The Missed Opportunity and Challenge of Capital Regulation

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https://www.gsb.stanford.edu/faculty-research/excessive-leverage
http://bankersnewclothes.com/
“Shadow Banking,” Pozsar, Adrian, Ashcraft and Boesky, 2010
Total Liabilities and Equity of Barclays 1992-07

From: Hyun Song Shin, “Global Banking Glut and Loan Risk Premium,” IMF Annual Research Conference, November 10-11, 2011; Figure 22.
Growth Has Suffered in the UK
Key Contributors: Fragile Financial System, Recklessness in Banking
Size of 28 Global Banks

2006: $37.8 trillion total

Average $1.35 trillion

2013: $49.2 trillion total

Average $1.76 trillion

Sources: SNL Financial, FDIC, bank annual reports, Bank of England calculations.
The Largest Corporations in the World by Asset Size (Forbes, 5/2014)

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Loans = $700B < Deposits = $1.1T

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

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

Significant off-balance-sheet commitments

JPMorgan Chase Balance Sheet
Dec. 31, 2011

GAAP Total $2.26 Trillion

IFRS Total $4.06 Trillion
Derivatives for 21 Banks

2006: $409 trillion (notional)  
2013: $661 trillion (notional)

Average $19 trillion  
Average $31 trillion

Sources: SNL Financial, FDIC, bank annual reports, Bank of England calculations.
Special Purpose Vehicles (SPVs)

- Sponsor (e.g., bank holding company)
- Assets
- Cash $$$$$
SPVs Hide Relevant Exposures to Risk

Cash $$$$$

Sponsor (e.g., bank holding company)

Implicit (non-contractual) support and credit enhancement.

“Bankruptcy Remote”

In case of bankruptcy of the sponsor, creditors of the sponsor have no access to assets of SPV.
An ounce of prevention is worth a pound of cure

Too Much Leverage

More Equity

A loss

INSOLVENT
Equity Lowers Chance of Distress, Crisis, Harm

DISTRESS
DAMAGE TO
THE ECONOMY

Too Much Leverage

More Equity
More Equity: *Microprudential* and *Macroprudential Tool Enhances Financial Stability, Alleviates Systemic Risk*

- Reduces likelihood of distress, insolvency, and default
  - Less likely, less intense contagion through contractual dominos.
  - Less likely, less intense liquidity problems, runs and panics
- Central banks and deposit insurance can solve pure liquidity problems, prevent depositors runs. Solvency problems more dangerous and more costly.
  - Less need to rely on complex liquidity regulations
- Reduces “deleveraging multiples”
  - Any fraction loss on assets is smaller fraction of equity.
  - Fire sales can be avoided, externality is reduced.
Bonus Benefits!!! More Equity Reduces Many Distortions, Improves Allocative Efficiency

- Corrects market failure to prevent excessive and inefficient leverage, risk taking, growth, complexity and opacity, all of which are encouraged (and enabled) by high leverage, creditor passivity, and access to supports and guarantees.
- Protects taxpayers from collateral harm of banks’ distress or default; forces banks to “self insure” at market prices.
- Improves credit markets by reducing incentives for excessive risky loans and alleviating debt overhang that restricts credit.
- Reduces size of explicit and implicit guarantees and subsidies.
- Helps “transmit” monetary policy to real economy.
The Mantra

“Equity is Expensive”

To whom? Why?
Only in banking?
History of Banking
Leverage in US and UK

• 19th century: banks were partnerships with unlimited liability; equity often over 50% of assets.

• Bank equity did not have limited liability everywhere in the US until 1940s.

• Equity ratios declined consistently to single digits.

• Growing “safety nets” played a role.

• Similar patterns elsewhere.

Some Facts

• Non-banks make risky, long term, illiquid investments.

• **Without regulations**
  – US average: 70% equity/assets (market value), 50% common.
  – Healthy nonbanks, including hedge funds and REITs, rarely have less than 30% equity
  – Profits are (retained earnings) are popular source of equity funding; many companies don’t make payouts to shareholders for extended periods (Google, Microsoft, Berkshire Hathaway,).

• Banks with as little as 3-5% equity/assets are anxious to make cash payouts to shareholders (and don’t shrink).
The Leverage Ratchet Effect

- Existing debt distorts future leverage choices
  - Resistance to leverage reduction
  - Incentive for leverage increases

- Complex dynamics even with standard frictions; leverage can become irreversible, addictive, and sensitive to asset values

- Ratchet effect can explain inefficient “fire sales”.

