BANK FOR INTERNATIONAL SETTLEMENTS

Discussion of "Betting the House"
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Views expressed belong to the discussant and do not necessarily reflect those of the BIS.

General comments

- Well-motivated, timely research on an important policy issue
  - Does monetary policy play a role in housing cycle and financial crisis?
  - "Side-effects" of easy monetary policy
    - Should monetary policy "lean against the wind"?
- Thoughtful paper, analysis technically well-executed

Outline: monetary policy & financial stability

- *Betting the house*: mortgage lending & house prices
  - Low interest rates ⟶ credit and asset prices
  - Boom in "financial cycle" ⟶ busts & financial crisis

- Empirical analysis
  - Long data span (unbalanced)
    - 14 advanced economies, 140 years (1870 – 2012)
    - JST (2014), Knoll, Schularick & Steger (2014)
      - *Quality* of house price series, relative to existing data?
  - Local projection estimation
    - "Trilemma instrumenting": fixed FX, open capital market
  - Financial crisis prediction (Logit): mortgage loans / GDP

Key results

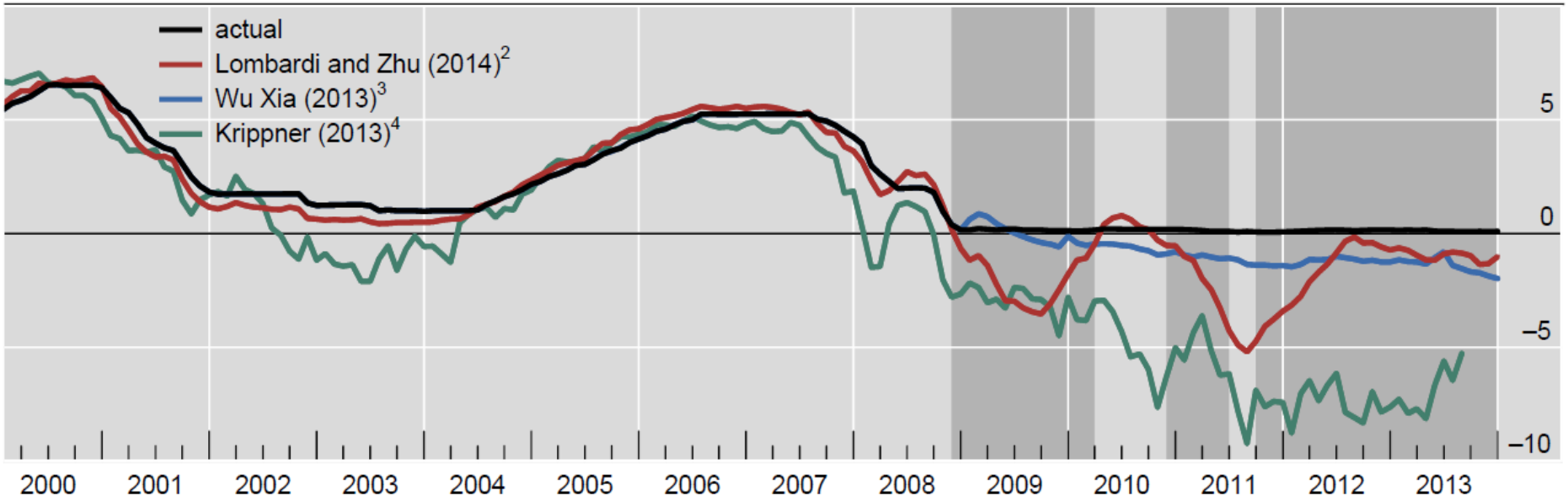
- Trends in mortgage, home ownership, house prices
  - 20th century: era of increasing "*bets on the house*"
  - *Financialisation* (private debt) driven by sharp rise in mortgage debt and home ownership
  - Financial intermediation *among households* for housing
- Loose monetary conditions closely associated with upsurge in real estate lending and house prices
- Close link between (mortgage credit + house price booms) and financial crises
  - Mortgage booms & house price bubbles: higher likelihood of financial crisis

Issue I: interest rates valid indicator of monetary conditions?

- Monetary policy regimes changing
  - Over time: long data span, e.g. euro area economies
  - Across countries: e.g. HK (currency board)
- Difficulties in measuring monetary conditions
  - Monetary aggregates, short-term interest rates, or else?
    - Bernanke & Blinder (1992)
    - Zero lower bound on nominal interest rates?
    - MCIs; shadow rates; global/domestic liquidity

US shadow federal funds rates

In per cent



[1] The grey areas indicates the periods of implementation of LSAP1, LSAP2 and MEP plus LSAP3. [2] M Lombardi and F Zhu, "Filling the gap: a factor-based shadow rate to gauge monetary policy", forthcoming working paper. [3] J Wu and F Xia, "Measuring the macroeconomic impact of monetary policy at the zero lower bound", working paper. [4] L Krippner, "A tractable framework for zero-lower-bound Gaussian term structure models", Reserve Bank of New Zealand discussion paper.

- Shadow *market* rates à la Black (1995): Krippner (2013); Wu & Xia (2013)
  - Similar approach, significant differences
- Shadow *policy* rate: Lombardi & Zhu (2014)

Issue II: is trilemma instrumenting valid?

