Financial Stability: Choices and Consequences

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Federal Reserve Bank of Cleveland and Office of Financial Research
Financial Stability Conference
November 30, 2018

Are financial crises unpreventable?

Is the system working well as long as there is no crises?

“

My daughter came home from school one day and said, ‘daddy, what’s a financial crisis?’

And without trying to be funny, I said, ‘it’s the type of thing that happens every five, seven, ten years.’

Jamie Dimon, January 2010
(to Financial Crisis Inquiry Commission)

”

Natural Disaster? Sudden “Shock?” “100-year flood?”


ATF

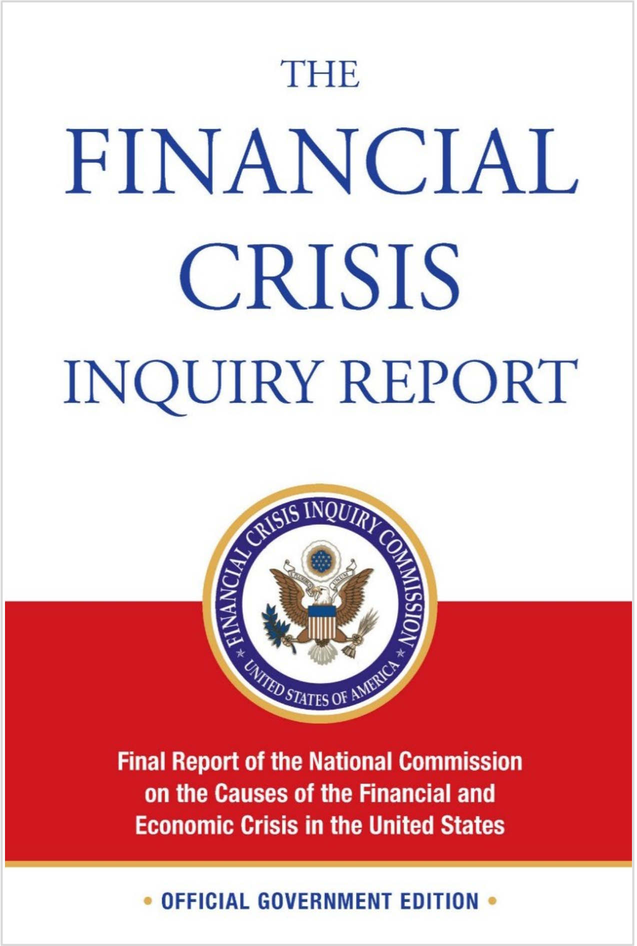

SPEED
LIMIT
55

U.S. vs Dutch Approach to Flood Risk

Hurricane Katrina, 2005

"The storms are perhaps man-caused and you can debate that, but the catastrophes because of the storms?
Uh, those are man-made."

Henk Ovink, Dutch Water Ambassador, "60 Minute," September 23, 2018



Delivered January 27, 2011

The financial crisis was avoidable

Widespread failures in financial regulation

Breakdown in corporate governance

Explosive and excessive borrowing.

Lack of transparency

Government was ill-prepared and responded inconsistently

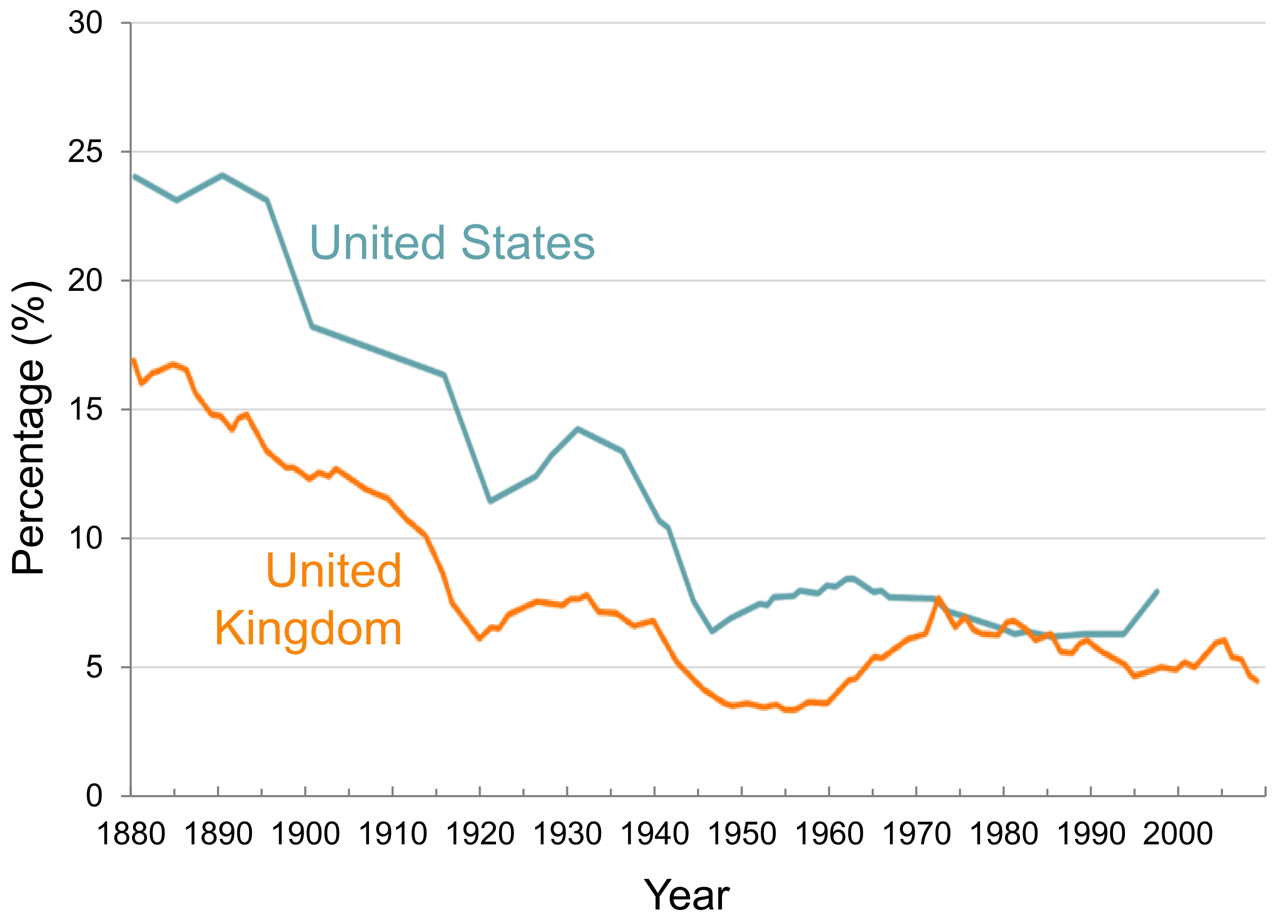
Widespread breaches in accountability at all levels.

