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

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What Do We Know?

A prudent and
sensible banker does
not loan someone
$970,000
to buy a
$1,000,000
house.

What Else Do We Know?

If that person buying the house says:

"But Mr. Banker, you must allow me to put down only $30,000 since that is the only way I can get the ROE I need on my investment!"

The prudent banker still says NO.

And What Else Do We Know?

- In 2007 we had a HIGHLY-LEVERAGED and VERY FRAGILE financial sector. ($30,000 down on a $1,000,000 house)
- We were assured that the situation was not the same as a highly-leveraged house because banks and others had accurate risk models and effective ways to control risk.

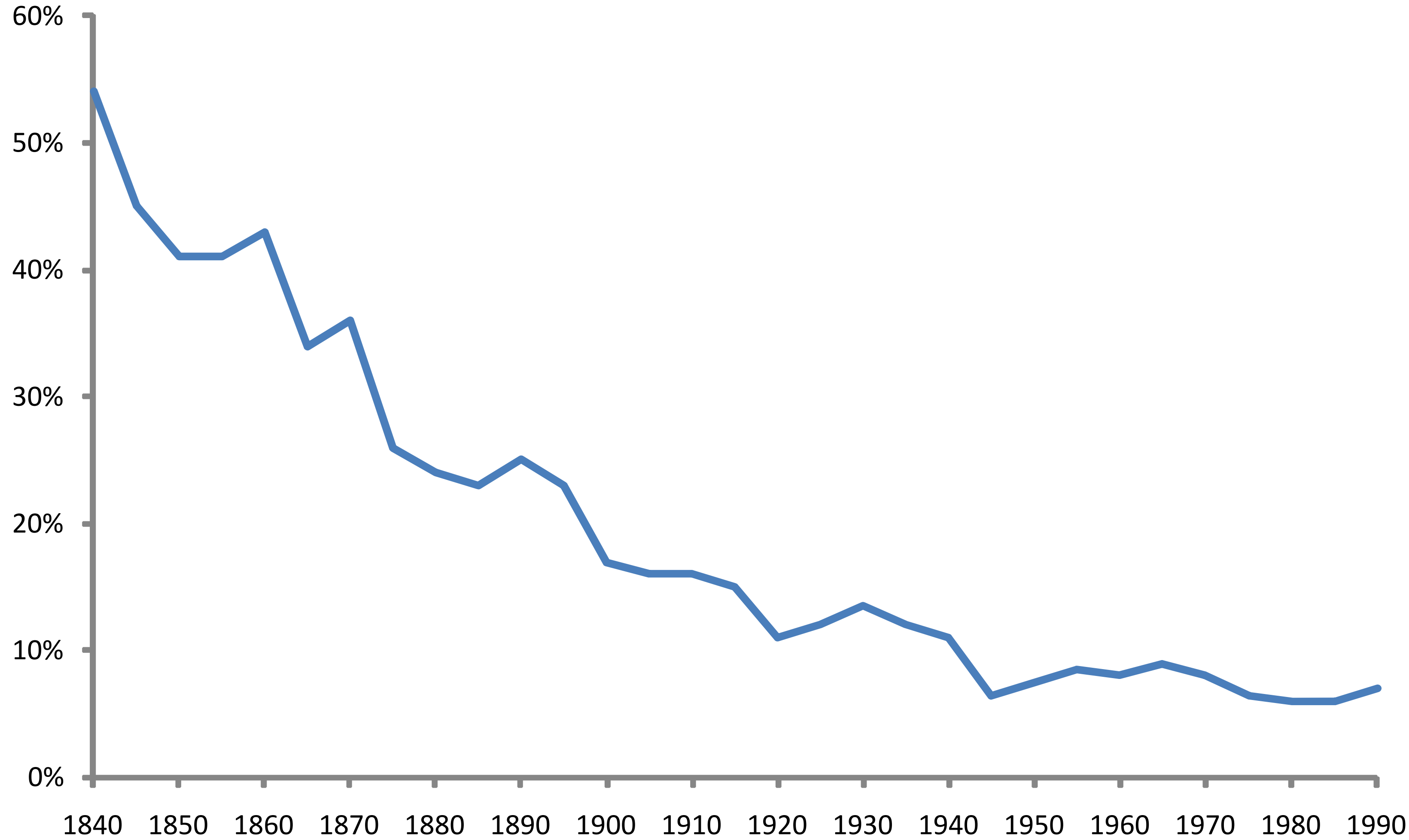
We Do Know What Happened.

This is a Rhetorical Question

Would the Situation Have Been Less Dire if the Financial Sector had been <u>Much</u> <u>Less</u> Leveraged?

Equity as a Percent of Assets for US Commercial Bank

(From: Berger, Herring and Szegö, "The Role of Capital in Financial Institutions," *Journal of Banking and Finance*, 1995)



Advantages of Requiring Much More (e.g. 15% to 25%) Equity

(i.e., Bigger Down Payments)

- Systemic Risk is reduced.
    - Less chance of financial crisis and deadweight losses.
- Risk is privatized; not borne by the government and citizens.
- Incentives to take socially unproductive risks are reduced.

Social Benefits are Large.

So Why Isn’t Everyone Calling For MUCH MORE Equity Given its Obvious Social Benefits?

Is It Because “Equity is Expensive” ???

Private Versus Social Costs of Equity

Private Costs	Social Costs
• Equity does not produce tax shield; debt does. • The government makes debt cheap through implicit guarantees. • Increasing equity mechanically reduces ROE (but reduces risk as well). If compensation is for some reason rigidly tied to ROE, this will reduce some people's pay.	?

