Financial Cycles and Latin America

by

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FINANCIAL CYCLES AND POLICY RESPONSE IN LATIN AMERICA

Workshop Financial Stability and Development (FSD) network of the IADB with the Consultative Council of the Americas (CCA) group of the BIS

Buenos Aires, November 21-22, 2016

Central Bank of Argentina

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Outline

1. Financial cycles. Why? How to measure?
   a. Why and how do financial cycles arise?
   b. How to measure financial cycles?

2. Financial cycles. State of finance.
   a. In general and Latin America specifically
   b. Domestic and cross-border dimensions

1a. Financial cycles. Why?

- Theories suggest finance can affect business cycle (BC)
  - Demand: financial accelerator mechanisms
    - Well-established, yet many new channels "discovered"
  - Supply: accelerator and intra-financial system
    - More recent analyzed, and much more to be done
- But … few theories of how financial cycle (FC) can arise independently

Demand: Financial Accelerator

Endogenous developments in financial markets *propagate* and ***amplify shocks*** in real economy

- Corporate finance foundation
  - Financial positions of agents (asset prices, debt, wealth) affect access to finance → real outcomes
- Variations built into D(S)GE models
  1. External finance premium (Bernanke-Gertler, 1989)
  2. Collateral prices (Kiyotaki and Moore, 1997)
  3. Debt deflation (Irving Fisher, 1933), more recently house, other asset prices
  4. Open economy models (Krugman, 1999, etc.), exchange rate
- Many more models recently with financial accelerator mechanisms

Supply: Financial system can (also) be or become a force for procyclicality

Financial Accelerator again: shocks to assets, liabilities, equity affect financial institutions → amplify, propagate shocks

1. Capital shocks
2. Asset price shocks
3. Liquidity shocks, fire sales
4. Leverage cycles

- **Interact with "standard" FA → double whammy**

→ General equilibrium → virtuous and vicious cycles
  - Caveat: Intra-system dynamics: **not (yet) well understood**

1b. Financial cycles (and business cycles). How to measure?

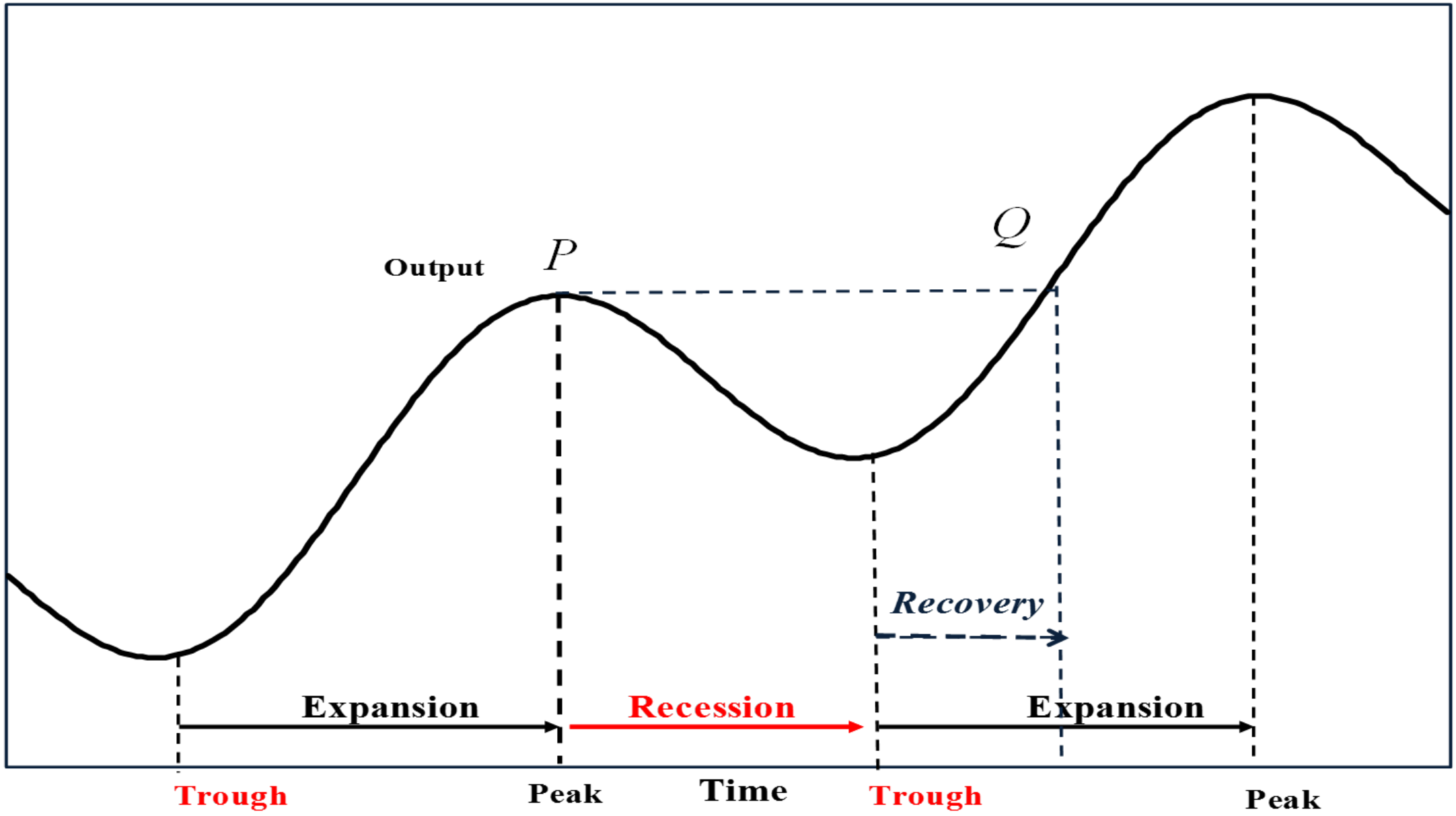
- Two main (complementary) approaches

  1. "Classic cycle" approach (turning-point analysis)
     - Identify significant turning points (peaks and troughs)
  2. "Growth cycle" approach
     - Detrend: define cycle relative to a trend

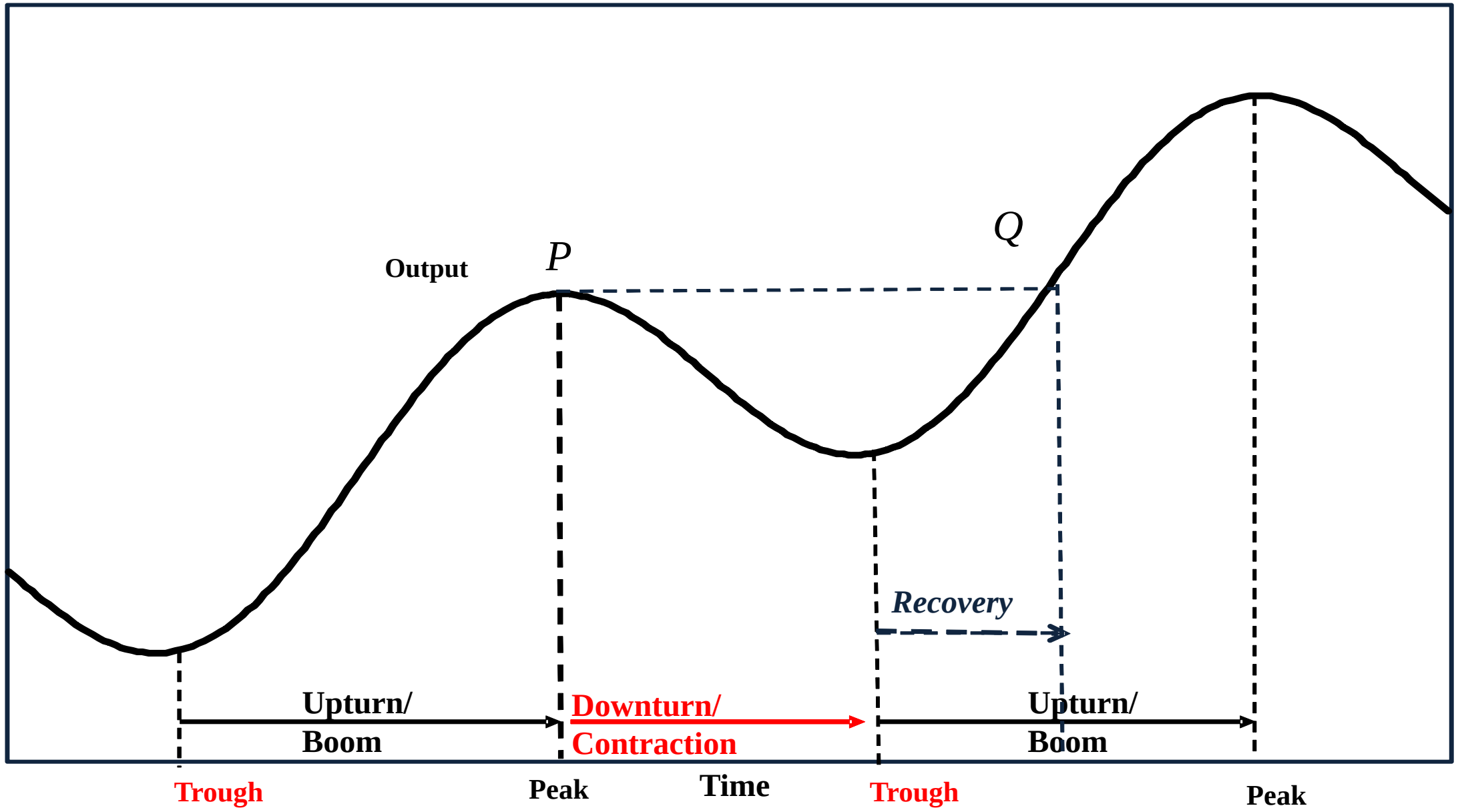
$\Rightarrow$ FC (and BC) thus vary!!

