

# Bank of Canada Oversight Activities for Financial Market Infrastructures

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**2023 Annual Report**

March 2024

## Executive summary

Financial market infrastructures (FMIs) play a central role in the financial system and thus are required to adopt robust practices to manage risk. The Bank of Canada designates and oversees FMIs operating in Canada that have the potential to pose systemic risk or payments system risk. This report outlines the Bank's key oversight activities in 2023 for designated FMIs.

Over the years, the operators of designated FMIs have introduced sound controls to manage risks in their operations. The overarching objective of the Bank's reviews in 2023 was to confirm ongoing compliance with the Bank's standards and to identify areas that may need further improvements.

For TMX Group systems, the Bank conducted two core assurance reviews in 2023: access and tiering arrangements for the Canadian Derivatives Clearing Corporation (CDCC) and the Canadian Depository for Securities (CDS), and liquidity risk for CDCC only. The Bank undertook core assurance reviews in the areas of business risk, default management and liquidity risk for Payments Canada systems. The reviews for Interac e-Transfer® were centred on business risk, governance and enterprise risk management, and non-cyber operational risk.

In general, the Bank found that the designated FMIs had satisfactory frameworks, policies and procedures for risk management. To bolster their practices, the Bank set some expectations for system operators.

In addition, in 2023, the Governor of the Bank designated three payment systems as prominent payment systems due to their potential to pose payments system risk. These are Visa Inc.'s VisaNet, Mastercard International Incorporated's Global Clearing Management System and Single Message System, and Interac Corp.'s Inter-Member Network.

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## The Bank's approach to oversight of financial market infrastructures

Financial market infrastructures (FMIs), also known as clearing and settlement systems, are integral to the sound functioning of a financial system. FMIs provide critical services that allow individuals and firms to purchase goods and services, invest in financial assets and manage financial risks safely and efficiently. Because FMIs play a key role in a financial system, it is important that they adopt strong risk-management practices. This ensures they are resilient to shocks and can continue to offer services during periods of stress.

### Regulatory framework

The Bank of Canada plays a central role in the regulatory framework Canada has established for FMIs. The [Payment Clearing and Settlement Act](#) provides the Governor of the Bank of Canada the authority to designate and oversee clearing and settlement systems (i.e., FMIs) that have the potential to pose systemic risk or payments system risk in Canada.<sup>1</sup> The scope of this authority includes both domestic and foreign-domiciled FMIs.

A comprehensive suite of standards directs the Bank's oversight function, which aims to ensure risk is adequately controlled at designated FMIs. The [Principles for Financial Market Infrastructures](#) and the associated guidance are the Bank's primary risk-management standards for FMIs that are designated as systemically important. For FMIs that pose payments system risk, the Bank has developed [Criteria and Risk-Management Standards for Prominent Payment Systems](#) (PPS) that are based on the Principles for Financial Market Infrastructures but are proportional to the level of risk present in a PPS. Additionally, the Bank has developed guidance for specific risk areas, such as cyber resilience.

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<sup>1</sup> The Minister of Finance must agree that designation is in the public interest. See the glossary in Appendix 2 for a full definition of systemic risk and payments system risk.

The Bank works with federal and provincial authorities to coordinate oversight of relevant designated FMIs in Canada.<sup>2</sup> This collaboration has been formalized by agreements between the Bank and relevant domestic authorities. The Bank also participates in cooperative oversight arrangements led by authorities in the jurisdictions where designated foreign-domiciled FMIs reside. **Table 1** presents the designated FMIs subject to the Bank's oversight regime.

**Table 1: Designated FMIs subject to Bank of Canada oversight**

System name	System operator	Designation type and year	System type and description
<b>Domestic designated FMIs</b>			
<b>Canadian Derivatives Clearing Service (CDCS)</b>	Canadian Derivatives Clearing Corporation (CDCC)*	Systemically important (since 2012)	CDCS is a <b>central counterparty</b> . It clears transactions in all derivatives trades on the Montréal Exchange and certain fixed-income securities, repurchase agreements, and over-the-counter (OTC) equity derivatives.
<b>CDSX</b>	CDS Clearing and Depository Services Inc. (CDS)†	Systemically important (since 2003)	CDSX consists of a <b>securities settlement system</b> , a <b>central securities depository</b> for equities and fixed-income securities and a <b>central counterparty</b> service for eligible Canadian exchange-traded and OTC equities.
<b>Lynx</b>	Payments Canada	Systemically important (since 2021)	Lynx is an electronic funds-transfer <b>payment system</b> . It settles large-value and time-critical payments.
<b>Automated Clearing Settlement System (ACSS)</b>	Payments Canada	Prominent (since 2016)	The Automated Clearing Settlement System is a retail <b>payment system</b> that clears cheques and electronic items such as pre-authorized debits, direct deposits, and Interac debit payments.

