Discussion of

Higher Capital Requirements, Safer Banks? Macroprudential Regulation in a Competitive Financial System

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Motivation and Approach

• **Important question:** what is the socially optimal capital structure of financial institutions like banks?
  – Why may some companies choose a socially suboptimal capital structure?
  – Are banks and other financial institutions different from other companies and, if so, how and why?
  – What are the relevant -- i.e., *social* -- costs and benefits of regulations that require more equity from banks?

• **Appropriate approach:** Question best examined in a general equilibrium context.
From Harris, Opp and Opp (HOO)

“The central building block for our analysis is a parsimonious general equilibrium model.”

• “banks have an advantage over other market participants in collecting debt payments from borrowers....”

• “Outside investors observe firms’ types. However, they... incur an additional [strictly positive] cost per unit of investment.”

• “This superior collection skill... motivates the government to bail out banks ex post.”
From HOO (continued)

• “banks have by assumption an *absolute* advantage over outside investors for both investments in good assets (due to collection cost) as well as in bad assets (due to the bail-out guarantee)... [they] have a comparative advantage in investing in bad assets.”

• “Raising equity [if it is possible at all] has a [positive] constant marginal cost.”
Key Tradeoff

• Higher capital requirements are socially beneficial by reducing moral hazard: banks take fewer bad projects, thus fewer bad projects are taken.
  — No bankruptcy/distress cost, private or social.
  — All good projects are taken.

• However, since outside equity is costly, higher capital requirements cause banks to fund fewer good projects and these projects are then funded by outside investors at a higher social cost.
How HOO Motivate Key Assumptions

• “Similar to Diamond and Rajan (2001), we assume that banks have an advantage over other market participants in collecting debt payments from borrowers....”

• “For ease of exposition we assume that ... The bank observes the project type of any firm in which it invests and can collect payments from firms at no costs.”

• For ease of exposition, we impose a constant marginal cost [of new equity]. The source of this cost (asymmetric information, issuance fees, or risk-aversion (see e.g., Gennaioli, Shleifer, and Vishny (2013)) is irrelevant for the bank's decision.
Circular Motivation?

- “banks have an advantage... in collecting debt payments from borrowers....” Why?
- “Like banks, outside investors observe firms' types. However, compared to banks, they are at a disadvantage as they incur an additional cost \( c > 0 \) per unit of investment which reflects cost associated with collecting payments, as in Diamond and Rajan (2001).”
- This superior collection skill... also motivates the government to bail out banks ex post.... This insurance provision... destroys the role of debt as a disciplining device [the source of the very superior skill?!] ex ante.”
Note: OHH Bailout Assumption is Inconsistent with Diamond and Rajan (2001)!

“One way to commit is for the relationship lender to borrow using demand deposits: a **fragile capital structure that is subject to a “run.”** If the relationship lender threatens to withdraw her specific collection skills as a ploy to get more rents, **she will precipitate a run by depositors**, which will drive her rents to zero. Fearing this outcome, she will not attempt to renegotiate any precommitted payments and will be able to pass through to depositors all that she extracts from the entrepreneur. So the fragility of her capital structure enables the relationship lender to borrow against the full value of the illiquid loan she holds.”

An Alternative Model (ADHP)

• Bankers’ bonuses are based on ROE measures that increase with higher leverage and risk even while taking negative NPV projects.

• Governments bail out banks and other financial institutions if the collateral damage of their distress and default is high.

• Borrower-creditor conflicts, combined with guarantees and debt subsidies, give bank shareholders and managers incentives and ability to ratchet leverage up to levels that are socially, and possibly privately inefficient for banks. (See Admati, DeMarzo, Hellwig and Pfleiderer, “The Leverage Ratchet Effect,” 2014; under revision.)
An Alternative Model (ADHP), Cont.

• Banks are no more efficient and may be less efficient than outside investors (e.g., due to poor governance) in making investment (taking those with positive NPV and avoiding those with negative NPV).

• High leverage leads to inefficient investments, and government guarantees exacerbate the inefficiencies.

• All (solvent) firms, including banks, can raise outside equity at appropriate market prices from investors subject to same frictions.

• Banks are special in getting cheaper debt funding than other firms, thus choosing inefficiently high leverage.
ADHP: Bankers Prefer to Borrow, Resist Leverage Reduction.

DEBT
1. Leverage Ratchet
2. Tax subsidies
3. Safety net benefits
4. ROE fixation

EQUITY
ADHP: For **Society**, Excessive Bank Leverage is “Expensive!”

**DEBT**
1. Leverage Ratchet
2. Tax subsidies
3. Safety net benefits
4. ROE fixation

**EQUITY**
1. Reduces systemic risk
2. Reduces deadweight cost of distress, default, crisis
3. Reduces moral hazard (OHH)
4. Improves ability to lend after losses
Rearranging claims aligns incentives better, improving investment decisions.

Excessive subsidies can lead to inefficiently large banks and industry.
Which Model, if Any, “Should” Guide Policy?

• ADHP have no relevant tradeoffs; OHH have a cost due to presumed “specialness” of banks coinciding with (but also seemingly inconsistent with) debt guarantees. HOO and ADHP cannot both be true.