The Too-Big-To-Fail Subsidy

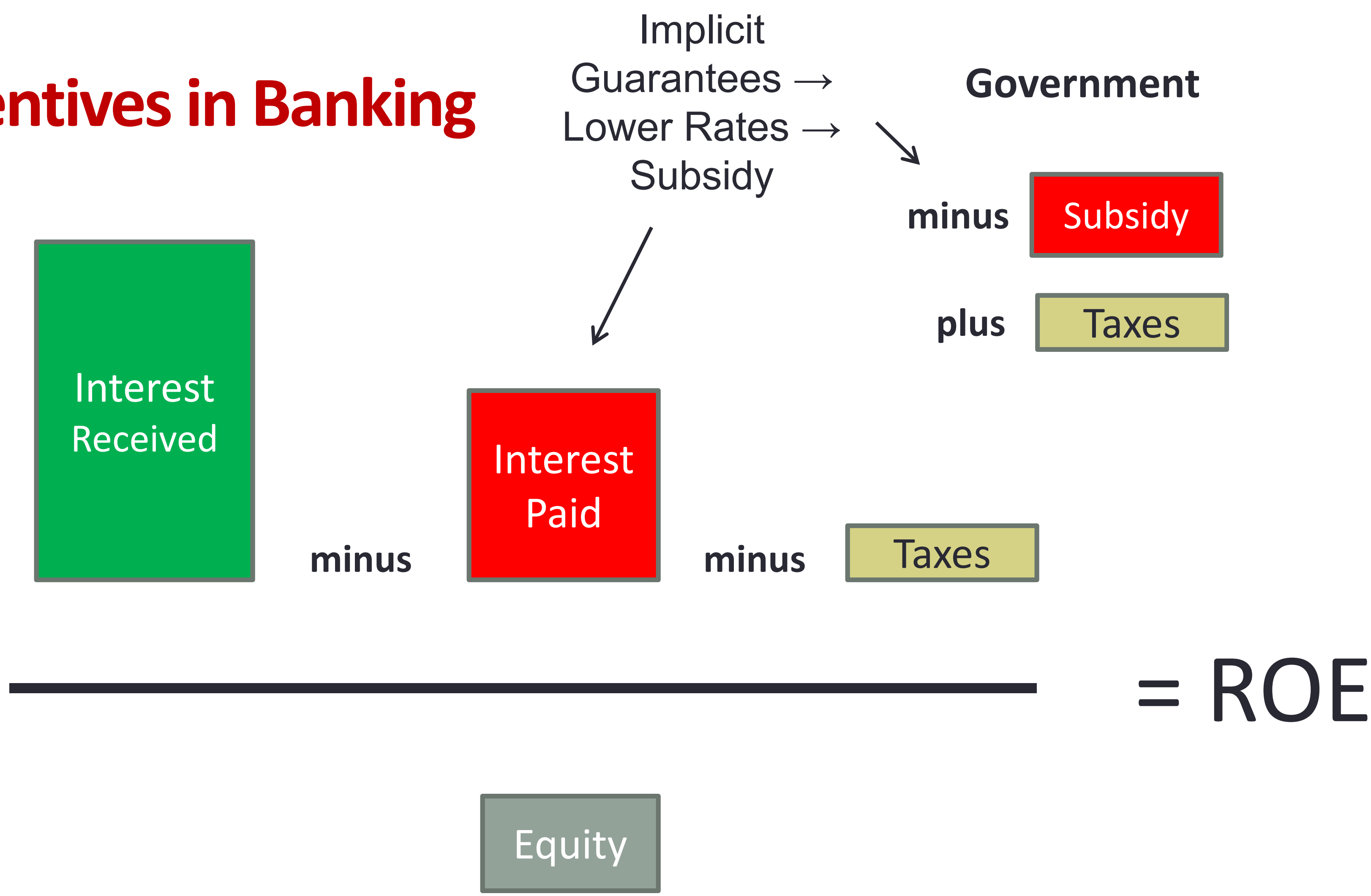
- If creditors of a bank believe that there is a chance they will be bailed-out by the government in situations of systemic distress, they will accept lower yields.

Reduced Cost in Basis Points	Extra Return on Equity (with 3% equity)
2.50	0.81%
5.00	1.62%
7.50	2.43%
10.00	3.23%

