The Bank of Canada's Approach to Adopting the Principles for Financial Market Infrastructures

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Introduction

Financial market infrastructures (FMIs) are the channel through which virtually all financial transactions are cleared, settled and recorded. They allow consumers and firms to safely and efficiently purchase goods and services, make financial investments, and transfer funds.

FMIs themselves can pose certain risks or be a major channel through which these risks can be transmitted. Some FMIs (referred to as "systemically important FMIs") have the potential to pose systemic risk, in that the inability of one participant to meet its obligations to the FMI could, by transmitting financial problems through the system, cause other participants to be unable to meet their obligations. It is therefore essential that FMIs incorporate appropriate risk-control mechanisms so that systemic risk is adequately controlled.

At the same time, FMIs can play an important part in enhancing financial stability. During the financial crisis of 2007–09, FMIs were generally successful in performing their roles, and thus helped the financial system to function continuously during a time of heightened stress. This result can largely be attributed to the crucial work completed by international standard-setting bodies in the early 2000s to develop risk-management standards for FMIs and apply them.[2]

In 2010, the international bodies responsible for these risk-management standards—the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO)—undertook to update the previous standards to make them consistent with current best practices in risk management and to reflect the experience of authorities in applying the previous standards. The resulting Principles for Financial Market Infrastructures (the Principles), which are considerably stronger than the previous standards, constitute a single set of harmonized standards related to risk management, efficiency and transparency that apply to all systemically important FMIs (CPSS-IOSCO 2012a). To facilitate consistent and effective oversight and regulation of FMIs, the Principles include a set of responsibilities for authorities, which will ensure that the FMIs they oversee take the necessary actions to meet the Principles.

Some of the lessons learned from the financial crisis are that effective risk management needs to start at the level of the Board of Directors, that risks are interrelated and that contagion in the interbank market could expose FMIs to multiple defaults. By putting a stronger emphasis on governance, requiring FMIs to have a comprehensive risk-management framework and to hold substantially more financial resources, the Principles reflect these important lessons and make FMIs significantly more resilient to shocks.

The Bank of Canada is responsible for overseeing FMIs that have been designated by the Governor as systemically important to the Canadian financial system. The four designated FMIs are:

- the **Large Value Transfer System (LVTS)**, a Canadian electronic funds-transfer system that settles large-value and time-critical Canadian-dollar payments;

1 The authors thank Carolyn Wilkins for her helpful comments on this report.

2 These standards include the "Core Principles for Systemically Important Payment Systems" (CPSS 2001), the "Recommendations for Securities Settlement Systems" (CPSS-IOSCO 2001) and the "Recommendations for Central Counterparties" (CPSS-IOSCO 2004). The Bank of Canada contributed to the development of these standards.

- **CDSX**, a Canadian system that consists of a securities settlement system, a central securities depository and central counterparty services for eligible Canadian exchange-traded and over-the-counter equity, debt and money market transactions;
- **Canadian Derivatives Clearing Service (CDCS)**, a Canadian central counterparty that clears transactions in certain fixed-income securities, repurchase agreements (repos), equity derivatives and all derivatives traded on the Montréal Exchange; and
- **CLS Bank**, a global payment system for the settlement of foreign exchange transactions, including those involving the Canadian dollar.

The Bank's oversight is focused on verifying that risks are being appropriately controlled in these systemically important FMIs, and it is the Bank's practice to require that these FMIs meet international standards. The Bank has adopted the new Principles and will apply them to all designated FMIs in co-operation with other regulators that oversee systemically important Canadian FMIs. This report provides a summary of the Principles and describes the approach that the Bank is taking to adopt them.

