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DEVELOPMENT RESEARCH

GLOBAL FINANCIAL DEVELOPMENT REPORT 2019/20

Bank Regulation and Supervision

A Decade After the Global Financial Crisis

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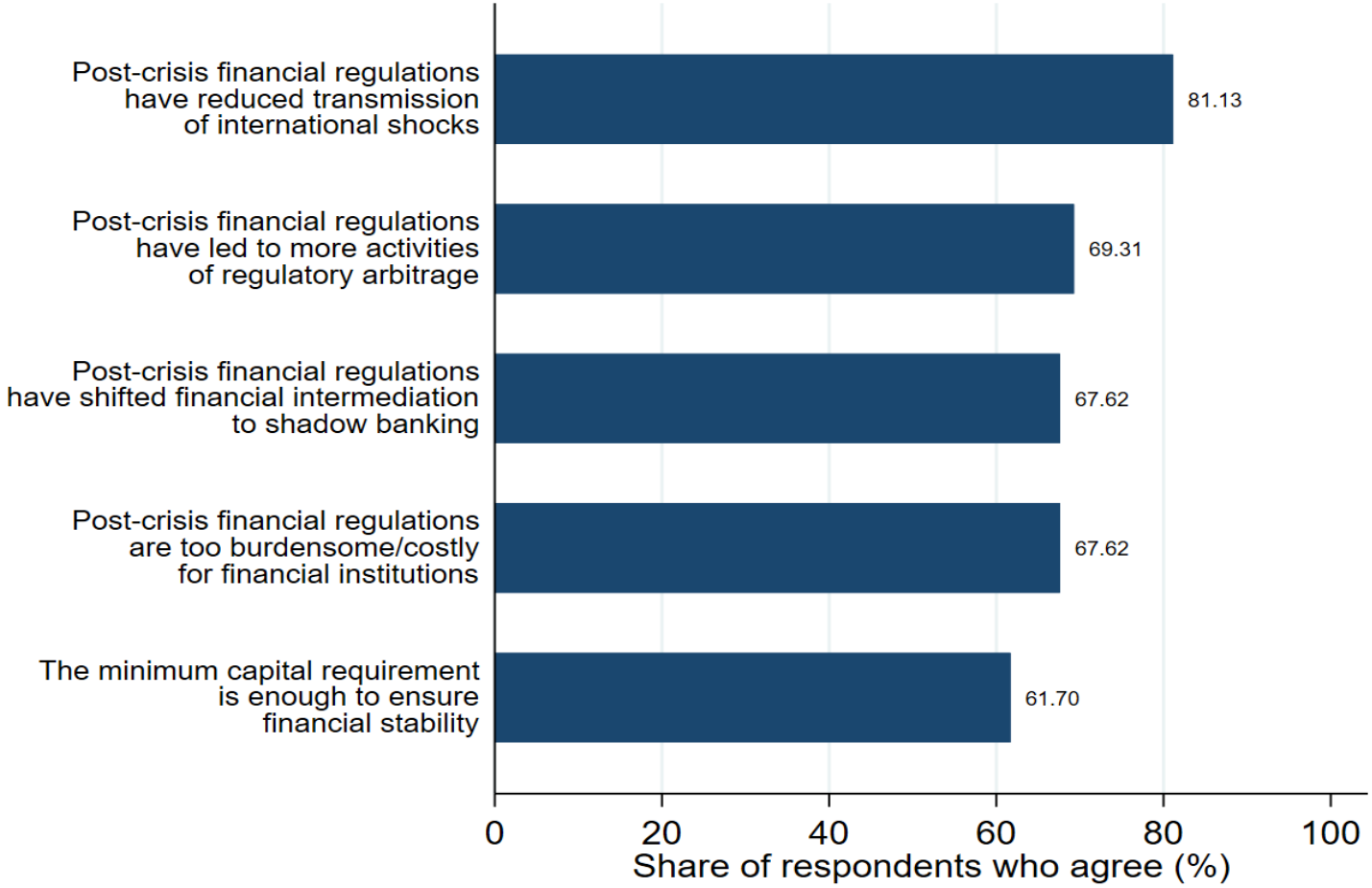
Why bank regulation and supervision?

- 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 – 2019 Bank Regulation and Supervision Survey – covers over 160 countries
  - 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



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

- "Market imperfections" – e.g. information costs – can lead to runs on otherwise healthy banks "contagion" (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
- Need to provide monitoring that unsophisticated depositors are unable to perform (Dewatripont and Tirole, 1994); investors tendency to make systematic mistakes –"herding"
- Effective regulation and supervision of banks can also curb anticompetitive behavior and protect consumers.

