Bank bias in Europe: Effects on systemic risk and growth

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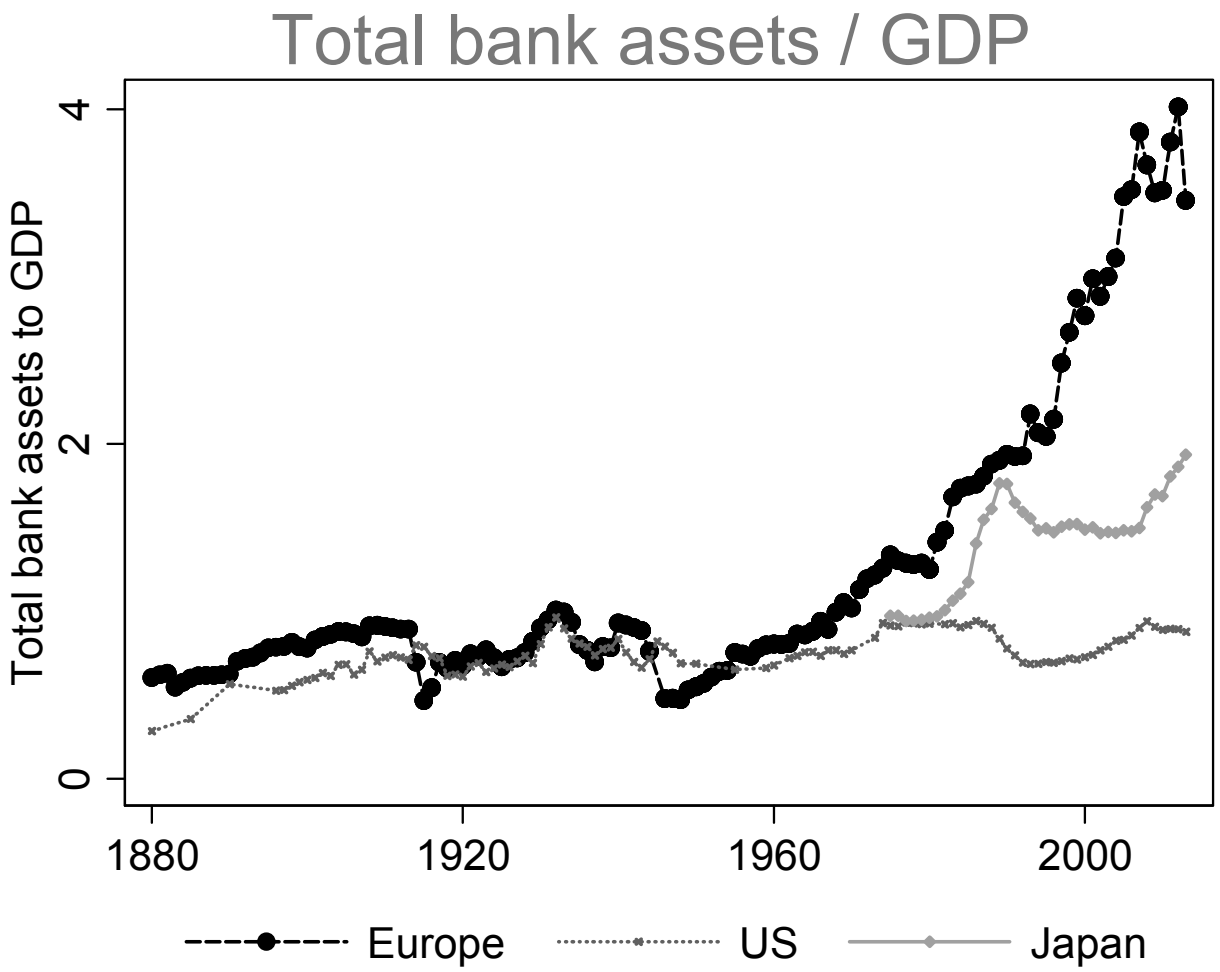
“Better to have a plurality of financing channels than to rely on just one”