- Monetary trilemma (impossible trinity) vs *dilemma*?

$$\Delta r_{it} = a + b[PEG_{it} \times KOPEN_{it} \times \Delta r_{it}^{*}] + \Theta X_{it} + u_{it}$$

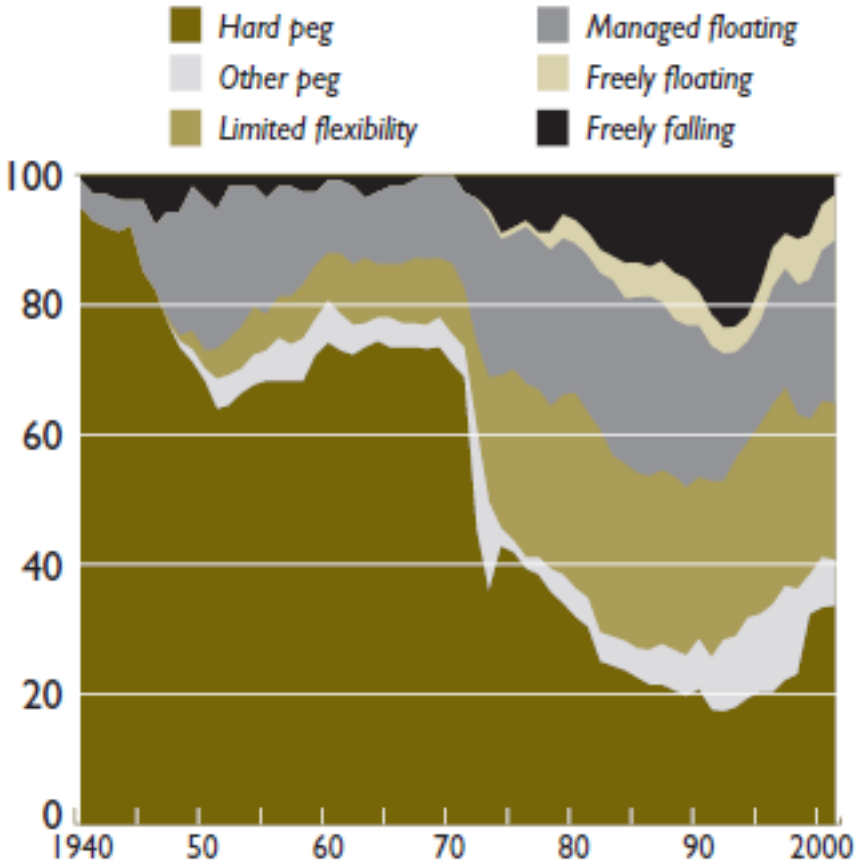
  - Rey (2013): dilemma due to *global financial cycle* (US policy), monetary autonomy if and only if K control, independent of FX regime
  - Klein & Shambaugh (2013): trilemma alive, *extensive* K control or floating FX provides monetary autonomy
  - Obstfeld (2014): financial globalisation worsens domestic tradeoffs for monetary policy
  - Farhi & Werning (2014): FX regime crucial, yet K controls desirable even with flexible FX

- Most economies in *intermediate* regimes
  - Exchange rate regimes; Capital controls

