Finance and Growth: What have we learned

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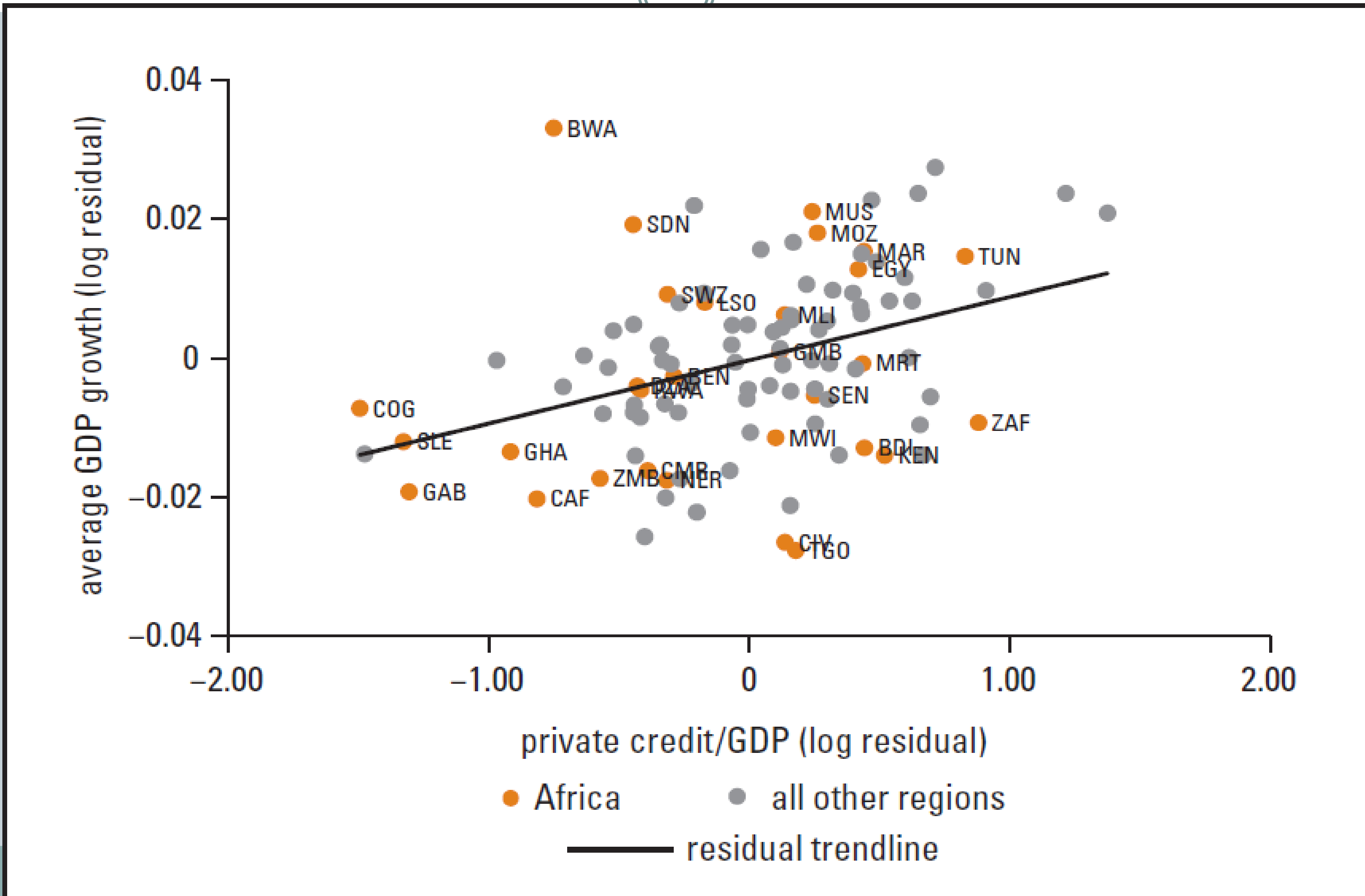
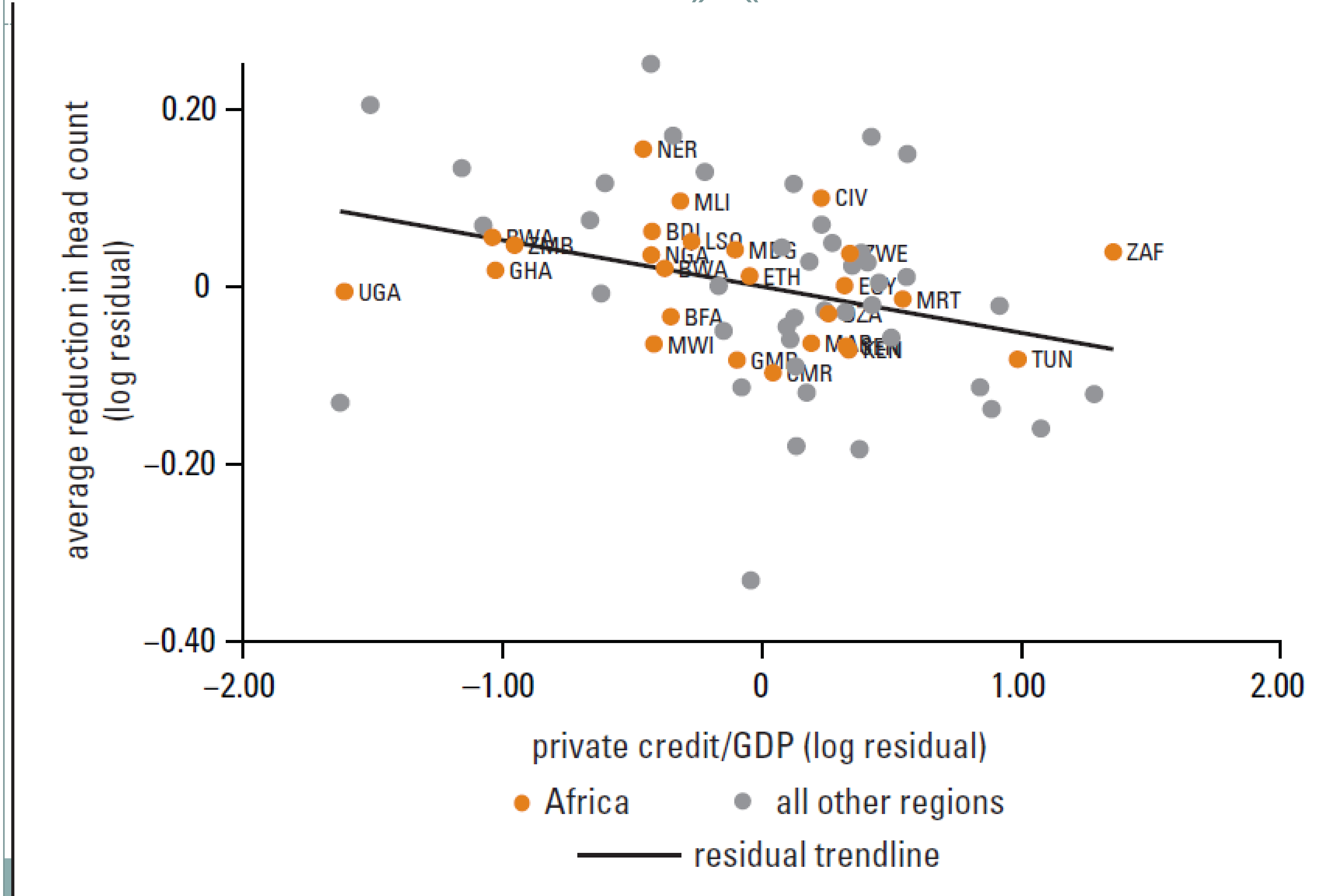
Finance and growth – an outline

- What we thought we knew
- What we found out the hard way
- And how do we interpret it
- What we have learned
- What it implies for policy
- And what we should research further