– ECB President Mario Draghi, November 2014

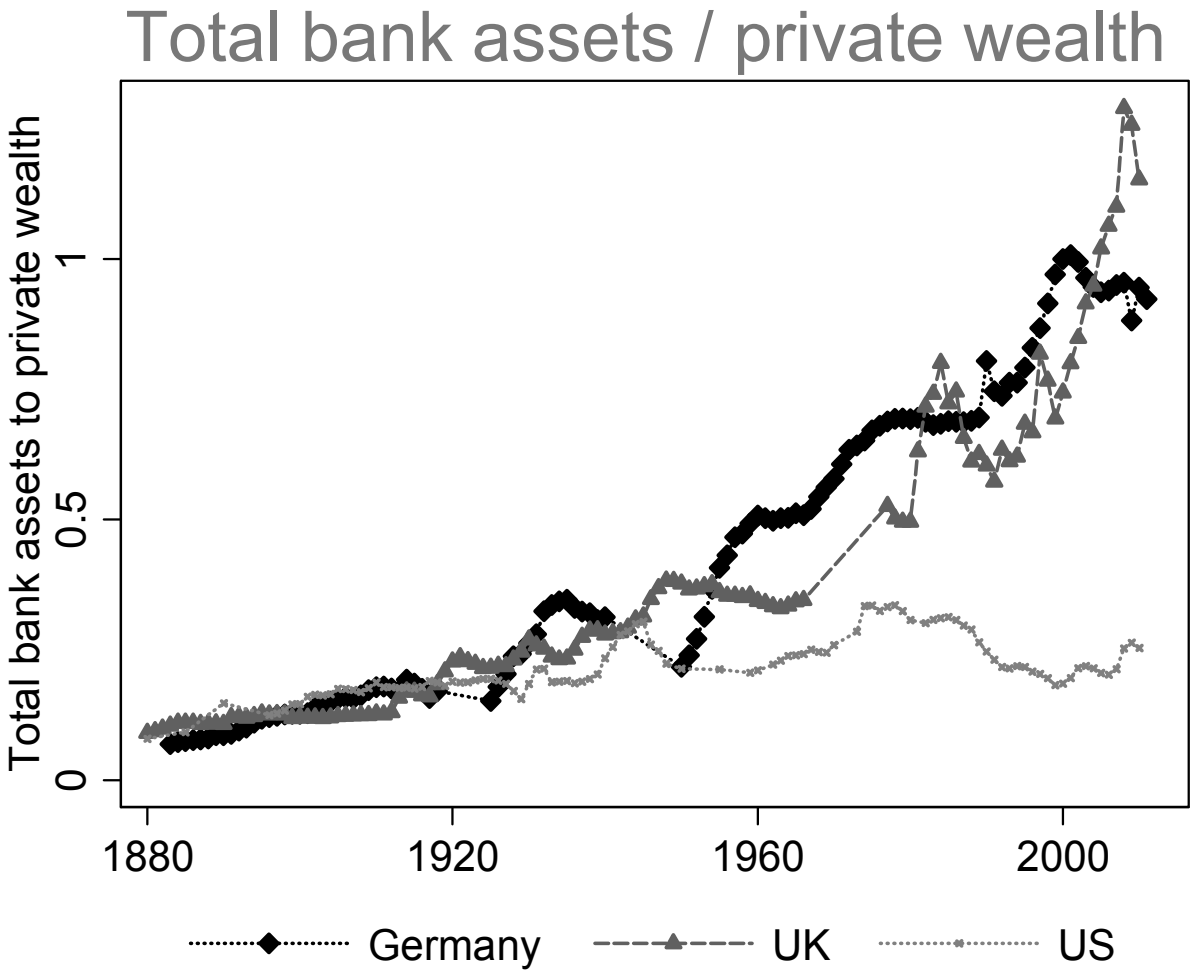
“We should develop capital markets and reduce our very high dependence on bank funding”

