

Bank of Canada's enhanced risk-assessment framework

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The Bank of Canada's role in financial stability

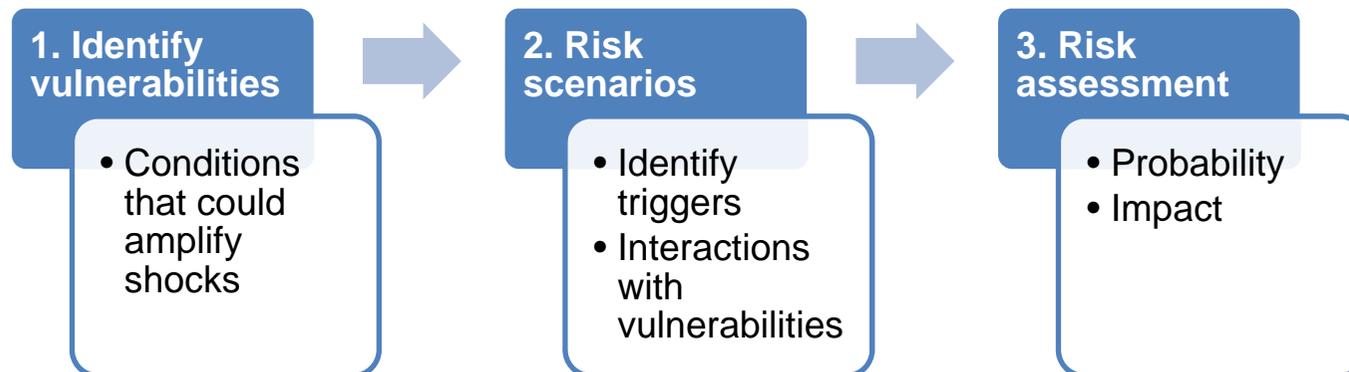
- Actively promoting a safe, resilient and efficient financial system in Canada and abroad through:
 - closely collaborating with domestic and key international policy-making bodies to develop and implement sound domestic and global financial sector policy
 - overseeing systemically important financial market infrastructures
 - providing liquidity and acting as a lender-of-last-resort
 - identifying and assessing financial system vulnerabilities and risks

Identifying and assessing financial system vulnerabilities and risks

- System-wide perspective
- Enhanced risk-assessment framework
 - starting point: identification of vulnerabilities
 - followed by: assessment of risks
- Broad communication of key vulnerabilities and risks through the semi-annual *Financial System Review (FSR)*
 - to promote informed public discussion on financial system related issues

The Bank's enhanced risk-assessment framework

- The framework process has three steps:
 1. identifying financial system vulnerabilities
 2. developing risk scenarios
 3. assessing risk scenarios by determining the probability of occurring, as well as the potential impact



Identifying and assessing vulnerabilities

- Distinguish between two categories of vulnerabilities
 - cyclical: vulnerabilities that evolve with the financial cycle
 - leverage
 - funding and liquidity
 - pricing of risk
 - opacity
 - structural: vulnerabilities that are inherent features of the financial system
 - domestic interconnectedness
 - external exposure
 - complexity

Examples of quantitative indicators for monitoring cyclical vulnerabilities

		Vulnerabilities			
		Leverage	Funding and liquidity	Pricing of risk	Opacity
Sectors	Financial sector entities	Ratio of assets to equity Regulatory leverage ratio	Regulatory liquidity measures Ratio of loans to deposits Liquidity of investments	Return on equity Underwriting standards	Amount of risk disclosure
	Shadow banking	Ratio of assets to equity	Terms of assets and liabilities	Underwriting standards Haircuts Concentration of risk	Financial innovation (new products and practices)
	Asset markets	—	Market liquidity metrics (e.g., bid-ask spreads)	Asset valuations Implied and realized volatility Risk premiums	Over-the-counter trading volumes
	Non-financial sector	Ratio of debt to income Debt-service costs Composition of debt	Holdings of liquid assets	—	Proportion of unlisted corporations

