Macroprudential Measures in Housing

The Case of Small Open Economies

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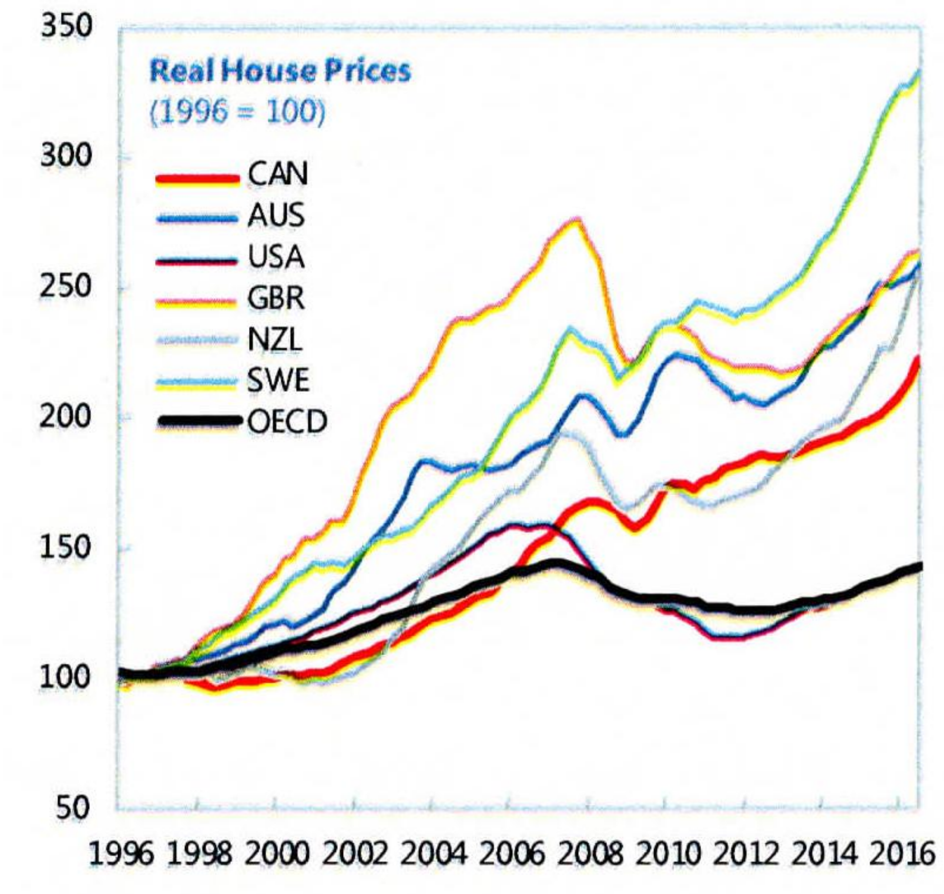
Outline

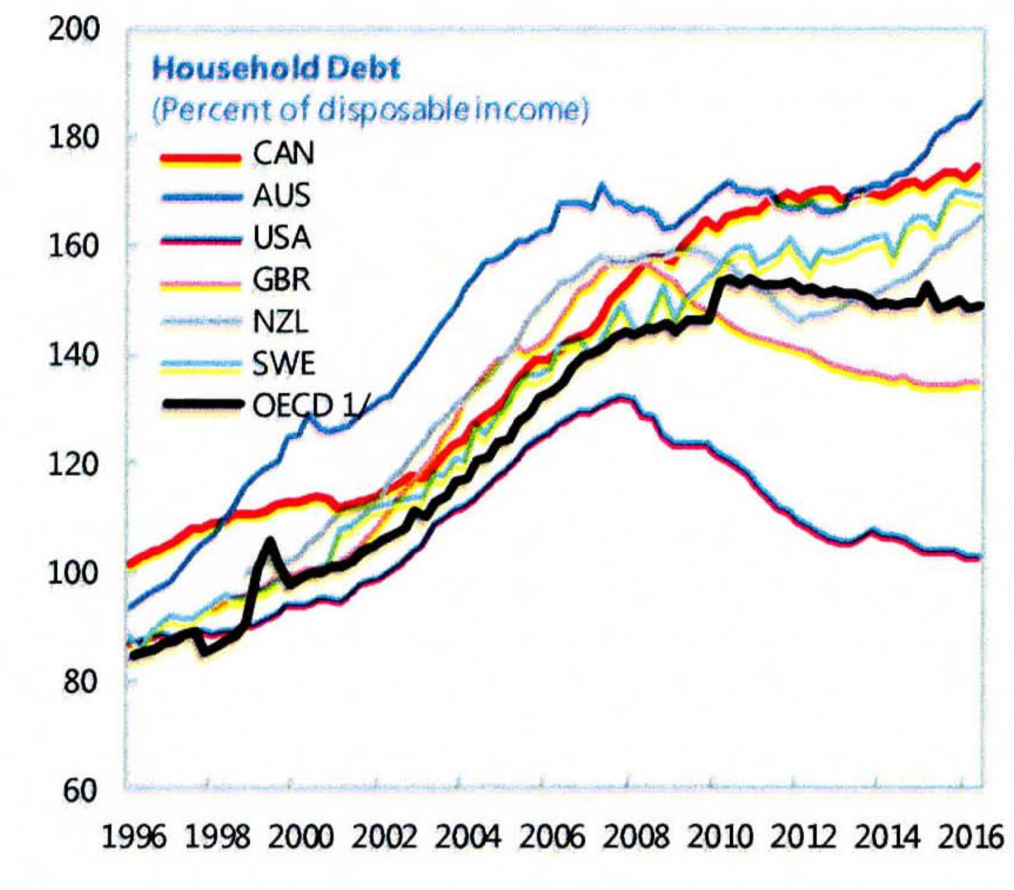
I. Canadian Housing Sector and Financial Imbalances