– EU Commission President Jean-Claude Juncker, July 2014

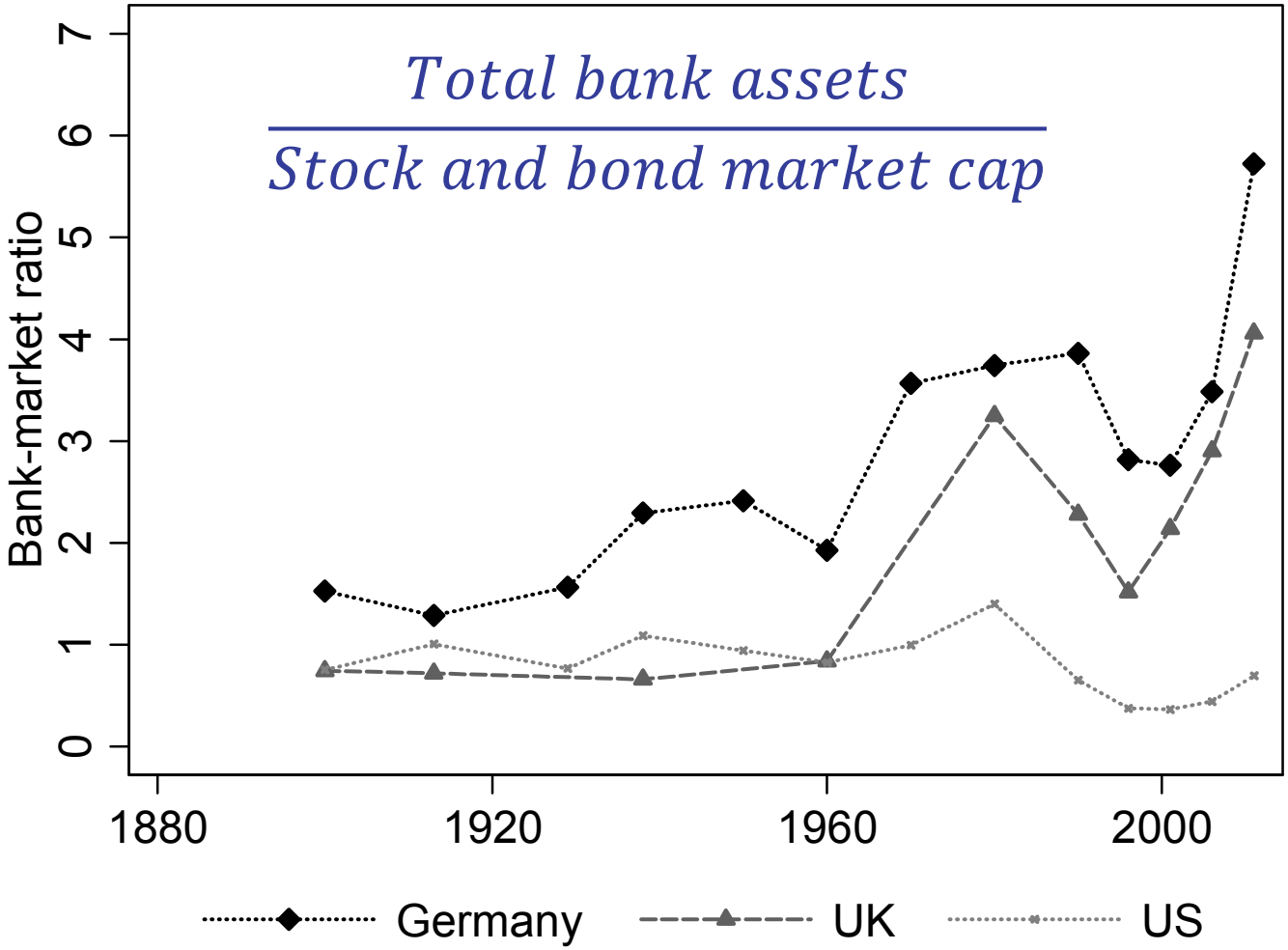
Unusual expansion of banking in Europe since 1990s



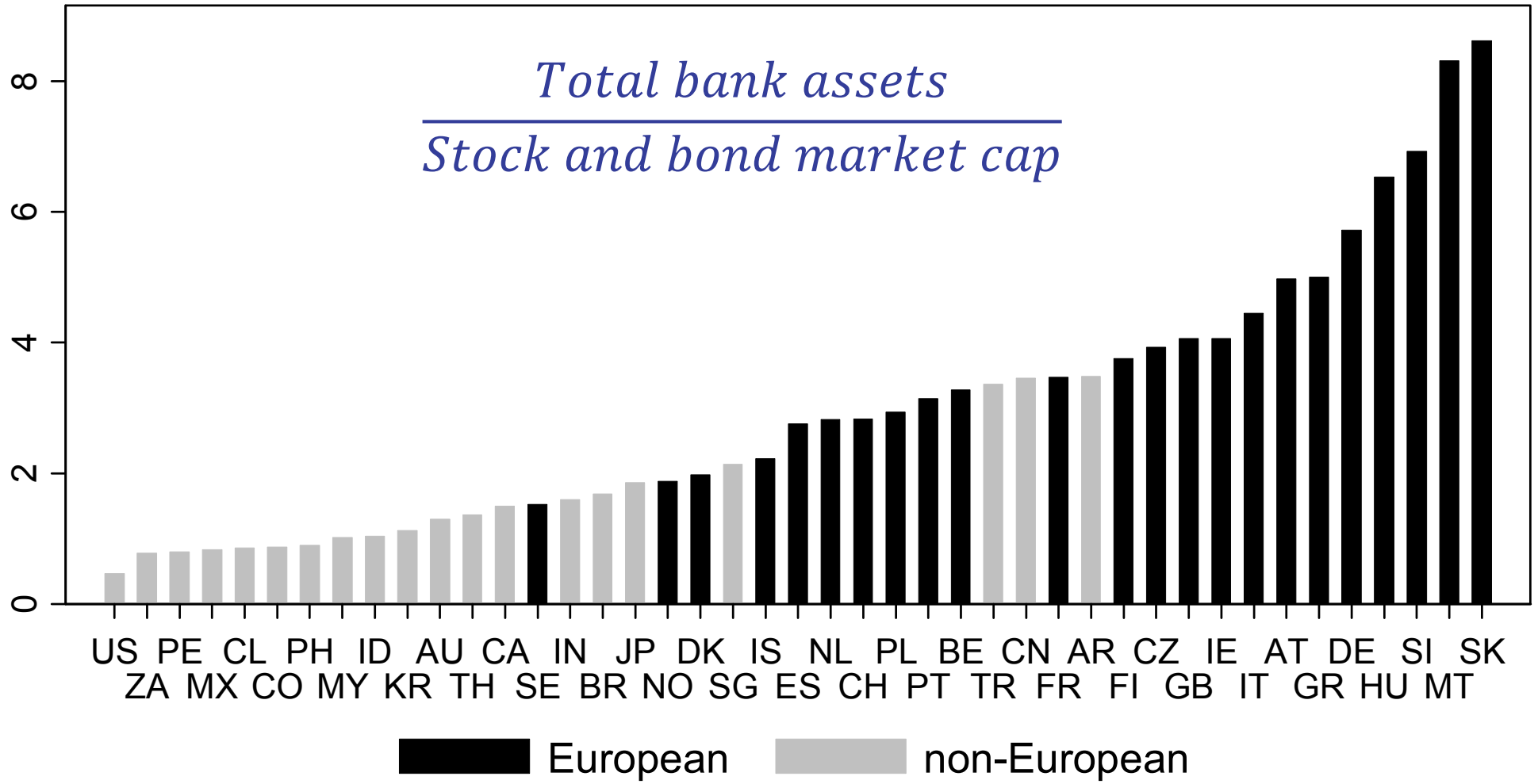
…remains true when scaled by wealth rather than output