The pre-2007 consensus: Finance is pro-growth

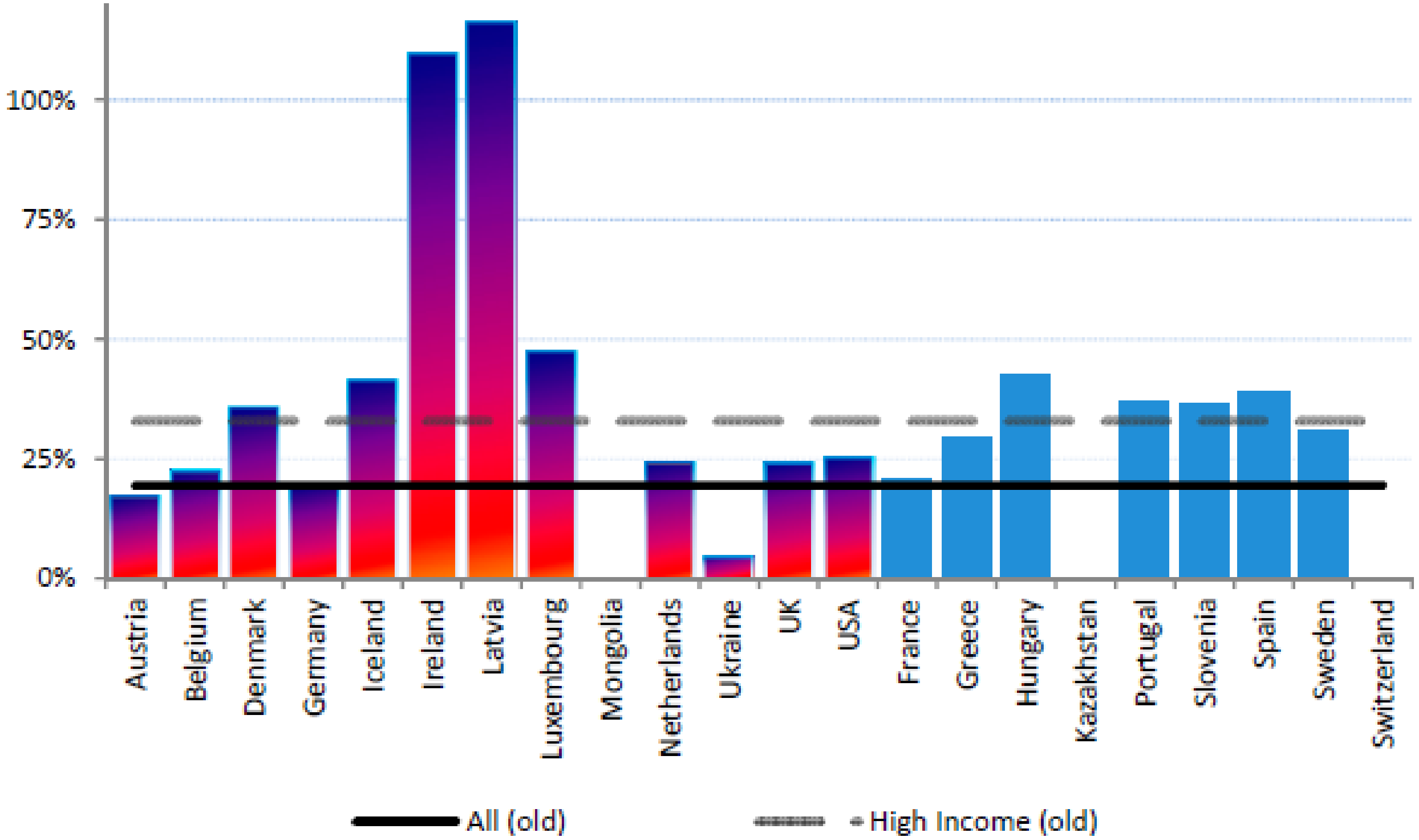


...and pro-poor...



average reduction in head count (log residual)
0.20
0
−0.20
−0.40
−2.00
−1.00
0
1.00
2.00
NER
MLI
CIV
BDI
LSO
MDG
ZWE
ZAF
RWA
ZMB
GHA
NGA
BWA
ETH
UGA
MRT
BFA
MWI
KEN
TUN
CMR
private credit/GDP (log residual)
Africa
all other regions
residual trendline

…but also fragile



Output losses relative to potential output;
Source: Laeven and Valencia (2010)

..and all this consistent with theory

- Critical function of financial system in
  - Easing exchange
  - Pooling savings
  - Selecting and monitoring projects
  - Mitigating liquidity risk
  - Mitigating cross-sectional and inter-temporal risk
- But: Providing liquidity insurance makes banks fragile
- Agency problems between banks and borrower mirrored by agency problems between depositors and banks
- The third agency problem: government vs. banks, based on externalities of bank failure

Can there be too much of a good thing?

- Does financial sector attract too much human capital and extract excessively high rents from rest of economy?
- Credit expansion resulting in boom-bust cycles?
- Political interference resulting in over-sized financial system?
- How important is financial deepening for economic development and poverty alleviation, compared to other policy areas?

Finance and Growth – the evidence

- Instrumental variable approach
  - Cross-country – historical and geographic experience as external instruments
  - Panel – internal instruments
- Time-series approach: forecast capacity of finance for growth
- Differences-in-differences approach: smoking gun
- Firm-level evidence
- Household-level evidence

BUT ALSO:

- Credit growth a very good crisis predictor

Channels of pro-growth and pro-poor finance

- Productivity growth more than capital accumulation
- Transformational effects: innovation, new entry, competition, more efficient asset allocation
- Pro-poor effects: Access to credit? Not necessarily – differential effects across different groups (recent work by Banerjee et al.)
- Pro-poor effects: important indirect effects
  - Allocation effects
  - Labor market and migration effects
  - Evidence from Thailand, U.S. and India

Two concepts of Finance and the Poor

- Finance and poverty alleviation
  - Financial deepening Improves resource allocation, indirect effects through structural transformation of economy
  - Examples: India (Gine and Townsend, 2004); U.S. (Beck, Levine and Levkov, 2010)
  - Financial deepening helps entrepreneurship, help small firms grow faster
- Access to financial services
  - Basic payments and savings services enable participation in modern market economy
  - Access to savings and credit services allow investment in education (and avoid child labor) and micro-enterprises
  - Access to credit, savings and insurance services allows consumption smoothing
- Two different concepts: finance and poverty alleviation vs. finance for the poor
  - Financial deepening linked to poverty alleviation through resource allocation effects (e.g. labour markets)
  - Access to payment can link these two!

Intermediaries vs. markets – the financial structure debate

- Important differences in the way intermediaries and markets function (information creation, governance role, risk management)
  - Behind this is broader distinction between relationship vs. arms-length finance model

Arguments in favour of bank-based systems

Markets are ineffective, since

- There is a free rider problem
- Poor incentives to exert corporate control
- Deficient control device
- Difficult to diversify risk intertemporally

Arguments in favour of market-based systems

Banks are ineffective, since

- Excessive control: extract rents, which limits innovation
- Excessively conservative
- Bank managers act in own interests: inefficient corporate control
- Lack customized hedging instruments
- Strong pro-cyclical charakter of credit supply by banks; risk of ever-greening and zombie-lending

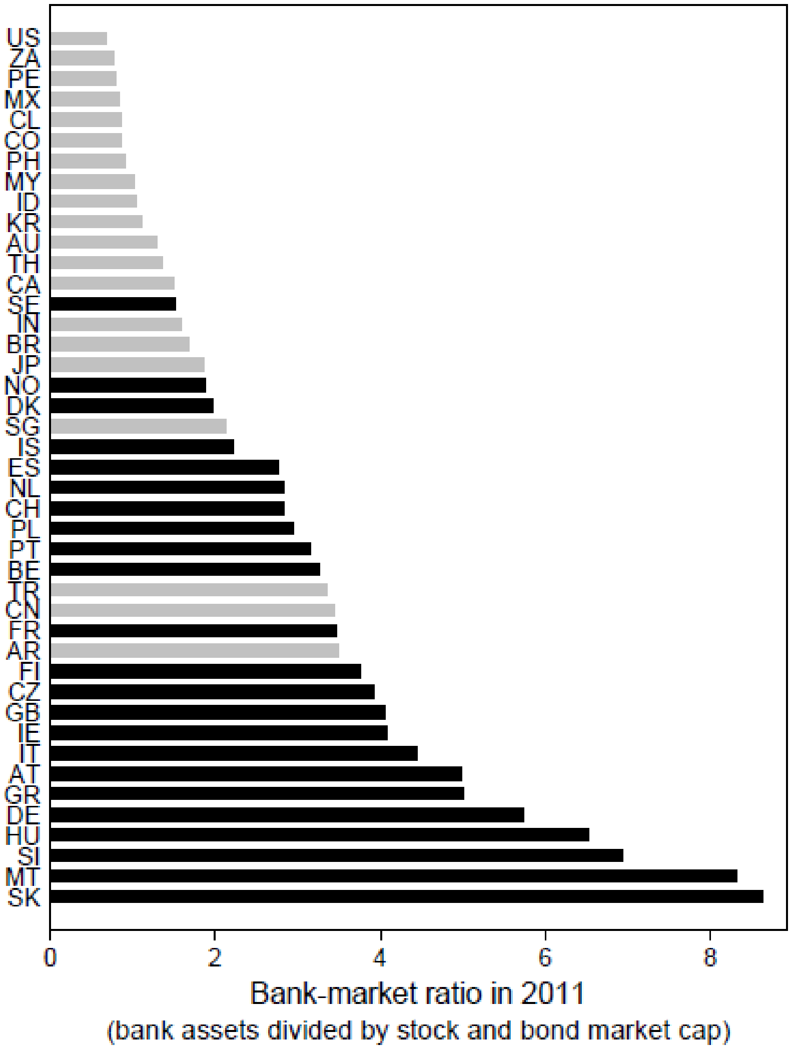
Bank vs. market-based financial systems empirical results