Changing FX regime distribution

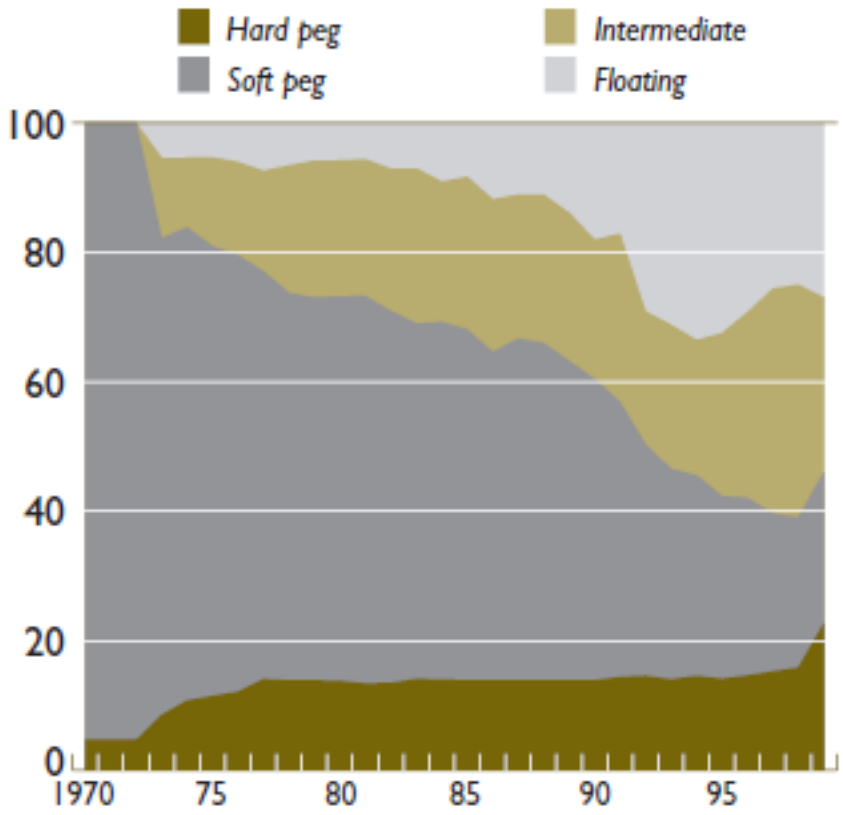
In percent of annual observations

Natural Classification



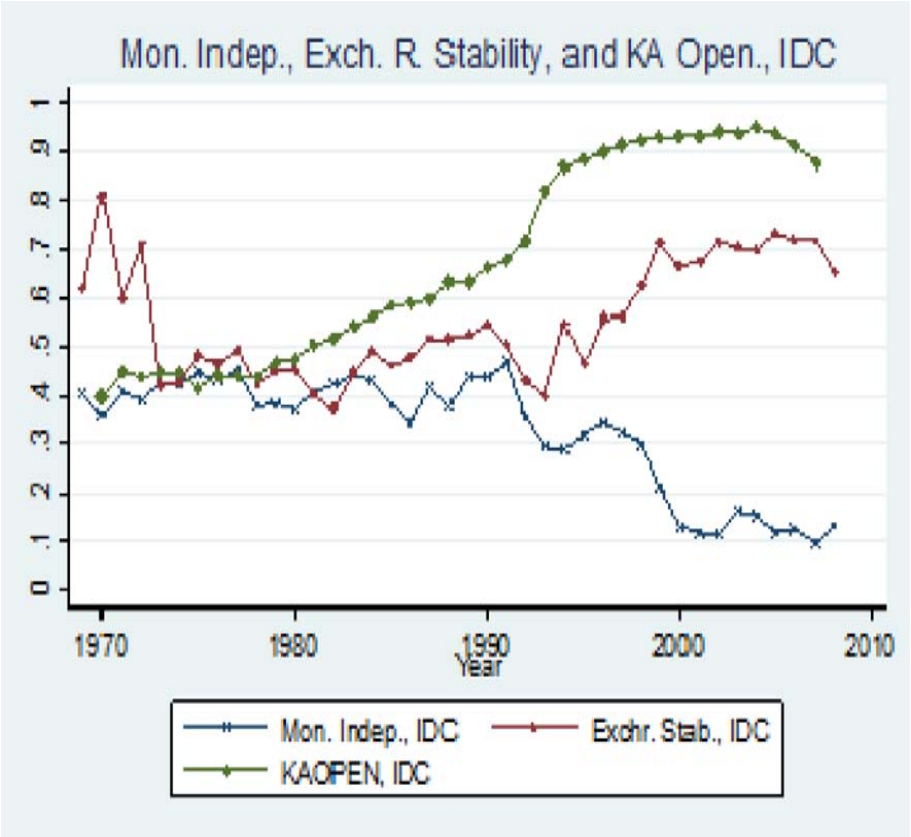
Sources: Reinhart and Rogoff (2004); and IMF staff estimates.

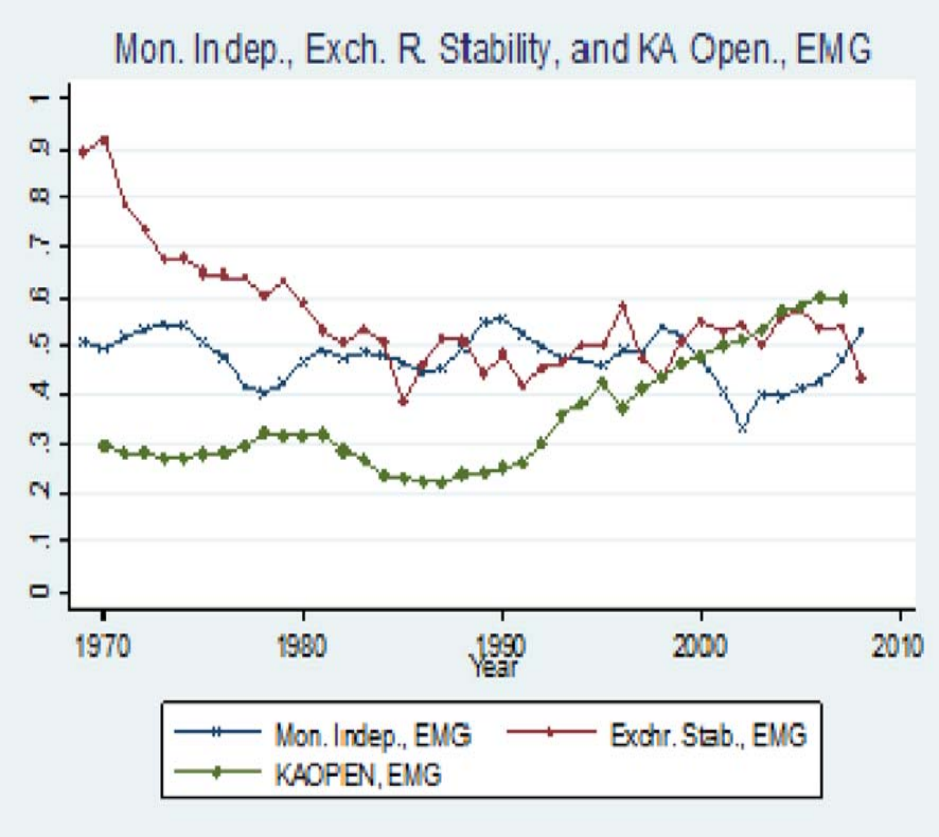
De Jure Classification



Sources: Ghosh, Gulde, and Wolf (2003); and IMF staff estimates.

