BRANDEIS INTERNATIONAL
BUSINESS SCHOOL

Has Regulatory Capital Made Banks Safer?

Discussion by
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The Question

When capital requirements go up, what do banks do?

Capital Requirements

$$\left[\frac{\text{Capital}}{\text{Exposure}}\right] \leq \text{Requirement}$$

- Definition of capital:
  Intangibles? Good will?
  Hybrids? Deferred Tax Assets?
- Definition of exposure:
  Risk weighted or equal weighted?
  What about off-balance sheet exposures?

Capital Requirements

Comparing Basel III & Basel II Risk-weighted Capital Requirements	
Basel III range	8% to 10%
Basel II Baseline	4%
Adjustment for hybrid capital	-2%
Adjustment for goodwill, intangibles, deferred tax assets, etc.	-1%
Adjustment for changes in risk weights	-¼%
Effective Basel II converted to a Basel III basis	< ¾%

Capital requirements are 10+ times higher because they were so low!

Basel III phase-in arrangements: key standards[1]

Table III.1

Standard	Adoption year	Requirement	Phase-in from year	Full implementation year
Stage 1: Capital and liquidity				
Capital definition	2010	CET1; deductions	2013	2022
Minimum CET1 ratio	2010	4.5%	2013	2015
Capital conservation buffer	2010	2.5%	2016	2019
Countercyclical buffer	2010	0–2.5%	2016	2019
G-SIB capital surcharge	2010	0–3.5%	2016	2019
Leverage ratio (LR)	2010	3%	2015 (disclosure)	2018
Securitisation framework	*2014*	*Revised framework*		*2018*
Market risk framework	*2016*	*Revised framework*		*2022*
Liquidity Coverage Ratio	2010	100%	2015	2019
Net Stable Funding Ratio	2010	100%		2018
Stage 2: Tackling RWA variability				
Output floor	2017	72.5%	2022	2027
LR revisions/G-SIB surcharge	2017	50% scaling factor		2022
Credit risk framework	2017	Revised framework		2022
Operational risk framework	2017	Revised framework		2022

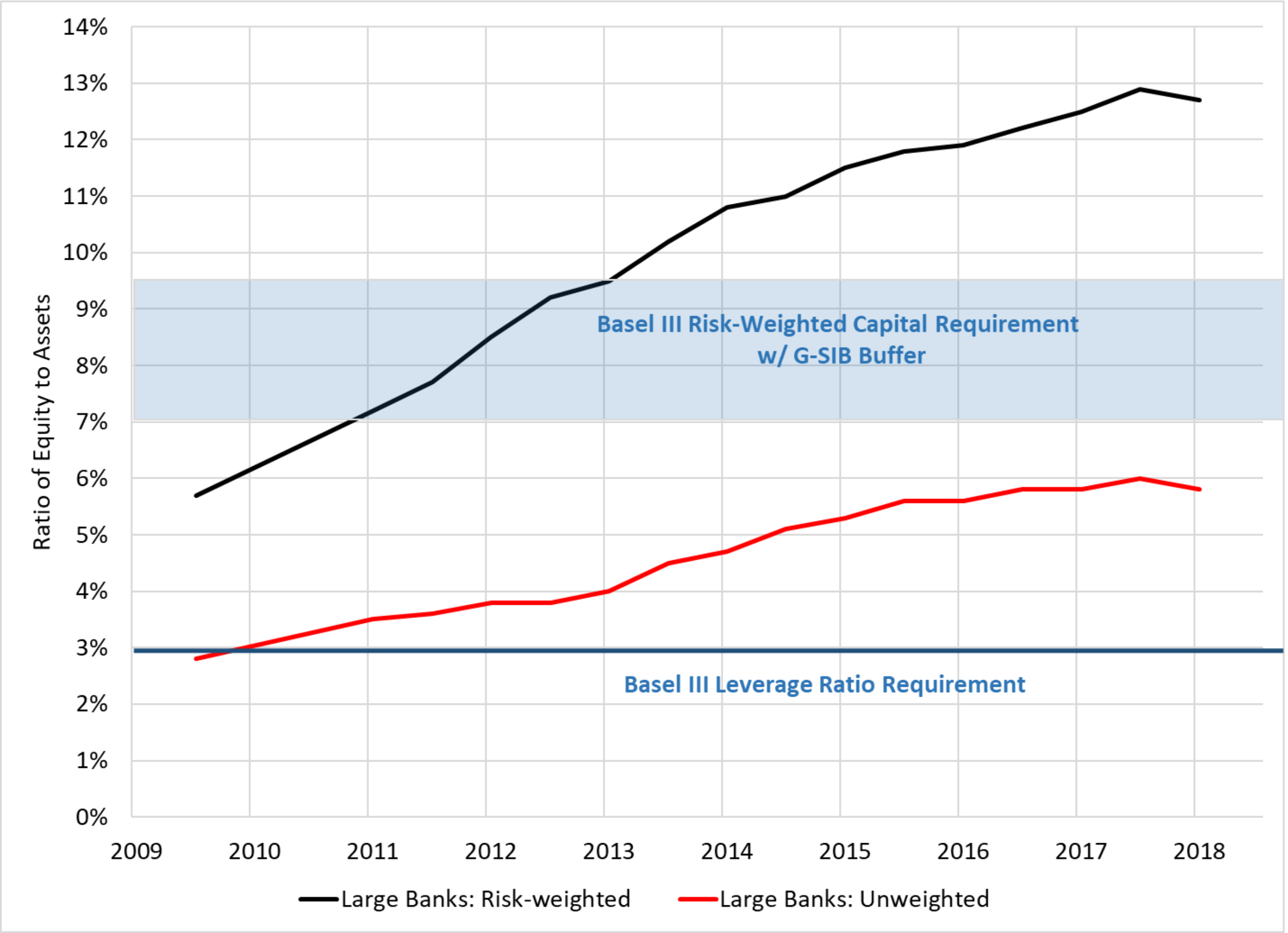
[1] The Basel framework distinguishes three pillars: (i) minimum capital requirements, (ii) supervisory review and (iii) market discipline, based on standardised disclosures. Complementary reforms, such as enhanced bank resolution regimes, are implemented in parallel.