The crisis reflected distorted incentives and failure of rules and governance.

Banks use inefficiently little equity funding

"Equity is Expensive" is based on flawed claims in a policy context.

Historical Equity/Asset Ratios in US and UK



Mid 19th century: 50% equity, unlimited liability

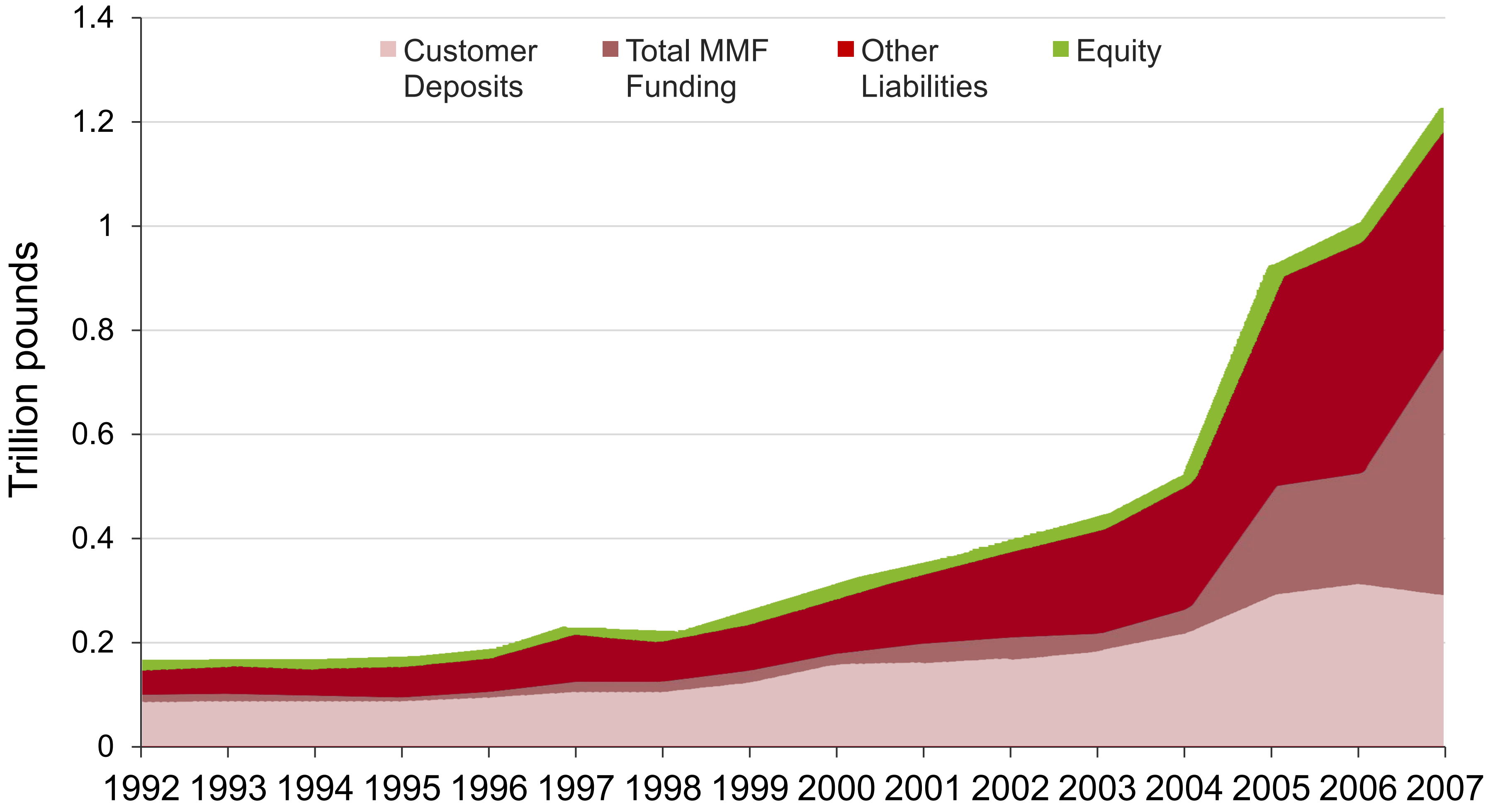
After 1940s, limited liability everywhere in US

“Safety nets” expand

Equity ratios decline

Alesandri and Haldane, 2009; US: Berger, A, Herring, R and Szegö, G (1995). UK: Sheppard, D.K (1971), BBA, published accounts and Bank of England calculations.