Chinn (2014) trilemma indices (continuous)

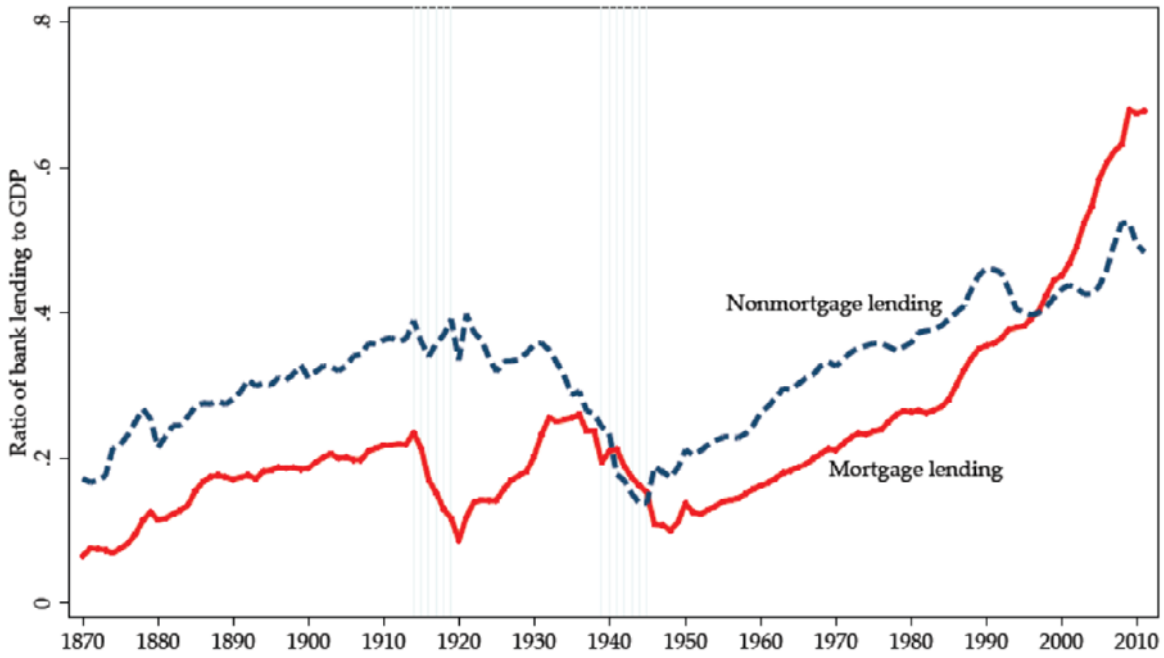




1. Monetary independence (MI): ↑ MI means ↑ MP independence
2. Exchange rate stability (ERS): ↑ ERS means ↑ FX flexibility
3. Financial openness (KAOPEN): ↑ indicates ↑ openness
   - Chinn-Ito (2010) index of capital account openness

Issue III: long run vs short run

Figure 1. Bank Mortgage and Non-Mortgage Lending to GDP, 1870-2011, Average for 17 Countries

