Competition and Stability in Banking

The role of regulation and competition policy

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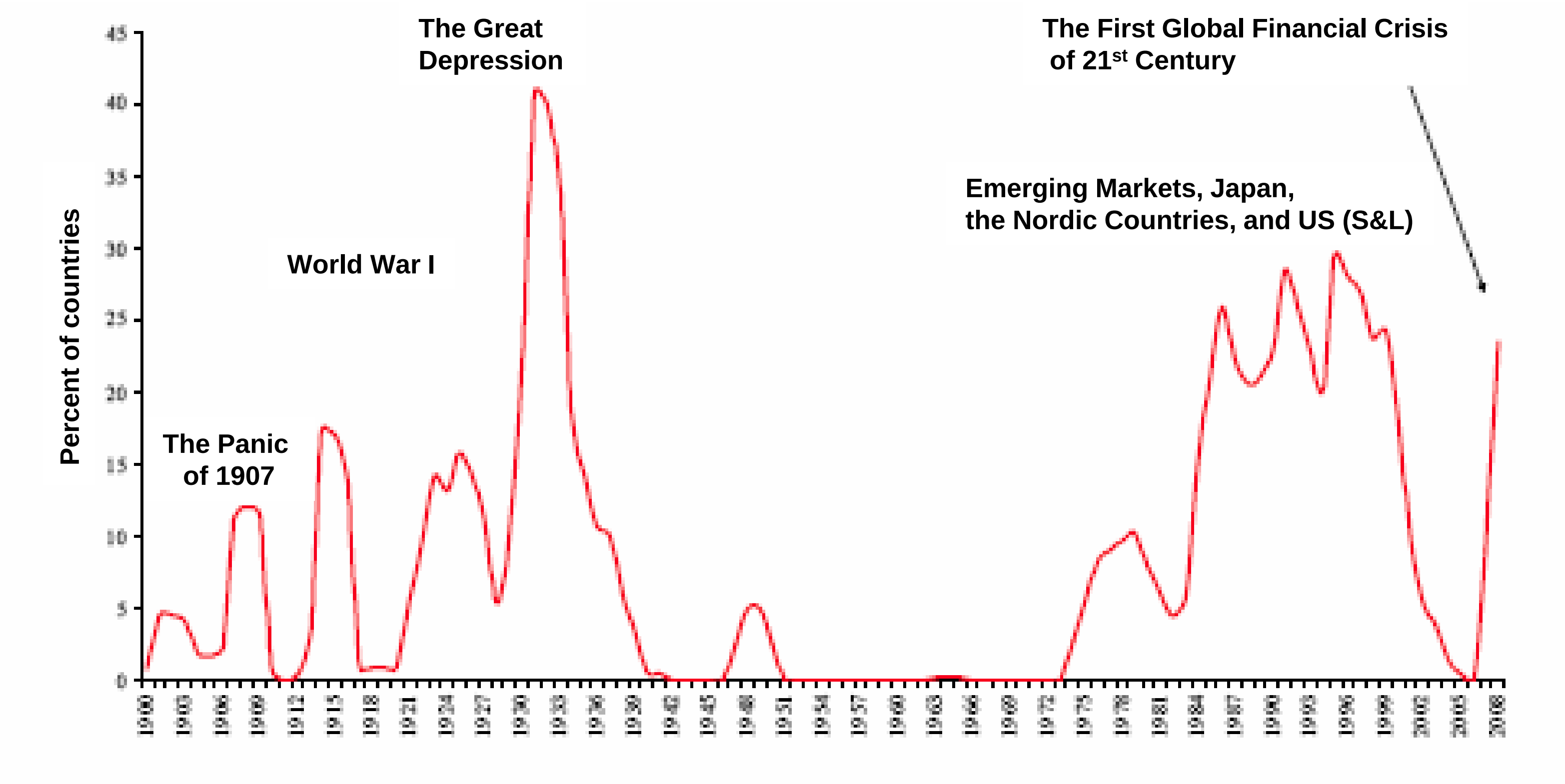
Outline

- The evolution of ideas and realities
- Trends in banking
- Competition and stability
  - Theory
    - Runs
    - Risk taking
  - Evidence
- Can we regulate away the competition-stability trade-off?
  - Regulatory Reform
- Prudential regulation and competition policy
- Financial architecture
- Competition policy in a crisis
- Challenges

Proportion of countries with banking crises: 1900-2008

Weighted by their share of world income



Source: Figure 1 in Reinhart & Rogoff (2008), "Banking Crises, An Equal Opportunity Menace", NBER WP 14587.

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The past

- Banking used to be one of the most regulated sectors in the economy.
- Competition was thought to be detrimental to stability since the Great Depression.
- Until relatively recently central banks and regulators
  - were complacent with collusion agreements among banks;
  - preferred to deal with concentrated sector.
- In many countries competition policy was not applied fully to the sector till recently.

The recent past

- From tight regulation to liberalization:
  - Idea that competition enhances efficiency
    - Productive, allocative, dynamic (innovation).
- The deregulation wave which followed from mutual fund competition for deposits in the US scrapped restrictions on rate setting.
  - By 1983 all depository institutions in the US could freely compete in rates offered to customers.
  - In Europe rate setting is now mostly liberalized.
- To better diversify the portfolios of banks and the belief in competition in promoting efficiency prompted a move towards:
  - Less specialization in the sector
  - Lifting of geographical barriers (US and Europe)
  - General increase in market integration and competition.

The recent past up to the crisis

- Competition policy is taken seriously in the banking sector
  - Competition law applied to banking (e.g. bank mergers) from 1960s in the US.
  - Since early 1980s the European Commission has intervened in all areas:
    - against national protectionism, mergers, price agreements, abuse of dominance, state aid (Carletti and Vives (2009)).
  - Strengthened at the national level in EU and elsewhere including emerging markets.

- Idea that competition is good for stability gains ground.
  - Up to the crisis there was a consensus about letting competition work in the banking sector and controlling risk with capital requirements, market discipline and supervision (Basel).

- Competition has a bearing on all the perceived failures associated to banking:
  - excessive risk taking,
  - credit overexpansion and exuberant growth (real estate), and
  - bank misconduct.

Consequences of the crisis shock

- Systemic crisis (post LB failure) overrides competition policy concerns.
- Massive bailout (state aid):
  - Commitments of up to 30% of GDP in public interventions (EU and US).
- Distortion of competition:
  - Cost of capital
  - Quality (safety, vertical differentiation)
  - Market power concerns on mergers overruled
    - HBOs-Lloyds TBS, …; while Abbey-Lloyds was blocked ….
    - Bear Stearns-Washington Mutual-JP Morgan, Merrill Lynch-Bank of America, Wachovia-Wells Fargo (going over 10% market share deposit threshold)
- Surviving incumbents increase market power and have lower cost of capital because they are TBTF.
- It is naive to think that banking is like any other sector in regard to competition policy: Why?

