IMF Workshop: The Financial System Today: Better, Safer, Stronger?

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Overview

- Structure:
  - Review of Recent Reforms Enacted (p. 3-6)
  - Review of underlying market failures motivating reforms (p. 7-9)
  - Mapping reforms to microfoundations, detecting recent trends (p. 10)
  - General comments on challenges, deficiencies, and areas that require more research and analysis (p. 11-17)
  - Conclusions (p. 18)
- Content draws from recent paper I wrote with Thorsten Beck and Elena Carletti, "Financial Regulation in Europe: Foundations and Challenges," as part of the COEURE project
- Follow-up thoughts build on some of my new research and thinking on these topics

Recent Financial Reforms

- Capital requirements
  - Strengthening the capital position of financial institutions
  - Tighter capital requirements aiming both for higher quantity and higher quality of capital
  - Complementing the originally purely micro-prudential approach with a macro-prudential approach to think about systemic risk
    - Cross-Sectional Dimension: Additional capital requirements from Systemically Important Financial Institutions (SIFIs)
    - Time series dimension: Additional capital buffers in times where systemic risk is building

Recent Financial Reforms – Cont'd

- Liquidity requirements
  - Reducing liquidity mismatch between banks' assets and liabilities
  - Liquidity Coverage Ratio (LCR)
    - Measure of an institution's ability to withstand a severe liquidity freeze that lasts at least 30 days
  - Net Stable Funding Ratio (NSFR)
    - A longer-term approach designed to reveal risks that arise from significant maturity mismatches between assets and liabilities

Recent Financial Reforms – Cont'd

- Resolution frameworks and bail-in instruments
  - Lack of effective resolution framework forced countries to either bail out financial institutions or let them fail
  - New changes are intended to provide early intervention powers and resolution authorities
    - Selling or merging banks, separating good assets from bad assets, etc.
  - Important element is the move from Bail Out to Bail In
    - Increasing Total Loss Absorbing Capacity (TLAC) by having liabilities converted to equity capital in case equity funding is exhausted

Recent Financial Reforms – Cont'd

- Activity restrictions
  - Separating trading activities from banking activities
  - Size restrictions
  - Compensation restrictions
- Other reforms
  - Stress tests
  - Living wills
  - Banking unions

Microfoundations for Financial Reforms

- Coordination Problems and Panics
  - Diamond and Dybvig (1983)
  - Banks perform liquidity and maturity transformation; providing investors access to short term liquid claims
  - This exposes them to strategic complementarities among investors in withdrawal decisions leading to bad equilibria and runs that force financial institutions into failure
  - Basic rationale behind guarantees, bailouts, deposit insurance goes back to attempt to prevent panics
  - Problem is broader than in the context of banks

Failures Addressed by Financial Regulation – Cont'd

- Moral Hazard and Incentives
  - Various explicit and implicit guarantees provide a put option to banks and encourage them to take excessive risks (Merton (1977))
  - There are other incentive and moral hazard problems that are not fully resolved by markets and might require intervention, e.g., Holmstrom and Tirole (1997), Allen and Gale (2000)
    - Between equity holders and debt holders
    - Between managers and equity holders
    - Moral hazard might limit capital availability leading to endogenous financial constraints and too little investment; or it might cause excessive risk taking and inefficient investment

Failures Addressed by Financial Regulation – Cont'd

- Interbank Connections and Contagion: Systemic Effects
  - Various mechanisms via which banks do not internalize externalities leading to inefficient outcomes:
    - Free rider problem in liquidity provision (Bhattacharya and Gale (1987))
    - Not internalizing fire-sale externalities (Lorenzoni (2008))
    - Network externalities leading to market freezes (Bebchuk and Goldstein (2011))
  - Various mechanisms for direct contagion effects
    - Interbank holding (Allen and Gale (2000))
    - Portfolio readjustments by common investors (Kodres and Pritsker (2002), Goldstein and Pauzner (2004))
    - Information spillovers (Chen (1999))

Mapping Reforms to Failures

- Many new reforms are motivated by reducing moral hazard and systemic effects:
  - Capital requirements
  - Resolution frameworks and bail in
  - Activity and size restrictions
  - Living wills and stress tests
- Sometimes perhaps neglecting the basic role of the financial system and the attempt to prevent panics, for example:
  - Bail in might contribute to panic
  - Liquidity requirements work against liquidity creation role of banks
- The regulatory cycle…

Interaction between Guarantees, Fragility, and Risk Taking: Moral Hazard?

