions to nonperforming loans | 81.2 | 78.0 | 81.1 | 82.4 | 57.8 | ... | |
| Bank return on assets | 0.5 | 0.7 | 0.8 | 0.8 | 1.0 | ... | |
| Bank return on equity | 10.5 | 14.4 | 15.3 | 16.7 | 18.5 | ... | |

Sources: National authorities; and staff estimates.

volumes, merger and acquisition (M&A) activity, and common equity issuance reached record levels in recent years. At end-2006, the Toronto Stock Exchange (TSX) had a domestic market capitalization of C$1.98 trillion and ranked seventh among stock exchanges globally.

9. **The removal of the Foreign Property Rule has been the primary driver of the development of the "Maple bond" market** (bonds issued in Canadian dollars by non-Canadian entities). The Foreign Property Rule, which limited the amount of foreign securities that pension funds were allowed to hold to 30 percent of their total assets, was lifted in 2005.

10. **The percentage of U.S. dollar-denominated bonds issued in the United States by Canadian corporations has increased since the late 1980s.** Very large issues, formerly placed only in the eurobond market, are now also being placed domestically.

11. **There is no high-yield bond market in Canada.** Domestic demand for high-yield bonds has traditionally been limited, including by pension funds (even as the largest pension funds have diversified into new asset classes). Furthermore, investors have at times viewed the income trust market as a substitute for high-yield bonds. Canadian issuers of high-yield debt (especially large issuers) have traditionally found better financing conditions, and a larger pool of investors to tap, in the United States.

**Hedge funds**

12. **Hedge fund activities in Canada are rapidly expanding.** Assets managed by domestic hedge funds are estimated at C$ 30 billion in early 2007, up from about C$ 4 billion in 2000.[1] Even so, the hedge fund industry remains small by international standards, with less than 10 percent of the funds managing assets in excess of C$ 100 million. Canada-based hedge funds are primarily focused on long/short equity strategies. The recent acceleration in the development of hedge fund activities follows years when the growth of the industry was impaired by two prominent cases of fraud, but investor protection is improving, and a "comprehensive registration rule" has been proposed.

**Housing finance**

13. **The Canadian mortgage market is well-developed, with low default rates.** In recent years, the market has been undergoing rapid change and development, while maintaining prudent underwriting practices. Subprime loans account for less than 3 percent of outstanding mortages. Securitization of mortgages has not been as widespread as elsewhere (only one-fifth of Canadian mortgages are securitized), reflecting the statutory requirement that all bank-held mortgages with loan-to-value ratios above 80 percent be insured (these mortgages carry a zero risk weight for regulatory capital purposes, reducing the incentive for originating banks to securitize). While most large lenders offer mortgages with long amortization periods (25 years is typical, and 30 and 40 year terms are increasingly available), the contractual maturity usually does not exceed 5 or 10 years. Prepayment penalties and lack of interest deductibility reduce demand for longer-term mortgages, while the prevalence of deposit financing makes banks reluctant to offer long maturities.

[1] Hedgeweek, "Toronto Hedge Fund Services 2007" (May 2007), hedge fund press releases, and discussions with prime brokers.

**Retirement savings**

14. **Canada's retirement income system consists of three pillars and is based on a mix of public and private schemes.** The first pillar is the Old Age Security/Guaranteed Income Supplement Program, a public program financed by the Government of Canada. The second pillar is the Canada Pension Plan, which provides all workers in Canada with a basic earnings-related pension. It is financed through mandatory employee and employer contributions, and is sustainable at current contribution rates until at least 2075**.** The Quebec Pension Plan is the second pillar program for residents of Quebec, and is similar to the Canada Pension Plan. The two public pillars provide a replacement rate of approximately 70 percent. Finally, registered pension plans sponsored by employers, as well as individual registered retirement savings plans, comprise the third pillar. These registered plans are often defined benefit, tax deferred, and voluntary, and have been growing in importance (they now provide more than 30 percent of retirement income).

**Derivatives**

15. **Canada's derivatives markets are well-developed and sophisticated.** A wide range of financial contracts are available to market participants, either through regulated markets, or over-the-counter (OTC). As in other developed markets, derivatives activity has developed primarily in the OTC markets. Canadian firms and residents conduct energy and commodities business primarily in London and New York, and regulation in the Canadian electricity market limits hedging needs by end-users. The Montreal exchange, which specializes in derivatives, is set to merge with the TSX in 2008.

## II. Financial Stability

16. **Canada's financial system appears stable, with a low risk of systemic problems.** Financial stability is supported by sound macroeconomic policies, a well-designed crisis management framework (Section III), and advanced prudential regulation and supervision (Section IV). Given their dominant position in the system, the resilience of the large banks was carefully assessed, including through stress testing. The global problems in the money and credit markets that began in August 2007 have spilled over to the Canadian financial system, triggering illiquidity in a large segment of the market for ABCP. Banks are also beginning to write down exposures to subprime assets. However, it appears that thus far, these problems are manageable.

### A. Bank Soundness and Stress Tests

17. **Canadian banks appear to be sound and resilient.** The stress tests indicate that the five largest banks would be capable of weathering a shock about one-third larger than the 1990–91 recession, involving a contraction of the North American economy, an increase in

interest rate risk premia, and lower commodity prices.[2] This resiliency may in part reflect the fact that the Canadian banks are national in scope and thus able to benefit from regional and sectoral diversification.

18. **The banks' position going into the stress tests was favorable.** The sum of loan loss provisions and capital (as a ratio of risk-weighted-assets) stood at 12½ percent at end 2006, a slight decline from 13¾ percent at end 2003, but still comfortable by international standards.[3] The nonperforming loan ratio declined from 1.2 percent to 0.4 percent during the same period.[4]

19. **The stress tests examined the effects of several different shocks.** The principal stress test was based on a macroeconomic scenario (MS) covering ten quarters and developed using the BoC macroeconomic model. The model was used to ensure the internal consistency of the scenario, including in the interactions among countries. Bottom-up stress tests (BU) were performed by the five largest banks, using their internal risk models. The BU results for the MS were cross-checked using consistency tests (CT), drawing on banking data provided by the authorities. The risk-based methodology used for the CT allows the estimation of expected losses (EL) and unexpected losses (UL) for each of the banks participating in the stress test with publicly available information. In addition, five single factor shocks (SF) were considered.

20. **The results of the MS stress test for *credit risk* show that banks would experience significant capital stress in the unusually strong recession in the scenario.** However, thanks to their comfortable initial capitalization, banks appear to be capable of weathering this storm. The cumulative effects of the macroeconomic shocks are reflected in increasing probabilities of default, then in expected and unexpected losses, and ultimately in banks' capital adequacy ratios. The results (Box 1) show that from the fifth quarter on, the minimum capital adequacy ratio (CAR) of 8 percent is breached, with some banks more seriously affected than others. Even so, all banks continue to have adequate capital.[5] The CT closely confirms the BU results. The single factor shocks for credit risk have a less pronounced effect on CAR, but in combination are quite substantial.

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[2] Given that Canadian banks have pursued international expansion mainly in the United States, Latin America, and the Caribbean, their sensitivity to the common shocks affecting the broader region is accentuated.

[3] OSFI is approaching the implementation of Basel II cautiously to forestall any undue decline in banks' risk buffer.

[4] The five largest Canadian banks have on average, exposures above 53 percent to the mortgage sector.

[5] EL are defined as EL= PoD x Exposure x LGD, where PoD is the probability of default and LGD is the loss-given default of each loan in a bank's portfolio. While it is important to estimate EL, estimating UL is fundamental to the effective management of credit risk. Economic capital should be available to cover UL.

## Box 1. Stress Tests

### Macroeconomic stress scenario

Labor productivity growth sharply decreases in the United States, remaining weak for a long period of time. Consequently, consumers and firms in the United States increase their saving rates. Foreigners' concern about the sustainability of large United States current account imbalances results in a significant depreciation in the U.S. dollar. Moreover, the weakness in the United States and the resulting increase in PoD leads to a rise in financial risk premia, further exacerbating the economic slowdown. As in the United States, Canadian consumers and firms lose confidence and increase their savings rates. The appreciation of the Canada-United States exchange rate contributes further to the contraction of the Canadian economy. In turn, there is a rise in commercial interest rate premia, further exacerbating the weakness in Canadian GDP growth.

**Capital Adequacy Ratio Under Macro Stress Scenario**
(In percent)

| Bottom Up Stress Test | | | |
|---|---|---|---|
| **Period** | **Expected Loss** | **Unexpected Loss** | **CAR** 1/ |
| **2006Q4** | 0.87 | 2.83 | 8.88 |
| **2007Q1** | 0.88 | 2.90 | 8.80 |
| **2007Q2** | 0.77 | 2.77 | 9.04 |
| **2007Q3** | 0.92 | 3.55 | 8.11 |
| **2007Q4** | 1.03 | 3.95 | 7.60 |
| **2008Q1** | 1.15 | 4.30 | 7.13 |
| **2008Q2** | 1.43 | 4.88 | 6.27 |
| **2008Q3** | 1.60 | 5.23 | 5.75 |
| **2008Q4** | 1.73 | 5.45 | 5.40 |
| **2009Q1** | 1.85 | 5.63 | 5.10 |

Source: Based on banks' estimates.

| Consistency Test | | | |
|---|---|---|---|
| **Period** | **Expected Loss** | **Unexpected Loss** | **CAR** 1/ |
| **2006Q4** | 0.31 | 4.16 | 8.11 |
| **2007Q1** | 0.26 | 3.80 | 8.52 |
| **2007Q2** | 0.24 | 3.84 | 8.50 |
| **2007Q3** | 0.32 | 4.12 | 8.14 |
| **2007Q4** | 0.41 | 4.25 | 7.92 |
| **2008Q1** | 0.55 | 4.42 | 7.61 |
| **2008Q2** | 0.93 | 4.99 | 6.66 |
| **2008Q3** | 1.24 | 5.22 | 6.12 |
| **2008Q4** | 1.48 | 5.38 | 5.72 |
| **2009Q1** | 1.68 | 5.67 | 5.23 |

Sources: Fund staff estimates; Bank of Canada; and Office of the Superintendent of Financial Institutions data.

1/ Calculated as CAR plus additional loss buffer for the big five banks in 2006Q4 (12.59 percent), less EL and UL in each period.

### Single factor shocks

**Single factor 1—Credit risk: real estate prices.** Residential and commercial real estate prices decrease by 30 percent in Western Canada and by 15 percent in Central Canada.

**Single factor 2—Credit risk: recession in the United States and political risk in Latin America.** GDP in the United States falls 1 percent for 1 year. At the same time, Canadian bank holdings in Latin America are adversely affected by political risk.

**Single factor 3—Liquidity risk.** The bank is shut out of the wholesale funding market due to a significant credit downgrade, resulting in an immediate 50 percent run-off in wholesale deposits and a 25 percent decline in consumer deposits over three months. (This shock is not included in the table below because its principal effect is not on capital.)

**Single factor 4—Market risk: inversion of the yield curve.** The front moves up by 300 basis points (bps) and the back moves down by 25 bps.

**Single factors 5a, 5b—Market risk: parallel shifts of the yield curve.** Instantaneous parallel shift. Up by 350 bps, down by 350 bps.

**Capital Adequacy Ratio Under Single Factor Shocks**

(Impact effect, relative to baseline CAR, in percentage points)

| Bottom Up Stress Test | | | | | |
|---|---|---|---|---|---|
| | **SF1** | **SF2** | **SF4** | **SF5a** | **SF5b** |
| **CAR** | -4.02 | -3.55 | -0.77 | -0.84 | 0.13 |

Source: Banks' estimates.

21. **Some of the assumptions underlying the results on credit risk warrant further explanation.** First, although the MS entails a recession one-third deeper than in 1990–1991, the BoC general equilibrium model incorporates the highly effective monetary policy response typical of such state-of-the-art models and a monetary transmission mechanism that allows for a rapid recovery after the initial shock. Moreover, as is the case in most current models, it does not include financial accelerator effects. It was thus necessary to treat the increase in the commercial risk premium as an exogenous shock. Second, the PoD model estimated by the BoC was seen by the FSAP team as understating the likely rise in defaults under the MS; and an ad hoc adjustment was agreed. Third, offsetting these adjustments to strengthen the shock, the models currently available do not take account of the second-round effects that severe shocks to the financial system could have on the macroeconomy, nor do they take account of portfolio adjustments, changes in profitability, or confidence effects.

22. **The single factor stress test suggests that *market risk* is relatively modest, but that exposures vary significantly across institutions** (see Box 1). Most loans in banks' portfolios have flexible interest rates, so the effects of SF shocks are transmitted primarily through credit risk.[6] Interest rate shocks can potentially result in losses on banks' holdings of financial instruments in the investment book.[7] However, banks dynamically hedge most of this portion of their portfolio, adjusting it in response to changes in interest rates so as to maintain a matched duration. Even so, the complexity and opacity of the trading operations of some large Canadian banks are attracting renewed attention from analysts, who have pointed out that in recent years, some banks increased their exposure to the most illiquid end of the credit derivative market.

23. **The marked appreciation of the Canadian dollar vis-à-vis the U.S. dollar in the last year is not expected to adversely affect financial system stability.** First, the stress test based on the MS already included a significant appreciation and downturn in export growth. Second, the major banks appear to maintain well-hedged foreign exchange positions.[8] Third, while a weaker U.S. dollar would, ceteris paribus, reduce the earnings of Canadian banks from their activities in the United States, the estimated effect on their capital is not large.