Banks are unique

- Mix of features:
  - High (short term) leverage,
  - Dispersed debtholders (less monitoring)
  - Opacity and long maturity of bank assets exacerbate moral hazard problem

- Consequences:
  - Fragility with high social cost of failure
  - Subject to *contagion* (via interbank commitments or indirect market-based balance sheet linkage) with *systemic* impact

- Banks have central position in economic system:
  - They are essential: when banks stop functioning a modern monetary economy stops

Questions

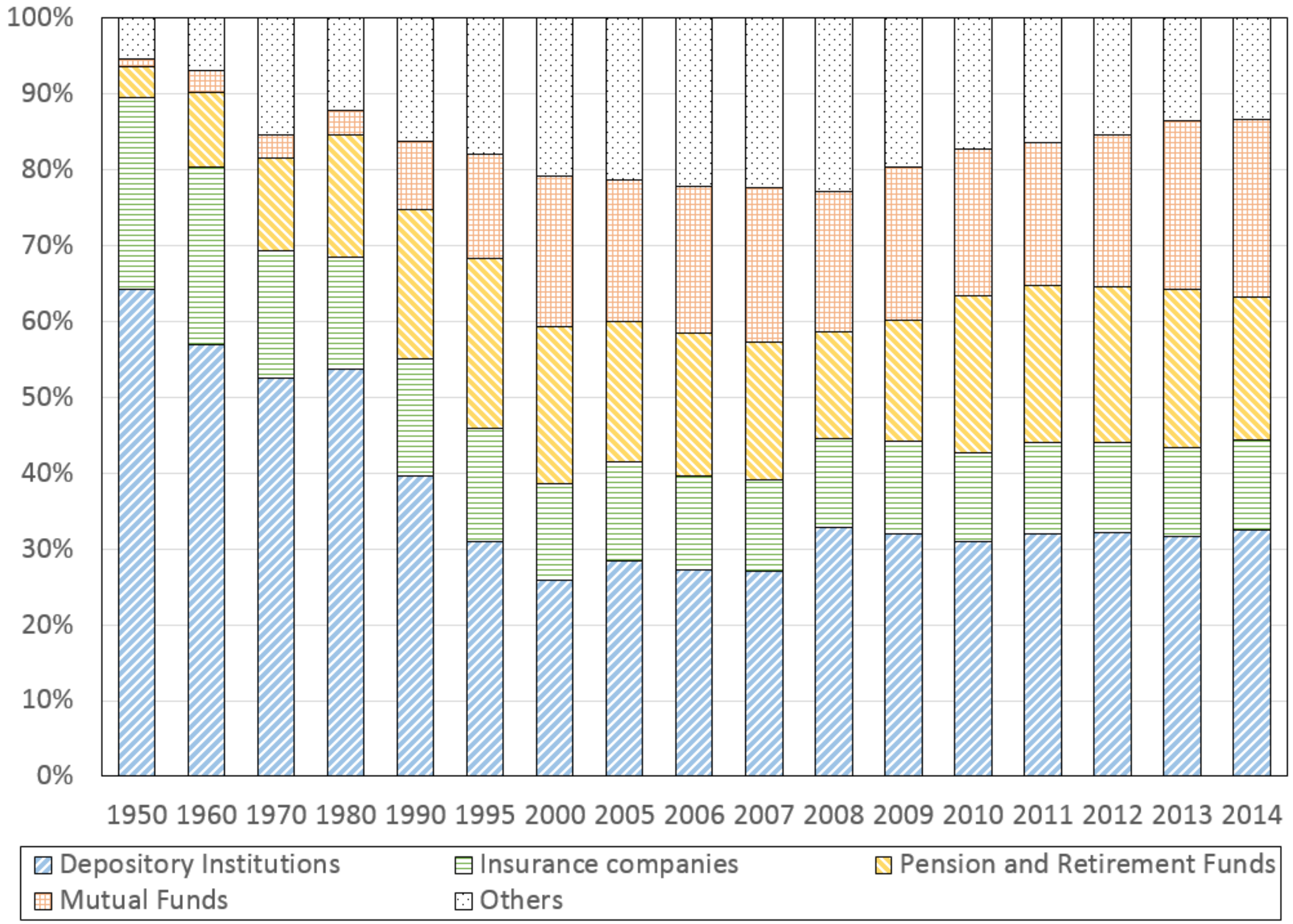
- Is there a significant trade-off between competition and stability?
- In case there is, can it be regulated away?
- In case it cannot:
  - how regulation and competition policy have to interact?
  - how should the banking sector specificity in competition policy be dealt with?
- What is the appropriate architecture for regulatory and competition agencies in the financial sector?
- What should be the role of competition policy in the banking sector in the post-crisis era?

Trends in banking

Trends in banking (I)

- Liberalization and technological change brought deep changes to banking.
- Financial innovation: bright and dark sides.
- Overall financial intermediation has expanded.
- Banks have become more services oriented and market-based and have faced competition from other intermediaries in their core business:
  - shadow banks,
  - *fintech* competitors.

Distribution of US financial assets by types of financial intermediaries



Source: Barth (1997), extending the series with updated data from US Financial Accounts (2014).

Distribution of eurozone-12 financial assets by types of financial intermediaries

(as in 2002)

