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The role of financial stability considerations in the Bank of Canada's monetary policy framework

Trinity of Stability Conference, Princeton
7 November 2015

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Overview

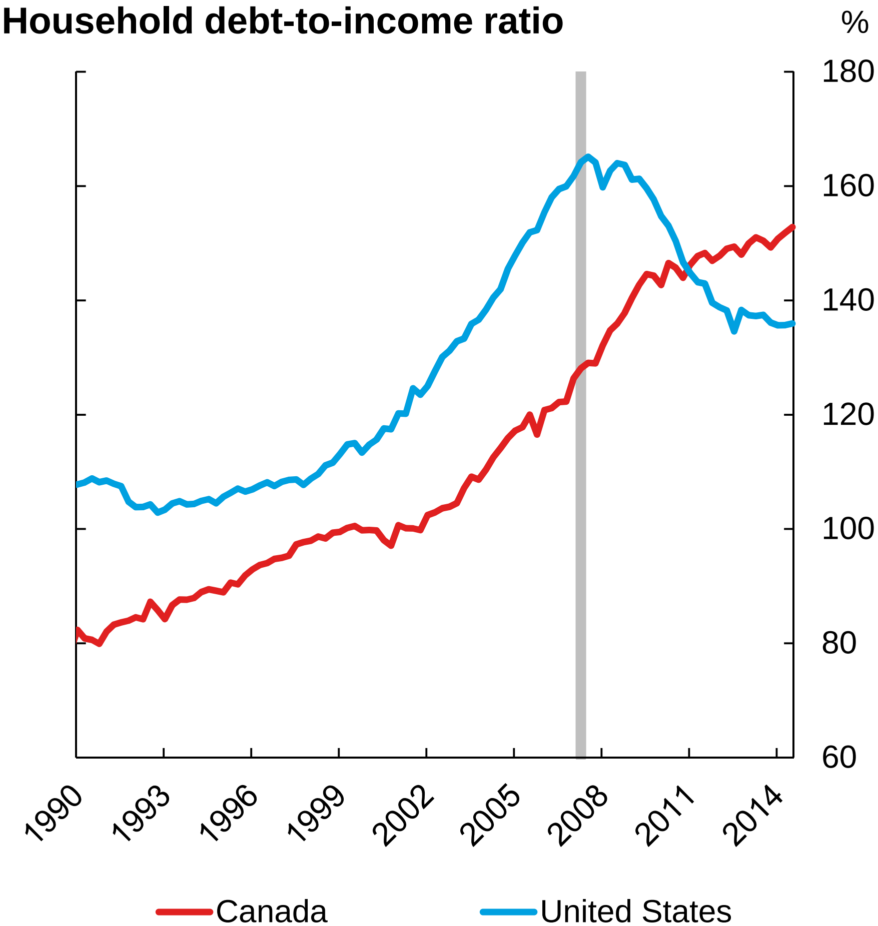
- Current Canadian financial system vulnerabilities and macroprudential and monetary policy frameworks.

- BoC research on:
  - Drivers and probability of financial crises
  - Effectiveness of housing macroprudential tools
  - Role of low interest rates in exacerbating risk-taking
  - Costs and benefits of monetary policy leaning

Price stability does not guarantee financial stability

- **Pre-crisis**
  - imbalances built up while inflation low and stable
- **Post-crisis**
  - low-for-long fuelling imbalances
  - new normal given lower neutral rates?
- **New consensus**
  - monetary policy should not ignore financial stability concerns
  - such views not new: Borio and White (2003), Rajan (2005)

Household debt-to-income ratio



Sources: Statistics Canada (Canadian household credit market debt to disposable income ratio adjusted for U.S. concepts and definitions) and U.S. Federal Reserve Last observation: 2014Q4