Regulation and Supervision - Pitfalls

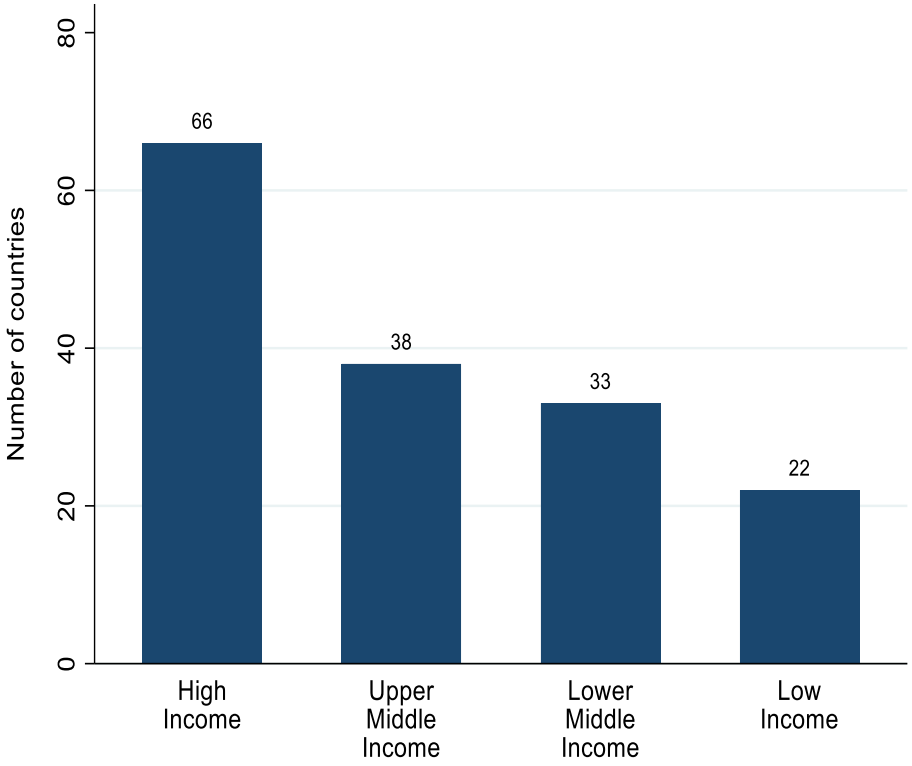
Just because they can address market failures, does not mean that governments will …

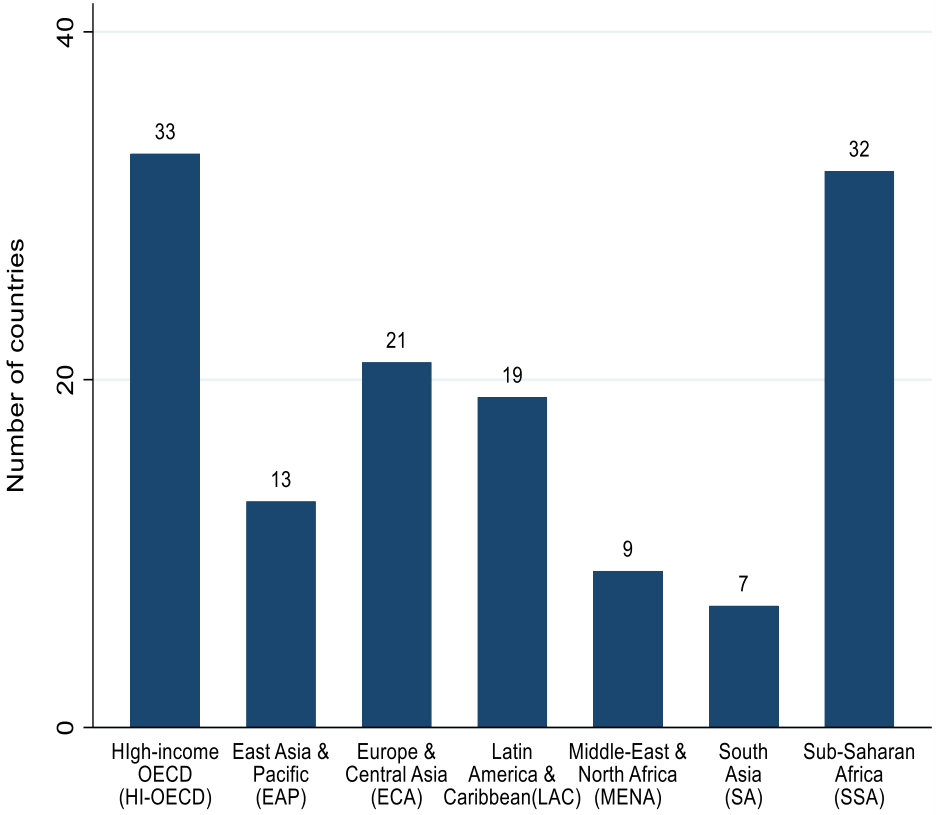
- Measuring risks and enforcing risk-based regulation is difficult
- Reducing one market imperfection can lead to others
- Regulators cannot match the speed at which private sector innovates
- Governments do not always have sufficient incentives to address market imperfections – "regulatory capture"

…..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 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

What has been the impact since the global financial crisis?