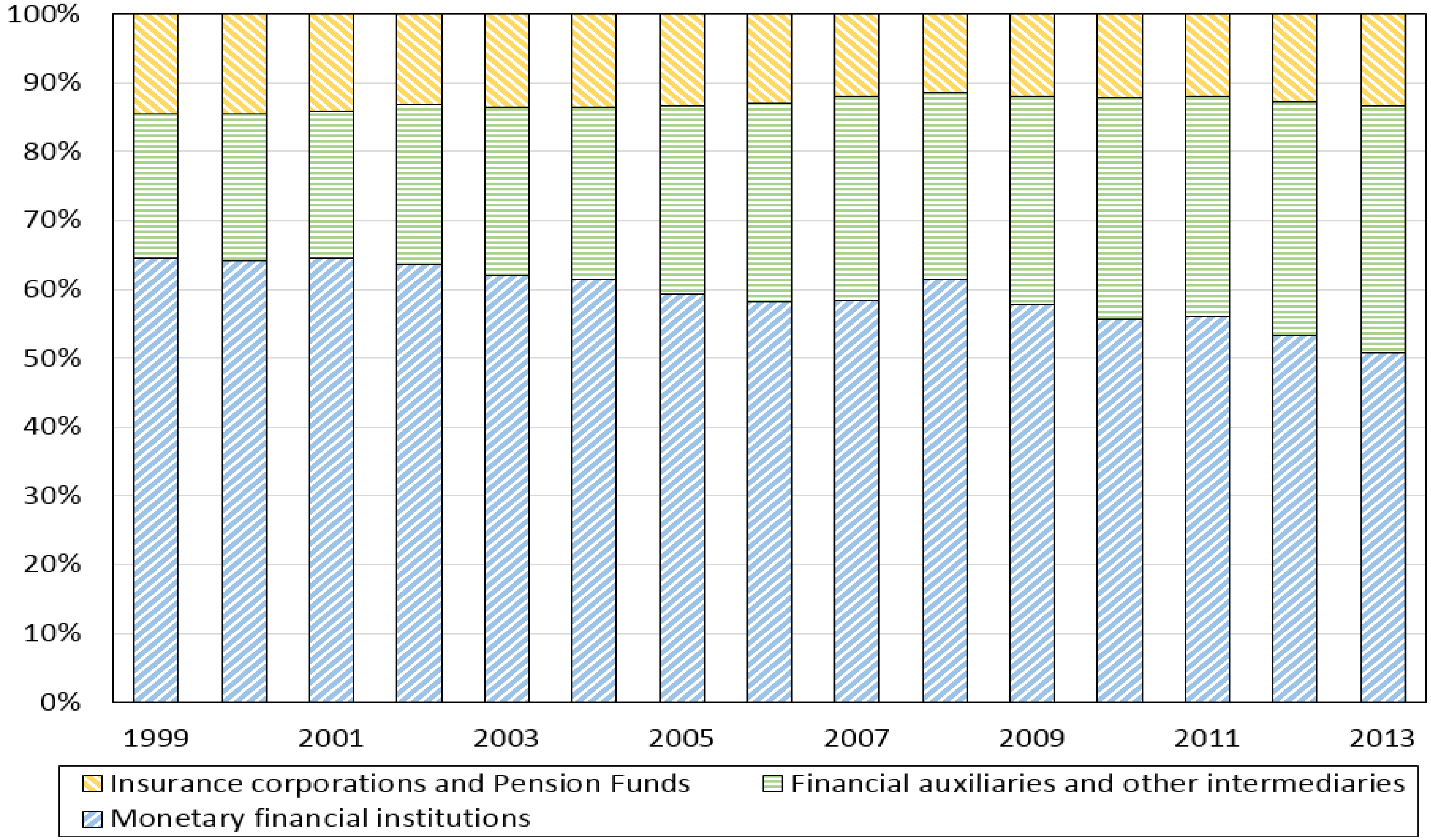
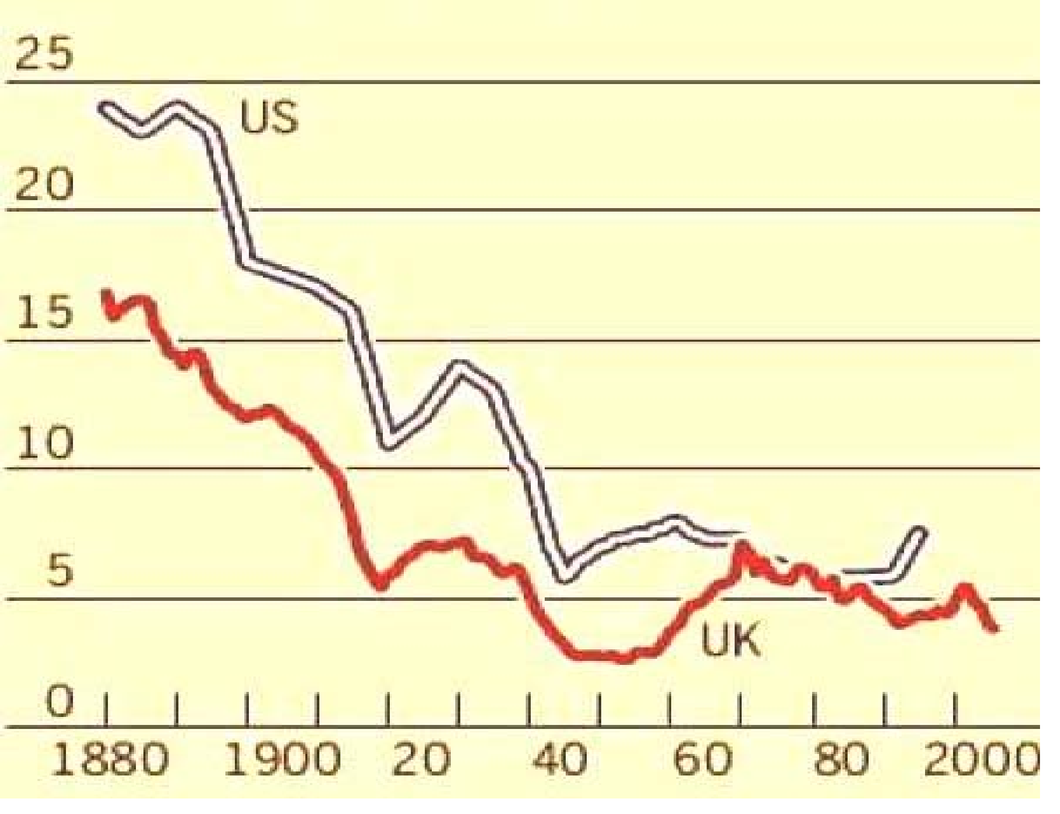


Figure 5: . Source: Eurostat .

Regulation got lax before and up to the crisis

The weight of history
Capital ratios for UK and US banks



Source: Banking of the State, Bank of England, Nov 2009. (FT Lex, Jan 23, 2010)

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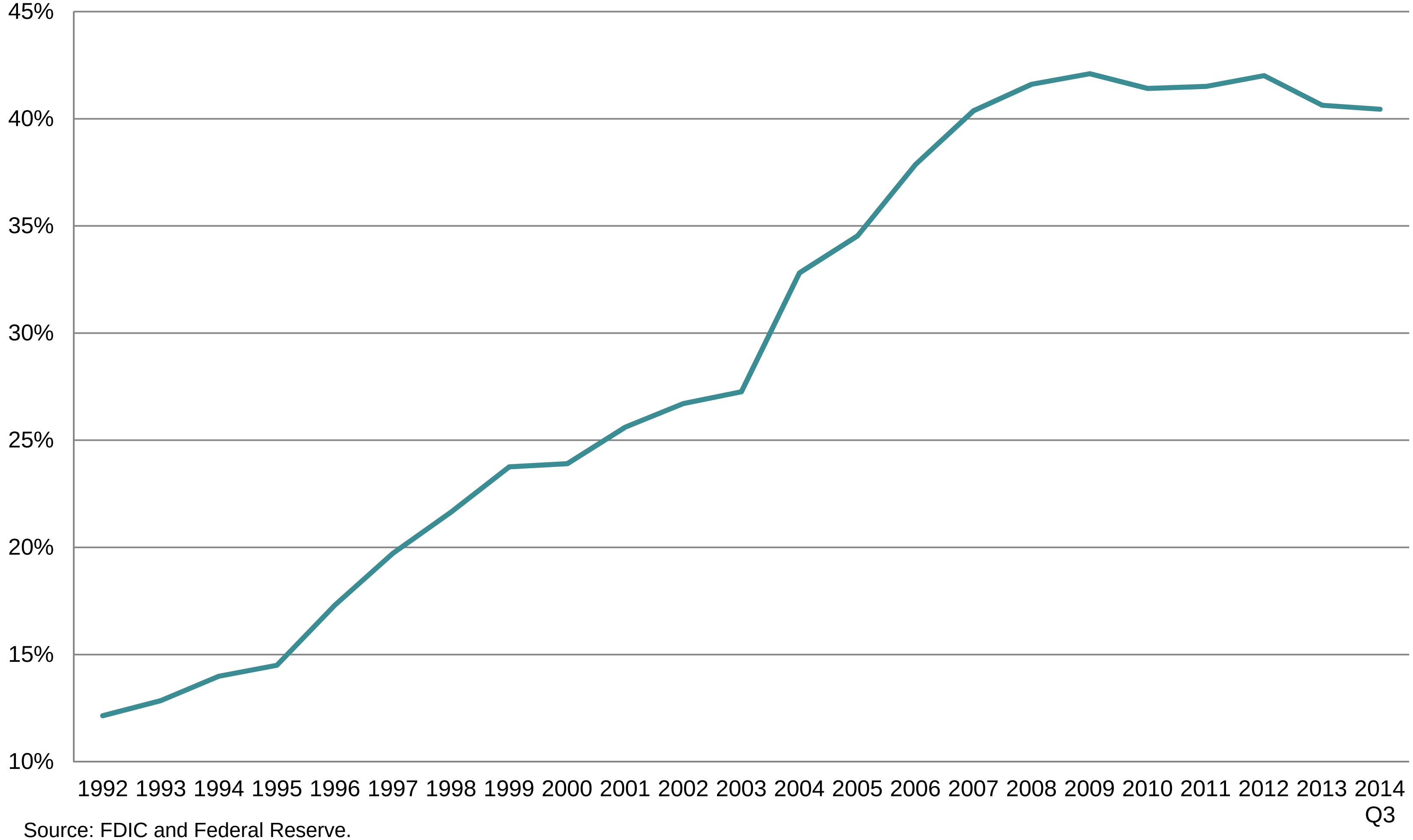
Trends in banking (II)

- Increased competitive pressure and technological transformation led to increasing market concentration ...