Sources: BCBS; BIS.

Phase in complete in 2022.

Note: definition of capital, risk weights/coverage and ratio are all changing at the same time!

Risk- and Equal-weighted Ratios
(66 Global banks with capital in excess of €3 bn)



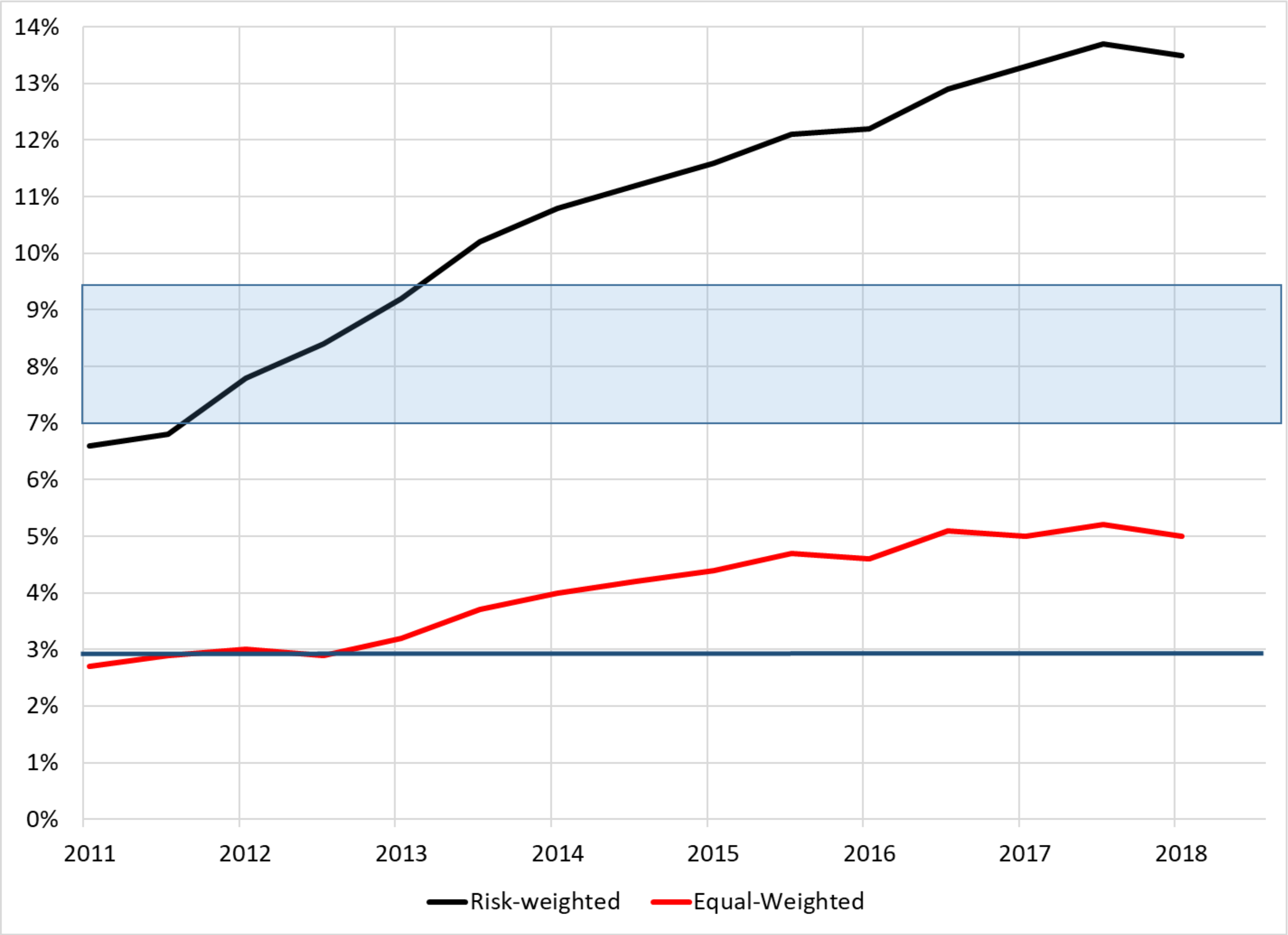
RWA:
2009: 5.7%
2018: 13.9%

Leverage ratio:
2009: 2.8%
2018: 5.8%

Based on fully phased-in Basel III definition.

Source: Basel Committee QIS, various years

Risk- and Equal-weighted Ratios
(23 European banks with capital in excess of €3 bn)