• Other models suggest other tradeoffs (e.g., DeAngelo and Stulz, cited by HOO).

• **What should policymakers do?**
  
  – Wait until a valid empirical test falsifies enough models and “confirms” one as “true” (at least until more are proposed)?
  
  – Choose the model suggesting observed behavior is efficient?
  
  – Apply some judgment to sort out the models, such as plausibility, background knowledge about the real world?
History of Banking Leverage in US and UK (Alesandri and Haldane, 2009)

JPMorgan Chase
Balance Sheet
12/31/2011

Loans = $700B <
Deposits = $1.1T

Other debt (GAAP): $1T
Other debt (IFRS): $1.8T

(GAAP allows more netting.)

Equity (book): $184B
Equity (market): $126B

Significant commitments off balance sheet

IFRS Total $4.06 Trillion

GAAP Total $2.26 Trillion
Leverage by Industry

*(Corporate Finance, Berk and DeMarzo, 2nd edition)*

% Debt Financing by Industry $D/(E+D)$ (Market value $E$)
Additional Facts

- Non-banks make risky, long term, illiquid investments.
- US average: 70% equity/assets (market value).
- Non-banks rarely maintain less than 30% equity (without regulation).
- Retained earnings (internal equity) are a popular source of funding.
- Banks with less than 10% equity are anxious to make payouts.
  - Inconsistent with “pecking order” theory of funding based on asymmetric information (Myers-Majluf).
- Bob Diamond (ex Barclays CEO): “If we can’t use leverage, we will increase our risk appetite to achieve target ROE.”
Chameleons:
The Misuse of Theoretical Models in Finance and Economics

Paul Pfleiderer
Stanford University
A model becomes a chameleon when it is put forth as “saying something about the real world” but when criticized is just a “bookshelf” model.
Case Study #1:
Cited as “Related Literature” by OHH

Why High Leverage is Optimal for Banks

Harry DeAngelo and René M. Stulz*

April 2013
Revised August 2013
**Quoted from:**
**DeAngelo and Stulz**

To establish that high bank leverage is the natural (distortion-free) result of intermediation focused on liquid-claim production, the model rules out agency problems, deposit insurance, taxes, and all other distortionary factors. By positing these idealized conditions, the model obviously ignores some important determinants of bank capital structure in the real world.

However, in contrast to the MM framework – and generalizations that include only leverage-related distortions – it allows a meaningful role for banks as producers of liquidity and shows clearly that, if one extends the MM model to take that role into account, it is optimal for banks to have high leverage.

**Quoted from:**
**Bacardi and Mondavi**

To establish that high intake of alcohol is the natural (distortion free) result of human liquid-drink consumption, the model rules out health problems, DUls, health benefits, spouse abuse, job loss and all other distortionary factors. By positing these idealized conditions, the model obviously ignores some important determinants of human alcohol consumption in the real world.

However, in contrast to the alcohol neutral framework – and generalizations that include only overconsumption-related distortions – it allows a meaningful role for humans as producers of that pleasant “buzz” one gets by consuming alcohol, and shows clearly that if one extends the alcohol neutral model to take that role into account, it is optimal for humans to be drinking almost all of their waking hours.
See Highly Relevant Papers

• “Fallacies, Irrelevant Facts and **Myths** in the Debate on Capital Regulation: Why Bank Equity is Not Socially Expensive,” Admati, DeMarzo, Hellwig and Pfleiderer (first draft 2010, revised 2013), Section 5 on “debt discipline,” Section 6 on “asymmetric information,” Section 7 on “liquidity.”
  — 2011 version cited in HOO (material on “debt discipline” there).


  — “Omitted” from *The Bankers’ New Clothes: What’s Wrong with Banking and What to do About It*, 2013 bankersnewclothes.com
  — “use of flawed theoretical models as a basis for quantitative analysis resembles use of the “map of the world as seen from New York’s 9th Avenue” for orientation in traveling through the American Midwest.”
How Much Equity?

- Basel II and Basel III Capital Requirements
  - Tier 1 capital Ratio: Relative to risk-weighted assets:
    - Basel II: 2%
    - Basel III: 4.5% - 7%
    - Definitions changed on what can be included.
  - Leverage Ratio: Relative to total assets:
    - Basel II: NA
    - Basel III: 3%
    - US: 5% for large BHC, 6% for insured subs.
- Does OHH help to determine “socially optimal” levels?
- Do the “tradeoffs” bite at these levels given what else we know? (Analogy: tradeoff models for speed limit of loaded trucks in residential neighborhoods, currently 90 mph.)
Summary and a Concern

• The model in this paper produces interesting tradeoffs, but it must be considered a “bookshelf model.”
  – Its assumptions are not well motivated and do not seem to capture some important features of real world banking.
  – The paper fails to filter the model through all we know and observe about corporate finance and banking.

• In reality,
  – The policy debate is muddled -- indeed dominated and won -- by flawed, often nonsensical claims and intense lobbying.
  – Theoretical research suggesting “tradeoffs” is used by lobbies and captured politicians and regulators to advocate or justify bad and ineffective regulation.

• OHH don’t make incorrect statements, yet their analysis might be misused; it thus has the potential to cause real-world harm.