Early results:

- Financial structure is not significantly associated with economic development
- Overall development of financial sector matters!
- Beck and Levine (2002), Demirgüç-Kunt and Maksimovic (2002), Levine (2002)
- Financial service hypothesis dominates market- and bank-based hypotheses
- Alternative: optimal financial structure changes with economic development

More recent results

- For less developed countries, development of banking systems seems more important, while for more more developed countries, markets seems more important (Demirgüç-Kunt, Feyen und Levine, 2013, Cull und Xu, 2013)
- Capital market development enhances firm innovation (as measured by patents) while banking sector development might actually be damaging (Hsu, Tian und Xu, 2014)
- Countries with bank-based financial system have lower growth, especially during crisis times (Langfield und Pagano, 2015)
- Important caveat: empirical work focuses on banks and stock markets, while bond markets and other segments of the financial system, such as private equity, venture capital and angel financing, are mostly ignored, due to lack of sufficient data



Financial structure in Europe - heavily bank-based

- Source: Langfield and Pagano (2015)

European banking through the crisis and beyond

- Rapid expansion of European banks before crisis, driven by 20 largest banks (Langfield and Pagano, 2015)
- Trend even larger than in other developed regions of the world, but consistent with a general size increase of financial systems (as documented by, e.g. Philippon and Reshef)
  - EU's banking system assets amounted to 334% of GDP in 2013, US: 115%; Japan: 196%
- Some European countries targeted financial centre status (e.g. Iceland, Netherlands)
- Financial safety nets biased towards bail-out and towards domestic solutions
  - Lack of proper bank resolution frameworks forced policy makers towards bail-outs in 2008
- European banking market with national safety nets resulted in "banks global in life and domestic in death"
  - Lack of appropriate cross-border resolution framework forced split of banks along national lines and resulted in inefficient solutions (e.g. Fortis)

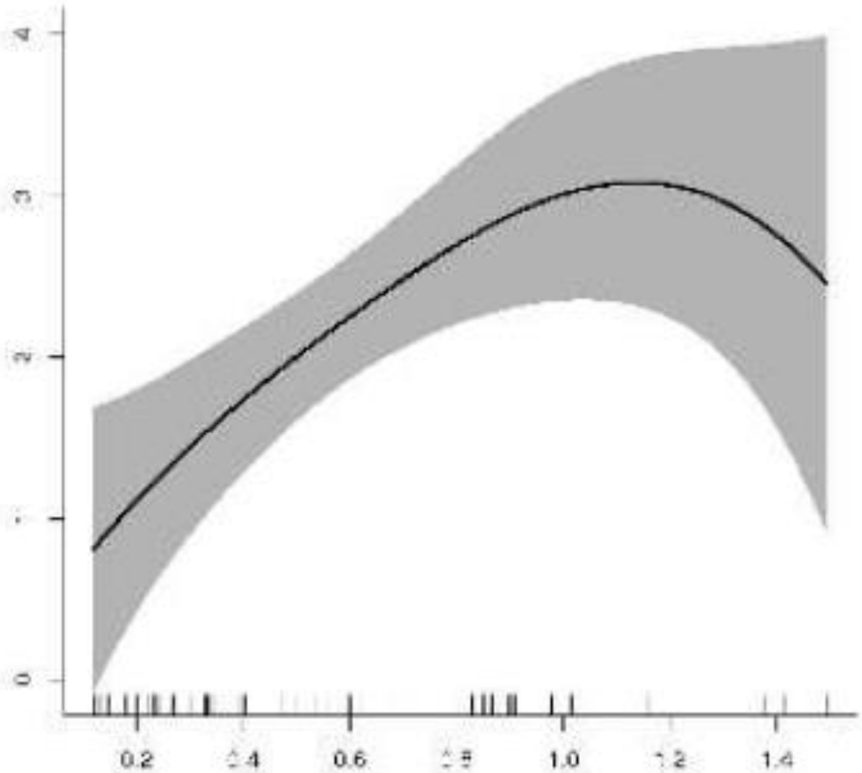
Is there a political bias?

- Historic bias towards banking in Europe (including towards universal banking)
- “My country, my banking system”
- Dispersed stock exchanges do not allow for network and scale economies (thick market externalities) and create information rents
- Dispersion of regulatory regimes for non-bank finance (including private equity)
- Financial structure (bank-bias) might be a rather persistent phenomenon, not easy to change

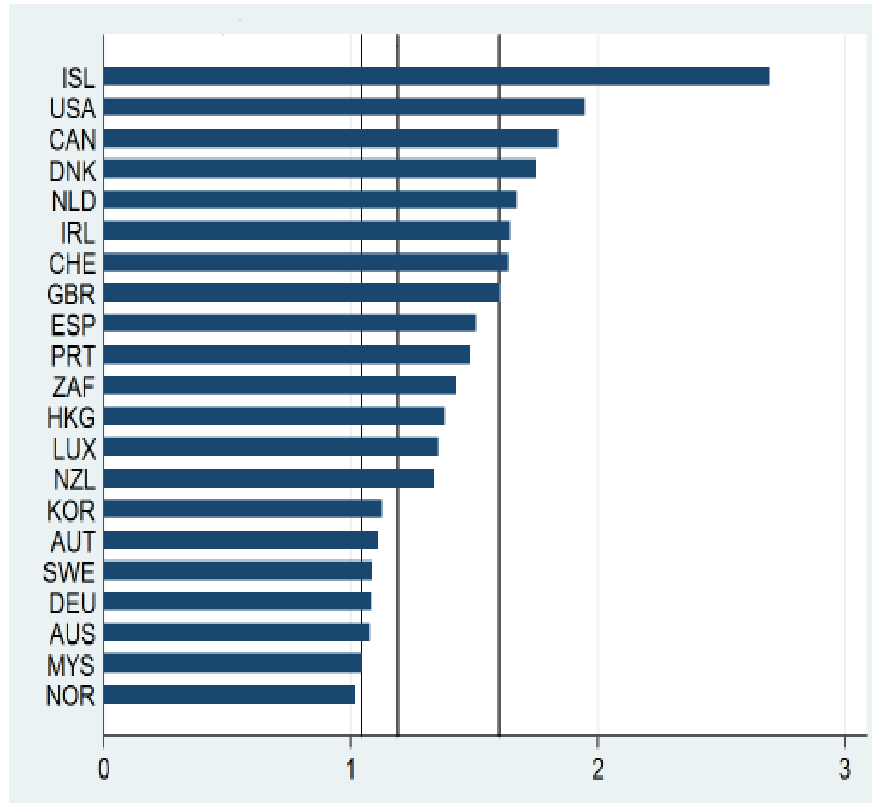
Does Europe Need a Capital Market Union and How Would We Get There?

- Yes
- Not over night
- Work on both banking and non-banking side
  - Complete banking union to minimize bias in favour of large banks
  - Array of policies and institutions to enhance capital market integration
    - Revival of securitisation markets (standards; creation of platforms; interaction with liquidity requirements)
    - Increase liquidity by linking corporate bond markets – segmented insolvency law one major barrier (also: standardised prospectus)
    - Link different stock exchanges – infrastructure
    - Demand side – how to get more firms to the market? Corporate governance, prospectus costs etc.
    - EU-wide second tier capital market/private placement market
    - …
  - Many "small" initiatives, not one big legislative or institutional reform, has to balance market and government initiatives