II. Impact of the Macroprudential Policy Response

III. Small Open Economies – International Considerations

I. Housing Market Imbalances / 1

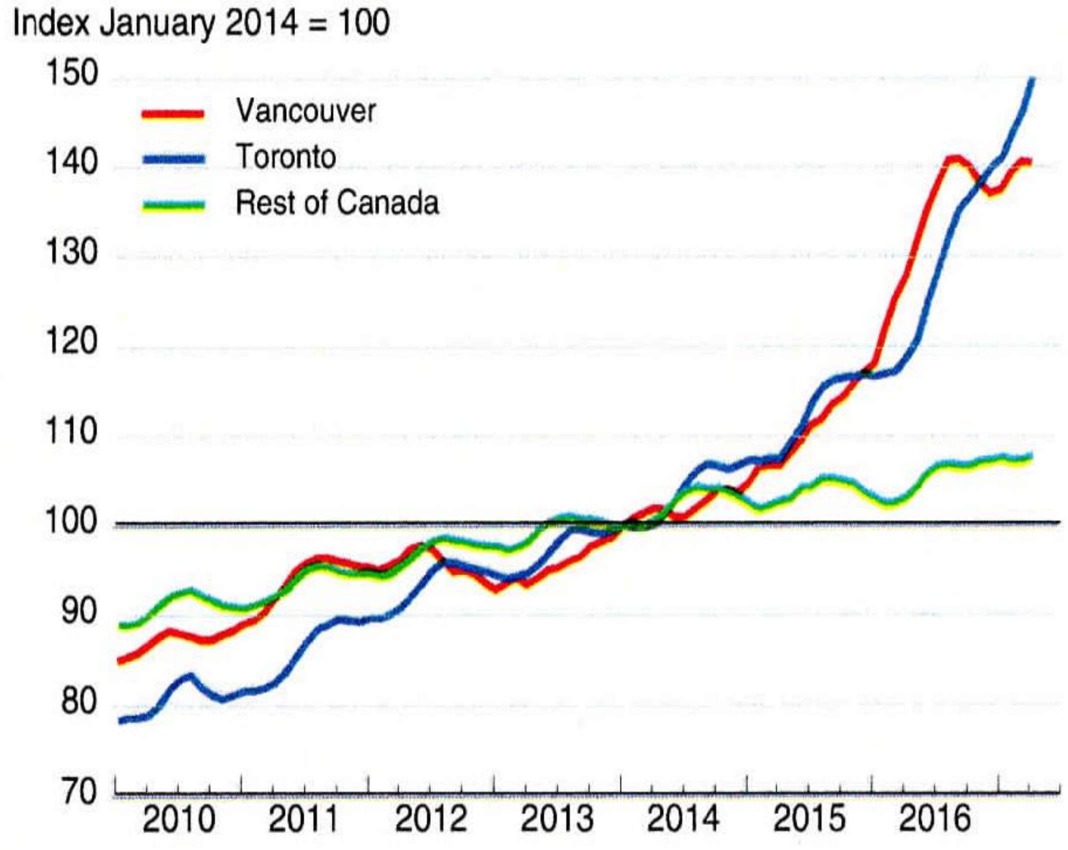




Source: IMF, 2017b, p. 31

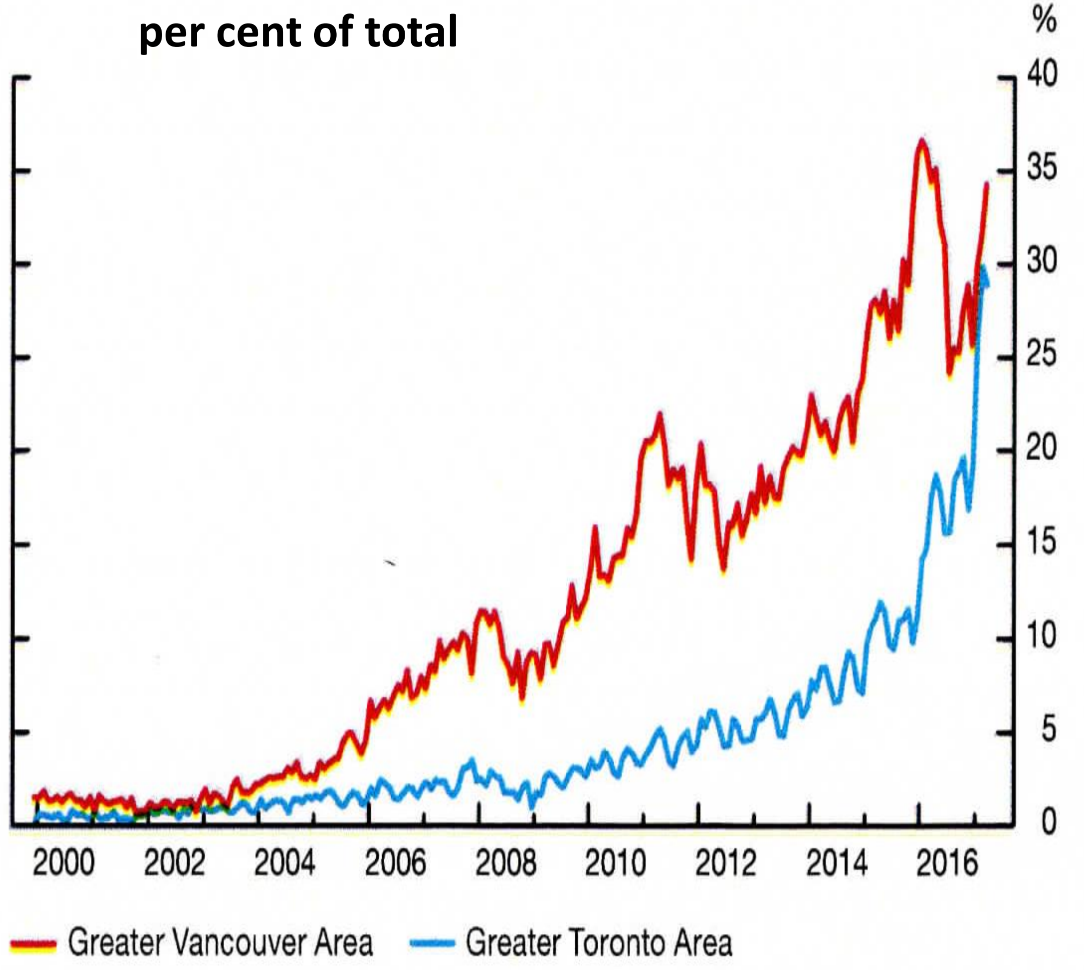
I. Housing Market Imbalances / 2

Housing Prices by City



Source: OECD, 2017, p. 125

Home resales higher than C$1 million: per cent of total

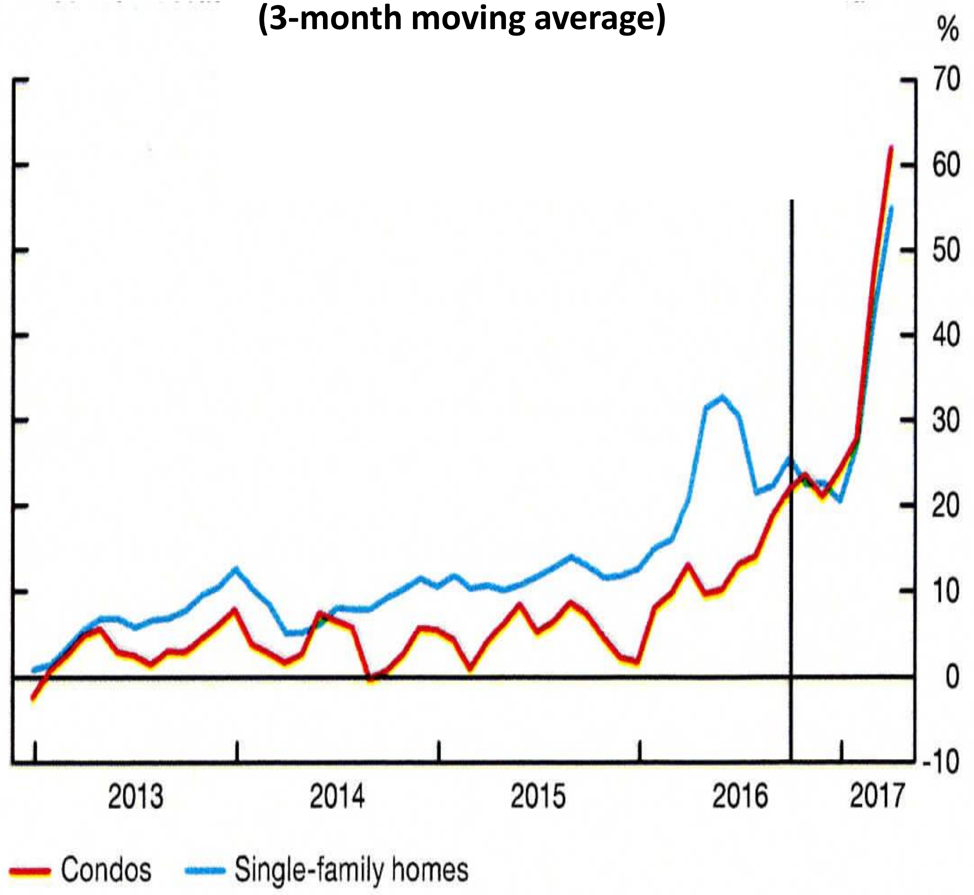


Source: Bank of Canada, 2017, p. 7

I. Evidence of Speculative Activity

Accelerating Prices in Condominiums

(3-month moving average)



Source: Bank of Canada, 2017, p.13

Toronto Area

	2012	2016
Average home price (dollars)	669,564	949,175
Average rent (dollars)	2,124	2,283
Annual rental yield (per cent)	3.8	2.9
Five-year fixed mortgage rate (per cent)	3.1	2.5
Home sales associated with investment (per cent)	4	10

Note: Home sales associated with investment are those that were immediately listed for rent.