⇒ EU financial structure increasingly bank-based



Bank-market ratio around the world in 2011



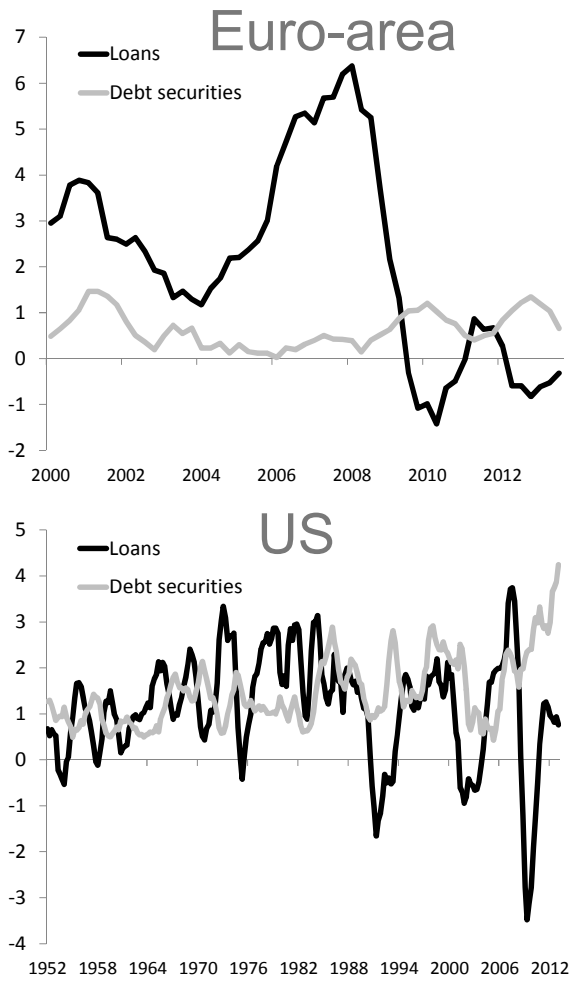
Why might a bank-based structure be problematic?

- Banks are highly leveraged
  ⇒ more volatile credit creation
  (Becker and Ivashina, 2014)
- In a bank-based structure, banks' volatile credit creation has large aggregate effects:

effects on risk + growth

- in good times, banks finance negative NPV projects
- in bad times, good projects go unfunded

NFCs' loan and debt liabilities (%YoY)



Hypothesis 1

Bank-based structures feature higher systemic risk, particularly during times of large drops in asset prices

- With abundant liquidity, risk builds up in the background as banks finance increasingly risky projects (Acharya and Naqvi, 2012). This build-up of risk is observed only once asset prices fall substantially.
- Banks' aggregate deleveraging exacerbates the asset price fall, particularly for "systemic" assets that are widely held or used as collateral (e.g. housing).