Various Methodologies have Advantages and Disadvantages
Most (all?) lack theoretical foundations

Classic Definition of a Business Cycle



Classic Definition of a Financial Cycle

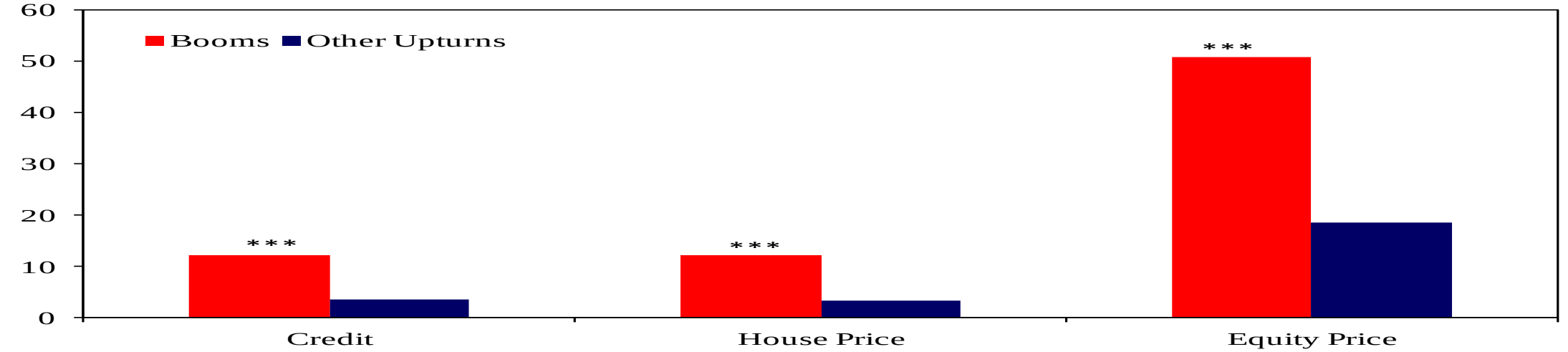


2a. Financial Cycles in General

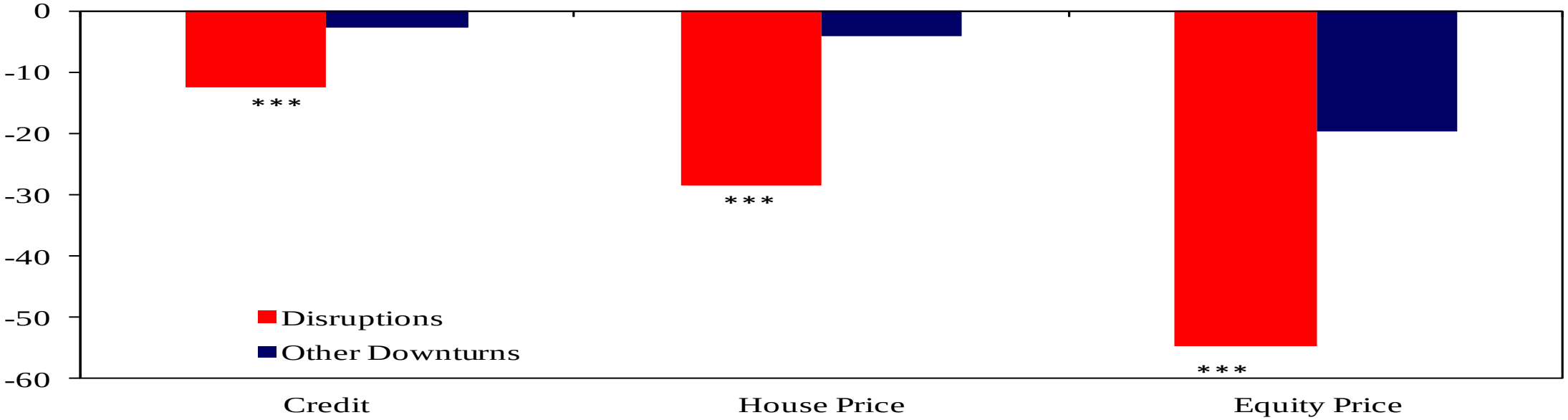
BC and FC have Differing Characteristics

- BC is typically 6 - 8 years long
  - Recession: 1 year; Expansions: 5 years
- FC can be 10 + years, booms longer
- FCs more volatile than BC (measured by STD)
  - Contraction phases for FC deeper than those for BC
  - Downturns in house prices long, upturns in credit long
- FCs reinforce each (credit, housing), coincide globally
  - Global factors. Also driving common recessions/recoveries
- High coincidence of FC peaks with subsequent crises

Financial booms and busts can be large



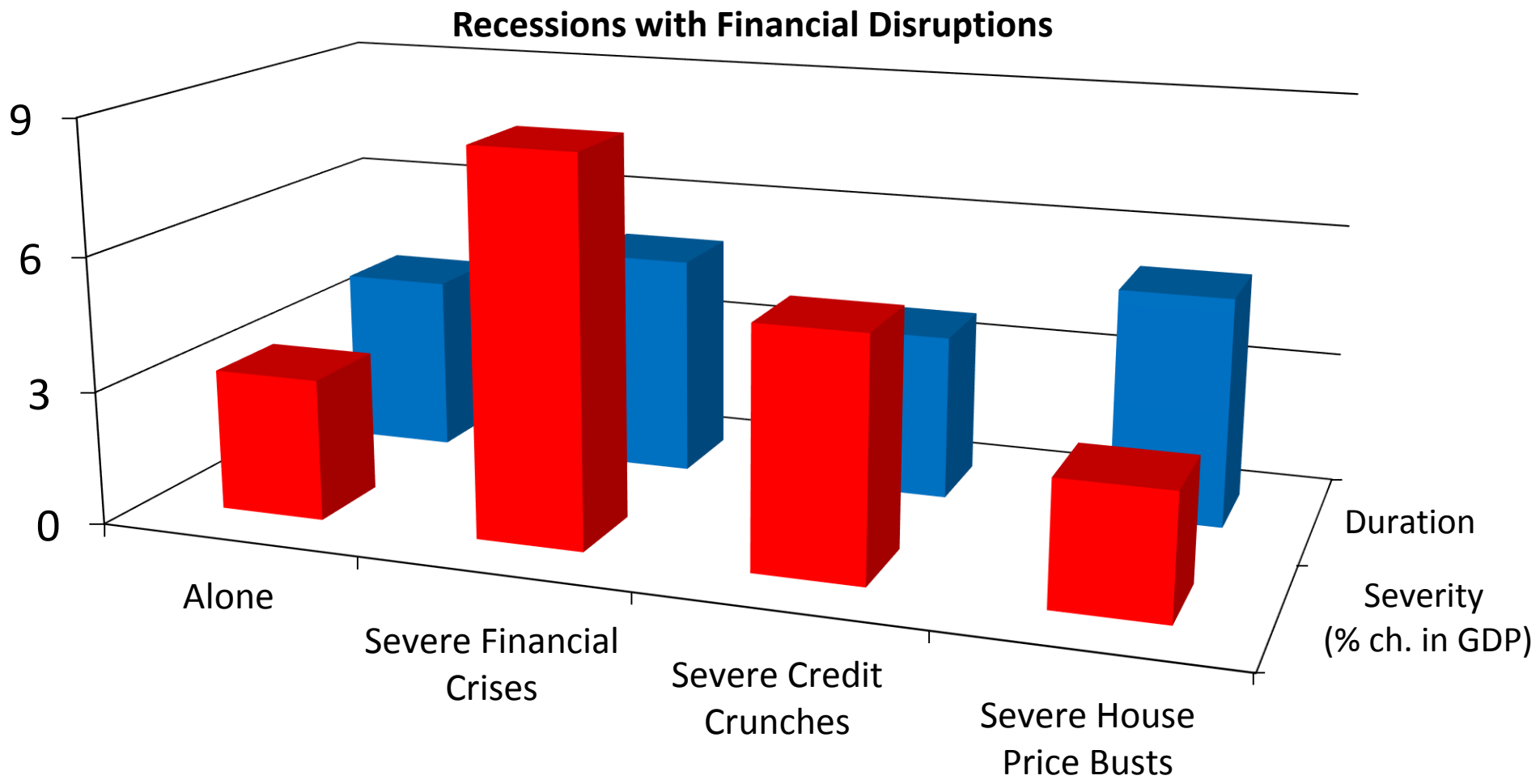
Busts (percent decrease)



