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DEVELOPMENT RESEARCH

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Bank Regulation and Supervision: The Decade After the Global Financial Crisis

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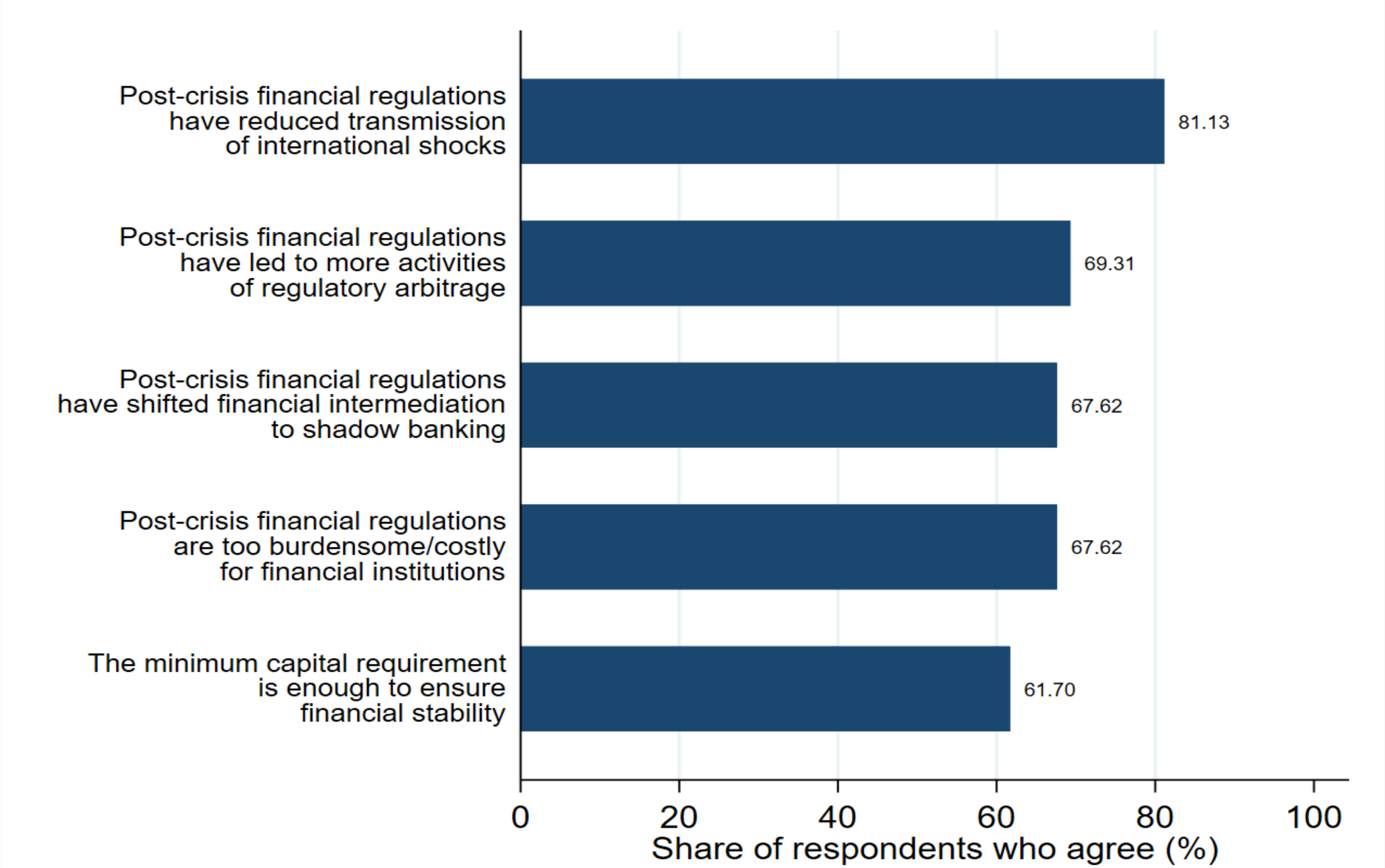
http://www.worldbank.org/financialdevelopment

Why bank regulation and supervision?

- Financial crises are almost always followed by regulatory reform
- The tenth anniversary of the GFC provides an opportunity to reflect on these reforms
- New Data – World Bank –Bank Regulation and Supervision Survey – cover 160 countries
  - Opportunity to assess regulatory reform in developing countries
- How does research inform the policy debate going forward?

Views from our clients – *Financial Development Barometer*

Views on Post-crisis Regulations



Source: Financial Development Barometer.

Important policy concerns

- To what extent regulatory reform designed with high income countries in mind is appropriate for developing countries (proportionality)?
- What has been the impact of reforms on market discipline and bank capital?
- How should countries balance the political and social demand for a safety net for the users of the financial system with potentially severe moral hazard consequences?
- Is higher capital damaging to the flow of credit? How should capital regulation be designed to improve stability and access?

What do we know so far?

Rationale for Regulation and Supervision

- “Contagion” – “Market imperfections” – e.g. information costs – can lead to runs on otherwise healthy banks (Diamond and Dybvig, 1983)
- “Externalities” – cause problems not only for the rest of the financial system but impact the economy as a whole which can be quite costly
- “Safety nets” – bailouts prevent banks from bearing the full risk of their activities, spreading the costs more widely
- “Representation” – Provide monitoring that unsophisticated depositors are unable to perform (Dewatripont and Tirole, 1994)
- ”Herding” - investors tendency to make systematic mistakes
- Curb anticompetitive behavior and protect consumers

