Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is *Not* Expensive

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Motivation

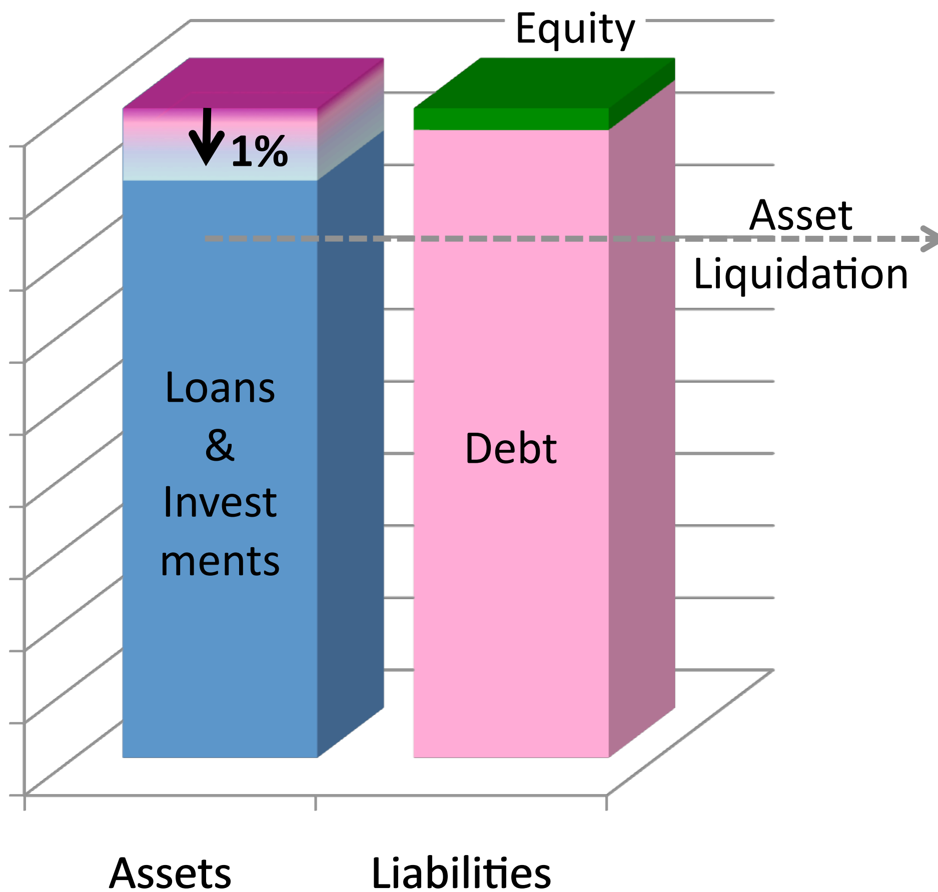
- Interpretation and narrative of 2007-2008 crisis.
  - Was it mainly (or just) a liquidity problem, a run that affected a wonderful but inherently fragile modern banking system, or the result of excessive leverage and risk, and distorted incentives?
- Can a large financial institutions "fail?" Can bankruptcy or resolutions be made to work?
  - Too big/interconnected/important to fail is a major problem.
- Defining "systemic risk" and "systemically important financial institutions."
- Costs and benefits of regulation.
  - Health and safety issues arise in other regulated industries: Airlines, medicine, environment, nuclear plants.

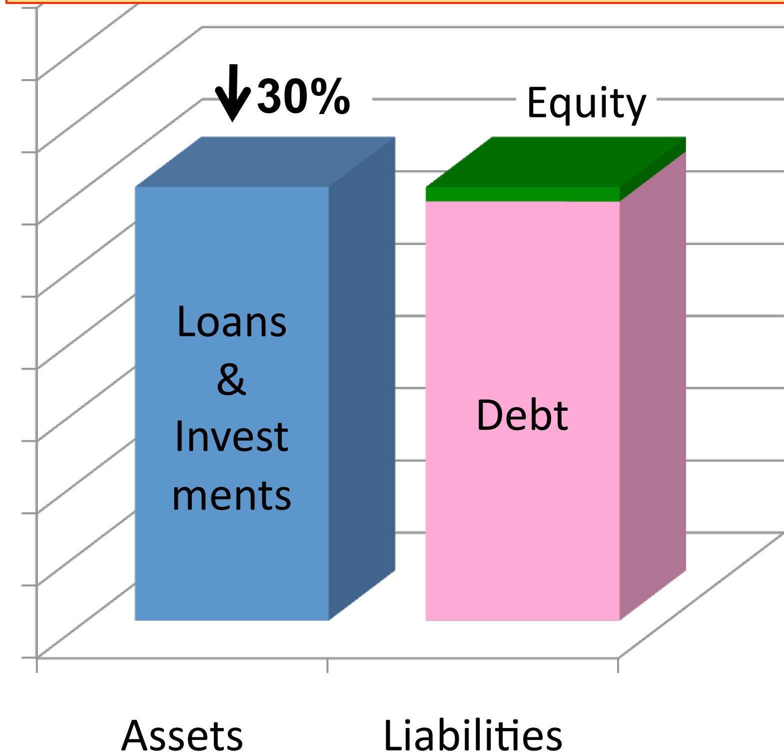
Deleveraging “Spirals”

- A 1% Asset Decline …

⇒ 30% Balance Sheet Contraction

- Asset Fire Sales
- Illiquidity / Market Failure
- Reg. Uncertainty / Bailouts





A Purported Tradeoff

"More equity might increase the stability of banks. At the same time, however, it would restrict their ability to provide loans to the rest of the economy. This reduces growth and has negative effects for all."

Josef Ackermann, CEO of Deutsche Bank
(November 20, 2009, interview)

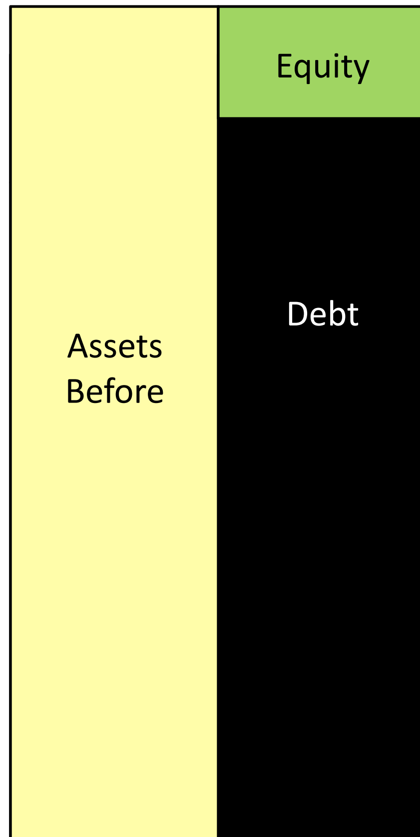
The Real Deal

Well-designed capital regulation that requires *much* more equity, ~~might~~ will increase the stability of banks. At the same time, ~~however,~~ it would ~~restrict~~ enhance their ability to provide good loans to the rest of the economy and remove significant distortions. This may reduce~~s~~ the growth of banks. However, it ~~and has~~ will have a ~~negative~~ positive effects for all (except possibly bankers).

