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Evaluating the Credibility of the European Bank Bail-in Commitment

Saturday 13th October 2018

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The Bail-In

Too-Big-to-Fail – The End?

"The Bank Recovery and Resolution Directive equips public authorities for the first time […] to deal with failing banks, while preserving financial stability. From now on, it will be the bank's shareholders and their creditors who will bear the related costs and losses of a failure rather than the taxpayer"

Jonathan Hill

European Commissioner for Financial Stability, Financial Services and Capital Markets Union

December 2014

Bail-out Rationale

- Bank insolvency is disruptive
- Bail-outs are designed to maintain market functionality
- Bail-in is meant to do the same, but not with your money
- Bailing-in bondholders may keep the bank afloat, but can cause disruptions as well, especially in the case of senior bonds

So how credible is this?

- Severity: A vanilla bail-in must cover at least 8% of total assets.

- Frequency: The ECB has a backdoor into national insolvency pursuant to Art.32(b) BRRD

June 2017

- 01st June 2017 – BMPS –> Bail-out (4b€) on top of 2013
- 07th June 2017 – Banco Popular -> Bail-in
- 25th June 2017 – Veneto Banca & Banca Popolare di Vicenza -> Bail-out (5b€)

Literature

- Acharya, V. et al. (2016) “The End of Market Discipline? Investor Expectations of Implicit Government Guarantees“
- Oxera (2011), “Assessing State Support to the UK Banking Sector”
- Schnabel, et al. (2017), “Expecting Bail-in? Evidence from European Banks”

Conceptualizing Bail-in Credibility

- How do you quantify credibility?
- 2 Bail-in scenarios: waver and no waver
- Expected Loss-Absorption on Assets (ELAB)
- Expected value of the losses imposed on creditors

Measuring the Implicit subsidy

The TBTF discount

- Use CDS spreads for G-SIBs and Fair Value Spreads (FVS) for non-G-SIBs to extrapolate a market perceived probability of default.
- $\Delta Y_{ij} = \left(\Delta L_{ij} - \Delta P_{ij}\right)(1 - R) = \Delta S_i$
- $\Delta P_{SIB/LSB}(1 - R) = \Delta Y_{SIB/LSB}$
- $\underbrace{\sum_1^T (1 - L_i)^t * S_i * e^{-rt}}_{Present\ Value\ (PV)\ of\ spreads} + \underbrace{\sum_1^T (1 - L_i)^{t-1} * \frac{L_i}{2} * S_i * e^{-r(t-0.5)}}_{PV\ of\ the\ accrual\ payment} = \underbrace{\sum_1^T (1 - L_i)^{(t-1)} * L_i * (1 - R) * e^{-r(t-0.5)}}_{PV\ of\ expected\ payoff}$

Model I

- $FVSCDS_{it} = \alpha + a_i + \beta_1 mdd_{it} + \beta_2 intradayreturns_{it} + \beta_3 volatility90_{it} + \beta_4 zscore_i + \beta_5 dayid_t + \beta_6 country_i + \beta_7 si_i + \varepsilon_{it}$

- We use equity derived measures of risk to control for ΔL_{ij}
- $\beta_7 = \Delta P_{SIB/LSB}(1 - R) = \Delta Y_{SIB/LSB}$ if $\Delta L_{ij} = 0$

- We can scale this funding advantage by cumulative STD to obtain our implicit subsidy