Market Discipline

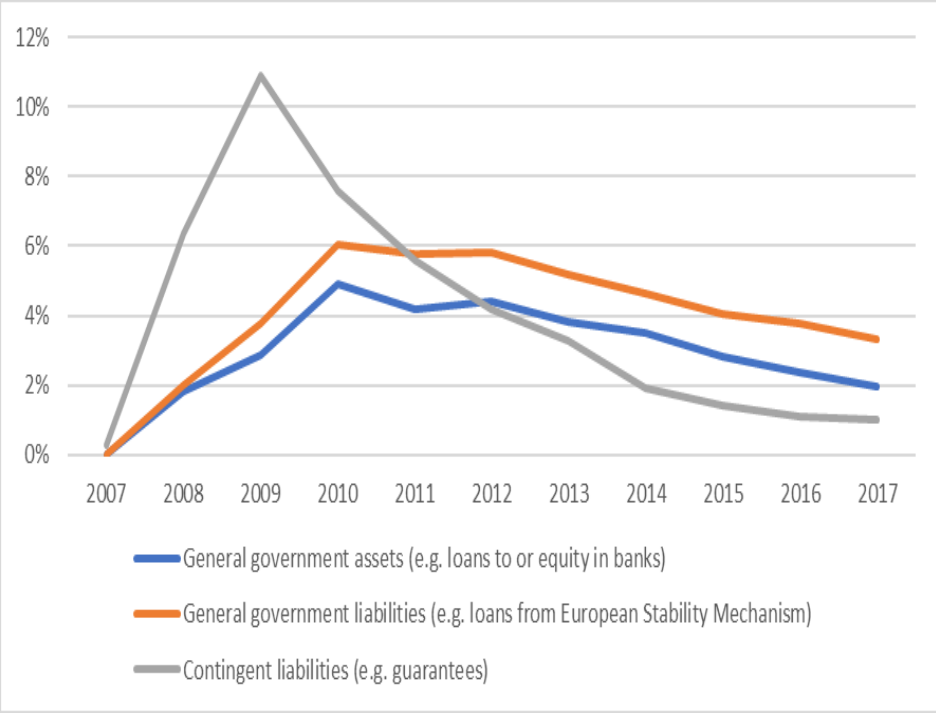
- Market discipline is the process by which market participants, such as uninsured lenders, shareholders and rating agencies monitor the risks and financial position of banks and take action to guide, limit and price risk-taking by banks

- 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

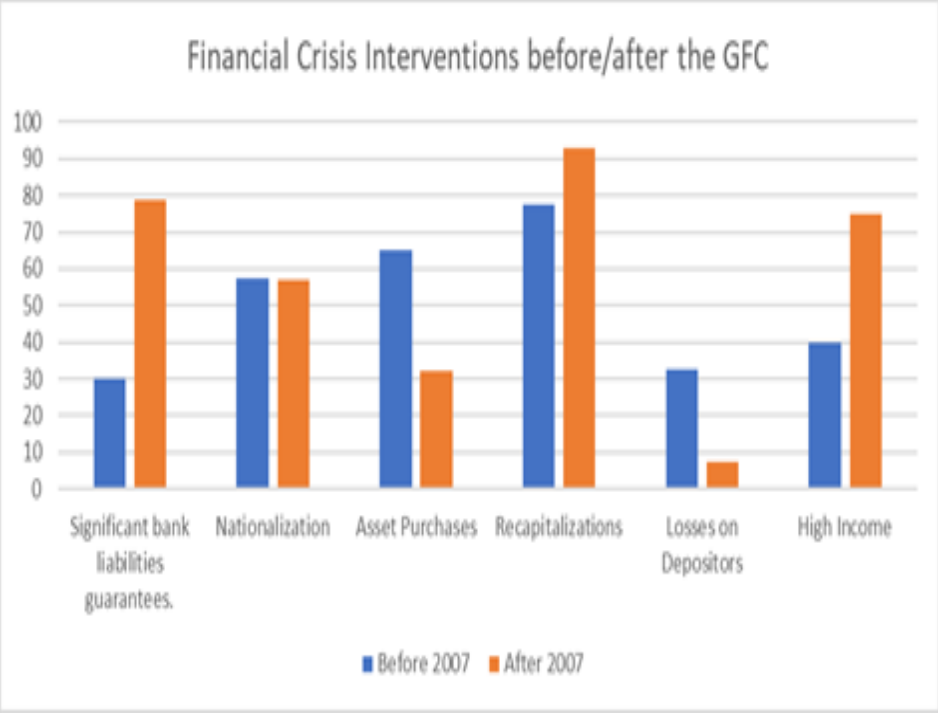
- Regulation and supervision needs to reinforce market discipline by providing the right incentives to market participants

Market Discipline: Post-GFC intervention forceful and unprecedented

EU28 government interventions to support financial intermediaries (% of GDP)

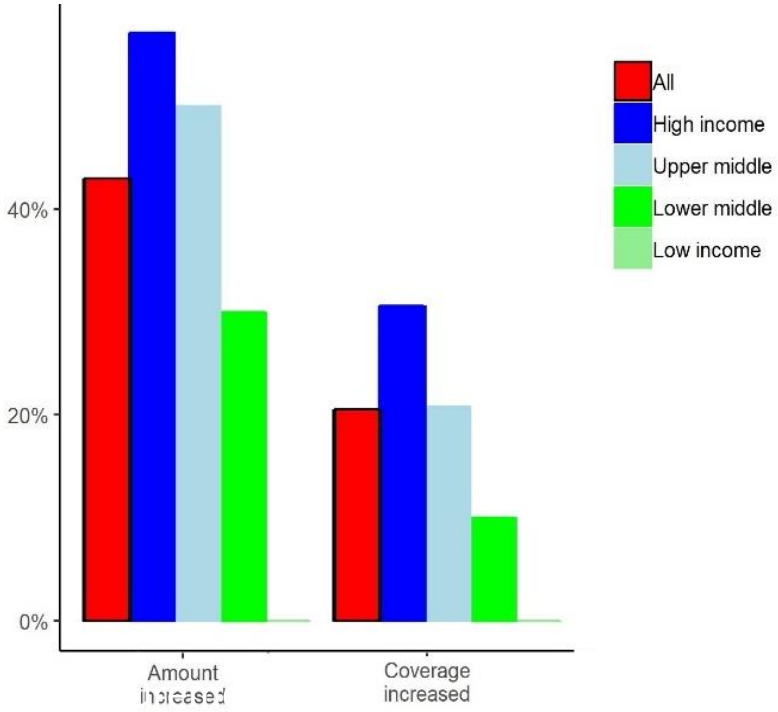


Financial Crisis Interventions before and after the GFC (% of crises)

