Discussion: When Enough is not Enough: Structural Credit Risk-Based Estimation of Bank Capital
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Objectives

- New structual credit model w/endogenous default barrier.
  - Considers liability structure; most models focus on assets.
- Yields useful metrics of credit risk, capital adequacy.
- Model well-suited to analyzing financial firms (unusual).
  - Thus may be more useful for policy makers, regulators.
- Empirical analysis suggests TARP was too small.
- Model captures effects/signals regulatory metrics missed.
- Forward-looking; help set macroprudential capital adequacy?

Overall

- *Really* like paper, despite being structural credit model.
  - Performs well with data — unlike many structural models.
- Analytical firepower applied to important problem = GREAT.
- Agrees with other crisis research (*e.g.* ST funding is central).
- Exploits that the crisis is a natural experiment; nice!
- Uses equity market data instead of (problematic) CDS data.
- May also apply to small/young firms (high use of ST funding).
- Uses PD to get needed economic capital; use w/other models?
- Gets term structure of PDs; useful for CDS pricing?
- BIG story: model PDs rise yet risk-based reg capital flat.

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Bigger Concerns/Comments

- You note VaR is flawed... so why try to fix VaR?
  - Artzner, Delbaen, Eber, and Heath: Use something *coherent*.
  - Economic capital needed to improve 5% PD: similar issues?
  - Like 5%-VaR; but we care about *how bad* default would be.
- Model is forward-looking... sort of.
  - Equity prices are forward-looking.
  - Historical/realized volatility is backward-looking.
  - Would (forward looking) implied volatilities be better?
- MET is an insurer: much more regulated, got no TARP $.
  - Results suggest insurance regulations are less gameable.

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Smaller Concerns/Comments

- Is MTM for OTC derivatives like super-senior debt?
- Should mention Giesecke (2006) on problems of observability.
- Funding liquidity affects asset liquidity, values.[1]
  - $\Rightarrow$ You capture some of rollover risk (but not all).
- Clarify difference from Leland (1994), Leland and Toft (1996).
- Does model imply *checkmate*:?
  - Can capital cost be enough to cause failure?
- Need to show existence, uniqueness (?) of equilibrium barrier.

[1] Brunnermeier and Pedersen (2009), Boudt, Paulus, and Rosenthal (2012 WP) show this.

Selling/Relevance

- Be clear that liability-driven approach is underexplored.
- Use underbraces to note meaning of terms in equations.
- Note earlier: short-term PD includes many important factors.
- Can you extend the data to see performance post-crisis?
  - Even better: could you predict/corroborate recovery?
- CONDENSE! Polish so jewels that *are* there shine clearly.

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Conclusion

- Really great paper; makes structural credit models look good.
- Takes a less-explored approach; gets nice model and metrics.
- Metrics may be of interest to policy makers, regulators.
- Model could be even more forward-looking $\Rightarrow$ even better.
- Great empirical analysis, yields insight into TARP, recovery.
- I recommend audience look through the paper; it is nice work.