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[6] Percentages of floating/fixed interest rate exposures vary across banks and portfolios. Information provided by the banks indicates that on average, more than 50 percent of loan exposures have flexible interest rates.

[7] Nonetheless, such activities may expose banks to market and credit risks, as exemplified by the losses suffered by one institution on commodity trading in early 2007. However, in this particular instance, losses were absorbed by profits, which might not be sustainable in the event of a systemic shock.

[8] On average, banks do not appear to run material foreign exchange (FX) trading positions; and their nontrading FX risk usually arises from investments in foreign operations, which is actively managed. In most developed economies, banks dynamically hedge such positions, so that even a substantial exchange rate shock has only a limited impact on capital adequacy. OSFI confirmed that banks' exposure to FX risk is modest.

24. **The *liquidity shock* does not seem to affect banks' capacity to maintain normal operations.** All the banks report that their "expected survival horizon" would be more than one year. Even so, this result needs to be qualified, as current market conditions appear to be materially different from what was assumed in the stress test, i.e., that there would be no systemic constraints on banks' ability to sell liquid assets, and that money markets would continue to function normally. However, at present, many banks in advanced economies are reluctant to lend to each other, particularly at short horizons beyond overnight, reflecting concerns about subprime losses. As a result, banks are paying more for short-term liquidity than usual. These issues were not considered in this stress test, as its design had to be finalized at an early stage, before the current financial market turbulence began.

25. **The Bank of Canada has noted that, on balance, participation in the stress-testing exercise was a positive experience** that helped identify challenges for future research on macro stress-testing, stimulated internal cooperation and information sharing, and contributed to improving the stress testing models and methods available in Canada. The FSAP team recommends that the BoC regularly conduct system-wide stress tests as an input for its Financial System Review,[9] building on the already close cooperation on financial stability analysis with OSFI. The stress testing exercise also highlighted some areas in which data needed for systemic stress testing could be improved, for example on recovery rates and PoDs. Given its strong capacity in modeling, the BoC would be well positioned to become a major contributor to ongoing international efforts to model interactions between the macroeconomy and the financial sector.

### B. Turmoil in the Asset-Backed Commercial Paper Market

26. **Canadian securitization activity is dominated by the short-term ABCP market, about one-third of which has been shut down since August 2007.** About \$180 billion of asset-backed securities (ABS) were outstanding as of June 30, 2007, of which \$116 billion was ABCP, in contrast to the U.S. market, where longer term ABS dominate.[10] ABCP programs repackage pools of financial assets into legally-independent special-purpose vehicles or "conduits" that are funded by issuing and rolling over short-term marketable fixed income securities. Because the underlying conduit assets are longer than the ABCP funding them, programs purchase liquidity protection from highly-rated banks.[11] Most Canadian ABCP programs (about two-thirds prior to August 2007) are managed (or "sponsored") by the big five chartered banks, and securitize consumer and commercial loans

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[9] The June issue of the *Financial System Review* contained a detailed discussion of stress-testing.

[10] The \$65 billion of Canadian "term" ABS excludes MBS issued by government-guaranteed Canada Mortgage and Housing Corporation, of which about \$128 billion were outstanding.

[11] Some conduits reduce the need for liquidity protection by issuing extendible paper, which allows them to extend maturities by up to 365 days in the event of rollover difficulties. However, this option comes at a cost (about 10 basis points); and it has not been broadly popular with investors.

and leases, sourced from a number of different lenders. These "multi-seller" conduits also enjoy liquidity protection from the sponsoring banks.

27. **Even so, most of the ABCP market growth since 2003 has come from arbitrage-oriented programs backed by collateralized debt obligations (CDOs) and sponsored by "third party" asset managers.** These third-party conduits, which generally purchase their liquidity protection from foreign banks, accounted for about C$ 35 billion of the market's C$ 116 billion outstanding just prior to the August shutdown. At that time, investors began to shun the third-party paper on fears that the underlying collateral was substantially exposed to CDOs backed by U.S. subprime mortgages. This took place against the background of a more general term-liquidity crunch, although the bank-sponsored programs were still rolling over their paper, albeit at substantially wider-than-normal credit spreads and into shorter terms to maturity. However, this became a problem for the third-party conduits because some of their liquidity support providers refused to provide liquidity, because in their estimation a "general market disruption" (GMD) had not occurred.

28. **Until recently, most Canadian liquidity protection could only be drawn in the event of a GMD, whereas conduits in Europe and the United States enjoy virtually unconditional "global-style" liquidity protection.**[12] This may have been, in part, an unintended consequence of OSFI's Regulation B-5, which exempted only GMD-conditional liquidity support from bank regulatory capital requirements. For unconditional facilities up to one year, OSFI and the United States used national discretion (consistent with Basel rules) to apply a 10 percent credit conversion factor (CCF), whereas most European countries applied a zero CCF.[13] Basel II will apply a zero CCF to GMD-conditional support, and 20 percent to unconditional facilities with maturities up to one year.[14]

29. **Because of the less than comprehensive liquidity protection, Moody's and Standard and Poor's (S&P) effectively refused to give high ratings to Canadian ABCP.** However, the local rating agency Dominion Bond Rating Service (DBRS) gave most programs their highest short-term rating (R-1 high), arguing that their credit enhancements already provided Canadian ABCP with adequate liquidity shortfall protection. However, the events of August 2007 have shown that S&P's and Moody's concerns were well founded.

30. **Efforts are nearing completion to restructure third-party ABCP that were subject to a rollover (or "standstill") agreement until end-January.** The "Montréal

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[12] Only the multi-seller conduits sponsored by the Royal Bank of Canada and Bank of Nova Scotia (with $11 billion and $7 billion outstanding) offered global-style protection prior to August 21.

[13] For unconditional facilities with maturities over one year, North American and European regulators uniformly imposed a 50 percent CCF, as does Basel II.

[14] The required regulatory capital on a liquidity facility is calculated on the product of the CCF and the highest risk weight assigned to any of the underlying individual exposures covered by the facility.

Proposal," tabled in mid-August by a consortium of banks and investors representing some 80 percent of third-party ABCP outstanding, proposed to convert the short-term securities into floating-rate notes with maturities linked to those of the conduits' underlying assets (up to 10 years), with other details remaining to be clarified. The BoC and the Government of Canada have played a supporting role, exercising moral suasion in an effort to secure an early and orderly outcome. By mid-December only one conduit had been converted, with its ABCP holders receiving par plus a portion of the accrued interest, and on December 23, an agreement in principle was reached to effect the conversion of all but one of the conduits by March. The resolution was facilitated by the easing of margin triggers on about $26 billion of synthetic and leveraged underlying assets, and $14 billion of contingent liquidity to cover margin calls.[15]

31. **Separately, on August 21 and 22, banks that sponsor some C$ 86 billion of ABCP outstanding announced that they would offer unconditional "global style" liquidity protection,** eliminating one key Canadian ABCP market weakness. In addition, on September 13, DBRS changed its ABCP rating criteria to require global-style liquidity support.[16] Market participant reliance on a single rating agency is being addressed by the entry of additional credit rating agencies into the Canadian ABCP market. Nevertheless, transparency will have to improve, and supervisors will have to more closely monitor conduits sponsored by regulated financial institutions, since, even when support is not legally binding, reputational concerns may force banks to support their distressed conduits.

32. **The situation in the ABCP market is still evolving and continues to pose a risk to investor confidence.** Stress tests performed by OSFI indicate that if banks were to put the assets in their sponsored conduits on their balance sheets, this would leave them with capital above the regulatory targets.[17] While the problems in the third-party conduits may result in losses to some of the parties involved, it is not clear that the stability of the broader financial system will be materially affected. There is, however, the risk that continuing problems in the ABCP and money markets could lead to a wider loss of confidence.[18] The precise form such an event would take is of course difficult to predict, as are its possible consequences.

[15] Certain dealer bank asset providers and other investors have agreed in principle to participate, and several of the large Canadian banks have indicated an interest in participating.

[16] They had already made such a change to their criteria for structured credit product-backed programs in January 2007, although this change grandfathered existing programs.

[17] However, these stress tests do not seem to consider an interruption of financing, a decline in asset prices, or the cost of holding "bridge loans" that would have otherwise been financed in the money markets.

[18] ABCP represented about half of the outstandings in the corporate short-term paper market. Of the C$ 223 billion short-term corporate paper outstanding on August 31, 2007, C$ 115 billion was ABCP, C$ 58 billion was bankers' acceptances, and C$ 50 billion was direct corporate issuance. However, of the C$ 115 billion ABCP, C$ 32 billion was issued by the "Montreal Proposal" conduits.

## C. Recent Developments in Bank Soundness

33. **The turmoil in global financial markets has thus far only had a modest effect on Canadian banks' financial soundness, but some further deterioriation is in the offing.** Data through the third quarter of 2007 show that the aggregate CAR of the five largest banks declined to 11.8 percent, from 12.4 percent in the fourth quarter of 2006, and that earnings remained high and stable. However, at least one of the major banks expects substantial writedowns from exposures to U.S. subprime assets, amounting to perhaps one fifth of its capital and one quarter of its earnings over the last year, and has decided to raise additional capital through a common share issue. Other major banks also face writedowns, though apparently on a more modest scale.

34. **The banking system also appears to remain fairly stable in terms of market-based measures.** The two-year probability of default of a single Canadian bank implied by Moody's KMV data has increased to about 7 percent in mid-December, compared with 2 percent before the market turbulence began in August 2007, and remains well below the 14 percent seen in the United States. A banking stability index (BSI) defined in terms of the joint probability of default of the largest banks in the system has also increased commensurately.[19]

## D. Other Risks

35. **Large Canadian banks may face risks from the niche strategies they are pursuing in overseas markets.** Defining the appropriate cross-border expansion strategy has traditionally been a difficult balancing act for Canadian banks. Cross-border expansion today is primarily focused on the United States, Latin America, and the Caribbean, with more consistent and cautious strategies than in the past. A number of banks have exited international wholesale corporate banking activities and refocused on lower risk activities, primarily retail banking services.

36. **As full-service banks, the large groups have expanded securities and capital market activities, including investment banking, securities underwriting, and brokerage and asset management.** These activities have been particularly profitable in recent years. Even though Canadian banks as a group have only a small exposure to pending leveraged buyout transactions and to hedge funds, there are risks, as exemplified by the losses suffered by one large bank in commodity trading in late 2006, and by writedowns related to CDOs and mortgage-backed securities (MBS) in other banks in the second half of 2007.

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[19] The BSI conceptualizes the banking system as a "portfolio of banks." Using individual banks' market measures of PoDs, the mission modeled the portfolio multivariate density (PMD), which is used to estimate the banking system's joint probability of default (Goodhart and Segoviano 2007). The PMD embeds both linear and nonlinear default dependence, and allows for the change of default dependencies over time (reflecting the fact that dependencies among financial assets increase in periods of distress). The approach is statistically robust and requires only a limited dataset.

# III. Systemic Liquidity and Crisis Management

37. **The financial safety net and the framework for crisis management are well designed, as is the process for interagency decision-making.** Deposit insurance, lender-of-last-resort (LoLR) instruments, and payment and settlement systems are developed and highly transparent, with the Financial Institutions Supervisory Committee (FISC) playing a key coordinating role.

## A. Deposit Insurance

38. **All retail depository institutions are required to have insurance coverage.** The main insurance provider is the Canadian Deposit Insurance Corporation (CDIC), a federal Crown corporation. CDIC membership is open to most chartered depositories, with risk-based premiums and full coverage for deposits of up to C$ 100,000 (currently) per individual depositor per member institution.

## B. Liquidity Provision

39. **Liquidity is normally provided by the Bank of Canada through open market operations**. With the BoC implementing its monetary policy around an announced target for the overnight interest rate, special purchase and resale agreements (SPRAs) are conducted to inject liquidity as needed (Box 2).

40. **In addition, the BoC has three LoLR facilities:** (i) a Standing Liquidity Facility (SLF), to provide routine overnight credit (at the Bank Rate, set at 25 basis points over the overnight rate) to participants in the Large Value Transfer System; (ii) Emergency Lending Assistance (ELA), to provide more prolonged credit (at or above the Bank Rate, for a maximum term of six months, renewable at BoC discretion) to solvent depositories experiencing liquidity strains; and (iii) a facility to provide liquidity to any financial or nonfinancial firm (via outright purchases of a wide variety of claims) in the event of a finding of "severe and unusual stress on a financial market or financial system."

41. **LoLR liquidity is extended on a secured basis.** The list of eligible collateral under the SLF was expanded in December 2007 to include certain types of ABCP sponsored by banks and U.S. Treasuries, and a further broadening of eligible collateral is expected in March 2008. The range of collateral acceptable under ELA has been broader, potentially including Canadian dollar nonmortgage loan portfolios. In contrast, special purchase and resale agreement (SPRA) and sale and repurchase agreement operations are normally limited to Government of Canada securities. As in most jurisdictions, the BoC uses private credit ratings to determine the eligibility of, and haircuts on, privately issued collateral for its SLF.