  ...which after the crisis has been exacerbated in the EU and stabilized in the US, with no clear tendency in emerging economies.

US CR5 ratio

Market share of the five largest depository institutions (% of total assets)



Source: FDIC and Federal Reserve.

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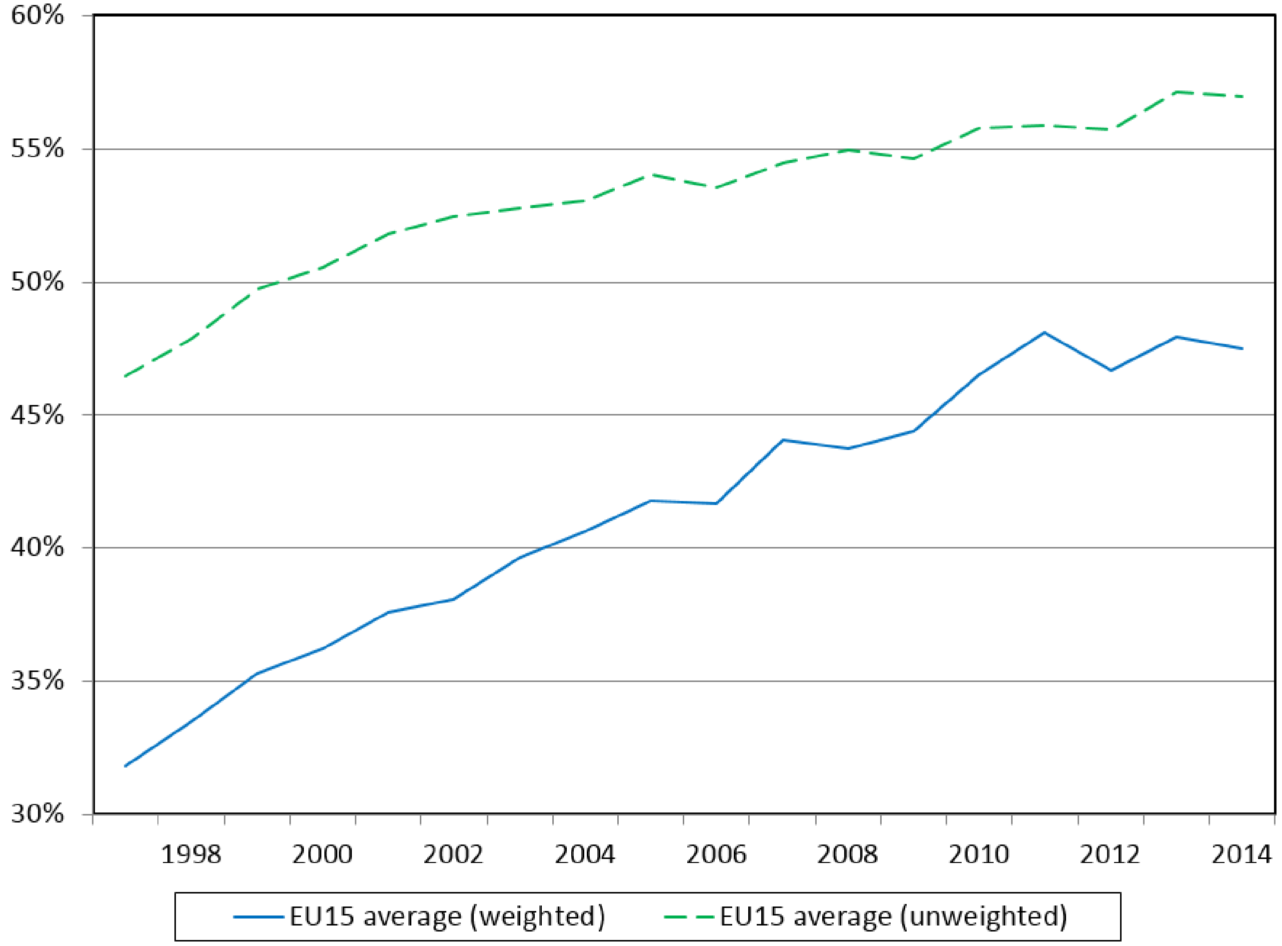
EU-15 CR5 ratio
as a % of total assets



Source: ECB, EU Structural Financial Indicators.

Competition and stability

Competition and stability

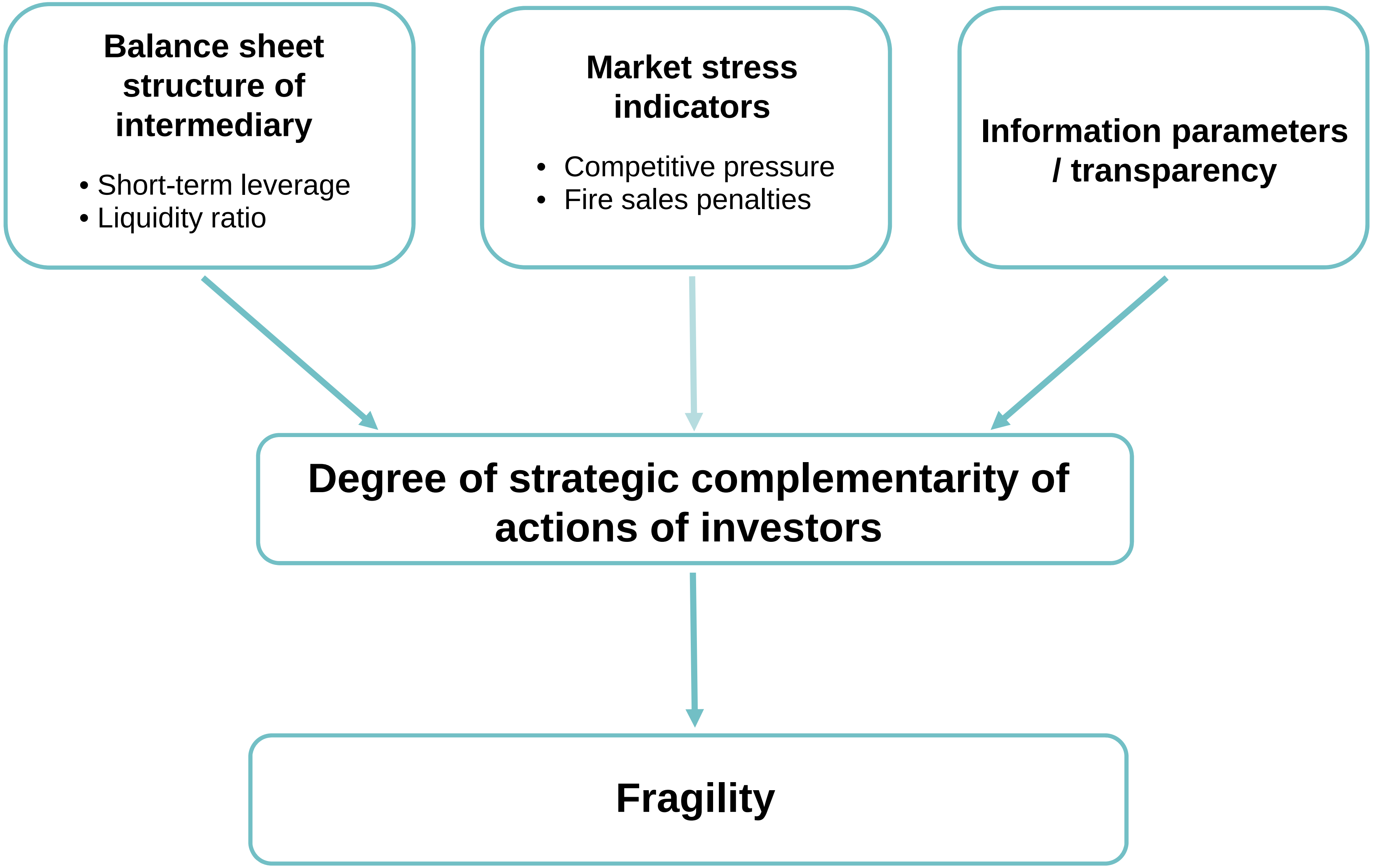
- Two channels through which competition may increase instability:
- By exacerbating *coordination problem* of depositors/investors and fostering runs/panics
- By increasing *incentives to take risk* and raise failure probabilities.