<sup>2</sup> In addition to being overseen by the Bank, the Canadian Derivatives Clearing Corporation (operator of CDCS) and the Canadian Depository for Securities Ltd (parent company of the operator of CDSX) are recognized and regulated by Quebec's Autorité des marchés financiers, the British Columbia Securities Commission and the Ontario Securities Commission. Moreover, the Minister of Finance shares the responsibility of overseeing Payments Canada (operator of Lynx and the Automated Clearing Settlement System).

### 3 The Bank's approach to oversight of financial market infrastructures Bank of Canada Oversight Activities for Financial Market Infrastructures

System name	System operator	Designation type and year	System type and description
Interac e-Transfer® <sup>3</sup>	Interac Corp.	Prominent (since 2020)	Interac e-Transfer® is an electronic <b>payment system</b> offered through online banking with participating Canadian financial institutions.
Interac Inter-Member Network	Interac Corp.	Prominent (since 2023)	The Inter-Member Network is an electronic <b>payment system</b> offering a variety of retail payment services, most notably Interac Debit.
VisaNet	Visa Inc.	Prominent (since 2023)	VisaNet is Visa Inc.'s core <b>payment system</b> processing network that provides transaction processing services, including authorization, clearing and settlement, around the world, including Canada.
Mastercard International Incorporated's Global Clearing Management System and Single Message System	Mastercard International Incorporated.	Prominent (since 2023)	The Global Clearing Management System and Single Message System are operated by Mastercard International Incorporated, a technology company in the global payments industry, for the clearing and settlement of its Canadian payments business.
<b>Foreign-domiciled designated FMIs</b>			
Continuous Linked Settlement (CLS)	CLS Bank (CLS Group)	Systemically important (since 2002)	CLS is a special-purpose <b>foreign exchange settlement system</b> that settles foreign exchange transactions, including those involving the Canadian dollar.
SwapClear	London Clearing House (LCH) Limited	Systemically important (since 2013)	SwapClear is a <b>central counterparty</b> operated by LCH Limited. It centrally clears interest rate swaps and other OTC interest rate derivatives denominated in multiple currencies, including the Canadian dollar.

\* CDCC is a wholly owned subsidiary of the Montréal Exchange, which is a wholly owned subsidiary of TMX Group Limited (TMX Group).

† CDS Clearing and Depository Services Inc. is a wholly owned subsidiary of the Canadian Depository for Securities Ltd., which is a wholly owned subsidiary of TMX Group.

## The Bank's FMI oversight framework

The Bank's FMI oversight framework focuses on regular monitoring and assessment of designated FMIs against its risk-management standards. To fulfill its oversight responsibility, the Bank carries out core assurance reviews

<sup>3</sup> ® Registered trademark of Interac Corp.

that focus on FMIs' controls and risk-management practices in specific areas. These reviews allow the Bank to assess FMIs against each of its risk-management standards in depth over a three-year cycle.

Bank staff present the findings of the core assurance reviews and proposed remedial actions to the Oversight Risk Advisory Committee. The role of the committee—which is composed of senior Bank management with expertise in FMIs, risk management and financial stability—is to challenge the staff findings and bring a strategic perspective to setting oversight expectations for designated FMIs.

Following the conclusion of this process each year, the Bank communicates its oversight expectations to the FMIs. These expectations require the FMIs to take action to close identified gaps within specified timelines. The Bank considers two elements in prioritizing its expectations: the level of severity of the identified gap, and how relevant the remedial measures are to the safety and soundness of the FMI and the broader financial system.

In addition to core assurance reviews, Bank staff monitor risks and developments at designated FMIs. Staff also assess the risk and implications of any significant change an FMI intends to make prior to its implementation. The FMI must report any such change to the Bank under the *Payment Clearing and Settlement Act*.