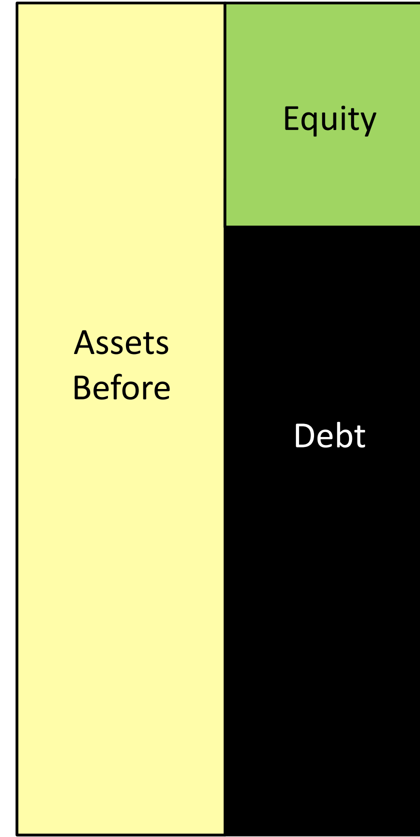
Confusing Language!

- "Hold" or "set aside" misleadingly suggests idle funds, passivity, cost.
- Capital requirements concern *funding side* only.
  - A firm does not "hold" securities it issues, investors do!
- liquidity/reserve requirements concern *asset* side of balance sheet, restrict holdings.
- **"Hold capital" = fund with equity.**

Equity Absorbs losses but is NOT idle!
Is the (100%) Apple Equity Idle??

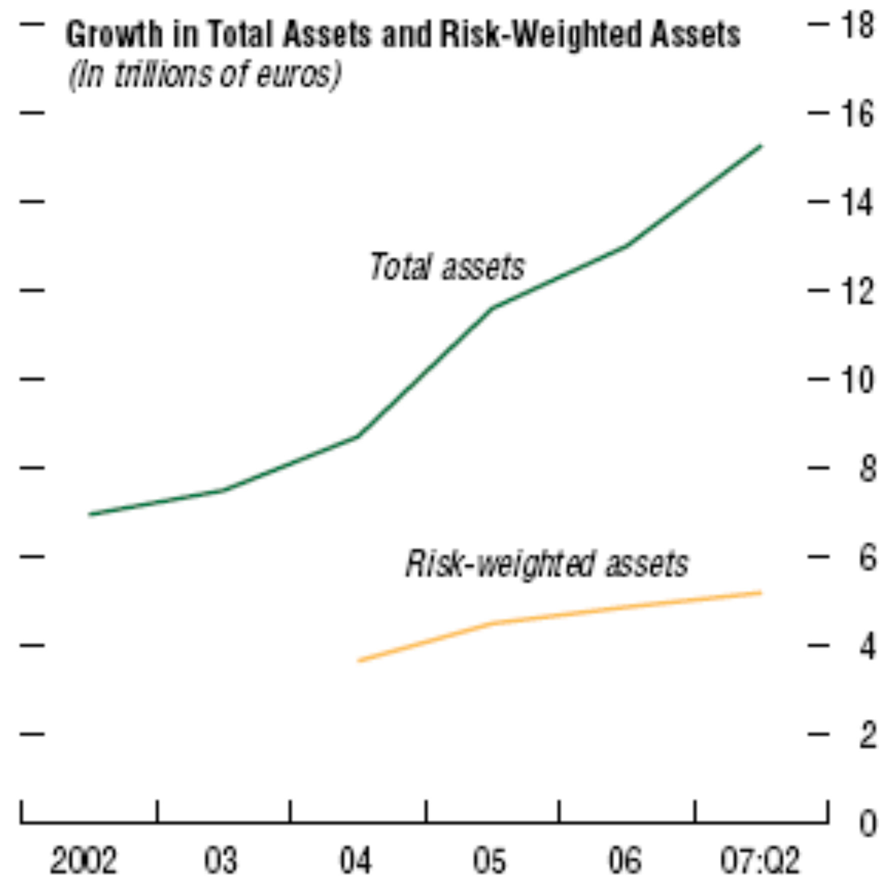


Too Much Leverage



More Equity

The Denominator in Capital Ratio “Risk-Weighted Assets”