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Contingent claims model

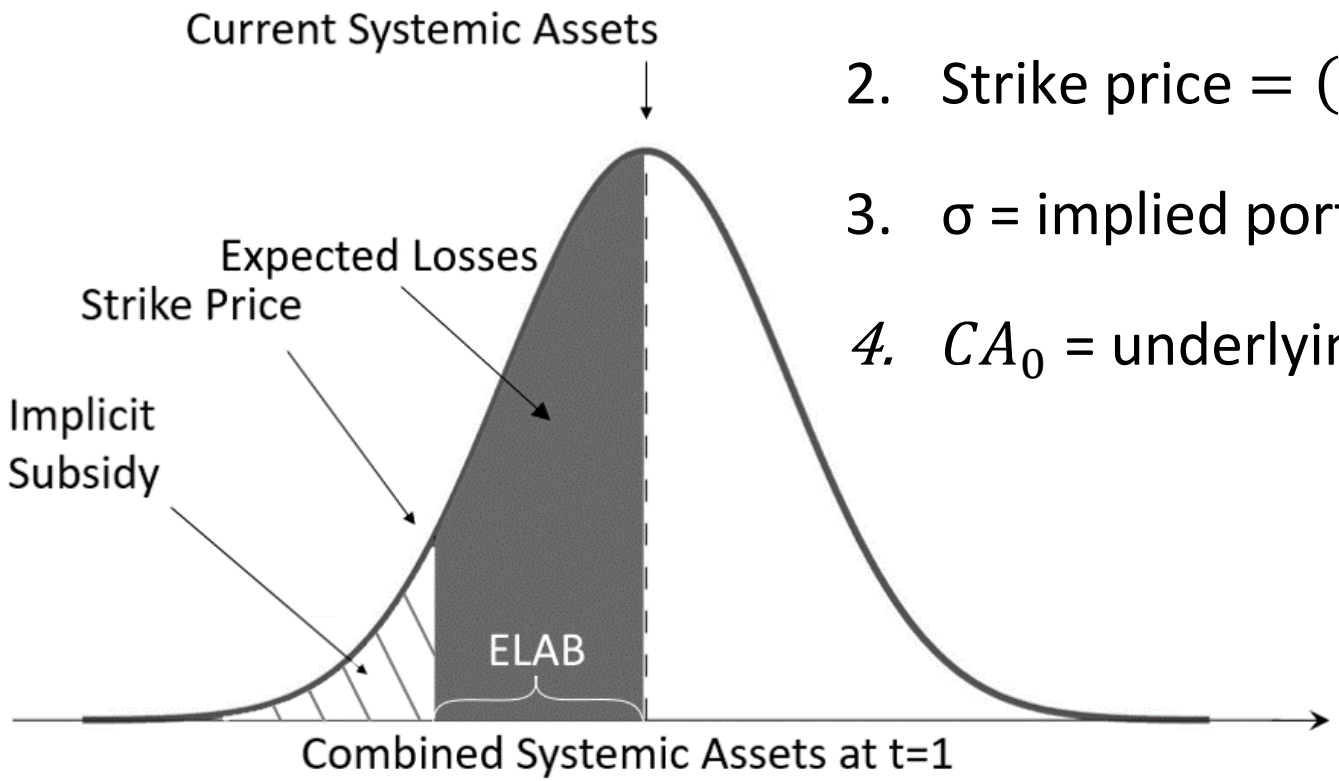
Not the whole bail-in story

- The 3 components of a hypothetical insurance policy against systemic asset shortfalls:
  - Insurance premium = Implicit Subsidy
  - Payout for a given Event = ELAB
  - Frequency of default=Implied Volatility of Equity
- We need 2 to model the other 1

Contingent Claims Model

- We can conceptualize bail-outs as a put option held by the Banks against the Government
- The underlying is combined systemic assets gained by modelling an equity portfolio using historic equity correlations and implied volatility scaled by the debt to equity ratio
- First developed by Oxera to measure the implicit subsidy

The B&S model framework



1. IS = price of the option
2. Strike price $= (1 - ELAB) * CA_0$
3. σ = implied portfolio volatility
4. CA_0 = underlying

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Data

Data

- Our Data: 209 trading days between 02.05.17 and 16.02.18 across 54 banks, 22 of which are SIBs
- CDS Spreads, FVS Spreads and control variables

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Results

Results

Estimate	Reg1	Reg2	Reg3	Control Model
Sample space	Full Sample	Post-June	Pre-June	Full Sample
Implied asset σ	4.26%	4.29%	4.22%	4.26%
Implicit Subsidy in €MM	7,933	11,287	6,191	16,317
Total Assets in €MM	11,867,193	11,867,193	11,867,193	11,867,193
Estimated Strike Price in €MM	11,007,718	11,069,069	10,971,675	11,150,987
ELAB	7.24%	6.73%	7.55%	6.04%

