Systemic Risk and Optimal Regulatory Architecture

by

Marco Espinosa-Vega, IMF
Charles Kahn, Illinois
Rafael Matta, Illinois
Juan Solé, FSB
The current situation for handling systemic risk

• New Systemic Risk Authorities
  – European Systemic Risk Board (EU)
  – Financial Stability Oversight Council (US)

• Increased Attention to Systemic Risk by Existing Authorities
Our point

• Regulatory architecture should take into account the regulatory incentives
  – In particular, bias towards excessive forbearance
  – Incentives for information sharing among regulators

• Examine some consequences of alternative designs when these incentives are taken into account and systemic risk is a factor
• Literature

• Repullo, R., (2000)
• Structure of Model

• Two sources of shocks
  – Liquidity Shock (refinancing risk)
  – Solvency Shock (signal of value of assets)

• Systemic risks
  – Failure of systemic bank increases likelihood of failure of non-systemic bank, but not vice versa
• Structure of Model

• Regulator Objectives:
  – Minimizing financial cost of regulator (loans lost, deposit insurance paid out)
  – Avoiding bank failures
  – Tradeoff at less than social cost, therefore prone to excessive forbearance
• Regulator Architecture

• Separate bank regulator and lender of last resort
  – Regulator responsible for deposit insurance fund; can close bank at will
  – Lender of last resort responsible for losses on its loans, can refuse to provide funding

• Unified regulator
  – Holds powers and responsibilities associated with both regulatory functions
• Results

• In new environment confirm previous results:
  – Unified regulator is generally less forbearing than separate regulators
  – Exception: At high levels of liquidity shock, unified regulator is more forbearing than a separate lender of last resort
• Results

• Incorporating systemic risk
  – All regulators maintain standards for non-systemic institutions, increasing likelihood of closing non-systemic institutions after failure of systemic institution
  – All regulators relax standards for systemic institutions
• Results

• Comparative statics
  – The advantage of the unified regulator increases as cost of closures increases
    • Liquidation value
    • Bankruptcy cost
    • Severity of systemic risk
• Results

• Private information on degree of systemic importance
  – Generalizes result: informed regulator will not pass on useful information voluntarily
  – New result: if information once gathered must be passed on, separate institutions have less incentive to gather information than do unified institutions
• Results

• Better gathering and use of information by a unified regulator

• (Caveat: can generate extreme examples where less informed regulator is less forbearing)
• Limitations

• Have not considered dividing responsibilities according to systemic and non-systemic institutions
  – If systemic regulators not responsible for non-systemic institutions, reduced forbearance
  – Different architecture from the hybrid oversight contemplated in US and EU
• Limitations

• Regulator objectives more complex than modeled here
  – Can vary greatly with political climate
  – Costs of additional failures may be non-linear
  – Nonetheless, the simple objective with excessive forbearance a good approximation of “normal” times
Summary

- Current quest for improved regulatory architecture for bank supervision and regulation of systemic risk
- Important to understand and account for objectives of regulators in creating design
- Simply announcing responsibility for systemic risk is unlikely to be effective without providing instruments and incentives
COLLEGE OF BUSINESS at ILLINOIS