Coordination problem

Competition and fragility

Rochet and Vives (2004), Goldstein and Pauzner (2005), Vives (2014)

- Runs can happen independently of level of competition but more competitive pressure worsens coordination problem of investors/depositors by increasing degree of strategic complementarity of actions of investors:
  - – Potential instability (multiplicity of equilibria region)
  - – Probability of crisis
  - – Range of fundamentals for which there is coordination failure (and institution is solvent but illiquid)
  - – Impact of bad news on fundamentals.


Balance sheet structure of intermediary
• Short-term leverage
• Liquidity ratio
Market stress indicators
• Competitive pressure
• Fire sales penalties
Information parameters / transparency
Degree of strategic complementarity of actions of investors
Fragility

Excessive risk taking

The sources of risk taking

- *Limited liability* (for shareholders and managers)
- *Moral hazard* (for managers and investors)
- *Explicit and implicit insurance* (TBTF)
- *Excessive competition* (low charter value) exacerbated by market activities (modern banking)
- *Agency conflict* or too much alignment between owners and managers?
  – Executive compensation

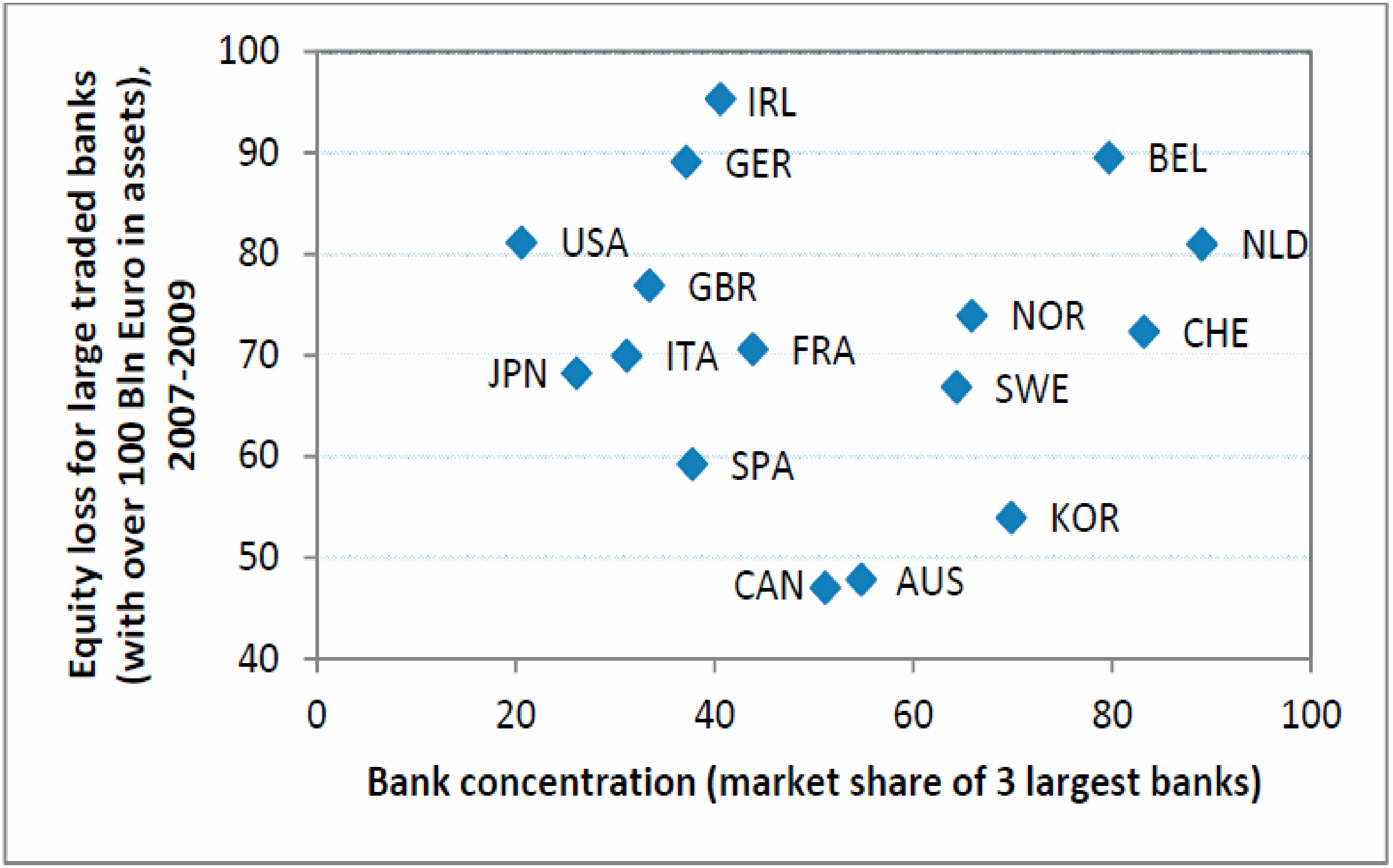
Modern banking and risk taking

- From branches ("bricks and mortar") to information technology, and highly specialized human capital.
- Hard information erodes traditional relationship banking (soft information) and increases the weight of trading in the balance sheet of banks:
  - Lower per unit profits but a larger scale of operation is possible.
- Increased capacity of modern banks to take risk and compete more fiercely since a higher proportion of activities are market based.
- Effect of concentration on charter value is limited in banks more exposed to trading:
  - Incentives to bet retail franchise value in the market (Boot and Ratnovski (2015)).

Market expansion and credit oversupply

- When markets expand new borrowers with unknown characteristics enter the market, as in the run up to the 2007-09 crisis.
- Then competitive markets tend to oversupply credit by relaxing lending standards and extending it to both good and bad risks (de Meza and Webb (1987), Dell'Ariccia and Marquez (2006), Mahoney and Weyl (2014))
- Risk taking is reinforced with:
  - the behavioral bias of consumers towards over-borrowing (which survives competition);
  - loose monetary policy and market-based banking (e.g. securitization).