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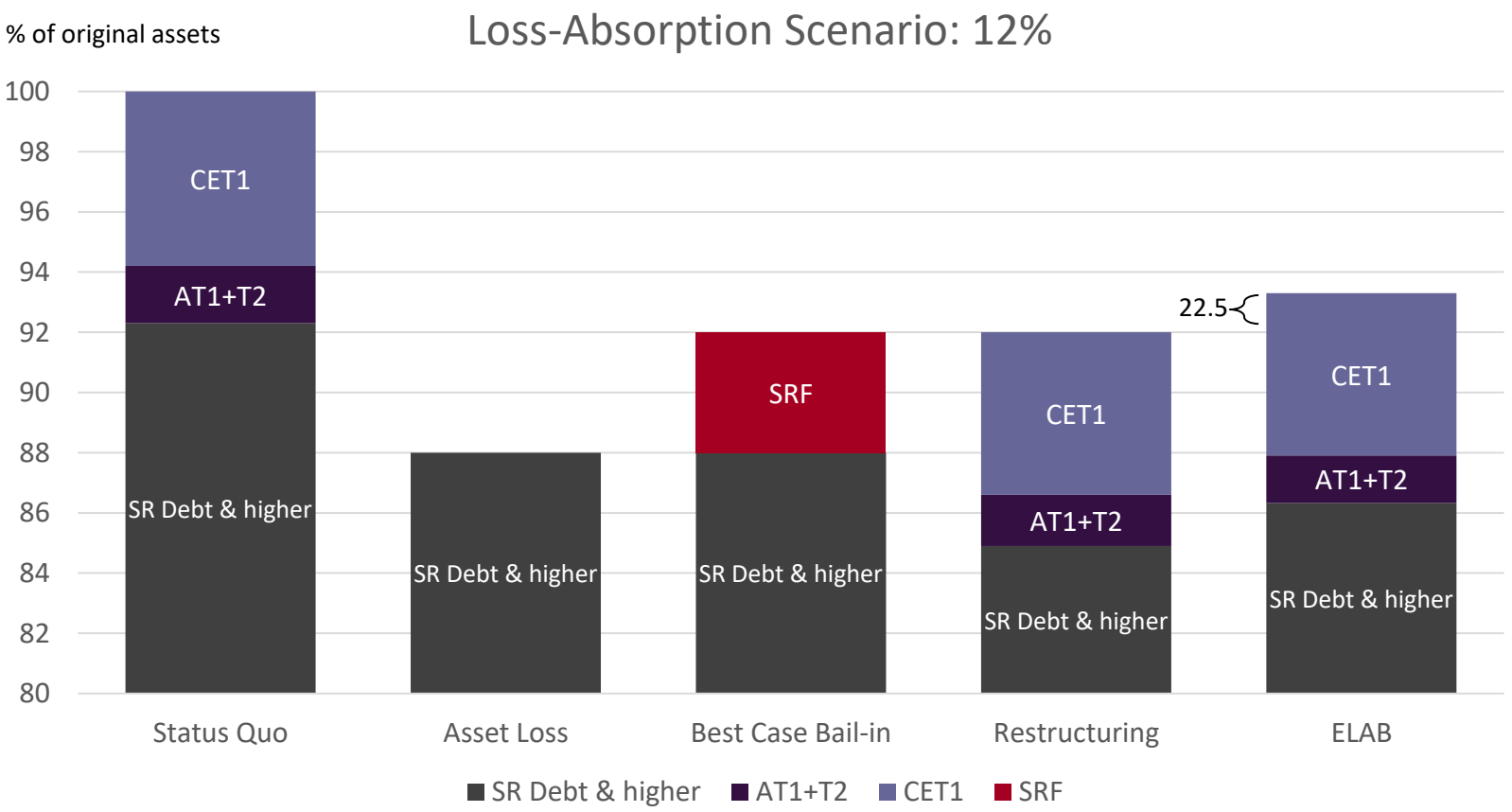
Conclusion