## Oversight expectations for TMX Group systems

This section presents key priorities for CDCC and CDS, the operators of two designated FMI's owned by TMX Group. It includes updates on the focus areas identified in previous years (**Table 2**), as well as priorities identified in the Bank's 2023 oversight reviews.

### Progress on past oversight expectations

CDCC and CDS made good progress in 2023 in addressing the Bank's expectations related to multiple risk exposures, including but not limited to credit risk, default management risk, business risk and cyber risk.

**Table 2: Progress on past oversight expectations for the Canadian Derivatives Clearing Corporation and Canadian Depository for Securities**

System	Completed	Outstanding
<b>Default management</b>		
CDCCS	<ul style="list-style-type: none"> <li>Developed a plan for the introduction of technical tools to facilitate participant bidding in default-management auctions</li> </ul>	
<b>Margin system enhancements</b>		
CDCCS	<ul style="list-style-type: none"> <li>Completed the first Margin System Annual Review</li> </ul>	<ul style="list-style-type: none"> <li>CDCC to continue implementing a comprehensive framework to manage procyclicality</li> </ul>
<b>Cyber risk management</b>		
CDCCS and CDSX	<ul style="list-style-type: none"> <li>Provided a plan that outlines TMX's strategy for enhancing cyber response and recovery</li> </ul>	<ul style="list-style-type: none"> <li>TMX to develop and execute testing exercises to enhance their cyber response and recovery capabilities</li> <li>TMX to involve industry-level stakeholders in cyber recovery planning and testing</li> <li>TMX to strengthen and standardize cyber risk assessments of third-party service providers</li> </ul>
<b>Business risk</b>		
CDCCS and CDSX	<ul style="list-style-type: none"> <li>Presented an initial orderly wind-down plan</li> <li>Provided updated recovery plans</li> </ul>	



System	Completed	Outstanding
<b>Operational risk</b>		
<b>CDCS and CDSX</b>	<ul style="list-style-type: none"> <li>Implemented various information security and business continuity plan enhancements</li> <li>Implemented a framework for reviewing external critical service providers</li> </ul>	<ul style="list-style-type: none"> <li>CDS to introduce further improvements following modernization</li> </ul>
<b>Liquidity risk</b>		
<b>CDSX</b>	<ul style="list-style-type: none"> <li>Strengthened liquidity arrangements for managing the default of a settlement agent</li> </ul>	<ul style="list-style-type: none"> <li>CDS to improve its liquidity stress-testing framework</li> </ul>

## Findings of core assurance reviews

The Bank undertook two core assurance reviews for CDCC and CDS in 2023. The reviews assessed the risk-management practices of CDCC and CDS with regard to access and participation requirements, tiered participation arrangements and liquidity risk.

### *Access and participation requirements*

The Bank's review confirmed that CDCC and CDS have fair and open access with well-defined financial, regulatory and legal participation requirements. CDCC and CDS monitor their participants' ongoing compliance with these requirements. Because CDCC and CDS are systemically important FMIs, and the operational and cyber risk environments continue to evolve, further actions are needed to ensure that CDCC and CDS appropriately manage risks stemming from operational issues at their participants. The Bank therefore expects CDCC and CDS to develop and implement comprehensive, risk-based operational and cyber-related participation requirements. Once the requirements are developed, CDCC and CDS should ensure participants' compliance with the requirements on a regular basis. The Bank expects CDCC and CDS to address this gap in 2024.

### *Tiered participation*

CDS has defined processes to adequately identify, monitor and manage risks arising from tiered participation arrangements. CDCC's rules already require direct clearing members to manage risks arising from their clients. CDCC is

planning to enhance its tiered participation framework in the future. The Bank did not set formal expectations for CDS or CDCC as a result of this review.

### *Liquidity risk (CDCC only)*

The Bank's assessment shows that CDCC has a sound liquidity risk-management framework that is updated regularly. CDCC's qualifying liquid resources also meet the Bank's standards.

To further CDCC's resilience to any disruptions at settlement banks,<sup>4</sup> the Bank expects it to enhance backup settlement arrangements in 2024. CDCC should propose and implement amendments to its rules requiring all clearing members to establish and maintain backup settlement arrangements. To meet this expectation on an ongoing basis, CDCC should develop a plan and internal procedures to regularly confirm and test these arrangements with clearing members.