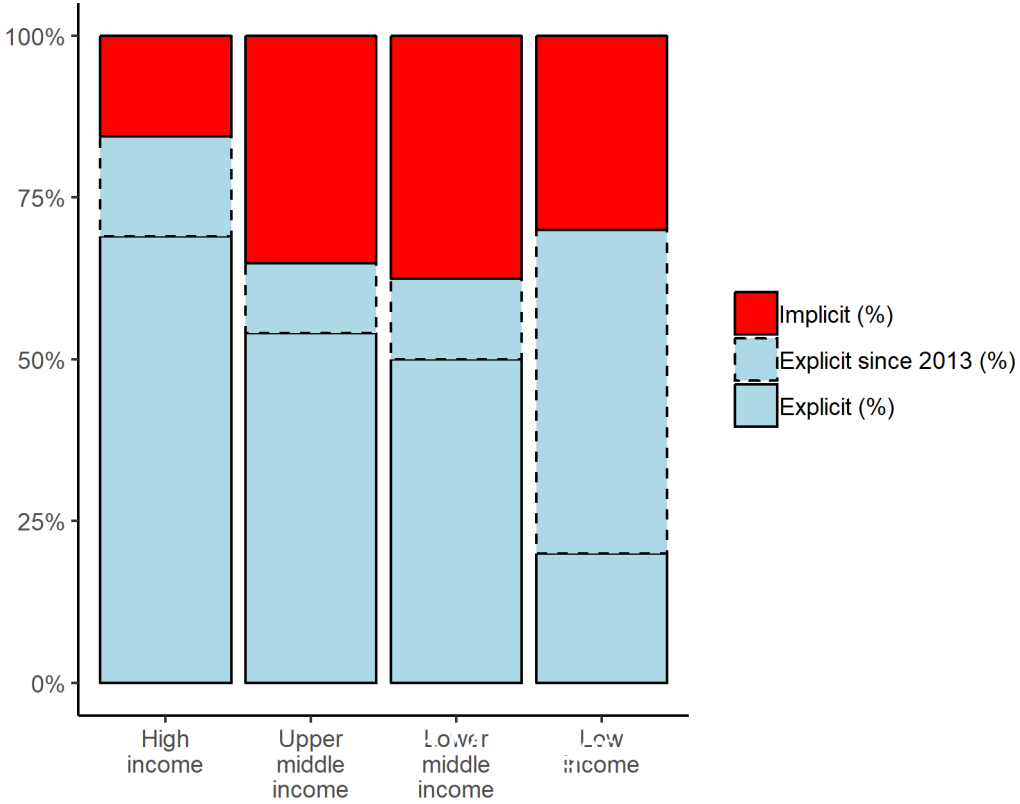


Market Discipline: Expansion of Explicit Guarantees

Changes in Response to the Crisis

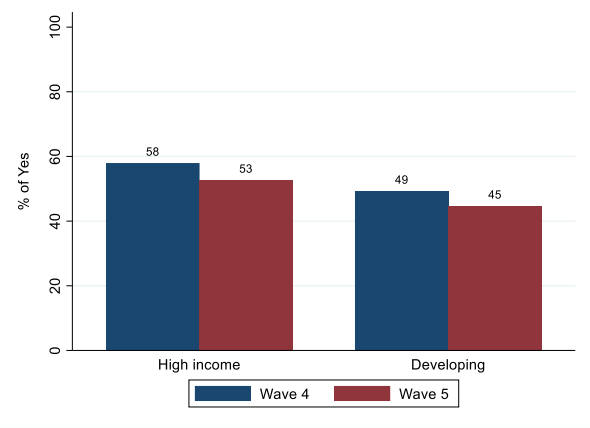


Expansion of Deposit Insurance

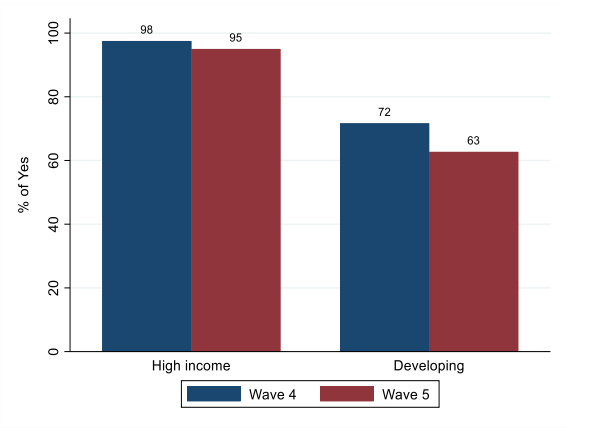


Market Discipline: Information Disclosure Limited

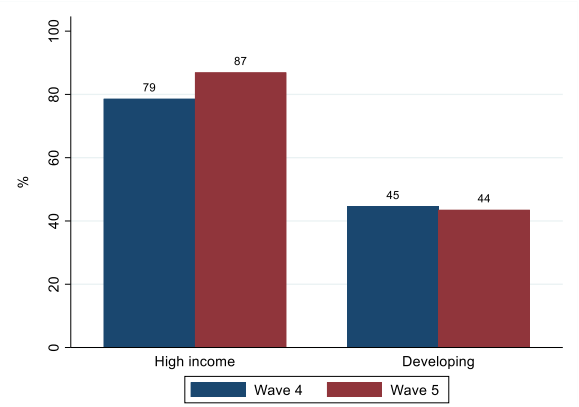
Disclosure of banks' owners/controllers



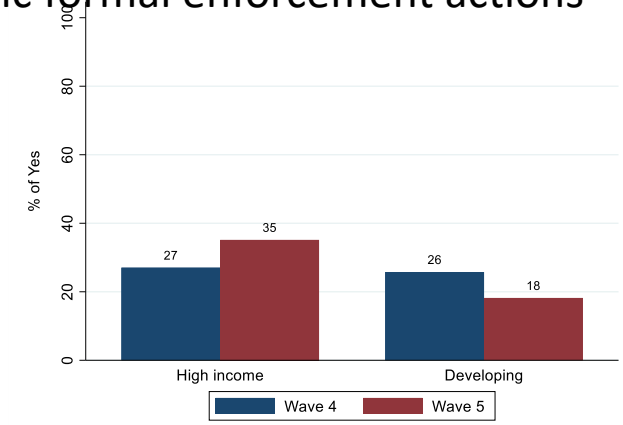