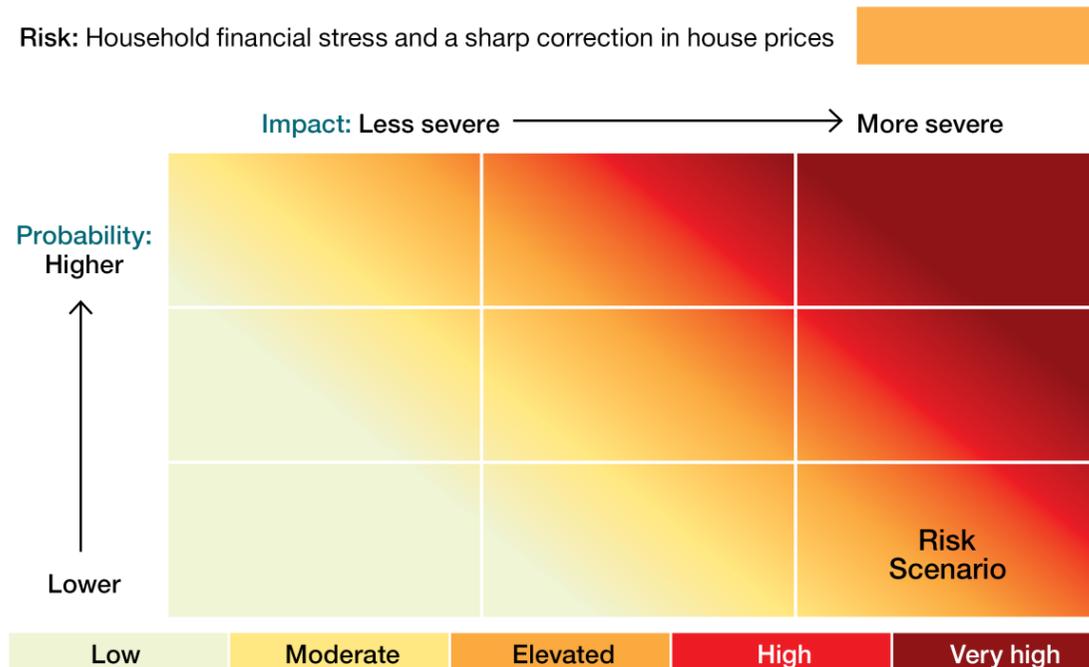
An application of the process: household debt

1. Key vulnerability: household indebtedness
 - elevated leverage
 - assess the magnitude of this potential threat to the financial system
 - sustainability of household debt
 - the impact on the financial system of increased defaults, should they occur
2. Example of risk scenario: indebted households unable to service debt resulting in a house price correction
 - potential trigger: a severe recession
 - simulation: a large and persistent increase in the unemployment rate to determine impact on household arrears rate and bank losses

An application of the process: household debt (cont.)

3. Risk assessment

- probability of this risk occurring: **low**
- potential impact on the financial system and economy: **large**
- assessed rating: **elevated**



The framework applied: key **vulnerabilities** highlighted in the December 2015 *FSR*

Key vulnerabilities in the Canadian financial system

1. Elevated level of Canadian household indebtedness
 - household debt-to-income ratios remain historically high
2. Imbalances in the Canadian housing market
 - stretched valuations and overbuilding in certain segments
3. Uncertain market liquidity in fixed-income markets
 - a rapid drop in fixed-income market liquidity could amplify price changes and increase volatility