Bank concentration and performance during the 2008 crisis



Source: Ratnovski (2013)

Evidence
Competition and systemic risk

- Egan et al. (2015) test Matutes and Vives (1996); US bank data for the period 2002-13.
- Systemic expectational contagion with banks linked through competition for a pool of deposits: Multiple equilibria.
- Instability of a bank may spill over to other banks via competition for deposits.

Conclusion on evidence

Complex trade-off between competition and stability

- Liberalization without adequate regulation leads to crises.
- Average positive association of market power and bank-level stability but with country variation and some indications that an intermediate level of bank competition maximizes bank stability.
- Positive association of some measures of bank competition (e.g. ease of entry) and systemic stability.
- Mixed results on association of aggregate concentration and stability.
- Larger banks tend to be better diversified, but assume higher risks.
- Large banking systems may be more fragile if large in relation to the size of the economy, feeding into the link between sovereign and bank risk.

Can we regulate away the competition-stability trade-off?

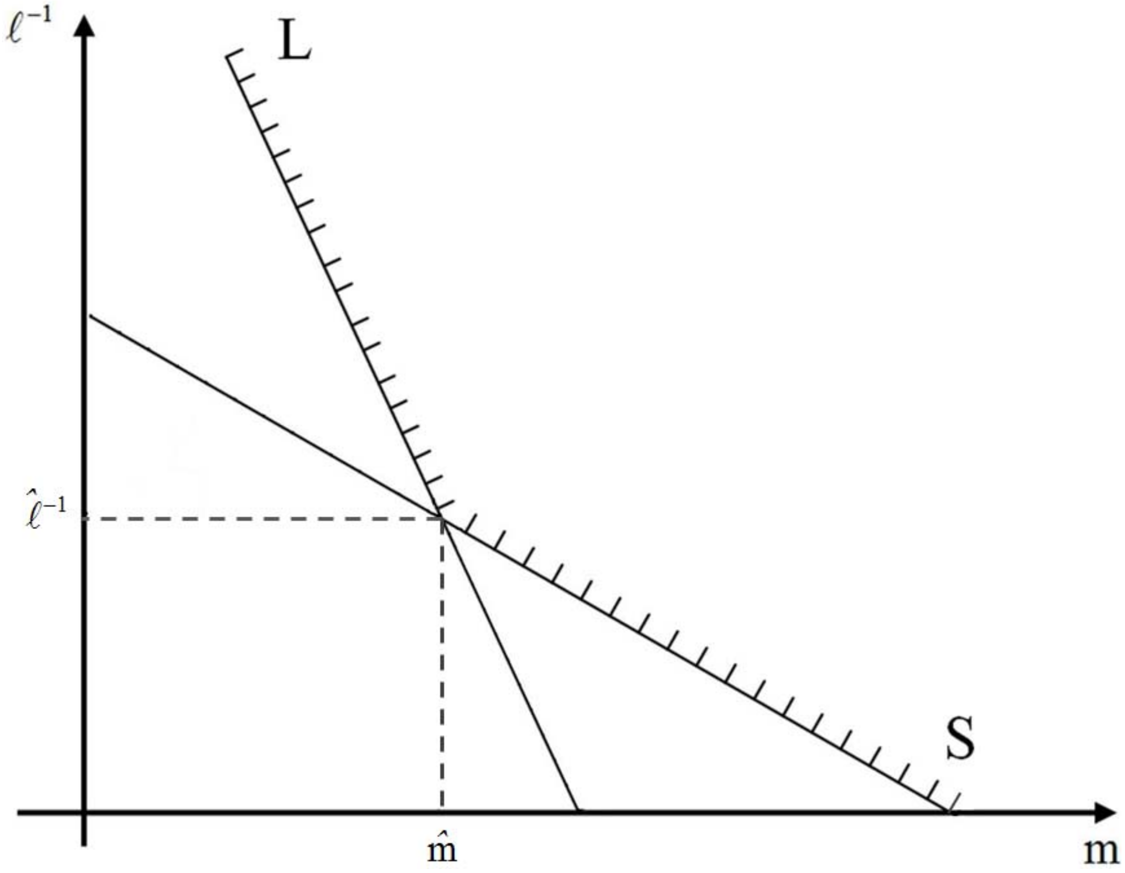
What is regulation trying to accomplish?

Regulating liquidity and solvency

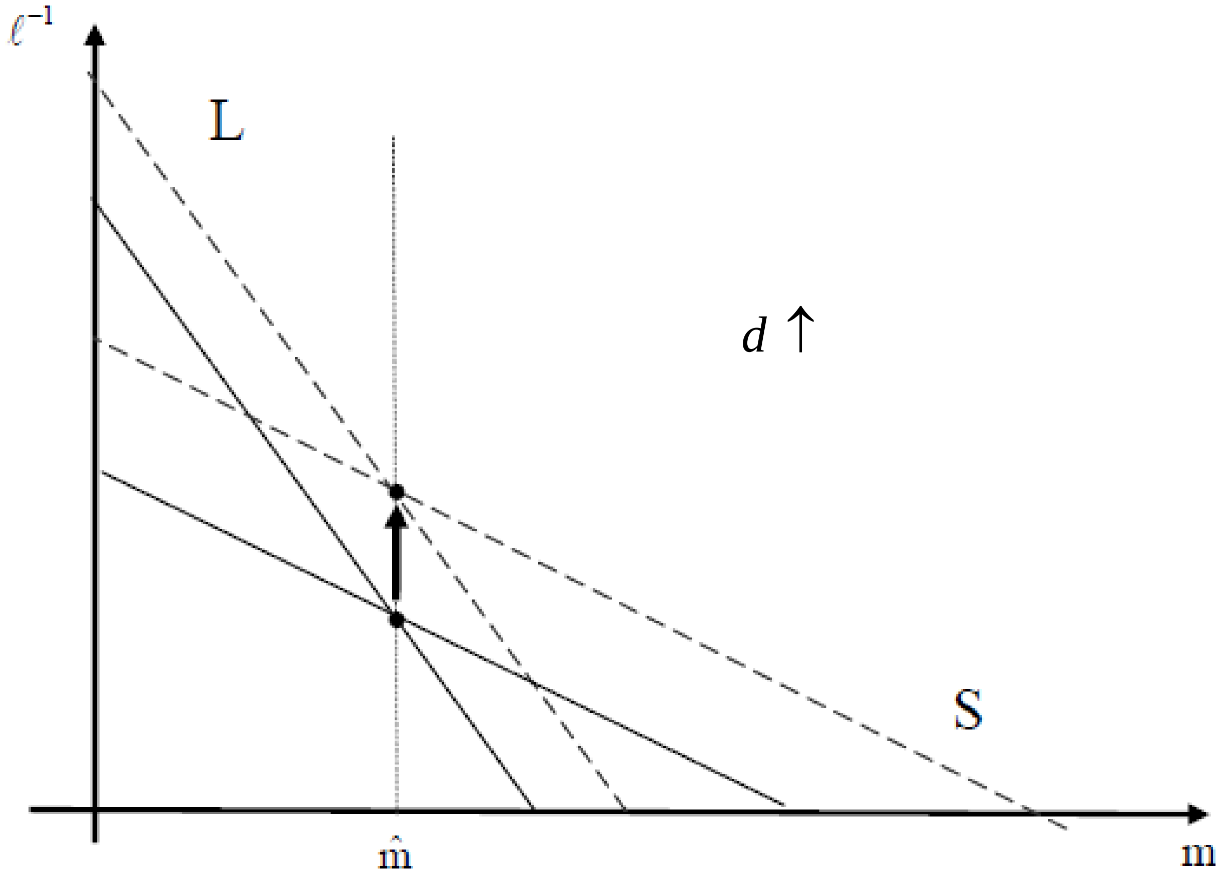
A regulator wants to control the probabilities of insolvency and illiquidity

Vives (2014)

Solvency (S) and liquidity (L) constraints to control probabilities of insolvency and illiquidity with an inverse short-term leverage ratio ($\ell^{-1} = E/D$) and a liquidity ratio ($m = M/D$).