**Box 2. The Bank of Canada's Response to the Recent Market Turmoil**

**In the BoC's view, the market instability that began in August 2007 reflected a spike in credit-quality concerns triggered by events abroad.** In responding to the market stress, the BoC focused on ensuring that overnight liquidity remained sufficient. In addition to increasing the supply of settlement balances provided through the SLF, the BoC broadened the range of securities eligible for SPRAs. As a precautionary measure, the BoC also clarified procedures for any potential activation of the ELA and "severe and unusual stress" facilities.

**In confining its liquidity support to pre-existing overnight instruments, the BoC had chosen not to depart from its established framework.** Officials emphasized that the target interest rate for monetary policy was the overnight rate, and that there was an expectation that monetary policy actions in the overnight market would transmit along the yield curve.

**Officials noted that while overnight markets settled close to target, there were pressures in the term money market.** Although overnight rates had declined and sporadic private bond issuance was continuing at the long end, tensions in the money market persisted at the one-week to six-month maturities, where transactions were taking place, but at abnormally high rates. On the issue of term liquidity support, officials were skeptical about setting prices along a yield curve that is meant to be anchored by the overnight rate. Nonetheless, they recognized that injections of term liquidity could be considered under certain conditions, and in fact announced two such operations in December 2007 to address year-end funding pressures, in coordination with other central banks.

**Officials recognized that there was significant debate as to the role of the central bank as a "market-maker of last resort" as well as lender of last resort.** They noted moral hazard concerns and the potential for central bank actions to interfere with an appropriate repricing of credit risk by the market.

**The evolving situation, in Canada and abroad, will require careful monitoring and adroit management.** Officials were cognizant of the risk that, globally, the process of ascertaining losses and repricing credit risk could well prove protracted. Neither they nor market participants nor the rating agencies precluded the emergence of a global transparency premium in structured finance which, in the Canadian context, could act to limit the future inclusion of CDOs in ABCP asset structures.

## C. Failure Resolution and Crisis Management

42. **Interagency information-sharing and coordination is achieved inter alia through the FISC,** a body that brings together the Governor of the BoC, the Deputy Minister of Finance, and the heads of OSFI, CDIC, and the Financial Consumer Agency of Canada. The FISC usually meets quarterly, but can be convened more frequently if needed.

43. **The agencies represented in the FISC have adequate powers to manage systemic problems, and contingency planning is well-developed.** OSFI enjoys considerable enforcement powers, including the authority to intervene progressively in problem institutions under "structured early intervention" provisions that clearly articulate a four-stage process culminating in closure, even while an institution's capital may remain positive. Bank resolution is the responsibility of the CDIC, which is subject to least-cost resolution requirements that may be, but have thus far never been, waived by the Minister of Finance. CDIC is authorized to make independent determinations on the viability of its members' institutions, terminate and cancel insurance coverage, or assume receivership. The CDIC may make temporary loans to, or purchase assets from, its members, for which it maintains a

C$1.6 billion contingency fund, has standing authority to borrow up to C$6 billion, and may apply for special appropriations from the government under an expedited process.

44. **Transparency would be buttressed by reducing the room for discretion in bank intervention and resolution.** The "structured early intervention" regime provides for, but does not mandate, specific supervisory actions as certain capital thresholds are breached. Similarly, the Minister may waive certain CDIC interventions for public interest reasons. In these and other provisions, the Canadian crisis management framework provides considerable scope for supervisory discretion and regulatory forbearance.

## D. Payment and Settlement Systems

45. **The Canadian Payments Association owns and operates two national payment systems: the large value transfer system (LVTS) and the Automated Clearing Settlement System (ACSS).** LVTS is the principal system for clearing large-value and time-critical payments. It is one of the three designated clearing and settlement systems subject to the Bank of Canada's oversight for the purpose of controlling systemic risk. One tranche of the system is based on netting, with deferred settlement of the multilateral net account balance of the system participants, in contrast with the nondeferred gross payment feature in real time gross settlement, while the netting balances are electronically tracked throughout the day on a real time basis. At the same time, a rigorous risk management framework backed by collateralization of the system exposures and the BoC intraday liquidity provision ensure intraday finality of the payment. LVTS provides the cash settlement leg of the securities clearing system. The ACSS is a primarily retail payment oriented system with standard netting and deferred settlement features. The Minister of Finance has statutory oversight responsibilities over the Canadian Payments Association and its systems.

46. **The CDS is the national securities clearing and settlement organization.** It is owned by The Canadian Depository for Securities Limited, which in turn, is owned by the major banks, the Investment Dealers Association of Canada, and the TSX. It operates the settlement system developed by the CDS (CDSX), which provides clearing and settlement functions for equities and debt securities.

47. **CDSX has been designated by the Bank of Canada as a systemically important clearing and settlement system owing to the size and the type of securities transactions it processes.** It settles high value debt securities transactions; and if the system were not adequately protected against risks (notably settlement and operational risk), it could trigger or transmit serious shocks across the domestic financial market. Furthermore, debt securities are the primary instrument used as collateral in many financial arrangements, including the central bank's intraday liquidity provision arrangement for LVTS. The system also settles the securities leg of monetary policy operations.

48. **The assessment of CDSX against the Committee on Payment and Settlement Systems (CPSS)/IOSCO RSSS found that the system is sound, efficient, and reliable, and it complies with almost all RSSS.** The legal basis for the system's operation is solid, its functionality is well developed, its risk management procedures to mitigate credit, liquidity, and operational risks are appropriate, and its governance structure is effective and transparent. The following recommendations are provided to further enhance the operations of CDSX and its regulatory environment:

- CDS should assess the benefits and costs of acting as a CCP for TFT transactions.

- CDS could consider introducing a securities lending facility in order to reduce settlement failure.

- In order to further protect CDSX from the credit and liquidity risks inherited in the CCP services and, as is best practice, the authorities should strongly consider separating the CCP functions from the CDS functions, with the CCP being provided by a distinct legal entity.

- While cross-border settlement risk is not significant, CDS should take steps to further reduce the current concentration of settlement cash for U.S. dollar-denominated securities in a single settlement bank. In that regard, CDS might explore becoming a direct member of Fedwire or obtaining access to U.S. dollar central bank money through the BoC.

- While cooperation between the Bank of Canada and securities regulators—notably Ontario Securities Commission (OSC) and the Autorité des Marchés Financiers—is ongoing, these cooperative arrangements could be formalized, as well as those between the Canadian authorities and the relevant United States authorities for cross-border activities.

- CDS should not allow the transfer of securities delivered through the depository trust company (DTC) link to its participants until these securities reach settlement finality in the DTC system.

## IV. Financial Regulation and Supervision

### A. Overview of the Regulatory Framework

49. **Canada has established a highly effective and nearly unified regulatory and supervisory framework.** In this framework, OSFI plays the primary role in regulating and supervising federal financial institutions—150 deposit taking institutions, 308 insurance companies, and 34 foreign bank representative offices as of September 15, 2007—and those pension plans that are under federal jurisdiction. With a mandate to protect financial consumers (such as insurance policy holders, depositors, and pension plan members) from undue loss, OSFI bases its operations on principles including (i) supervision on a

consolidated basis; (ii) a risk-based approach; and (iii) a policy of early intervention. Canada regularly reviews its financial regulatory structure, most recently in 2006 (Box 3).

**Box 3. The 2006 Financial Institutions Legislation Review**

The Canadian government has put in place a unique five year review process for financial sector legislation.

Past reviews often culminated in a significant reduction of regulatory impediments to competition and efficiency. Entry by foreign bank branching was introduced in 1999, based on a review conducted in 1997. A consultation paper in 1999 ultimately lead to legislative changes in 2001, including allowing widely held financial institutions to organize under a regulated holding company structure and relaxing the widely held rule. Important elements of the 2006 review included:

- ***Improving disclosure to consumers.*** The disclosure regime for terms and conditions for deposit-type investment products and any associated fees are being strengthened, among other measures.
- ***Modernizing check payments.*** An enabling framework for electronic check imaging will be introduced. In parallel, measures were taken to shorten the check holding period.
- ***Foreign banks.*** Lighter entry regulation will be applied to so-called foreign near banks, that is, foreign entities providing bank-type services such as consumer loans, but which are not regulated as banks in their home jurisdictions.
- ***Mortgage insurance.*** The threshold loan-to-value ratio at which mortgage insurance becomes mandatory was raised from 75 percent to 80 percent.
- ***Credit Unions and Caisses Populaires.*** Credit unions or caisses populaires are able to incorporate cooperative credit associations, which may operate across provinces. The associations are allowed to opt out of deposit insurance if they do not accept retail deposits.
- ***Ownership regime thresholds.*** The equity threshold for large banks, which must be widely held, and medium sized banks, which are subject to a 35 percent public float requirement, was raised to C$ 8 billion and C$ 2 billion from the current level of C$ 5 and C$ 1 billion.

50. **Changes to the regulatory framework in Canada since the bank and trust and loan company failure episodes in the 1980s and early 1990s have focused on reducing supervisory forbearance.** In particular, progress was made in aligning supervisory incentives with the interest of the deposit insurers who directly bear the cost of a bank failure. The CDIC has been equipped with extensive failure resolution powers to deal with troubled member institutions.

51. **The Minister of Finance also has certain regulatory responsibilities, such as incorporation of banks, permitting foreign bank branches, and review of large bank mergers.** In Canada, only the federal government may incorporate banks. The Minister of Finance has discretion to issue letters of patent of incorporation. However, OSFI is responsible for overseeing public notification and inquiry into the authorization process.

52. **OSFI requires consent from the home country supervisor for opening foreign bank subsidiaries or branches.** The decision rests, inter alia, on such factors as (i) the financial resources of the applicant; (ii) the appropriateness of the business plan; and (iii) the fitness of the manager. Regulations on foreign bank branches, including restrictions on taking retail deposits, while broadly consistent with those in some other advanced economies, may nonetheless limit potential cost savings from cross-border branching.

53. **Large bank mergers undergo a competition review and a prudential review, with the Minister of Finance having responsibility for a final decision on the transaction.** The review process involves the Competition Bureau, OSFI, and the Ministry of Finance. The eventual outcome critically hinges on the Minister of Finance, who has broad legal discretion to disapprove a merger. Over the past decade, much discussion has focused on ministerial discretion and on the application of a "public interest test" in draft merger guidelines. The current government has set aside this issue by indicating that bank mergers are not a priority at this time.

54. **In contrast to banking regulation, securities laws and regulations are still under provincial control, contributing to a fragmented domestic capital market.** At present, only some proportion of Canadian public companies have nationwide access to investors. While this situation may be attributed to a wider range of factors, a more protracted registration process and fees in multiple jurisdictions may be a deterrent in particular for smaller entities.

55. **Pension plans are governed and monitored by federal or provincial pension legislation to protect members' rights and set minimum standards.** For businesses under federal jurisdiction (such as airports, airlines, banks, and telecommunications), plans come under the authority of federal pension legislation and under the supervision of OSFI. Where the sponsor's business is not federal in nature, it will register its pension plan in the province where the plurality (largest number) of employees report to work. Both federally and provincially regulated pension plans must be registered with the Canada Revenue Agency in order to benefit from tax-deferred treatment under the Income Tax Act. This ensures that pension plans operate in a manner consistent with the requirements of the Income Tax Act, such as adhering to the rules and limits applying to contributions and benefits.

## B. Focused Review of Banking Supervision

56. **The 1999 FSAP found Canada to be fully compliant with the BCPs.**[20] In 2006, the Core Principles (CPs) and the associated methodology were revised.

57. **The FSAP undertook a focused review of four CPs that have substantially changed and found OSFI to be compliant with all four.**[21] These are CP 14 (Liquidity Risk), CP 15 (Operational Risk), CP 16 (Interest Rate Risk in the Banking Book), and CP 20 (Supervisory Techniques). The review found that OSFI's supervision is risk-focused and "reliance-based," seeking to leverage the work done within banks with a view to minimize duplication of effort and to control the regulatory costs levied on institutions. At the same time, the need to assess risk in a complex and evolving financial services environment would seem to warrant additional resources for cross-checking of the submissions provided by financial institutions, including in on-site inspections.

58. **OSFI has also made robust preparations for the implementation of Basel II.** The preparations cover key issues such as assessment and gap closure resolution, and the process involves a mix of on-going monitoring and on-site examinations (Box 4). Canada has agreed to participate in a pilot program for the assessment of Basel II preparedness, which is now being developed by the Fund and the Basel Committee on Banking Supervision.

## C. Implementation of the IOSCO Principles for Securities Supervision

59. **The regulatory framework for the securities market exhibits a high degree of implementation of the IOSCO Principles.** In the largest provinces at least, the regulatory authorities are independent and self funded, have sufficient resources and skilled personnel, and are clearly accountable to the government. The framework for issuers, self regulatory organizations (SROs), market intermediaries, and secondary markets is robust. Improvements could be made in the on site inspections of SROs. Under the umbrella of the CSA, coordination between the 13 regulatory agencies has significantly improved.

60. **Enforcement has shown positive change in recent years. However, further improvement is needed.** Matters of a criminal nature and securities law matters are enforced by different authorities, although these authorities can and do cooperate with each other. Criminal enforcement appears to be particularly weak, and the fragmented system of

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[20] With the exception of two Additional Criteria, which have in the meantime been addressed. Canada thus remains fully compliant with the 1999 version of the BCP.

[21] Under current policies, partial assessments of the BCP (or other standards) do not result in issuance of a formal Report on the Observance of Standards and Codes or preparation of a Detailed Assessment. A summary of the assessment is provided in Appendix I.