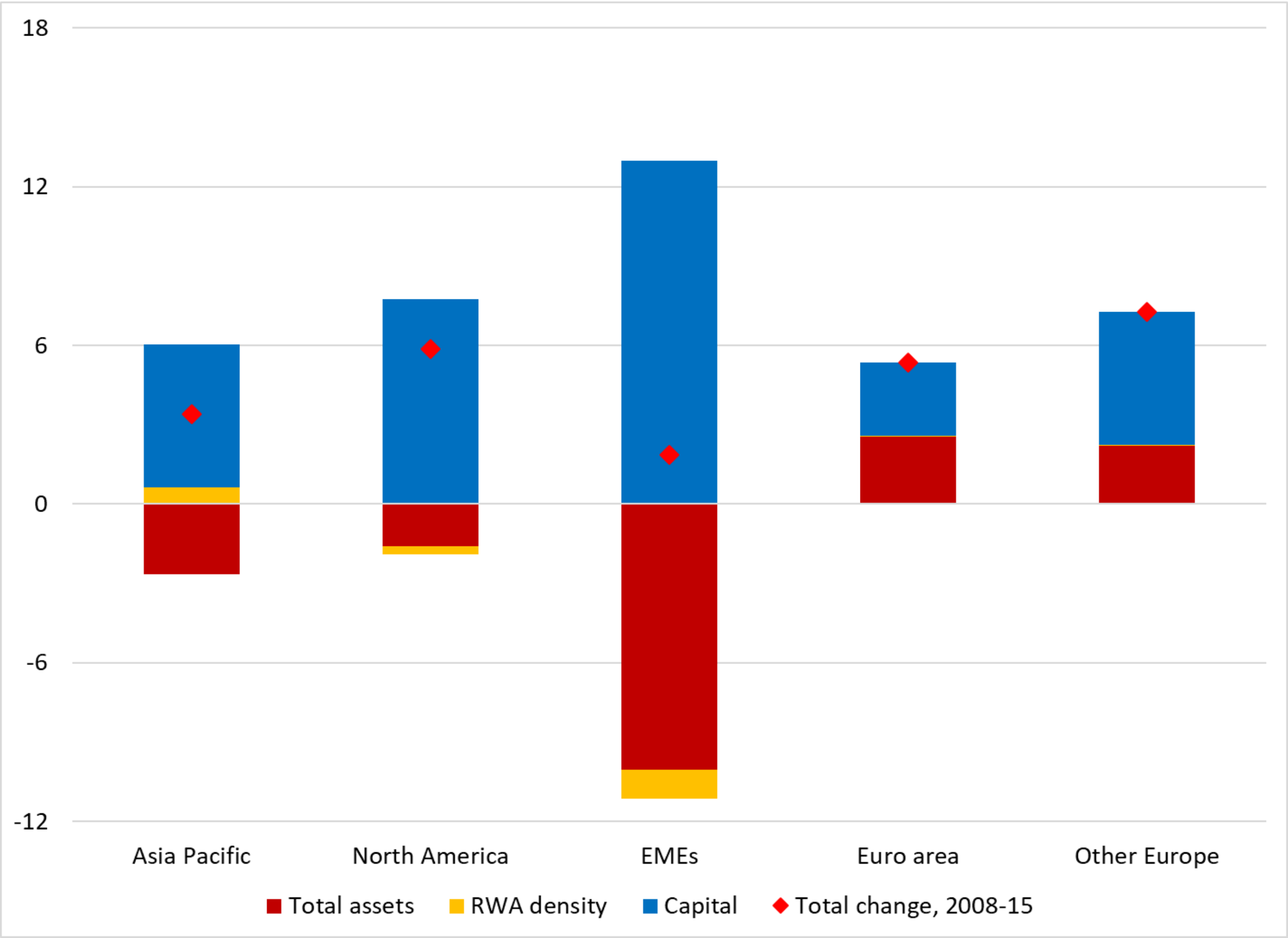
RWA:
2011: 6.6%
2018: 13.5%

Leverage ratio:
2011: 2.7%
2018: 5.0%

Based on fully phased-in Basel III definition.

Source: Basel Committee QIS, various years

How banks adjust to higher requirements?
(Sample 100 banks, greater than $10 bn assets, 2008 to 2015)