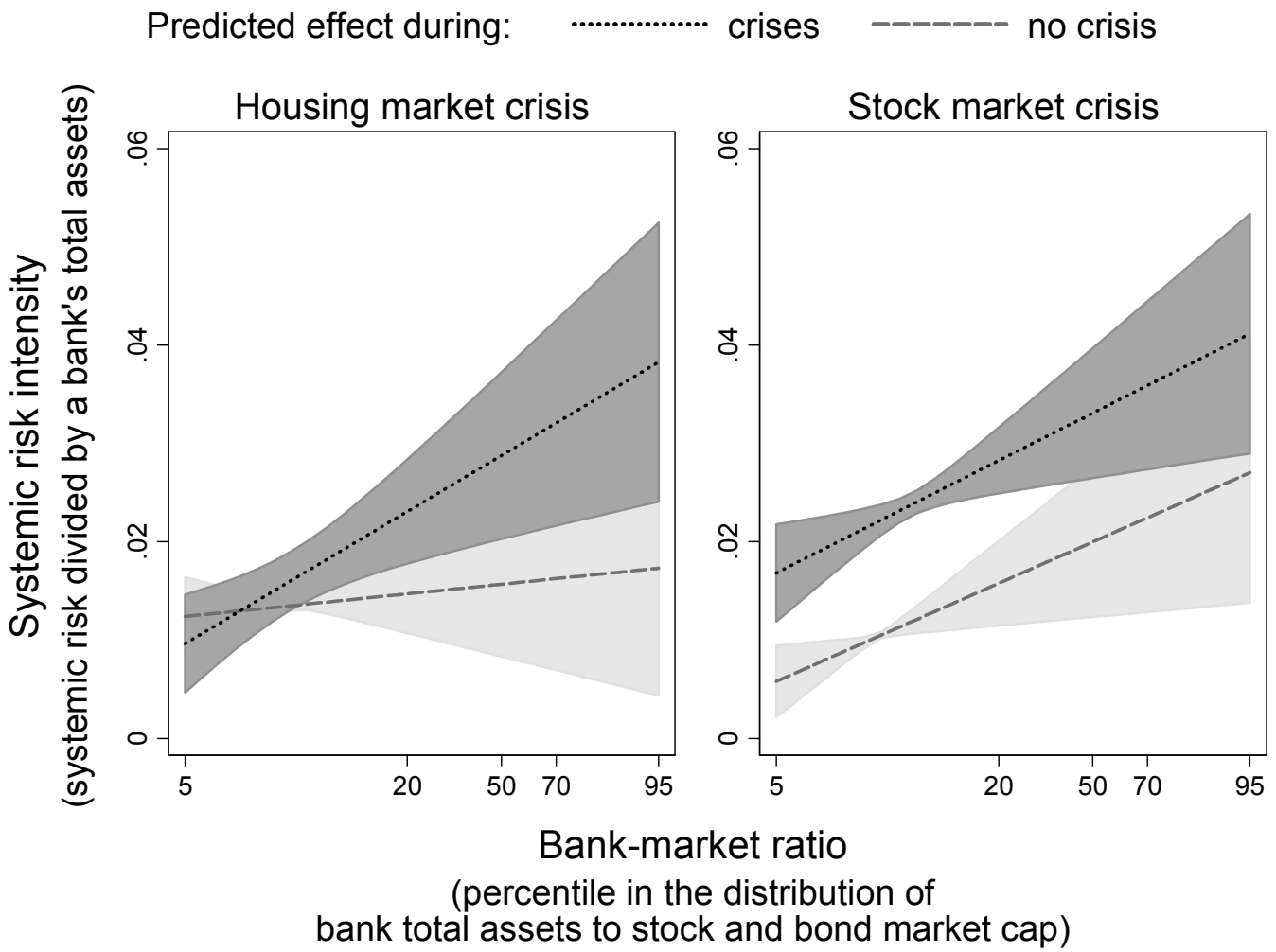
Empirical framework for hypothesis 1

- **Measurement**:
  - Financial structure: country-level bank-market ratio = $\frac{Total\ bank\ assets}{Stock\ and\ bond\ market\ cap}$
  - Systemic risk: bank-level SRISK (equity shortfall conditional on 40% general stock price drop over six months) divided by bank-level total assets
  - Crises: country-level (i) real house prices drop <-10% YoY; (ii) real stock prices <-20% YoY
- **Sample**: 517 banks; 20 countries; 2000-12 (yearly).
- **Specification**: Estimate within-bank effect of bank-market ratio on SRISK