**Box 4. Basel II Preparation**

Basel II came into effect in Canada at the beginning of November 2007, with an approval process starting in August 2007 and ending in February 2008. The transition, in contrast to Europe, will have a single phase rather than two phases, and the large banks opting for internal ratings will use only the advanced internal ratings-based approach (AIRB). The foundation internal ratings-based approach is not an option. Other banks will adopt the standardized approach (SA).

The approval process appears consistent with Basel rules. OSFI has issued an implementation note on the approval of internal rating-based approaches, as well as implementation notes in other areas, such as operational risk. OSFI has also issued self-assessment instructions and schedules, and designed an AIRB risk rating system scorecard to rate banks' self-assessments. These steps provide a basis for the AIRB review and approval processes, which rely heavily but not entirely on banks' own work.

The resources devoted to Basel II preparation (20 persons, including some with quantitative and information technology skills) are probably sufficient in view of the relatively simple structure of the Canadian banks, the limited number of banks coming under AIRB, and few if any banks coming under the advanced measurement approach (AMA) for operational risk. It appears that adequate work has also been done on the 140 or so banks that are adopting SA.

provincial regulation also creates challenges in securities law enforcement at the regulatory level. A coordinated approach to enforcement, with clear lines of accountability and benchmarks between criminal and securities law enforcement, is needed. Both the federal authorities and provincial regulators have taken important steps in that direction. Retention of qualified personnel also seems to be a challenge, especially for criminal enforcement.

61. **The regulatory and supervisory framework for collective investment schemes (CIS) has some gaps.** Under the current framework, CIS operators are not subject to a registration regime. As a result, regulatory agencies cannot impose eligibility criteria, and it is questionable whether they have full disciplinary authority over them. Even so, because they can be deemed "market participants," the regulatory agencies have some limited powers over CIS operators. However these weaknesses will be corrected with the approval of the National Instrument 31–103 Registration Requirements, currently under consultation. Supervision of mutual funds and their operators is not a regular part of the oversight program of at least one major regulatory agency, although targeted reviews have been carried out.

## D. Structure of Securities Regulation and Supervision

62. **As noted, securities markets in Canada operate under provincial regulation and supervision.**[22] As a result, there are 13 regulatory authorities, each administering a separate set of securities laws and regulations. Under the umbrella of the CSA, provincial regulators aim at coordinating their actions.

63. **Issuers, CIS, and registrants are the areas where more progress in coordination and harmonization have been achieved.** The provincial regulators have developed a mutual reliance review system for issuers and CIS, whereby decisions are taken by one regulator under a highly harmonized regulatory framework, while the others retain the authority to opt out. A similar regime (National Registration System) has been developed for registrants, though regulatory harmonization has not yet taken place. The provincial regulators have also worked on the development of a coordinated approach for exchanges and SROs oversight, with more progress being achieved at the level of the exchanges. They have also constituted a committee on enforcement.

64. **However, there is scope for further improvement to make the system more efficient.** Areas of concern relate to the need to further harmonize regulations and continue to simplify registration processes and oversight arrangements for market participants, reduce costs, and improve the process for policy development and enforcement. Two proposals for reform have been advanced:

- **The passport system.** Market participants will be able to clear a prospectus, register as a dealer or adviser, or obtain a discretionary exemption from the regulator in their home province or territory and have it automatically apply in all other jurisdictions.

- **A common regulator.** A single securities commission accountable to the Council of Ministers (representing participating provinces, territories and the federal government).

65. **The passport system, which is currently being implemented, will further rationalize the regulatory system for issuers, CIS, and market intermediaries.** The passport system was agreed by all the provincial governments except Ontario. A participant (issuer, CIS, or market intermediary) will only deal with the regulator of their home province, and the decisions taken by that regulator will automatically apply to the rest of the provinces and territories, with no possibility of opting out. An interface with the OSC will extend the benefits of the passport system to participants located in Ontario, since OSC decisions will automatically apply to the rest of the provinces. The OSC will retain its authority to opt out of decisions taken by the other regulators. Further harmonization of

[22] The provinces have regulated capital markets using their jurisdiction over "property and civil rights" set out in subsection 92(13) of the Constitution Act, 1867.

regulations for issuers, collective investment schemes, and intermediaries will come into effect along with the passport system.

66. **However, the passport system has not been designed to address some of the inefficiencies of the provincial system of regulation listed above, including costs, delayed policy development, and fragmented enforcement.** Participants will continue to be required to pay fees to the regulatory authorities of all the provinces where they raise capital or provide services, which has a clear impact on the cost of and access to funding. Nevertheless, it should be mentioned that the Council of Ministers has instructed the CSA to review the fee system. In addition, policy development will continue to require approval by 13 jurisdictions. This protracted process can affect Canada's ability to react in a timely manner to local and global developments. Moreover the time spent in building consensus at a local level might detract from Canada having a leading role at an international level. The passport system has not been designed to address either the problem of the limited "jurisdiction" that regulatory agencies have and that poses challenges to effective enforcement. However, it needs to be recognized that effective enforcement will always require concerted efforts with other enforcement agencies—an area in which additional efforts are also required. Finally, the delegation of powers in the passport system will face challenges regarding the consistent application of the regulatory framework by the different provinces, and will require the creation of an oversight system.

67. **In the staff's view, a single regulator appears to be better positioned to address these shortcomings.** There are different alternatives for a single regulator, including the "common regulator" proposed by the Crawford Panel.[23] A single regulator would probably reduce compliance costs for market participants, since there would be only a single system of fees. It would streamline policy development, since decisions would be taken by a single body, and therefore would allow Canada to react more quickly to local and global developments. A single regulator would have enforcement authority in the whole country, and therefore would be in a better position to eliminate the inefficiencies created by the limited enforcement authority of individual provincial regulators. In addition, the existence of a single regulatory authority responsible for administrative enforcement would help to simplify coordination with other enforcement agencies. Appendix II provides background.

### E. Retirement Savings

68. **Pension funds are increasingly diversifying away from traditional and domestic asset classes.** As the size of the government (and provincial) bond markets declines, and buyout transactions and M&A activity increase, domestic markets for public securities may prove increasingly unable to accommodate the investment needs of pension funds. In this context, the rapid growth of the Maple bond market and of the Canadian Mortgage Bond program are noteworthy, and the further development of mortgage securitization would also

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[23] See Crawford Panel, *Blueprint for A Canadian Securities Regulator*, June 7, 2006.

be helpful. The larger pension funds are already moving toward global and sometimes more complex investment policies in a broader set of asset classes, including hedge funds, private equity, and infrastructure investment.

69. **These developments require continued reinforcement of risk management skills in pension funds and their supervisors.** Poor risk management and large losses by pension funds could lead to political pressure for bailouts. Substantial risk management challenges exist in investments in foreign markets or in complex, hard to value, and often illiquid financial instruments.[24] The large number of medium and small defined benefit pension funds may find it costly to operate in this environment, and innovative solutions could be considered.[25] The regulatory framework for pension funds will need to focus increasingly on the adequacy of risk management practices and resources, in addition to the traditional solvency approach. Echoing the "prudent man" rule prevalent on the asset side, the risk-based prudential approach implemented in the supervisory framework is welcome, and needs to be developed further, with reflections already ongoing in a number of provinces.

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[24] For example, the Caisse des Dépots, a crown corporation that manages Quebec public pension and insurance funds, acquired large exposures to third-party ABCP conduits.

[25] Encouraging the establishment of larger, multi-employer pension plans, and facilitating the access of pension plans to the (re)insurance market where instruments are been developed to manage extreme risks, are possible ways to address this risk management challenge. In the same vein, forms of a possible affiliation with, or outsourcing to, sophisticated money managers or large pension plans may be possible. However, implementing some of these steps is likely to be difficult as there are many aspects that would require negotiation, such as contribution rates, benefit accruals, and so forth.

## Appendix I. Focused Review of the Basel Core Principles—Summary

70. ***CP 14 (Liquidity risk).*** A regular review of liquidity risk is part of OSFI's ongoing risk-based planning process, and clear guidelines have been issued. For the large banks, monitoring of liquidity is quarterly, and involves off-site monitoring and discussions with banks' management. Stress-testing, modeling, and worst case scenarios are regularly performed, as are reviews of internal controls. For smaller institutions, the process is lighter: OSFI monitors liquidity mainly on the basis of verified banks' reports, and also checks that contingency plans and internal monitoring are in place. For all banks, OSFI intensifies its supervisory activities as warranted. It also appears that OSFI is exercising its supervisory functions in the current turmoil in ABCP and money markets.

71. ***CP 15 (Operational risk).*** Operational risk analysis is an integral part of OSFI's supervisory framework. All banks are required to comply with the Basel Committee's document on Sound Practices for the Management and Supervision of Operational Risk as well as OSFI's own detailed guidance. OSFI has a specialized unit on operational risk that has elaborated a process and specific methodologies (such as an information technology risk scoring algorithm). Although OSFI is compliant with the criteria established in the CP methodology, the heavy reliance on banks' own reporting could be more systematically addressed in on-site examinations. Staffing in the operational risk area also seems to be relatively low in comparison with other advanced economies. However, considering the expected low adoption of the AMA method, it remains commensurate to the present needs.

72. ***CP 16 (Interest rate risk in the banking book).*** OSFI has issued a Guideline on Interest Risk Management that references the Basel Committee's July 2004 document on the topic. Larger banks are monitored quarterly through off-site reporting, benchmarking, review of internal audit reports, and other techniques. OSFI also verifies board and senior management involvement and liaises with the banks' asset and liability management committees. Risk management systems, models, and policies are reviewed. For smaller institutions, OSFI relies more on the reports made by banks themselves, with institutions warranting attention receiving a more detailed examination. OSFI is to be commended for its plans to make its interest rate risk assessments more forward-looking and quantitative.

73. ***CP 20 (Supervisory Techniques).*** OSFI has a well-balanced and fully articulated organization, robust processes, well elaborated documentation, sound and suitable methodologies, up-to date tools in line with the international best practices, adequate and competent staffing, and sufficient legal powers effectively used where appropriate. On-site, off-site, and oversight work are efficiently blended, with good communication within the organization. OSFI is risk-focused and "reliance-based," seeking to leverage the work done within banks with a view to minimize duplication of effort and to control the regulatory costs levied on institutions. At the same time, the need to assess risk in a complex and evolving financial services environment would seem to warrant additional resources for cross-checking of the submissions provided by financial institutions, including in on-site inspections.

## Appendix II. The Structure of Securities Regulation in Canada—Background

74. **A review of international experience shows a wide variety of institutional structures in financial regulation.** Certain trends have emerged, mainly towards fewer separate agencies, and towards more integrated arrangements. However, there is no single model that all countries are converging to, or that could be considered best practice. Among advanced countries, some have opted for a fully unified regulator (England); others for a twin peak approach where prudential regulation is assigned to one regulator and market conduct regulation to another (Australia, and partially, Italy and Portugal—although the latter two could also be characterized as specialized regulators); and yet others for specialized regulators (United States). The division of labor between central governments and states or provinces also varies. In some advanced countries, the state regulators retain some role in securities regulation (Germany, United States). Effectiveness and efficiency are the ultimate criteria for the choice of regulatory structure: are the objectives being met, and are they being met without imposing unnecessary costs on consumers and regulated firms?

75. **The structure of securities regulation in Canada has been the subject of considerable analysis.** The most recent task forces include the Five Year Review Committee, the Wise Persons Committee, the Crawford Panel, and the Allen Task Force.[26] There is also considerable academic research, much of it in response to the work of the task forces, which have also elicited comments from regulatory agencies and market participants.

76. **By and large there is agreement that the current structure has provided Canada with an effective system of regulation,[27] although enforcement is in need of further**

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[26] *Reviewing the Securities Act (Ontario),* Five Year Review Committee, March 2003*; It's Time*, Wise Persons Committee to Review the Structure of Securities Regulation in Canada, December 2003; *Blue Print for a Canadian Securities Commission*, Crawford Panel, June 2006; *Canada Steps Up*, The Task Force to Modernize Securities Legislation in Canada, October 2006; *One Year On: Seeing the Way Forward*, Crawford Panel, June 2007. Much of the relevant academic research is cited on the respective Web sites of these task forces. In addition, see Jean Marc Suret and Cécile Carpentier, *Securities Regulation in Canada* (2003) and *Proposal for a Single Securities Commission: Comments and Discussions* (September 2007). The authorities also provided the FSAP team with a background paper: *Briefing Note: Canada's Securities Regulatory Regime*, August 16, 2007.

[27] Thus, the views expressed in the FSAP are not entirely at odds with those of the Chair of Canada's Council of Ministers, who has noted that independent studies have found Canada's system to be one of the best in the world. Even so, the studies he quotes are not comprehensive assessments of the Canadian system. Rather, they focus on specific aspects. In addition, in all cases, their findings are mostly based on surveys of law firms, viz. World Bank, *Doing Business Indicator*, Djankov Simeon et al, *The Law and Economics of Self Dealing* (2006), and Organization for Economic Cooperation and Development, *Economic Policy Reforms, Going for Growth* (2006). Similarly, the AMF cites De Serres, Kobayakawa, et al, *Regulation of Financial Systems and Economic Growth*, Organization for Economic Cooperation and Development (OECD) Economics Department Working Papers, No 506 (2006). Both OECD papers are based on the World Bank's "doing business indicator."