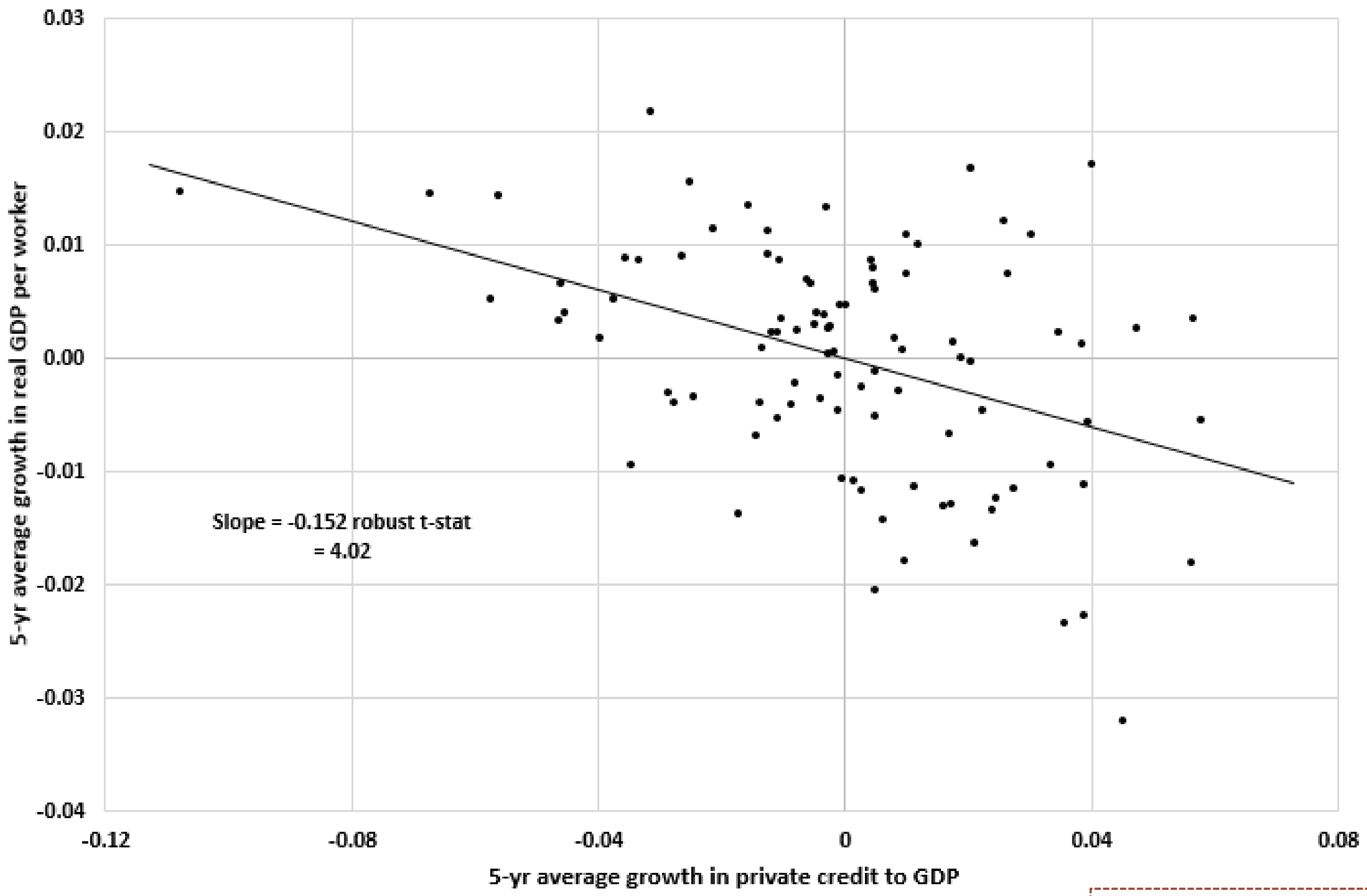
Is finance really pro-growth?



Arcand, Berkes and Panizza, 2012



Or maybe even a drag on productivity growth?



Cecchetti and Kharroubi, 2015)

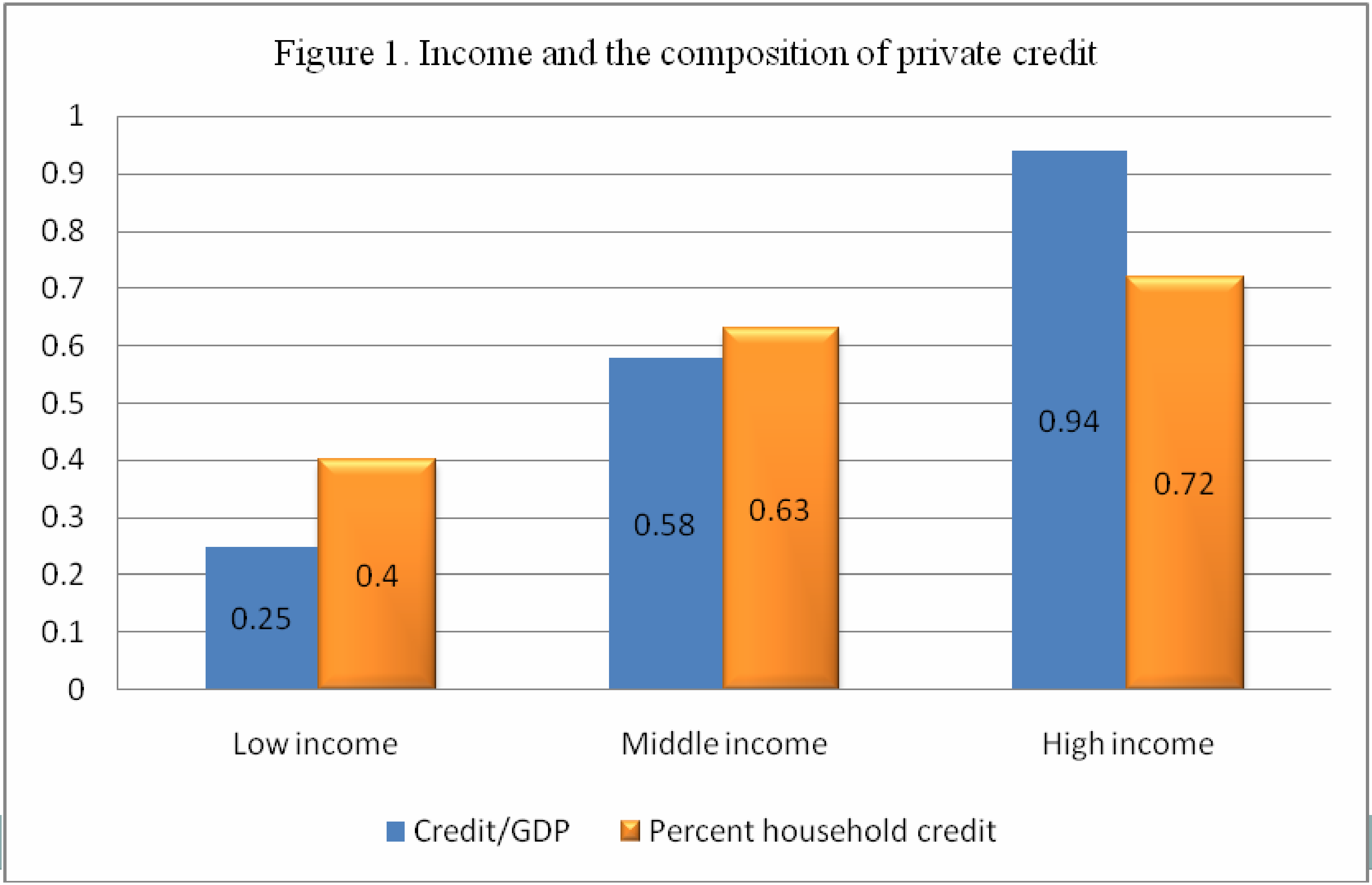
Non-linearities in finance and growth

- Relationship between finance and growth varies across countries, and systematically so with GDP per capita
- Explanations:
  - Banks are going into non-intermediation business lines
  - Finance only helps to reach frontier, but not once country gets there
  - Who gets credit?
  - What kind of concept of the financial system?
  - Boom-bust periods

Enterprise vs. household credit

- Theoretical and empirical finance literature has focused on firm credit…
  - Theory focuses on firms in need of investment finance
  - Empirical finance-growth literature focuses on firms:
  - Even microfinance started out wanting to help microentrepreneurs
- …but 43% of bank lending goes to households
- Large variation in credit composition across countries and over time
- Does the variation matter?

Who gets credit?



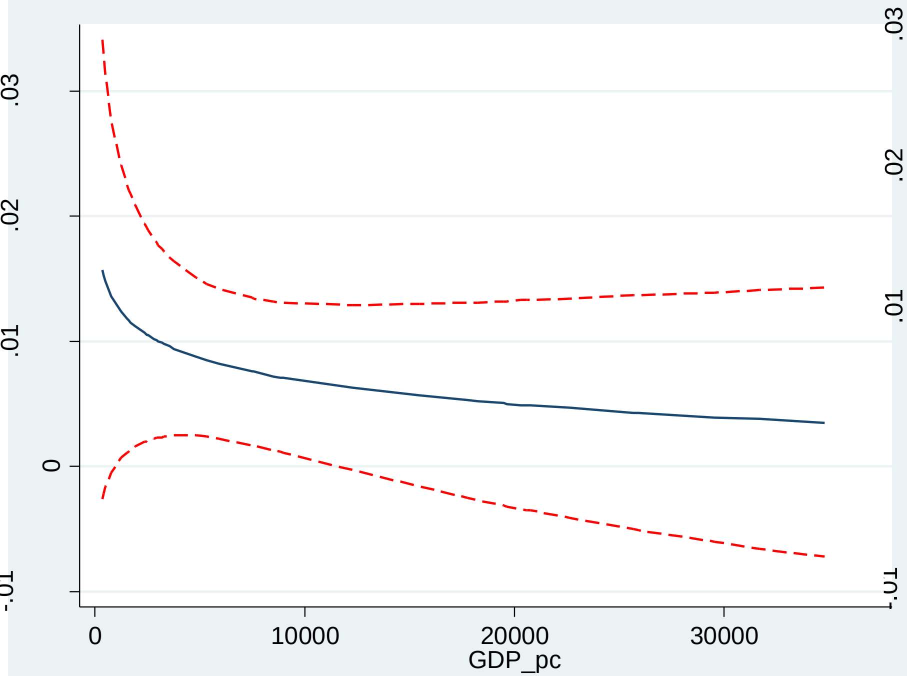
Who gets credit? And does it matter?