Results: Systemic risk and the bank-market ratio

	Dep. Var.: Systemic risk intensity	
	Housing market crisis	Stock market crisis
	I	II
Bank-market ratio (lagged)	0.00191	0.00822**
Crisis dummy	0.00859***	0.00528***
Bank-market ratio (lagged) × Crisis dummy	0.00918***	0.00120
Bank size	0.00495***	0.00624***
Bank size / GDP	0.0185***	0.0186**
Leverage	0.000484***	0.000527***
Year dummies	Yes	Yes
Bank-level fixed effects	Yes	Yes
Observations	4,274	4,197
Number of banks	483	473

Economic magnitude: Predicted effects



Hypothesis 2

Bank-based structures feature lower economic growth, particularly during times of large drops in asset prices

- With abundant liquidity, banks finance low-productivity projects (Acharya and Naqvi, 2012).
- When asset prices fall substantially, banks try to return to leverage targets in part by denying funding to high-productivity projects. Some of these projects will be transient: value is thus permanently lost.
- Banks also tend to forbear on old loans to low-productivity projects owing to borrower-lender bilateral monopoly.

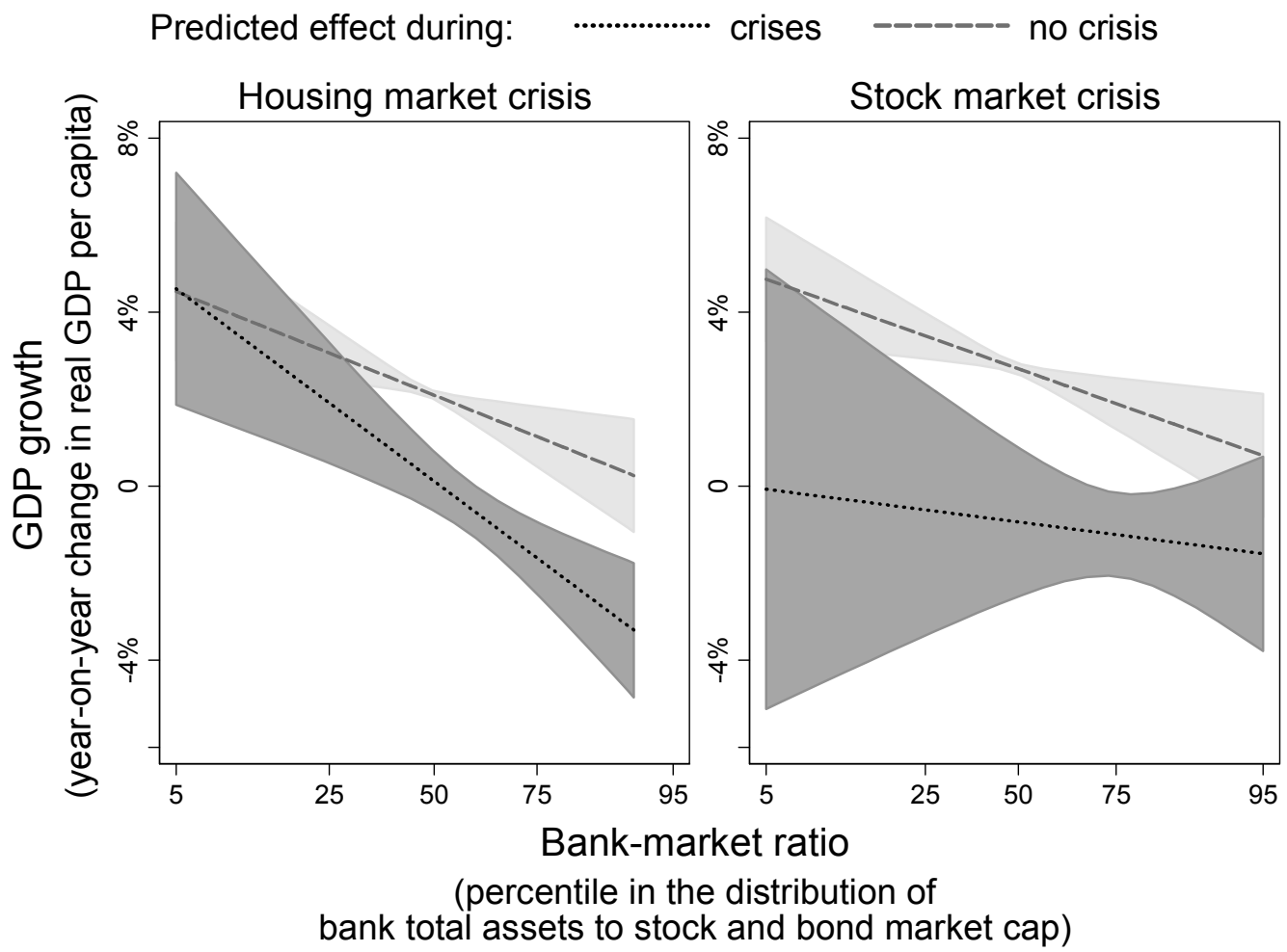
Empirical framework for hypothesis 2

- **Measurement**:
  - Financial structure: country-level bank-market ratio = $\frac{Total\ bank\ assets}{Stock\ and\ bond\ market\ cap}$
  - Economic growth: country-level change in GDP over five years (to remove business cycle effects and to partly address endogeneity)
  - Crises: country-level (i) real house prices drop <-5% over five years; (ii) real stock prices <-10% over five years
- **Sample**: 45 countries; 1988-2011 (split into five year periods).