Regulation and Supervision - Pitfalls

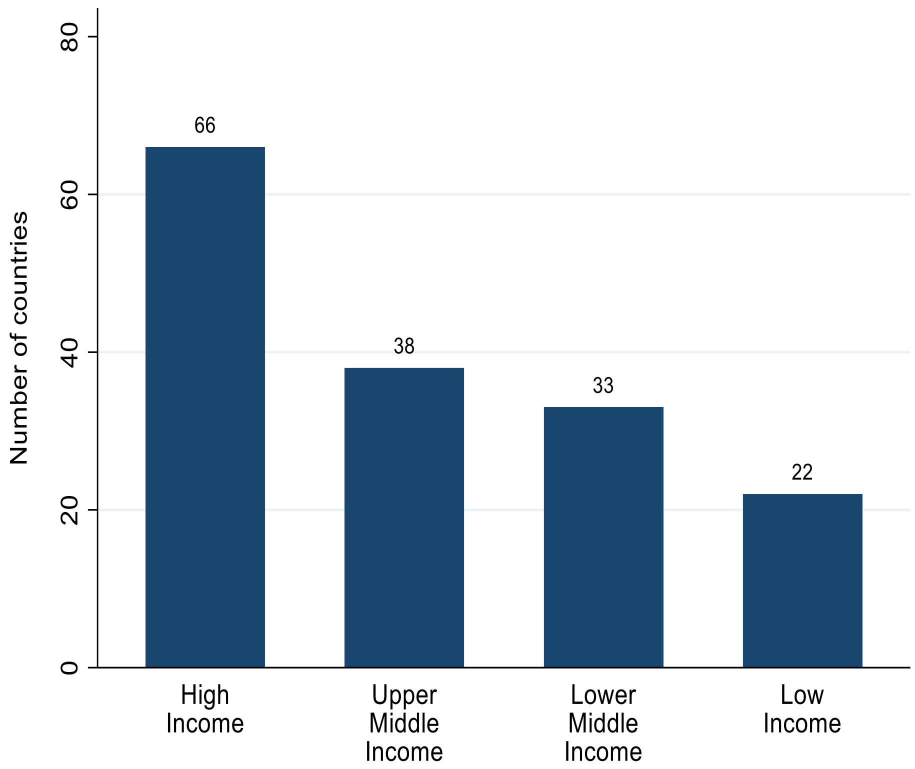
Just because they can address market failures, does not mean that governments will …

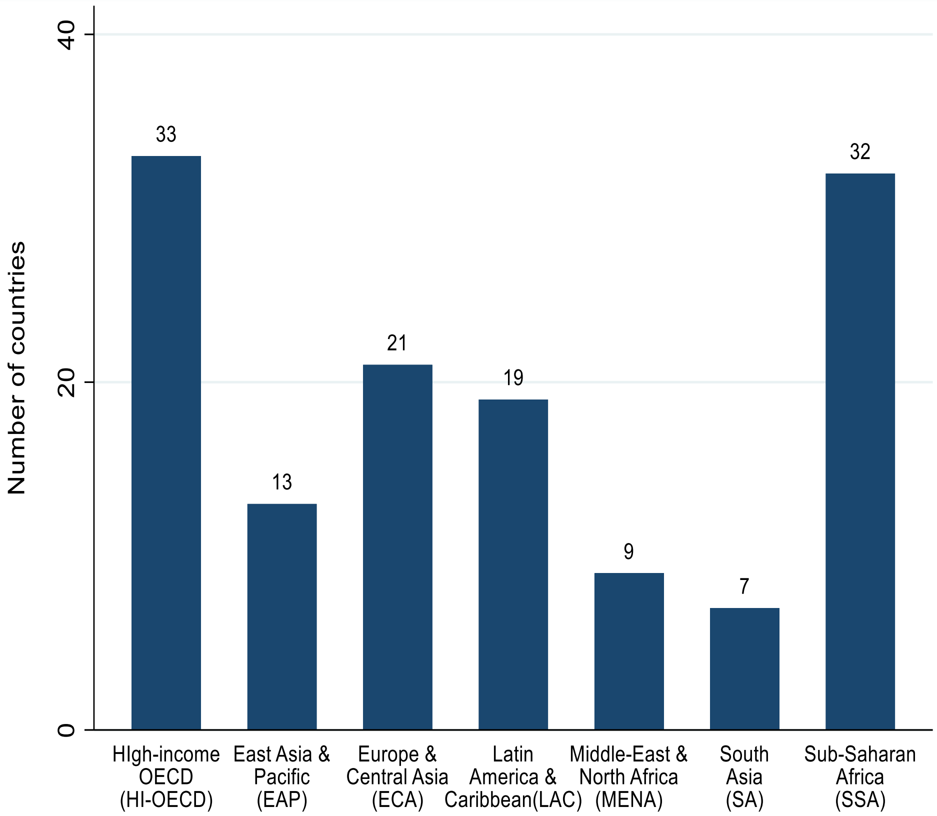
- Measuring risks and enforcing risk-based regulation is difficult
- Reducing one market imperfection can lead to others
- Regulators cannot match the speed at which private sector innovates
- Governments do not always have sufficient incentives to address market imperfections – "regulatory capture"

…..to overcome these challenges, effective regulation should enlist the help of the private sector → "market discipline"

New Data: 2019 Bank Regulation and Supervision Survey

- 5th wave of the survey (earlier waves in 1999, 2003, 2007 and 2012)
- Provides a good picture of the post-crisis period





Source: Anginer, Bertay, Cull, Demirguc-Kunt and Mare, 2019

2019 BRSS: Survey sections

- Section 1: Entry into Banking
- Section 2: Ownership
- Section 3: Capital
- Section 4: Activities
- Section 5: External auditing requirements
- Section 6: Bank governance
- Section 7: Liquidity & Diversification requirements
- Section 8: Depositor (Savings) protection schemes
- Section 9: Asset classification, provisioning, and write-offs
- Section 10: Accounting/ information disclosure
- Section 11: Discipline/problem institutions/ exit
- Section 12: Supervision
- Section 13: Banking sector characteristics
- Section 14: Consumer protection
- Section 15: Islamic banking

Focus on Two Key Areas

1. Market Discipline

2. Capital Regulation

⇒Both are intended to align the private incentives with public interest

⇒Both connect with the corporate governance and risk-taking behavior of banks

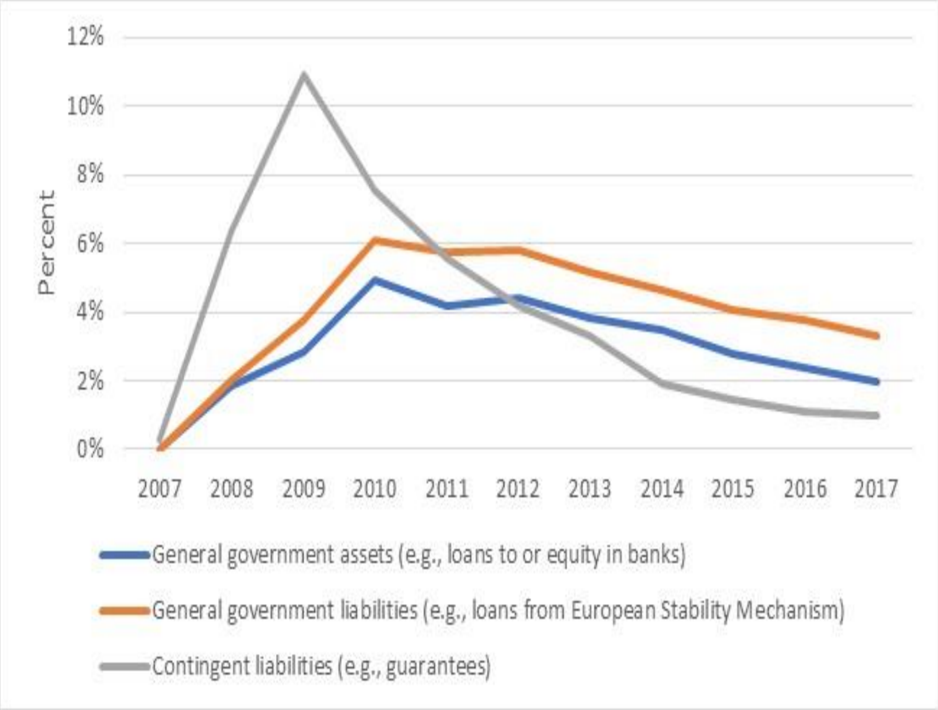
What has been the impact since the global financial crisis?