Financial cycle (FC) impacts business cycle (BC)

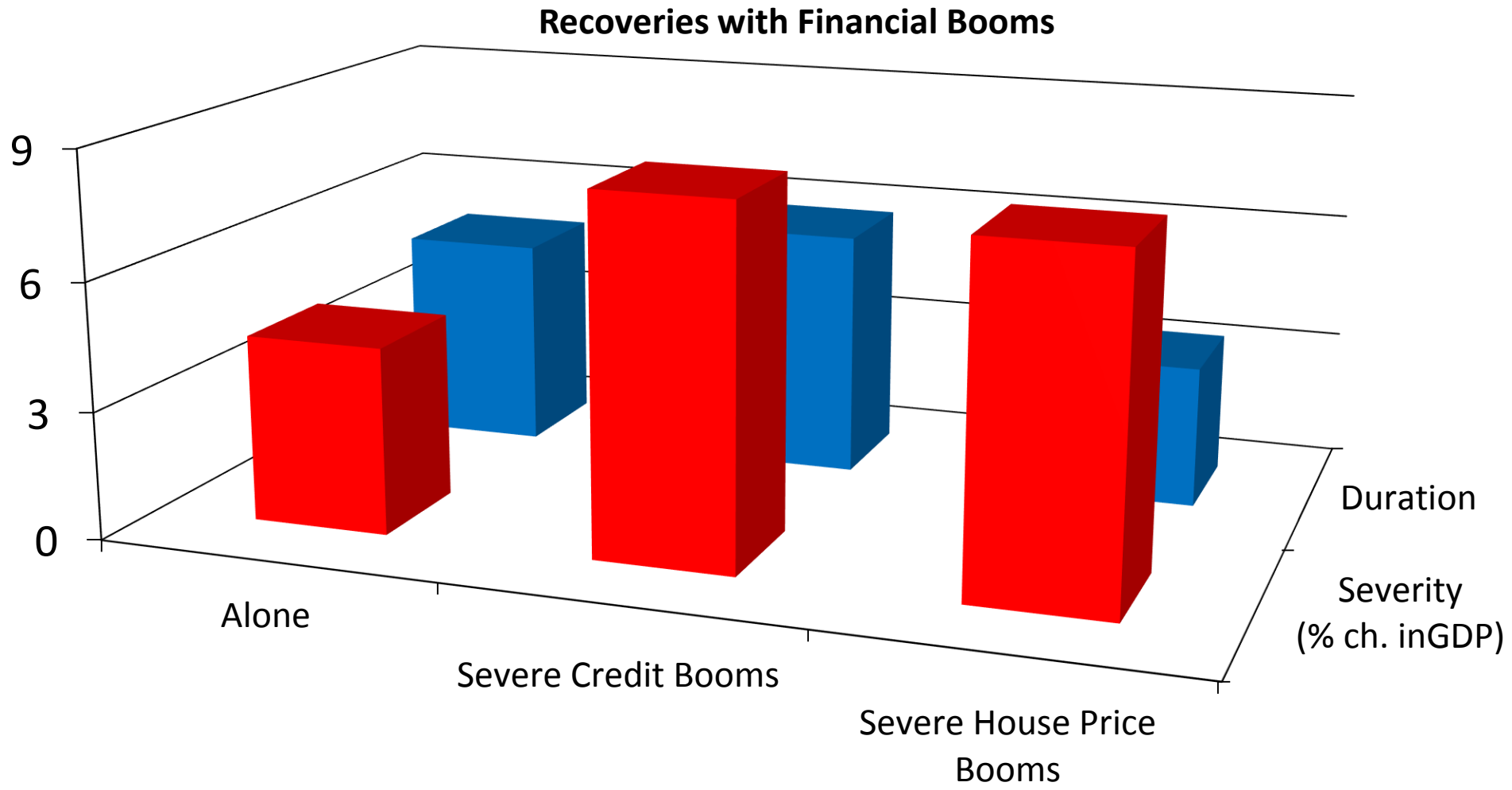
- Document ***strong*** FC ↔ BC interactions
  - Recessions with FC contractions more severe (but not all recessions coincide with FC troughs
    - e.g., U.S. recession in early 2000s, while FC expanding
  - High-credit expansion stall recoveries after financial crises
  - Expansions with FC expansions stronger and longer
- ***But*** (yet) limited understanding of
  - What causes financial booms and triggers busts
  - Role of frictions during "normal" cycles and in nonlinearities
  - ➢The best prevention strategies thus remain unclear

Financial disruptions tend to amplify and lengthen recessions



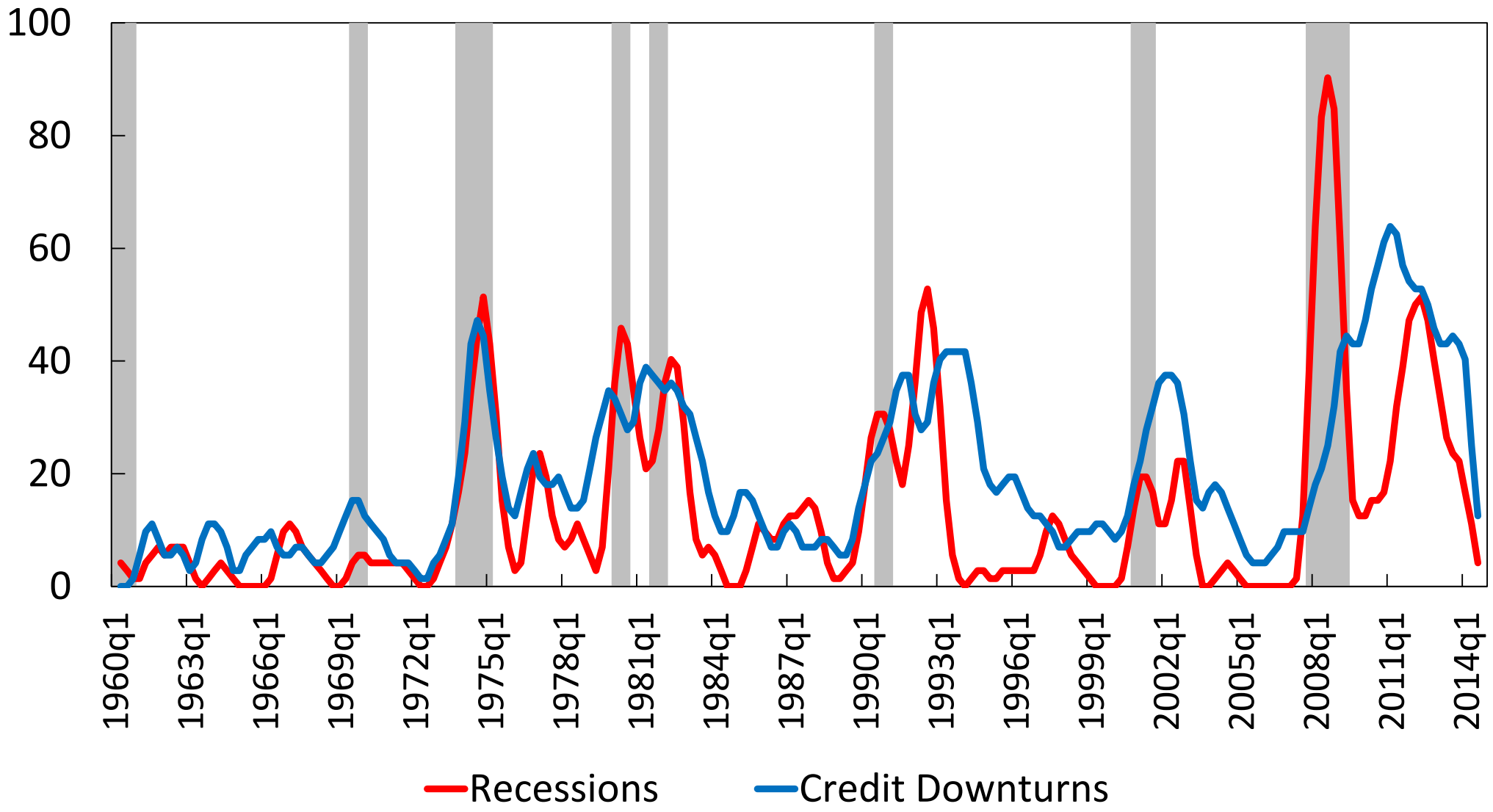
Source: Claessens, Kose, and Terrones (2012 and 2014)