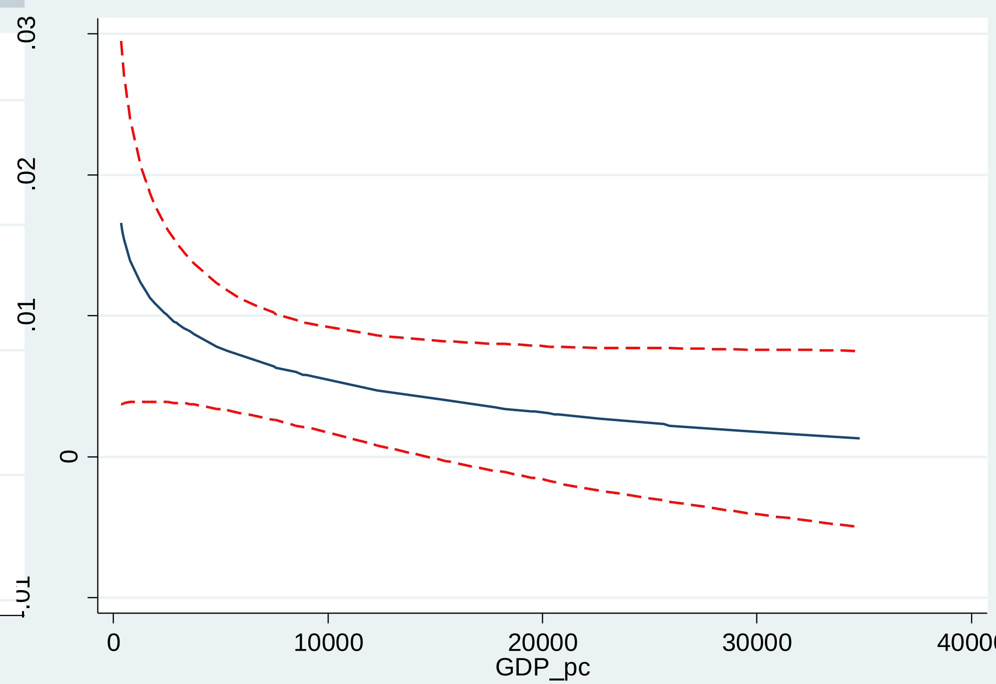
- Only enterprise component of bank lending robustly linked to economic growth
- Lending to households has no significant effect on growth (consistent with ambiguous effect predicted by theory)
- Increasing importance of household credit in total credit in high-income countries explains partly why the impact of overall bank lending in these countries is insignificant.
- Credit to enterprises, but not to households explains pro-poor effect of finance
- Beck et al. (2012), see also: Chakraborty, Goldstein and MacKinlay (2016) Mian, Sufi and Verner (2016)

Enterprise Credit captures more accurately finance-growth relationship

Bank Credit and growth at different levels of GDP pc

Enterprise Credit and growth at different levels of GDP pc



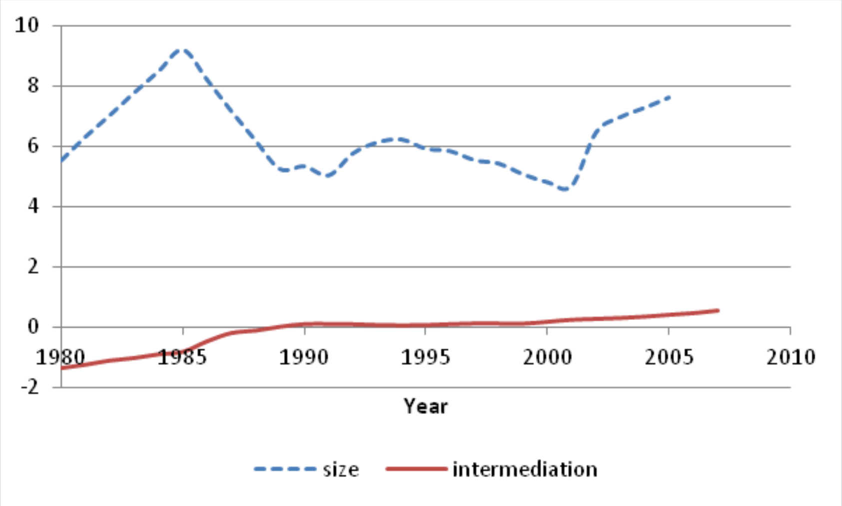


What kind of financial sector – financial intermediation vs. financial center view

- Financial intermediation or facilitator view
  - Finance as “meta-sector” supporting rest of economy
- Financial center view
  - One of many sectors
  - Nationally centered financial center stronghold based on relative comparative advantages such as skill base, **favorable regulatory policies, subsidies**, etc.

What kind of financial sector – financial intermediation vs. financial center view

- Private Credit to GDP vs. Value added of financial sector in GDP

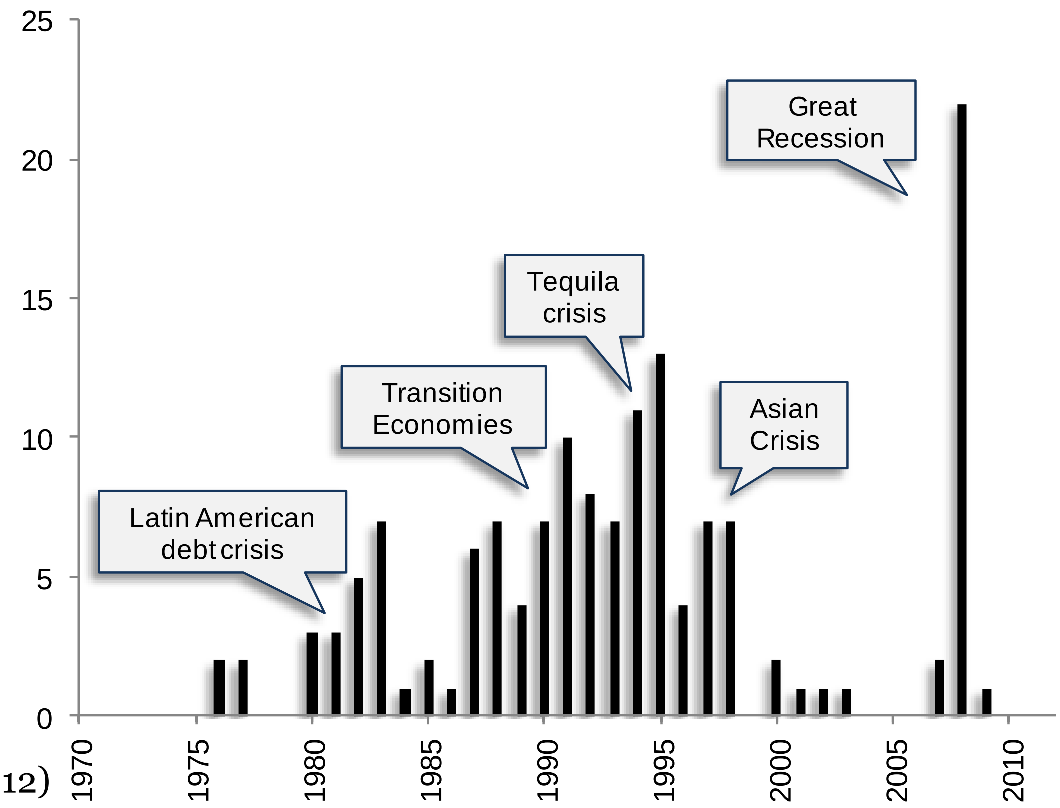


- Long-term: intermediation matters, not sector size
  - Higher growth and lower volatility
- Short-term: size is associated with higher volatility in high income countries, intermediation with higher growth in low-income countries
- Kneer (2013a,b): evidence for brain drain from skill-intensive industries to financial sector

Credit cycles – often based on asset price cycles

- Credit expansion based on explicit subsidies or political encouragement (e.g. in US pre-2007)
- Credit expansion based on low real interest rates (e.g. Spain pre-2008)
- Expectation of ever increasing prices
- Expectation of private profits and socialized losses