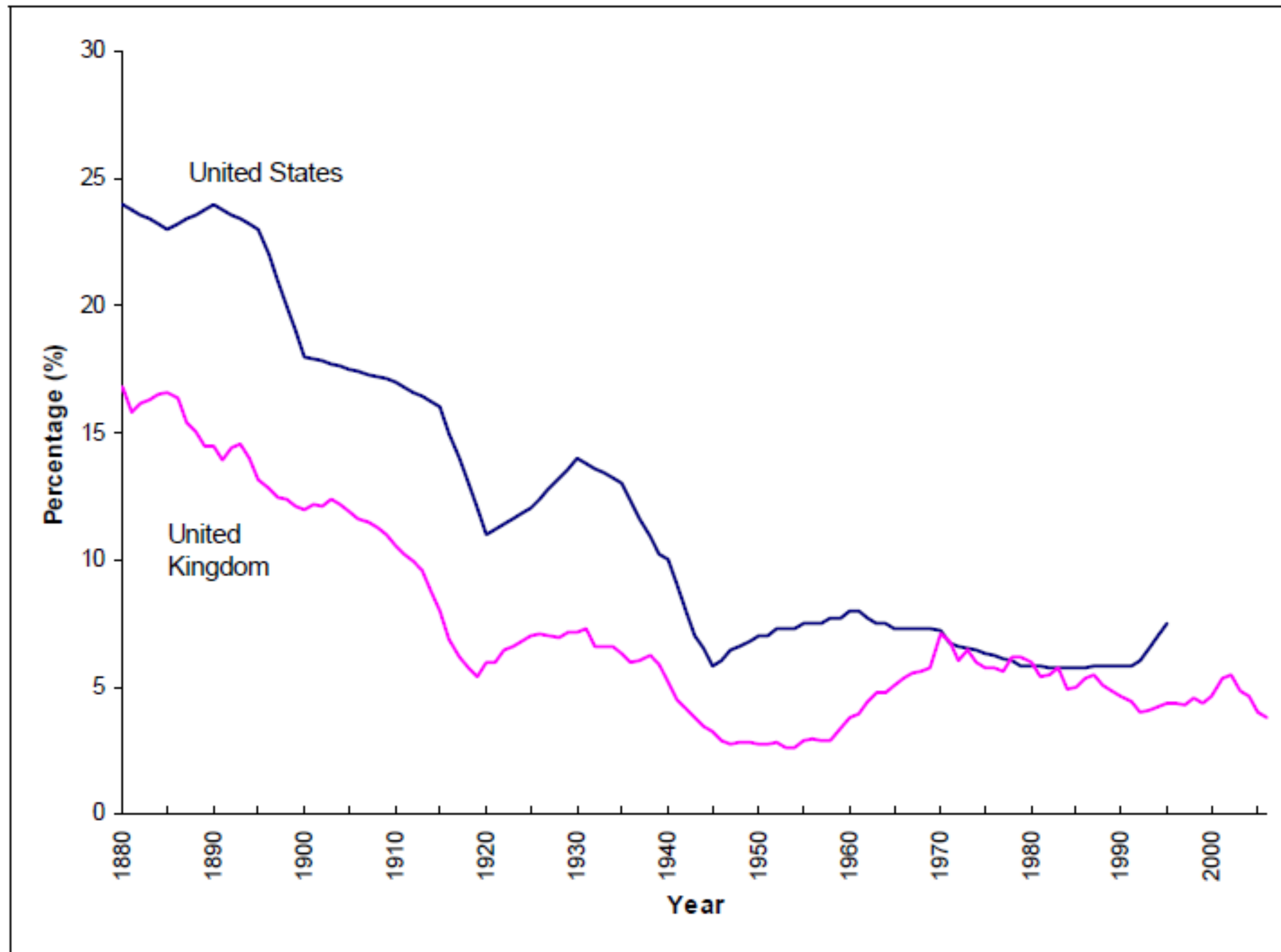


International Monetary Fund Global Financial Stability Report, April 2008

Historical Facts About Bank Capital

- In 1840, equity funded over 50% of bank assets in US.
- Over the subsequent century equity ratios declined consistently to single digits.
- There is evidence that steps to enhance "safety net" contributed to this. In the US
  - National Banking Act, 1863
  - Creation of the Fed, 1914
  - Creation of FDIC, 1933.
- Similar trends in UK, Germany. More trading business.
- **Bank equity did not have limited liability everywhere in the US until 1940s!**

History of Banking Leverage in US and UK (Allesandri and Haldane, 2009)



Source: US: Berger, A, Herring, R and Szegö, G (1995). UK: Sheppard, D.K (1971), BBA, published accounts and Bank of England calculations.

What if Banks were A LOT Less Leveraged?
Imagine 25% equity to total assets, summer 2008

- Deleveraging multipliers would have been significantly lower.
- Solvency would have not been as big a concern
- The liquidity problems would not have been as severe
- There may have not been a credit freeze
- There would have been less need for intervention and support
- The crisis would not have been anywhere near as bad as it was....
  - Compare: Internet “bubble” bursting:
    - **no leverage!**

Basel II and Basel III Capital Requirements

- Tier 1 capital Ratio: Equity to *risk-weighted assets*:
  - Basel II: 2%,
  - Basel III: 4.5% - 7%.
  - Definitions changed on what can be included.

- Leverage Ratio: Equity to *total* assets:
  - Basel II: NA
  - Basel III: 3%.

- Tier 2: complete to 8% (Basel II), a bit more (Basel III).

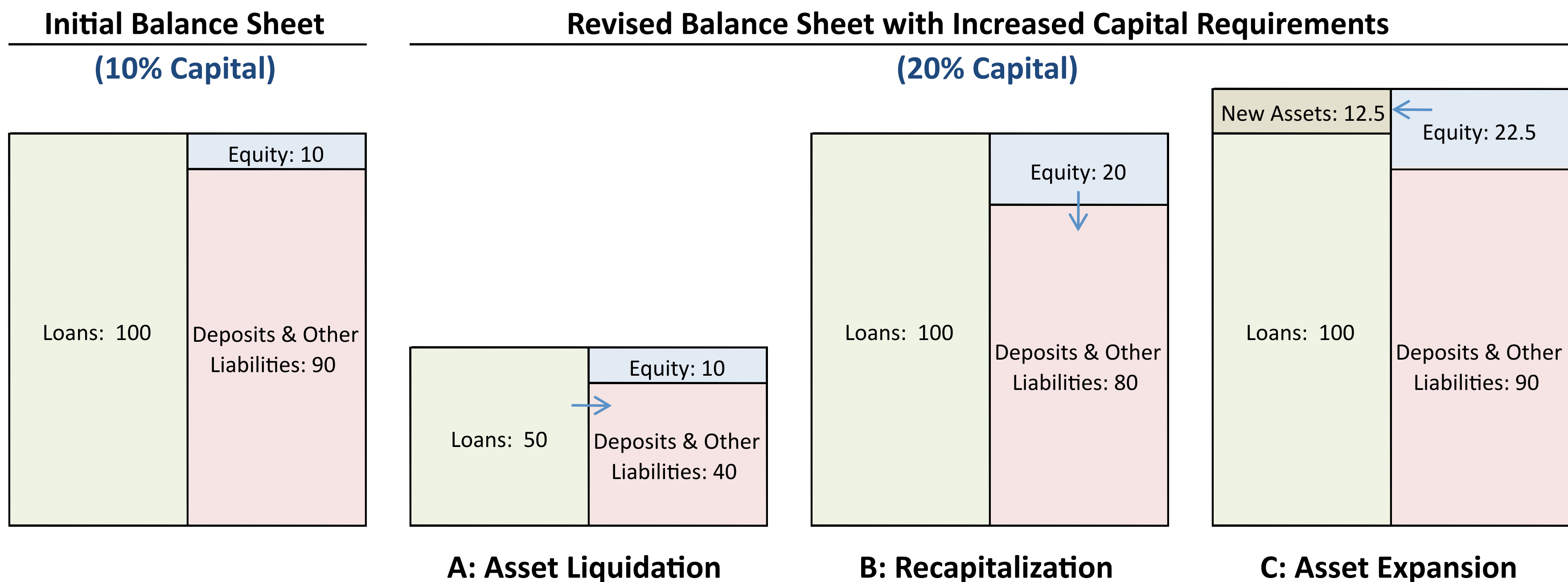
- Basel II never fully implemented in the US. “Overwhelmed by the recent crisis scarcely after it has been introduced.” (Haldane, 2010)

- Very long implementation period (decade) for Basel III.