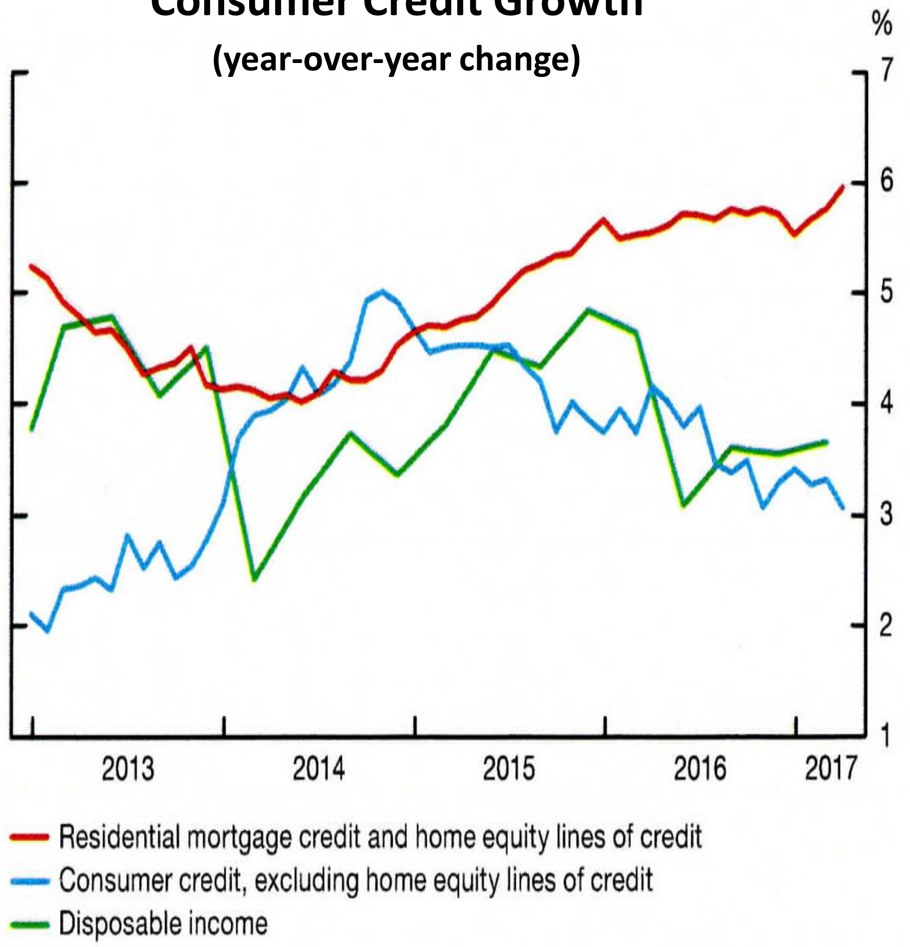
Sources: Realosophy Realty Inc. Brokerage and Bank of Canada calculations