Disclosure of bank governance and risk management framework



Top ten banks rated by int. credit rating agencies (mean percentage)



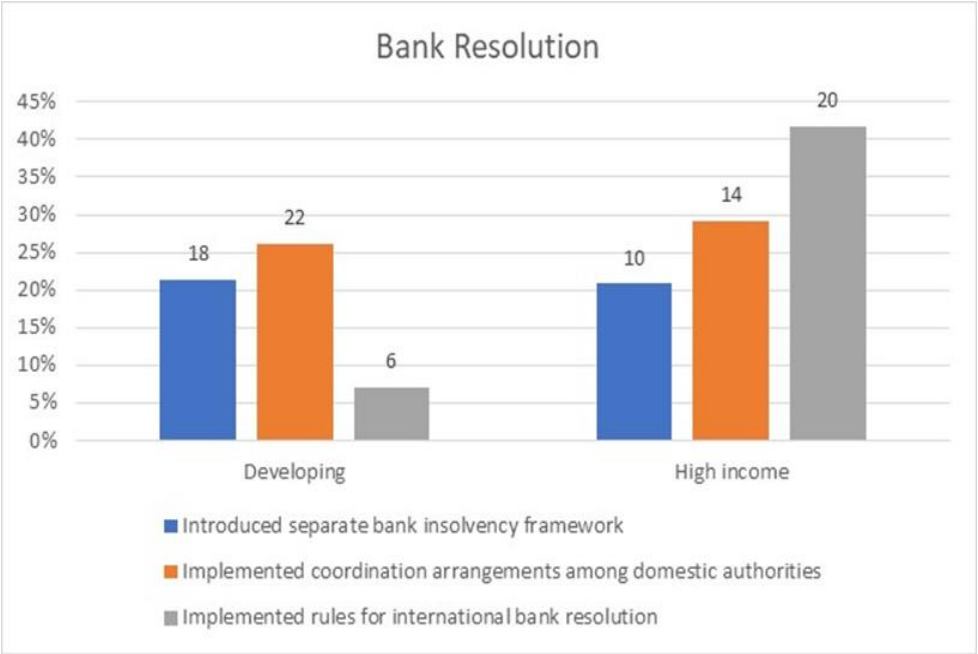
Supervisors required to disclose to the public formal enforcement actions



Market Discipline: Post-crisis reforms

- Insolvency resolution schemes were re-designed:
  - Explicitly define 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