Total Liabilities and Equity of Barclays 1992-07



Hyun Song Shin, "Global Banking Glut and Loan Risk Premium," IMF Annual Research Conference, November 10-11, 2011; Figure 22.

JPMorgan Chase Balance Sheet

Dec. 31, 2011 (in Billions of dollars)

The Mantra in Banking: “Equity is Expensive”

Expensive to whom?

Why?

Are banks so special and different that none of what we know about the economics of corporate funding applies?

Bank Debt is Special by Providing “Liquidity”

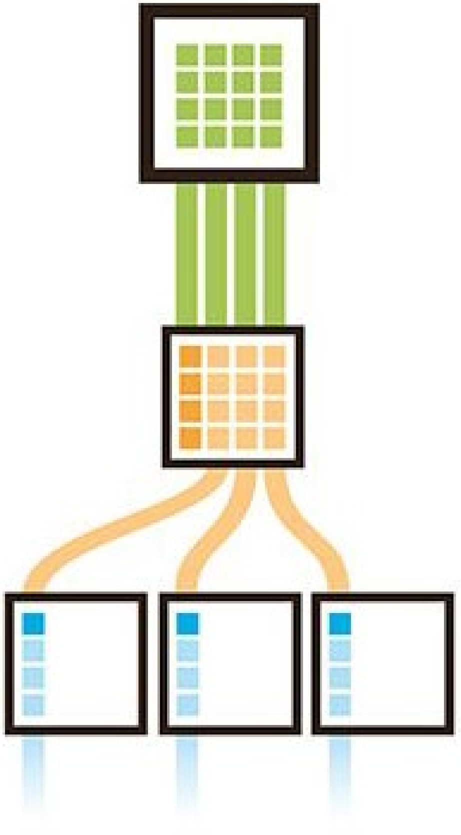
Does it follow that it is efficient for banks to have little equity? NO!!!

» Bank equity is subject to the same economic forces as other corporations

» Default destroys liquidity benefits

» Safer banks have fewer runs.

Do Banks “Create” Money by Lending?



The liquidity benefits of deposit and other debt affect the terms of “liquid debt”

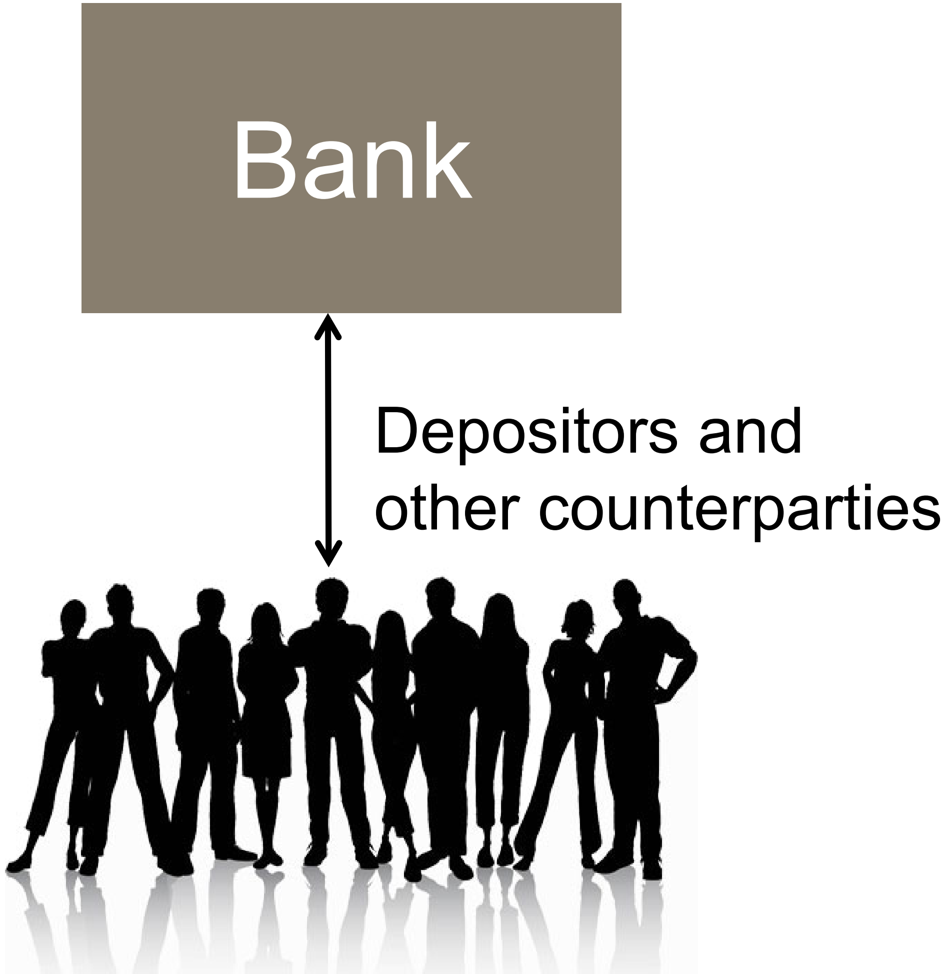
Trust in bank safety (or in safety nets) also matters

Permitting banks to “create” deposits by lending, or using the term “money” for liquid debt does not change the fact that liquid debt is a liability

Economists’ misleading half truths have their roots in the mystique of “money”

James Tobin, “Commercial Banks as Creators of ‘Money;” 1967

Free Markets Do Not Produce Efficient Outcome



Fragmented lenders.