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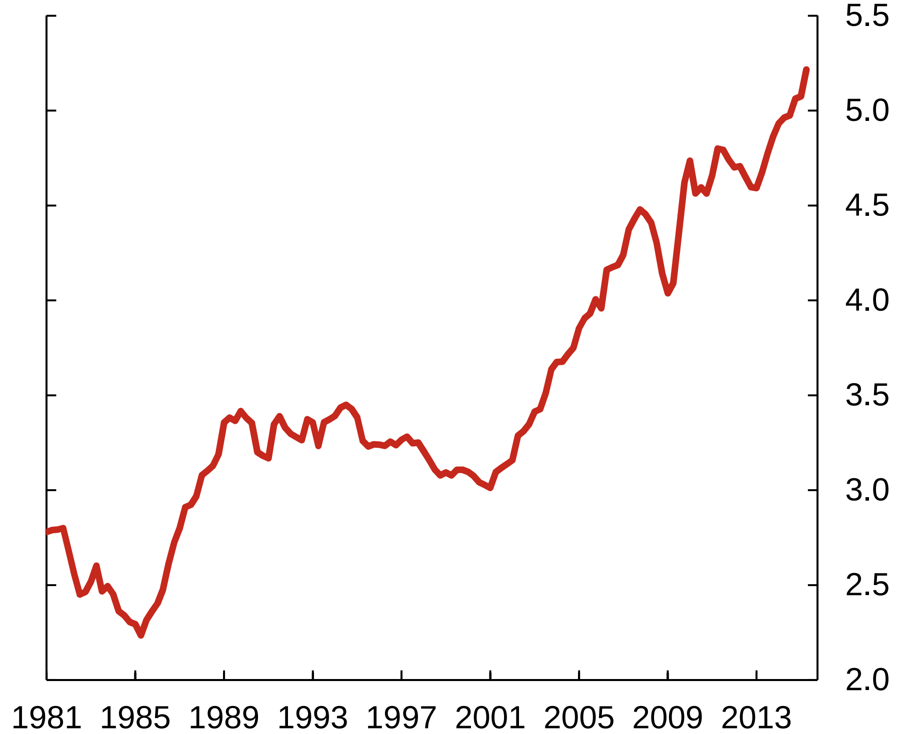
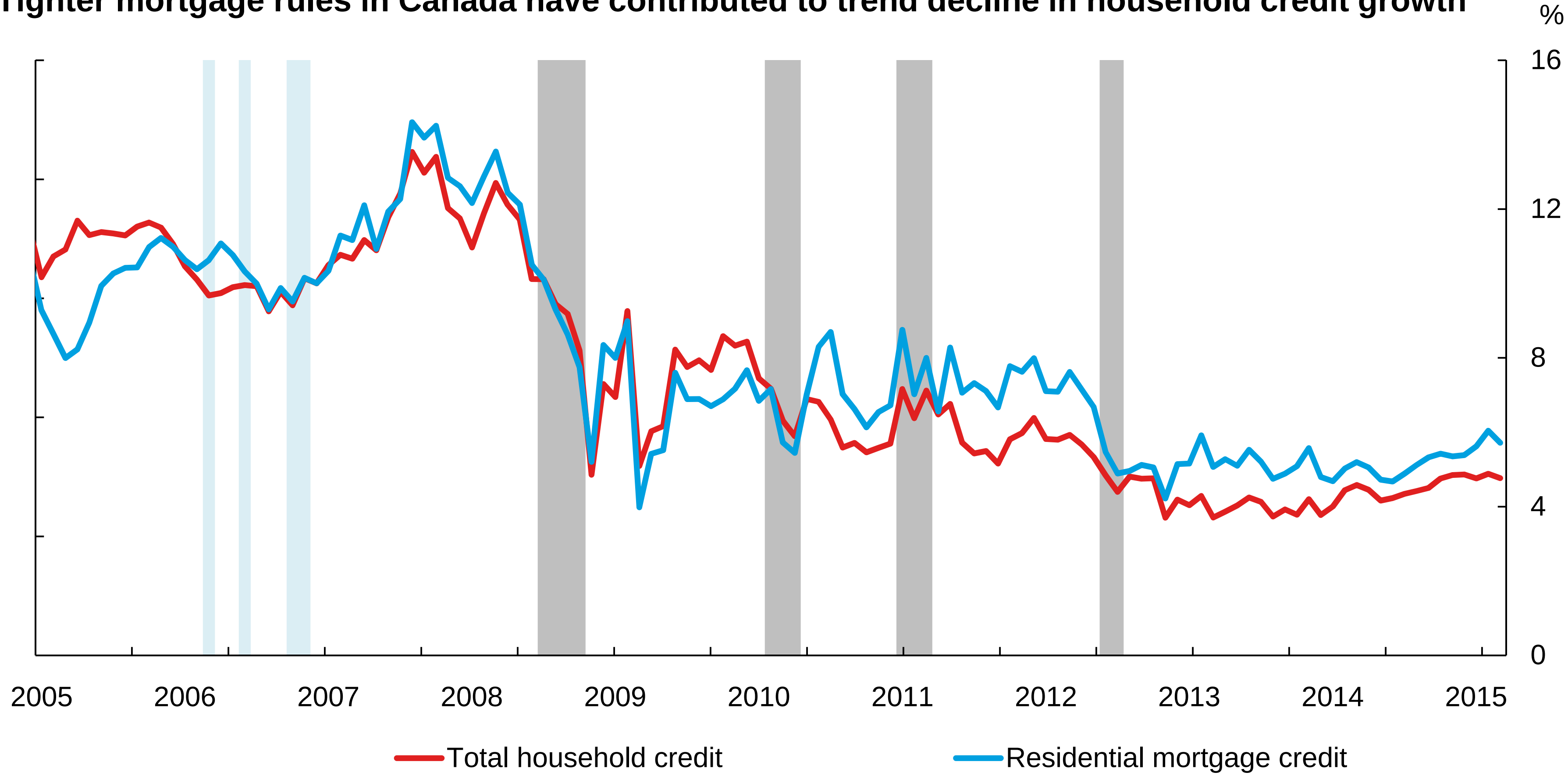