**improvement.**[28] This in fact has been a principal conclusion of the IOSCO Principles assessment. Arguably, the current system has responded to the specific characteristics of its capital market, such as allowing for a large presence of small issuers, and the concentration of certain industries in specific provinces. The drawback of multiple regulation is that it requires market participants who want to raise funds or provide services in more than one province to comply with different sets of regulations, with correspondingly higher costs.[29]

77. **There is thus scope to rationalize Canada's system and make it more efficient.** The main issues relate to the need to harmonize laws and regulations; expedite policy development; simplify registration processes and oversight arrangements for market participants (issuers, registrants, exchanges and SROs), reduce costs, and strengthen enforcement. Under the umbrella of the CSA, the provinces have taken several initiatives to address these issues. Significant progress has been made, but important concerns remain:[30]

- Harmonization of regulations: significant progress has been made via the adoption of national instruments. Particular efforts are needed on securities intermediaries.

- Policy development: the process of adoption of national instruments is protracted, since national instruments need to be individually adopted by each province. Depending on the jurisdiction, ministerial approval may also be needed.[31] In addition, while provinces are committed to harmonizing their regulatory framework, they retain full authority to adopt a local standard.

- Issuers and intermediaries registration: the Mutual Reliance Review System for issuers and the National Registration System for intermediaries have streamlined the registration process. However, opt-outs make the process longer and more uncertain.

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[28] Enforcement has been the subject of much research. See, for example, Charles River Associates, *Securities Enforcement in Canada: the Cost of Multiple Regulators*, commissioned by the Wise Persons Committee; Jackson Howell, *Regulatory Intensity in the Regulation of Capital Markets: A Preliminary Comparison of Canadian and U.S. Approaches*; Peter de Carteret Cory and Marilyn Pilkington, *Critical Issues in Enforcement*; Utpal Bhattacharya, *Enforcement and its Impact on Cost of Equity and Liquidity of the Market*. All of these studies were commissioned by the Allen Task Force.

[29] See Wise Person's Committee, *It's Time*, p. 19–24.

[30] In June 2003, a steering committee of provincial ministers in charge of securities regulation released a discussion paper for comments, *Securities Regulation in Canada: An Interprovincial Framework,* in which they summarize the main concerns expressed by market participants. See also Wise Persons' Committee *, It' Time.*

[31] The Crawford Report noted that the implementation of a CSA multilateral instrument takes a minimum of 18 months.

- Costs: A system of multiple regulators entails additional costs for market participants, including additional direct costs, since participants have to pay fees to all the regulatory authorities of the provinces/territories where they want to raise capital or provide services; there are also compliance costs and opportunity costs caused by longer review procedures.[32] In addition, there appears to be room for efficiency savings at the regulatory level.

- Authorization and oversight of exchanges and SROs: improvements have been made through the adoption of a "lead regulator" for exchanges and a "principal regulator" for SROs. The system for SROs needs further improvement, since the principal regulator only acts as a coordinator. The process of approving regulations developed by exchanges and SROs is protracted, since all the provinces have a role.

- Enforcement: the CSA created a committee on enforcement that has improved coordination of enforcement actions by the provinces.[33] Increasingly, provinces are conducting join investigations and to some extent joint hearings, and a few provinces have been given powers to reciprocate orders. While these steps have alleviated the problems posed by the limited jurisdiction of each provincial regulator, they do not eliminate them. In addition, a system of provincial regulators makes coordination with the criminal enforcement authorities more challenging.

78. **The passport system represents an improvement over the current system but does not address many of the inefficiencies listed above.** It will further rationalize the registration process for issues and intermediaries; a participant (issuer or intermediary) will only deal with the regulator of its home province; and decisions taken by this regulator will automatically apply to the rest of the provinces and territories, with no provision for opting out. In addition, further harmonization of regulations for both issuers and securities intermediaries will come into effect along with the passport system. However, the passport

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[32] In their submissions to the Wise Persons' committee, participants expressed concerns about the increased costs caused by a system of multiple regulators. See Wise Persons Committee, It's time, pages 33–37. Research carried out by Charles River Associates provides evidence that a system of provincial regulation adds significant costs to both intermediaries and issuers. Research by the Canadian Bankers Association provides additional evidence for issuers. Anita Anand and Peter Klein concluded that registrants are more likely to incur material incremental costs than issuers; but that case study participants uniformly reported significant incremental opportunity costs. Jean Marc Suret and Cecile Carpentier concluded that there is little evidence that the present structure greatly penalizes the country. See Charles River Associates, *Estimating the Incremental Costs of Multiple Securities Regulators in Canada,* 2003; Canadian Bankers Association, *The Impact of Multiple Regulators on the Cost of Raising Capital for Small and Medium Size Businesses*, February 2007. Anand, Anita and Klein, Peter, *The Cost of Compliance in Canada's Securities Regulatory System*, 2003; Suret Jean Marc and Carpentier Cecile Securities *Regulation in Canada*, 2003 and *Proposal for a Single Securities Commission: Comments and Discussions*, September 2007.

[33] In addition, the Royal Canadian Mounted Police has created integrated market enforcement teams.

system does not address the remaining challenges listed above, and the delegation of powers that it entails will require a system of oversight.

79. **Even so, many market participants see advantages in a single regulator.**[34] The 12 provinces that have joined the passport system acknowledge some of the problems mentioned above, in particular the challenges in policy development and the existence of a separate system of fees.[35] However, their position is that they can find solutions to these problems that do not involve creating a single or national regulator.

[34] See Crawford Panel, *Blueprint for A Canadian Securities Regulator*, June 7, 2006. Of the 77 submissions that make specific recommendation on the best regulatory structure for Canada, 74 percent recommended a single regulator and 13 percent recommended a passport system; ibid, page 10.

[35] The AMF has acknowledged that members of the CSA recognize that there are delays in policy development. This issue is at the forefront of future initiatives to guarantee a more streamlined process. The Council of Ministers has already asked the CSA to analyze and make recommendations on the fee system.

## Annex I. Observance of Financial Sector Standards and Codes—Summary Assessments

The annex contains summary assessments of two international standards relevant for the financial sector. The assessments were undertaken in the context of the FSAP in September 2007 and have helped to identify the extent to which the supervisory and regulatory framework is adequate to address the potential risks in the financial system in Canada.

The following detailed assessments of financial sector standards were undertaken:

- the IOSCO Objectives and Principles for Securities Regulation, by Ana Carvajal (IMF); and
- the CPSS/IOSCO Recommendation for Securities Settlement Systems, by Elias Kazarian (IMF)

The assessments were based on several sources, including:

- self-assessments provided by the relevant authorities;
- reviews of relevant legislation, regulations, policy statements and other documentation;
- discussions with the supervisory authorities; and
- meetings with financial market participants, users of payment system infrastructure, and financial sector associations.

Compliance with the Financial Action Task Force 40 Recommendations for Anti-Money Laundering and 9 Special Recommendations on Combating the Financing of Terrorism were assessed by the Financial Action Task Force in March 2007, using the mutual assessment process. The associated ROSC will be distributed separately, once it has been finalized.

## REPORT ON THE OBSERVANCE OF STANDARDS AND CODES—INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS PRINCIPLES AND OBJECTIVES OF SECURITIES REGULATION

### Introduction

80. **An assessment of the Canadian Securities Market was conducted September 10–21, 2007 as part of the Financial Sector Assessment Program by Ana Carvajal, Monetary and Capital Markets Department**.[36]

### Information and methodology used for the assessment

81. **The assessment was conducted based on the IOSCO Principles and Objectives of Securities Regulation and the associated Methodology adopted in 2003.** A CPSS/IOSCO Assessment was conducted separately; thus Principle 30 was not assessed here.

82. **As it was impossible to assess 13 provinces, the assessment largely relied on the regulatory frameworks of Ontario and Quebec to draw inferences on the level of implementation of the Principles for the country as a whole.** Given the high level of harmonization in regulations that has been brought about by the adoption of National Instruments, and the fact that these two provinces account for a very significant proportion of the activity of the Canadian securities market, the assessor and the Government of Canada believe that this is a reasonable approach. To the extent possible the assessor has highlighted the cases where important differences exist between the framework of these two provinces and other provinces/territories.

83. **The assessor relied on** (i) self-assessments carried out by the OSC and the Autorité des Marchés Financiers (AMF); (ii) the review of relevant laws, regulations issued by both the OSC and the AMF, and other relevant documents including procedures, manuals and guidelines; (iii) meetings with Board members of the OSC and the president of the AMF, staff of both regulatory agencies, and other public authorities, in particular representatives of Finance Canada and the Bank of Canada; as well as (iv) meetings with market participants, including issuers, financial intermediaries, market operators and self regulatory organizations.

84. **The assessor wants to thank both the OSC and the AMF for their full cooperation as well as their willingness to engage in very candid conversations about**

[36] An IOSCO assessment was conducted in 1999; however at that time a methodology to assess the level of implementation of the Principles had not been developed. In addition, significant reforms have been brought about by the creation of the CSA. Therefore, a decision was taken to conduct a full assessment rather than an update.

**the regulatory and supervisory framework in their provinces.** The assessor also wants to extend her appreciation to all other public authorities and market participants with whom she met.

**Description of regulatory structure and practices**

85. **Securities markets in Canada are under a system of provincial regulation and supervision.**[37] As a result, there are 13 regulatory authorities, each one administering a separate set of securities laws and regulations. Overall, securities legislation in all the provinces and territories has the same underlying objectives—the protection of investors and ensuring fair, efficient capital markets—and the regulatory authorities share the same core responsibilities. However, actual regulations developed by each province to address these core set of goals and responsibilities can, and do, differ, and so can the specific requirements applicable to different types of market participants as well as the level of investor protection.

86. **The nature, structure, resources, and powers of the provincial regulators vary.** The assessor was informed that in the smallest provinces in particular, the regulator is still part of the government, funded by it and with limited resources. That is not the case for the four largest jurisdictions—Alberta, British Columbia, Ontario and Quebec—which roughly supervise 95 percent of the market. These regulatory agencies are operationally independent and fully self-funded by levies imposed on market participants. They have comprehensive powers, including enforcement powers. In the case of the AMF, enforcement powers are exercised through an independent tribunal, the Bureau de Décision et de Révision en Valeurs Mobilières.

87. **Under the umbrella of the CSA, provincial regulators are seeking to coordinate their actions.** The CSA is a nonstatutory association that brings together all Canadian securities regulatory authorities with the objective of improving regulation of Canadian securities markets. However the CSA has undertaken several initiatives to harmonize securities regulation via the adoption of national instruments as well as their administration.

88. **Authorization and supervision of issuers, CIS, and registrants are the areas where more progress has been achieved.** The provincial regulators have developed a mutual reliance review system for issuers and CIS, whereby decisions are taken by one regulator under a highly harmonized regulatory framework, while the others retain the authority to opt out. A similar regime, the National Registration System, has been developed for registrants, though regulatory harmonization has not taken place yet. The provincial

[37] The provinces have regulated capital markets using their jurisdiction over "property and civil rights" set out in Subsection 92(13) of the Constitution Act, 1867. Legal opinions commissioned by the Wise Persons Committee concluded, however, that nothing in the Constitution prevents the federal government from regulating this area.

regulators have also worked on the development of a coordinated approach for exchanges and SRO oversight, with more progress being achieved at the level of the exchanges.

89. **Provincial regulators rely largely on self-regulatory organizations (SROs) for the regulation and supervision of the market and its participants.** The main SROs are the Investment Dealers Association of Canada (IDA), which has self regulatory powers over investment dealers; the Mutual Fund Dealers Association of Canada (MFDA), which has powers over mutual fund dealers; the Chambre de la sécurité financière (CSF), which regulates mainly mutual fund representatives in Quebec; Market Regulation Services Inc. (RS), which has self regulatory powers over the trading on equity marketplaces.[38] The Montréal Exchange is recognized as a SRO. The equity exchanges (TSX and TSXV) should be considered SROs, although they have outsourced market regulation functions to RS. IDA and RS have already submitted to the regulators a proposal for their merger.

**Market structure**

90. **Canada has a system of specialized securities intermediaries, although the categories and requirements vary across provinces.** In general there are three main categories: investment dealers, mutual fund dealers, and advisors. Investment dealers and mutual fund dealers are required to be members of an SRO (either the IDA or the MFDA; except in Quebec where mutual fund representatives are required to be members of the CSF while mutual fund firms are not). Membership in these SROs has de facto harmonized requirements for these two categories of participants (except for mutual fund dealers in Quebec).

91. **The main exchanges work under a model of specialization.** Under a noncompetition agreement, the TSX and TSXV have specialized in equity (senior and junior, respectively) while the MX is a derivatives market. In December 2007, the TSX and MX announced that they agreed to combine their organizations to create TMX Group Inc. The new organization will be managed from Toronto, but the trading of financial derivatives products will stay in Montreal. The merger deal, which is subject to approvals from regulators and MX shareholders, is expected to close in the first quarter of 2008.

92. **The TSX is the 7$^{th}$ largest equity market by market capitalization.** As of December 2006, market capitalization of the TSX Group amounted to US$1,701 billion. It ranks 12$^{th}$ by value of equity trading, with a traded valued of US$1,282 billion for 2006. There is an important link with the market in the United States: in 2006 there were 195 interlisted issuers out of 1,598 TSX-listed issuers, for a combined market value of US$1.2 trillion or 61 percent of total domestic market. Moreover the regulatory authorities have developed a Multijurisdictional Disclosure System, under which issuers from the United States and Canada largely rely on the filings that they produce in their home countries for purposes of the cross listing.