Market Discipline

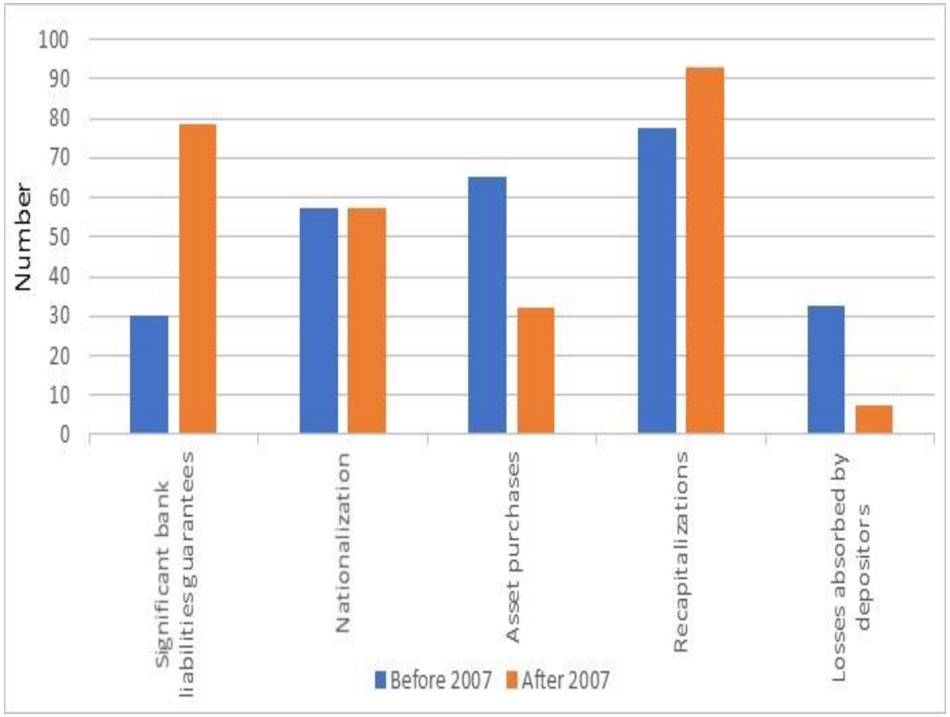
- Well-developed capital markets have an important monitoring function
- Market discipline is the process by which market participants monitor the risks and financial position of banks and take action to guide, limit and price risk-taking by banks
- For market discipline to work effectively market participants must have the information, the means and most importantly the incentives to monitor and influence banks to limit excessive risk-taking
- Regulation and supervision affect directly and indirectly the monitoring incentives of market participants

Market Discipline: Post-GFC intervention forceful and unprecedented

Government interventions in the European Union to support financial intermediaries (% of GDP)



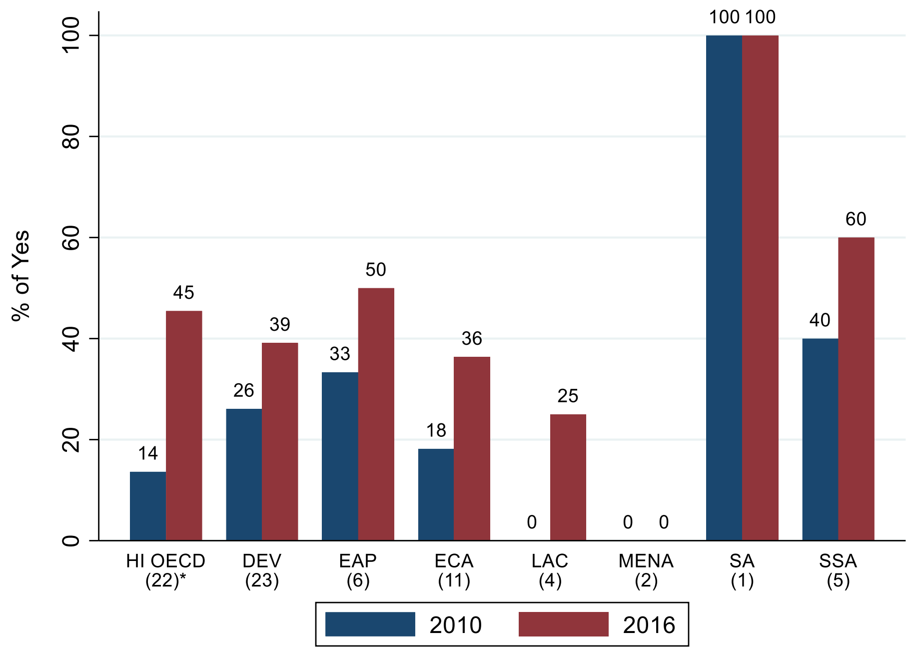
Financial Crisis Interventions before and after the GFC (% of crises)