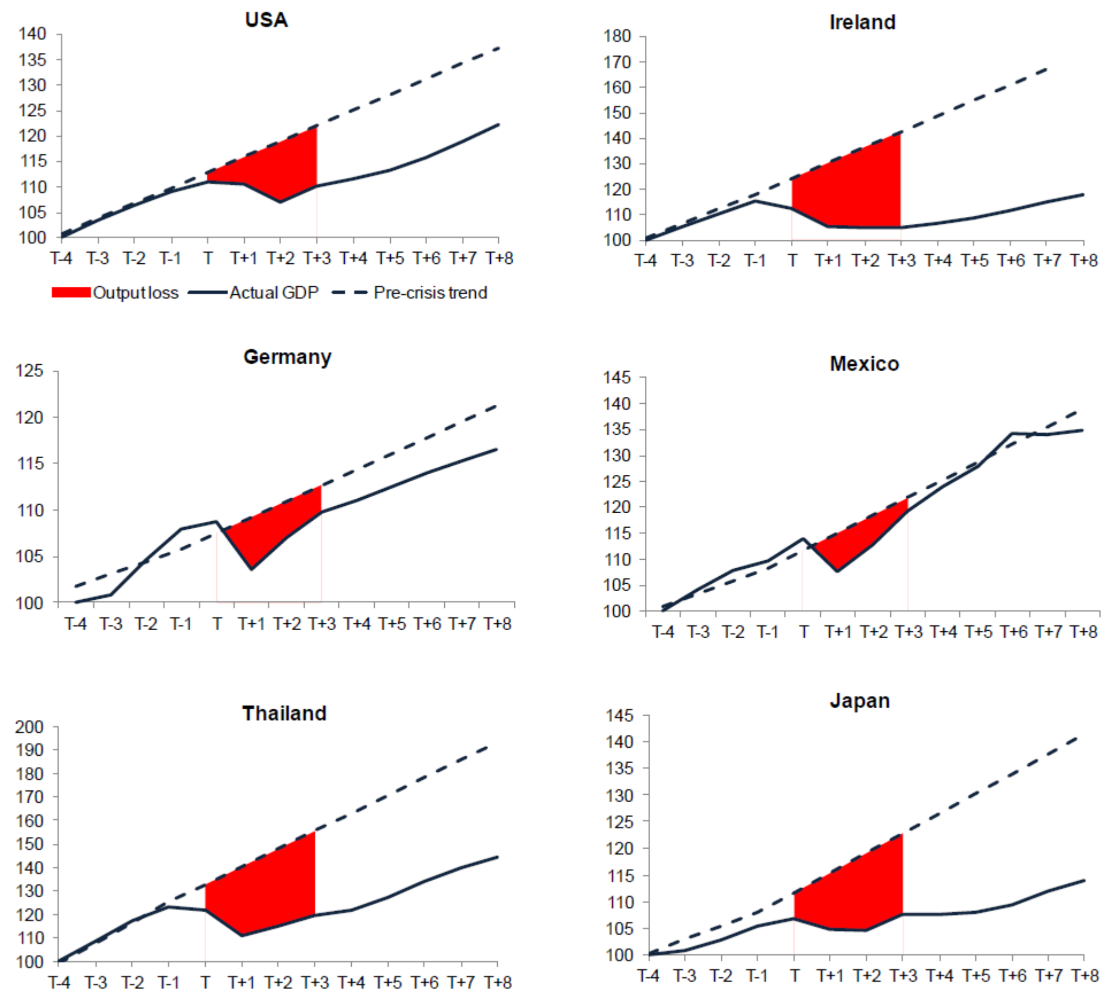
Financial crises happen often and (almost) everywhere



Source: Laeven and Valencia (2012)

With high output losses

Figure 7. Output Losses for Selected Crises Episodes 1/



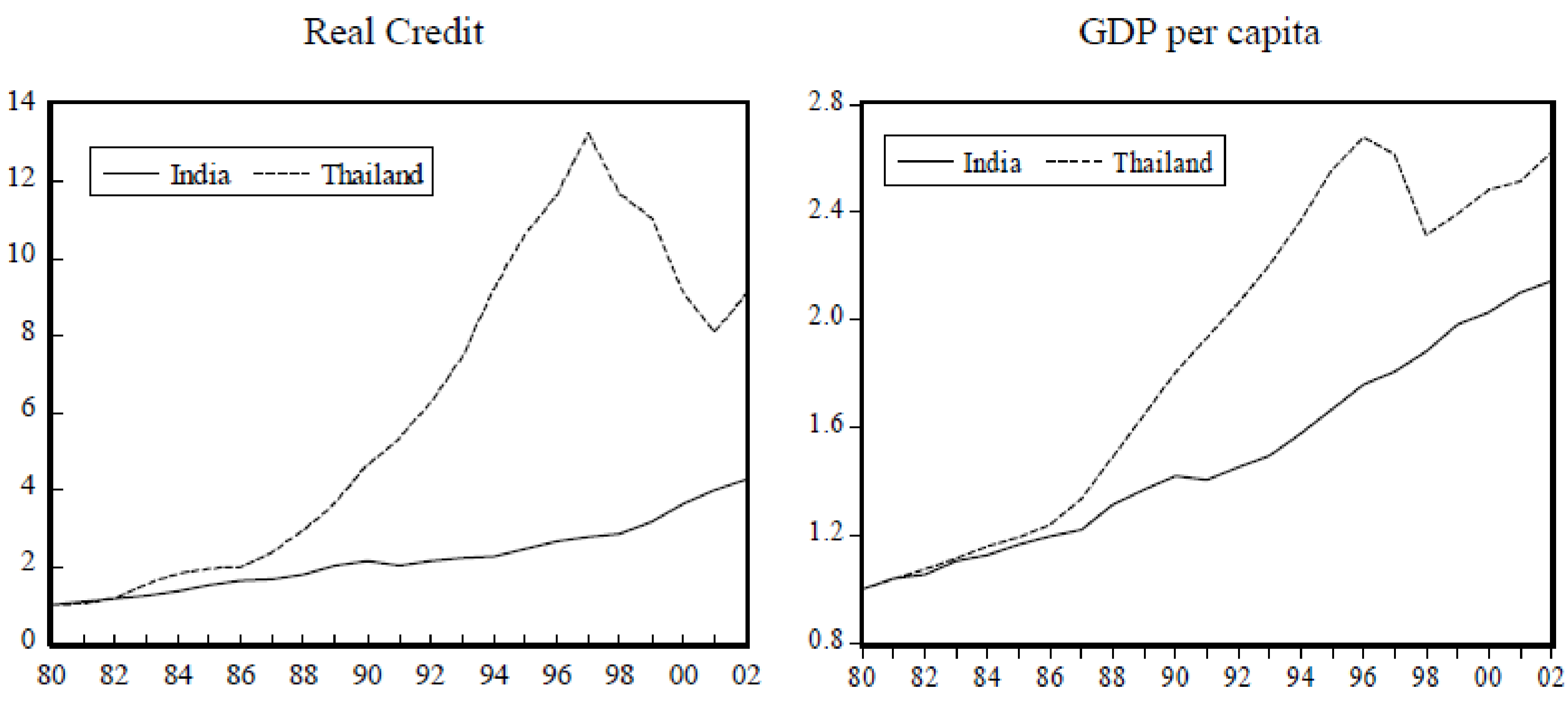
Sources: World Economic Outlook and authors' calculations.

1/Year T equals 2007 for USA, 2008 for Ireland and Germany, 1994 for Mexico, 1997 for Thailand and Japan. GDP in T-4 is set equal to 100.

Short- vs. long-term effects

- Ranciere, Tornell and Westermann (2008):

Figure I. Safe vs. Risky Growth Path: A Comparison of India and Thailand, 1980–2002



Note: The values for 1980 are normalized to one. The figures display annual credit and per-capita GDP series.

What is financial development? Some remarks on measurement

- Functions of financial institutions/markets
  - Facilitating exchange of goods and services
  - Mobilizing and pooling savings
  - Assessing projects and monitoring entrepreneurs
  - Diversifying and reducing liquidity and intertemporal risk
- Financial development: more efficient provision of these services
- BUT: No data on functions
- Focus on institutions and markets as proxies
  - Monetary aggregates, bank credit/deposits (IFS), stock market data
  - Bank level data
  - User-level data
- But volume≠ efficiency/development

Financial indicators are crude proxies

- Can there be too much finance? YES
- Can financial markets be too efficient and developed? MAYBE
- But: Two different concepts
- Also: timing: finance and growth: long-term

What have we learned?

- The growth benefits of finance go hand in hand with its fragility!
- The finance and growth relationship has important non-linearities
- The importance of financial sector stems from intermediation function and from enterprise credit
- Financial inclusion is only one channel through which finance affects income inequality and poverty! And it might not be the most important one
- A poorly designed financial safety net can lead to an overexpansion of the financial system, with negative repercussions for stability and ultimately growth

Is there a Goldilocks level of finance?