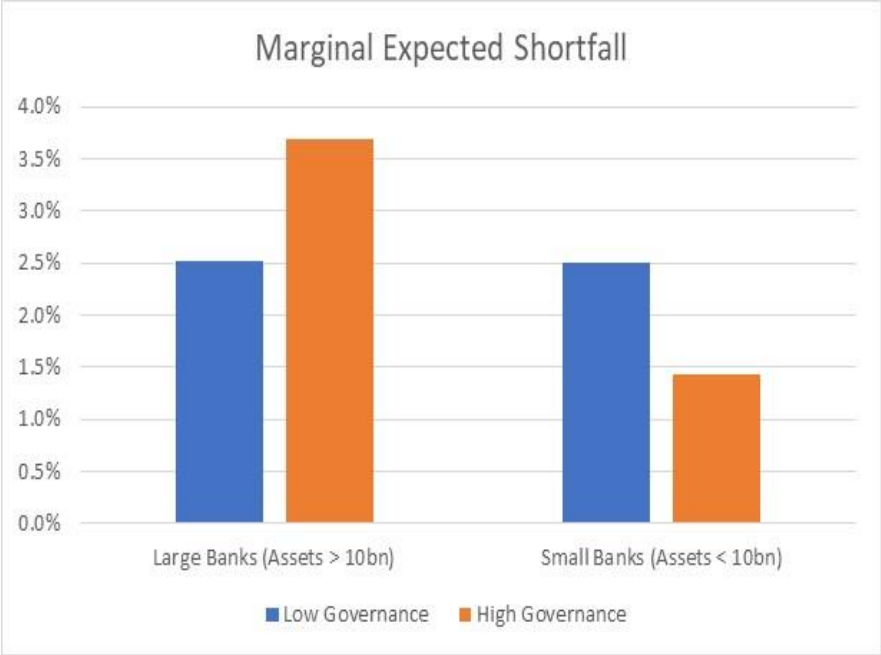


- The most recent survey shows that countries have implemented special rules for resolution of SIFIs
- The main goal has been to resolve SIFIs without major disruptions to the financial system and the real economy, and without exposing taxpayers to the risk of loss
- Cross-border resolution requires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

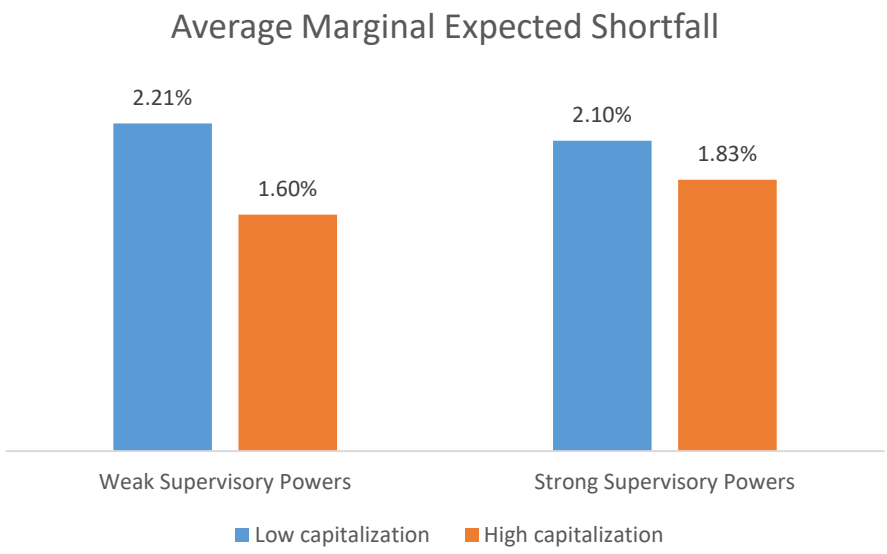
Capital Regulation

- 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 (Berger, Herring and Szegö 1995; Diamond and Rajan 2000)
  - Curtails incentives for excessive risk-taking (more "skin in the game")

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

Approaches towards capital regulation

- Basel I (1988)
  - First international initiative to define and regulate capital
  - Focused on member countries, but adopted almost worldwide
  - Induced banks to maintain higher capital ratios
  - But its simplicity in measuring risks led to regulatory arbitrage

- Basel II (2004)
  - More complex framework to measure capital requirements
  - Strong reliance on supervisory capacity and market discipline
  - Yet, developing countries express interest in adoption even though they may lack supervisory capacity
    - Signal sophistication and strong regulatory standards
    - Coordination between home and host country supervisors
    - Peer pressure or peer learning
    - World Bank and IMF recommendations

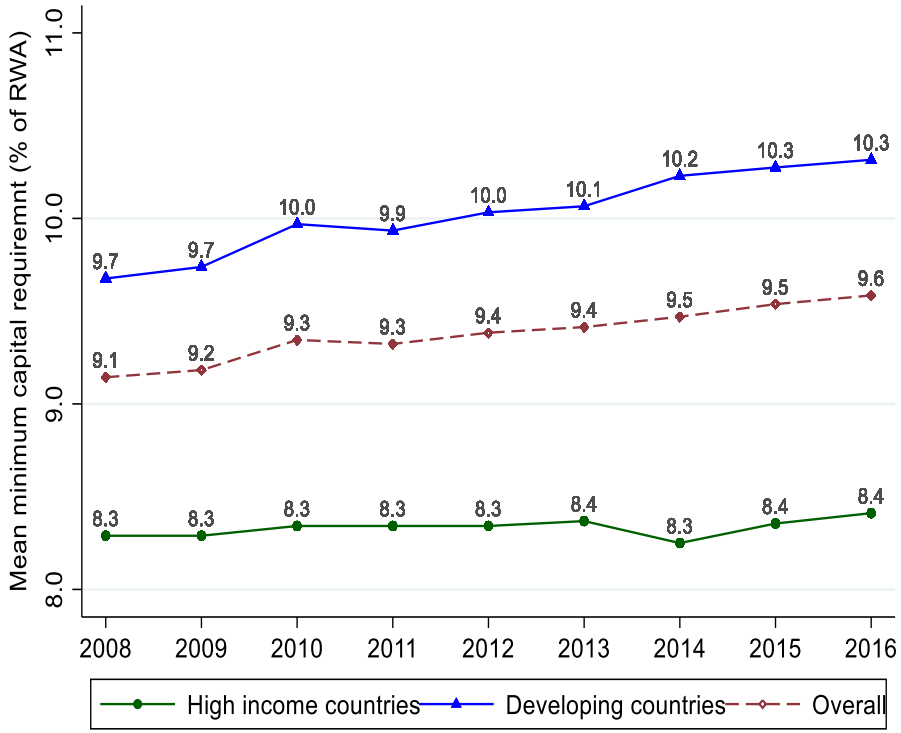
2010 Basel III: improve quantity and quality of capital