The framework applied: key risks highlighted in the December 2015 *FSR*

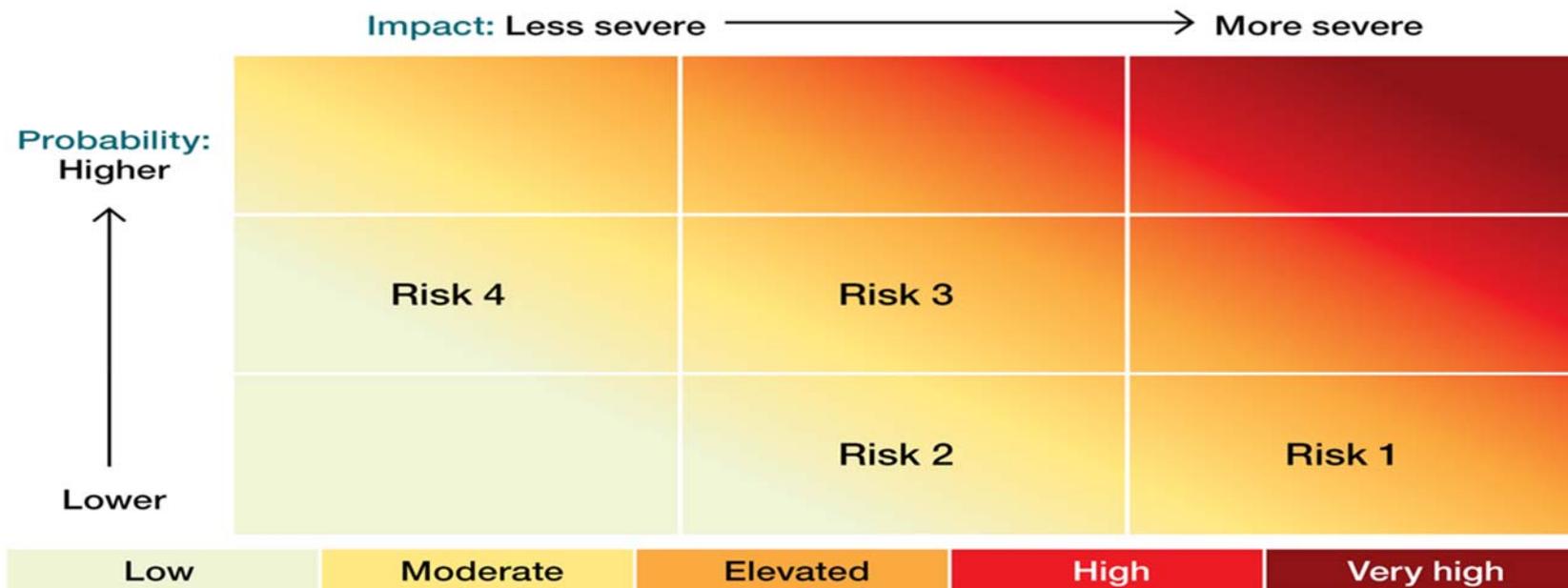
Table 1: Key risks to the stability of the Canadian financial system

Risk 1: Household financial stress and a sharp correction in house prices

Risk 2: An abrupt increase in global risk premiums

Risk 3: Stress emanating from China and other EMEs

Risk 4: Prolonged weakness in commodity prices



Advantages of this approach

- Emphasis on Canadian financial system
 - highlights where major fragilities lie and how they are evolving
- Helps focus attention on characteristics of Canadian financial system rather than events that may expose them
 - vulnerabilities may be addressed by public policy or private actions
 - trigger events harder to predict and control
- Facilitates the identification of knowledge and data gaps
 - crucial to inform policy-makers about information gaps that need to be closed for more effective monitoring of the financial system and effective policy actions

Identifying data gaps: three key dimensions

- The Bank's risk-assessment framework
 - working with the internal tools and models (e.g., vulnerabilities heat-map)
 - the Systemic Risk Assessment Committee focuses on vulnerability assessment and engages the Bank's partners in the assessment process, leveraging their expertise and data
- Domestic policy priorities
 - collaboration with key policy-makers with roles in financial stability
- International perspective
 - IMF FSAP
 - G20 DGI

Using the risk-assessment framework to identify key financial stability data gaps

- Households
 - loan-level data on origination and performance
 - more timely and expansive household balance sheet data
 - newly funded survey program managed by Statistics Canada (Survey of Financial Security)
- Financial institutions
 - data on credit unions (provincially regulated)
 - expanded data on non-mortgage loan credit quality for banks (federally regulated)
- Firms
 - loan level data to support the assessment of corporations' financial conditions and performance
- OTC derivatives
 - transaction level data on derivatives
 - entity level data on OTC derivatives exposures for FRFIs
- Debt market: fixed income and repo
 - transaction level data
 - information about market liquidity through limit order books
 - ownership data on Canadian Government debt

Conclusion

- The enhanced risk-assessment framework plays an essential role in the Bank's toolkit
 - Supports the Bank's efforts in contributing to financial stability and efficiency
 - Provides a structured, systematic approach that
 - supports internal analysis, monitoring and research
 - facilitates discussion and coordination within the Canadian policy making circle
 - supports the *FSR*, the Bank's vehicle to promote financial stability, by providing a coherent, structured platform to present and explain relevant information
 - Constitutes an evolving, adaptable tool
 - easy to integrate new dimensions and information, as work progresses particularly on model development and closing key financial stability data gaps

Thank you.