- Costly (or impossible) coordination
- Free rider problems

Contracts work poorly to create commitments

Banks are inherently *inefficient*

Safety nets exacerbated conflicts of interest

Regulation can help address

Reducing collateral harm is extra benefit

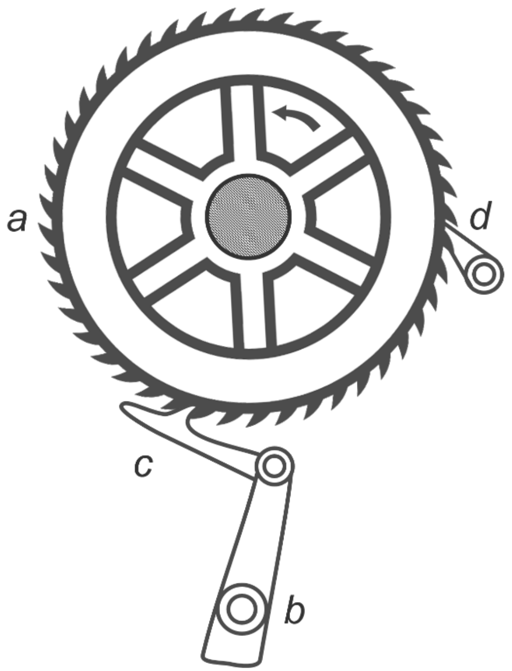
“Bank Leverage, Welfare and Regulation,” Admati and Hellwig, 2019, forthcoming

“The Maturity Rat Race:” Incentives to Shorten Maturities

Markus Brunnermeier and Martin Oehmke, *Journal of Finance*, 2013

The Leverage Ratchet Effect

Admati, DeMarzo, Hellwig and Pfleiderer, *Journal of Finance, 2018*

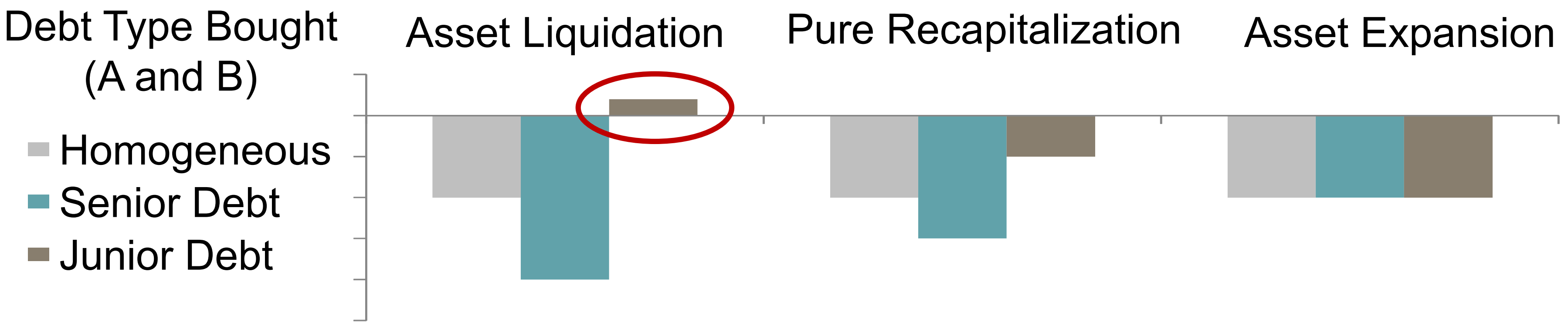


Debt contracts lead to self-reinforcing distortions on both sides of the balance sheet.

Leverage adjustments are history-dependent, asymmetric

Biased towards asset sales in leverage reduction

Shareholders' Preferences For Leverage Reduction

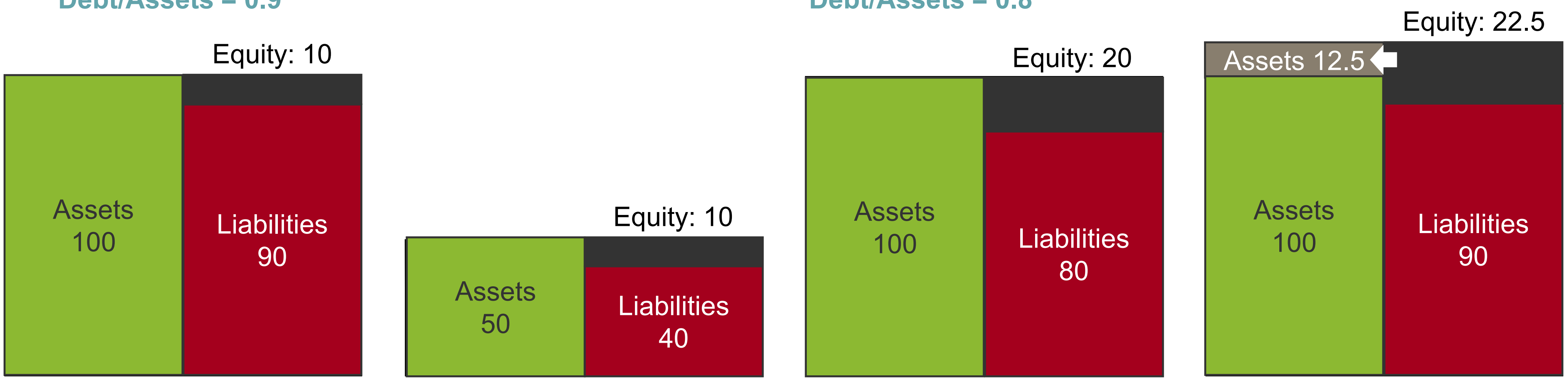


Initial Balance Sheet

Debt/Assets = 0.9

Balance Sheets with Reduced Leverage (lower debt to assets)