- More common equity
  - Up from 2 to 4.5% of risk-weighted assets
  - PLUS a "capital conservation" buffer of 2.5% of common equity
    - Impose constraints on a bank's discretionary distributions when it falls into the buffer range
  - PLUS a "countercyclical buffer" of 0–2.5% of common equity,
    - To be applied when credit growth is judged to result in an unacceptable build-up of systematic risk, at the discretion of country supervisors
- Same overall capital requirement (8% of risk-weighted assets)
  - But more Tier 1 (up from 4 to 6%, of risk-weighted assets)
  - And no more Tier 3
- Supplemental leverage ratio
  - Tier 1 capital over total assets = 3% (not risk-weighted)
- Liquidity requirements

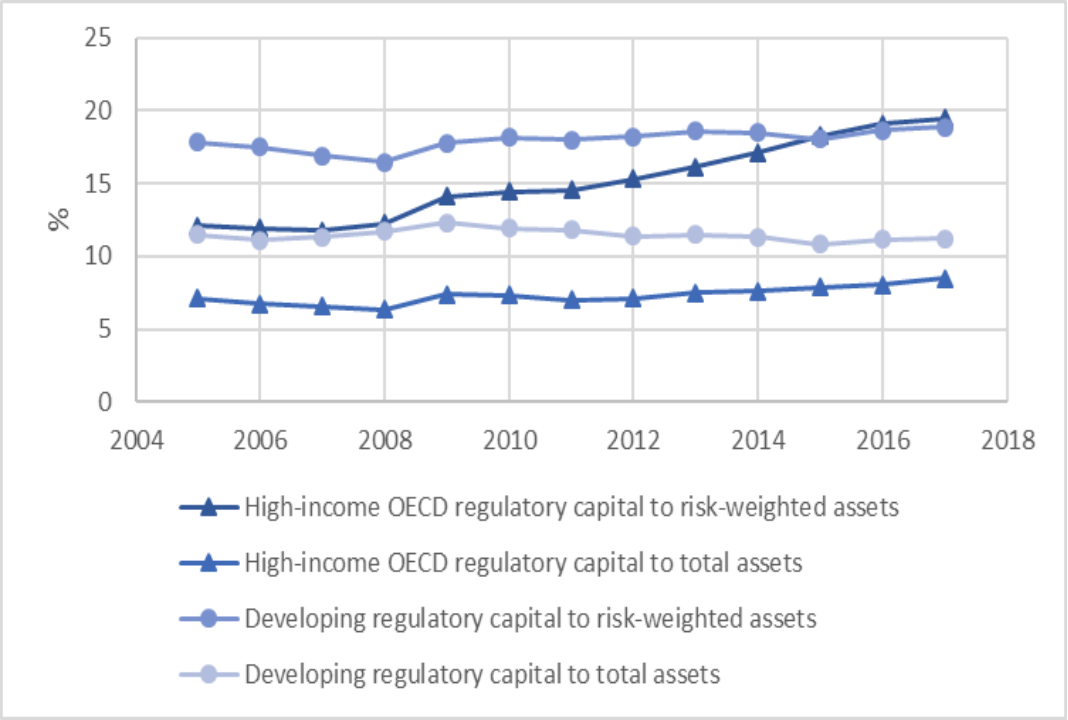
=> What does data show?

Capital: Capital Requirements Increased

Mean minimum capital requirements



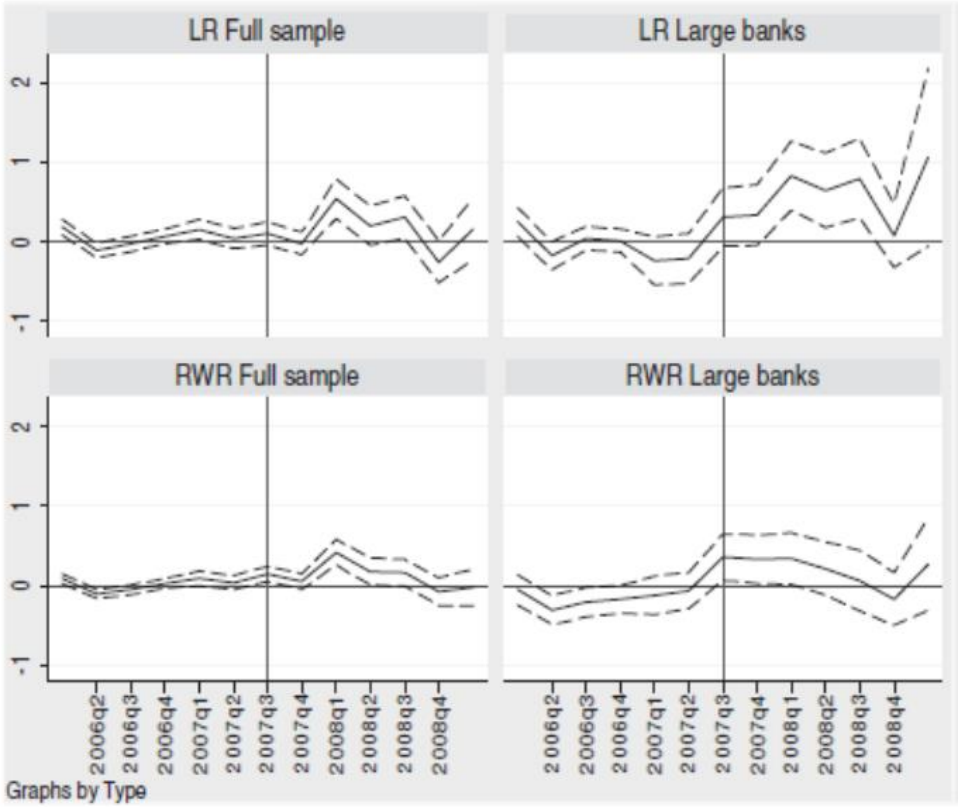
Capital: Capital holdings increased but…