[38] The equity marketplaces are the Toronto Stock Exchange (TSX), TSX Venture Exchange (TSXV), Canadian Trading and Quotation System—the new Canadian stock exchange, and the several alternative trading systems (ATS).

93. **Ontario has a significant share of the market and its participants.** Approximately 31 percent of listed issuers, amounting to 46 percent of Canada's equity markets, are based in Ontario; 60 percent of IDA members firms have their Canadian head office in Ontario; 76 percent of CIS assets are held by firms based in Ontario; and 49 percent of the assets of the top 100 employer funds are also held by Ontario based pension funds.

**General preconditions for effective securities regulation**

94. **The general preconditions necessary for the effective regulation of securities markets appear to be in place in Canada.** Those preconditions relate to sound macroeconomic policies, appropriate legal, tax and accounting frameworks, and the absence of entry barriers to the market.

**Main findings**

95. **Principles related to the regulator—**The largest regulatory agencies work independently of the government under a vigorous system of accountability. They are funded by levies imposed on market participants. Self funding has allowed them to retain sufficient qualified personnel to carry out their functions. They are subject to a high degree of transparency, including public consultation on regulations and published policy statements. At the same time, they abide by high standards of ethics that have been codified into an ethics code, with certain reporting obligations. They are active on investor education. Under the umbrella of the CSA, provincial regulators are coordinating their actions, albeit with uneven progress: issuers, CIS, and registrants are the areas where more progress has been achieved.

96. **Principles for SROs—**SROs are subject to authorization based on eligibility criteria that among others address issues of financial viability, capacity to carry out their functions, governance, and fair access. Supervision is based on a set of mechanisms that include off-site reporting, on-site inspections, as well as regular meetings and close contact with SRO staff to discuss on going issues.

97. **Principles for enforcement—**Canada has established a credible system for the supervision of the market and its participants in which SROs play a significant role. Enforcement has experienced positive change during recent years; however, it is still in need of considerable improvement. Matters of a criminal nature and securities law matters are enforced by different authorities, although these authorities can and do cooperate with each other in certain circumstances. However, the development of a coordinated approach to enforcement between criminal and securities law enforcement, with clear lines of accountability and benchmarks, seems to be missing. Both the federal authorities and the provincial regulators have taken important steps in that direction.

98. **Principles for cooperation—**The largest regulatory agencies have explicit and comprehensive powers to share information with both local and domestic authorities and can do so without the need of any external approval. The four largest jurisdictions are signatories

of the IOSCO Multilateral Memorandum of Understanding (MMoU). They have the power to obtain information that is not in their files on behalf of foreign regulators. They have shown clear a commitment to exchange information and assist other regulatory agencies both domestically and internationally.

99. **Principles for issuers—**Issuers are subject to disclosure obligations at the moment of authorization and on an ongoing basis, fully in line with IOSCO standards. The regulatory agencies have developed a system for review of the prospectus as well as continuous disclosure obligations. Liability provisions are in place to ensure issuers' responsibility for the prospectus.

100. **Principles for CIS—**CIS operators are not subject to a registration regime. As a result, the regulatory agencies cannot impose eligibility criteria on them and it is questionable whether they can exercise full disciplinary powers over them. However some of the risks of this gap are currently being mitigated by the fact that under their respective securities laws, CIS operators are considered "market participants" and as such are subject to certain minimum obligations. Public offerings of CIS are subject to disclosure requirements at the moment of authorization and on an ongoing basis, fully in line with IOSCO principles. There are rules in place on separation of assets; however not all CIS are required to have a custodian. Supervision of mutual funds and their operators is not a regular part of the oversight program of at least one of the major regulatory agencies; although the agency carries out targeted reviews.

101. **Principles for market intermediaries—**Market intermediaries (investment dealers, mutual fund dealers and advisors) are subject to a registration regime based on eligibility criteria that include integrity, financial viability, and capacity to carry out their services (including proper internal controls and risk management mechanisms). Supervision of investment dealers and mutual fund dealers (except in Quebec where mutual fund dealers are supervised by the AMF) is carried out by their respective SROs, which have developed risk assessment models to determine the focus and frequency of inspections. Supervision of advisors (and mutual fund dealers in Quebec) is carried out by the regulatory agencies, also based on risk assessment models. Investment dealers and mutual fund dealers are required to participate in contingency funds.

102. **Principles for secondary markets—**The operation of an exchange is subject to an authorization regime based on eligibility criteria that include financial viability, capacity, governance, and fair access. ATS are regulated as dealers subject to certain market requirements; however the framework allows the regulatory agencies to regulate them as exchanges once they reach a certain threshold. Exchanges have developed mechanisms for market surveillance, which are complemented by regulatory surveillance. There is sufficient pre-trade transparency to market participants and post-trade transparency to both market participants and the public. There are plans to deal with market disruptions, although in one of the agencies these should be further developed. The two main clearing entities, one for

securities and the other for derivatives, have developed reasonable mechanisms to manage large exposures including selection criteria for clearing members, margins and collateral.

### Table 4. Summary Implementation of the International Organization of Securities Commissions Principles and Objectives of Securities Regulation

| Principle | Findings |
|---|---|
| Principle 1. The responsibilities of the regulator should be clearly and objectively stated | Responsibilities of the regulatory agencies are clearly stated in the law. Under the umbrella of the CSA, provincial regulators are coordinating their actions, although certain areas still require further improvement. |
| Principle 2. The regulator should be operationally independent and accountable in the exercise of its functions and powers | The largest regulatory agencies are independent and fully self-funded by levies imposed on market participants. There is a strong system of accountability to the government and to the public that includes ministerial approval of the budget, annual audit of financial statements, an annual report of activities, and judicial review. |
| Principle 3. The regulator should have adequate powers, proper resources and the capacity to perform its functions and exercise its powers | The regulatory agencies have sufficient powers to regulate the market and its participants; except for registration of CIS operators. The largest agencies have also been able to hire and retain personnel with the necessary expertise. |
| Principle 4. The regulator should adopt clear and consistent regulatory processes | The regulatory agencies are subject to a high degree of transparency including public consultation of regulations and policy statements. They are active on investor education. |
| Principle 5. The staff of the regulator should observe the highest professional standards | The regulatory agencies have developed codes of ethics. Reporting obligations on investment activities are in place as well as mechanisms to monitor compliance. |
| Principle 6. The regulatory regime should make appropriate use of SROs that exercise some direct oversight responsibility for their respective areas of competence and to the extent appropriate to the size and complexity of the markets | SROs play a significant role in the supervision of the market and its participants. SROs include the IDA, the MFDA, the RS, the MX, and the CSF. |
| Principle 7. SROs should be subject to the oversight of the regulator and should observe standards of fairness and confidentiality when exercising powers and delegated responsibilities | SROs are subject to an authorization regime based on eligibility criteria that address issues of integrity, financial viability, capacity, governance and fair access. SROs are subject to oversight through periodic reporting; on-site inspections under a periodic cycle (approximately three years) and regular meetings. |

| Principle | Findings |
|---|---|
| Principle 8. The regulator should have comprehensive inspection, investigation and surveillance powers | The regulatory agencies have broad investigative and surveillance powers over regulated entities. In particular, they can conduct on-site inspections, including of books and records without prior notice; obtain books and records and request data or information without the need for a judicial action; and supervise exchanges and regulated trading systems. |
| Principle 9. The regulator should have comprehensive enforcement powers | The regulatory agencies have broad enforcement powers. These include the power to seek injunctions; bring an application for civil proceedings; order the suspension of trading and the freezing of assets; compel information, documents, records and testimony from third parties (nonregulated entities) in the course of their investigations; impose administrative sanctions; seek quasi criminal actions; and refer matters to the criminal authorities. |
| Principle 10.The regulatory system should ensure an effective and credible use of inspection, investigation, surveillance and enforcement powers and implementation of an effective compliance program. | The regulatory agencies have implemented a credible system of supervision of the market and market participants. While enforcement has experienced positive change, further improvement is needed. The development of a coordinated approach to enforcement between criminal and securities law enforcement, with clear lines of accountability and benchmarks, seems to be missing. |
| Principle 11. The regulator should have the authority to share both public and nonpublic information with domestic and foreign counterparts | The regulatory agencies have broad authority to share information with both domestic and foreign regulators and have done so even in cases where no memorandum of understanding (MoU) was in place. |
| Principle 12. Regulators should establish information sharing mechanisms that set out when and how they will share both public and nonpublic information with their domestic and foreign counterparts | The four largest regulatory agencies are signatories of the IOSCO MMoU. They also have bilateral MoUs, including a MoU with the U.S. Securities Exchange Commission and the U.S. Commodity Futures Trading Commission. |
| Principle 13. The regulatory system should allow for assistance to be provided to foreign regulators who need to make inquiries in the discharge of their functions and exercise of their powers | The regulatory agencies have authority to assist foreign regulators in obtaining information that is not in their files. |
| Principle 14. There should be full, timely and accurate disclosure of financial results and other information that is material to investors' decisions | Issuers are subject to disclosure requirements at the moment of authorization and on an ongoing basis. |
| Principle 15. Holders of securities in a company should be treated in a fair and equitable manner | The framework for corporations addresses issues of shareholders rights, including notice of meetings; and special majorities for the approval of major changes. A mandatory tender offer is required for the acquisition of control of a listed company. |

| Principle | Findings |
|---|---|
| Principle 16. Accounting and auditing standards should be of a high and internationally acceptable quality | Issuers are required to submit financial information in accordance to Canadian Generally Accepted Accounting Principles. Audits have to be conducted in accordance with Canadian Accounting Standards (Canadian AS). |
| Principle 17. The regulatory system should set standards for the eligibility and the regulation of those who wish to market or operate a collective investment scheme | CIS operators are not subject to registration. On site inspection is not part of the regular program for the oversight of CIS and its operators in at least one of the largest agencies; however targeted reviews have been conducted. |
| Principle 18. The regulatory system should provide for rules governing the legal form and structure of collective investment schemes and the segregation and protection of client assets | The legal form and structure of CIS have to be disclosed in the prospectus, along with investor's rights. There are provisions on separation of assets; however not all CIS are required to have a custodian. |
| Principle 19. Regulation should require disclosure, as set forth under the principles for issuers, which is necessary to evaluate the suitability of a collective investment scheme for a particular investor and the value of the investor's interest in the scheme | CIS are subject to disclosure obligations at the moment of authorization and on an ongoing basis. The regulatory agencies have developed a system to review prospectus. A continuous obligations review system has been implemented recently. |
| Principle 20. Regulation should ensure that there is a proper and disclosed basis for assets valuation and the pricing and the redemption of units in a collective investment scheme | CIS are required to value their portfolios at fair value. There are rules for disclosure of prices, subscription and redemption, and best practice regarding pricing errors. |
| Principle 21. Regulation should provide for minimum entry standards for market intermediaries | Dealers and advisors are subject to a registration regime based on eligibility criteria that address integrity, financial viability, capacity, internal controls, and risk management. Supervision of intermediaries involves periodic reporting and on-site inspections. |
| Principle 22. There should be initial and ongoing capital and other prudential requirements for market intermediaries that reflect the risks that the intermediaries undertake | Market intermediaries are subject to minimum capital requirements as well as capital adequacy requirements. IDA and MFDA have an early warning system to detect problems in financial condition. |
| Principle 23. Market intermediaries should be required to comply with standards for internal organization and operational conduct that aim to protect the interests of clients, ensure proper management of risk, and under which management of the intermediary accepts primary responsibility for these matters | IDA and MFDA rules contain detailed obligations on internal control and risk management as well as on business conduct. |

| Principle | Findings |
|---|---|
| Principle 24. There should be a procedure for dealing with the failure of a market intermediary in order to minimize damage and loss to investors and to contain systemic risk | The regulatory agencies have at their disposal a set of mechanisms to prevent and deal with a failure, including terms and conditions in the registration; an early warning system, powers to order cease of trading and plans to deal with market disruption—although in one case the plan should be further developed. Investment dealers and mutual fund dealers are required to contribute to compensation funds. |
| Principle 25. The establishment of trading systems including securities exchanges should be subject to regulatory authorization and oversight | Exchanges are subject to an authorization regime based on eligibility criteria that include integrity, financial viability, and capacity. ATS are regulated as dealers; however the framework allows the regulatory agencies to regulate them as an exchange once they reach certain threshold. |
| Principle 26. There should be ongoing regulatory supervision of exchanges and trading systems, which should aim to ensure that the integrity of trading is maintained through fair and equitable rules that strike an appropriate balance between the demands of different market participants | RS has developed automated surveillance systems that allow them to detect unusual transactions. The MX automated surveillance system is still under development and presently consists more of post trade exception reports. These systems are complemented by surveillance by the regulatory agencies, in particular to detect insider trading. There is currently no MoU between RS and MX. |
| Principle 27. Regulation should promote transparency of trading | Post trade information is available to the public for all markets, while some pre-trade transparency exists also, especially in the equity markets (e.g., TSX, TSXV) and exchange traded derivatives (MX). |
| Principle 28. Regulation should be designed to detect and deter manipulation and other unfair trading practices | The Universal Market Integrity Rules contain provisions that prohibit market manipulation and other unfair practices. Similarly, the MX also has trading rules that cover manipulative or deceptive methods of trading. Practices that RS or MX could not pursue—such as insider trading—are in the framework of the regulatory agencies. Some also constitute criminal offenses (for example, insider trading). |
| Principle 29. Regulation should aim to ensure the proper management of large exposures, default risk and market disruption | The Canadian Depository for Securities Limited (CDS) and the Canadian Derivatives Clearing Corporation have developed mechanisms to manage large exposures, including capital requirements for clearing members, margins, collateral and caps on the transactions that can be entered for settlement. |
| Principle 30. Systems for clearing and settlement of securities transactions should be subject to regulatory oversight, and designed to ensure that they are fair, effective and efficient and that they reduce systemic risk | A separate CPSS-IOSCO assessment was conducted. |