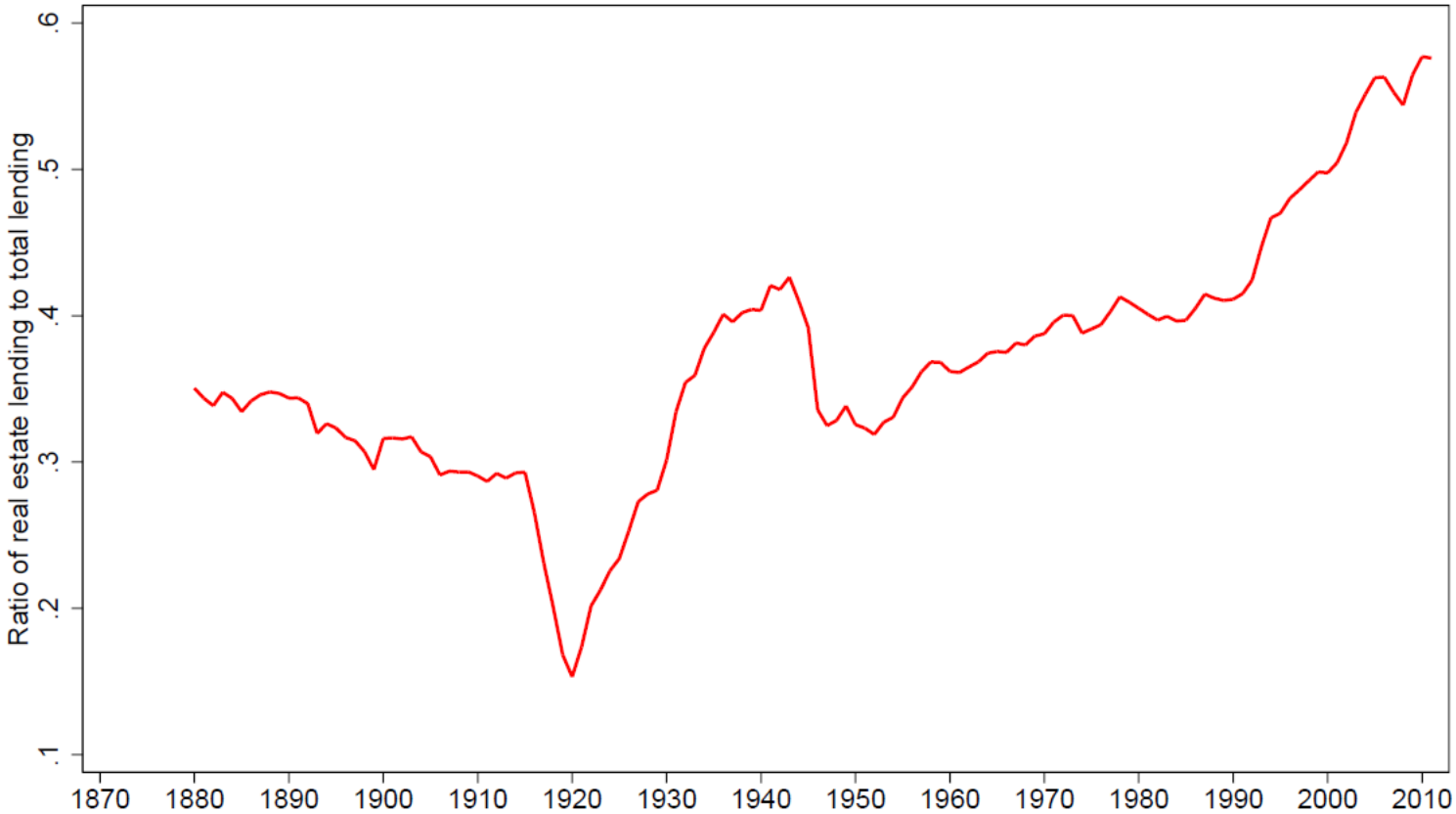


Notes: Mortgage (residential and commercial) and non-mortgage lending to the business and household sectors. See text. The years of the two world wars are shown with shading.

- Tend vs cycle
- Accelerated expansion in mortgage lending a recent phenomenon
  - Two periods: roaring 1920s and roaring 1990s
  - Mortgage accelerates as non-mortgage lending slows