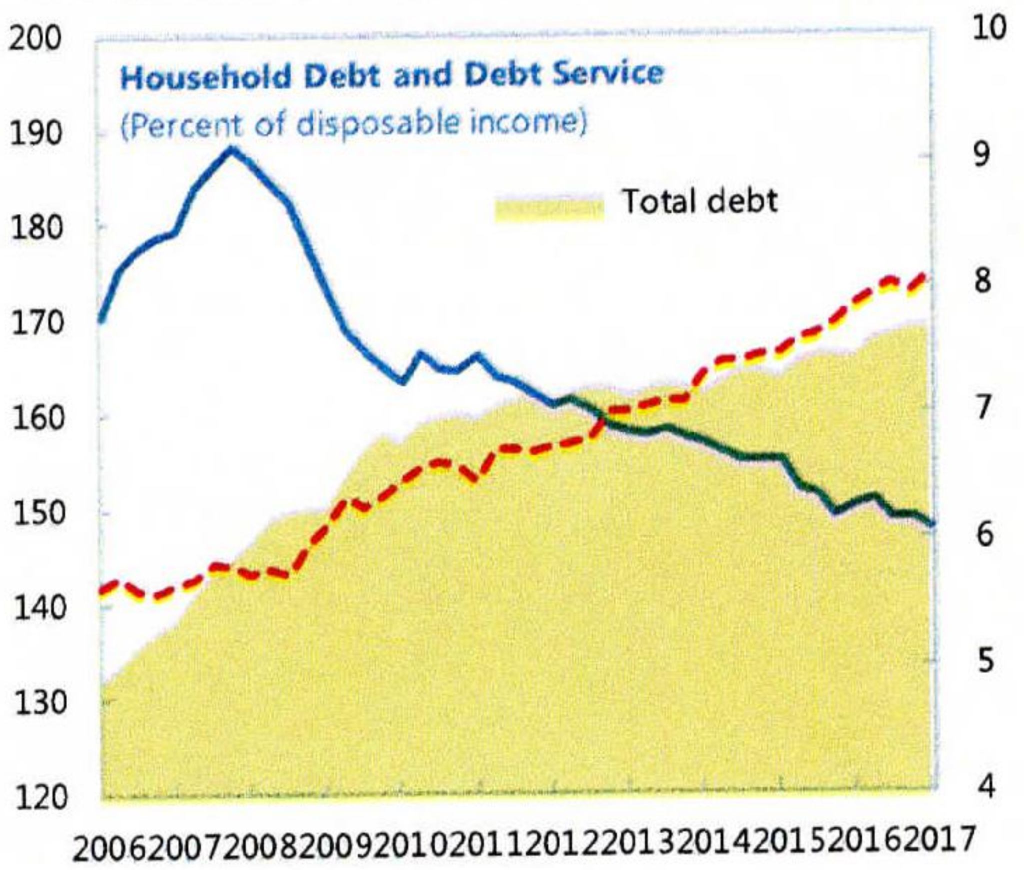
Source: Bank of Canada, 2017, p.15

I. Rising Household Indebtedness

Consumer Credit Growth

(year-over-year change)