The Principles Strengthen and Harmonize Existing Standards

FMIs are a broad set of entities that facilitate the clearing, settling and recording of payments, securities, derivatives and other financial transactions among participating entities.[3] FMIs covered by the Principles are:

- **payment systems (PSs)**, which facilitate the transfer of funds;
- **securities settlement systems (SSSs)**, which facilitate the transfer of securities and other financial assets;
- **central securities depositories (CSDs)**, which provide securities accounts, central safekeeping and asset services;
- **central counterparties (CCPs)**, which become the buyer to every seller and the seller to every buyer of a financial contract to ensure that, even if a buyer or a seller fails to meet its obligation to the CCP, obligations will be met on all contracts; and
- **trade repositories (TRs)**, which maintain centralized electronic databases of transactions data.[4]

As shown in **Table 1**, risks can be incurred through all FMIs. Certain risks, such as operational, legal and business risk, are common to all types of FMIs, and the principles governing those risks establish common standards for every category of FMI. Other risks, however, such as credit and liquidity risk, are only faced by some types of FMIs. The principles governing those risks clearly state the types of FMIs to which they must be applied. This approach allowed the CPSS and IOSCO to develop a single set of harmonized standards that could be used by a diverse group of FMIs, providing a more consistent benchmark for risk management across different types of FMIs than that achieved by the previous standards.

FMIs are expected to identify and understand all of the risks that could arise within their systems and to develop ways to manage these risks efficiently and effectively. While the Principles generally allow some flexibility as to how individual FMIs meet them, most include minimum requirements to ensure that an appropriate risk-management benchmark is maintained. Here we summarize the 24 principles into 10 broad requirements that work together to promote the safety and efficiency of FMIs:

(i) **FMIs should have a strong foundation for their risk-management practices.** FMIs must operate under robust governance arrangements that focus on the safety and efficiency of the FMI and the stability of the financial system more broadly. In addition to having strong frameworks in place to help them identify and monitor the individual risks to which they are exposed, FMIs are required by a new principle to have a sound framework for comprehensively managing these risks.

(ii) **FMIs should collect adequate high-quality financial assets from participants to manage credit risk.** The credit-risk principle now requires FMIs that are exposed to credit risk to maintain sufficient financial resources from their participants to cover all current and potential future credit exposures of *each participant fully and simultaneously* with a high degree of confidence.[5] This is a significant strengthening compared with the previous standards, which required FMIs to cover only the exposure of the *single largest* participant. Financial resources pledged to cover credit exposures should have low credit, liquidity and market risk.

(iii) **FMIs should have robust sources of liquidity.** The liquidity-risk principle has been strengthened to require FMIs that incur liquidity risk to have sufficient liquid resources in all relevant currencies to effect same-day settlement under a wide range of stress

3 CPSS-IOSCO (2012a) defines an FMI as a multilateral system, including its participants, and not simply as the legal or functional entity that performs the clearing, settlement or recording function.

4 Trading venues are not included in the definition of FMIs used in the Principles.

5 In addition, central counterparties are required to maintain supplementary financial resources to cover the potential future credit exposures that could arise in extreme but plausible circumstances.

Table 1: Main risks that can arise through financial market infrastructures

Risk	Definition[a]	FMIs through which this type of risk is typically incurred				
		Payment systems	Securities settlement systems	Central securities depositories	Central counterparties	Trade repositories
Credit risk	The risk that a counterparty will be unable to fully meet its obligations when due, or at any time in the future.[b]	•	•		•	
General business risk	Any potential impairment of an FMI's financial position (as a business concern) that results in expenses exceeding revenues and a loss that must be charged against capital.	•	•	•	•	•
Legal risk	The risk of the unexpected application of law, usually resulting in a loss.	•	•	•	•	•
Liquidity risk	The risk that a counterparty will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future.	•	•		•	
Operational risk	The risk that external events or deficiencies in internal processes or systems will result in the reduction, deterioration or breakdown of services provided by an FMI.	•	•	•	•	•
Systemic risk	The risk that the inability of a participant to meet its obligations could cause other participants to be unable to meet their obligations when due. Systemic risk is normally the culmination of other risks.	•	•		•	

a. These definitions are based on those used in the Principles.