Effect of an increase in cost of funds/ liberalization



Prudential regulation: a piecemeal approach will not work

- Capital, liquidity, disclosure requirements, macro-prudential ratios have to be thought together (taking into account activity restrictions if present)
- Competition policy is not independent of prudential regulation

The regulatory response and the crisis

Failure of Basel II?

- Are capital requirements sufficient to control risk taking?
- Is market discipline (bank disclosure and monitoring by large investors) effective?

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Regulatory reform

- US: Dodd-Frank and emphasis on consumer protection.
- UK: ring fencing, twin peaks architecture and consumer protection.
- EU: Banking union and ECB as centralized supervisor.

Banking regimes	Risk-taking incentives Liability (rates)	 Asset (investment)	Regulatory instruments
No insurance			
Observable risk/ high disclosure	Medium-low	Absent	Capital requirements
Unobservable risk/ low disclosure	Medium-high	Maximal	Capital requirements + asset restrictions
Insurance			
Risk-insensitive pricing	High	Maximal	Capital requirements + asset restrictions
Risk-based pricing	Low	Absent	Capital requirements

Basic frictions: limited liability, product differentiation (market power), social cost of failure
Necessary regulatory instruments when charter values are low and the social cost of failure is high.

Banking structural reform principles

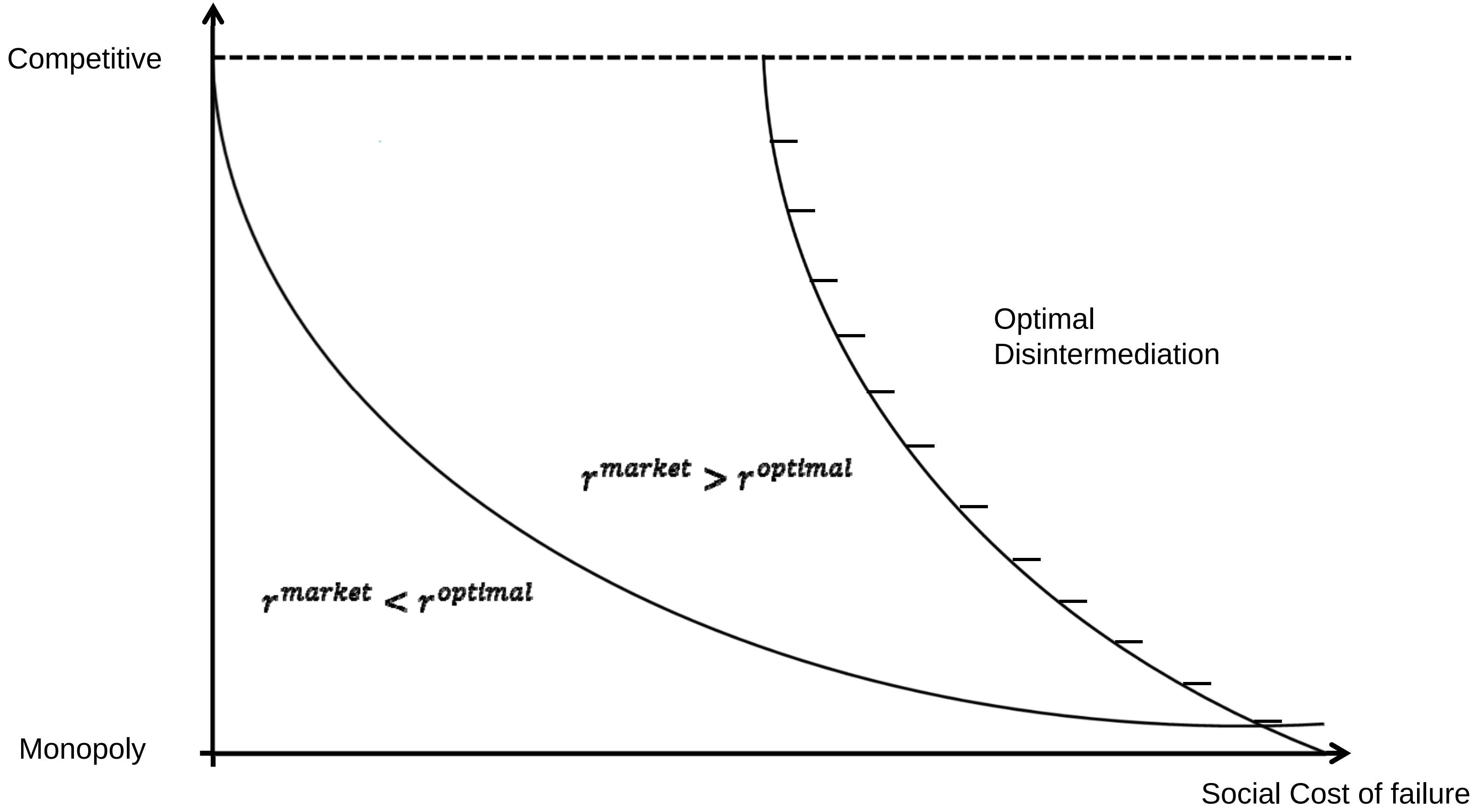
- Risk-based insurance mechanisms for traditional banking activities (those based on soft information, e.g., inside the ring-fence in the UK) that have to be protected.
- Market discipline with strong disclosure requirements and credible resolution for market-based segments (based on hard information as in investment banking).
- Problems:
  - Regulatory boundary and migration of risky activities
  - Residual liquidation/contagion costs

Can we regulate away the competition-stability trade-off?

- If we would manage to eliminate market failure arising out of asymmetric information and externalities we would be better off with more competition.
- Regulation (conduct and structure) can alleviate the competition-stability trade-off but not eliminate it.
  - Some degree of market power may alleviate the externality problem of a social cost of failure.
  - It follows that the design of optimal regulation has to take into account the intensity of competition:
    - Capital requirements need to be tougher with more intense competition (e.g. Matutes-Vives (2000), Vives (2014)).

A framework:
Optimal market and deposit rates

(as a function of market friction and social cost of failure)



Coordination between prudential regulation and competition policy

Coordination between prudential regulation and competition policy

With finely tuned regulation, competition policy in the financial system should be given the simple mandate to maximize competitive pressure. However, since regulation is imperfect regulation must be coordinated with competition policy:

1. The design of optimal regulation must take into account the intensity of competition.
   – For example, measures easing entry shall be accompanied with tougher prudential requirements.
2. The optimal degree of market concentration may be intermediate.
3. Resolution of failing entities by selling them to better institutions may lead to the formation of anticompetitive and TBTF market structures.
4. Prudential regulation may represent a barrier to entry, specially for smaller competitors.
5. Prudential restrictions to competition may increase welfare
   1. Natural oligopoly in market-based banking and activity restrictions.
   2. Capping deposit rates in a prompt corrective action frame when weak institutions exploit deposit insurance.
   3. Limits to mortgages to prevent over-expansions.