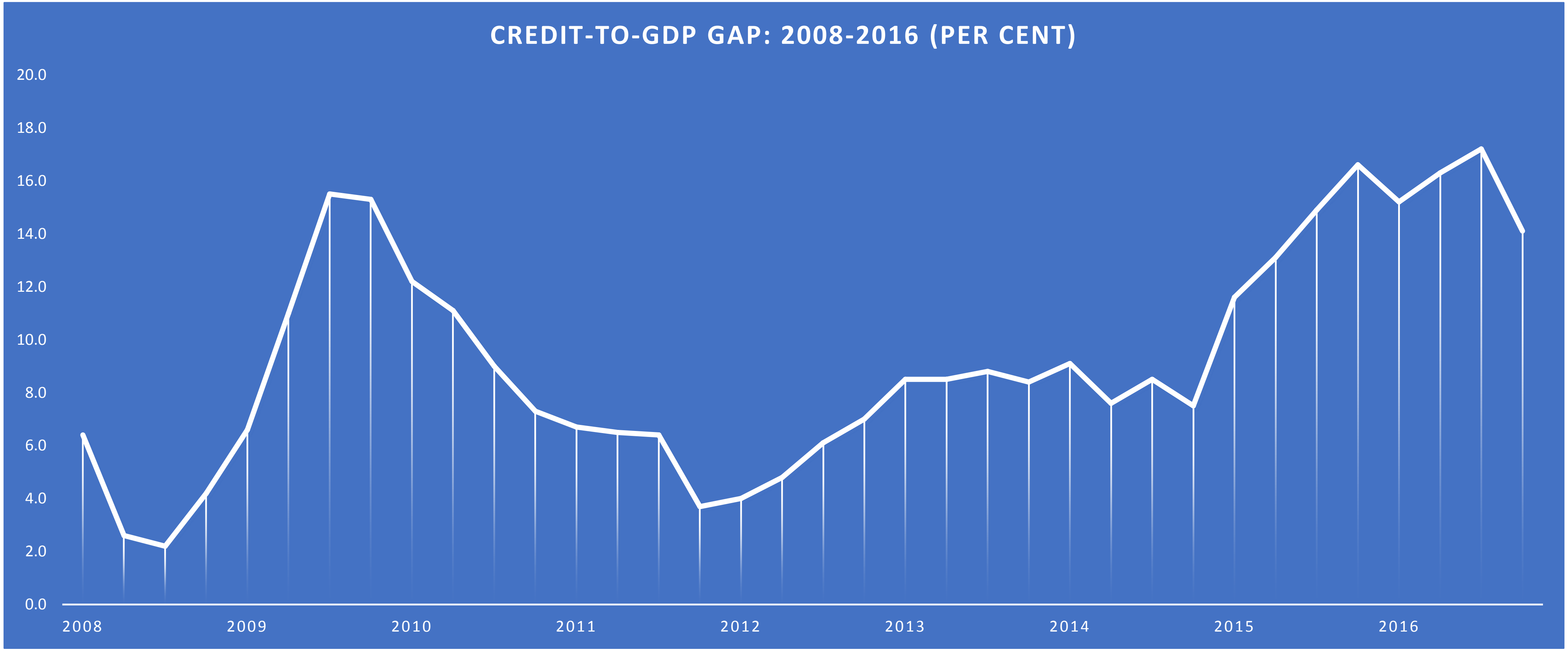


Household debt = red; debt service = blue

Source: Bank of Canada, 2017, p.5

Source: IMF, 2017a, p. 43

I. Financial Stability Risks / 1

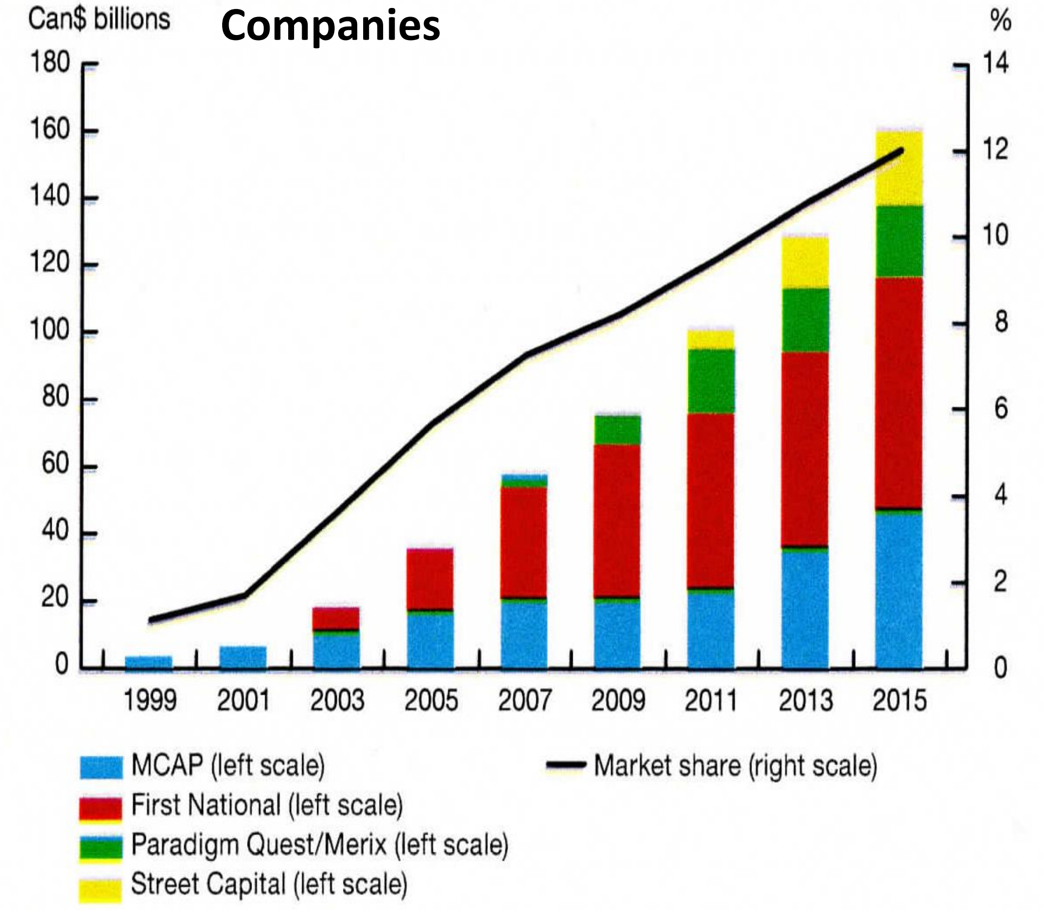


Source: BIS Statistics at https://www.bis.org/statistics/c_gaps.htm?m=6%7C347

I. Financial Stability Risks / 2

- Big Bank exposures – downgrade by Moody's in May 2017