### *Other expectations*

In 2023, the TMX Group continued to make progress on the Post-Trade Modernization project, which aims to develop a new technology platform for CDS's core clearing, settlement and depository functions. Due to the systemic importance of CDSX, the safe launch of the new platform remains a key priority for the Bank. In that regard, the Bank and other regulators have established formal expectations for the project that must be met before the new platform is implemented.

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<sup>4</sup> Settlement banks send payments from CDCC clearing members to CDCC.

## Oversight expectations for Payments Canada systems

This section presents key priorities for the two designated FMIs operated by Payments Canada: Lynx and the Automated Clearing Settlement System (ACSS). It includes updates on the focus areas identified in previous years (Table 3) and priorities identified in the Bank's 2023 oversight reviews.

### Progress on past oversight expectations

Payments Canada addressed the Bank's expectations in 2023 related to cyber resilience, access and tiered participation, and non-cyber operational risk management.

**Table 3: Progress on past oversight expectations for Payments Canada systems**

System	Completed	Outstanding
<b>Cyber resilience</b>		
Payments Canada systems	<ul style="list-style-type: none"> <li>Developed a comprehensive audit and compliance program for its cyber-resilience framework</li> </ul>	
<b>Operational risk</b>		
Payments Canada systems	<ul style="list-style-type: none"> <li>Successfully launched the Real-Time Gross Settlement (RTGS) Extreme Contingency Solution<sup>5</sup> on October 16, 2023, with associated rule amendments for Lynx</li> </ul>	<ul style="list-style-type: none"> <li>Develop an enterprise-wide vision for long-term resilience of all its systems</li> <li>Develop a framework that establishes priorities for resilience projects and periodic revisions to the vision</li> </ul>
<b>Modernization</b>		
ACSS– Future State of Retail Batch (FSRB)	<ul style="list-style-type: none"> <li>Submitted high-level access, financial risk and business models for the FSRB project for the Bank's review</li> <li>Worked with industry to develop a comprehensive set of business requirements that will meet the needs of the FSRB</li> </ul>	

<sup>5</sup> RTGS Extreme Contingency Solution is designed to ensure the reliability and resilience of the Lynx system.

## Findings of core assurance reviews

The Bank completed three reviews of Payments Canada systems in 2023 in the areas of business risk, default management and liquidity risk.

### *Business risk*

The review confirmed that Payments Canada has put in place policies and procedures that are generally aligned with the risk standards related to general business risk, custody and investment risk, and recovery planning. Therefore, the Bank did not set any formal expectations related to business risk for Payments Canada.

### *Default management*

The Bank's review assessed that ACSS has a comprehensive framework to manage defaults. While Payments Canada has put in place a sound framework for managing defaults in Lynx, the suspension process for financial institutions that are not federally regulated is not as comprehensive as the process to suspend an institution that is federally regulated. Therefore, the Bank requires Payments Canada to develop, by the end of 2024, procedures to suspend Lynx for financial institutions that are not federally regulated.

### *Liquidity risk*

The Bank judged that Payments Canada's practices on liquidity risk for Lynx meet the Bank's risk standards. Nevertheless, for ACSS, the management of financial risk related to intraday monitoring of payment positions needs improvement. This gap is expected to be addressed through Payments Canada's Future State of Retail Batch (FSRB) project. Given the high levels of current values and volumes, the Bank expects the exchange to be centralized for streams where technically feasible. In 2024, the Bank expects Payments Canada to develop a conceptual design for the FSRB system. This conceptual design must be comprehensive and should contain all the necessary components and specific instructions for product developers to build the system.

## Oversight expectations for Interac e-Transfer

This section presents key priorities for Interac e-Transfer, a designated system owned by Interac Corp. It includes updates on the focus areas identified in previous years (**Table 4**), as well as priorities identified in the Bank’s 2023 oversight reviews.

### Progress on past oversight expectations

Interac has successfully completed all past oversight expectations, including two that arose from the Bank’s cyber review and two that were identified during the Rogers network outage in 2022.