- *An important agency cost of debt*

The Leverage Ratchet Effect

• ... explains why distressed firms don’t recapitalize, instead make payouts to shareholders and issue more debt, which increases the risk of costly bankruptcy.

• ... is stronger than underinvestment; shareholders avoid recapitalization no matter how beneficial it is to firm.

• ... interacts and reinforces other agency conflicts.

• ... implies that without ability to commit to future funding decisions, leverage creates inefficiencies that lower the total value of the firm (in addition to any collateral harm).

• ... is highly relevant to banking and capital regulations.
Depositors
Bond Holders
Managers and Shareholders
Government and Taxpayers
Depositors
Private Considerations

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

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

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

**EQUITY**
1. Reduces systemic risk
2. Reduces cost of distress, default, crisis
3. Reduces excessive risk taking incentives
4. Better able to lend after losses
A Beneficial Shuffle of Claims

- Rearranging claims aligns incentives, reduces distortions, corrects mispricing.
- Size of financial firms and industry should be determined in undistorted markets.
Debt (high levels of leverage create systemic risk and distort risk taking incentives)

Equity (provides cushion that absorbs risk and limits incentives for taking socially inefficient risk)
Government Subsidies to Debt:
1. Tax shield (interest paid is a deductible expense but not dividends)
2. Subsidized safety net lowers borrowing costs; bailouts in crisis.

Higher Stock Price
Happy Banker, Gains are private Losses are social. Lower Loan Costs?
How Much Equity?

• Basel II and Basel III Capital Requirements
  – “Common equity Tier 1 capital” Relative to risk-weighted assets:
    • Basel II: 2%,
    • Basel III: 4.5% - 7%.
    • Supplementary/countercyclical “surcharges” may be added
  – Leverage Ratio: “equity” Relative to “total assets”
    • Basel II: NA
    • Basel III: 3%.
    • US: 5% for large BHC, 6% for insured subs.
• Requirements based on flawed analyses of tradeoffs.
What’s in a Regulatory “Capital Ratio?”

• Numerator
  – Total Shareholder Equity (TSE): accounting shareholder equity
  – Tier 1 Capital (T1), include additional securities
  – Common Equity Tier 1 Capital (CET1) excludes non-equity
  – Tangible common equity (assets exclude goodwill, DTA, etc.)

• Denominator
  – Risk weighted assets (RWA).
  – “Leverage”: Total (accounting) balance sheet assets, or leverage exposures (better), which includes some off-balance sheet items

• Most meaningful measures indebtedness: distance to default: “market value” of assets vs “face value” of liabilities.
Is Basel III “Tough?”

“Tripling the previous requirements sounds tough, but only if one fails to realize that tripling almost nothing does not give one very much.”

“Basel III, the Mouse that Did Not Roar,” Martin Wolf, Financial Times, Sep 13, 2010

“How much capital should banks issue? Enough so that it doesn't matter”

“Healthy Banking System is the Goal, not Profitable Banks,” *Financial Times*, November 9, 2010

“If a much larger fraction, at least 15%, of banks’ total, non-risk-weighted, assets were funded by equity, the social benefits would be substantial. And the social costs would be minimal, if any.”

Are Regulatory Ratios Informative?

Tier 1 capital ratios don’t show crisis

market cap/book assets ratios

From: Andrew Haldane, “Capital Discipline,” January 2011
(See also “The Law of the Opposite: Illusionary Profits in the Financial Sector,” Godron Kerr)
Risk weighting is highly problematic

- Complex, illusion of “science,” key risks and correlations ignored.
- Manipulable
  - internal models
  - inflated credit ratings
  - off-balance-sheet commitments;
  - Derivatives; credit insurance
- Distort investments, e.g., favor government over business lending
- *Since equity levels are so low, risk weights are used to ratchet up leverage, risk and interconnectedness, adding system fragility.*
Basel Regulatory Ratios ("Capital" to RWA)
Don’t Measure Leverage!
ESRB Academic Scientific Committee report, June 2014

Figure 14: Book leverage ratio versus regulatory capital ratio (median of top 20 banks)

Figure 15: Correlation of E/TA and T1/RWA

Source: Bloomberg. Note: The plotted lines show the median regulatory ratio and median leverage ratio in a balanced sample of the largest 20 EU banks.
Basel Regulatory Ratios
Don’t Predict Failure!
ESRB Academic Scientific Committee report, June 2014

Figure 17: Global banks’ T1/RWA (%) in 2006

How Zero Risk Weights Work

“Well Capitalized”

Greek Bonds

Debt
How “Well-Capitalized” Banks Fail

“Well Capitalized”

???????