- Will Basel III help prevent another crisis?

Balance Sheets and Capital Requirements

- Increased Capital Requirements need NOT force banks to reduce lending or deposit taking.



Fallacy: "Equity is expensive because it has a higher required return than debt"

- Contradicts first principles of finance: the *cost of capital is determined by risk to which it is exposed*.

- Fixing the assets, lower leverage (less debt and more equity financing) lowers the required return on equity, because equity becomes less risky.

- *Redistributing risk among providers of funds does not by itself affect overall funding costs.*

- Bankers operate daily on the assumption that investors know how to price risk!

M&M and Banking, a 50+ years Debate

- Modigliani and Miller (1958) does NOT say that banks, or the capital structure of *any* firm, are irrelevant.

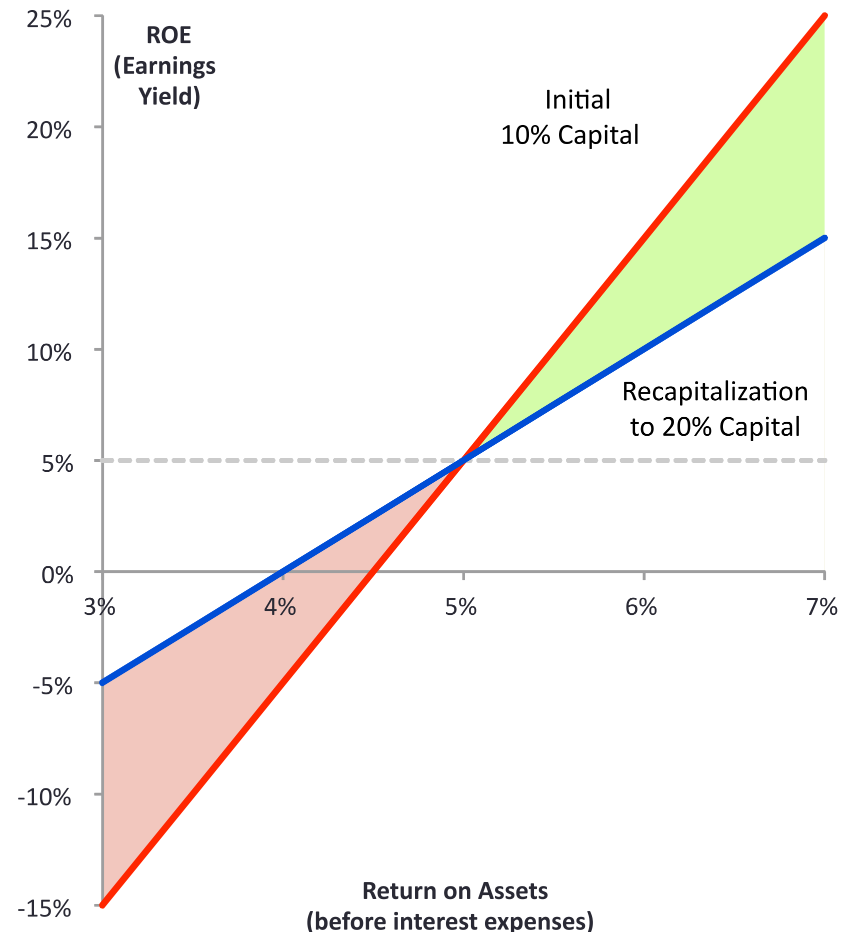
- The impact of a change in funding mix on total value and overall funding costs is not due to how risk is distributed among investors. Rather, it must be examined through its effect on frictions, i.e., how it changes the total cash available.
  - This principle applies to banks and non-banks.
  - Denying this is akin to denying gravity.

ROE *Should be* Irrelevant to this Debate

- Return on Equity (ROE) does not measure shareholder value.
- No entitlement to a "target ROE."
  - Expected/required/realized ROE must be judged *relative to the risk of the equity*.
- Leverage increases the risk of the per-dollar return on equity, thus increasing required ROE *whether or not value is created.*
- Any firm or manager can increase average ROE by increasing leverage (or risk).
- Unless leverage and risk are fixed, ROE comparisons are meaningless.

ROE and Capital

- Higher capital
  - Reduces ROE in good times
  - Raises ROE in bad times
  - $\Rightarrow$ Value is preserved
  - $\Rightarrow$ Risk is reduced



- Lower risk reduces equity holder's required return.

Funding Considerations for Non-Banks

- Debt has a tax advantage.
- Debt increases “deadweight costs” of default and bankruptcy.
- Debt creates “agency costs,” conflicts of interest that lead to sub-optimal investment decisions, including excessive risk-taking, debt overhang (underinvestment).
  - Agency costs can increase borrowing cost.
  - Debt covenants can reduce flexibility.
- On average: 70% of funding is by equity.

Funding Considerations for Banks

- Deposits and other “money-like” instruments are “cheap” because they provide liquidity to creditors.
- If debt is part of the subsidized “safety net, borrowing costs do not reflect the riskiness of the assets, government bears downside risk as a subsidy.
- Tax code favors any form of debt.
- Deadweight bankruptcy costs are borne by governments.
- No tradeoffs! The more debt the better.

The “Safety Net”

- Motivation: financial stability, too much collateral damage of failure.
- Composition:
  - Deposit insurance
  - liquidity windows
  - Implicit backing of government sponsored enterprises
- Covered 45% of US bank liabilities in 1999, 59% of bank liabilities in 2008 (Federal Reserve of Richmond).
- Credit ratings reflect increasing size of “too-big-to-fail” subsidy.
- Value of the subsidies is substantial.
  - Ex ante: subsidized borrowing rates.
  - Ex post: cost of bailouts, resolution of failed institutions.