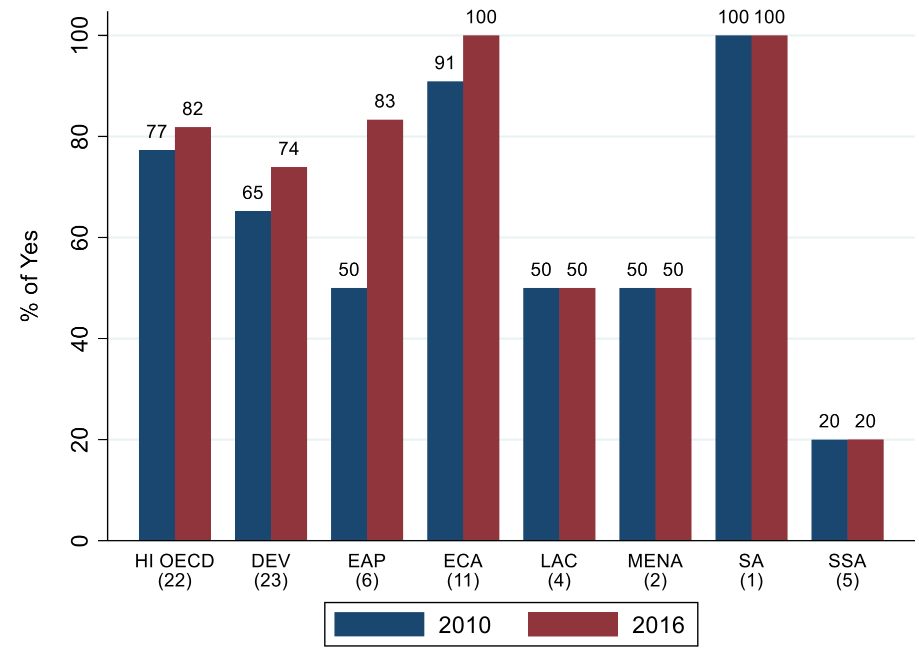
Source: left panel Eurostat; right panel Laeven and Valencia (2018).

Market Discipline: Expansion of Explicit Guarantees

Expansion of coverage since 2009 (% of respondents answering Yes)



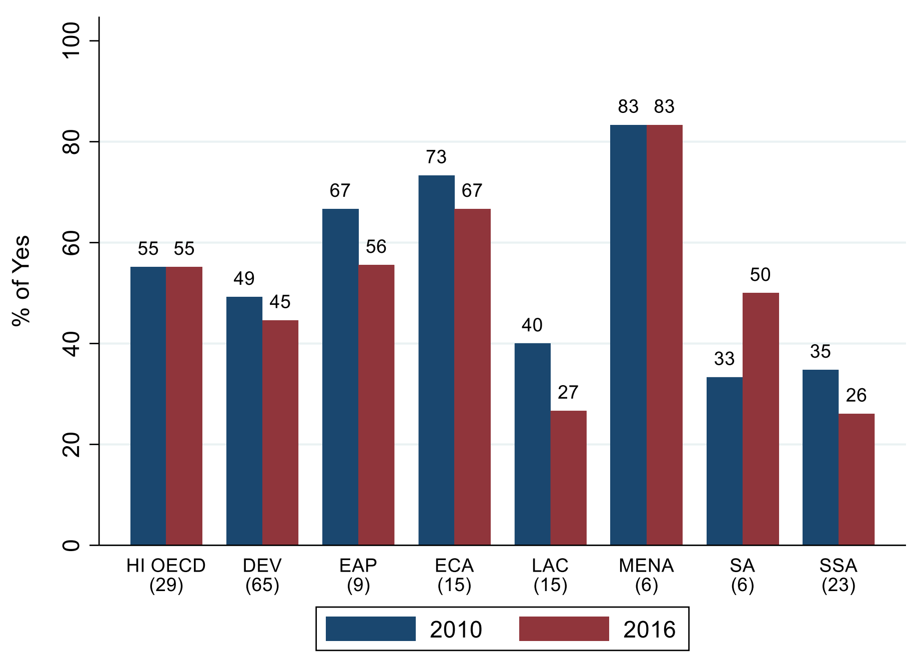
Increased in the amount covered since 2009 (% of respondents answering Yes)



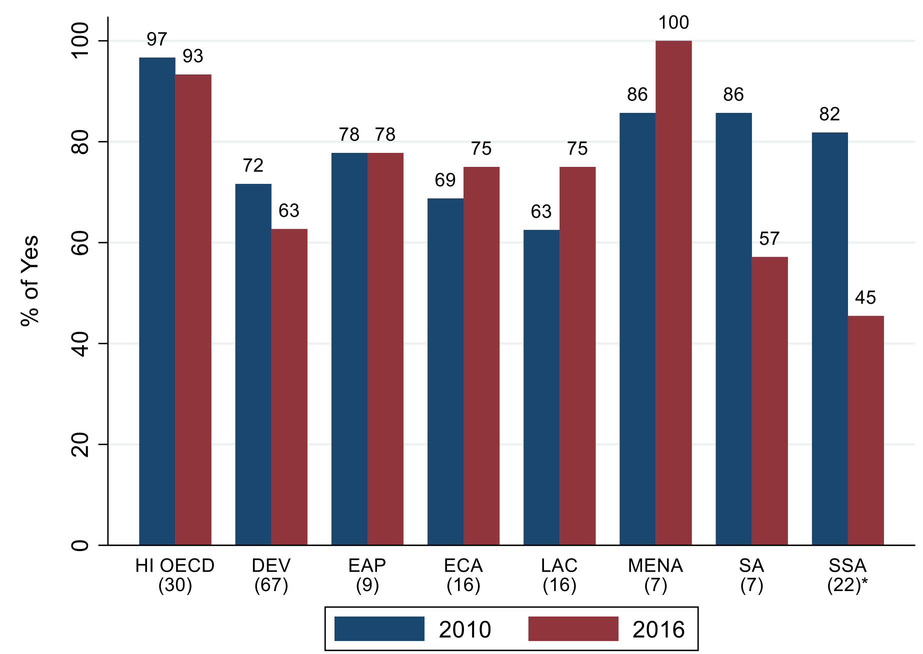
Source: Anginer, Bertay, Cull, Demirguc-Kunt and Mare, 2019

Market Discipline: Information Disclosure Limited

Disclosure of banks' owners/controllers (% of Yes)



Disclosure of bank governance and risk management framework (% of Yes)