**Table 4: Progress on past oversight expectations for Interac e-Transfer**

System	Completed	Outstanding
<b>Cyber resilience</b>		
Interac e-Transfer	<ul style="list-style-type: none"> <li>• Provided cyber-security training to its board members and developed a training framework</li> <li>• Completed the implementation of a configuration management database</li> </ul>	
<b>Network resilience</b>		
Interac e-Transfer	<ul style="list-style-type: none"> <li>• Implemented and tested a network contingency solution for all participants</li> <li>• Implemented a Multiprotocol Label Switching (MPLS) fail-safe into the existing Interac e-Transfer network</li> </ul>	

### Findings of core assurance reviews

In 2023, the Bank completed three reviews for the Interac e-Transfer system in the areas of business risk, governance and enterprise risk management, and non-cyber operational risk. The reviews aimed at evaluating the Interac e-Transfer system’s risk-management practices against the Bank’s Criteria and Risk-Management Standards for Prominent Payment Systems.

#### *Business risk*

The Bank’s review found that Interac has elements of sound risk management and strong risk controls for business, custody and investment risks. However, the assessment revealed areas that require improvements to strengthen

Interac's current risk-management practices. First, by the end of 2024, Interac should develop and implement a policy for its reserve fund. The policy should be approved by the Board and should ensure the Board and management are aligned on definitions, calculations and procedures for managing Interac's reserve fund. Second, at the time of the review, Interac had not fully developed a recovery and wind-down plan. Since then, Interac submitted a recovery plan in December 2023, which the Bank is currently reviewing.

### *Governance and enterprise risk management*

Overall, Interac has good governance and enterprise risk-management controls. Nonetheless, the Bank's review underlined some existing gaps, especially related to the development of the internal audit function. The Bank requires Interac to continue to build and mature the internal audit function, which was established recently.

### *Non-cyber operational risk*

Interac's operational risk-management framework generally meets the Bank's risk standards. However, the review showed that Interac has an opportunity to strengthen its approach related to critical service providers (CSPs). Since the management of risks posed by CSPs is crucial for Interac e-Transfer's operational resilience, Interac must establish a well-defined set of criteria to identify CSPs for Interac e-Transfer. In addition, Interac should develop policies and procedures to identify and manage the risks posed by these CSPs to the Interac e-Transfer system. The Bank expects Interac to address this gap by the end of 2024.

## Developments within the Bank's oversight function

### Additional designations

The Bank regularly monitors the evolution of new and existing payment systems to determine whether their potential to pose systemic risk or payments system risk warrants oversight.

Effective October 16, 2023, the Governor of the Bank of Canada designated three systems under the *Payment Clearing and Settlement Act*. They are Visa Inc.'s VisaNet, Mastercard International Incorporated's Global Clearing Management System and Single Message System, and Interac Corp.'s Inter-Member Network.

Designation brings these systems under formal Bank oversight and requires them to adhere to the Bank's risk-management standards. This includes having risk controls in place to ensure continued resilience to remain safe, viable and effective methods of payment for Canadians. For the remainder of 2023, the Bank worked with the system operators to bring these systems into the Bank's oversight framework.

## Appendix 1 | Annual summary figures of designated FMIs

### Domestic systemically important financial market infrastructures **CDCS**

Measure	2020	2021	2022	2023
Daily average value of over-the-counter (OTC) repos cleared	\$22 billion	\$24 billion	\$32 billion	\$33 billion
Daily average notional value cleared (exchange-traded derivatives)	\$117 billion	\$141 billion	\$102 billion	\$140 billion
Daily average notional value cleared (OTC derivatives)	\$4.7 million	\$9.7 million	\$6 million	\$8.4 million
Number of direct participants	37	36	37	36

### **CDSX**

Measure	2020	2021	2022	2023
Daily average value of equity and fixed-income securities cleared and settled	\$782 billion	\$846 billion	\$963 billion	\$979 billion
Daily average volume of equity and fixed-income securities cleared and settled	2.5 million	2.5 million	2.5 million	2.1 million
Average value of securities held at the central securities depository	\$6.8 trillion	\$7.4 trillion	\$7.0 trillion	\$7.2 trillion
Number of direct participants	98	98	100	99

### **Lynx**

Measure	2020	2021*	2022	2023†
Daily average value settled	\$398 billion	\$505 billion	\$440 billion	\$414 billion
Daily average volume settled	41,000	46,000	50,000	53,000
Daily average collateral pledged	\$43 billion	\$44 billion	\$39 billion	\$20 billion‡
Number of direct participants	16	17	17	17

\* Lynx replaced the Large Value Transfer System (LVTS) as Canada's high-value system effective August 30, 2021. Measures for 2021 were calculated using weighted averages of the days each system was in operation.