Financial booms tend to enhance and lengthen expansions



Source: Claessens, Kose, and Terrones (2012 and 2014)

Credit and output contractions coincide most



Source: Claessens, Kose, and Terrones (2012 and 2014)

Nuances and Judgment in Measurement Remain Necessary, Especially for Policy

Risky to rely on pure data (-mining)

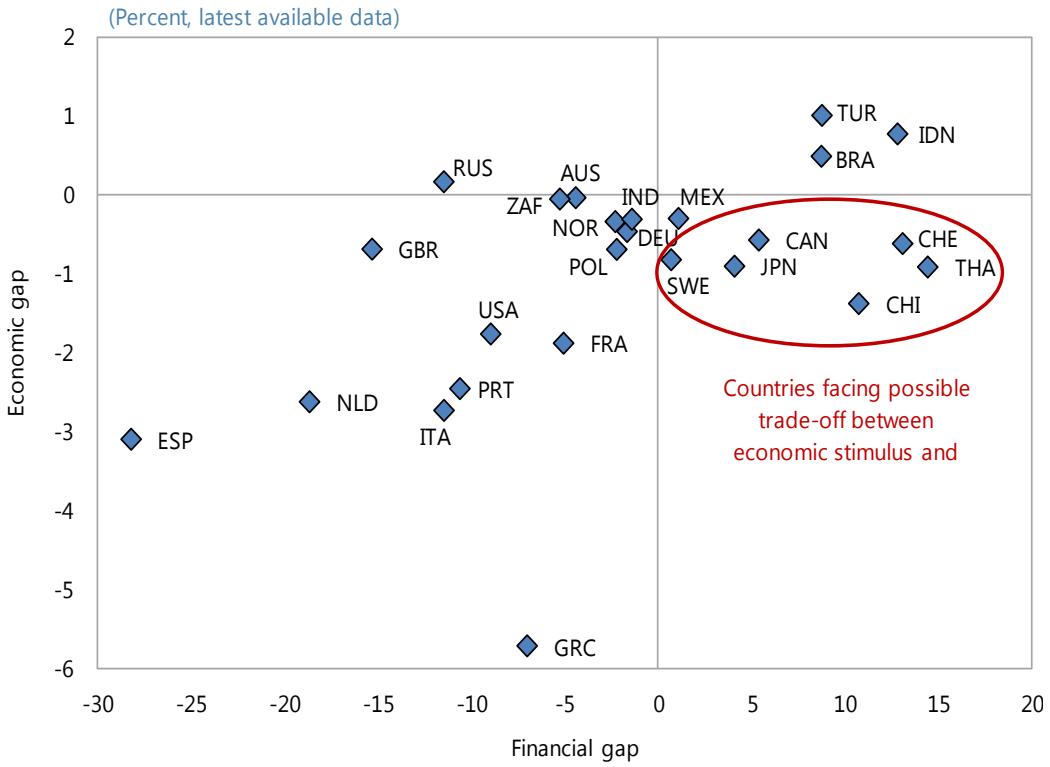
- Correlations can arise due to other factors
  - Fundamentals (shocks) and Policy actions (fiscal, monetary)
  - International, via risk-sharing and otherwise
    - Without real connection between economies
  - Second best: e.g., more markets, but not necessarily higher welfare
- Heterogeneity: cyclical positions, structural features, variations in systems
- No formal benchmark—e.g., how to define excess?
- Financial cycles are very low-frequency: what about short-term movements? Ignore?

⇒ Need to be able to tell story of the "why and what"

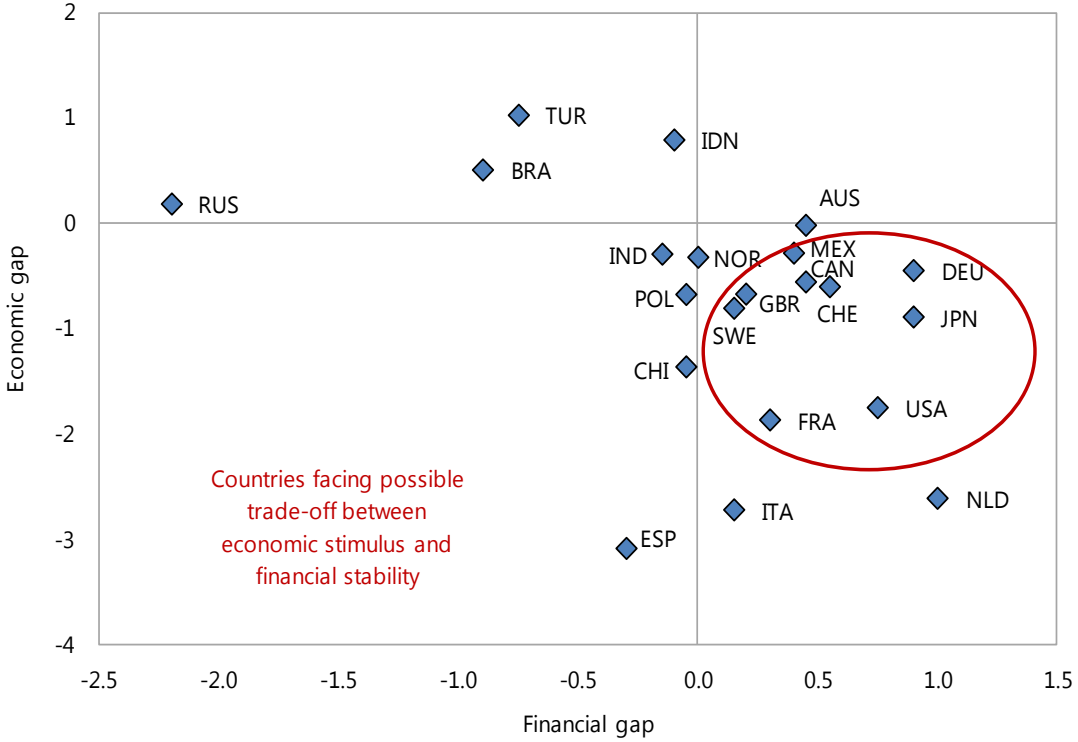
Cannot expect a standard FC measure. Compare these two…

Economic and financial gaps based on:

credit growth and house prices vs. equity prices and bond yields



Note: The "economic gap" is the average between the output gap and the deviation of the 2015 inflation forecast from target. The "financial gap" is the average between the credit-to-GDP gap and the property-price gap. Data are reported in Table 1.



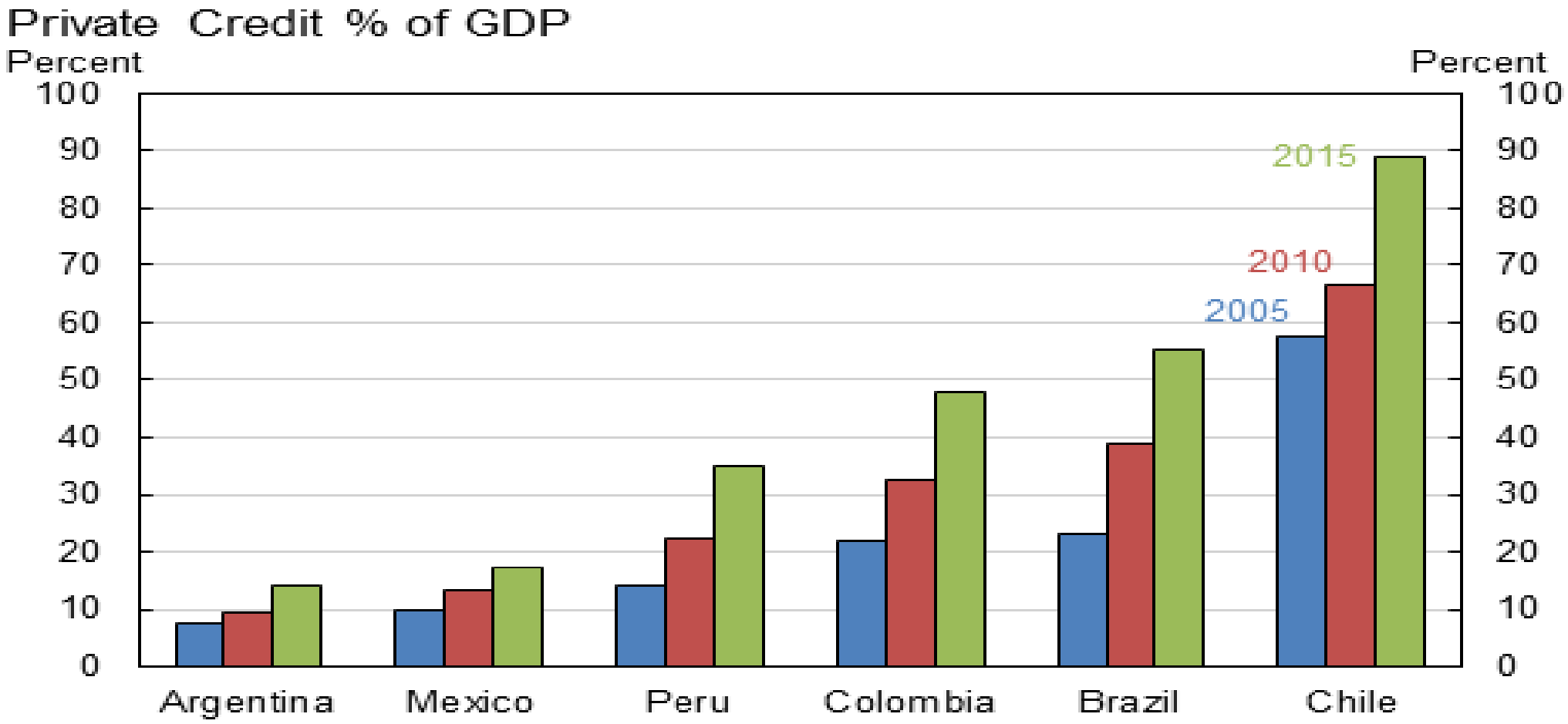
Note: The "economic gap" is the average between the output gap and the deviation of the 2015 inflation forecast from target. The "financial gap" is the average between the gap measures of equity required returns and sovereign term premiums (refer to GFSR, Oct 2014). Data are reported in Table 1.