NOT TOO HOT, NOT TOO COLD….

Financial possibility frontier – a framework

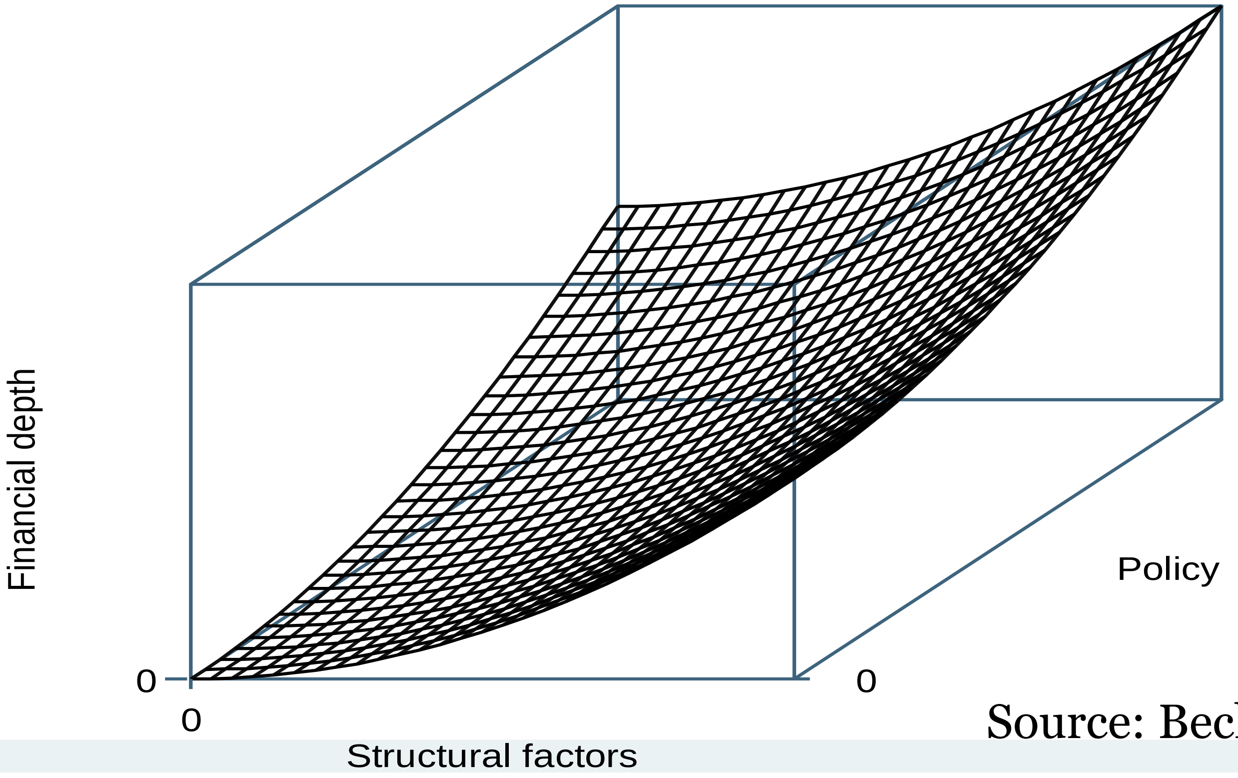
Market frictions

- Transaction costs
- Idiosyncratic and systemic risk

State variables:

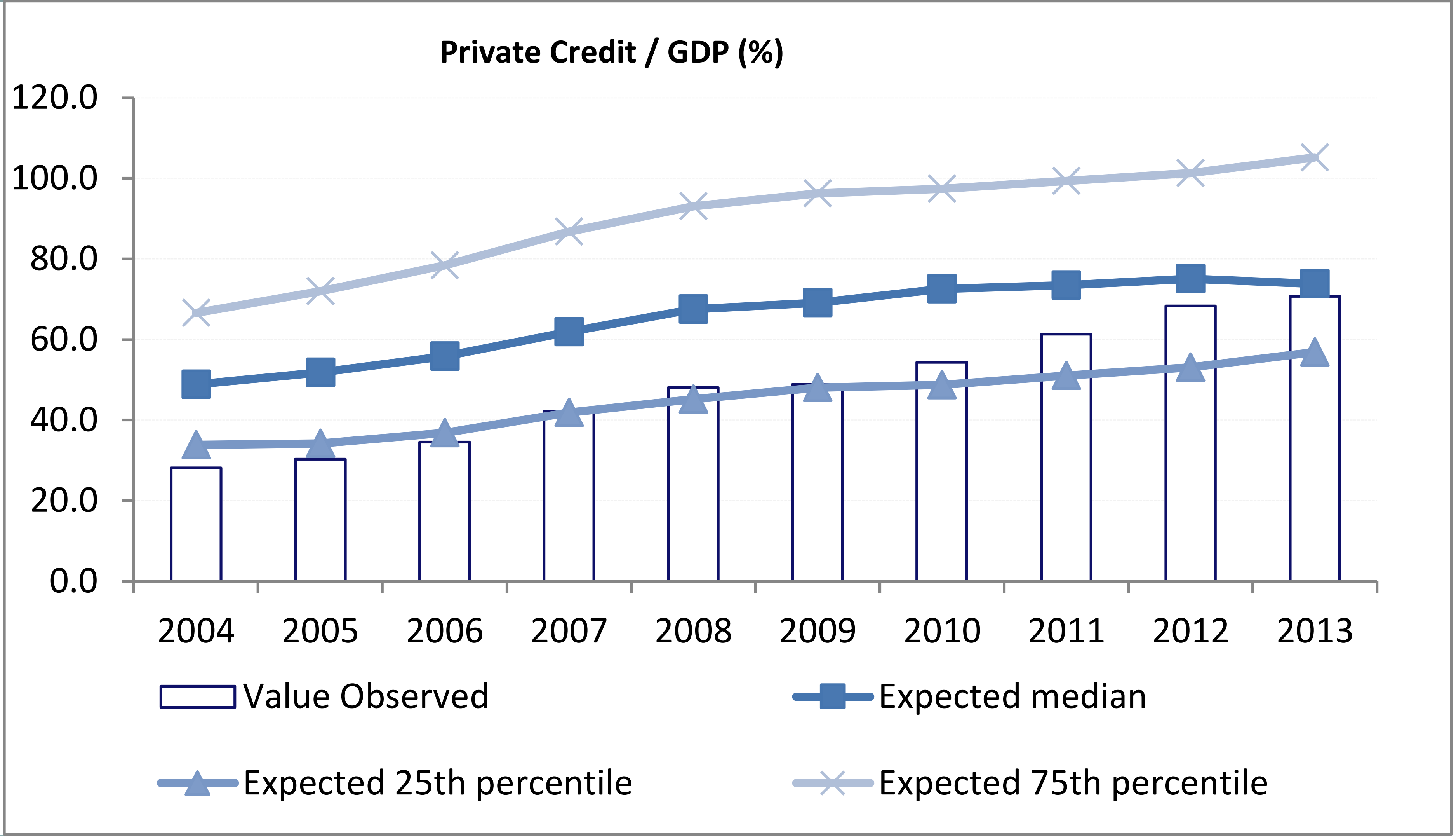
- Invariant in the short-run and impose an upper limit on financial deepening
- Structural variables:
  - Socio-economic factors (income, market size, population density, age dependency ratio, conflict)
  - Available technology and infrastructure
- Policy variables:
  - Macroeconomic management and credibility
  - Contractual and information frameworks