Debt/Assets = 0.8



A: Asset Liquidation **B: Pure Recapitalization** **C: Asset Expansion**

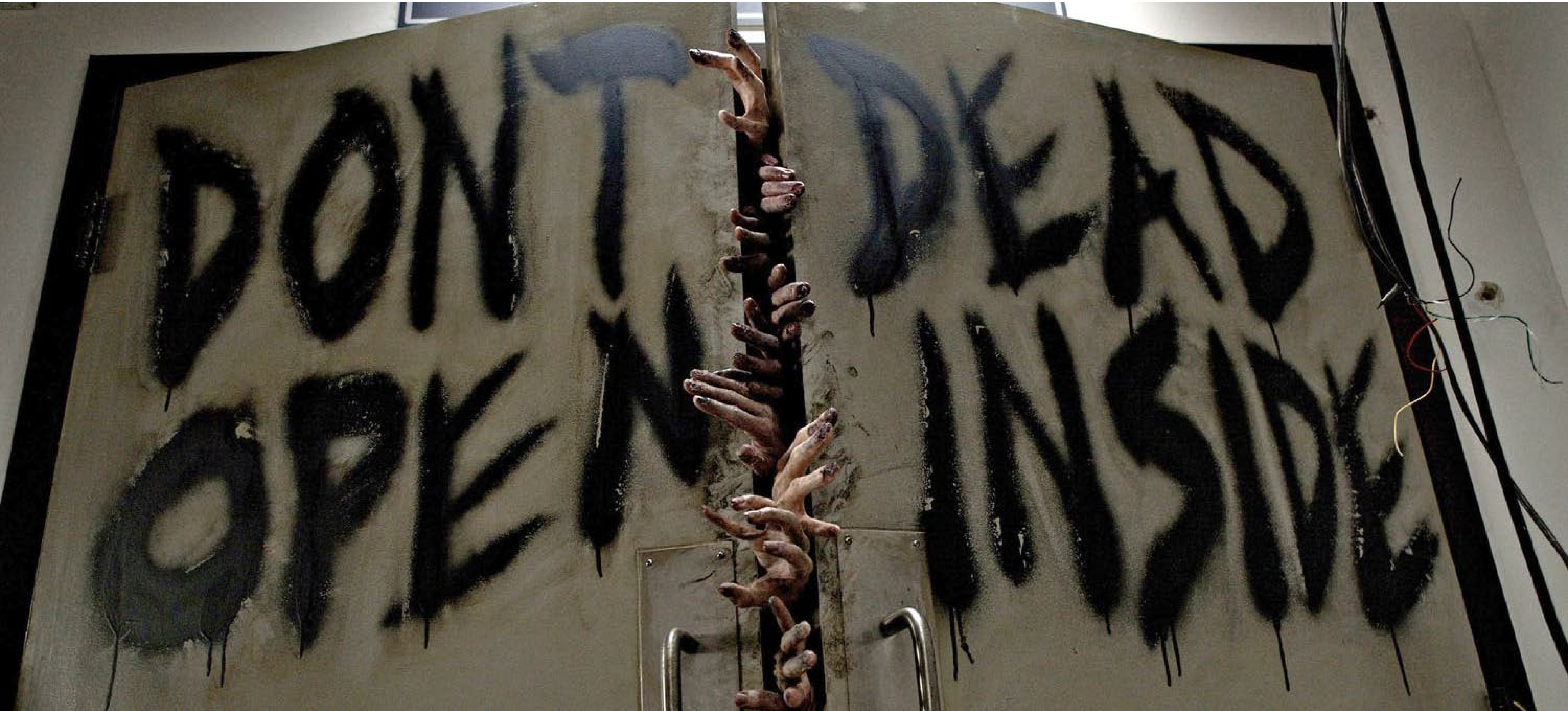
Banks vs Non Bank Corporations Leverage

Non Banks (without regulation)	Banks or BHC (with "Capital Regulation")
Have risky, long term, illiquid assets	Ditto
Can use retained earnings (or new shares) to invest and grow	Ditto
Rarely maintain less than 30% equity/assets, often much more	Rarely have more than 6% equity/assets, sometimes less
Sometimes don't make payouts to shareholders for extended periods (Google, Berkshire Hathaway).	Make payouts to shareholders if pass "stress tests" (unless indebted to government)

Borrowing and Downside Risk

Heavily Indebted Non Banks (no safety net)	Heavily Indebted Banks (many supports)
May become distressed/insolvent	Ditto
Inefficient decisions	Ditto
May default or file for bankruptcy ✓ Shareholders are wiped out ✓ Lenders are paid by seniority ✓ Assets are depleted	May remain insolvent ✓ Depositors maintain balances ✓ Secured lenders are protected ✓ Access to Fed, Bailouts in crisis
Lenders try to protect themselves when lending, hard to borrow.	Can keep finding lenders despite opacity, risk, and extreme debt.

Zombie (Insolvent) Borrowers: Opaque and Dysfunctional



Zombie (Insolvent) Borrowers: Opaque and Dysfunctional

Unable to raise equity

“Gamble for resurrection”