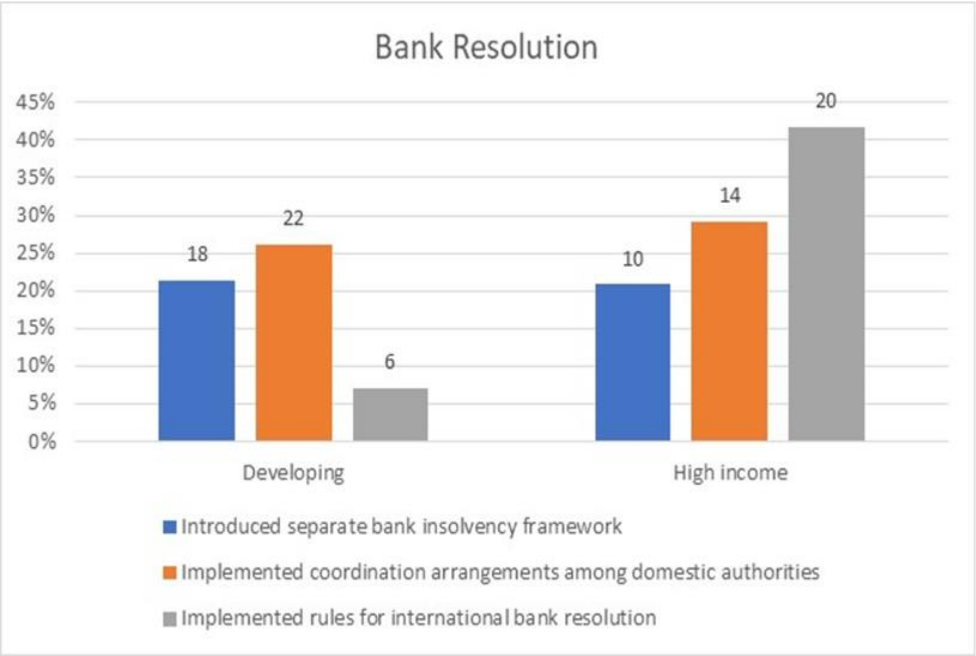


Source: Anginer, Bertay, Cull, Demirguc-Kunt and Mare, 2019

Market Discipline: Post-crisis reforms

- Insolvency resolution schemes were re-designed:
  - Explicit definition of systemically important institutions (SIFIs)
  - New resolution process for bank holding companies implemented through a single point of entry
  - New requirements for systemically important banks to hold bail-in debt
  - Enhanced supervision of risk-management and risk-reporting processes at banks including periodic stress tests, living wills

New Resolution Schemes were Introduced



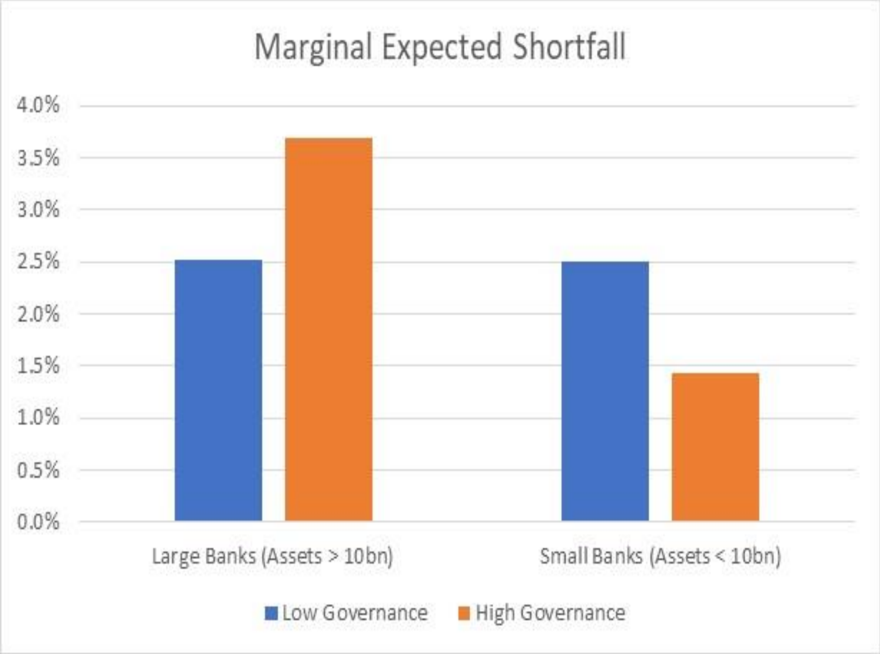
Source: BRSS 2019.

- The most recent survey shows that countries have implemented special rules for resolution of SIFIs
- The main goal has been to resolve SIFIs without major disruptions to the financial system and the real economy, and without exposing taxpayers to the risk of loss
- Cross-border resolution requires international cooperation and remains a thorny issue

Market Discipline: Overall picture

- Government interventions during GFC were large and unprecedented with important moral hazard implications
- In the wake of the GFC, deposit insurance frameworks became more wide-spread and generous
- Information disclosure has not significantly improved
- There were efforts to incorporate bail-in features and improve resolution frameworks – these are not tested
- Resolution frameworks are a work in progress and resolving international bank failures remains a key concern

…and without market discipline, other reforms may backfire



Based on Anginer, Demirguc-Kunt, Huizinga and Ma, 2018

- The financial crisis also prompted the undertaking of bank governance reforms
- However, improving corporate governance of banks to better align incentives of managers and shareholders, when a financial safety net exists can backfire
- Share-holder friendly corporate governance results in higher risk and lower capital as better-governed banks exploit the financial safety net (Anginer et al., 2018, 2016).

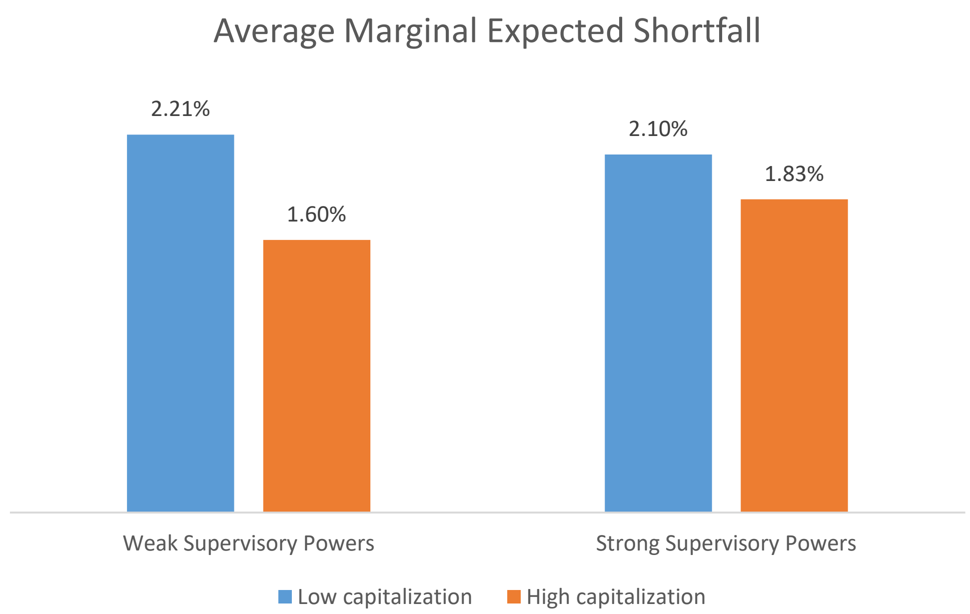
Capital Regulation

- Bank capital - Equity shareholders contribute to the bank that can withstand losses and has the lowest priority in payments if the bank liquidates