Source: BIS Annual Report 2016, Graph VI.1

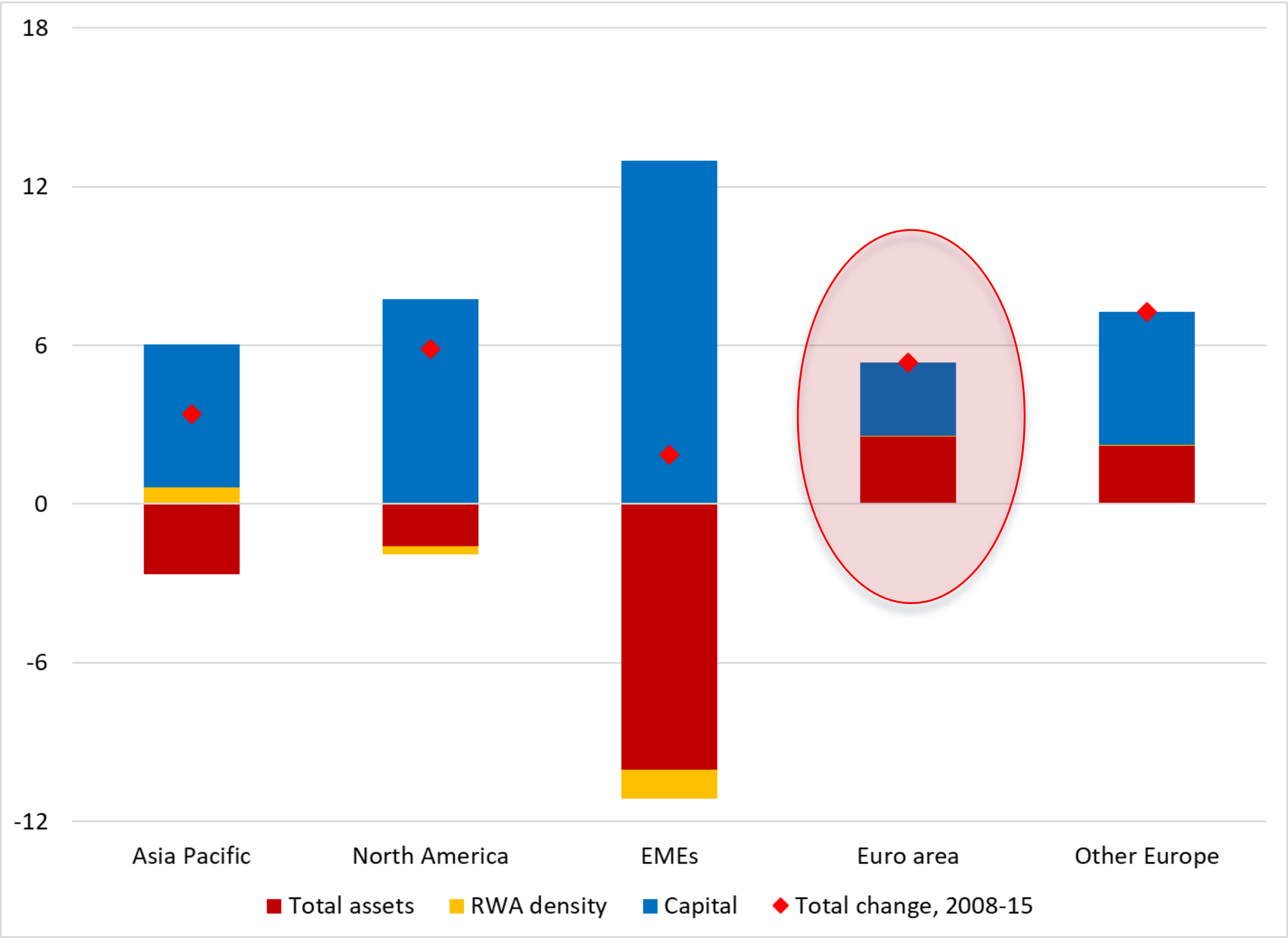
Outside Europe:

Total Assets ⇑

Capital ⇑

RWA Density ?

How banks adjust to higher requirements?
(Sample 100 banks, greater than $10 bn assets, 2008 to 2015)