Anxious to take cash out

Avoid equity

Sell assets, even at fire-sale prices

Underinvest in worthy “boring” assets

Try to hide insolvency in disclosures

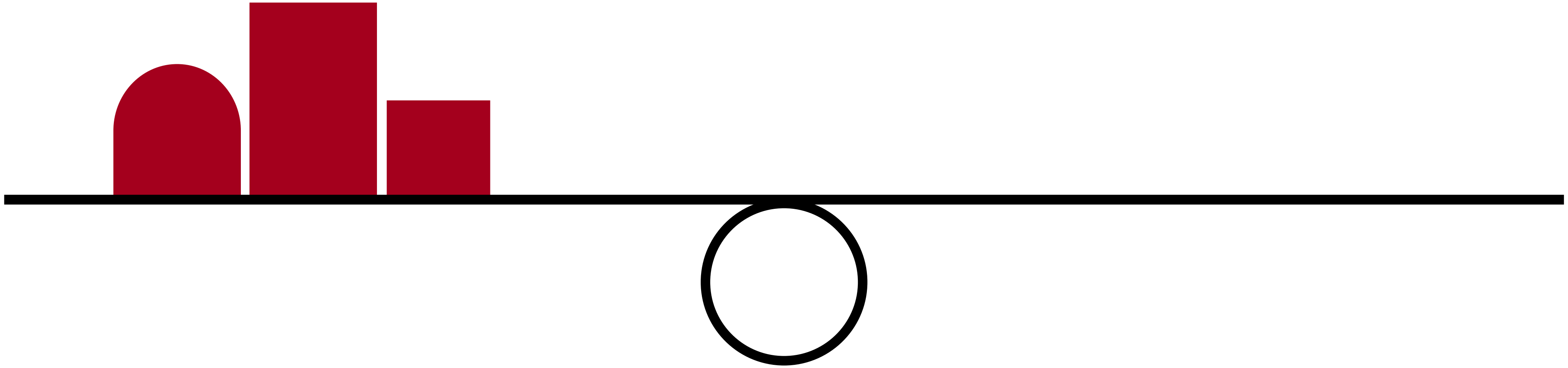
Lobby policymakers for supports

Key Implications for Banking

Intense distortions…	… make regulations useful
Fragmented, passive creditors	Replace missing commitments
Excessive guarantees	Protect the public
Broad “safe harbor” exemptions	To avoid fire sales and loan restrictions, must manage adjustments. **Key tools: profit retention, equity issuance**
Tax subsidy of corporate debt	

Private Considerations (Mostly Bank Managers)

Benefits of Debt are Private to Few



More Debt

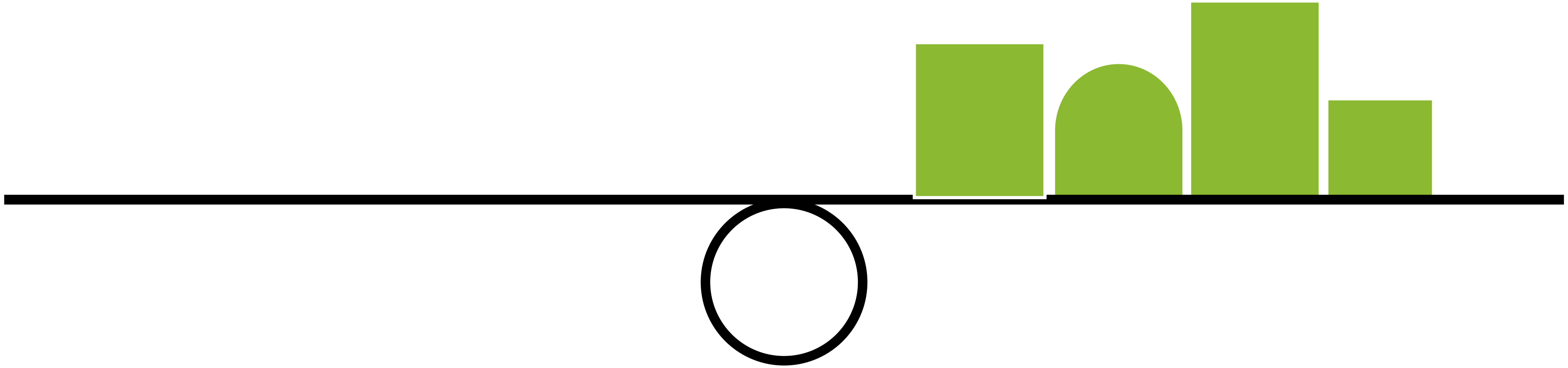
~~Others bear downside risk~~

~~Tax subsidies~~

~~ROE-based bonuses~~

Too Little Equity in Banking is Socially Expensive!

Excessive fragility and distortions benefit few



More Debt

~~Others bear downside risk~~

~~Tax subsidies~~

~~ROE-based bonuses~~

More Equity

Reduces risk of runs and liquidity problems

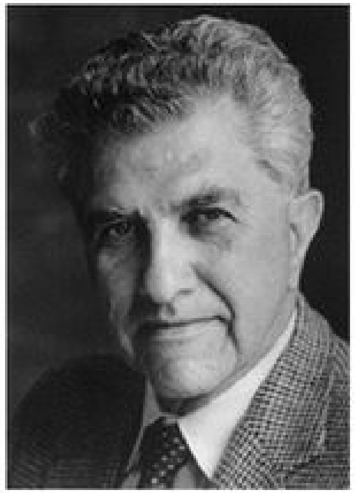
Reduces risk and cost of insolvencies

Reduces distortions in investments

Reduces distortive subsidies

Modigliani and Miller (M&M) and Banking

A Six-Decade-Long Debate



The main message of M&M (1958) is <u>NOT</u> that the funding mix of *any* firm, is irrelevant.

The assumptions for “irrelevancy” are false in reality.

The key conclusion:

Rearranging how risk is allocated does not **by itself** change the cost of funding

“

From Banking Textbook

Bank capital is costly because, the higher it is, the lower will be the return on equity for a given return on assets.

Frederic S. Mishkin, 2013, The Economics of Money, Banking and Financial Markets, 3rd Edition, p. 227

”

From B … Textbook

FALSE

Bank ca … use,
the … er will
be t … y for a
given … ssets.