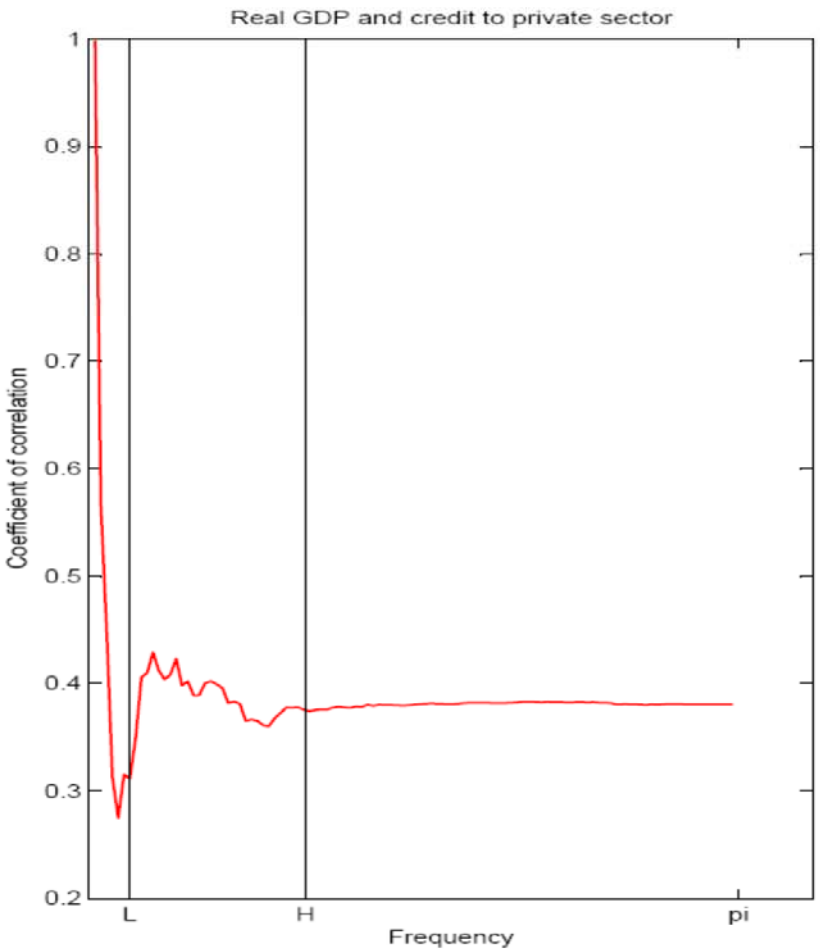
Share of real estate in total lending

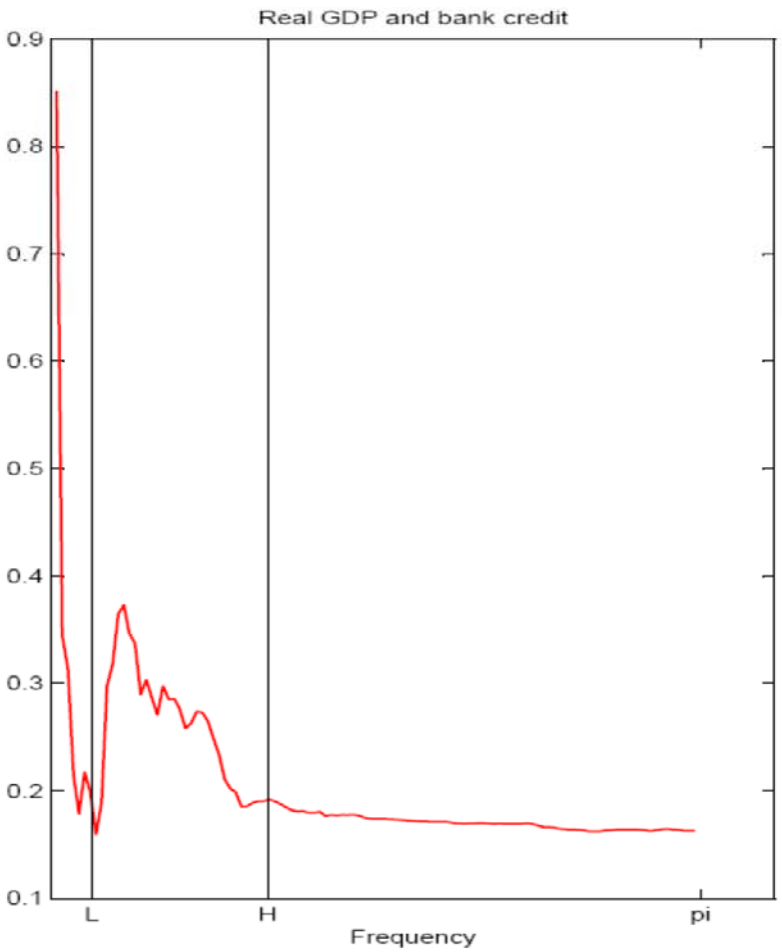
17 country average



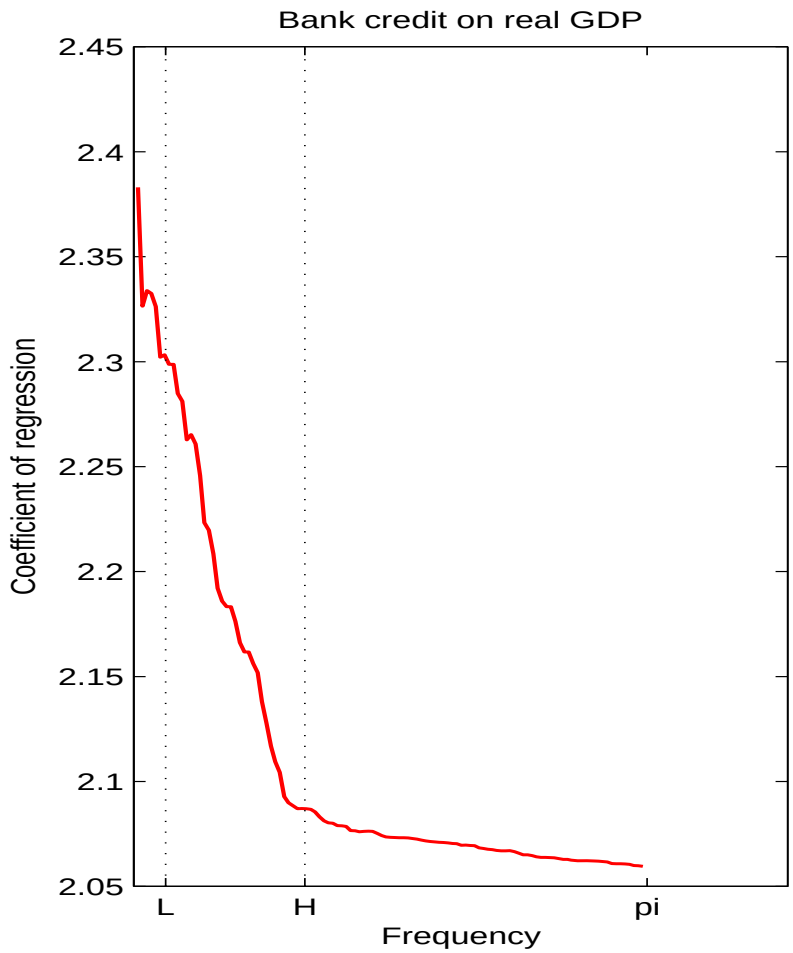
- Two periods: roaring 1920s and roaring 1990s

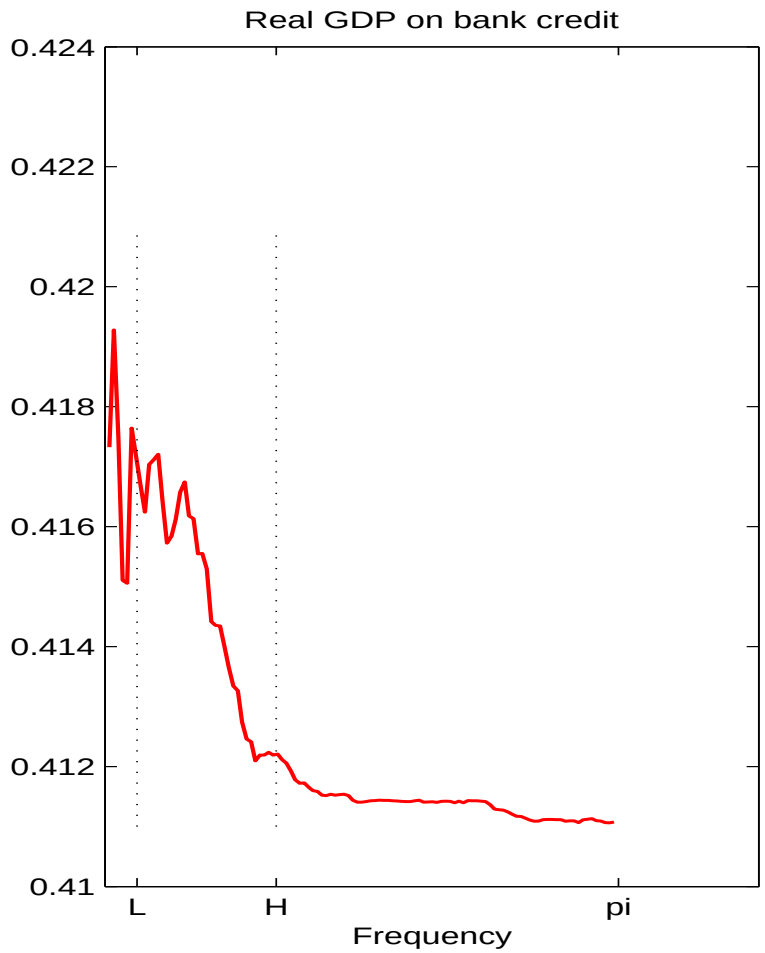
Frequency-specific correlation coefficient: US