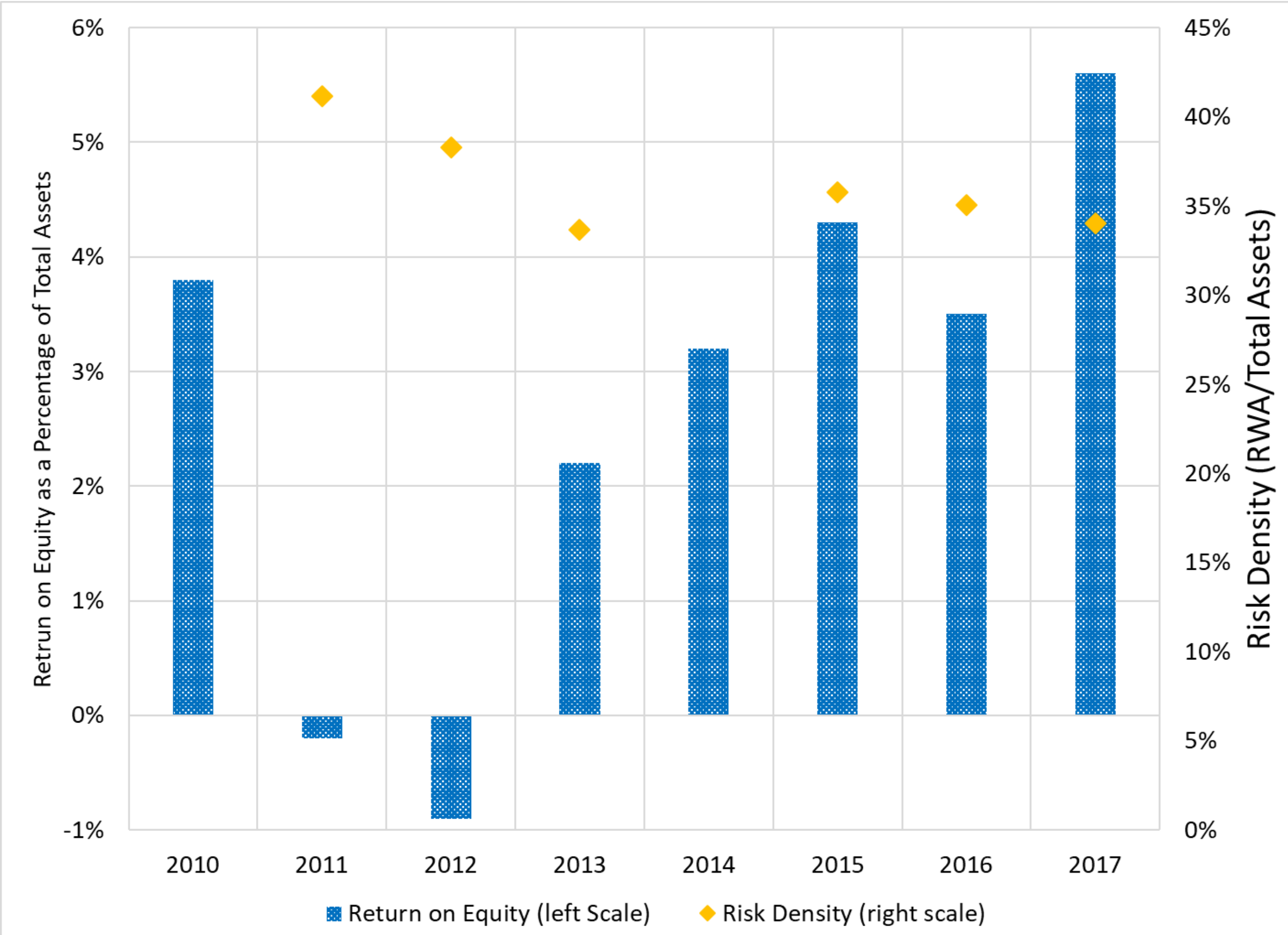
Source: BIS Annual Report 2016, Graph VI.1

Outside Europe:
- Total Assets ⇑
- Capital ⇑
- RWA Density ?

In Europe:
- **Total Assets ⇓**
- **Capital ⇑**
- **RWA Density =**

In last 3 years, assets continued to fall.

European Bank Return on Equity & Risk Density



European Average
Profitability low
Risk density =

Median bank in Dautović sample:
Leverage: 14.5
ROA: 0.31%
ROE: 4.52%

Risk density: 50.3%

Source: European Banking Federation.

What happened?

- Requirements ⇑ 10+ times (but phased in)
- Levels ⇑ 2+ times
- Sources of increases
  - Capital ⇑ everywhere (less in Europe)
  - Total assets
    - ⇑ outside Europe
    - ⇓ inside Europe
  - Risk density unchanged

Note: These are aggregates for predominantly large banks.

Challenges for Empirical Studies

- Phase-in of new requirements
- Implementation varies across countries and banks
- Book value of assets may be overstated
- Shift to SSM makes supervision uniform for some banks
- Banks face at least four requirements:

  CET1/RWA, Tier1/RWA, Total Capital/RWA, Tier1/Exposure

  When policy changes, does it matter which one binds?
- What is the role of stress tests?

Dautović's Paper

- 820 European Banks, 2010 to 2017 (median €40bn assets)
- **What happens when systemic requirements rise?**
- Results

  Drives capital ratios up

  Drives risk taking up

Dautović's Paper

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Dautović's Paper

- 820 European Banks, 2010 to 2017
- **What happens when systemic requirements rise?**
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  Drives capital ratios up ✓

  Drives risk taking up ?
- **How can we reconcile this with**
  - Banks not profitable: where is capital coming from?
  - Risk density not rising
  - Banking system total assets are shrinking

Takeaways

- Capital requirements are up significantly
- Levels of capital are up significantly
- **On average** increase comes from

  Capital $\Uparrow$, Assets $\Downarrow$, Risk density =

- Need to reconcile this with Dautović's results:
  - Is it marginal vs average?
  - Is it the small banks that are responding?
  - Is response to systemic requirements different?

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