Assets

Equity

Debt

Greek Bonds

Greek
Invisible Hand of Government: Bad Regulations + Bailouts

- Swiss abrupt retreat.
- French banks had 40% of Greek government debt in 2010, 0.6% in 2015.
- “Greek” 2010-2011 bailouts rewarded French and German banks for reckless lending.
- Similar to AAA-rated securities or AIG CDS.
Who Owned Greek Government Debt, July 2015

Leading creditors (in euros)

- Germany: 68.2bn
- France: 43.8bn
- Italy: 38.4bn
- Spain: 25bn
- IMF: 21.4bn
- ECB: 18.1bn
- Netherlands: 13.4bn
- US: 11.3bn
- UK: 10.8bn
- Belgium: 7.5bn
- Austria: 5.9bn
- Finland: 3.7bn

Source: Open Europe, BIS, IMF, ECB
More Flaws in Basel/FSB Approach

• Hybrid alternatives to equity are complex, unreliable, and unnecessary, “fool’s gold.”
  – Unreliable loss absorption; haven’t worked in the past.
  – Maintain overhangs and inefficiencies.
  – Triggers are problematic and destabilizing, cross-border issues in resolution; tough to determine insolvency.
  – Must worry about whether holders can absorb losses.
  – *Dominated by equity for purpose of regulation.*

• Smell test: Should nonbanks use co-cos instead of equity?
“Anything but Equity”

Too Much Leverage

Hybrids

Simply Have More Equity!
Are Stress Tests Reassuring?

• Tests don’t properly address contagion dynamics.
  – Huge opacity and layers of exposures.
  – Correlated and endogenous common exposures (e.g., counterparty/underlying correlations).

• Models often inadequate, prone to fail.

• Benchmarks based on false presumption that equity is scarce and “costly.”

• **Current ratios, stress test “pass” provide false reassurances.**
Making Equity Regulation Work

• Require 30% equity/total assets, allowed to drop to 20%.
  – Crude and safe. *No science behind current numbers*
  – *Huge measurement challenges for exposures.*
  – Various signals can guide “prompt corrective action.”

• *Ban payouts to shareholders, especially if TBTF, until system is safe!*

• Viable banks *can* raise equity at appropriate prices.
  – Market “stress test” of business model, disclosures.
  – Inability to raise equity clear signal of weakness
• “These agreements [regarding TLAC] will play important roles in enabling globally systemic banks to be resolved without recourse to public subsidy.”
• “Raising equity levels may reduce the attractiveness of bank shares to the point where there is insufficient demand among investors for the shares.”

If TLAC removes subsidy, why is it “cheaper” than equity? Should we worry about banks’ business model?
“Debt that converts to equity, so-called “contingent capital,” is complex to design and tricky to implement. Increasing equity requirements is simpler and more effective.”

“If handled properly, the transition to much higher equity requirements can be implemented quickly and would not have adverse effects on the economy. Temporarily restricting bank dividends is an obvious place to start.”
Symptoms of Corporate Insolvency

- Intense desire to make payouts to shareholders
- Intense resistance to earnings retention and equity issuance, *including rights offerings*
- Inability to raise equity at any price.
- Continued borrowing to pay debts (or invest), if possible.
- Overinvestment in risky assets (gambling for resurrection)
- Underinvestment in worthy assets (unless enough upside)
- Earnings management to avoid exposing insolvency
Alarming Quotes from Large Bank CEO
(John Stumpf, criticizing TLAC Requirements)

- “We at Wells Fargo Bank have a lot of retail deposits and therefore we don’t have a lot of debt”
- “The last thing I need is debt”

Wells Fargo is paying regular dividends, depleting its equity! Quotes seem to indicate resistance to investors who might ask questions about risk!
Alarming Quotes: Are Banks Univestible? if so, Why?