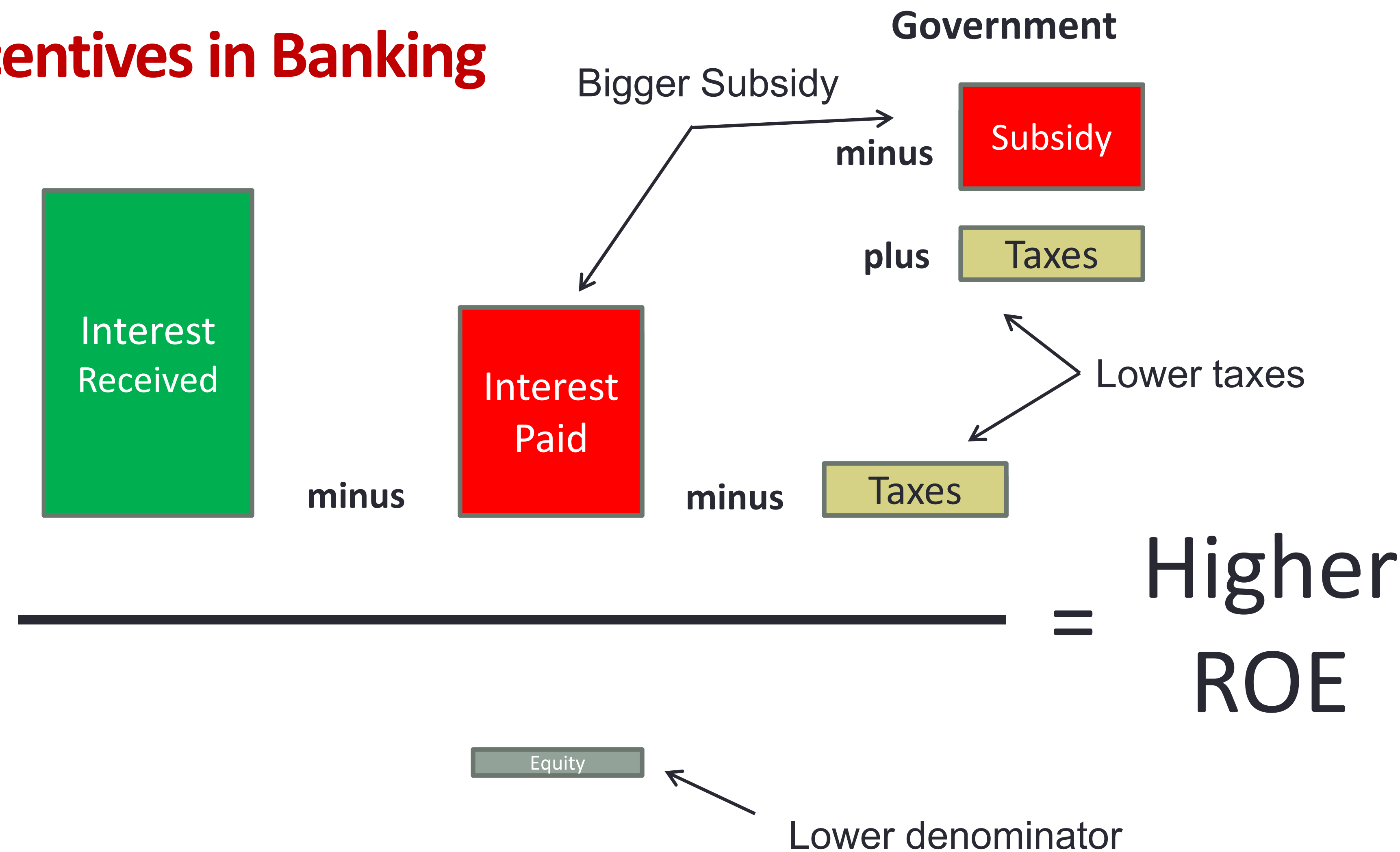
Moody's Announcement: June 2, 2011

- SUPPORT FOR BOFA, CITI, AND WELLS FARGO EXCEEDS PRE-CRISIS LEVELS
- **Moody's government support assumptions for Bank of America, Citigroup, and Wells Fargo are higher than what similarly rated institutions would have received prior to the crisis.** For example, Bank of America N.A.'s and Citibank N.A.'s C- (C minus) unsupported BFSRs translate to a Baa2 rating on Moody's long-term debt scale; prior to the crisis a similarly rated, systemically important bank would typically have benefited from no more than three notches of uplift, meaning its ratings would be no higher than A2. **Currently, Bank of America receives five and Citibank four notches of uplift from government support assumptions**, bringing their senior ratings to Aa3 and A1, respectively. Wells Fargo's unsupported BFSR of C+ (C plus) translates to an A2 rating on Moody's long-term debt scale; prior to the crisis a similarly rated, systemically important bank would typically have received no more than two notches of uplift, to Aa3. Currently, Wells Fargo's Aa2 senior rating benefits from three notches of uplift

Incentives in Banking



Incentives in Banking



Incentives

- Bankers assert that higher capital requirements will be costly:
  - Growth will suffer.
  - Borrowers will pay more.
- Just because bankers have an incentive to make these claims, doesn't necessarily mean that these claims are wrong.
- **BUT it does mean that we should be skeptical and demand that they support their claims with sound arguments.**

Subsidizing Banks

- It might be asserted that, although the tax code and implicit guarantees create subsidies, this is good because:
  - Banks pass these on to borrowers in the form of lower borrowing costs.
  - Lower borrowing costs stimulate growth.

Subsidizing Banks

Tax and Implicit Guarantee Subsidies

High Leverage

Systemic Risk

?

More, Cheaper and Better (???) Loans

Direct Subsidies

Better and Cheaper Loans

The Big Question : Are There Social Costs To Bank Equity?

Social Benefits	Social Costs
• Equity does not produce tax shield; debt does. • The government makes debt cheap through implicit guarantees. • Increasing equity mechanically reduces ROE (but reduces risk as well). Assuming that compensation is rigidly tied to ROE, this will reduce some people’s pay.	?