† Lynx payment statistics include settlement balances transferred between the Bank and Lynx participants, which have declined since 2022 due to the Bank's quantitative tightening policies. If these transfers are excluded, the value of inter-FI payments has continued to increase year-over-year.

‡ "Average daily collateral pledged" now refers to the Lynx system-level credit limit. For the LVTS, collateral statistics included "excess collateral" apportioned directly to LVTS at start-of-day. In contrast, Lynx participants set their "credit limit" by assigning collateral via the Bank's High Availability Banking System (HABS) and can adjust it intraday via the HABS unallocated collateral pool. This HABS pool is not Lynx-specific and is no longer included in the Lynx measure.



## Prominent payment systems

### ACSS

Measure	2020	2021	2022	2023
Daily average value processed	\$31 billion	\$34 billion	\$36 billion	\$37 billion
Daily average volume processed	32 million	34 million	36 million	39 million
Number of direct participants	12	12	13	13

### Interac e-Transfer®

Measure	2020	2021	2022	2023
Daily average value processed	\$673 million	\$896 million	\$1.0 billion	\$2.3 billion
Daily average volume processed	2.09 million	2.66 million	2.92 million	3.34 million
Number of participants	28	29	31	35*

\* Interac e-Transfer has 35 participants, of which 21 connect directly to the network and 14 connect indirectly.

### Interac Inter-Member Network (IMN)\*

Measure	2023
Daily average value processed	\$820 million
Daily average volume processed	18 million

\* IMN values and volume figures reflect the sum of activity from Interac's Debit, Flash and Mobile/Token Service Provider services. Number of IMN participants not reported at this time.

### VisaNet\*

Measure	2023
Daily average value processed*	\$1.3 billion
Daily average volume processed*	15 million

\* VisaNet value and volume statistics reflect Visa purchase transactions processed in Canada. Number of VisaNet participants not reported at this time.

### Mastercard\*

Measure	2023
Daily average value processed	\$879 million
Daily average volume processed	11 million

\* Mastercard value and volume statistics reflect Mastercard purchase transactions processed in Canada. Number of Mastercard participants not reported at this time.

## Foreign-domiciled systemically important financial market infrastructures

### *CLS Bank*

Measure	2020	2021	2022	2023
Daily average foreign exchange settlement value (total, USD)	\$5,852 billion USD	\$6,209 billion USD	\$6,463 billion USD	\$6,655 billion USD
Daily average Canadian-dollar foreign exchange settlement value (total, CAD)	\$212 billion CAD	\$233 billion CAD	\$267 billion CAD	\$282 billion CAD
Settlement members	71	71	74	74

### *LCH SwapClear*

Measure	2020	2021*	2022	2023
Notional outstanding OTC interest rate swaps, in all currencies, as of December 31	\$333 trillion USD	\$352 trillion USD	\$374 trillion USD	\$246 trillion USD
Notional outstanding OTC interest rate swaps, denominated in Canadian dollars, as of December 31	\$17.8 trillion CAD	\$19.3 trillion CAD	\$22.6 trillion CAD	\$22.5 trillion CAD
Number of direct participants*	121	123	124	127

\* SwapClear Global and SwapClear Global FCM.