- Functions of bank capital
  - Sustain losses while honoring deposit withdrawals and obligations
  - Curtails incentives for excessive risk-taking (more “skin in the game”)

- Regulatory capital
  - Amount of capital banks are required to hold
  - Includes instruments other than equity (hybrid capital instruments, subordinated term debt)
  - Segmented into tiers that rank instruments by their payment subordination

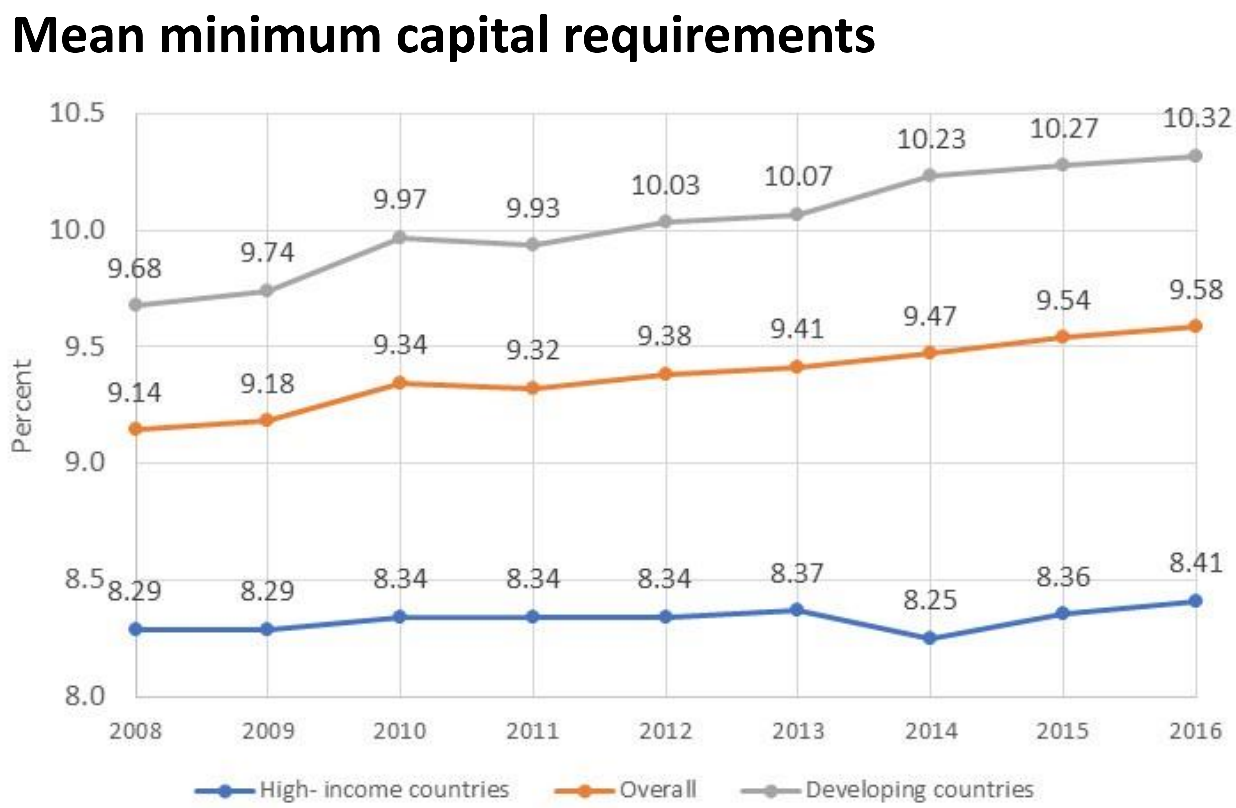
…also capital can compensate for weak market discipline and supervision



Based on Anginer, Demirguc-Kunt, and Mare, 2018

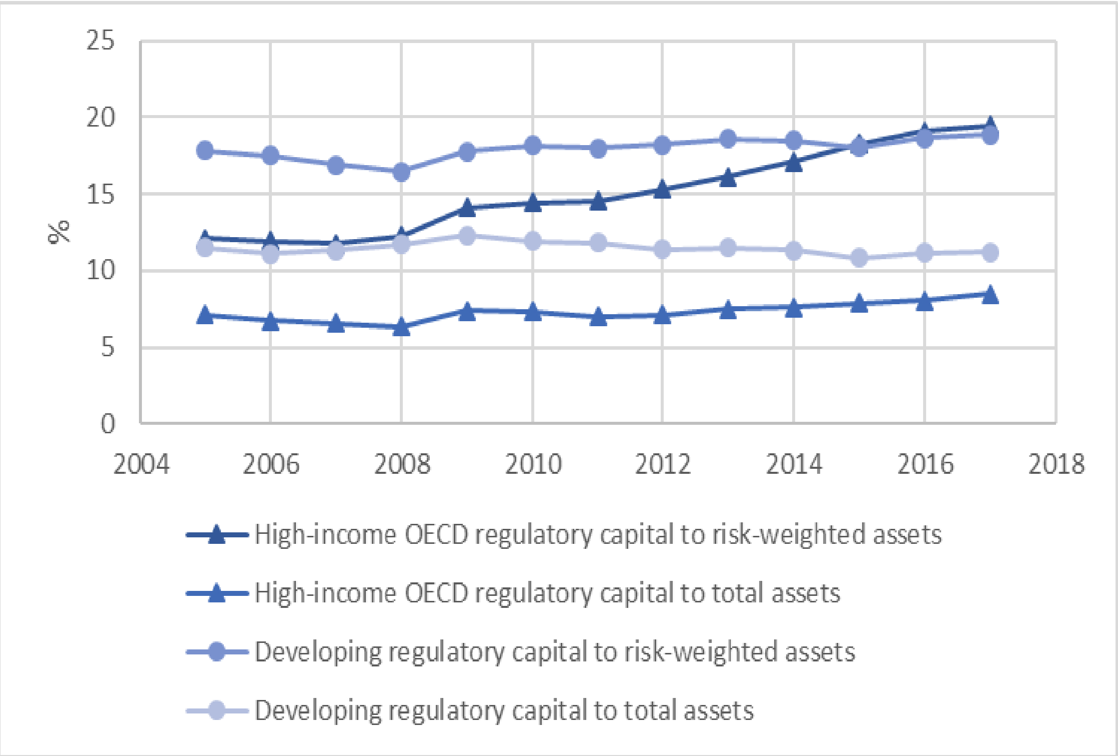
- Capital regulation has been an important element of reforms since the crisis
- It can also compensate for weaknesses in market monitoring and official supervision
- Research shows in countries with weaker supervision, higher capital is associated with significantly lower systemic risk compared to countries with stronger supervision
- In countries where regulation and supervision is costly, capital can compensate

Capital: Capital Requirements Increased



Source: Bank Regulation and Supervision Survey (BRSS).