The Capital Regulation Debate

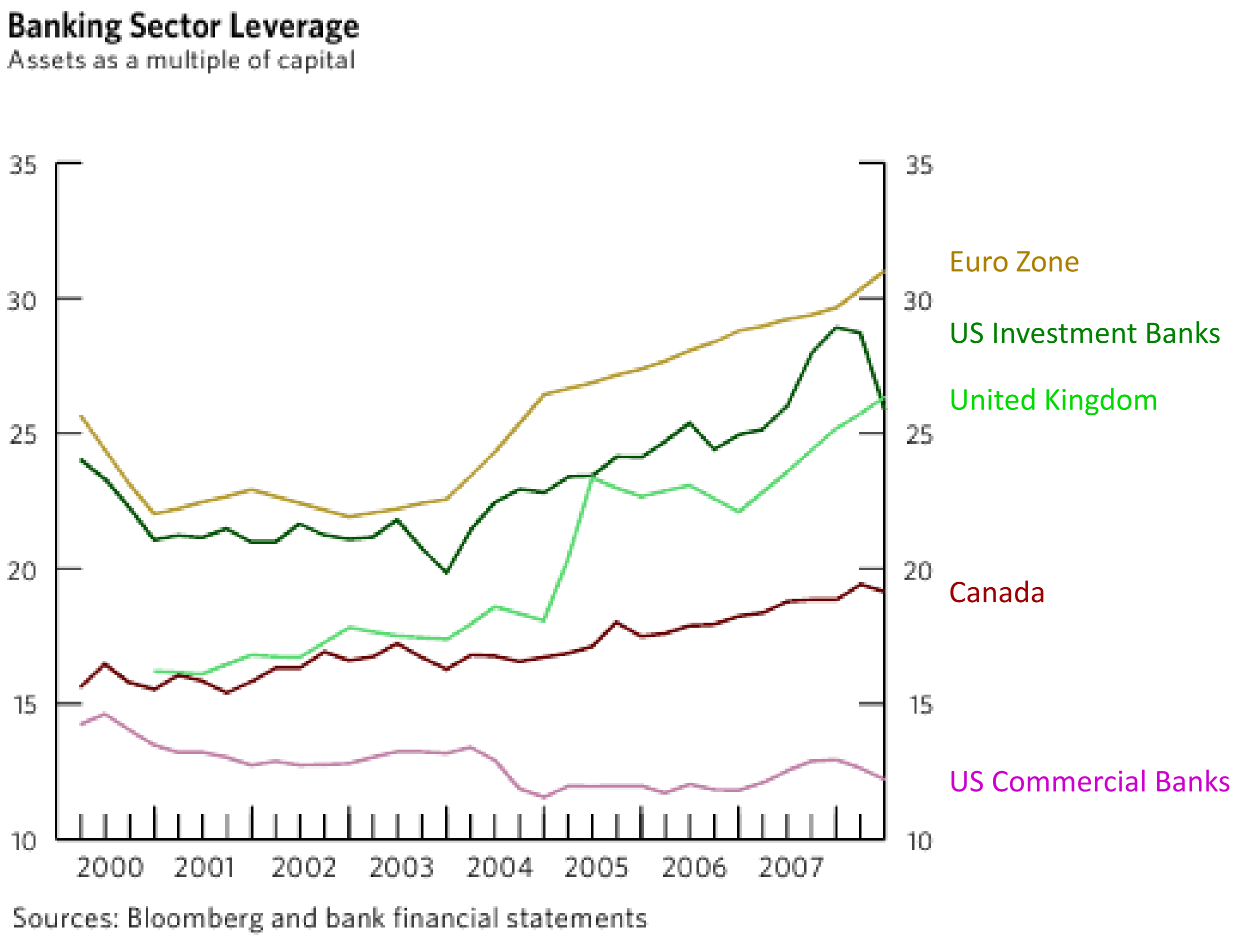
- The Financial Crisis of 2008 revealed the fragility of the world's financial infrastructure
  - Calls from regulators to increase bank capital req's
    - Basel III: from 2% equity to 4.5%-7% (of risk-weighted assets)
    - Swiss: 10% equity (of risk-weighted assets)

  - Cries from banks that increased capital req's will
    - Raise banks' cost of capital, and reduce lending capacity
    - Fewer loans, higher borrowing costs

How can we apply finance first principles to clarify the debate?