Financial possibility frontier



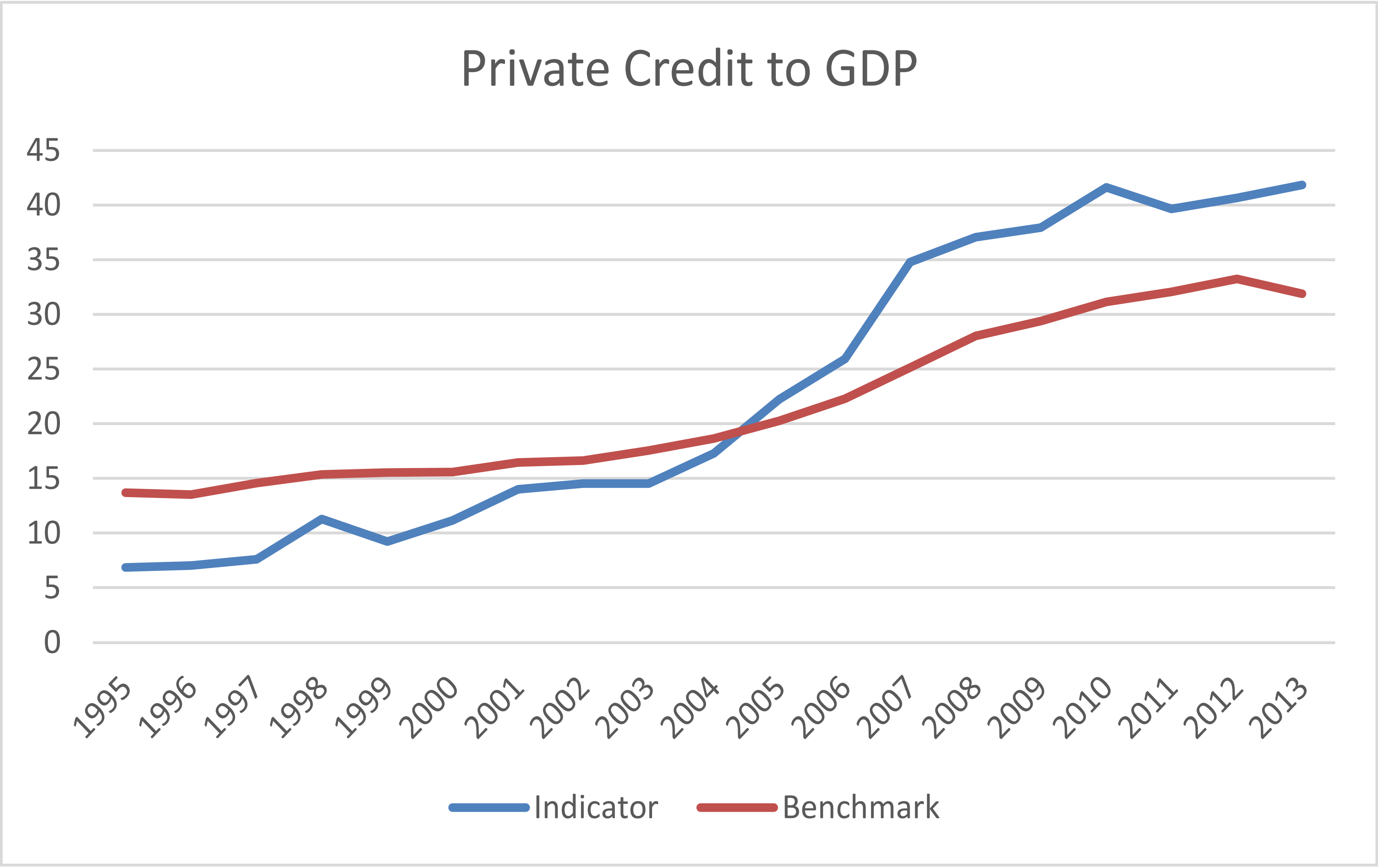
Source: Beck and Feyen (2013)

Structural depth frontier - Brazil



Benchmarking Indonesia's financial system

Variation over time in Central and Eastern Europe



Taxonomy of challenges

- Frontier too low
  - Structural variables
  - Institutional variables
  - Market-developing policies
- Financial system below frontier
  - Lack of competition
  - Regulatory constraints
  - Demand-side constraints
  - Market-enabling policies
- Financial system beyond frontier
  - Incentive compatible regulatory framework
  - Also on demand-side
  - Market-harnessing policies

Pushing out the frontier (1)

- Institutions and policies most relevant for pushing out frontier? Sequencing?
  - Role of government (Retail vs. wholesale; Ownership vs. management; Provision of services vs. infrastructure; Credit vs. savings)
- Relative importance of different segments of the financial system
  - Banks, capital markets and contractual savings institutions
  - Different structures optimal at different income levels and economic structures?
  - How does financial structure develop, from insider- to relationship-based to arms-length based?
- How to foster long-term finance
  - Lack of data in this area!

Pushing out the frontier (2)

- Competition and rents in the financial sector
  - Competition as condition for innovation…
  - … but can result in herding and fragility
  - Rents at the core of private information creation, but..
  - … can lead to rent seeking, over-pricing etc.
- Role of finance in structural transformation

Pushing towards the frontier (1)

- Financial innovation: Policies and interventions on the user, provider and government level
  - New financial products,
  - New lending techniques or other changes on the provider level,
  - New legal or regulatory changes
  - Moving from microfinance to small business finance
  - Scaling up (e.g. M-Pesa vs. other cases)
- Entrepreneurship
  - Motivations, education and management skills
  - Gender dimension
  - Link to behavioral economics
  - Financial literacy

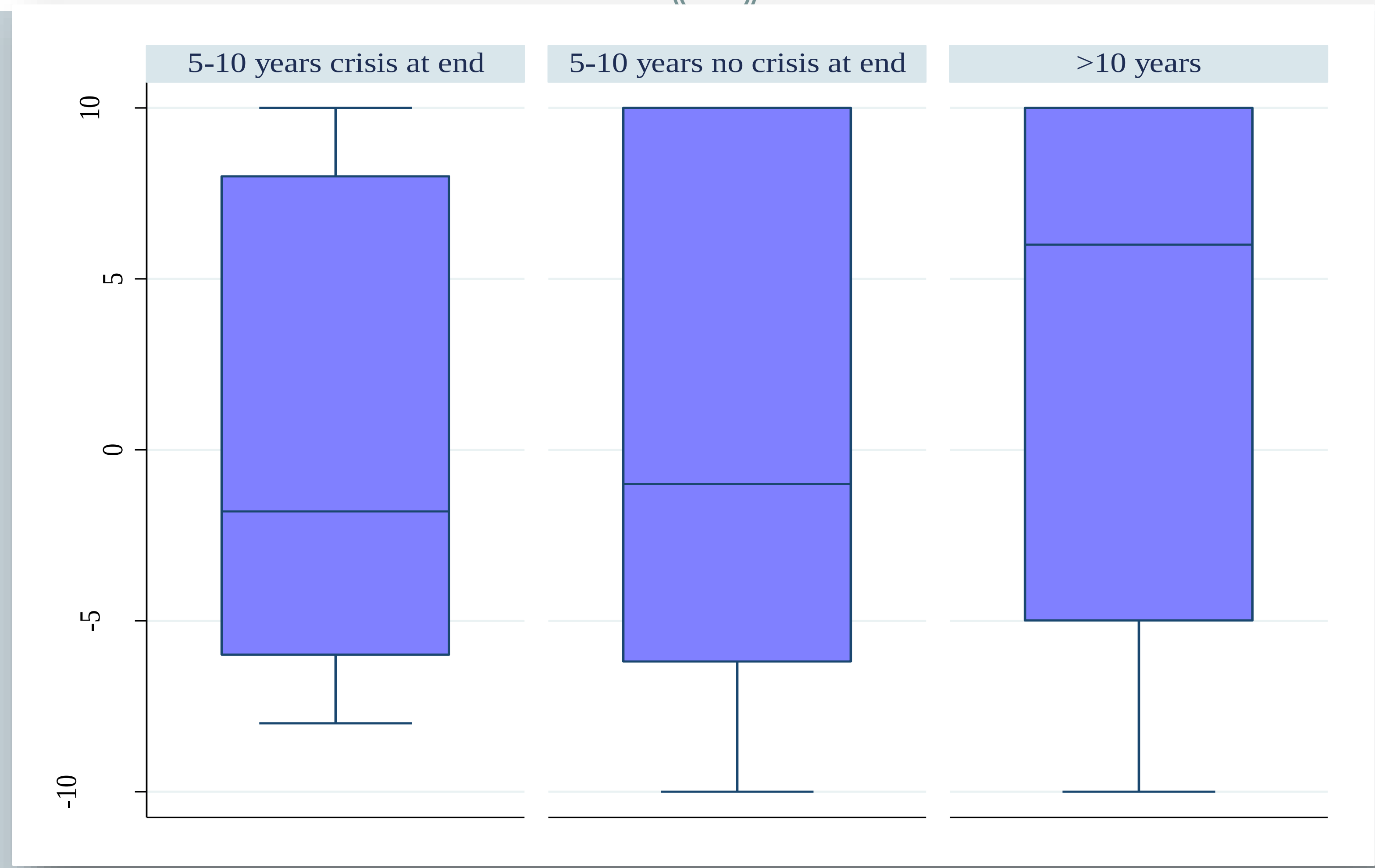
Preventing overshooting

- Financial safety nets
  - Cross-border regulatory cooperation
  - Monetary vs. financial stability, macroprudential regulation
- Overindebtedness
  - Role of consumer protection; competition; social pressures
  - Specific programs and interventions

Finance is about politics!

- Understanding the political economy helps understand feasibility and outcomes of financial sector outcomes
- Connected lending
- Regulatory and political capture

Looking beyond policies towards politics



Source: Quintyn and Verdier (2012)

Looking beyond finance and growth: A new research agenda

- What is the Goldilocks level of financial development?
  - Policies and institutions to reach this level
- Competition and rents in the financial sector
- Role of government – general and specific?

Thank you

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