Source: Sandri et al. (2014)

2b. Financial Cycles in Latin America Specifically

- Where are countries in terms of their financial cycle?
  - Financial deepening vs. financial cycle
- What is state of finance in Latin America?
  - Banking system conditions
    - Capitalization, profitability, non-performing loans
- What is role of international factors?
  - Exposure to global conditions, certain classes of investors

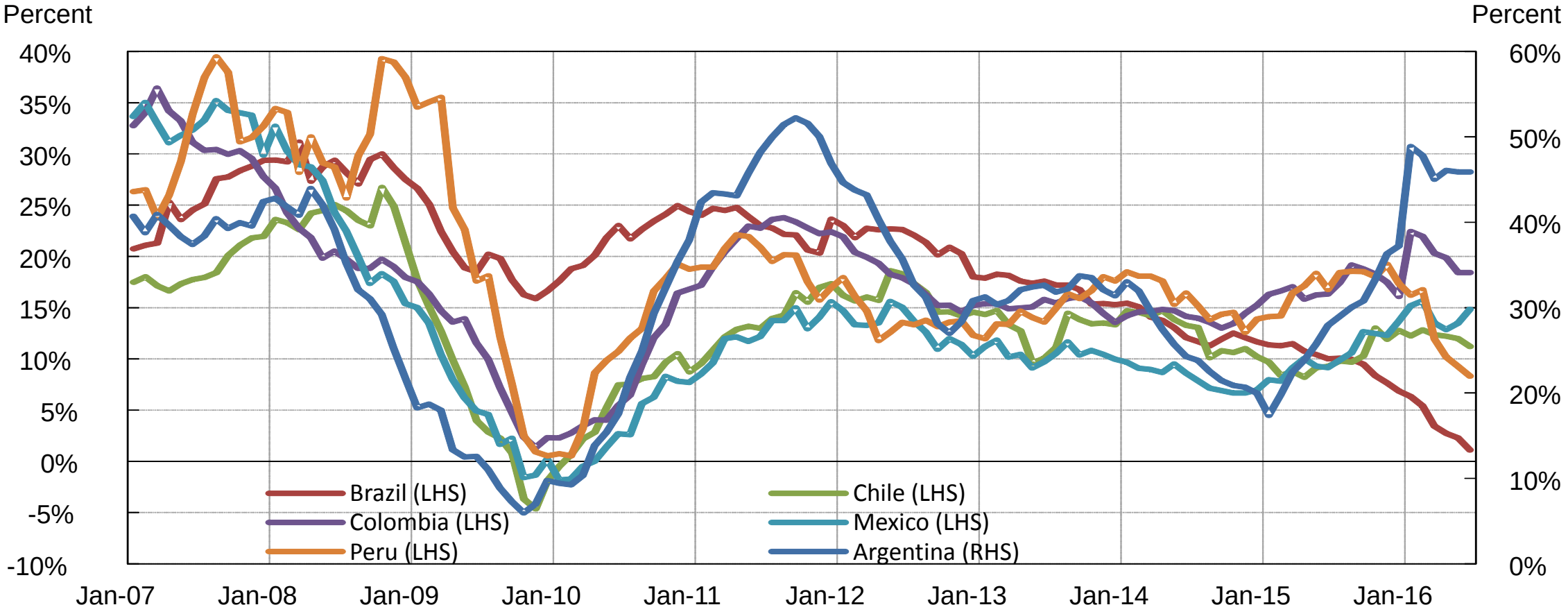
Credit penetration across the region has increased substantially in the past decade



Source: IFI national sources

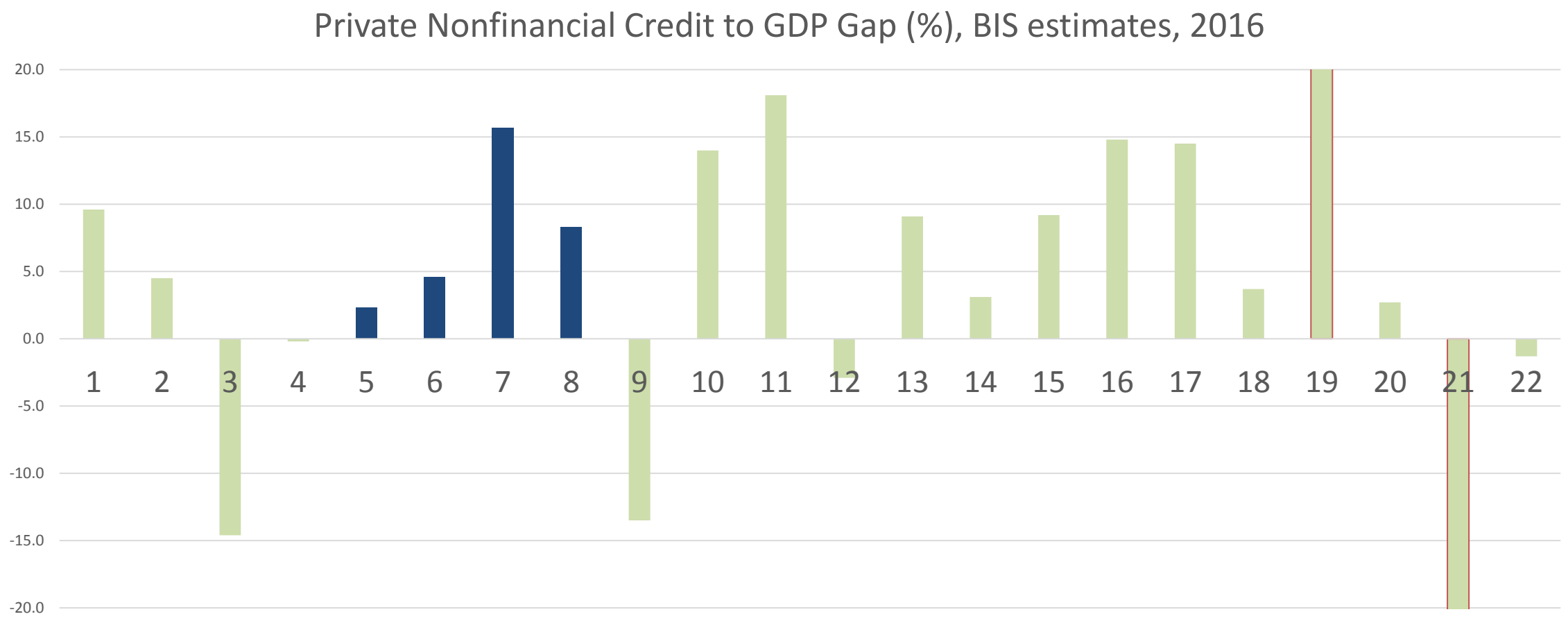
After being prolonged high, including recently, credit growth is now slowing in many Latin American countries…