Capital: Capital holdings increased but…

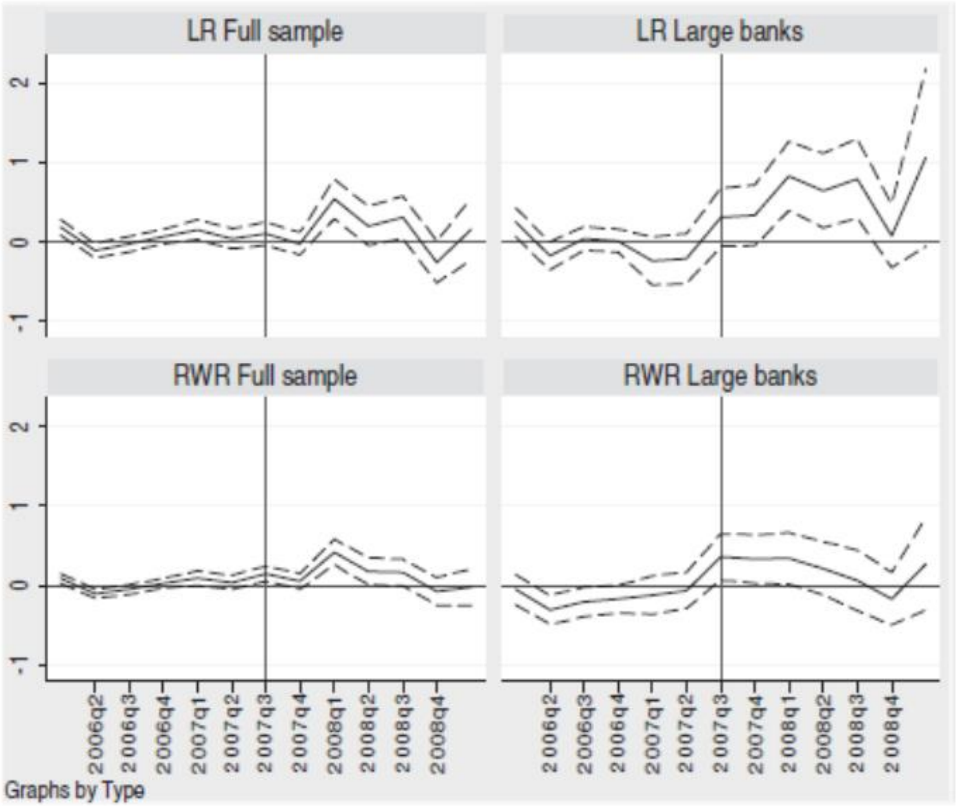


Source: IMF FSI.

- In high-income OECD countries, capital over risk-weighted assets has caught up with developing countries
- But capital over total assets has increased much less in developed as well as developing countries
- Increases in regulatory capital reflect a shift towards asset categories with lower risk weights

Capital : But do risk weights reflect risk accurately?

Response of bank stock returns to lagged bank capital



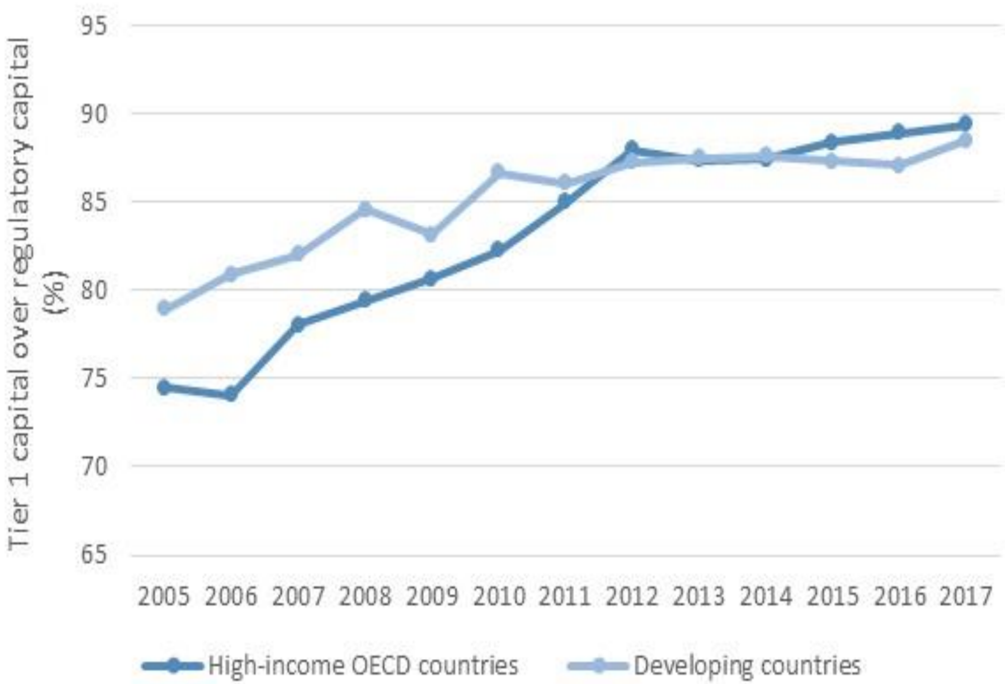
Source: Demirguc-Kunt, Detragiache, and Merrouche (2013)

Note: LR stands for the leverage ratio, measured as Tier 1 + Tier 2 capital over total assets. RWR stands for a risk-weighted ratio, defined as Tier 1 + Tier 2 capital over risk-weighted assets.

- Investors paid much less attention to regulatory capital during the last crisis
- The response of bank stock returns to bank capital was stronger for capital measured as a simple leverage ratio rather than a risk-weighted ratio
- Tier 1 capital and common equity displayed a stronger correlation with subsequent stock market returns than Tier 2 capital, especially for larger banks

Capital : Tier 1 capital holdings have increased, but…

Tier 1 capital holdings



Source: IMF FSI.