Implicit Subsidy

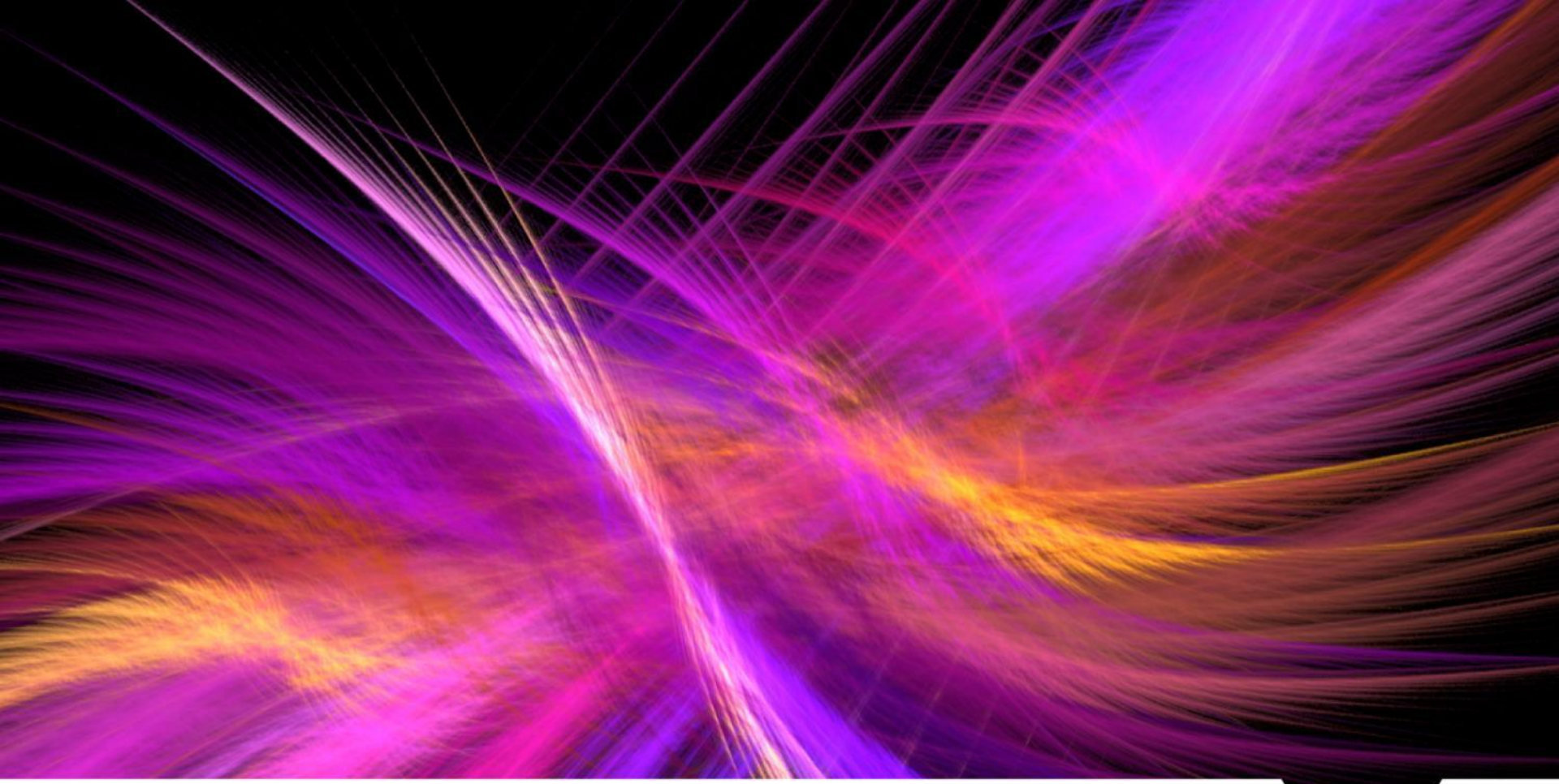
- Using our risk adjustment model we can compare the implicit subsidies before and after June 2017
- The increase in the yearly subsidy is about € 8 Billion or…

Example: Unicredit



How Credible is the Policy?

- No senior bail-in expected
- Self-fulfilling prophecy
- Remedy:
  - MREL & TLAC
  - Remove backdoor



Thank you for your time!

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