Sources: Statistics Canada, Canadian Real Estate Association and Bank of Canada calculations

Last observation: 2015Q2

Macroprudential levers can be adjusted to mitigate imbalances …

Tighter mortgage rules in Canada have contributed to trend decline in household credit growth



Note: Grey shaded area represents period between announcement and implementation of tightening government-backed mortgage insurance rules; blue shaded area represents period of loosening of mortgage insurance rules.
Source: Bank of Canada

Last observation: March 2015

But we need a clear macroprudential framework

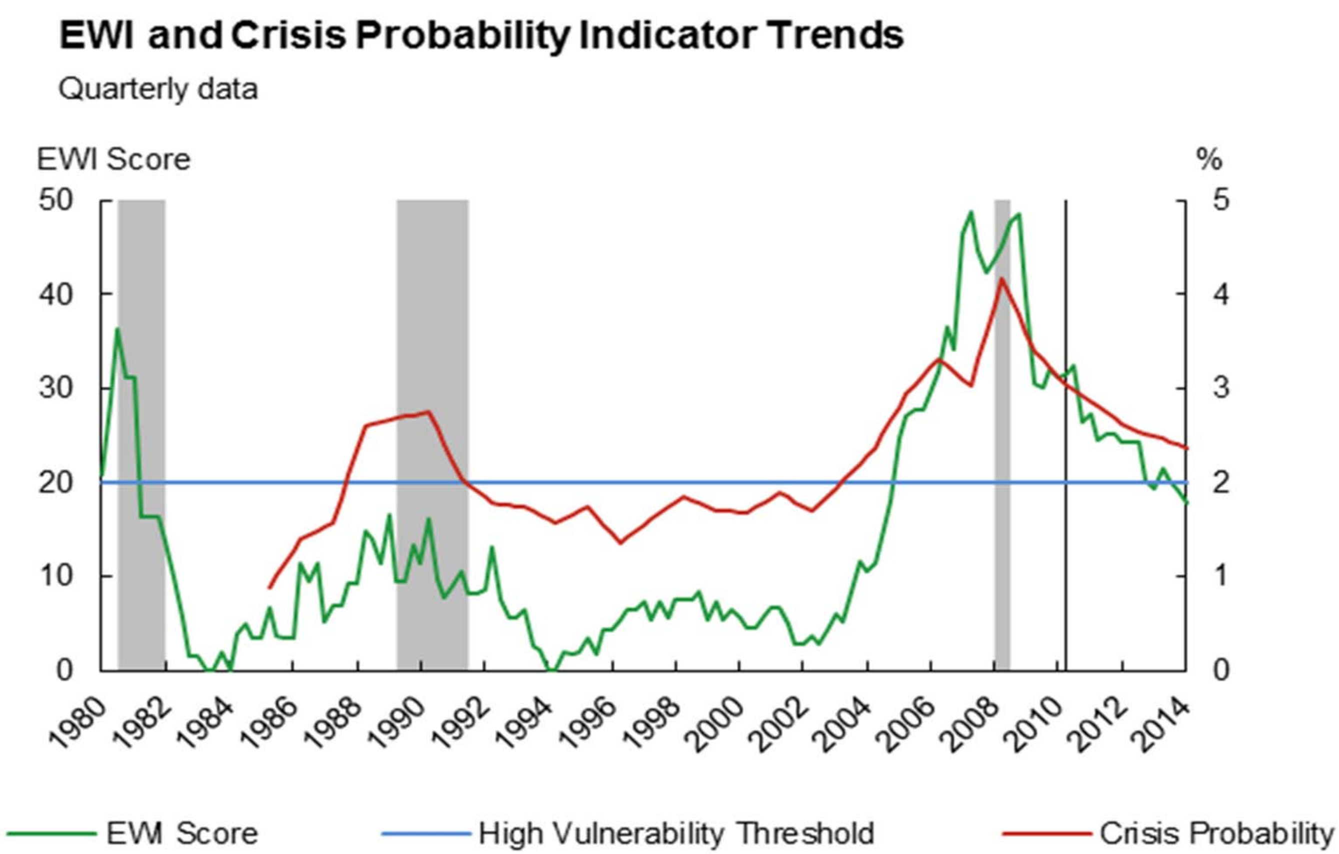
- In Canada, Minister of Finance is responsible for the sound stewardship of financial system.
- No single body has macroprudential mandate.
- Financial stability is a shared responsibility (Department of Finance, Bank of Canada, OSFI, CDIC, and FCAC).
- Financial stability issues discussed at Senior Advisory Committee (SAC).