- There is evidence supporting the idea that guarantees induce banks to take more risks
  - E.g., in the form of higher deposit rates
- However, in theory, this is not necessarily bad
  - Bank risk taking may be beneficial for liquidity creation, intermediation
- Need a model to evaluate the interconnections between guarantees, fragility, and bank behavior

Interaction between Guarantees, Fragility, and Risk Taking: Moral Hazard?

- Allen, Carletti, Goldstein, Leonello (2015)
  - Two inefficiencies without guarantees (Goldstein and Pauzner (2005)):
    - Inefficient runs destroy good investments
    - Banks scale down liquidity creation, reducing deposit rates, understanding that a higher deposit rate will lead to even more runs
  - Guarantees address both problems
    - leading banks to increase deposit rates,
    - in a way that sometimes even creates more runs,
    - but this is welfare improving!
- Conclusion: need to be careful in interpreting empirical evidence!
  - Additional risk is not necessarily evidence of moral hazard

Thinking about the Financial System as a Whole: Risks Migration

- While regulation focuses on banks, other parts of the financial system start to perform liquidity creation role of banks and inherit some of the risks
  - So called “shadow banks” in recent crisis
  - Run on money market funds
- Recently, growing attention to asset management; e.g., mutual funds
  - In particular, corporate bond mutual funds studied in Goldstein, Jiang, Ng (2015)

Thinking about the Financial System as a Whole: Risks Migration

- Limitations on the banking system encouraged the growth of the corporate-bond-fund sector
  - Firm issue more bonds
  - Banks are limited in their ability to hold them
- These funds hold very illiquid assets, but offer investors liquidity on a daily basis
- Evidence supports the idea of strategic complementarities in redemption decisions:
  - Redemption by investors creates costs for those who stay due to the way Net Asset Value (NAV) is calculated
- Potential for runs to originate from this sector, with negative consequences for bond prices and the real economy
- Important to coordinate regulation across different entities; Financial Stability Oversight Council (FSOC)

Complications in Implementation of New Rules

- Example: Recent events with Deutsche Bank have demonstrated potential complications with bail-in policies
  - Will they amplify fragility, as investors run before trigger is pulled?
  - How will the trigger work? Potential issues with indeterminacies and amplification (Bond, Goldstein, and Prescott (2010), Sundaresan and Wang (2015))
- Other new tools also raise questions about optimal design and implementation: Stress tests, liquidity ratios, living wills
- Interactions between different reforms has not been explored much

Origins of Risk Taking

- While financial reforms emphasize government guarantees as a source of risk taking, the issue is more complicated due to other sources of moral hazard
  - Evidence suggests:
    - Stock market responsible for bank risk taking (Falato and Scharfstein (2015)
    - Risk taking related to governance and ownership structure (Laeven and Levine (2009)
    - Risk taking tied to incentive compensation (Fahlenbrach and Stulz (2011))
  - Regulation should consider deeper reasons behind risk taking
  - How does regulation affect incentives by other market participants, e.g., shareholder activists?

Nature of Regulation

- Regulation tends to be backward looking
  - Tighter regulations after crises; later replaced with softer rules
  - Regulation addresses problems of the past
  - Difficulties in expanding the regulatory perimeter and adjusting to financial innovation
  - Differences in sophistication between regulators and bankers
- Tendency to make regulation complex backfires
  - Vicious circle between complexity of regulation and complexity of financial products and institutions
  - Complex subjective regulation leads to ambiguity and manipulation; e.g., risk-based capital requirements

Conclusion

- Recent reforms have made significant improvements
  - Expanding existing tools: capital requirements
  - Designing creative new tools: liquidity requirements, stress tests, living wills
  - Improving resolution frameworks: bail-in
  - Emphasizing macro-prudential rather than micro-prudential issues
- Seem to emphasize moral hazard and systemic effects, perhaps neglecting other issues
- Several areas deserve more thought
  - What is the optimal amount of risk taking
  - How to address migration of risks across different parts of the system
  - Complications in implementation of new rules
  - Different origins of risk taking
  - Regulation tends to be overly complex and backward looking