Often Forgotten: Regulation Debate must Focus on *Social* Costs & Benefits

- Leverage is subsidized even as high leverage generates negative externalities, a "polluting" input to "production of loanable funds."
  - fragility and systemic risk,
  - excessive risk,
  - credit freeze due to debt overhang.
- Lost subsidies are not a social cost!!
  - Subsidies should be designed to help social welfare.
- It is straightforward to neutralize the tax subsidy.
  - Abolish corporate tax,
  - Do not allow deductibility above certain leverage level
  - Maintain tax book separate from capital structure.

The Impact of Subsidized Safety Net

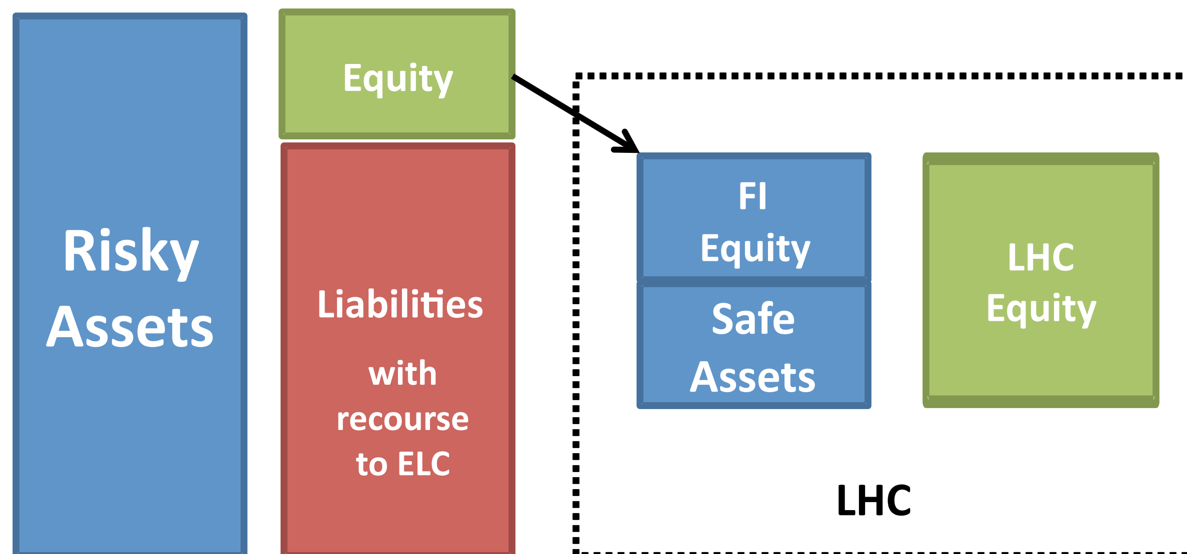
- Numerous distortions, especially with underpriced guarantees:
  - Incentives/ability to grow inefficiently, unfair competition.
  - Incentives to evade capital regulation (also for tax reasons).
  - Excessive risk taking.
  - Enormous costs to the economy from financial crisis.
- A paradoxical system: subsidize, then regulate to reduce use of subsidies.
- Even if subsidy is passed on to economy, policy must be questioned and examined against alternatives.
- It is not possible and not desirable to commit not to bail out.
- Pricing guarantees is difficult, moral hazard remains.
- Equity is best approach: more *self insurance at market price*!

Myth: Debt is NEEDED to Provide “Discipline”

- Creditors protected by safety net do not invest in monitoring; Threat of default is not credible.
- If risk-shifting is the main agency problem, high leverage, even through subordinated debt, is not helpful.
- Equity has stronger incentives, *and ability*, than debt to monitor waste of assets or poor effort, *and to intervene*.
- Is managerial discipline the reason bankers object to capital requirements?
- *No empirical evidence*. Did high leverage and a lot of short term funding pre-crisis create good discipline?
- *Even if*… Is debt unique or best way to solve governance problems? Is it worthwhile given fragility and systemic risk?
- How do non-banks solve governance problems?

Different Solution to "Free Cash Flow"

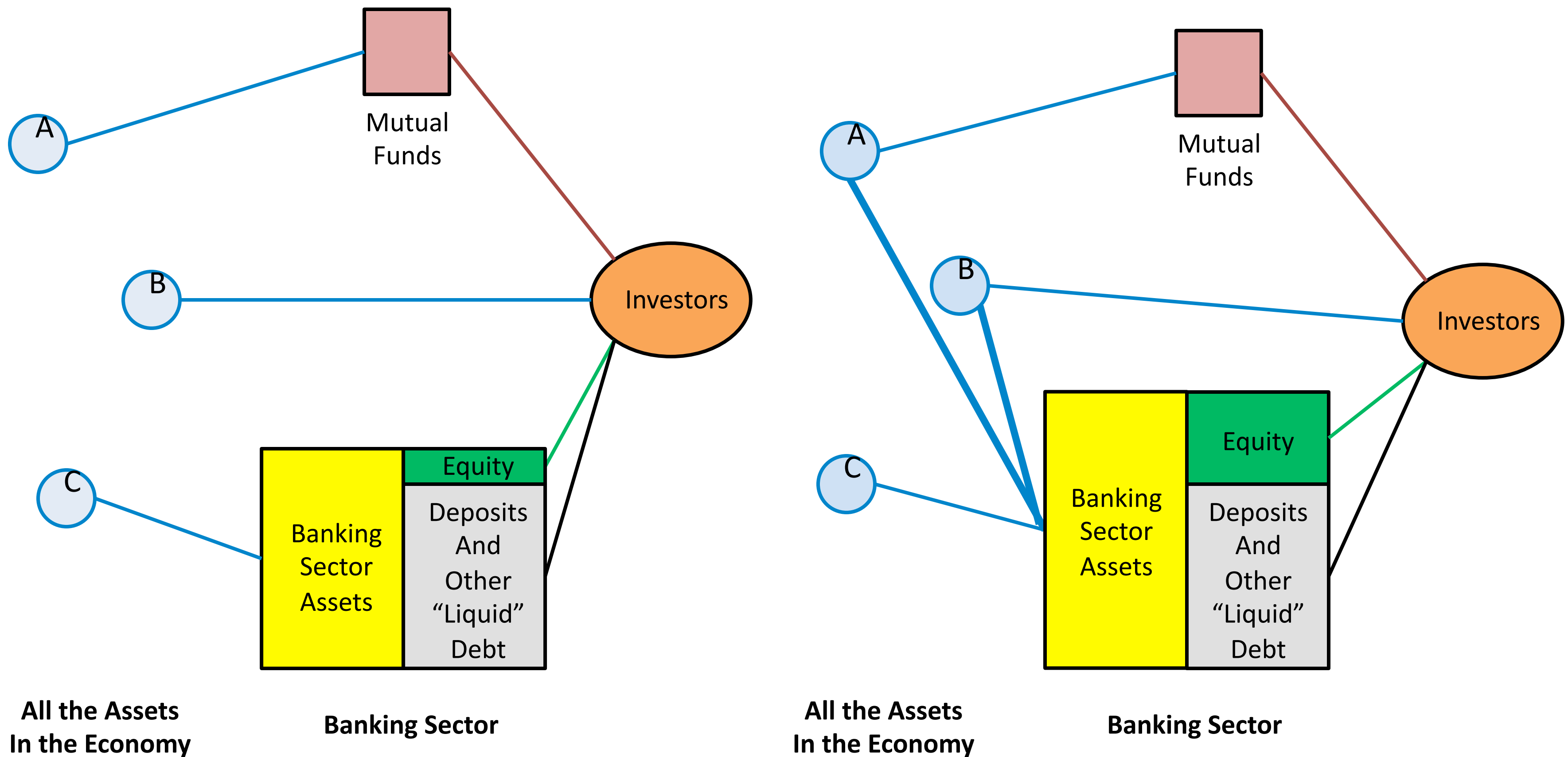
- A way to prevent waste of cash flows by managers without creating fragility for the economy:
  - Admati & Pfleiderer (2010): Equity Liability Carrier;
  - Admati, Conti-Brown & Pfleiderer (in preparation): Liability Holding Company