Frederic S. Mishkin, 2013, The Economics of Money, Banking and Financial Markets, 3rd Edition, p. 227

Equity, Risk, and Return on Equity (ROE)

More equity:

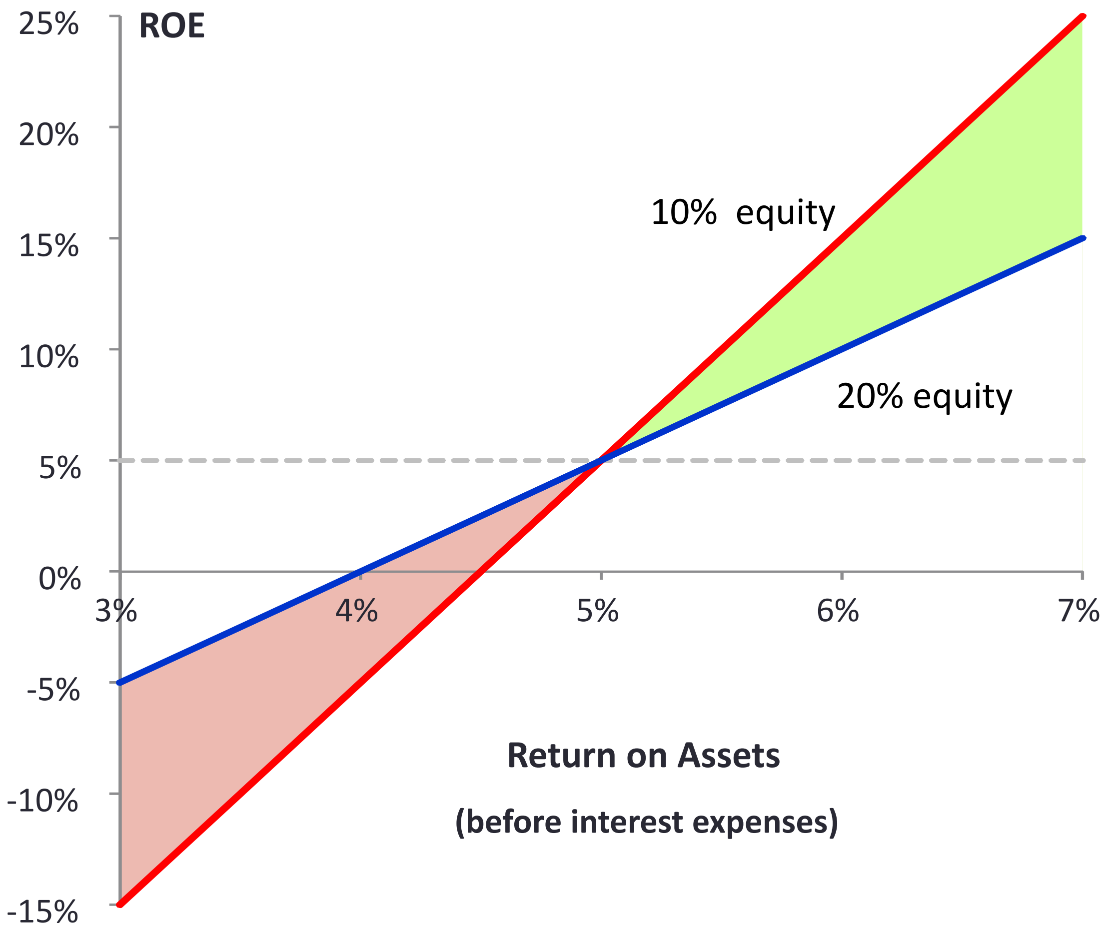
Higher ROE on upside

Lower ROE in downside

Less risk for equity

Lower required ROE.

Chasing returns by taking risk or excessive leverage may harm shareholders!