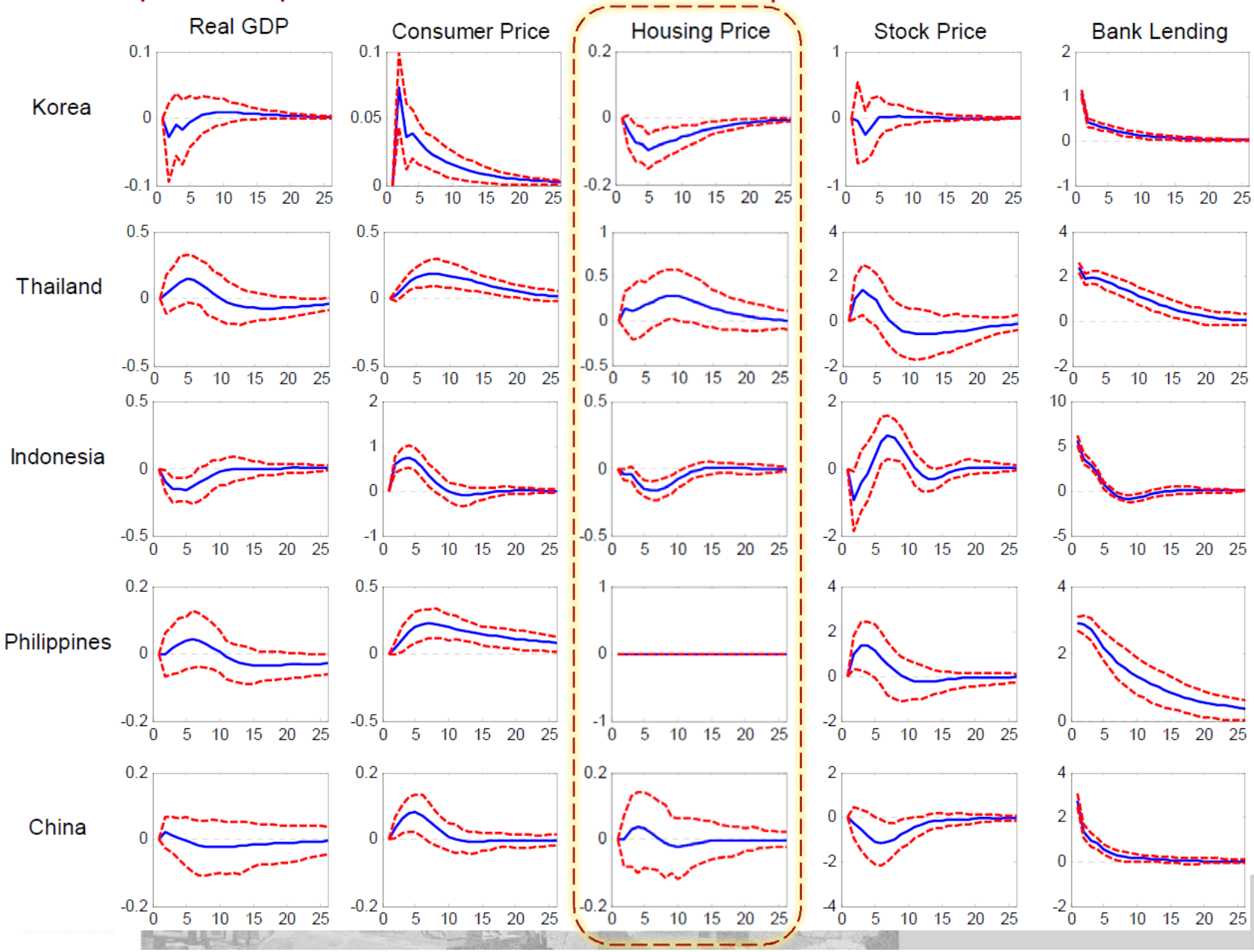
Frequency-specific regression coefficient: US