Myth: The “Informational Insensitivity” of Debt Necessitates High Leverage and

- The more highly leveraged the bank, the less “informationally sensitive” debt is.
- As leverage increases (or in distress), information insensitivity no longer holds, runs can occur.
- The growth of the shadow banking system does *not* prove that all the manufactured debt was socially valuable.
- Banks can continue providing liquidity, in fact liquidity will be enhanced, if they add equity.
- Additional equity need not crowd out deposits.

Balance Sheet Changes and End Investors



- If banks buy marketable securities, those are still held by final investors; productive opportunities and portfolios need not change.
- Governance problems can be solved without relying on leverage and fragility.

Should “Issuance Costs” of Equity Justify High Leverage?

- With asymmetric information, equity might be under-priced when issued (Myers-Majluf, 1984).
- This does NOT imply that high leverage must be tolerated.
- Less leverage means greater ability to rely on retained earnings.
- Less leverage makes equity less sensitive to uncertainty, so impact of under-pricing is less severe.
- Under-pricing is not a social cost.
- Issuance costs can be easily mitigated by regulators.
  - Restrict payouts (dividends and share repurchases)
  - Rights offerings: low cost & removes underpricing concern.
  - Remove discretion to mitigate negative inferences.

Myth: Observed High Leverage in Banking Implies High Leverage is "Optimal?"

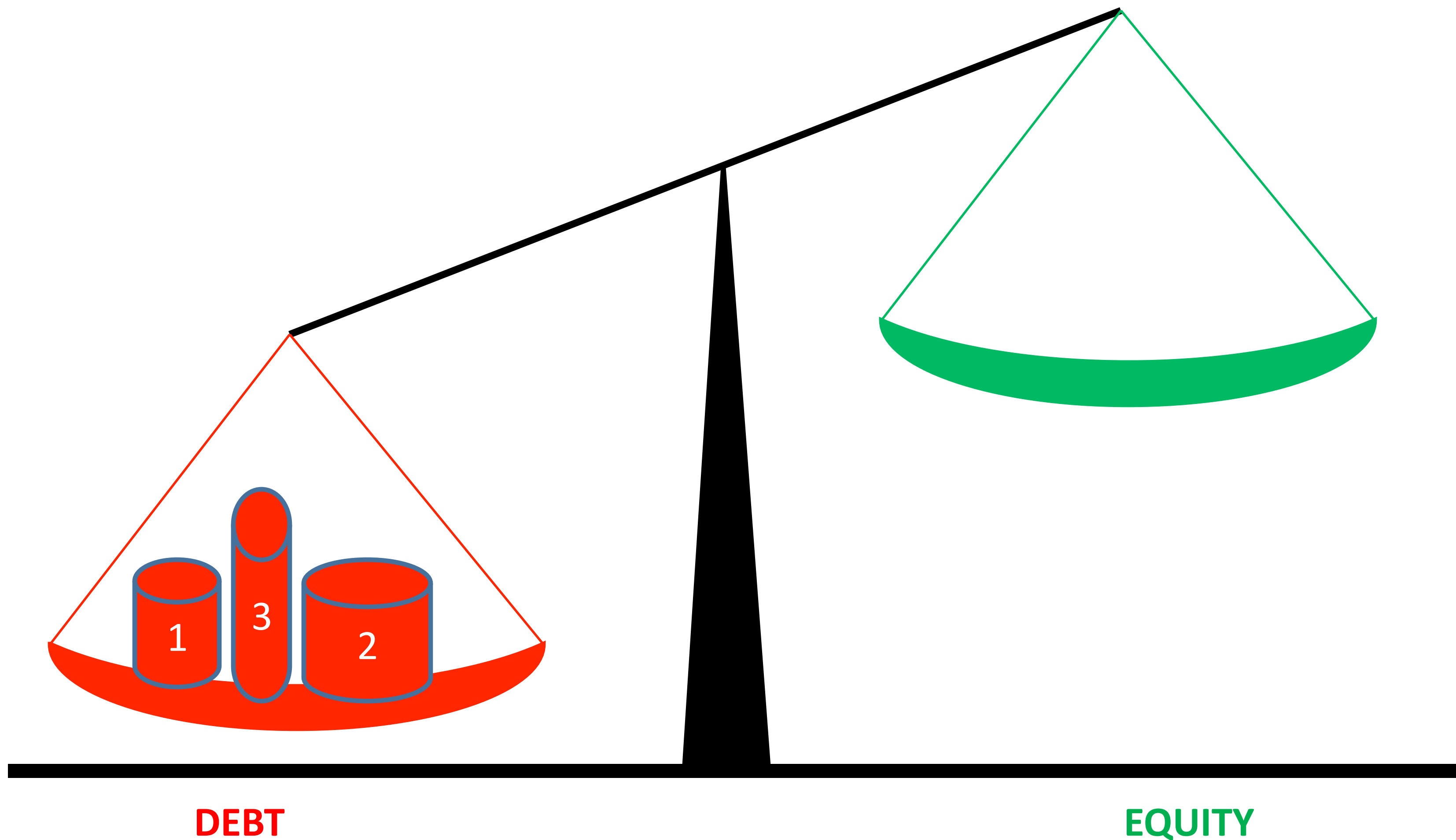
- Certainly *not socially*! Given subsidies, privately optimal leverage is socially excessive.