- **Specification**: Estimate within-country effect of bank-market ratio on GDP growth

First results: Growth and the bank-market ratio

	Dep. Variable: GDP growth over five years	
	Housing market crisis	Stock market crisis
	I	II
Lagged bank-market ratio	-0.0200***	-0.0178***
Crisis dummy	-0.0436	-0.0338**
Lagged bank-market ratio × Crisis dummy	-0.0171***	0.0113
Time dummies	Yes	Yes
Country-level fixed effects	Yes	Yes
Observations	138	140
No. of countries	42	38

Economic magnitude: Predicted effects



Possible endogeneity problem

- Bank-market ratio and GDP growth are both observed at country-level.
- Could GDP growth have a reverse causal effect on the bank-market ratio?
- If GDP growth suddenly increases, market value increases immediately, while book value responds with a lag…

$$Bank\text{-}market\ ratio = \frac{Total\ bank\ assets}{Stock\ and\ bond\ market\ cap}$$

↑ medium-run

↑ short-run

Strategies to try to address this endogeneity concern

1. Estimating regressions using five-year periods (partly) removes from the data any short-run deviation of book and market value owing to one-off GDP surprises.
2. Instrument for the endogeneity of the bank-market ratio to (surprise) GDP growth using six measures of **reforms of financial regulation** from Abiad et al (2008).
    - *Relevance*: likely to affect bank-market ratio; *e.g.* stronger bank supervision raises the relative attractiveness of non-bank intermediation
    - *Validity*: One-off effect on GDP level (financial deepening), but no persistent effect on GDP growth

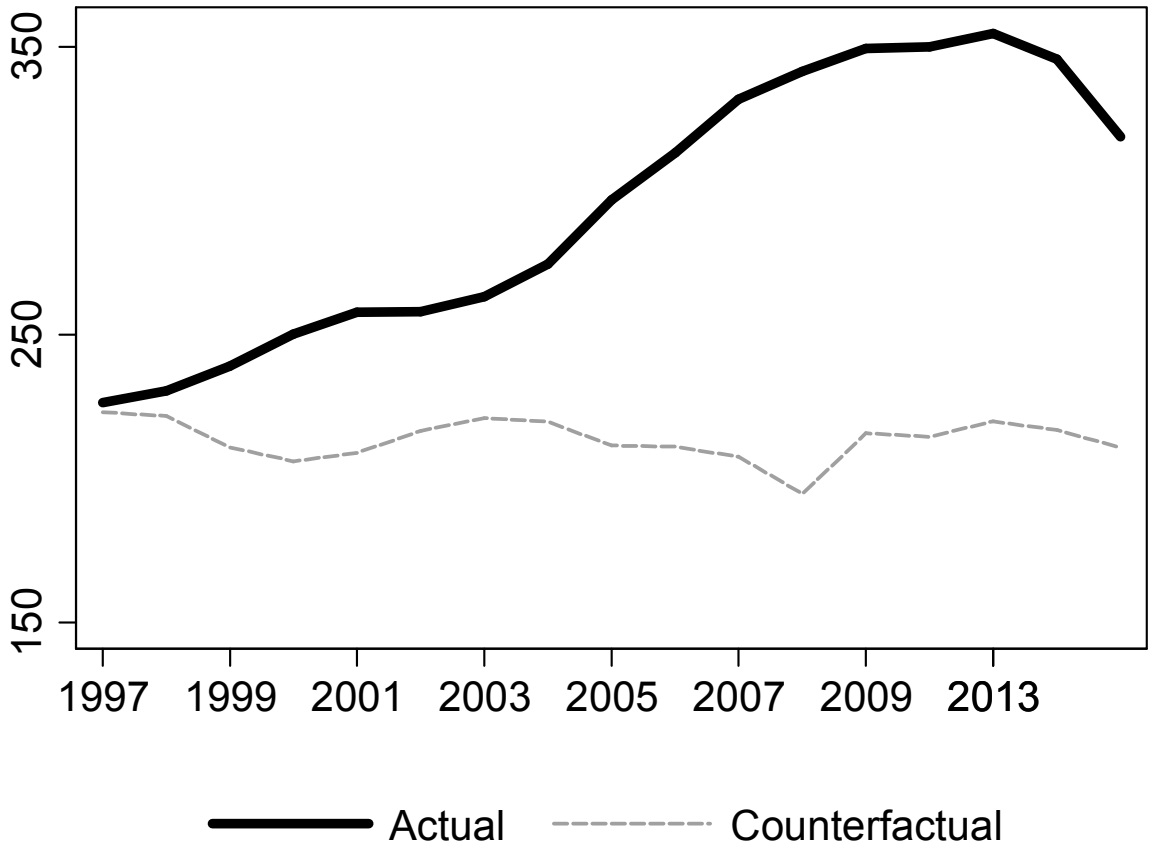
Panel IV second-stage regression results