Banking Sector Leverage

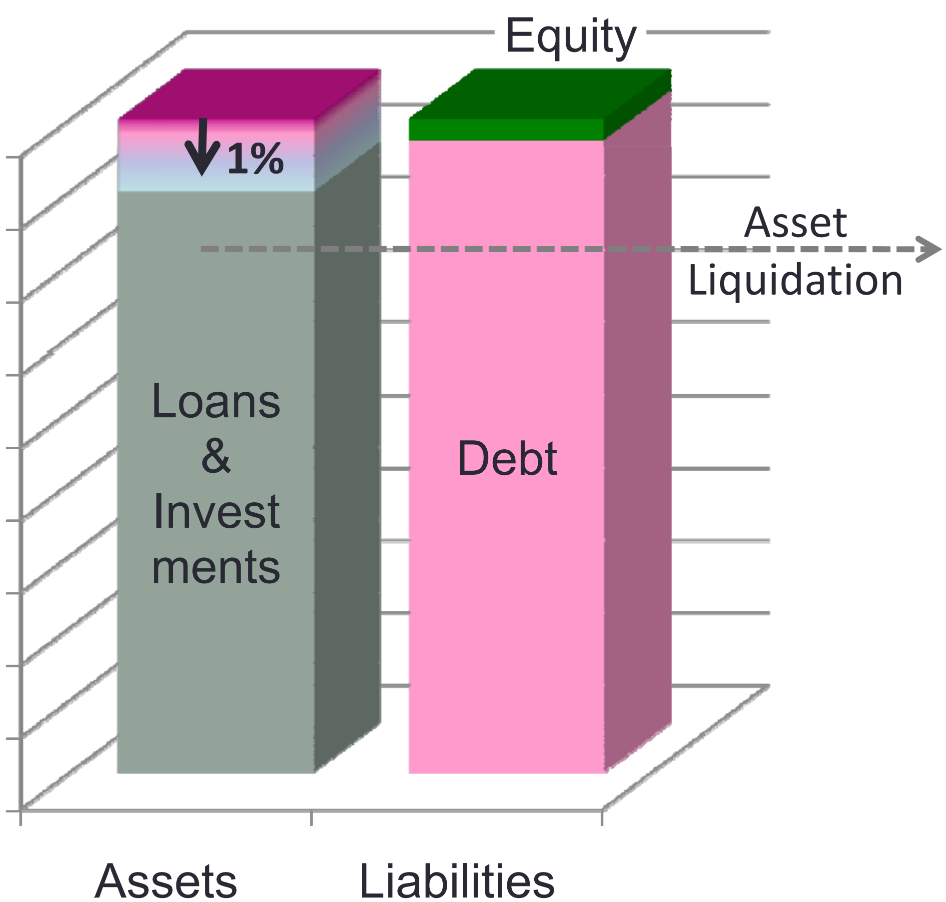
- Bank Assets approached 30x Capital



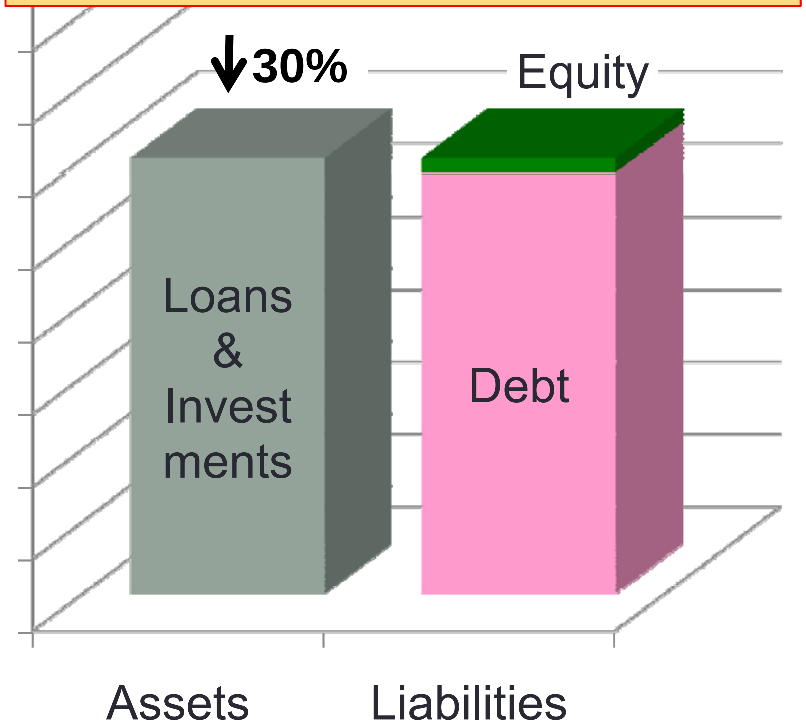
Deleveraging "Spirals"

- A 1% Asset Decline …

⇒ 30% Balance Sheet Contraction



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



New Banking Regulation

- Why not force banks to reduce leverage via increased capital requirements?
  - Decrease amplification of shocks
  - Mitigate systemic externalities
  - Reduce need for public intervention
  - Reduce incentives for excessive risk-taking
- But: Is equity “too expensive”?
  - Key concern of bankers and regulators
  - Many arguments put forth tend to be fallacious, irrelevant for public policy, or insufficiently supported

Confusion #1: "Crowding Out"

- Will increased capital requirements force banks to reduce lending and lead to a credit crunch?

  *"Demands to increase capital will require the UK's banking industry to **hold** an extra 600bn pounds of capital that might otherwise have been deployed as loans to businesses or households."*

  -- British Bankers' Association (July 2010)

  "More equity … would restrict banks 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 (Nov 2009)

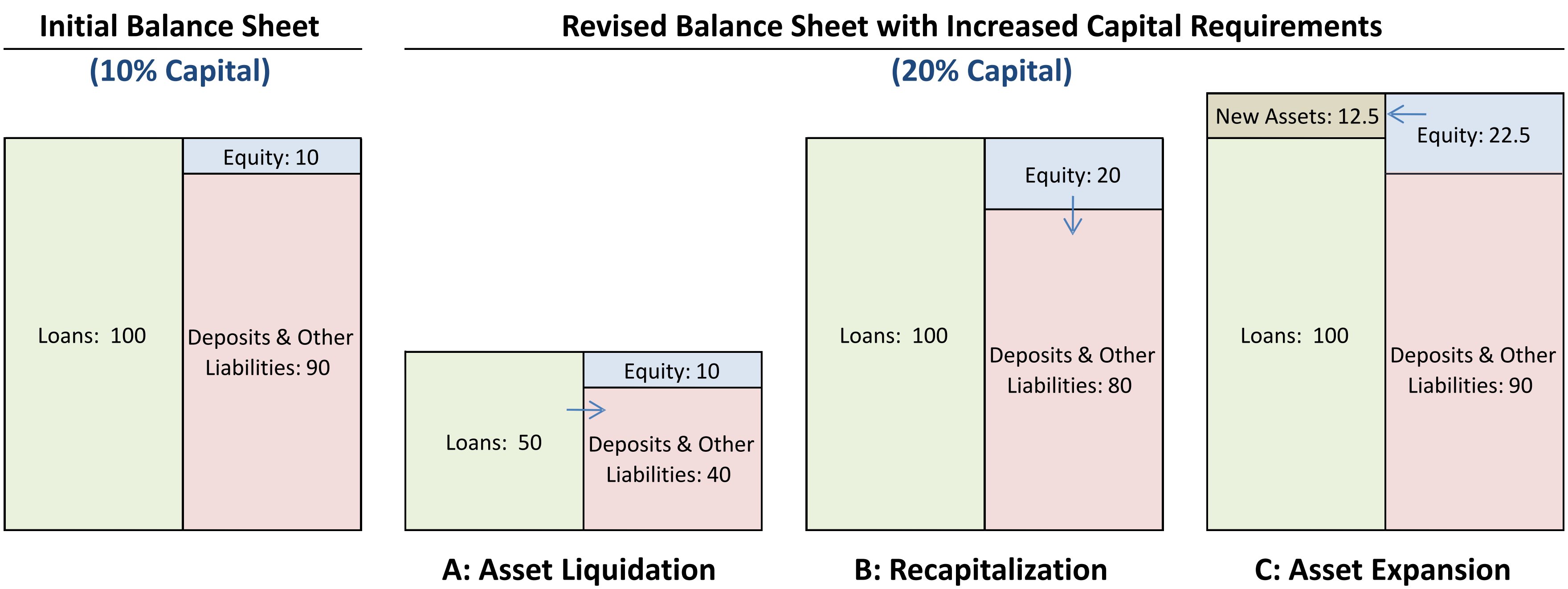
Confusion #1: "Crowding Out"

- Capital requirements are about bank *funding and leverage*, not asset holdings.

- We shouldn't confuse the two sides of the balance sheet. This is a question about capital structure.

Three Ways to Increase Capital

- Increased Capital Requirements need NOT force banks to reduce lending:



Confusion #2: "Lower ROE"

- Increased capital will lower banks' ROE

  "Banks… do not want to hold too much capital because by so doing they will lower the returns to equity holders."

