



EUROPEAN CENTRAL BANK

EUROSYSTEM

**Discussion by  
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**“The End of Market  
Discipline? Investor  
Expectations of Implicit  
Government Guarantees”**  
by Acharya, Anginer and  
Warburton

BdF-TSE Conference on “Bailouts, bail-in, and financial stability”. Paris, 28 November 2014

The views expressed do not necessarily reflect those of the ECB or the Eurosystem.

- During past crises, large financial institutions received public support in various forms (capital injections, guarantees, liquidity insurance)
  - EU Commission estimates €121bn of state aid (asset relief and recapitalisation) for the 2008-2010 crisis.
  - With the exception of the Icelandic bankruptcies, senior unsecured creditors (2.5 - 5 year maturities) of European banks recovered on average 84% for the restructured or failure to pay events.
- Bailout expectations appear to be embedded in bond yields of the largest banks
  - This paper: \$30bn on average per year (1990-2012).
  - Haldane (2012): \$70bn per year (2002-2007) which equals 50% of those banks average post-tax profits.
- Large banks appear to benefit from economies of scale
  - Kovner et al. (2014): Additional \$1bn in assets reduces noninterest expenses by \$1mn to \$2mn per year.

- Main question:
  - Do bondholders of large US banks expect governments to bail them out in case of distress?
- Findings:
  - Despite regulatory changes, such as the Dodd-Frank Act, expectations of government support are embedded in banks' credit spreads.
  - While a positive relation exists between risk and credit spreads for medium and small banks, this relation is significantly weaker for the largest ones. These banks pay a lower price for risk and thus enjoy a funding advantage.
  - Bank leverage is negatively related to risk, but not for large banks.
  - Various robustness checks: (1) non-financial firms: no effect, (2) rating agencies expectations of government support: confirmed, (3) event study: Lehman, Bear Stearns, Dodd-Frank, (4) comparison of implicitly and explicitly guaranteed bonds: confirmed.
  - Estimated funding cost advantage of 30bp or \$30bn on average per year (1990-2012).

- How does “systemic importance” affect a bank’s credit spread?

$$Spread_{i,b,t} = \alpha + \beta^1 TBTF_{i,t-1} + \beta^2 Risk_{i,t-1} + \beta^3 Controls_{i,t-1}$$

*proxied by*

<i>size</i>	-0.246***
<i>size90</i>	-0.320**
<i>size_top_10</i>	-0.331**
<i>size x bank</i>	-0.382**
<i>size x insurance</i>	-0.296
<i>size x broker</i>	-0.196
<i>size90</i>	0.019
<i>financial</i>	-0.284**
<i>size90 x financial</i>	-0.241**

Are there signs of a non-linear relationship?  
Is it possible to determine at which size a bank is considered “too big to fail”?

Why do bondholders of (large) insurers and brokers not benefit from an implicit subsidy (i.e. do not expect government support)?

Note: Results are taken from different columns of table 2.

- Interaction terms

$$Spread_{i,b,t} = \alpha + \beta^1 size_{i,t-1} + \beta^2 insurance_{i,t-1} + \beta^3 size \times insurance_{i,t-1} + \beta^4 broker_{i,t-1} + \beta^5 size \times broker_{i,t-1}$$

$$Spread_{i,b,t} = \alpha + \beta^1 size_{i,t-1} \quad \text{if insurance} = 0 \ \& \ \text{broker} = 0$$

$$Spread_{i,b,t} = (\alpha + \beta^2) + (\beta^1 + \beta^3) size_{i,t-1} \quad \text{if insurance} = 1$$

$$Spread_{i,b,t} = (\alpha + \beta^4) + (\beta^1 + \beta^5) size_{i,t-1} \quad \text{if broker} = 1$$

<i>size x bank</i>	-0.382**
<i>size x insurance</i>	-0.296
<i>size x broker</i>	-0.196

Do these coefficients refer to the joint effects?

Note: Results are taken from column 5 of table 2.

- Economies of scale beneficial for large banks:
  - For example, **Kovner et al. (2014)** find that an **additional \$1bn in assets reduces noninterest expenses** (e.g. employee compensation, information technology, corporate overhead costs) **by \$1mn to \$2mn per year**. In addition, **they find no evidence that these economies of scale disappear above a certain size threshold**. As a result, the authors estimate that limiting bank size to 4% of GDP would increase noninterest expenses by \$2bn-\$4bn per quarter.
  - Is it therefore sufficient to argue that both (large) financial and non-financial firms benefit to the same extent from economies of scale (table 2, column 6)?
  - An alternative could be to control explicitly for the (1) efficiency ratio (=noninterest expense/net operating revenue), (2) expense asset ratio (=noninterest expense/total assets), or (3) Tobin's Q.
  - In addition, robustness section 1 should make a reference to Kovner et al. (2014) and their findings.

- How to measure the “systemic risk potential” of a bank? Paper focuses on size, but it would be interesting to see what the results are for other dimensions (see e.g. Rajan (2009)) such as complexity, substitutability, interconnectedness.
- The measurement of banks’ risk-taking is challenging. Less of a problem in a cross-section study.

- Orderly resolution
  - Single Resolution Mechanism (SRM): Hellwig (2014) argues that several challenges are not properly addressed (entry of different authorities of different countries into legally independent units; €55bn in Single Resolution Fund not sufficient for interim funding of ongoing bank operations of large SIFIs).
- Higher loss absorbing capacity
  - Bank Recovery and Resolution Directive (BRRD): Enables the SRM to write down or convert into equity the claims of a broader range of creditors.
  - Does the pricing of CoCos and senior debt reflect the implied bail-in risk?
  - If this is not the case, what can be inferred (are investors not wary of the risks, will authorities under these circumstances bail them in, who holds substantial amounts of bank debt)?
- Duan et al. (1992): “the more dependent a bank is on **funds that are priced according to risk**, the more discipline the market exerts on the bank’s propensity to take risk”

- Duan, J., Moreau, A.F., Sealey, C.W., 1992. Fixed-rate deposit insurance and risk-shifting behavior at commercial banks. *Journal of Banking and Finance* 16, 715-742.
- Haldane, A., 2012. On being the right size. Speech at Institute of Economic Affairs, 25 October.
- Hellwig, M., 2014. Yes Virginia, there is a European Banking Union! But it may not make your wishes come true.
- Kovner, A., Vickery, J., Zhou, L., 2014. Do big banks have lower operating costs? *Federal Reserve Bank of New York Economic Policy Review* 20 (2), 1-27.
- Rajan, R.G., 2009. Too systemic to fail: Consequences, causes, and potential remedies. Senate Banking Committee Hearings, 6 May.