  - "Canada and Australia at risk of property-led banking instability" U.K. Financial Times, May 3
- Increased role played by less regulated FIs – e.g., Mortgage Finance Companies (MFCs)
- Home Trust – a small federally regulated mortgage lender
  - Adverse business news led to a run despite very low arrears
  - Demonstrates investor sensitivity

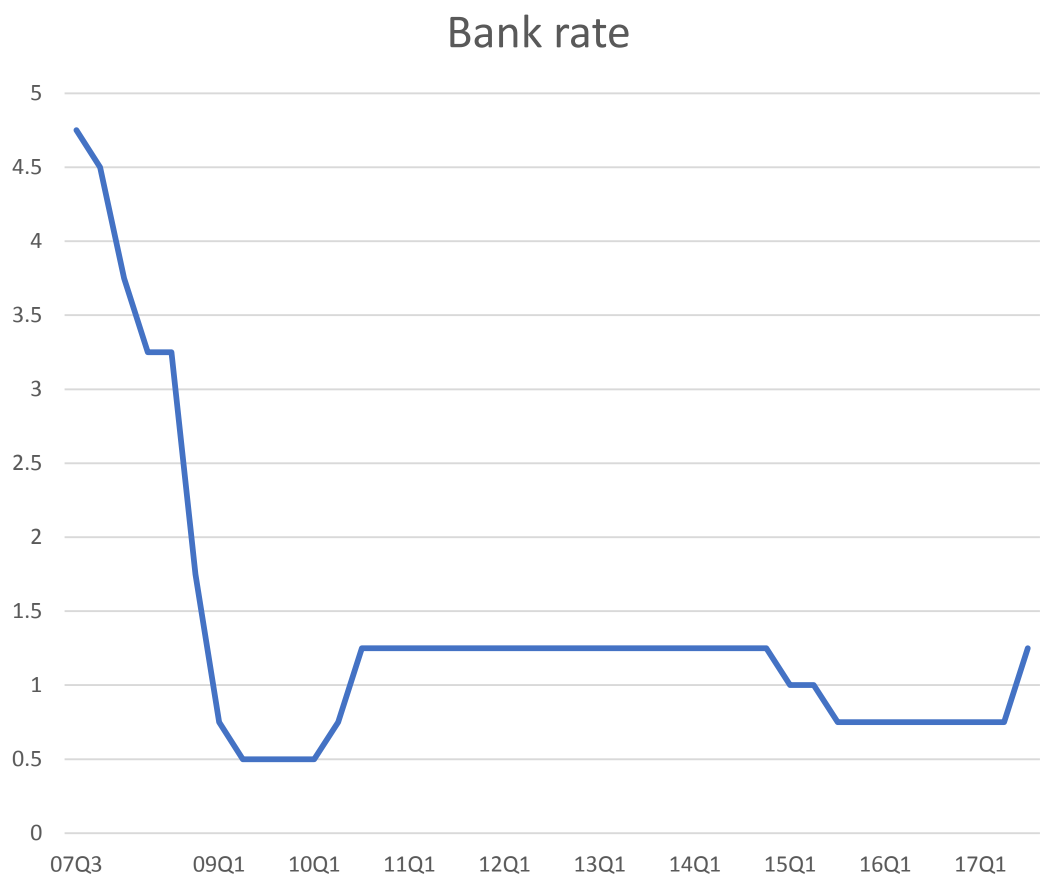
Market Share of Mortgage Finance Companies