## Table 5. Recommended Action Plan to Improve Implementation of the International Organization of Securities Commissions Principles and Objectives of Securities Regulation

| Principle | Recommended Action |
| --- | --- |
| Principle 1 | The provincial regulators should continue to improve coordination. |
| Principle 3 | The provincial regulators should impose a registration system for mutual fund operators. Approval of proposed National Instrument Registration Requirements 31–103 and related statutory amendments would achieve this goal. |
| Principle 7 | 1) The provincial authorities should further streamline coordination of regulation and supervision of SROs, including the approval process for regulations.<br>2) The AMF should conduct an on-site inspection of CSF.<br>3) The provincial regulators should explore a shorter cycle of on-site inspections for SROs, in particular the IDA and the MFDA.<br>4) The provincial regulators should explore requesting from RS an annual self assessment of the performance of its regulatory function. |
| Principle 10 | 1) The provincial regulators should give priority to the discussion of the report from the task force appointed by the federal government.<br>2) The provincial regulators along with the federal government should work towards the adoption of a coordinated strategy for enforcement, with clear lines of accountability and benchmarks. A formal MoU is encouraged.<br>3) The OSC and the AMF should continue to commit to reduce the time necessary to conduct an investigation and have the case ready for litigation.<br>4) The CSA could explore compilation of additional statistics for enforcement activity, including timeliness of procedures. |
| Principle 12 | 1) The AMF and the Government of Quebec should work together on defining an efficient procedure for the approval of MoUs. |
| Principle 14 | 1) The assessor encourages the Government of Quebec to give prompt approval to the new framework for derivatives markets.<br>2) The assessor encourages all provincial regulators to expand liability to continuous disclosure obligations. |
| Principle 17 | 1) The provincial regulators should establish a registration regime for CIS operators. Approval of proposed National Instrument Registration Requirements 31–103 would achieve this goal.<br>2) The AMF should include on-site inspection as a regular part of its supervision of CIS.<br>3) The provincial regulators should continue to enhance the continuous disclosure review system for CIS, if necessary with the development of a more defined risk based approach. |
| Principle 18 | The provincial regulators should require *all* CIS to have a custodian. Approval of proposed National Instrument 41–101 would achieve this goal. |

| Principle | Recommended Action |
|---|---|
| Principle 21 | 1) The provincial regulators should harmonize regulations for market intermediaries. Approval of proposed NI 31–103 on Registration Requirements would achieve this goal.<br>2) The Government of Quebec should explore bringing mutual fund dealers under the Securities Act. |
| Principle 26 | The MoU between RS and MX should be finalized. |
| Principle 27 | The provincial regulators should explore whether additional transparency is needed in the government debt market. |

***Authorities' response to the assessment***

The authorities are largely in agreement with the results of the IOSCO assessment. They emphasized that the adoption of proposed National Instrument NI 31-103-Registration Requirements will address the gaps in the regulatory framework for collective investment scheme operators. In addition, the approval of proposed National Instrument 41-101 will extend custodian requirements to all types of collective investment schemes.

# REPORT ON THE OBSERVANCE OF STANDARDS AND CODES—CANADIAN DEPOSITORY SECURITIES SETTLEMENT SYSTEM'S OBSERVANCE OF THE COMMITTEE ON PAYMENT AND SETTLEMENT SYSTEM/INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS RECOMMENDATIONS FOR SECURITIES SETTLEMENT SYSTEMS

## Introduction

103. **The assessment of the securities settlement system in Canada was undertaken in the context of the IMF FSAP update for Canada in September 2007 by Elias Kazarian, Monetary and Capital Markets Department.**

## Information and methodology used for assessment

104. **The Canadian authorities were fully cooperative and all relevant documentation needed for the assessment of the securities settlement system was provided on time and without difficulty.** The CDS conducted a self-assessment. The authorities arranged meetings with market participants. The assessment covers CDSX as the settlement system for a broad range of securities, such as equities, government bonds and corporate bonds traded both on regulated markets and OTC. The assessment does not cover the CCP function of CDSX. This function should be assessed against the CPSS/IOSCO Recommendations for Central Counterparties, which cover broader aspects of CCP activities. However, some related aspects of the CCP function are discussed in order to assess the settlement system.

## Institutional and market structure—overview

105. **CDS Clearing and Depository Services Inc. (CDS) is the national securities clearing and settlement organization.** It operates the CDSX system, which provides clearing and settlement functions for equities and debt securities. It is a wholly-owned subsidiary of The Canadian Depository for Securities Limited (CDS Ltd.), a private business corporation, incorporated under federal law, owned jointly by major banks, the Investment Dealers Association, and the Toronto Stock Exchange (TSX). CDS Ltd. is also a holding company for CDS Inc., a separate subsidiary of CDS that provides regulatory information services, and CDS Innovations Inc., a commercial service provider of securities-related information and publications. CDS Ltd. provides a range of administrative, information technology, and risk management services to the CDS and the other two subsidiaries, CDS Inc. and CDS Innovations Inc.

106. **The CDSX is the only securities settlement system in Canada and clears and settles virtually all debt, equity and securities-based money market transactions.** It was introduced in 2003, replacing a set of separate platforms and arrangements for clearing and settling different types of securities. As of end-2006, the CDS had 100 participants, most of which are domestic private financial institutions, such as banks, trust companies, and investment dealers. Participants also include foreign financial institutions and securities depositories, the BoC, some government enterprises, and the Canadian Derivatives Clearing Corporation. In 2006, securities held in custody averaged C$ 3 trillion; the average daily

value of all transactions settled in the CDSX totaled C$ 230 billion; and the average number of daily transactions was 405,800.

107. **The CDS also provides cross-border settlement services.** The most active of the cross-border services are the New York Link and DTC Direct Link with the Depository Trust and Clearing Corporation in the United States. CDS acts as a sponsor for participants subscribing to the U.S. cross-border services, but does not act as a CCP in these services. CDS uses commercial banks to settle the cash leg of U.S. dollar-denominated cross-border transactions.

108. **The BoC has oversight responsibilities for the CDSX at the federal level,** while at the provincial level, regulatory responsibility for the CDS as a clearing house rests with the OSC and the AMF. These authorities coordinate their regulatory and oversight activities on an ad-hoc basis.

**Main findings**

***Legal framework (Rec. 1)***

109. **Clearing and settlement activities in Canada are governed by a consistent set of laws, regulations, and contractual arrangements** that form a sound legal foundation for clearing, settlement, and custody activities. The regulatory framework is clear and transparent to service providers and market participants. The most important regulation in this field is the federal Payment Clearing and Settlement Act, enacted in 1996 and amended in 2007, which provides legal protection to settlement rules and procedures and netting arrangements. It also empowers the BoC to designate systems with the potential to create systemic risk and to oversee them, including the clearing and settlement systems. The "Ontario Securities Act" and the "Quebec Securities Act" recognize, authorize, and regulate the clearing house to conduct clearing and settlement activities. There is no zero-hour rule in Canada.

***Presettlement risk (Rec. 2–5)***

110. **All trades between direct market participants are confirmed the same day and are settled on a continuous basis,** using a rolling settlement cycle, three days after trade execution for equities, and between zero and three days for debt instruments (depending on the type of instrument and its maturity). The settlement of OTC transactions may occur later, depending upon the agreement between participants, but market convention is to follow the procedures for traded instruments. The costs and benefits of shortening the settlement cycle have been evaluated, and the conclusion is that any further shortening of the settlement cycle should take place at a later stage.

111. **CDS acts as CCP for cash payments that arise from all securities transactions settled in CDSX.** CDS also acts as a CCP on the securities leg of transactions settled in the net settlement services. At present, there are no specific discussions of expanding the net

settlement services to include all securities in CDSX. Issues related to the regulation of CCP, risk management, financial strength, and efficiency are covered by the CPSS/IOSCO Recommendations for CCPs. CDS has undertaken a self-assessment against these Recommendations, however. The Canadian authorities are encouraged to assess the CDS against these recommendations.

112. **Canada has well-developed securities lending and repo markets that can contribute to the settlement process.** There is no specific regulatory regime for securities lending and repo markets, which are regulated and supervised by various prudential regulatory bodies. The CDS may reconsider introducing a securities lending facility to expedite settlement, as there is room to improve on the level of failed trades in debt instruments.

***Settlement risk (Rec. 6–10)***

113. **Securities held by most active participants are immobilized.** All securities deposited in the CDS—both dematerialized and immobilized—are recorded, managed, and transferred through an electronic book-entry system. Ownership transfer occurs when the securities are transferred among participants in the books of CDS.

114. **Delivery-versus-payment (DVP) is achieved through the simultaneous transfer of funds and securities when settlement is executed.** The funds and securities transfers are final and irrevocable between the participants and the CDS. At the end of the day, the obligations among the CDS and the banks, acting as cash clearers, are settled through the Large Value Transfer System for Canadian dollars and FedWire funds for U.S. dollars.

115. **Securities settlement in CDSX is facilitated intra-day by allowing participants to have negative funds balances at CDS.** The risk associated with this credit position is managed by standby lines of credit provided by participants' extenders of credit and collateral pools. Through novation, CDS takes on the credit exposure, from the time of novation until the settlement of the associated payment obligations at the end-of-day. In the event of default, CDS has adequate risk control procedures to address participants' failure to settle, including full collateralization of exposures that exceed a predetermined limit. Liquidity risk is managed by using securities belonging to the collateral pool, participants' funds, and credit lines from commercial banks. For the end-of-day settlement of the payment obligations, participants use several commercial banks as settlement agents, which make and receive settlement payments to and from CDS' settlement account at the BoC. For the end-of-day settlement of the cash leg of U.S. dollar-denominated securities, the CDS currently uses a single bank. The CDS is therefore encouraged to reduce the agent bank concentration risk by relying on several banks, or having access to FedWire funds either directly or through the BoC.

***Operational risk (Rec. 11)***

116. **The CDS has adequate procedures and processes to monitor, identify, and manage operational risk.** Issues related to operational risk are handled by senior managers

and checked by the Managing Director. Written documentation is in place to handle different contingency scenarios. A "live" secondary site is in place that allows the resumption of operations within a short period of time in the event of any malfunction of the primary site. The CDS business continuity plan, including a back-up facilities system, is subject to both internal and external audit.

***Custody risk (Rec. 12)***

117. **The CDS operates an "indirect holding" system,** where securities are registered in the name of a broker-dealer or custodian (through nominee accounts) rather than in the name of the ultimate investor. Several technical and institutional arrangements are in place to ensure the protection of the customers' securities. In particular, participants are required to segregate their assets from those of customers, and in order to reconcile the securities held in their records, they need to carry out internal audits on a regular basis.

***Other issues (Rec. 13–19)***

118. **The CDS is owned by users and its Board of directors reflects the interest of shareholders, users, and the public interest.** Rules, procedures, fees and major decisions are all published on its external Web site. However, according to discussions with market participants, the work of the committees and the selection of the candidates for the CDS Board may not fully take into account the interests of nonbank participants.

119. **The CDS access criteria, which are objective and permit fair and open access to all financial intermediaries, are disclosed on the CDS Web site.** Participation by foreign institutions in the CDS requires additional regulatory approvals from the relevant federal or provincial regulatory bodies, such as an approval by the Governor of the BoC. Procedures for the exit of participants, whether initiated by the participant or by the CDS, are also clearly stated in the participant rules.

120. **The CDS routinely reviews its pricing levels against its costs of operation.** It also carries out user surveys and benchmarks its costs and charges against other systems. These ad-hoc surveys are also used to assess user satisfaction with the system and the service it provides.

121. **The CDS rules and other contractual arrangements defining the rights and obligations of the participants are publicly available.** The CDS has published the answers to the questionnaire set out in the CPSS/IOSCO disclosure framework. It has also published its full risk model, and it provides an annual update to its report on internal controls.

122. **The roles and responsibilities of relevant public authorities with respect to securities clearing and settlement activities are clearly defined and transparent to the service providers and the general public.** In particular, the BoC has the oversight responsibility for CDSX at the federal level, while at the provincial level, regulatory responsibility for the CDS, as a clearing house and a depository, rests with the OSC and the

AMF. The roles and responsibilities of each authority are relatively well defined, while the cooperation between the authorities is carried out on an informal and ad-hoc basis.

123. **The CDS has established several links to foreign securities settlement systems.** By far the most important links are those with the DTC and the National Securities Clearing Corporation (NSCC). Two of the three links to the United States, and link to the United Kingdom, settle against cash, while the others are free-of-payment. The links to DTC and NSCC expose the CDS to potential credit risk and financial losses.