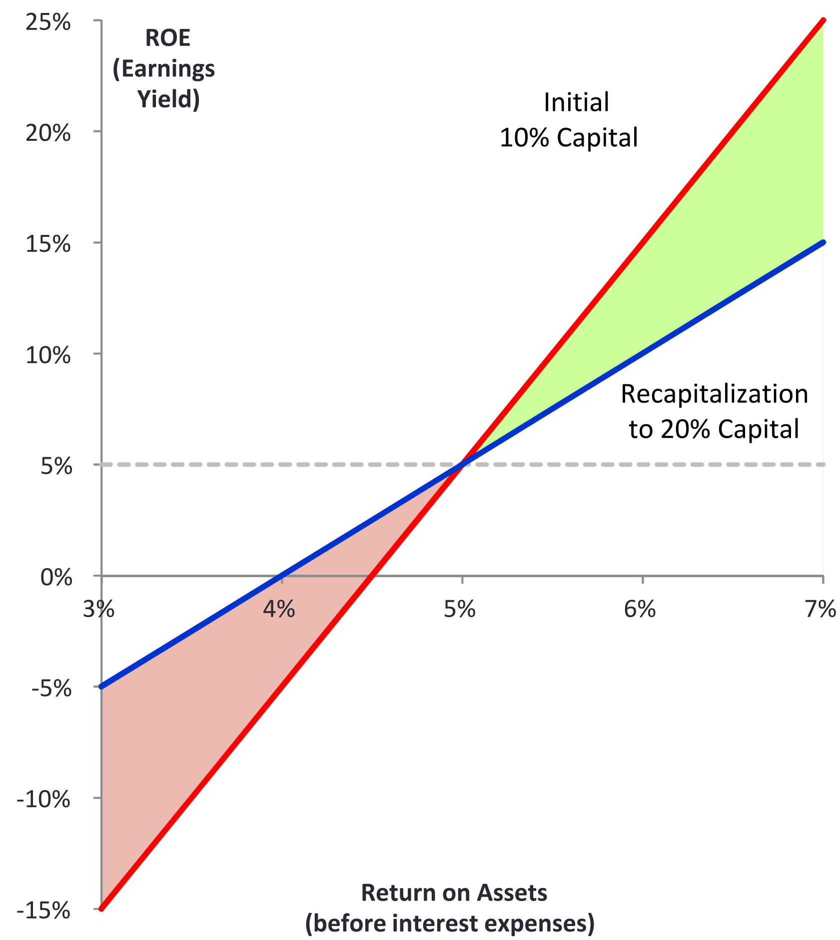
  (Mishkin and Aekin "*Financial Markets and Institutions*," 6th edition)

- This statement is partially true, BUT
  - Lower expected ROE does *not* reduce firm value
  - Lower expected ROE is appropriate given reduced risk

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



Performance Evaluation

- Two Asset Managers: Who deserves higher compensation?

Manager	#1	#2
Return	22%	20%
Strategy	Long -Short	Long Only
AUM	$100 m	$500m

- Ultimately, we care about risk-adjusted value added:

$$\text{Alpha x AUM} = (\text{ROE} - r_e) \times \text{Equity}$$

- Absent tax or bailout subsidies for debt, or other mispricing, this quantity is invariant to leverage

Confusion #3: "Equity is Expensive"

- The cost of equity capital is high

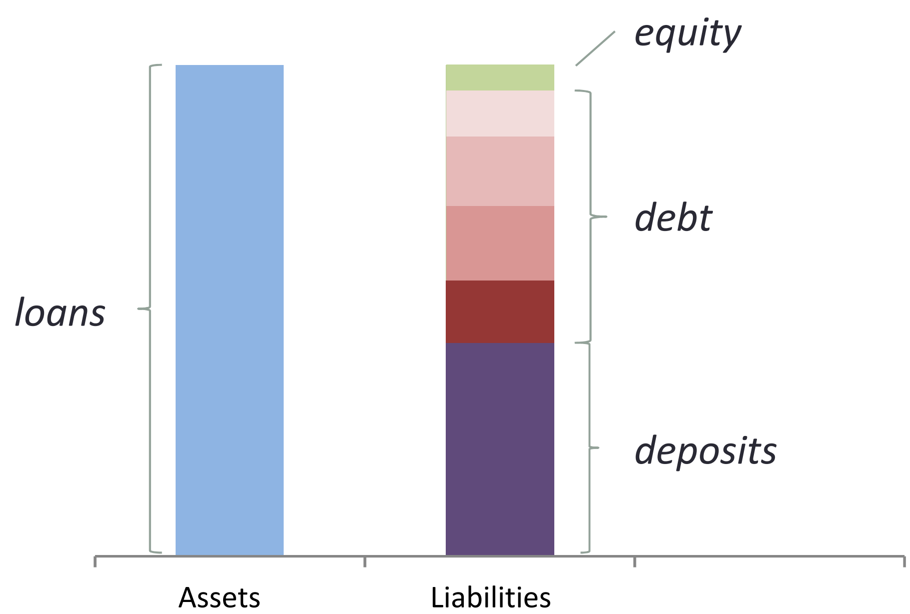
  "The problem with equity capital is that it is expensive … the suppliers of capital ask for high returns because their role is to bear the bulk of the risk"

  "The cost of equity is a step function"

- This argument ignores the fact that the cost of equity will decline with higher capital and reduced risk, offsetting its higher cost
  - Are equity investors irrational?
  - Are there "supply constraints"?

A Thought Experiment

- Bank Value Creation
  - Lending (assets)
  - Deposit taking, transaction services
- Bank Financing / Value Distribution
  - Debt
  - Minimal equity



- *What are the costs / benefits from separating these activities?*

What About Frictions?