Source: Coletti, et al., 2016, p. 41

II. Policy Response

- Costs of leaning against the financial risks with monetary policy are considered too high
- IMF (using Canadian data) and Bank of Canada staff arrive at the same conclusion
- Fahr and Fell (2017) – relative to monetary policy, both "resilience" and "cyclical" macroprudential policies are optimal for addressing the financial cycle



Source: Bank of Canada - data ending Sept. 18, 2017

II. Macroprudential Measures / 1

- Significant government role in mortgage insurance
  - High loan-to-value mortgages (LTV > 80 percent) <u>must</u> be insured
  - Most of this insurance is provided by a government backed insurer (CMHC)
  - Provides a key channel for macroprudential policy
- In 2006-07 housing related policies were eased – for example,
  - Maximum allowable amortization raised to 40 years (from 25 years)
  - LTV raised to 100 per cent (from 95 per cent)
- Switched into reverse in 2008
  - Specific measures (e.g., LTVs) and more general changes (e.g., mortgage guidelines) used to tighten

II. Macroprudential Measures / 2

- Changes to mortgage insurance rules over the period 2008 – 2016

Measures	
Amortization	Maximum period lowered to 25 years in stages (2008-12)
LTV	Lowered back to 95% (2008) – 90% on portion of house price over $500K (2016), and 80% for mortgage refinancing (2010-12) and investment properties (2010)
GDS/TDS	GDS capped at 39% and TDS capped at 44% (2012)
Other	For example, high-ratio insurance limited to homes under $1 million (2012)

- OSFI tightened mortgage guidelines and recently introduced capital-based measures
  - Downturn-loss-given-default floor (November 2016) and supplementary capital requirements on some mortgages (January 2017)
- CMHC raised guarantee fees and adjusted securitization limits (2016)

II. Provincial Measures

- Federal measures supplemented by recent Provincial rule changes

Province	Selected Measures
British Columbia (Vancouver)	• Foreign buyers' tax on detached homes in the Vancouver area (15 per cent) – effective August 2016 • Allows for a "vacant homes" property tax • Interest-free loan program for first-time buyers
Ontario (Toronto)	• Speculation tax on non-resident buyers in the Greater Toronto area (15 per cent) – effective April 2017 • Allows for a "vacant homes" property tax • Address practices that lead to "excessive speculation" in the housing market

- Evidence on non-resident tax suggests a significant, but possibly temporary, impact on sales and prices (similar to Australia?)
    - Data now being collected on proportion of non-resident buyers

II. Capital Measures?

- For example, countercyclical capital buffer activated in some jurisdictions (see table)
- Supplements financial resilience through additional capital -- may also buttress resilience and reduce risk by constraining credit growth
- Mandatory reciprocity by internationally active banks among BCBS members (up to 2.5% when fully implemented)

Jurisdiction	Year announced, current / proposed rates
Hong Kong SAR	2015, 1.25% / 1.875%
Norway	2013, 1.5% / 2.0%
Sweden	2014, 2.0%
Switzerland	2013, 2.0%
United Kingdom	2017, 0.5% / 1.0%

Note: An earlier implementation of the buffer by the U.K. authorities is excluded.

II. Estimating the Impact / 1

- IMF Article IV for Canada, Selected Issues, June 2017c
  - Estimate equations for mortgage credit and house prices – examine impact of successive “packages” of measures
  - Most successful round was in 2012, which focused on amortization period, the LTV ratio for mortgage refinancing, DTIs, and new underwriting standards
  - Among individual measures, tighter LTVs for new mortgages and refinancing loans most effective -- 1% reduction in LTV reduces y/y credit growth by 0.5%
  - Also found a strong link between mortgage credit and house price growth

- Bottom line ➡ household debt-to-income ratio would have been around 200 per cent by 2016Q3 (compared to actual 167 per cent)

II. Estimating the Impact / 2

- Kuncl, Bank of Canada, Aug 2016
  - VECM model used to control for the economic environment – dummy variables represent successive rounds of tightening (2008 – 12)
  - Find a significant impact on the growth on residential mortgage credit and residential investment (impact on residential investment less persistent)
- Allen et al., Bank of Canada, May 2017
  - Microsimulation model captures the behaviour of first-time home buyers – uses detailed data on household income, debt, amortization, etc.
  - Find a significant overall impact from changes to mortgage rules – changes to LTVs are the most effective (amortization less so)
  - Also find that, following macroprudential housing measures, the increase in household mortgage arrears following higher interest rates is reduced