Credit to the private sector % change y/y

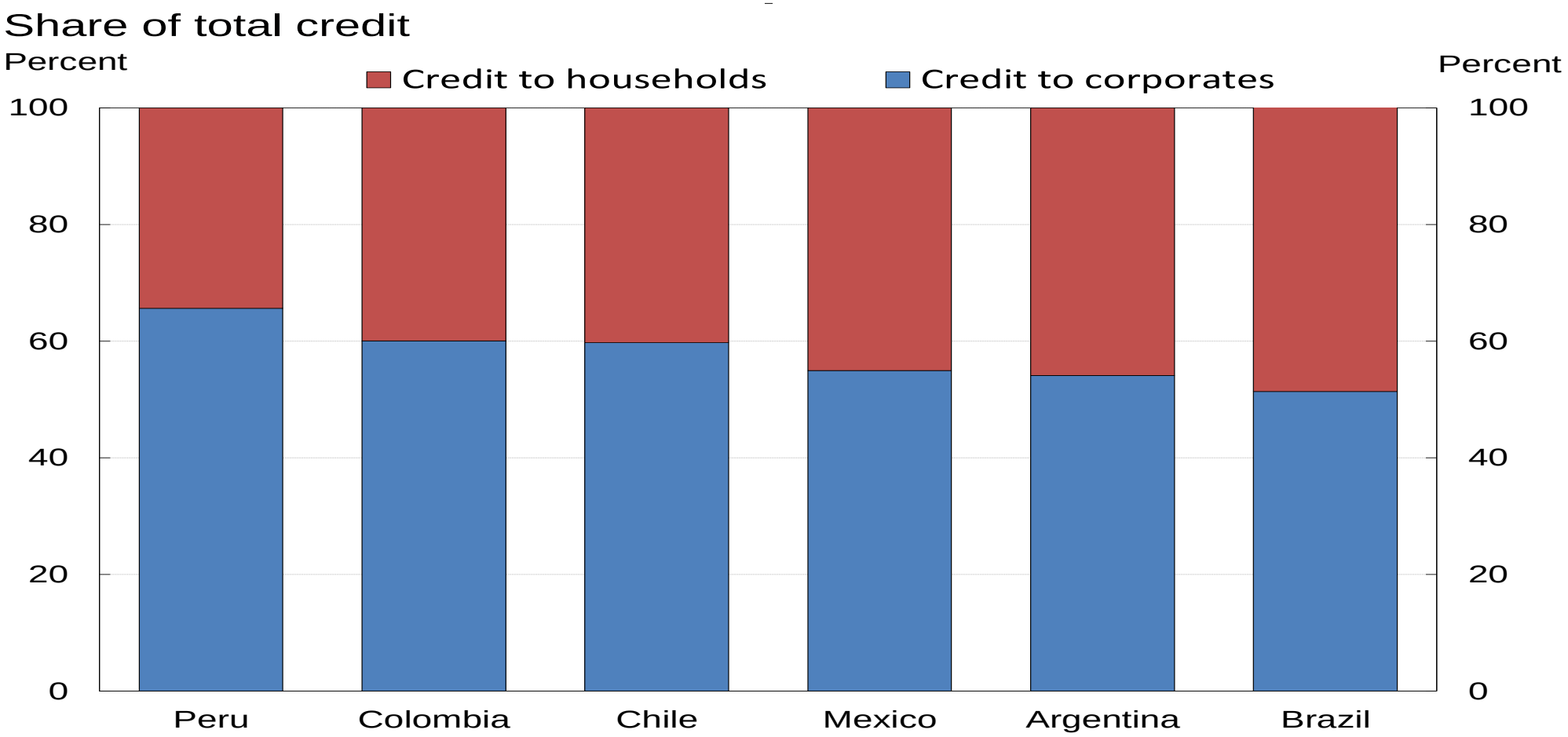


Source: IFI, national sources

And, reflecting financial deepening, credit gaps appear positive in some LACs, like some others’