• “Globally, banking remains too much of a black box which is why, for many investors today, banks are scarcely an investible proposition.” (Andrew Haldane, November 2011)

• “Investors can’t truly understand the nature and quality of the assets and liabilities. They can’t readily assess the reliability of the capital to offset real losses. The disclosure obfuscates more than it informs, and the government seems to be encouraging it.” (Kevin Warsh, in “What’s Inside America’s Large Banks?” Jesse Eisinger and Frank Partnoy, Atlantic, Jan 2013; others: “uninversible,” “black boxes”.)

• “The unfathomable nature of banks’ public accounts make it impossible to know which are actually risky or sound. Derivatives positions, in particular, are difficult for outside investors to parse.” (Paul Singer, Davos, January 2014)
Alarming Quotes from Top Regulator
(Alex Brazier, Bank of England, March 7, 2016)

- “More capital [than current BoE proposals] could hold back growth.”
  (No coherent support for this statement. How and why might this happen if banks retain earnings?)

- “Higher capital requirements can push up bank funding costs.”
  (Yes, if they remove the ability to shift costs and risks to others, including public. Public pays for subsidies and is endangered and harmed by systemic risk of crisis, credit and other distortions.)
“Bankers warn that increased equity requirements would restrict lending and impede growth. These warnings are misplaced. First, it is easier for better-capitalized banks, with fewer prior debt commitments hanging over them, to raise funds for new loans. Second, removing biases created by the current risk-weighting system that favor marketable securities would increase banks’ incentives to fund traditional loans. Third, the recent subprime-mortgage experience shows that some lending can be bad for welfare and growth. Lending decisions would be improved by higher and more appropriate equity requirements”
“just about whatever anyone proposes, no matter what it is, the banks will come out and claim that it will restrict credit and harm the economy.... It’s all bullshit.”

Paul Volcker to Senator Ted Kaufman, Jan. 15, 2010

*The Payoff: Why Wall Street Always Wins*, Jeff Connaughton, 2012
Invalid “Competitiveness” Argument

- Banks compete with other industries for inputs, including talent.
- Outsized subsidies distort markets.
- Banks can endanger an entire economy (Ireland, Iceland, Cyprus)
- Policymakers must protect their citizens, not “their” banks.
- National champions are promoted at expense of everyone else.
- See Bankers New Clothes, Chapter 12.
Alarming Quotes

“UK banking system may double in size by 2050, says Bank of England,”
Jill Treatnor, *Guardian*, December 8, 2014

• “The size of the UK banking system might roughly double from its current size to over 950% of GDP by 2050, far outstripping the projected increase in other G20 banking systems,” Bank of England said.

• The UK’s banking system is currently 450% of GDP, Threadneedle Street said. In money terms, it would amount to a rise from over £5tn to £60tn.
The Dismal Science?

“Science is what we have learned about how to keep from fooling ourselves.”

Richard Feynman

Much Flawed Research

• Cherry-picking assumptions (and data) is pervasive.
• Distorted maps must not guide travel.


Shadow Banking is a Flawed Excuse

• “Regulatory arbitrage” is key to system complexity.
  – Regulated banks sponsor entities in the “shadows.”
• The largest institutions are “shadow hedge funds.”
• Some institutions/activities, e.g., money market funds, need better regulation; some don’t need much.
• Enforcement challenge is invalid argument against essential and highly beneficial regulation.
  – Allow robbery? Give up tax collection?
“Bank(er)s are Special” in...

- ... having passive creditors and little market discipline.
- ... having many supporters and enablers who protect banks’ interests even when in conflict with society’s interest.
- ... getting away with inefficient and dangerous funding mix and conduct
Broken Governance

Top 20 banks paid $235B since 2008.
• Whose money?
• “Cost of doing business?”
• Have incentives changed?
• Who’s accountable?
• Too big to manage?
• Is this an efficient system?
• Misconduct Becomes Systemic
Alarming Quotes from SIFI Leaders

• “The portfolio hedge was complex, poorly reviewed.. and poorly monitored... Controls were not in place” (Jamie Dimon, JPM.)

• “We deeply regret and apologize for the conduct and compliance failures.” (Douglas Flint, HSBC)

• “Can I know what every one of 257,000 people is doing? Clearly I can’t.” (Stuart Gulliver, HSBC CEO)