- 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

- 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

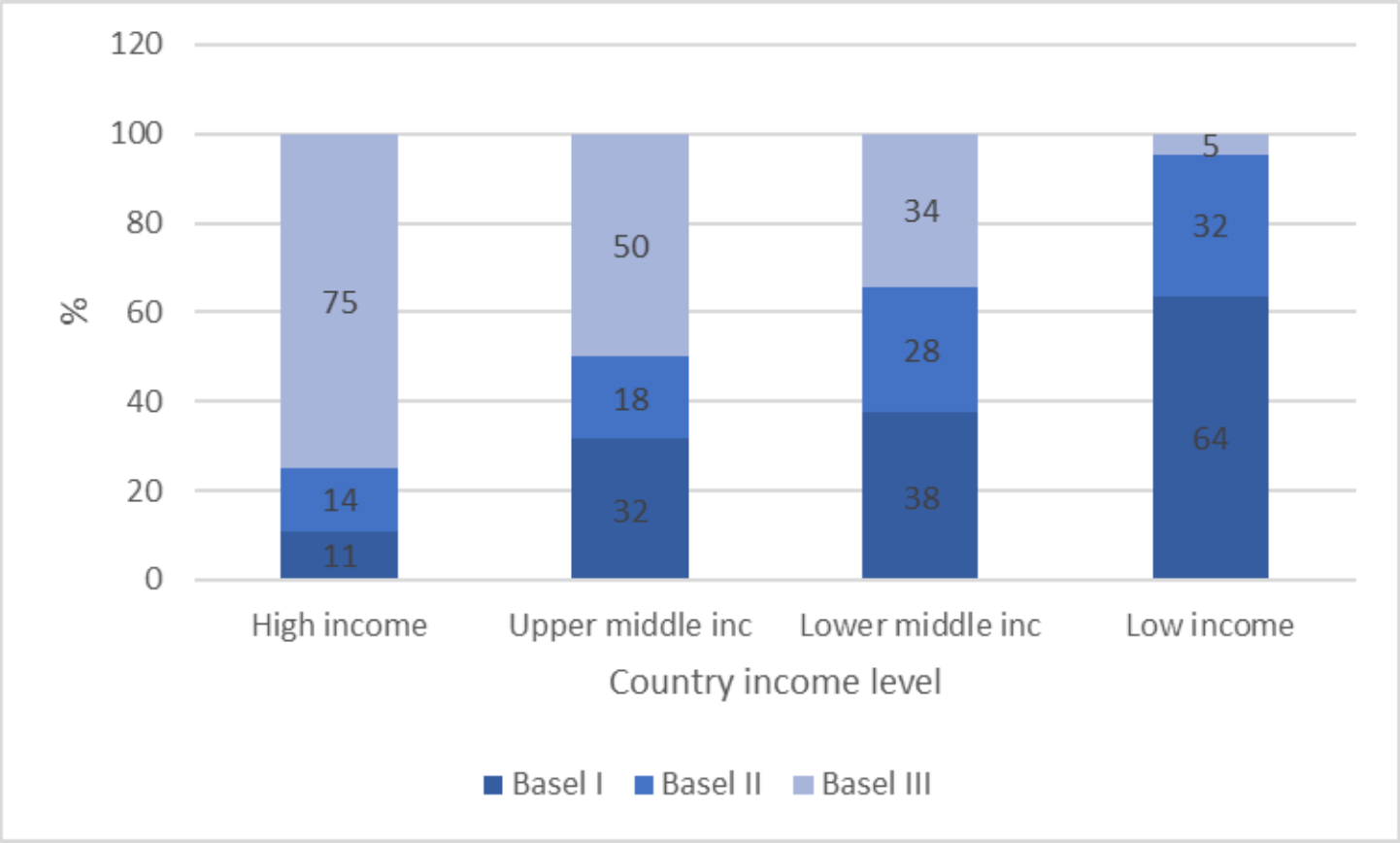
- Capital requirements and holdings increased as a % of RWA
- But this occurred primarily in high income countries, and due to declines in RWA
- During the global financial crisis, capital ratios set as a proportion of RWA were largely dismissed by market participants (Demirguc-Kunt, Detragiache, Merrouche 2013)
- 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: 2016 BRSS

Note: Based on data from 133 countries

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 are 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 re-regulation
- Overall
  - Market discipline -interventions, expanded DI, limited information disclosure – whether recent reforms can dampen investor expectations of government support is yet unknown
  - Capital requirements have become more stringent, 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