Discussion of CoCo Bond Issuance and Bank Funding Costs
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Great topic! Important paper!

- Empirical study of CoCo market
- Shows drop in CDS spreads when CoCo are issued
- No impact on equity prices
- CoCos are priced so that there is a substantial probability of conversion
- Authors conclude: “the effect on reducing risk-taking is rather weak”
**Ex ante MM benchmark**

- Keeps investment policy unchanged.
- Equity = Max(V – F,0) where F is the default boundary.
- Substitution of CoCo for debt implies that the default boundary falls as CoCo debt is written down before a default ever occurs.
- Consequently, the debt is less risky and CDS spread is lower.
- If CoCo converts for par amount in stock, payoff of existing equity is unchanged.
- With dilution, everything is priced at issuance. Debt riskiness does not depend on dilution; non-CoCo equity is worth less; CoCo is worth more.
Beyond Ex Ante MM benchmark

- MM assumes no frictions, hence no role for banks.
- Suppose the world is like DeAngelo/Stulz (JFE 2015) and banks make money from deposits.
- Higher capital requirements mean that banks issue fewer deposits, hence reduce their franchise value and provision of liquidity.
- Banks make money from deposits only if they have almost no risk, so they have to minimize probability that deposits become risky.
- As banks have more equity, they have more money to take risky bets. They tailor their bets so the downside does not endanger deposits.
The MM benchmark for bank with existing debt and equity

• A bank has an existing capital structure with equity and debt as liabilities and loans and securities as assets.

• What happens if the bank substitutes CoCo for some, but not all, debt keeping investment policy unchanged?

• Default on remaining debt is now less likely, so yield falls. Hence, CDS spread must fall.

• CoCo is zero NPV at issuance. Hence, if remaining debt increases in value, equity has to fall.

• Replacing equity with CoCo has no impact on existing debt senior to CoCo, so no CDS spread effect. Since CoCo is zero NPV, CoCo issuance has no impact on the value of existing shares.
Implications

• Banks would never willingly substitute CoCos for debt.
• Hence, discussion of the effects of CoCos makes sense in the context of capital requirements.
• With MM benchmark, an increase in capital requirements that is satisfied with CoCo issuance implies an equity loss, a gain for debtholders, and a lower probability of default.
• With MM benchmark, meeting the increase in capital requirements with equity would have the same effect as meeting it with CoCos.
• Note: With MM benchmark, CDS spread falls but the risk of the bank’s assets is unchanged. Consequently, CDS spread decrease does not mean that the bank’s assets become less risky.
A puzzle

• In practice, banks would rather use CoCos than equity. Why?

• Regulatory arbitrage? Suppose that regulators restrict payouts to shareholders so that the payout rate is lower than the coupon yield of CoCos. Everything else equal, shareholders are better off issuing CoCos than equity to meet capital requirements.

• The higher the payout rate, the earlier the bank is expected to hit the default boundary. Using CoCos when payouts to shareholders are restricted means that the bank is riskier and is expected to hit the default boundary earlier.

• CoCo issuance instead of equity issuance reduces the adverse impact of the increased capital requirements on equity when equity payouts are restricted.

• The effects on debt and equity would be stronger if capital requirement increase is met with equity.
Equity issuance and capital requirements

- Equity issuance has an adverse impact on common stock because investors infer that equity is overpriced. This effect could be mitigated through issuance of CoCos and might lead banks to prefer CoCos to equity.

- However, when equity issuance is due to capital requirements, it is not an issue.

- Cornett and Tehranian, JFE, 1994, look at difference in abnormal returns for equity issues done because of shortfall in capital requirements versus other.
  - (-1,0) abnormal return if voluntary: -1.56%, significant at 5% level.
  - (-1,0) abnormal return if involuntary: -0.64%, insignificant.
  - Difference: -0.92%, significant at 10% level.

- Anticipation matters. Not clear that CoCo issues for capital requirements should have a significant stock-price reaction when announced.
More on puzzle

• Taxes. CoCo issuance is like trust preferred issuance. It may yield a tax deduction for regulatory capital in some jurisdictions (in some it does not).

• Boyson, Fahlenbrach and Stulz (2015) find no evidence that differential tax rates explain differential issuance of trust preferred.

• ROE. Bank CEOs and board focus on ROE as measure of performance. CoCo issuance instead of equity issuance decreases numerator of ROE and increases denominator.

• Assume fixed investment policy and consider bank with $10 billion equity, $1.5 billion earnings, so ROE is 15%.

• Bank issues $1 billion CoCo at 10% replacing debt at 5%. ROE becomes 14.5%.

• Bank issues $1 billion equity replacing debt at 5%. ROE becomes 14.1%.
CoCos and risk-taking

• If CoCo holders receive shares for the par value of the debt claim, shareholders have fewer incentives to take risks because they can’t reduce the value of the claim of the CoCo holders.

• The more shares are issued upon conversion, the lower the value of the claim of the existing shareholders at conversion.

• Viewed after issuance, dilution is a tax on existing shareholders that is minimized if the probability of conversion is minimized.

• With dilution, existing shareholders have incentives to steer the bank away from conversion.

• Contingent securities with write-down of principal have the opposite effect from CoCos with dilution.
What do we learn from the empirics?

• Issuance has no effect on equity.

• Issuance has 8 bp effect on CDS.

• Are we sure? No.

• Once capital requirements are increased, banks have to meet them. Investors anticipate at the time capital requirements are increased what banks will do to meet them and when.

• CoCo issuance provides information to investors relative to what they expected. It may not tell us what the effect of CoCo issuance is.

• 8 bp is within bid-ask spread of CDS. Tang and Yan find average bid-ask of 13 bp.

• Plot of ARs leads to skepticism. Suppose dealers buy insurance around issuance. There would a drop in spread after, which is what we see.
Plot of CDS cumulative abnormal returns
Back to Squam Lake

• In the Squam Lake report, we recommend regulatory hybrid securities.
• Existing CoCos don’t quite look like that.
• Squam Lake version converts ONLY if there is systemic crisis.
• In Squam Lake, CoCos are part of a section on resolution, not capital requirements.
Conclusion

• If capital requirements have to be increased, CoCos are a way to make an increase more acceptable to banks.

• The more acceptable CoCos for banks (principal write-down CoCos) do not reduce risk-taking and may increase it.

• A reduction in CDS spreads, if real, does not mean that CoCos reduce risk-taking.

• High trigger dilutive CoCos reduce risk.

• Putting CoCos in deferred compensation packages irrespective of form will reduce risk-taking incentives.