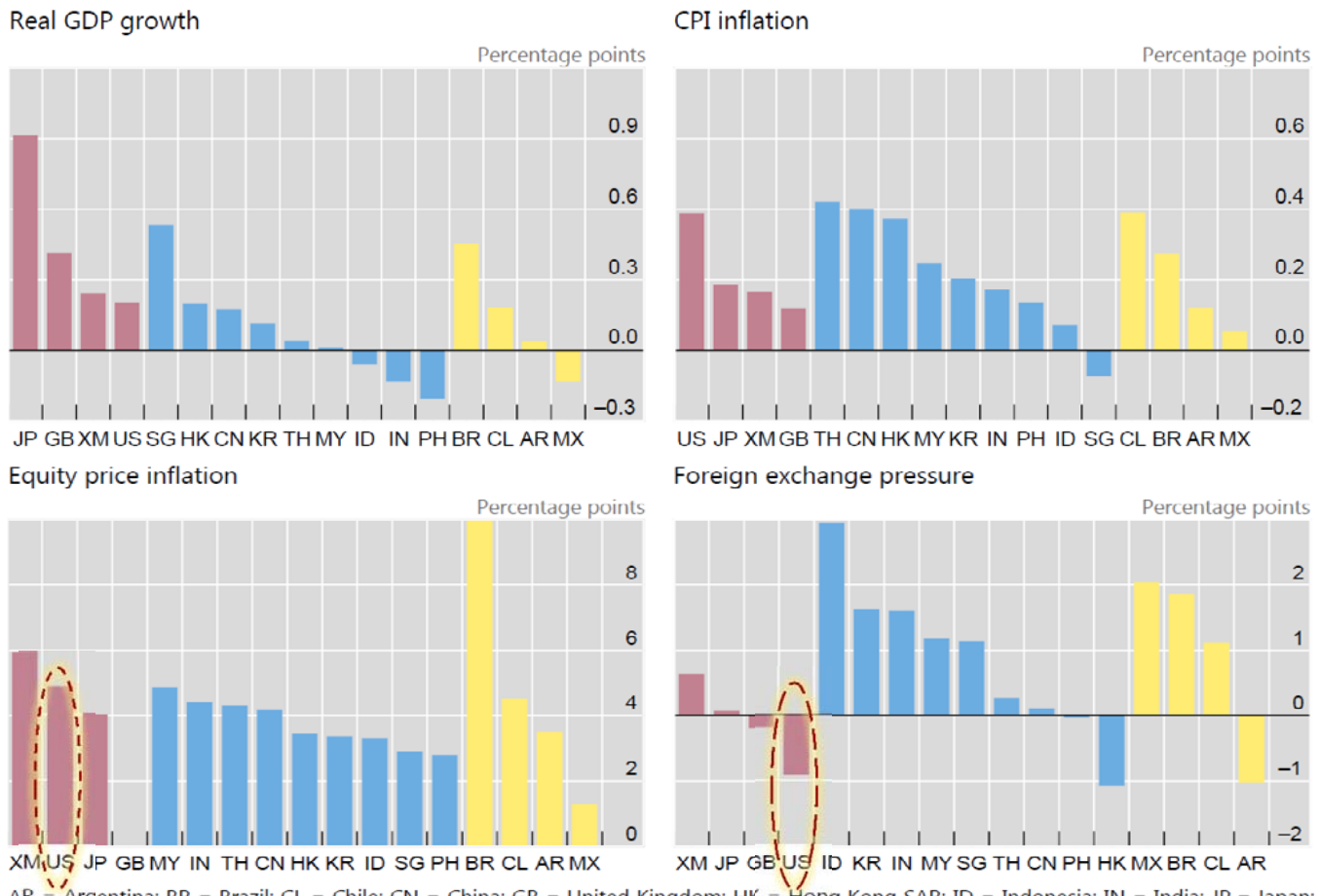


Issue IV: evidence on credit & house prices?

BVAR impulse responses, *shock to* total credit to private sector



Issue V: "side-effects" of rates too low for too long



AR = Argentina; BR = Brazil; CL = Chile; CN = China; GB = United Kingdom; HK = Hong Kong SAR; ID = Indonesia; IN = India; JP = Japan; KR = Korea; MX = Mexico; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; US = United States; XM = Euro area.

- Chen, Filardo, He and Zhu (2014): 2-year cumulative impulse responses
  - A 12-basis-point cut in Wu-Xia (2013) US shadow funds rate
  - International dimmension

Monetary policy implications : "lean versus clean"

- "What, if anything, should central banks do about it?"
- Financial stability mandate?
  - Trichet (2010): *"responding to monetary and credit dynamics … implies that interest rate decisions will tend to 'lean against' accumulating financial imbalances and asset price misalignments"*
- But Kuttner (2011)
  - *"There is almost* ***no discernible relationship between interest rates and stock and property prices*** *across countries during the years leading up to the crisis"* and *"incremental interest rate adjustments are unlikely to be effective in restraining excessive asset price appreciation"*

"Leaning against the wind" in action

- Reserve Bank of Australia (2002-2004)
  - RBA warned against risks of rising housing prices to economy
  - "Open-mouth operations" on emerging housing imbalances and earlier policy tightening
- Recent experience (Yellen 2014)
  - Bank of Canada 2009-2012
    - Policy rate below 1%, but limits on mortgage lending (eg LTV & DTI) tightened each year
  - Norges Bank in mid-2010
    - Raised policy rate on escalating household debt despite below-target inflation & below-capacity output
  - Sveriges Riksbank (Per Jansson 2013)
    - Held policy rate "slightly higher than we would have done otherwise" for financial stability concerns

"Lean versus clean" debate in post-crisis era

- Svensson (2013, 2014a, 2014b)
  - Riksbank's aggressive "lean" since 2010 to reduce household indebtedness has had **high costs** (much below-target inflation & as much as 1.2-pps higher unemployment rate) but **minuscule benefits**
  - "Lean" is **counterproductive**: leads to higher real household debt & higher household debt-to-GDP ratio
- Orphanides (2013)
  - CB policies facilitating postponement of needed policy actions may have longer-term adverse effects outweighing immediate benefits
  - Overburdening MP may compromise CB independence, credibility & reduce effectiveness in achieving price stability & managing crisis