Recent research at the Bank of Canada

Work is proceeding on a few questions

1. What are the drivers of financial crises? And what is the probability of a crisis in Canada?
2. How effective are macroprudential housing policies?
3. Do low-for-long interest rates lead to excessive risk-taking?
4. How do the benefits of monetary policy leaning compare to its costs?

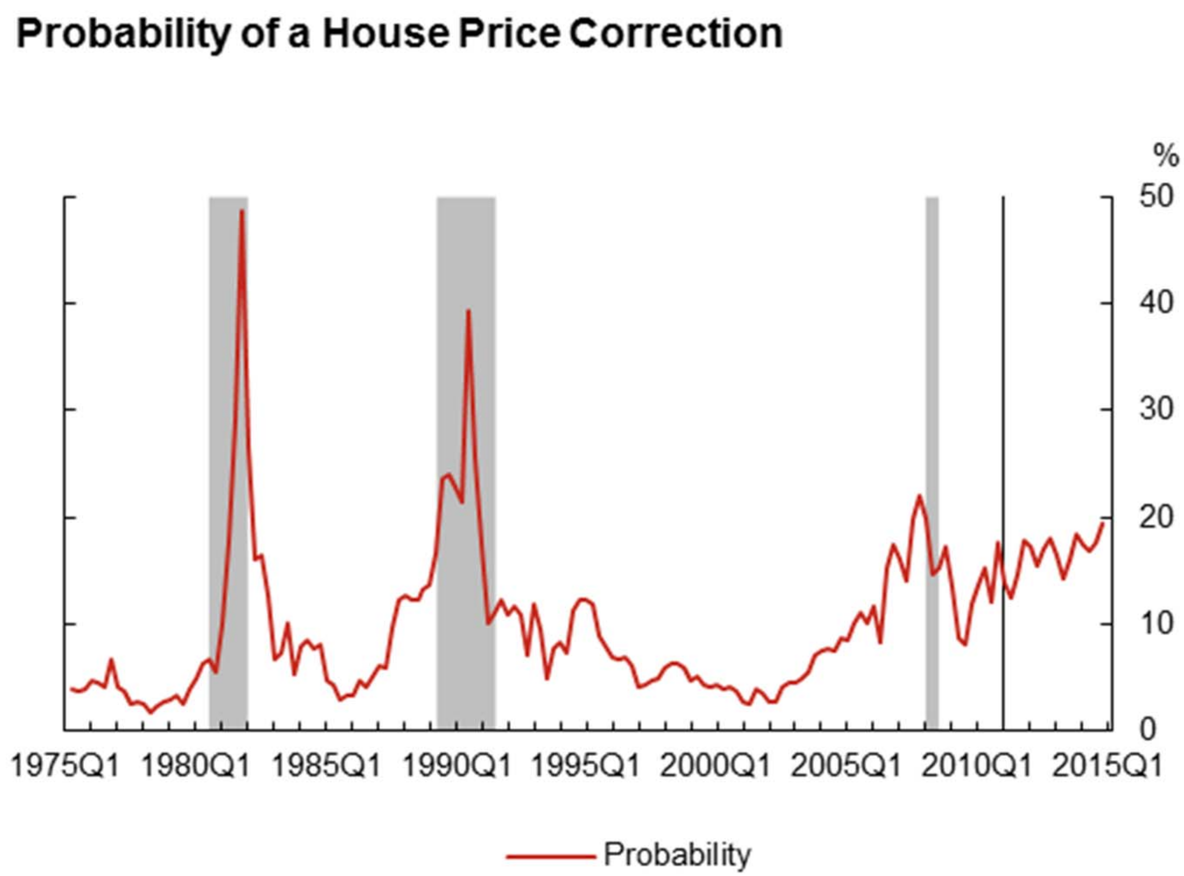
What is the likelihood of a financial crisis?