- But definition of Tier 1 capital was broadened in many countries to include hybrid debt capital instruments, asset valuation gains and subordinated debt
- These may have lower loss absorption capacity in times of distress
- There is no evidence that banks are using these laxer forms of capital
- …but worth watching

Capital: Overall picture

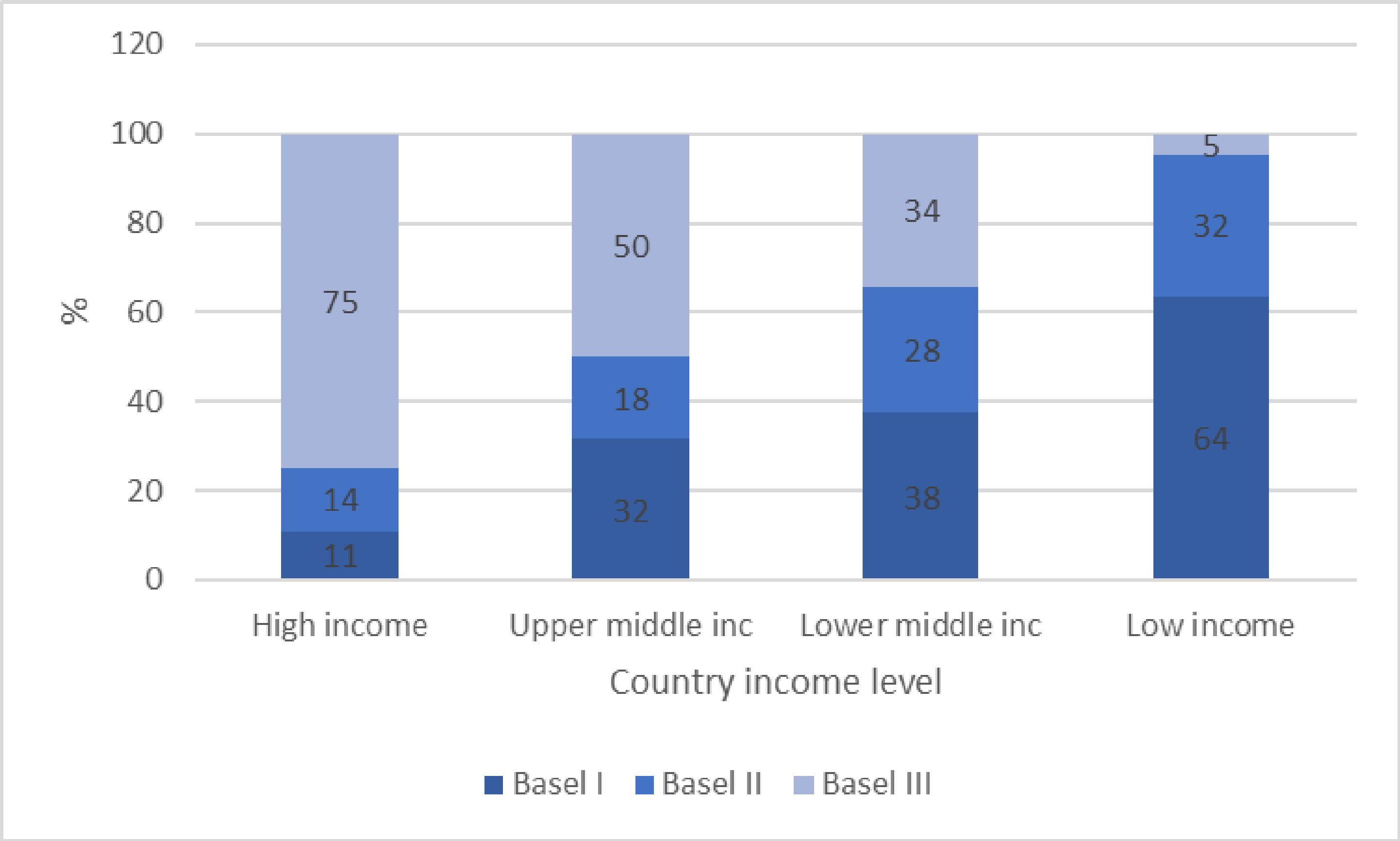
- Capital requirements and holdings increased as a % of RWA
- But this occurred primarily in high income countries, and due to declines in RWA
- During the global financial crisis, capital ratios set as a proportion of RWA were largely dismissed by market participants
- Assessments of reallocation across asset classes could be warranted. Do declines in RWA reflect lower risk exposure?
- More instruments included in Tier 1, non-cash assets can increasingly be used for capital injections
- Few banks have taken advantage so far, but worth watching
- Overall, capital requirements have become more stringent, but it is not clear if actual holdings and quality have improved

Capital: ..And the debate is far from over…

- Capital can promote stability, but can it reduce access to credit?
  - Bank prefer to reduce lending rather than raise costly capital (Aiyer, Calomiris and Wieladek, 2015)
  - Others dismiss cost reasons as short –term and argue higher capital will be beneficial in the long run (Admati and Helwig, 2013)
- Could CoCos mitigate the costs? Not clear how they will perform in distress
- Other unanswered questions include
  - Time it takes banks to adjust to higher capital requirements
  - Long-term impact of increased capital requirements on loan supply
  - Effect of greater changes in capital requirements on lending supply

Adoption: Percentage of countries following each Basel regime…

…by country income level



Source: 2019 BRSS

Note: Based on data from 133 countries excluding off-shore financial centers.

Adoption: Proportionality

- Proportionality suggests regulation and supervision should be appropriate to the institutional environment, strength of market discipline, supervisory capacity and business model of banks

- In the face of growing complexity, developing countries should be selective in adoption

- Regulation requiring strong supervisory capacity and market discipline can be counterproductive in less developed countries

- Selective adoption of more complex regulations and higher capitalization in developing countries are prudent policies

Conclusions

- The global financial crisis ushered in a period of intense regulation
- Overall
  - Market discipline → whether recent reforms can dampen investor expectations of government support is yet unknown
  - Capital requirements → banks in general are better capitalized especially in high-income countries, though quality may not have improved as much
  - Regulatory complexity increased while supervisory capacity did not

Main Messages

- One size does not fit all. Proportionality
  - Regulation requiring strong supervisory capacity may not be appropriate for less developed countries
- Less can be more.
  - Simple leverage ratio may be more effective
  - Quality matters
- Regulations need to be compatible with incentives
  - Regulators need to cultivate market discipline and generate and incentivize markets to provide signals; Align private incentives with public interest
  - Transparency, disclosure, incentive-compatibility of regulations improve effectiveness of regulation
- Globalization and technological change
  - Are trends that will make it even more challenging to provide effective oversight