CoCo Bonds and Risk: The Market View

Jannic Cutura & Henning Hesse
Goethe University Frankfurt
henning.hesse@finance.uni-frankfurt.de
jannic.cutura@finance.uni-frankfurt.de

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

1. Background

Crisis ⇒ Call for higher bank capital ratios

- First CoCo bond issues in 2009
- 2011: Basel Committee allows CoCo bonds for Tier 1 capital
- Role of CoCo capital is still subject to fierce debate
- Are we past the experimental phase? Do we understand CoCo bonds?

Are we pricing CoCo risk correctly? (FT, 2014)

2. Discussion on Bank Capital

- Broad consensus that bank capital has to be increased after the crisis
- Yet, fierce debate on which instruments to allow as capital:

"What, if anything, is gained by having complicated debt-like [coco] securities instead of equity?" (Admati et. al, 2013)

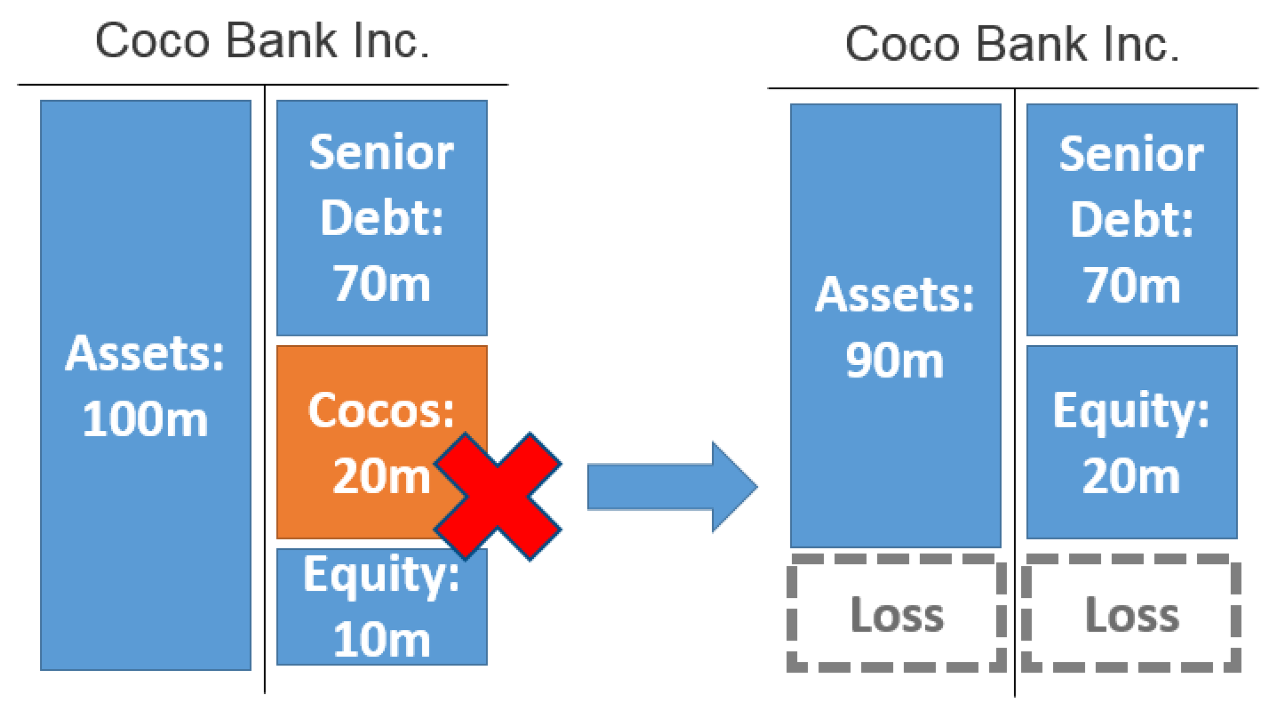
"[A] suitably designed CoCo requirement would supplement supervisory oversight with market discipline" (Calomiris and Herring, 2011)

"This [designated bail-in instruments] additionally improves the incentives of creditors to monitor the bank." (Liikanen Commission, 2012)

⇒ In absence of direct Corporate Governance tools, investor monitoring does only work through market discipline