Source: Bank of Canada and C.D. Howe Institute

Last observation: 2014Q4

What is the likelihood of a house price correction?



Vertical line stands for November 2011

Last observation: 2014Q4

How effective are macroprudential housing policies?

- Existing work on housing-related macroprudential policies in Canada suggest that these tools have the ability to lean against the cycle.
  - Allen, Clarke and Houde (2015)
  - Allen et al. (2015)
  - Kuncl (2015)

Do low interest rates lead to excessive risk-taking??

- Evidence for Canadian banks and pension funds suggests low rates can spur excessive risk-taking
  - Paligorova and Santos (2014), Gungor and Sierra (2014), Damar et al. (2015)
- … but also evidence that its effects dissipate over time
  - Cociuba et al. (2015), Chodorow-Reich (2014)

Do low interest rates lead to excessive risk-taking?

- Evidence of a global financial cycle driven by US monetary policy decisions
  - Rey (2015)
- Risk premiums in SOEs may be largely driven by external factors
  - Bauer and Diez de los Rios (2012)
- Low policy rates in Canada may be less of a driver of risk-taking

What is the effectiveness of leaning in reducing household indebtness?

- Study implications of Bank's policy models to leaning policy action
  - ToTEM (Dorich et al. 2013); LENS (Gervais and Gosselin, 2014), MP2 (Alpanda, Cateau and Meh, 2014)
  - increase of 25 bps short-term interest rate for four quarters
- Find gradual and modest decline in real household debt over medium term
- Other measures of household indebtedness – same

What are the benefits and costs of monetary leaning?

- Benefits stem from reduced likelihood of financial crisis or a house price correction over the medium term
  - probability falls by a negligible amount 0.005%
- Costs are due to a fall in inflation and output over the short term
  - Inflation falls by 0.01-0.09%, output falls by 0.05-0.21%
- Net benefits are generally negative (like Svensson 2015)

Important elements not included in this analysis

- Mechanisms that amplify financial market inefficiencies leading to financial crises
  - Financial accelerator: via effects of asset prices on borrowers' net worth
  - Heterogeneity: credit growth dynamics due to extensive margin
  - Redistribution channel: more constrained borrowers cut spending aggressively
  - Non-linearities: small disturbances in the financial system can lead to crisis
- No readily-available unified framework, but some recent studies
  - Alpanda and Ueberfeldt (2015), Woodford (2012), Ajello et al. (2015)
  - Similar conclusions: costs are larger than benefits

Much work still needed

- Incorporate financial considerations into workhorse monetary policy models
- At the Bank we've built a new policy model called MP2
  - Allows for interactions between the balance sheets of households, firms and bank
  - Used to study optimal policy mix between macroprudential, fiscal and monetary policy
  - But still misses important channels