Coordination between prudential regulation and competition policy

Cases where competition and prudential regulation policies are naturally aligned and complementary:

- Treating similarly equivalent products (even if provided by different types of financial institutions) avoids regulatory arbitrage and increases competition among products and entities.
- Promotion of infrastructures for financial services (e.g. credit bureaus or central clearing for derivative instruments) boost both financial stability and competition.
- Attack on TBTF problem.

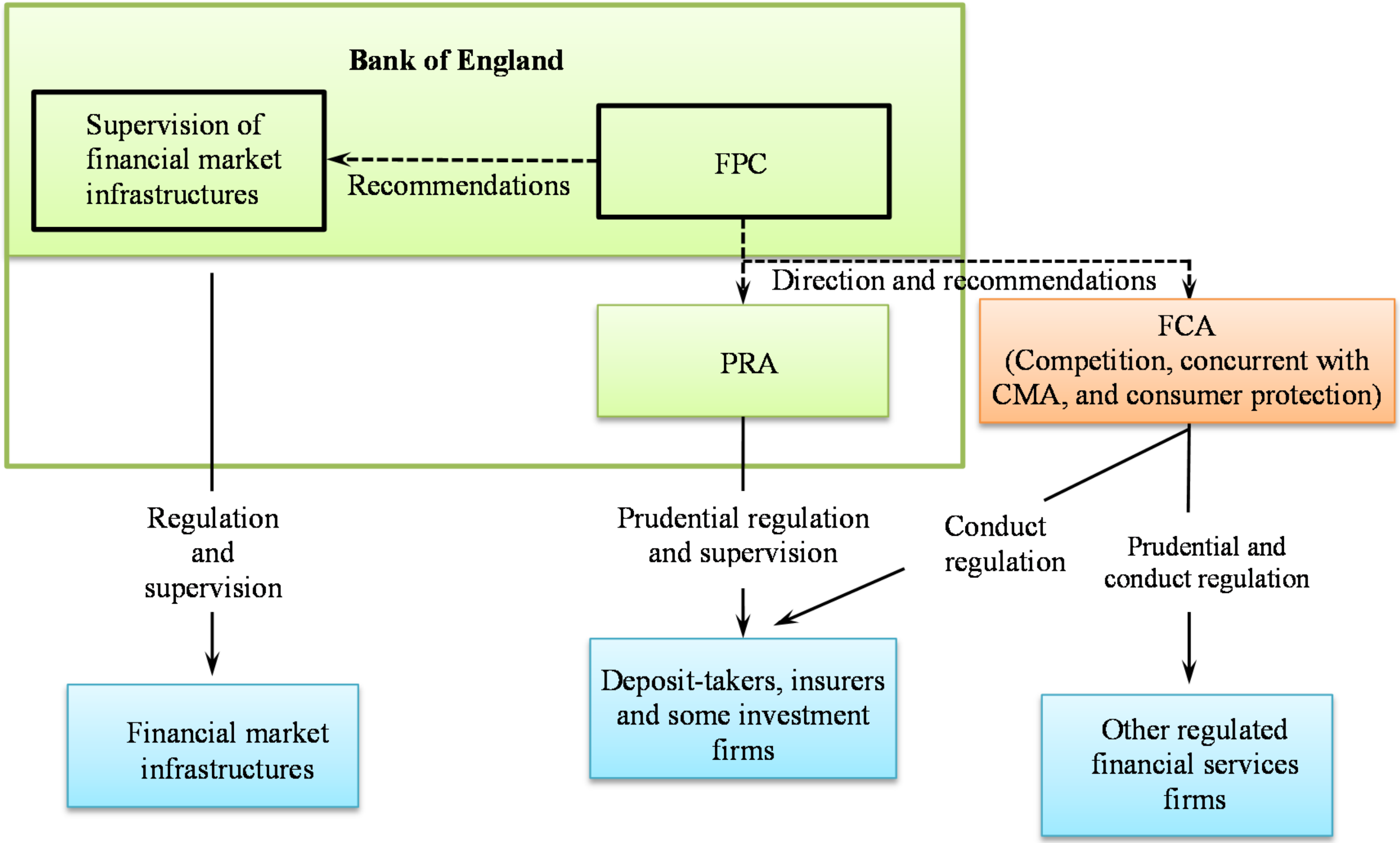
Financial architecture

- The coordination of competition policy and regulation does not mean that the policies should be enforced by the same agency.
- Separate agencies for competition policy and prudential oversight with well-defined missions avoid the potential conflict of interest of competition policy and regulation.

Assessment of trade-offs

- Optimal design is open (an empirical issue)
- Case for separation of prudential and competition (as well as consumer protection) authority is strong.
- Case for integrating consumer protection agency with competition authority
  - UK but in the EU, the prudential supervisor is typically involved in consumer protection.
- Case for CB with supervisory powers:
  - Informational economies of scope, between monetary policy, the LOLR facility and supervision.
  - Single authority in crisis.

The UK «Twin Peaks» Regulatory Framework



Source: Financial Stability Board (2013), Peer Review of the United Kingdom.

Competition policy in a crisis

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HBOs-Lloyds case

- HBOs-Lloyds merger approved in 2008 against OFT's opinion (with partial nationalization) despite:
  - 30% market share in current accounts/mortgages
  - SME banking services in Scotland
  - (Lloyds not allowed to take over Abbey in 2001).

- Issues:
  - Failing firm defense not applicable because state will not allow bank to fail of public (EC, OFT).
  - Better to recapitalize/nationalize HBOs and keep it independent for pro-competitive privatization (Vickers).
  - Consolidates an oligopolistic structure with five large banks with an HHI on PCA around 1800 from 2009 (and up from levels around 1350).

Competition policy and TBTF

- CP as a credible tool to check moral hazard and TBTF problems?
- Competitive distortion based on the advantage of being under the TBTF umbrella.
- CP authority may impose structural and conduct measures on TBTF entities formed out of mergers.
- Divergence
  - US (TBTF is not an antitrust problem).
  - EU (state aid control with restructuring to avoid moral hazard and not only to protect competition):
    - Side benefit of state aid control in the EU is that it limits the incentives of bankers to take excessive risk in the expectation of a bailout if things go wrong.
    - The competition authority may internalize the fact that when an institution fails and it gets help competition will be distorted.

Conclusions (I)

- Banking should not be protected from competition:
  - To foster efficiency and consumer service. Innovation.
  - Weed out inefficient institutions and limit rent seeking.
  - To keep in check market abuse.
- Competition in banking is good for society provided that regulation and supervision are adequate.
- Competition is not responsible for fragility in banking, but there exists a trade-off between competition and financial stability along some dimensions.
- Well-designed regulation may alleviate competition-stability trade-off but is unlikely to eliminate it.
  - There is ample margin for regulation to improve alignment of social and private incentives.
  - Better regulation allows more competition.

Conclusions (II)

- Two important consequences of trade-off:
  1. Competition policy specificity in banking should be recognized.
  2. Prudential regulation must be coordinated with competition policy.
- Regulation should take into account the interactions of the different conduct and structural instruments used.
- Agencies responsible for prudential regulation and competition policy should be independent with consumer protection separated from prudential supervision.

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