⇒ **Correct pricing of risk is crucial for CoCo bonds to work!**

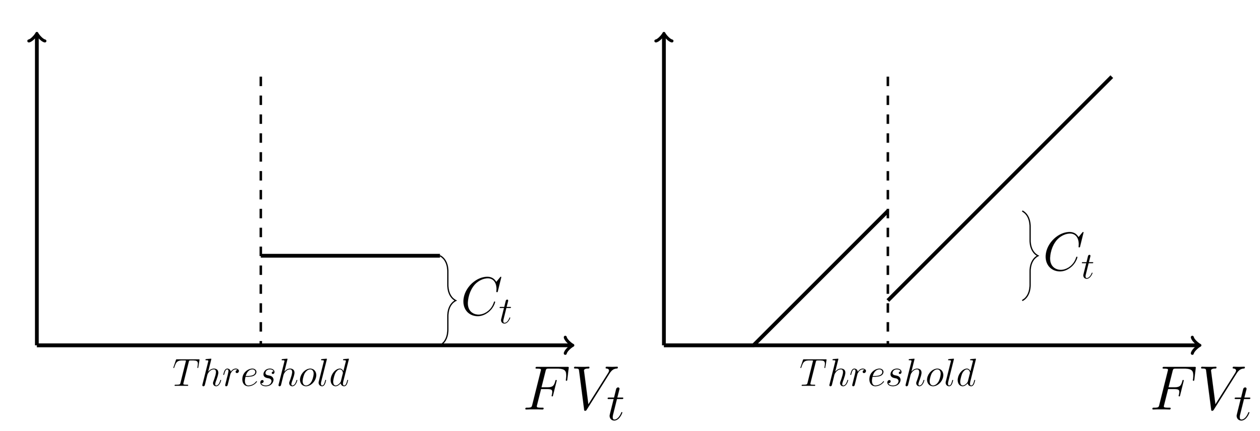
3. Risk Factor: Loss Absorption Mechanism



⇒ **In a write down event, CoCo holders lose, and equity holders win!**

4. Agency Risk: Change of Seniority Structure

Payoff to CoCo Investors | Payoff to Equity Investors



⇒ Jump from write down in equity holder's payout profile

⇒ **This induces excessive risk taking close to the trigger**

⇒ **Agency Cost of write down CoCo design**

5. Research Question and Hypotheses

▷ Does the jump in the payout profile introduce an agency cost?

▷ Are investors aware of the agency cost, and do they price it?

H1: The **discontinuity** in the payout profile of write down CoCo bonds **translates into a yield premium** relative to equity conversion CoCo bonds.

H2: A high charter value inhibits opportunistic behavior. Thus, the **write down premium is lower for banks with a high charter value.**

6. Identification and Empirical Design

- Problem: Choice of CoCo bond (design) may be driven by bank characteristics.
- Solution: I am using **subordinated bonds as a control group**, disentangling issuer's risk from issue's risk

$$Yield_{it} = \beta_0 + \beta_1 * CoCo + \beta_2 * writedown + \gamma * Controls + FE_{b,t} + \epsilon$$

7. Sample

- Panel of CoCo bonds and subordinated bonds from 2013Q1 to 2016Q1
- 92 different CoCo bonds from 29 different banks
- 528 CoCo observations (of which 50% with a write down) augmented with 491 observations on subordinated bonds
- Controls: YTC (maturity control), CDS (risk control); distance to trigger as CoCo specific control

8. Empirical Results

	baseline		
	(1)	(2)	(3)
dependent variable	yield	yield	yield
coco	3.404***	2.903***	2.964***
	(0.000)	(0.000)	(0.000)
writedown_all	0.729***	2.780***	3.407***
	(0.006)	(0.000)	(0.000)
distance_to_trigger_	-0.123***	-0.0454	-0.0541
	(0.000)	(0.233)	(0.173)
CDS_	0.00863***	0.00960**	0.00973**
	(0.001)	(0.016)	(0.015)
log_time_to_call	0.936***	0.850***	0.841***
	(0.000)	(0.000)	(0.000)
price_to_book_		-0.00192	-0.00106
		(0.841)	(0.913)
interaction_ptb		-0.0223***	-0.0235***
		(0.000)	(0.000)
interaction_CDS			-0.00455
			(0.187)
N	1019	885	885
adj. R^2	0.555	0.554	0.554
bank FE	yes	yes	yes
time FE	yes	yes	yes

- Column (1): **Write down feature comes with a yield premium** (H1)
- Column (2): **Premium is higher for banks with a lower charter value** (H2)
- Column (3): Premium is not driven by lower payoffs in bad state (alternative state pricing story rejected)
- Robust to other time periods, different maturity controls, currency controls, CET1 control

8. Conclusions and Follow-up Questions

- Investors assign an agency premium to write down feature
- There's an agency problem, thus should we disallow write down?
- Banks still choose write down, although it is costlier! Benefit?