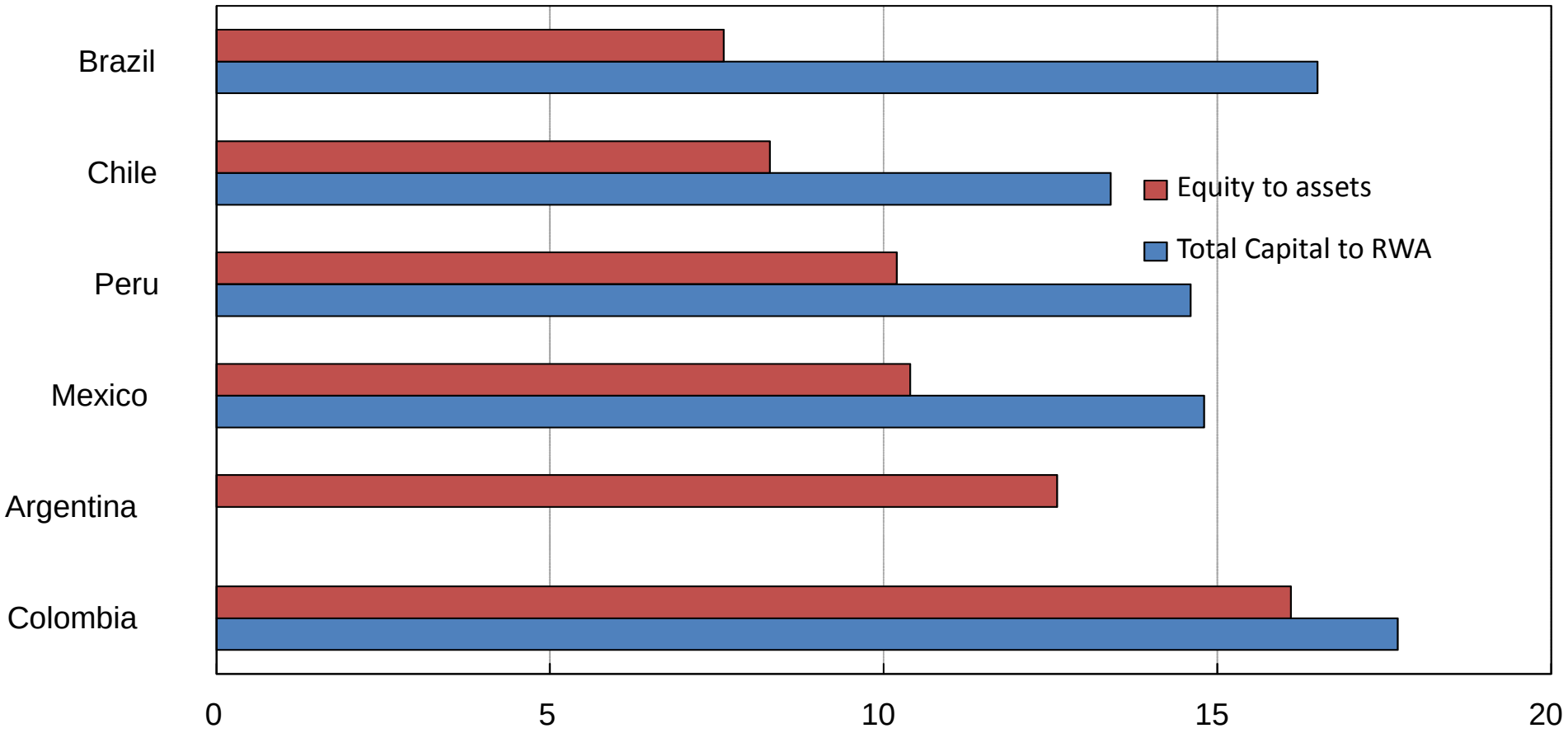


Corporate credit dominates but household credit has grown especially in Brazil



Source: IFI, national sources

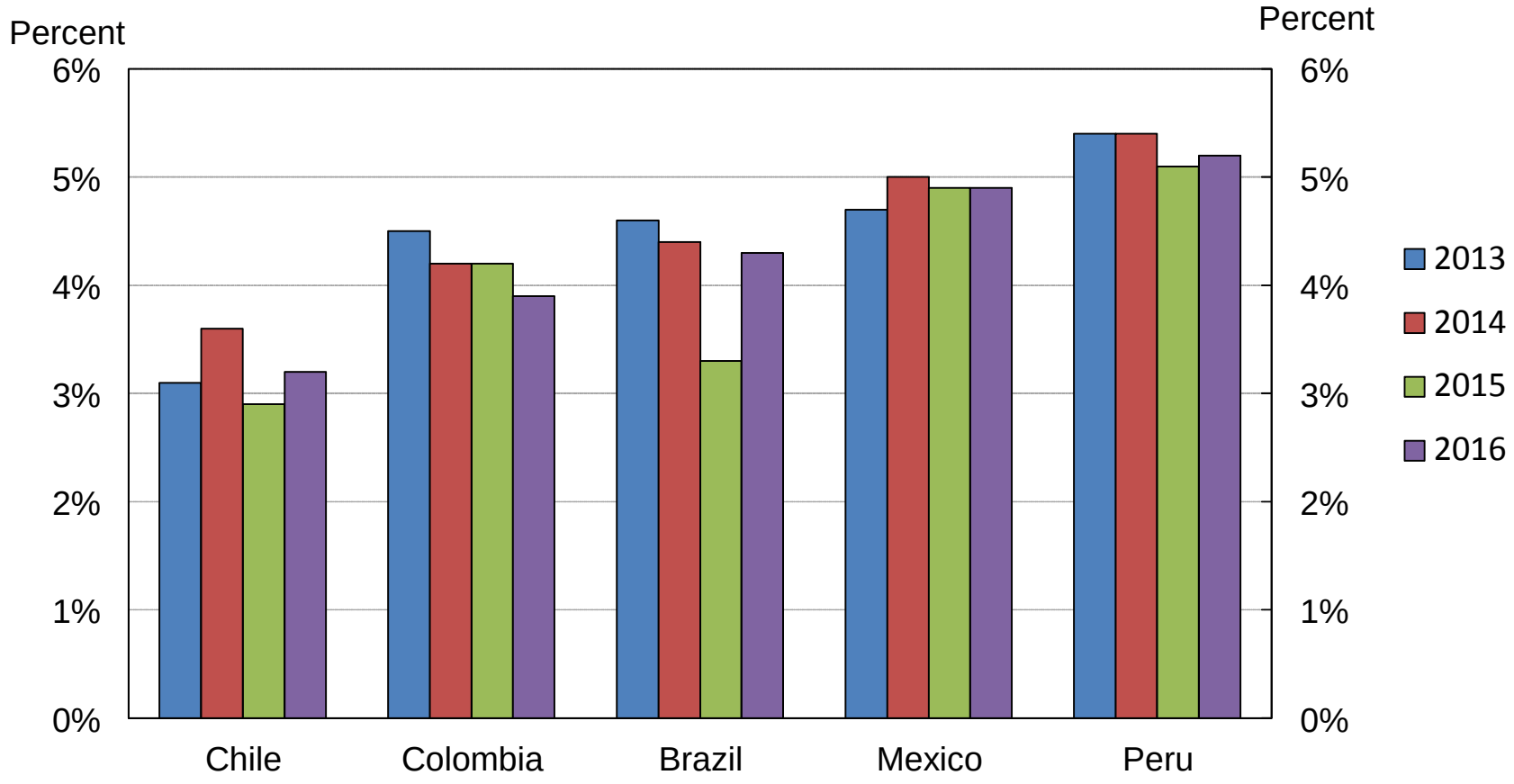
Bank capitalization remains relatively strong…



Source: IFI, national sources

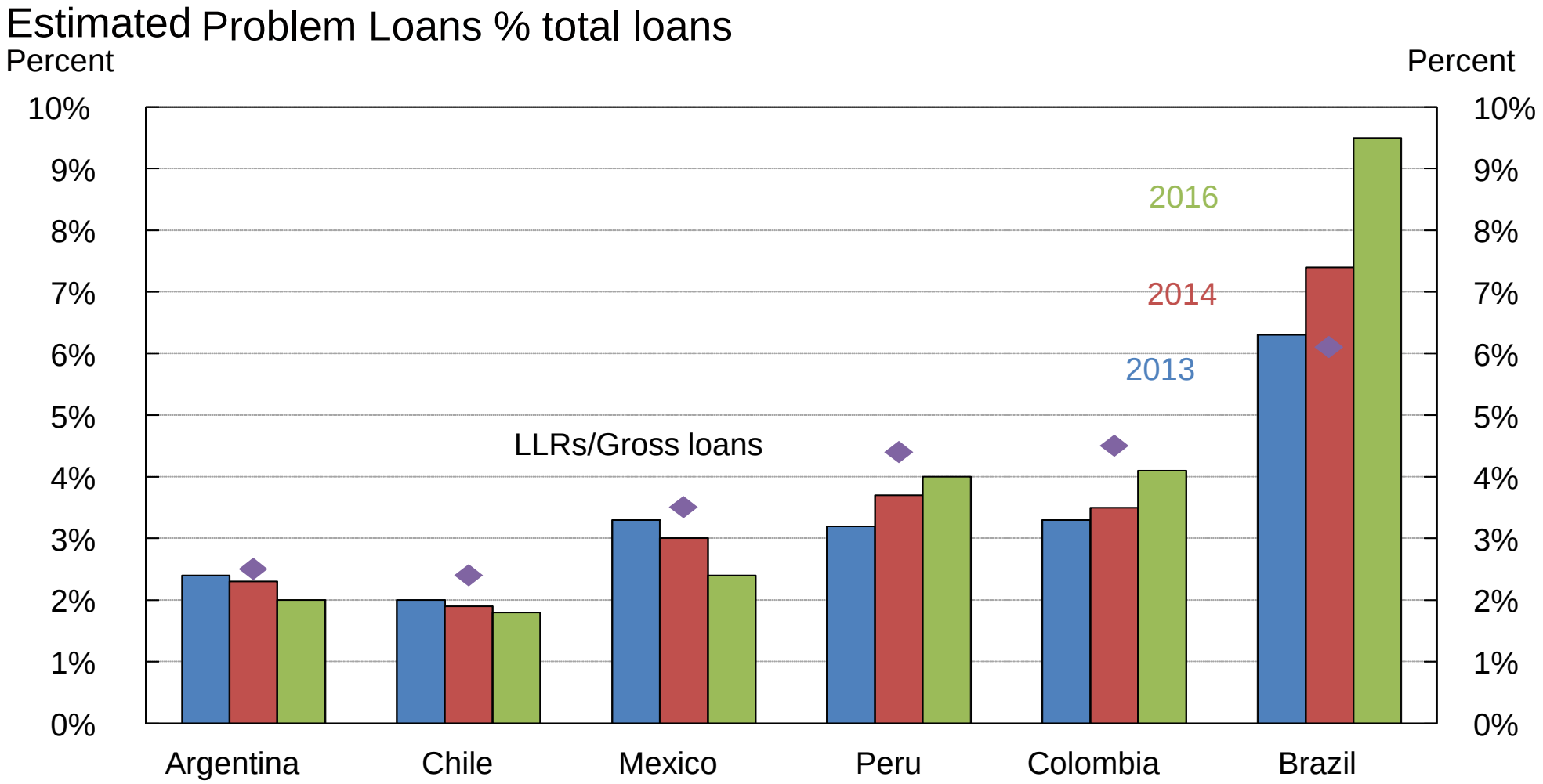
Supported by strong and resilient internal capital generation…