- *Except for subsidies*, high leverage may not even be *privately* optimal for banks, if viewed *ex ante* (and if commitments were possible).
  - Once highly leveraged, strong incentives to "dilute" existing creditors and to a "maturity rat race."
  - High leverage is "addictive."

More Equity Has *Positive* Side Benefits

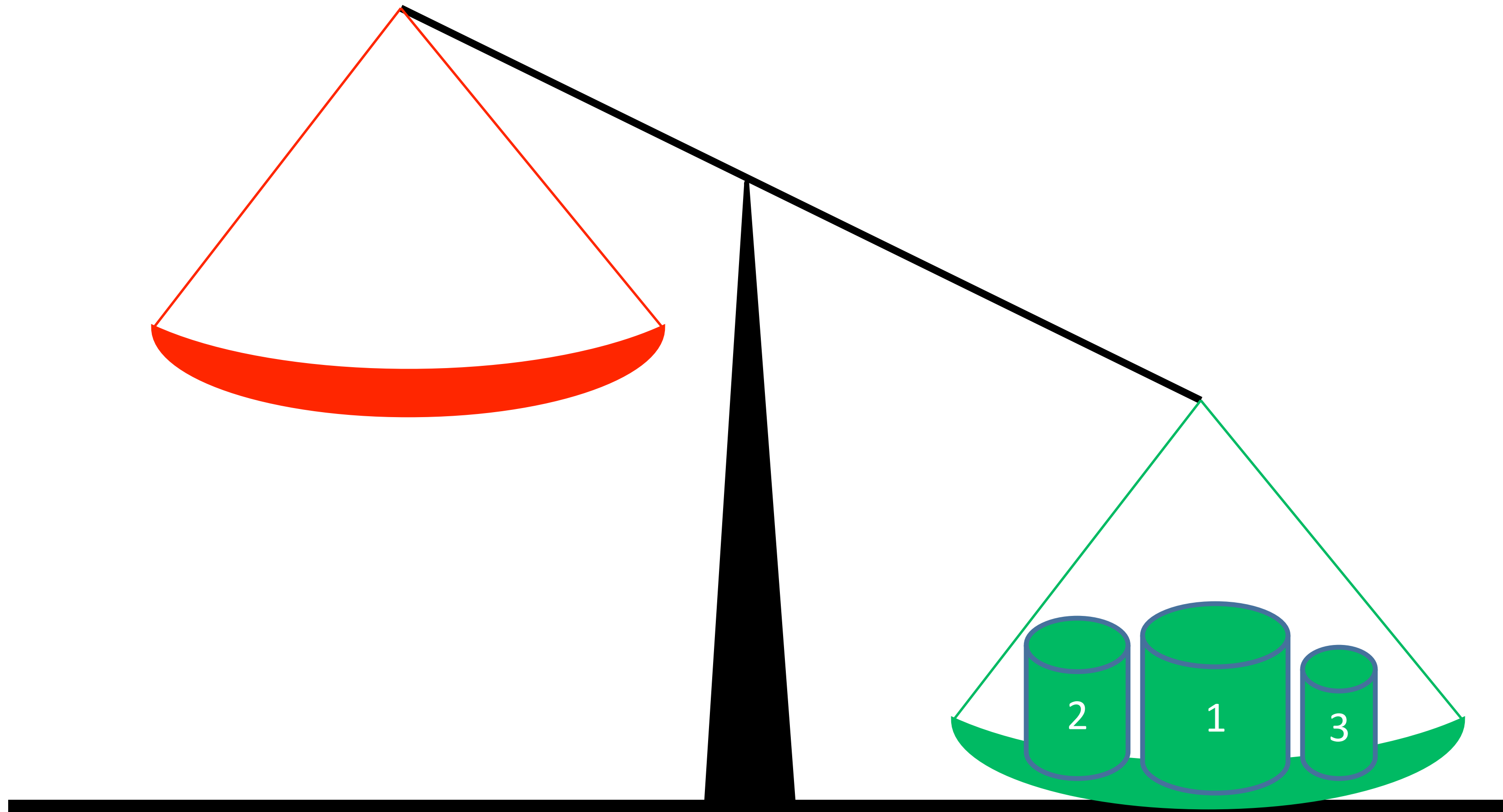
- High leverage generates many distortions in lending and investment decisions by bank managers, *working on behalf of shareholders*.
  - Excessive risk taking: heads we win, tails debt holders or government loses.
  - Debt overhang: good opportunities are passed up because new funding would benefit existing creditors.
    - Key factor in credit freezes in crisis.
    - A reason highly leveraged banks might respond to higher equity requirement by shrinking.
    - A problem that is alleviated with better capitalization.
- Lower leverage has benefits beyond reducing systemic risk!

Private “Benefits” of Equity and (non-demand-deposit) Debt



1. Tax advantages make it cheap
2. Implicit guarantees make it cheap
3. ROE fixation

<u>SOCIAL</u> Benefits of Equity and (non-demand-deposit) Debt



DEBT

1. ~~Tax advantages make it cheap~~
2. ~~Implicit guarantees make it cheap~~
3. ~~ROE fixation~~

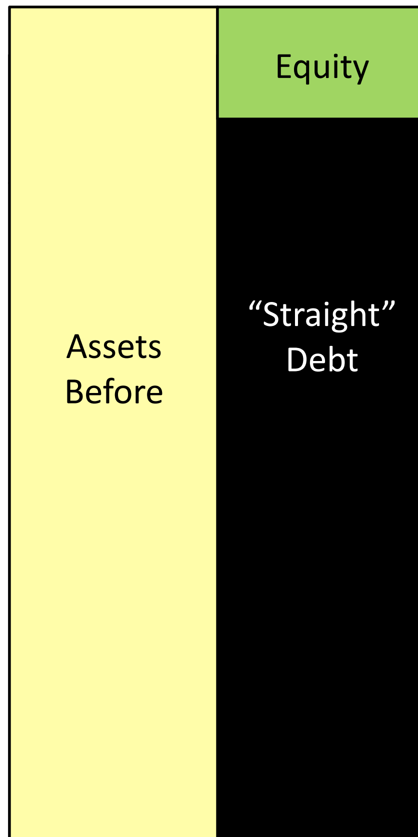
EQUITY

1. Reduces systemic risk
2. Reduces incentives for excessive risk-taking
3. Reduces deadweight costs associated with bailouts