## Appendix 2 | Glossary

<b>central counterparty (CCP)</b>	An entity that interposes itself between counterparties in contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer, thereby ensuring the performance of open contracts.
<b>central securities depository</b>	An entity that provides securities accounts, central safekeeping services and asset services, which may include the administration of corporate actions and redemptions. A central securities depository plays an important role in helping to ensure the integrity of securities issues (that is, it ensures that securities are not accidentally or fraudulently created, destroyed or modified).
<b>clearing</b>	The process of transmitting, reconciling and, in some cases, confirming transactions before settlement, potentially including the netting of transactions and the establishment of final positions for settlement. On occasion, this term is also used (imprecisely) to cover settlement. In the context of futures and options, clearing also refers to the daily balancing of profits and losses and the daily calculation of collateral requirements.
<b>collateral</b>	An asset or third-party commitment that is used by a collateral provider to secure an obligation for a collateral taker.
<b>credit risk</b>	The risk that a counterparty, whether a participant or other entity, will be unable to fully meet its financial obligations when due or at any time in the future.
<b>default</b>	Generally, an event related to the failure to complete a transfer of funds or securities in accordance with the terms and rules of the system in question.
<b>default-management auction</b>	A default-management auction is one of the tools a CCP may use to transfer a defaulted participant's positions, or a subset thereof, to a non-defaulting participant, thereby removing the position and risks from the CCP and restoring it to a matched book.
<b>designated system / designated financial market infrastructure</b>	A financial market infrastructure designated under the <i>Payment Clearing and Settlement Act</i> for oversight by the Bank of Canada.
<b>financial market infrastructure (FMI)</b>	A multilateral system among participating institutions, including the operator of the system, used to clear, settle or record payments, securities, derivatives or other financial transactions.

<b>liquidity risk</b>	The risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future.
<b>orderly wind-down</b>	The ability of an FMI to cease operating a business or service without a disruption in critical services to the financial system when recovery of that business or service has failed. The objective of an orderly wind-down plan is to generally ensure that the non-viable critical services offered by an FMI could be transferred to an alternate entity.
<b>payment system</b>	A set of instruments, procedures and rules for the transfer of funds between or among participants. The system includes the participants and the entity operating the arrangement.
<b>payments system risk</b>	The risk that a disruption to or a failure of an FMI could cause a significant adverse effect on economic activity in Canada either by impairing the ability of individuals, businesses or governments to make payments or by producing a general loss of confidence in the Canadian payments system.
<b>procyclicality</b>	The mutually reinforcing (positive feedback) mechanisms through which the financial system can amplify business fluctuations and possibly cause or exacerbate financial instability. In the context of CCPs, this term is used to describe how market volatility can feed into increases in margin requirements, which in turn could create more market volatility.
<b>recovery</b>	<p>The ability of a financial institution, including an FMI, to resume operations after a threat to its viability and financial strength so that it can continue to provide its critical services without authorities having to use resolution powers.</p> <p>More specifically, in the context of an FMI, recovery is defined as the actions of the FMI that are consistent with its rules, procedures and other <i>ex ante</i> contractual arrangements to address any uncovered loss, liquidity shortfall or capital inadequacy, whether arising from participant default or other causes (such as business, operational or other structural weaknesses), including actions to replenish any depleted pre-funded financial resources and liquidity arrangements, as necessary, to maintain the FMI's viability as a going concern and the continued provision of critical services.</p>
<b>securities settlement system</b>	An entity that enables securities to be transferred and settled by book entry according to a set of predetermined multilateral rules. Such systems allow the transfer of securities either free of payment or against payment.

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<b>systemic risk</b>	<p>The risk that the inability of a participant to meet its obligations in an FMI as they become due or that a disruption to or a failure of an FMI could, by transmitting financial problems through the FMI, cause:</p> <ul style="list-style-type: none"><li>▪ other participants in the FMI to be unable to meet their obligations as they become due</li><li>▪ financial institutions in other parts of the Canadian financial system to be unable to meet their obligations as they become due</li><li>▪ the FMI's clearing house or the clearing house of another FMI within the Canadian financial system to be unable to meet its obligations as they become due</li><li>▪ an adverse effect on the stability or integrity of the Canadian financial system</li></ul>
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## Appendix 3 | Abbreviations

<b>ACSS</b>	Automated Clearing Settlement System
<b>CCP</b>	central counterparty
<b>CDCC</b>	Canadian Derivatives Clearing Corporation
<b>CDCS</b>	Canadian Derivatives Clearing Service
<b>CDS</b>	Canadian Depository for Securities
<b>CSP</b>	critical service provider
<b>FMI</b>	financial market infrastructure
<b>FSRB</b>	Future State of Retail Batch
<b>HABS</b>	High Availability Banking System
<b>IMN</b>	Inter-Member Network
<b>LVTS</b>	Large Value Transfer System
<b>MPLS</b>	Multiprotocol Label Switching
<b>OTC</b>	over-the-counter
<b>PPS</b>	prominent payment system
<b>RTGS</b>	real-time gross settlement