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Background

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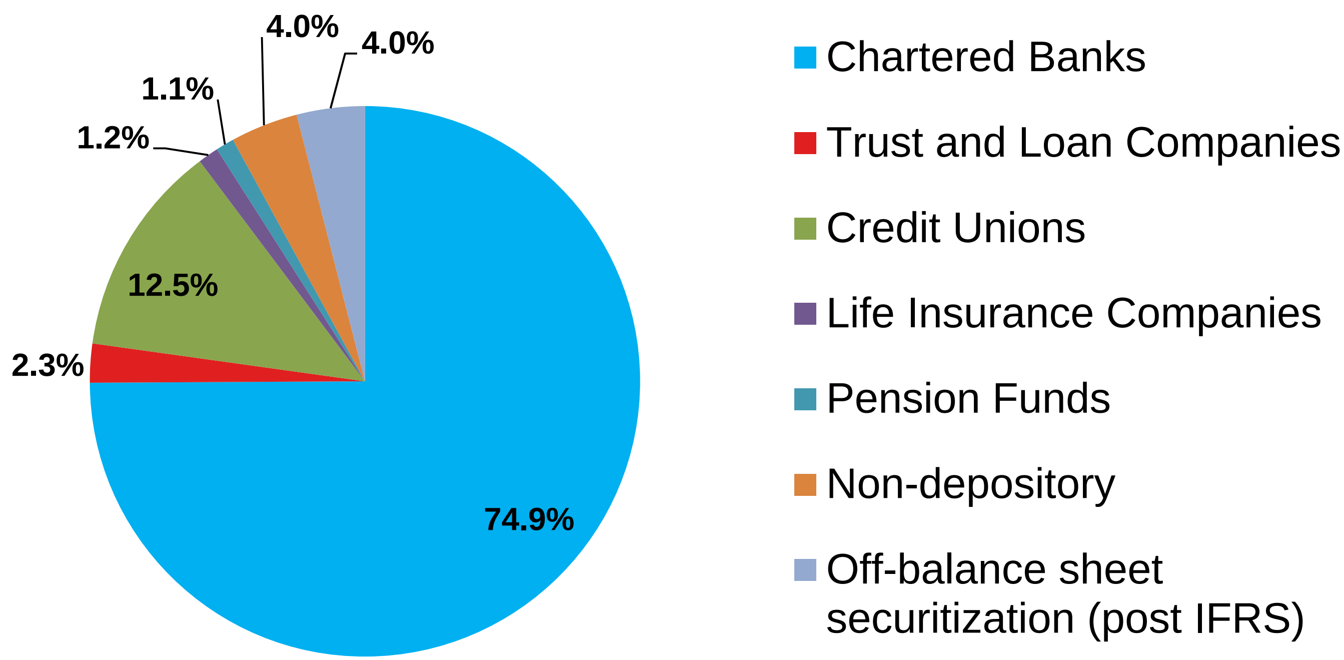
Announcement date	9 July 2008	16 February 2010	17 January 2011	21 June 2012
Implementation date	15 October 2008	19 April 2010	18 March 2011	9 July 2012
Maximum amortization period	From: 40 to 35 years		From: 35 to 30 years	From: 30 to 25 years
Loan-to-value (LTV) limit for new mortgages	From: 100% to 95%			
LTV limit for mortgage refinancing		From: 95% to 90%	From: 90% to 85%	From; 85% to 80%
LTV limit for investment properties		From: 95% to 80%		
Debt-service criteria	Total debt-service (TDS) ratio capped at 45%	Mandatory income-testing for applicants choosing less than 5-year term		Gross- debt-service (GDS) ratio capped at 39% and TDS ratio at 44%
Other selected changes	(i) Requirement for a consistent minimum credit score (ii) Strengthened loan documentation standards		No mortgage insurance for home-equity lines of credit	No mortgage insurance for homes with a purchase price over $1 million

[1] These standards apply to mortgages on residential property with a loan-to-value ratio greater than 80 per cent that are insured by Canada Mortgage and Housing Corporation and private mortgage insurers.

Federally regulated banks account for the majority of mortgage lending

Residential mortgages outstanding, by funder, as of 2013Q2



Note: Off-balance sheet securitization represents off-balance sheet NHA-MBS and Private Securitization post IFRS changes.

Last observation: 2013Q4

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Government guaranteed mortgage insurance

- Lenders required to insure high LTV (over 80%) loans
  — One-time fee for insurance paid by the lender
- Three mortgage insurers
  — Two private (about 25% market share)
  — One publicly owned: Canada Mortgage and Housing Corporation (CMHC)
- Government guarantees mortgage insurance
  — private insurers have 90% guarantee / CMHC 100%
- Lenders also purchase portfolio insurance on low ratio mortgages for securitization and balance sheet management