b. There are generally two main types of credit risk: (i) replacement-cost risk (usually applicable only to central counterparties, or CCPs), which is the risk of loss of unrealized gains on unsettled transactions with a counterparty (for example, the unsettled transactions of a CCP); the resulting exposure is the cost of replacing the original transaction at current market prices; and (ii) principal risk, the risk that a counterparty will lose the full value involved in a transaction (for example, the risk that a seller of a financial asset will irrevocably deliver the asset but not receive payment).

scenarios. These include, but are not limited to, the default of at least the participant and its affiliates that would create the largest liquidity exposure for the FMI.

(iv) **FMIs should take appropriate actions to ensure that they are able to complete settlement as expected.** The settlement principles are similar to the previous standards, and require FMIs conducting settlement to (i) provide final settlement at the end of the day or intraday, and (ii) either settle payment obligations on accounts at a central bank or manage the risks from commercial bank settlement.

(v) **FMIs should minimize disruptions associated with the failure of one or more of their participants.** The participant-default principle requires FMIs that are exposed to the potential default of a participant to establish effective and clearly defined rules and procedures to manage a participant default while continuing to meet their obligations. In addition, a new principle requires certain types of CCPs to have rules and procedures that separately account for the positions and collateral of participants and their clients. This requirement is intended to protect clients and minimize disruption to them in the event of a participant default.

(vi) **FMIs should be able to continue providing critical services in all circumstances.** Consistent with the previous standard governing operational risk, FMIs are required to have reliable and resilient operations to mitigate the possibility of a market disruption caused by operational issues. In addition, a new principle requires FMIs to hold sufficient financial resources funded by equity to enable them to recover from general business losses they have incurred and to replenish their resources in order to continue providing critical services or be resolved in an orderly manner. Regulators and standard-setters are developing additional guidance regarding effective recovery and resolution regimes for FMIs.[6]

6 In July 2012, CPSS-IOSCO (2012b) published a consultative report, "Recovery and Resolution of Financial Market Infrastructures," to outline the features of effective recovery and resolution regimes for FMIs in accordance with the Financial Stability Board's (2011) "Key Attributes of Effective Resolution Regimes for Financial Institutions" and consistent with the principles of supervision and oversight that apply to them.

(vii) **FMIs should set fair, open and risk-based access requirements and manage the risks that arise from participation.** The participation-requirements principle is similar to the previous standard. It requires FMIs to set objective participation requirements that do not discriminate against particular classes of participants and that have the least restrictive impact on access, subject to maintaining acceptable risk-management controls. In addition, a new principle requires FMIs to monitor and manage the material risks associated with indirect participation, whereby some parties transact with the FMI as customers of direct participants.

(viii) **FMIs should mitigate the risks associated with interdependencies that can amplify disruptions within the financial system.** The Principles have strengthened the previous standard to require FMIs to develop appropriate risk-management tools to address the risks related to their interdependencies with other entities, including participants, service providers and other FMIs.

(ix) **FMIs should provide their services and manage their risks in an efficient manner.** The Principles require FMIs to consider the practicality and cost-effectiveness of their system for users. FMIs should be sufficiently flexible to be able to respond to changing demands and new technologies that will affect them.

(x) **FMIs, especially trade repositories, should provide relevant information to participants, authorities and the public to improve transparency in markets.** The transparency principles have been strengthened to require FMIs to disclose relevant information to the public. As well, sufficient information should be provided to participants to allow them to understand and manage the risks they face through their participation in the FMI.

The Principles will achieve the objective of strengthening the financial system only if FMIs apply them fully and consistently. While the FMI itself is ultimately responsible for managing its risks, the Principles also incorporate responsibilities for authorities to facilitate consistent and effective oversight and regulation of FMIs, including assessing the adequacy of FMIs' risk-management practices. These responsibilities require that authorities have the appropriate powers and resources to oversee FMIs, that they clearly disclose their oversight policies, that they apply the Principles to applicable FMIs, and that they co-operate with each other to promote the safety and efficiency of FMIs. The Principles do not impose any particular framework on authorities, recognizing the diversity of their powers and responsibilities.