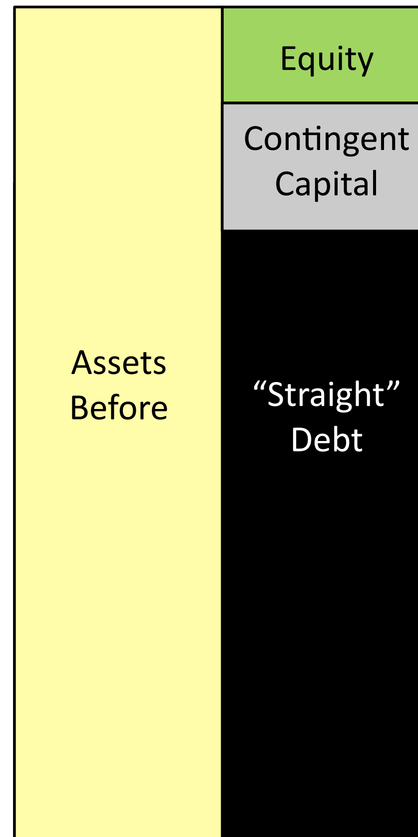
Equity vs. "Loss Absorbing Debt"

- Contingent capital and bail-in mechanisms attempt to transform debt into equity "just when needed."
- Numerous complicated to design properly.
  - Choice of trigger(s) and other terms.
  - Manipulation issues; can be de-stabalizing in crisis.
  - Political considerations if considered "fixed income."
  - Bail-in puts unrealistic demands on regulators.
- Is loss absorbing debt better than equity?
  - No!! If risk is contained within balance sheet, MM applies.
  - Seems motivated by tax and maintaining high "ROE."
  - Un-tested and unlikely to be reliable.

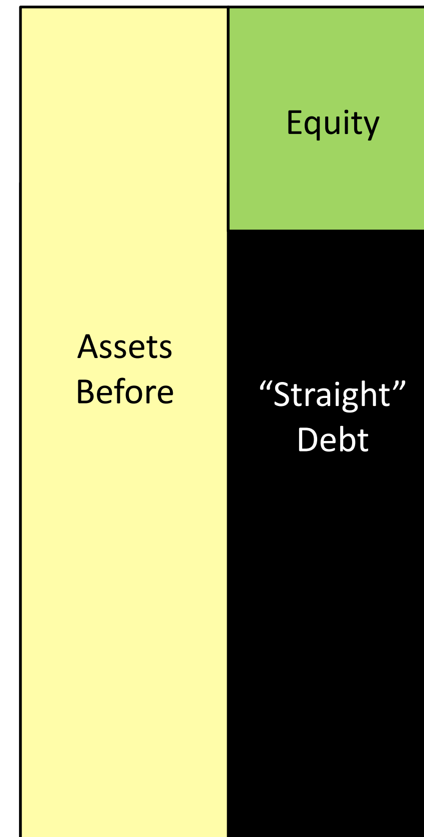
Debt, Contingent Capital and Equity



Too Much Leverage



Contingent Capital



Simply Have More Equity

Capital Requirements and Lending

- A bank with 25% equity makes *better* lending decisions than one with 5% equity.
  - *less* likely to pass up good loans due to “debt overhang”
  - less likely to invest in excessively risky loans.
  - If subsidies are removed, marginal loans might be affected, but what is the socially “appropriate” cost?
- Once bank is distressed, debt overhang sets in.
  - “Boring” loans are not attractive.
  - Incentives to “gamble for resurrection” as in S&L crisis.
- Risk weighting system is distortive, biases against traditional lending.
  - EU sovereign debt has zero risk weight!

“Level Playing Field” Arguments are Invalid

- What is the gain to US citizens who bear the downside if a global US bank wins against other global banks?
- Banks can endanger economies (Ireland, Iceland).
- High leverage creates a negative externality (systemic risk).
- Banks compete also with other industries for input and scarce resources, *including talents*.
- Excessive subsidies distort the market process that guides resources to their best use.
- Arguments can create dangerous “race to the bottom.”

“Unregulated Shadows” Must Come to Light

- The crisis exposed flaws in design and enforcement of regulation; driven “innovation” to evade.
- Many shadow banking entities had been/are sponsored/ backed by regulated banks.
  - An oxymoron (?): banking should not be in the shadows, what is in the shadows should not be “banking.”
  - The entire system needs watching (AIG): where is the risk?
- Shadow banking developed under the weaker regulation and led to crisis! Argument reflects helplessness.

– Should we give up tax collection for fear of tax loopholes and evasion?

– The issue is political will.

Bottom Line

- High leverage in banking entails a large social cost and virtually no social benefit.

- Debt lowers banks' funding costs only because of subsidies; other considerations favor equity.

- Banks can engage in all valuable activities with 15%-30% equity of total assets. If subsidies are desirable, they should not encourage high leverage.

– Even if banks are less profitable, diversified investors are better off when banks have less leverage!!

– Why do investors/shareholders allow banks to lobby against sensible regulations using flawed claims??

Summary and Policy Recommendations

- Require significantly more equity financing for anyone involved in credit generation.
- Ratios significantly higher than 10% of un-weighted assets should be seriously considered.
  - Benchmark: REIT have 30% equity. WHY NOT?
- Requirements should not be one "number."
  - "Conservation buffers" allow use as cushion; payouts restrictions within the buffer.
- Risk weights are very problematic; finding alternative ways to monitor risk is important.

Policy Recommendations, continued

- Regulators must control equity payouts (dividends)!!
- Quick and efficient transition: *ban equity payouts until much more equity is built*; possibly mandate equity issuance.
  - Saves issuance costs.
  - Can eliminate stigma/signal. (Recall TARP.)
  - Large dividends were paid by US banks through early 2009 (in some cases throughout)!
  - Recent decision to allow equity payouts was misguided.

Final Comments

- Policy should not be made on the basis of fallacious claims and must be based on social costs and benefits and solid reasoning.

  – Recall options expensing debate.

- After the crisis, the burden of providing a compelling argument for why high leverage of banks is justified must be on those making the claim.