	Dep. var: 5Y GDP growth	
	Housing market crisis II	Stock market crisis III
Bank-market ratio	-0.0241**	-0.0134*
Crisis dummy	0.0081	-0.0386***
Bank-market ratio × Crisis dummy	-0.0364***	0.0193*
Time dummies	Yes	Yes
Country FE	Yes	Yes
Observations	63	73
No of countries	18	20

- *IV relevance*: in the first stage, coefficients are jointly significant; in particular, stronger bank supervision is significantly associated with lower bank-market ratio; also, in some specifications, security market liberalisation, privatization and contestability of the banking market.
- IV validity: Sargan test does not reject the null that over-identifying restrictions are valid.

Why did Europe's financial structure become "bank biased"?

Equivalent to: "why did the largest 20 banks grow so much?"



The counterfactual series shows EU total assets to GDP if the EU's top 20 banks had grown in line with GDP since 1997.

Why did Europe's financial structure become "bank biased"?

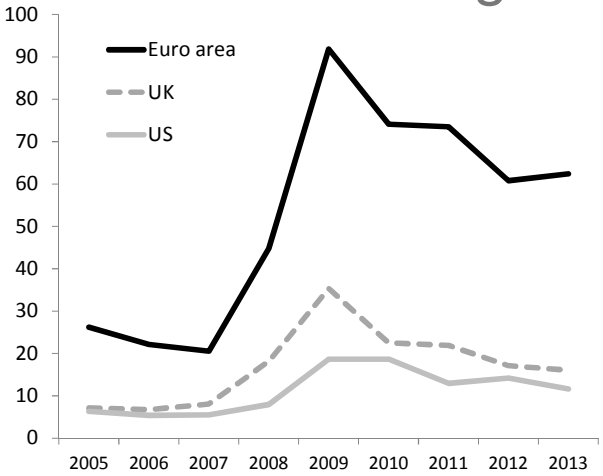
Public support

- TBTF guarantees
- weak resolution framework

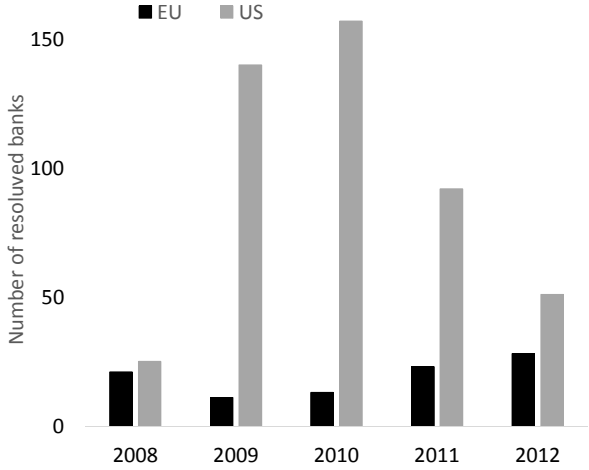
Politics

- supervisory capture, esp by "national champions"
- publicly managed banks (e.g. Cajas, Landesbanken)

Ave reduction in funding costs (bps)



Number of resolved banks



Redressing Europe's "bank bias": a two-pronged approach

- **Reduce regulatory favour towards (large) banks**
  - Much progress recently: CRD; SSM; BRRD; SRM
  - Additional policies to consider: (i) structural reform; (ii) more stringent anti-trust policy. US even has a size cap.
- **Support the development of securities markets**
  - Integrating capital markets (CMU) will have a deepening effect: integrate stock markets (trade-through rule); reduce IPO fixed costs for SMEs (simplify prospectuses); standardise corporate bonds and ABSs (prefer LOBs)