- Key frictions favoring bank leverage:
  - Tax Benefits
  - Government Guarantees

- But neither friction is “real”!
  - These are not social benefits, but transfers from taxpayers
  - If bank these subsidies are beneficial, we can replace them with subsidies that do not promote bank fragility

- The key question for both researchers and policymakers is therefore:

  What friction exists, beyond these two, justifying high leverage for banks?

Key Question: Is High Leverage Inherent to Banking?

- Answer: NO!! It is an unnecessary evil.
- High leverage in banking entails a large social cost and virtually no social benefit.
- While some debt is part of "the business of banking," this does *not* necessitate high leverage.
- Banks can engage in all valuable activities, and be profitable, with much less leverage.
- Adding equity is not *socially* expensive; actually, it is "a bargain."

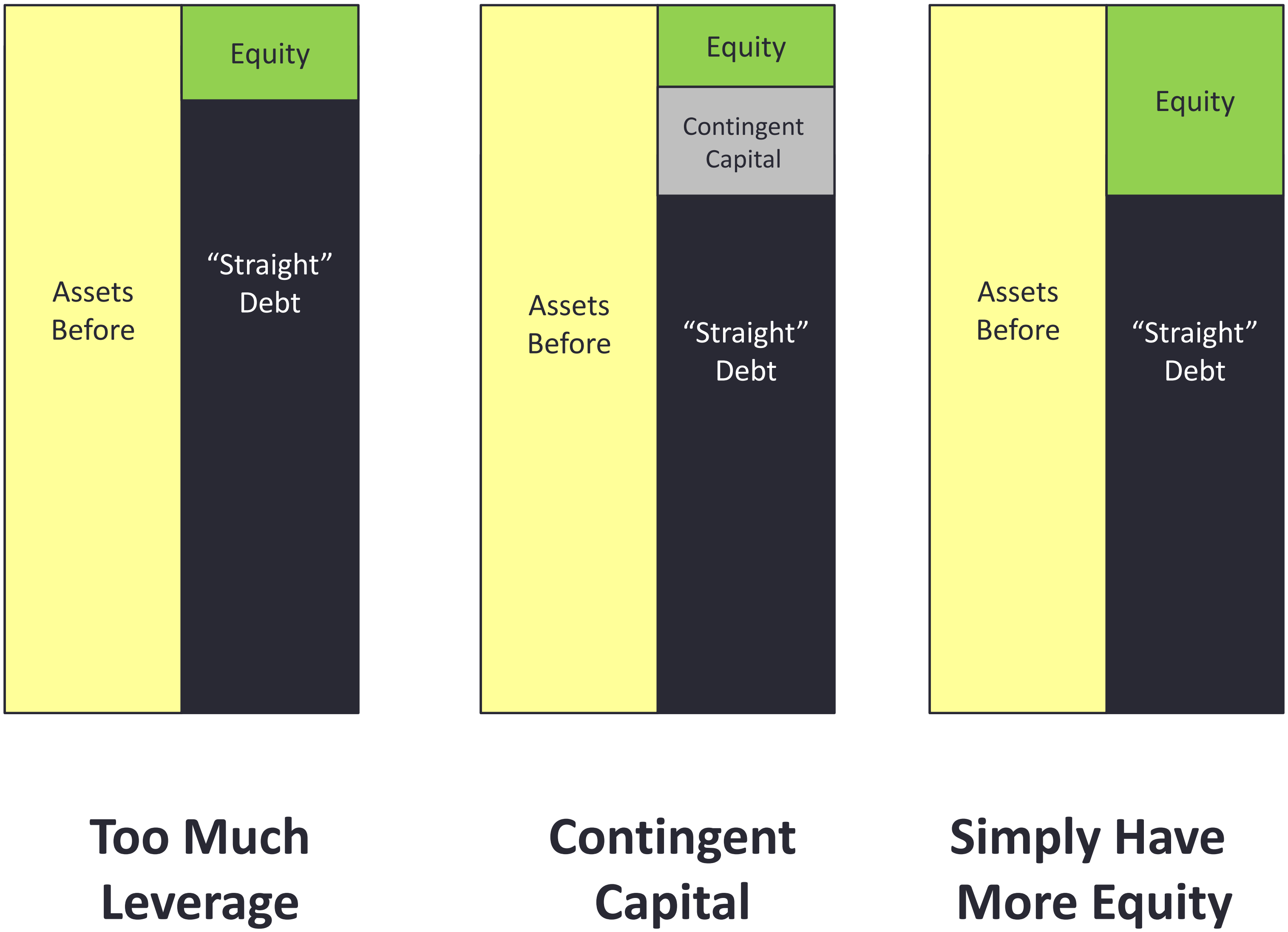
Equity Requirements vs. Expansion of Safety Net, however funded

- It is difficult if not impossible to price guarantees correctly on an ongoing basis.
- Guarantees always encourage excessive risk taking.
- Adding equity is akin to requiring “self insurance” by banks at market prices.
- Too much safety net is unnecessary and distortive.

Equity vs. "Loss Absorbing Debt"

- Idea: transform debt into equity "just when needed" and possibly ahead of government support.
- Numerous complications and potential problems.
  - Choice of trigger(s) and other terms. Complex pricing issues; can be de-stabilizing in crisis.
  - Potentially severe manipulation issues.
  - Bail-in puts unrealistic demands on regulators and raises political considerations if regulators must inflict "haircuts."
- Is "loss absorbing debt" better or "cheaper" than equity?
  - No!!! Fallacy based on yield considerations.
  - No social value: tax or "ROE fixation" invalid reasons.
  - Un-tested and unlikely to be reliable to prevent crisis, should be viewed as resolution mechanisms only.