The Bank Has Adopted the Principles as Its Standards for Designated FMIs

Under the Payment Clearing and Settlement Act (the Act), the Bank of Canada is responsible for the regulatory oversight of clearing and settlement systems for the purpose of controlling systemic risk.[7] The Bank exercises its oversight in a manner that is consistent with the responsibilities that are assigned to authorities under the Principles, which the Bank has adopted as its standards. Its primary oversight objective is to ensure that systemic risk is adequately controlled in designated FMIs. To support this objective, the Bank requires designated FMIs to comply with the Principles to ensure that a benchmark level of risk control is achieved in Canada. In this section, we describe the Bank's application of the Principles to designated systems.[8]

The Bank is working with other regulators that oversee systemically important Canadian FMIs to apply the Principles in a consistent manner. In particular, the Bank is working with the Autorité des marchés financiers (AMF) (Québec), the British Columbia Securities Commission (BCSC) and the Ontario Securities Commission (OSC) regarding the application of the Principles to CDCS and CDSX, and with the federal Department of Finance regarding the LVTS.[9]

The risk-management practices of FMIs in Canada that have been designated as systemically important are consistent with the previous international standards. As noted above, however, the CPSS-IOSCO Principles are more stringent and incorporate new standards that FMIs are required to meet. Thus, it will be necessary for FMIs, including those located in Canada, to make some improvements to comply with the revised standards. For example, Canadian FMIs will generally have to enhance their mechanisms for managing credit risk. In addition, changes may be necessary to make their governance arrangements consistent with the new standards and to enable FMIs to monitor and manage risks on a more comprehensive basis.

Designated FMIs in Canada have begun the transition to the new standards by conducting detailed self-assessments against the Principles and identifying their current gaps in observance. They will then develop plans to address those gaps. It will take some time for

7 More information regarding the Act and the Bank's oversight responsibilities is available on the Bank's website at <www.bankofcanada.ca/financial-system/payments/oversight-and-legislation/>.

8 The Bank's oversight objectives, framework and activities are described further in the Bank's "Guideline Related to Bank of Canada Oversight Activities under the Payment Clearing and Settlement Act" (Oversight Guideline) (Bank of Canada 2012).

9 The Bank is also a member of the CLS Oversight Committee, which is chaired by the Federal Reserve, CLS Bank's lead overseer. The Federal Reserve will coordinate with the CLS Oversight Committee to apply the Principles to CLS Bank.

FMIs to close every gap and fully observe the Principles. The Bank will therefore work with other regulators that oversee these FMIs to closely monitor the implementation of the plans to ensure their timely execution and to ensure that systemically important Canadian FMIs continue to observe the Principles. Canada's adoption of the Principles will also be regularly monitored and evaluated through international forums.

Conclusion

Because they support core markets and activities, FMIs are critical to a properly functioning economy. Ensuring that FMIs continue to function, even in times of stress, is a high priority of the Bank of Canada. By setting higher standards for risk management, efficiency and transparency, the CPSS-IOSCO Principles for Financial Market Infrastructures directly support the initiatives adopted by the G-20 and the Financial Stability Board to strengthen FMIs and promote continuously open markets.

The Bank of Canada supports the Principles for FMIs and has incorporated them into its oversight framework to improve the resilience of systemically important FMIs in Canada. It may take time for FMIs to implement some of the changes that would allow them to observe all of the Principles, so the Bank will closely monitor Canadian FMIs as they plan for and implement these changes. The Bank will require FMIs to satisfy the Principles on an ongoing basis and will assess their compliance at least every two years. The Bank will also work with other regulators that oversee systemically important Canadian FMIs to ensure that the Principles are applied in a consistent manner.

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