## Table 7. Summary Observance of CDSX of the Committee on Payment and Settlement Systems/International Organization of Securities Commissions Recommendations for Securities Settlement Systems

| | Comments |
|---|---|
| **Legal risk** | |
| 1. Securities settlement systems should have a well-founded, clear and transparent legal basis in the relevant jurisdiction. | The design and operations of the CDS are covered by a solid legal basis; and the contractual arrangements between the CDS and its participants are fully enforceable. The regulatory framework is clear and transparent to market participants. |
| **Pre-settlement risk** | |
| 2. Confirmation of trades between market participants should occur as soon as possible after trade execution, but no later than the trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1. | Trade confirmation for regulated markets occurs the same day between direct participants, and the next day for indirect participants. For OTC transactions, the market convention is to confirm the trade on the same day. |
| 3. Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be assessed. | Trade transactions are settled on a rolling basis for transaction on the exchanges. The settlement cycle is T+3 for equities and T+0, T+2, or T+3 for debt instruments. The settlement date for OTC transactions is negotiable, but the current convention is to follow the settlement cycles of traded instruments. |
| 4. The benefits and costs of a central counterparty should be assessed. Where such a mechanism is introduced, the central counterparty should rigorously control the risks it assumes. | CDS acts as CCP for the cash leg of all securities transactions and also on the securities leg of transactions settled in the net settlement procedures.<br><br>However, the CDS acts as CCP at the date of settlement for the majority of the transactions (measured by number of transactions). This means that the participants are facing counterparty risk from the time of trade execution until novation occurs, which can be as long as T+3. According to international best practice, the CCP assumes its responsibility immediately after the trade is executed.<br><br>No explicit cost-benefit analysis has been done for introducing a CCP for TFT transactions.<br><br>The risk management procedures of the CDS as a CCP have not yet been assessed against the CPSS/IOSCO Recommendations for CCP. However, CDS did complete a self-assessment against these Recommendations. |

| | Comments |
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| 5. Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed. | CDS does not provide a securities lending facility to its participants. However, analysis by CDS suggests that no business case exists to support the development of such a facility.<br><br>There are no specific barriers that inhibit the practice of lending securities. |
| **Settlement risk** | |
| 6. Securities should be immobilized or dematerialized and transferred by book entry in CSD to the greatest extent possible. | The great majority of securities issued in Canada are either dematerialized or immobilized in CDS. Increasing the share of dematerialized securities would significantly reduce costs and increase the efficiency of settlement and custody. |
| 7. Securities settlement systems should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment. | The CDS provides a DVP facility for the execution of settlement. |
| 8. Final settlement on a DVP basis should occur no later than the end of the settlement day. Intra-day or real-time finality should be provided where necessary to reduce risks. | The CDS provides both intraday and end-of-day settlement finality. |
| 9. CSDs that extend intraday credit to participants, including CSDs that operate net settlement systems, should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. The most reliable set of controls is a combination of collateral requirements and limits. | The CDS's settlement and custody functions are integrated with its CCP function. This means that the settlement and custody functions are exposed to the credit and liquidity risks inherited in CCP activities, although these risks are mitigated by the CCP's current risk management procedures. |
| 10. Assets used to settle the cash leg of securities transactions between CSD members should carry little or no credit risk. If Central Bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of a settlement bank. | The settlement of the cash leg takes place in commercial bank money during the day, while the banks' end-of-day balances are ultimately settled through the BoC accounts. However, the settlement risk for securities denominated in U.S. dollar is concentrated on a single bank.<br><br>The CDS practice of taking on credit exposure as a CCP should be more transparent. |
| **Operational risk** | |
| 11. Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls, and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and back-up facilities should be established to allow for timely recovery of operations and completion of the settlement process. | The CDS has adequate measures in place to identify and monitor operational risk. It also has developed a contingency plan that ensures that the system can resume at short notice, and that the information can be retrieved. The procedures are tested on a regular basis, and market participants are involved in the testing. |
| **Custody risk** | |

| | Comments |
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| 12. Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of a custodian's creditors. | Adequate measures and arrangements are in place to ensure the protection of the customers' securities. In particular, participants are obliged to segregate their assets from those of customers, and reconciliation is made on a regular basis. |
| **Other issues** | |
| 13. Governance arrangements for CSDs and central counterparties should be designed to fulfill public interest requirements and to promote the objectives of owners and users. | The CDS is owned by its major users, and its Board of directors reflects the interest of shareholders, users, and the public interest. The rules, procedures, fees, and major decisions are all published on its external Web site. Other publications that are available on the external Web site include annual reports and the most recent financial risk model. |
| 14. CSDs and central counterparties should have objectives and publicly disclosed criteria for participation that permit fair and open access. | The access and exit criteria are clearly defined and publicly disclosed. Foreign participants are subjected to a specific regulatory regime based on limiting systemic risk. |
| 15. While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users. | The CDS has in place procedures aimed at reviewing its pricing levels against its costs of operation. Using external consultants, the CDS benchmarks its costs and charges against foreign systems and assesses user satisfaction with the system and the service levels it provides. |
| 16. Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions. | For domestic transactions, the CDS uses a proprietary system with an old fashioned messages interface. Internationally, it uses recognized standards for cross-border transactions, such as Society for Worldwide Interbank Financial Telecommunication's new messaging formats. |
| 17. CSDs and central counterparties should provide market participants with sufficient information for them to accurately identify the risks and costs associated with using the CSD or central counterparty services. | Laws, regulations, system rules, and fees are part of the contractual agreements signed by participants. In particular, participants' rights, obligations, and costs are defined in these agreements, which are also available on the CDS Web site.<br><br>The CDS has publicly disclosed the questionnaire set out in the CPSS/IOSCO disclosure framework. |
| 18. Securities settlement systems should be subject to regulation and oversight. The responsibilities and objectives of the securities regulator and the central bank with respect to securities settlement systems should be clearly defined, and their roles and major policies should be publicly disclosed. They should have the ability and resources to perform their responsibilities, including assessing and promoting implementation of these recommendations. They should cooperate with each other and with other relevant authorities. | The CDS is subject to adequate regulation and supervision. The BoC oversees the CDS from a systemic risk perspective, while securities regulators supervise the CDS to ensure the orderly functioning of the market and investor protection. Cooperation between the securities regulators and BoC is informal and on an ad-hoc basis. |

| | Comments |
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| 19. CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlement. | The CDS has established links with securities clearing and settlement systems in the United States, United Kingdom, Japan, France, and Sweden as part of their cross-border services. The links to the United States markets are the most important ones in terms of features and activities. The CDS and its participants are exposed to potential credit and financial risks when using the United States links.<br><br>The CDS permits the delivery of cross-border securities, delivered through the DTC links, before settlement finality is achieved in the DTC system. |

## Table 8. Recommended Action Plan for the CDSX of the Committee on Payment and Settlement Systems/International Organization of Securities Commissions Recommendations for Securities Settlement Systems

| Reference Recommendation | Recommended Action |
|---|---|
| **Pre-settlement risk** | |
| *Recommendation 4: CCP* | In order to fully observe this recommendation, the CDS should explicitly assess the benefits and costs of acting as a CCP for TFT transactions. |
| *Recommendation 5: Securities lending* | The CDS might reconsider introducing a securities lending facility in order to reduce settlement failure. |
| **Settlement risk** | |
| *Recommendation 9: CSD risk controls* | In order to further protect the CDSX from the credit and liquidity risks inherited in the CCP services and, as international best practice, the CCP functions should be separated from the settlement and custody functions, with the CCP being provided by a distinct legal entity. |
| *Recommendation 10: Cash settlement* | For the full observance of this recommendation, the CDS needs to reduce the current concentration of settlement cash for U.S. dollar-dominated securities on a single settlement bank. The CDS might explore the possibility of becoming a direct member of Fedwire or having access to U.S. dollar central bank money through the Bank of Canada.<br><br>The CDS practice of taking on credit exposure as a CCP should be more transparent. |
| **Custody risk** | In order to reduce custody risk, the CDS should eliminate the circulation of physical securities through its regional offices by immobilizing or, preferably, dematerializing them. |
| **Other issues** | |
| *Recommendation 13: Governance* | The workings of the committees set up by the CDS could be made more transparent, taking into account the interests of nonbank participants. |
| *Recommendation 16: Communication procedures* | The CDS may wish to adopt a modern messages interface that is more user-friendly. |

| Reference Recommendation | Recommended Action |
|---|---|
| *Recommendation 18 : Regulation and oversight* | Cooperation between the BoC and the provincial securities regulators should be strengthened and formalized. The same recommendation applies to the cooperation between the Canadian authorities and the relevant United States authorities for the cross-border activities through the links between Canada and the United States. A key objective is to make the regulation and oversight of clearing and settlement activities more effective and transparent for both service providers and market participants. |
| *Further Recommendation 19 : Cross-border links* | For the observance of this recommendation, the CDS should not allow the transfer of securities, delivered through the DTC links, to its participants until these securities reach settlement finality in DTC system. Furthermore, the CDS needs to reduce the concentration on a single bank for the settlement of the cash leg in DTC. |

### Authorities' response to the assessment

124. **The recommended action on CCP states that CDS should assess the benefits and costs of acting as a CCP for TFT transactions.** Although no explicit cost-benefit analysis was undertaken, the pros and cons of offering CCP for trade for trade transactions were implicitly evaluated, as part of the decision to offer the TFT service without a CCP. Nonetheless, the regulators intend to raise with CDS, for its consideration, the issue of providing TFT on a CCP basis.

125. **The recommended action on settlement risk states that the CCP functions should be legally separated from the custody and settlement functions**, in order to protect CDSX from the liquidity and credit risks faced by the CCP. In the context of the recent corporate restructuring, the regulators raised with CDS the issue of having its CCP function in a separate legal entity. However, in light of the controls in place to mitigate the risks faced by CDS as a CCP, regulators were comfortable approving a corporate structure for CDS, which did not legally separate the CCP activities from the depository and settlement activities.

126. **The recommended action on cash settlement states that CDS needs to reduce the current concentration of settlement cash for U.S. dollar-denominated securities on a single settlement bank.** The BoC has discussed this issue and potential solutions on several occasions with CDS, including those solutions noted in the FSAP. As a partial response to the concerns that have been raised, CDS is considering contracting a second bank to provide U.S. dollar settlement services as a contingency, in the event that the bank currently being used is unable to perform this service. From the BoC's perspective, given the relatively small size of the potential financial losses, the potential efficiency loss and operational risk involved in some of the solutions, the BoC has accommodated this situation—although the intention is to continue to raise this issue with CDS, seeking possible solutions when warranted.

127. **The recommended action on regulation and oversight states that cooperation between the BoC and the provincial securities regulators, as well as the cooperation between the Canadian and U.S. authorities for cross-border links, should be strengthened and formalized.** Currently, the BoC and the provincial regulators (the OSC and AMF) coordinate on an ad-hoc basis, as needed, depending on the issues at hand. These interactions occur at both a working level and more senior levels. There have been working-level links among the staffs of the BoC, the OSC, and the AMF that have been growing, which has been beneficial. And our discussions in the context of the FSAP have led us to the view that a more regular, formal meeting (for example, annually or semi-annually) of the three regulators would be worthwhile, to review CDSX issues from our various perspectives. If these discussions proved to be useful, we could build on this initiative with more frequent, more in-depth interactions, as needed.

128. **As regards foreign oversight agencies, particularly in the United States, BoC staff have been preparing a review of the oversight of cross-border clearing and settlement links more generally.** This work, while still in draft form, among other things recommends regular consultation with relevant foreign regulators; for example, an annual visit with foreign regulators of most importance to the operation of CDSX. In sum, our view is to move in the direction recommended in the FSAP.

129. **The recommended action on cross-border links states that CDS should not allow the transfer of securities, delivered through the DTC links, until these securities reach settlement finality in the DTC system.** In DTC, credit entries to a receiver's securities account are not final until the receiver has paid for them at the end-of-day. If the receiver does not meet its end-of-day settlement obligations to DTC, then DTC can take back the securities credited provisionally to the receiver earlier that day. However, finality of settlement can occur during the business day if the receiving party instructs DTC to effect a delivery, pledge, or withdrawal of securities. Thus, the question of whether CDS allows the transfer of securities, delivered through the DTC links, before those securities reach settlement finality in DTC, depends on whether instruction by the receiver to deliver the provisionally credited securities to another participant is sufficient for its own received delivery to become final. If the answer is yes, then finality is achieved by a retransfer of the received securities (including a northbound transfer through the CDS link with DTC), and thus CDS would not be permitting a transfer of securities through its DTC link, prior to those securities reaching settlement finality in DTC. However, to answer this question definitively would require verification of how DTC rules and law work in the United States on this detail. From an oversight perspective, it is not necessary to answer this question definitively, because even if the answer is no, CDS is protected through general risk controls it has in place. In the event the answer is no, then DTC could potentially require the replacement of securities imported into CDS, if, for example, the CDS-sponsored participant in DTC failed to meet its end-of-day payment obligations in DTC. However, in such a case, the costs associated with replacing the securities in DTC would be borne by the defaulting participant sponsored into DTC by CDS, and by surviving CDS-sponsored participants, in accordance with established CDS rules. To summarize, it may or may not be the case that CDS permits

the transfer of securities via the DTC links prior to settlement finality in DTC, depending on the answer to the specific question formulated above, which deals with particular DTC rules and U.S. legal protocol. However, even if CDS does permit such transfers, any resulting risk to CDS is sufficiently mitigated.