Net interest margins



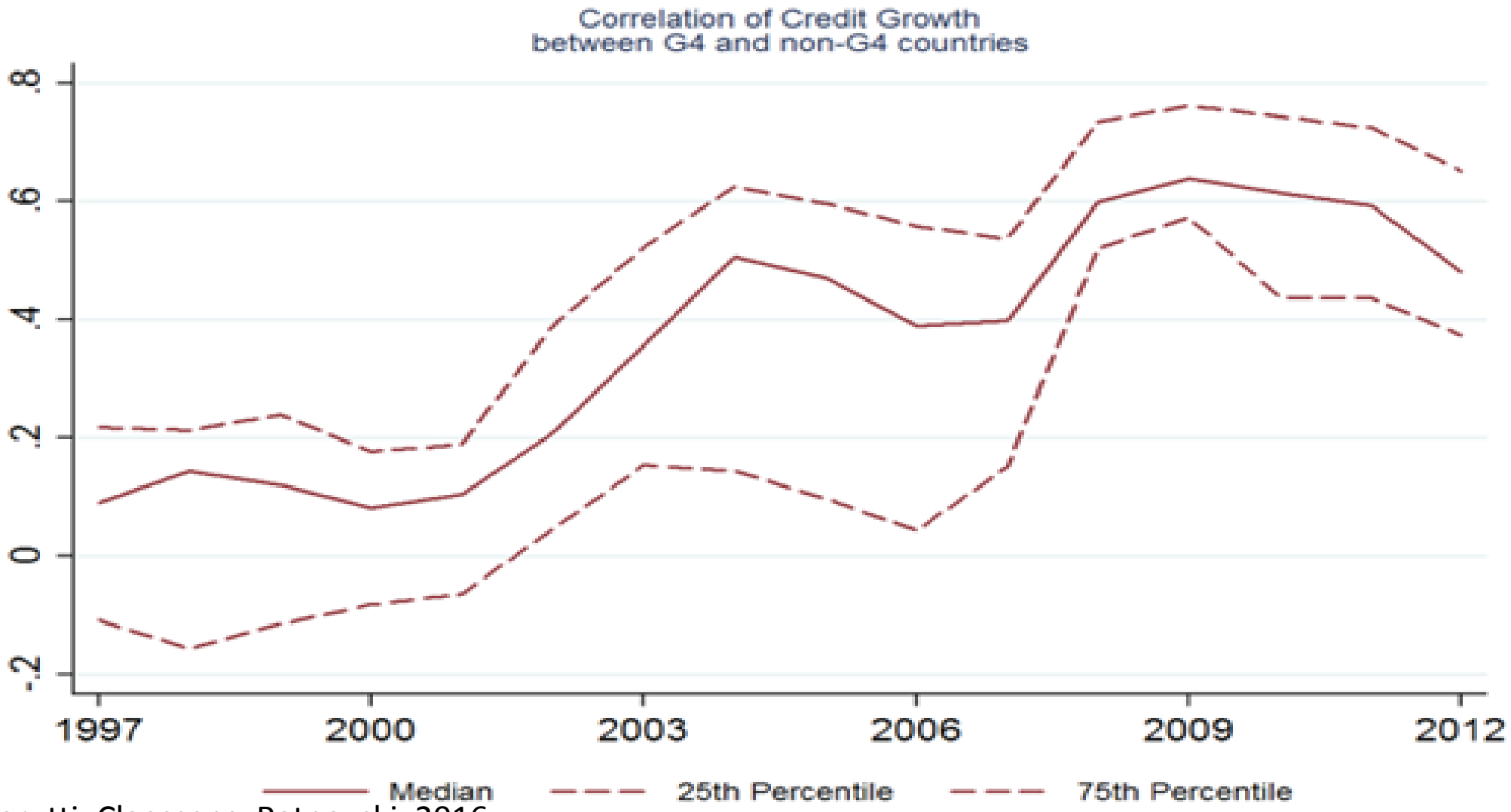
Source:IFI, national source data

But there are concerns about eroding asset quality, creating some vulnerabilities



Source: IFI, national sources

Global financial cycle, in part driven by G4, also affects Latin America. But....



Source: Cerutti, Claessens, Ratnovski, 2016

Latin America's sensitivities to global cycle vary

	Equity	Bond	Bank
Argentina	0.37	0.11	0.18
Belarus	-0.05	0.26	0.22
Brazil	0.60	0.56	0.51
Bulgaria	0.28	0.04	0.10
Chile	-0.02	0.19	0.18
China,	0.39	0.01	0.53
Colombia	0.13	0.03	0.16
Croatia	0.23	0.09	-0.30
Czech Republic	0.14	0.14	0.31
Estonia	0.26	-0.20	-0.12
Hungary	-0.12	0.46	-0.18
India	0.66	NA	0.21
Indonesia	0.45	0.63	0.32
Israel	0.10	0.38	0.04
Kazakhstan	0.59	0.42	-0.07
Korea	0.45	0.21	0.48
Latvia	0.10	0.17	0.04
Lithuania	-0.08	0.30	-0.16
Beta:	β>0.4	0.2<β <.4	β<0.2
Color:			

	Equity	Bond	Bank
Mexico	0.31	0.40	0.35
Pakistan	0.86	0.40	0.03
Peru	0.24	0.26	0.38
Philippines	0.52	0.42	0.22
Poland	0.24	0.48	-0.10
Romania	0.36	0.33	-0.10
Russia	0.26	0.33	0.32
Slovak Republic	-0.04	0.44	0.15
Slovenia	0.56	0.21	0.04
South Africa	0.40	0.56	0.34
Thailand	0.43	0.27	0.31
Turkey	0.58	0.51	0.33
Ukraine	0.13	0.23	0.14
Uruguay	-0.10	0.47	-0.03
Venezuela	-0.06	0.29	-0.01

Three Groups of EMs:

- High sensitivity (Brazil, Indonesia, Korea, Turkey,.)
- Varying by flows (China, Mexico, Uruguay,..)
- Low Sensitivity (Chile, Colombia, Estonia,..)

Source: Cerutti, Claessens, Puy, 2016

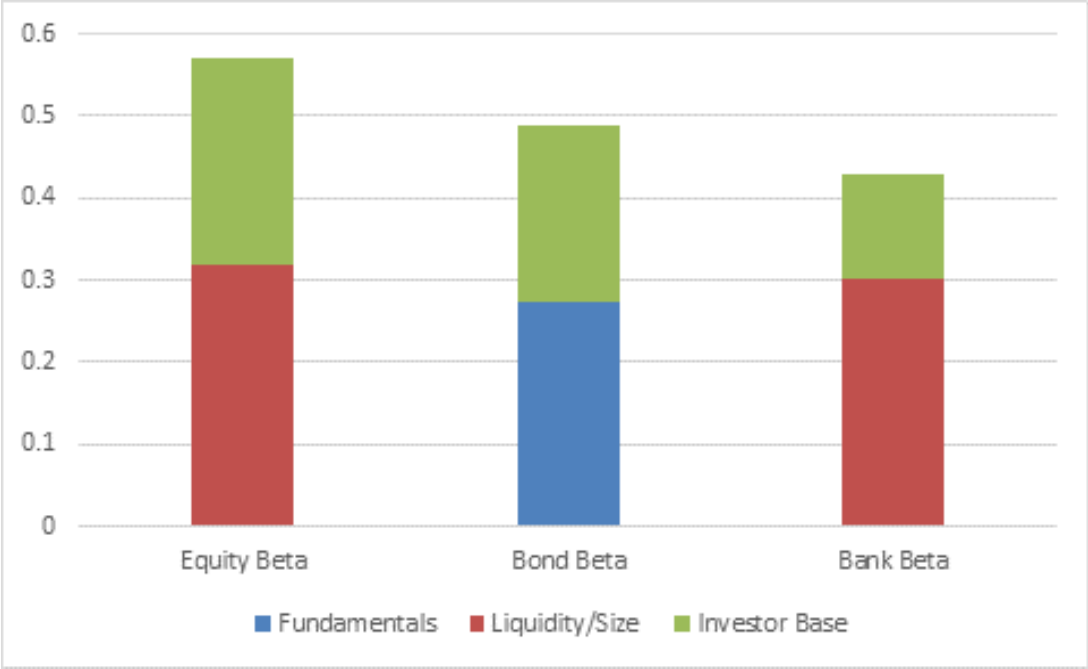
Markets, not (just) fundamentals, appear to drive these sensitivities

- Macro Fundamentals explain little (except for bond flows) – No role for institutional quality
- **Liquidity** and **Investor Base proxy** account for most of the cross country variation and have quantitatively most impacts
- Consistent with recent literature

– As sensitivities vary by market, besides reducing vulnerabilities, watching your lender/investor is crucial given their mandates, incentives, constraints

P.S. sensitivity does not necessarily mean macro risks, level vs. variance

R- Square Decomposition



Source: Cerutti, Claessens, Puy, 2016

Conclusions: Besides reducing vulnerabilities, increasing buffers, watching lenders is crucial

- Financial cycles hard to explain and measure in general
  - Evidence shows financial cycles greatly matter for real outcomes
  - Yet state of knowledge still imperfect, expect surprises
- Financial cycle in Latin America possibly at inflection point
  - Financial deepening turning to deleveraging as commodity super cycle ended
  - External risks considerable, both real (trade) and financial (capital flows)
- Policy implications: use a possible window for gradual deleveraging
  - Improve fundamentals, reduce vulnerabilities, use macroprudential policies
  - Given exposures to global conditions, monitor, know lenders/investors

Presentation is based on, among others:

1. Claessens, Kose, Terrones, 2009, "What Happens During Recessions, Crunches and Busts?" *Economic Policy.*
2. Claessens, Kose, Terrones, 2012, "How Do Business and Financial Cycles Interact?" *Journal of International Economics*.
3. Claessens, Kose, Terrones, 2012, "Financial Cycles: What? How? When?" *NBER International Seminar on Macroeconomics* edited by Richard H. Clarida and Francesco Giavazzi.
4. Cerutti, Claessens, and Ratnovski, 2016, "Global Liquidity and Cross-Border Bank Flows," *Economic Policy*, forthcoming.
5. Cerutti, Claessens and Puy, 2015, "Push Factors and Capital Flows to Emerging Markets: Why Knowing Your Lender Matters More Than Fundamentals," IMF WP 15/127, *JIE* R&R
6. Claessens, Kose, Laeven, and Valencia (Eds.), 2014, *Financial Crises: Causes, Consequences, and Policy Responses*, IMF, Washington, D.C.
7. Claessens, 2016, "Regulation and Structural Change in Financial Systems," in ECB, *The Future of the International Monetary and Financial Architecture,* Sintra Conference
8. *Claessens, Kose, Ozturk, Terrones,* 2016, "Business and Financial Cycles: Insights from a Global Database," mimeo, Federal Reserve Board, IMF, World Bank.
9. Market Analysis at the Federal Reserve Bank of New York, courtesy of Martin Soler Garcia and Alex Tetra