III. International Evidence

- IMF Canada Article IV (2017b) – cross-country evidence shows LTV limits, DTI caps, higher risk weights, and increased provisioning requirements all effective in limiting mortgage credit
- Cerutti, et al. (IMF, 2015) – Sample includes 119 countries over the period 2000-13
- Find that macroprudential policies have a significant impact, BUT…..
- Less effective (although still significant) in
    1. Financially more open economies
    2. Economies with deeper financial systems
- Also find that the use of macroprudential policies is associated with greater cross-border borrowing
- Damar and Mordel (BoC, 2016) -- Evidence from Canada that the <u>outward transmission</u> channel is active, i.e., tightening in prudential requirements abroad leads to more lending in that jurisdiction by large Canadian banks

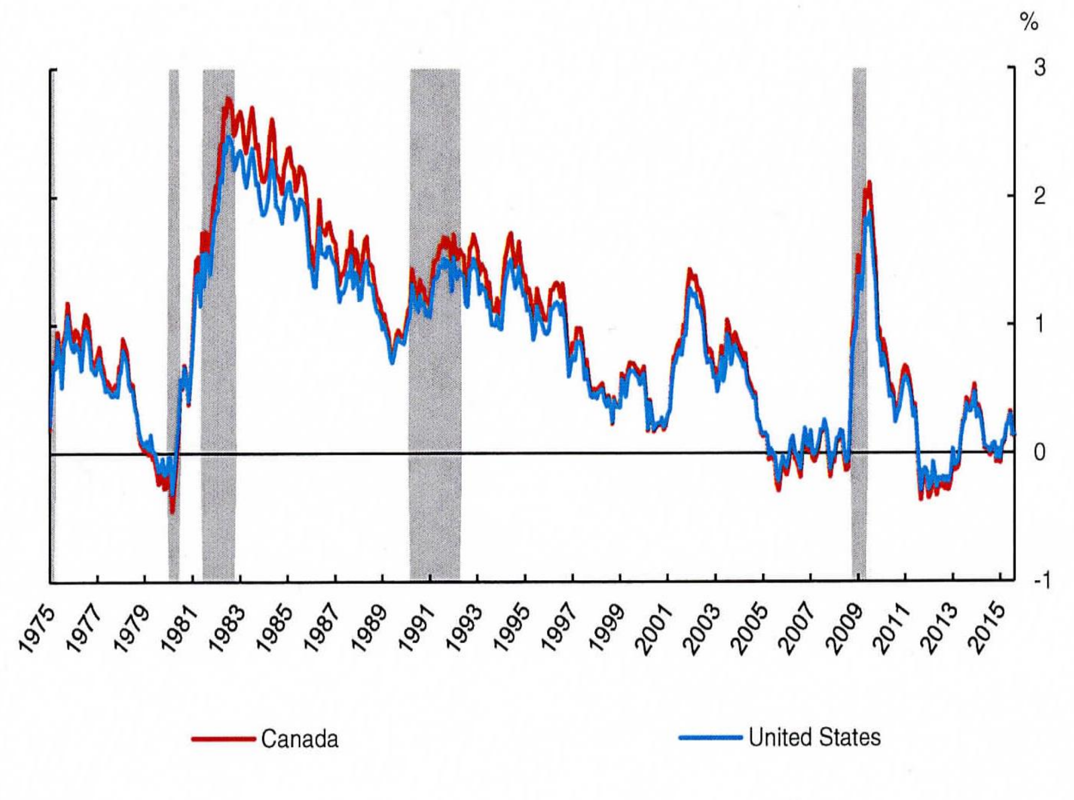
III. International Considerations / 1

- Shin (2015) notes the similarities between monetary and macroprudential policies – both influence the financial intermediation process and impact credit
- When monetary policy is constrained, by domestic or external conditions, then macroprudential policy comes into its own – it is typically aimed at specific sectors or practices, while monetary policy affects risk-taking more broadly
- But macroprudential policies are operating in the same global environment as monetary policy – the forces driving long-term rates lower, for example, are not necessarily amenable to macroprudential policies

III. Financial Cycles

- Consider financial cycles, where peaks might be followed by financial crises (credit growth and property prices may provide a reasonable representation)
- It has been suggested that global factors play a significant role in these cycles
- In the context of integrated financial markets, are the national financial cycles of SOEs partly subsumed by a global financial cycle? (see Bauer, et al., 2016)

Risk Premia on 10-year government bond yields: Canada and the U.S. (monthly)



Source: Bauer, et al., 2016, p. 22

III. International Considerations / 2

- In a financial boom, risk premia tend to fall – an important element in the transmission of monetary policy
  - thus elements such as domestic debt accumulation, risk aversion and asset prices are a function of both domestic policies and the global financial cycle
- Given this environment, if monetary policy leaning is considered too costly, can macroprudential policies act as an effective substitute (i.e. can they effectively lean against the financial cycle)?
- Cerutti et al. (IMF, 2017) – find limited evidence of a global financial cycle in terms of the impact on capital flows – but the evidence is somewhat stronger for real credit flows (see their forthcoming paper)

⬇

Implications for the design and conduct of macroprudential policies

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