Debt, Contingent Capital and Equity



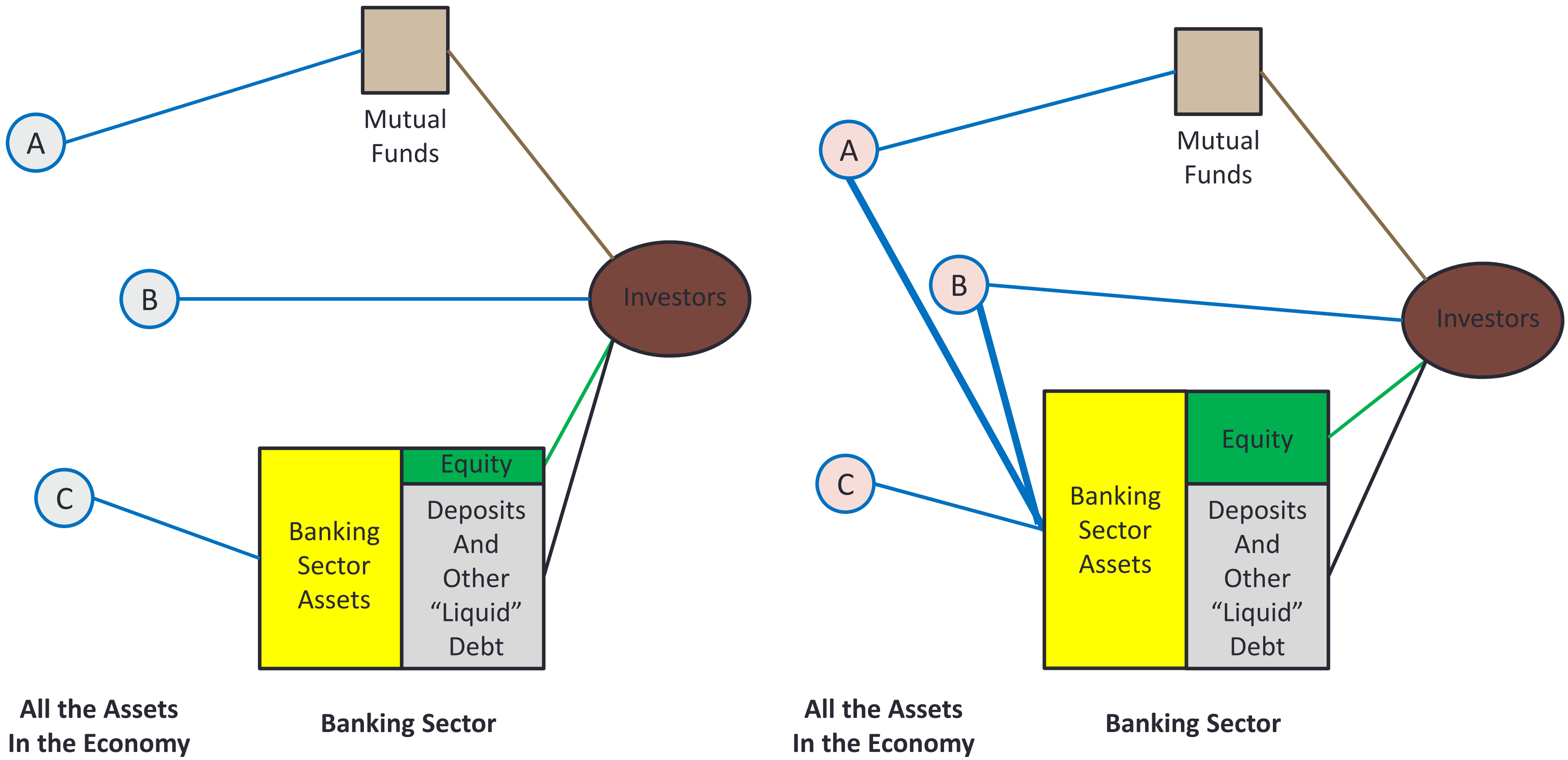
Myth: Debt is *NEEDED* to Provide "Discipline"

- Protected creditors do not invest in monitoring. Threat of run is not credible.
- No empirical evidence this works.
- Is debt unique or best way to solve governance problems? Is it worthwhile given the high costs of fragility and systemic risk and are there alternatives?
- How do non-banks solve governance problems without leverage?

What about "Issuance Costs?"

- Less leverage $\Rightarrow$
  - greater ability to rely on retained earnings, less need for issuance.
  - less price impact of any under-pricing.
- "Stigma" can be mitigated by regulators.
  - Equity payouts (dividend) restrictions.
  - Rights offerings.
- "Dilution" due to removal of subsidy not a social cost.

"Balance Sheet Expansion" and End Investors



- Productive opportunities and portfolios need not change.
- Eventual size of balance sheets to be determined "naturally."

More Equity Has *Benefits* beyond reducing systemic risk

- High leverage generates 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.

National Competitiveness Concerns (“Level Playing Field”) are Invalid

- Banks compete not just with other banks but also with other industries for scarce resources, including talents.

- Subsidies and externalities distort the market process that guides resources to their best use.

The "Unregulated Shadows"

- Many shadow banking entities had been/are sponsored by regulated banks.
  - Hedge funds less highly leveraged.

- Shadow banking developed under low requirements and at least in part reflects attempts to evade regulation.

- Enforcement issues are the challenge of regulation. Argument reflects defeatist, helpless approach

  - **Should we give up on tax collection because of fear of tax loopholes?**

Might There be Lending Contraction if Capital Requirements are Raised?

- Not clear! (Recall options expensing debate.)
- Some loans are bad and should not to be made!
- Possible issues:
  - ***Problematic risk weights system***.
  - Lower subsidies could mean some loans may become unprofitable at margin.
  - Existing high leverage may create "debt overhang."
- Lending spreads should not increase (except to the extent subsidies are removed).

Summary and Policy Recommendations

- Equity 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."
  - Concept of buffers is sensible.
- Quick and efficient transition: ban equity payouts for a period.

For paper and more see (search admati et al)

http://www.gsb.stanford.edu/news/research/admati.etal.html