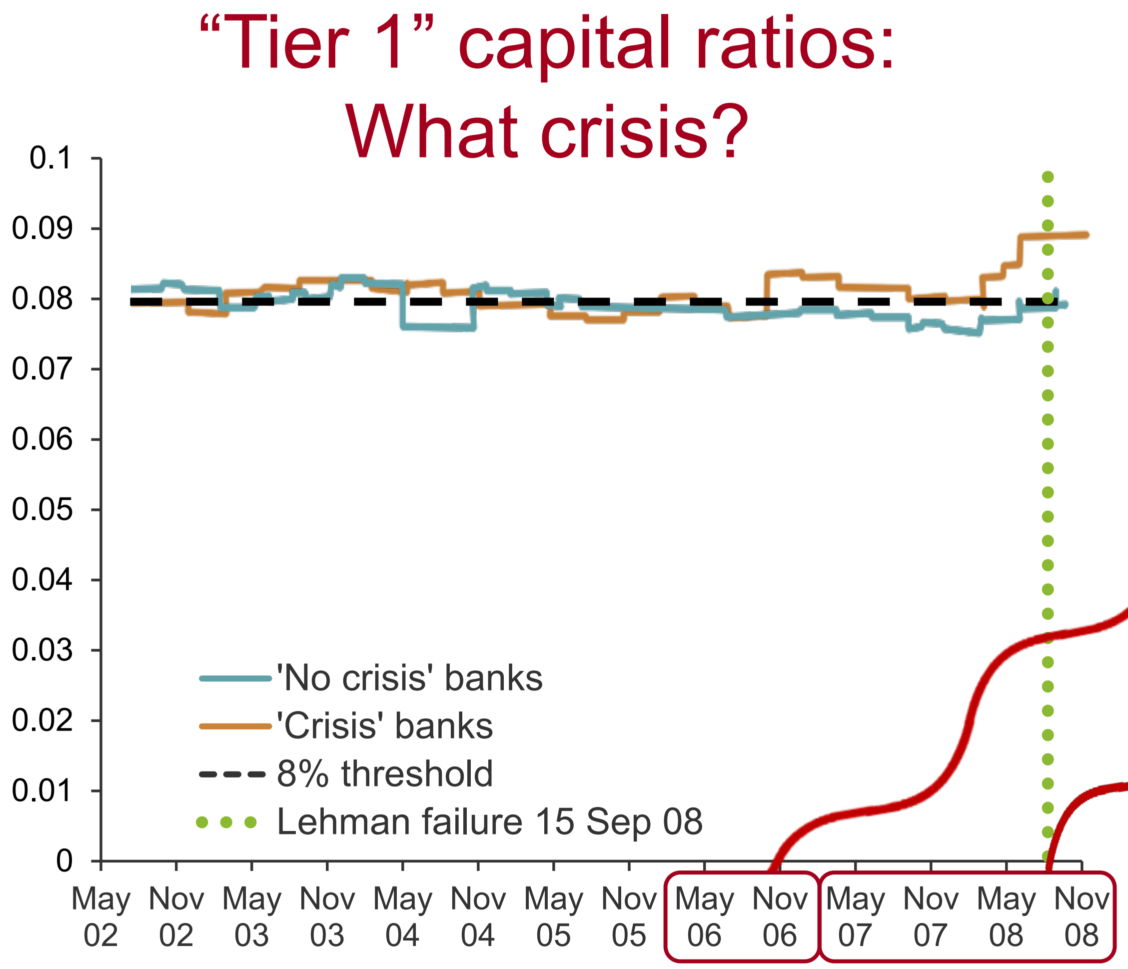
Basel II: A spectacular failure

Basel III: An inadequate tweak,

“a well-intended illusion”

Thomas Hoenig, April 2013

Regulatory Measures are Uninformative

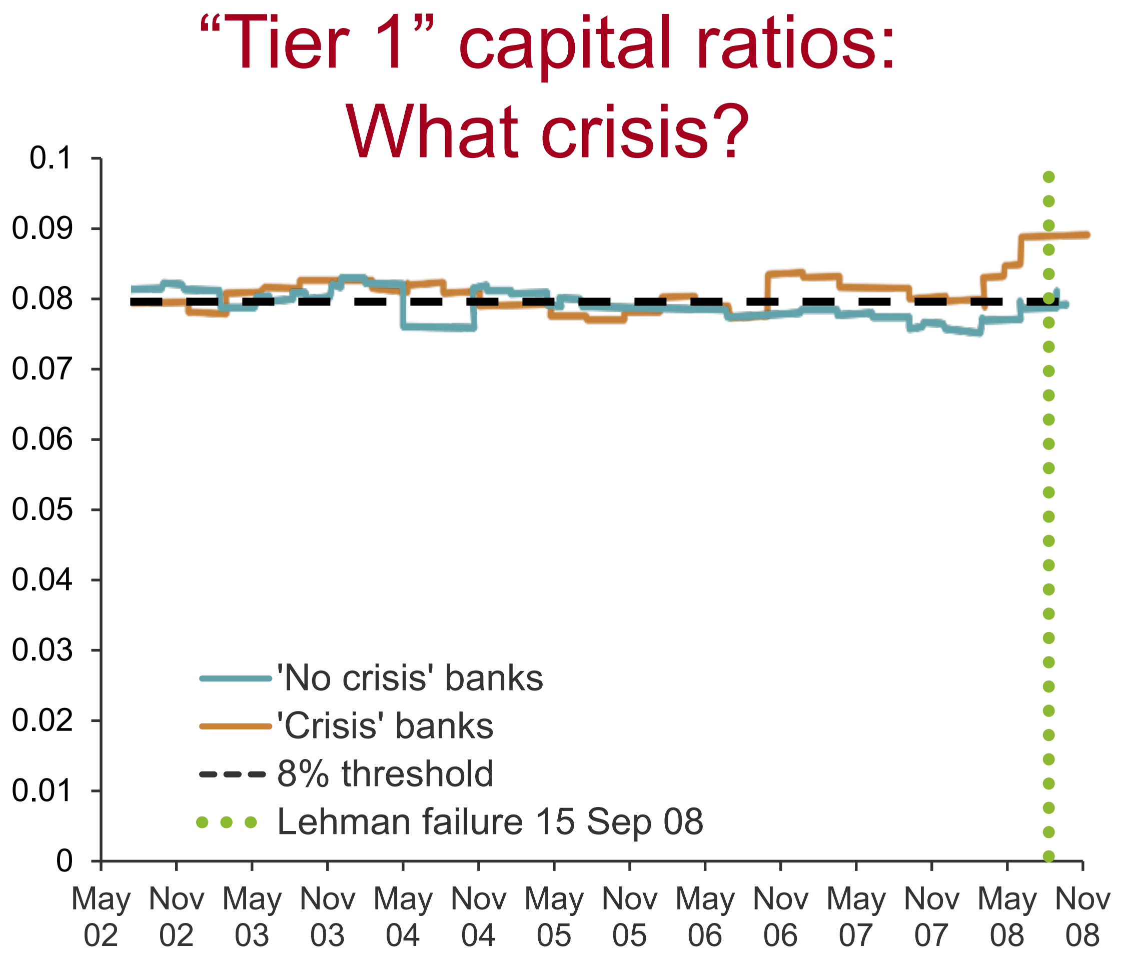


2006 was a great year in banking

Between summer 2007 and end of 2008, the largest 19 US institutions paid out nearly $80B to shareholders.

From: Andrew Haldane, “Capital Discipline,” January 2011)

Regulatory Measures are Uninformative



Largest 19 institutions received ≈$160B under TARP (bailouts).

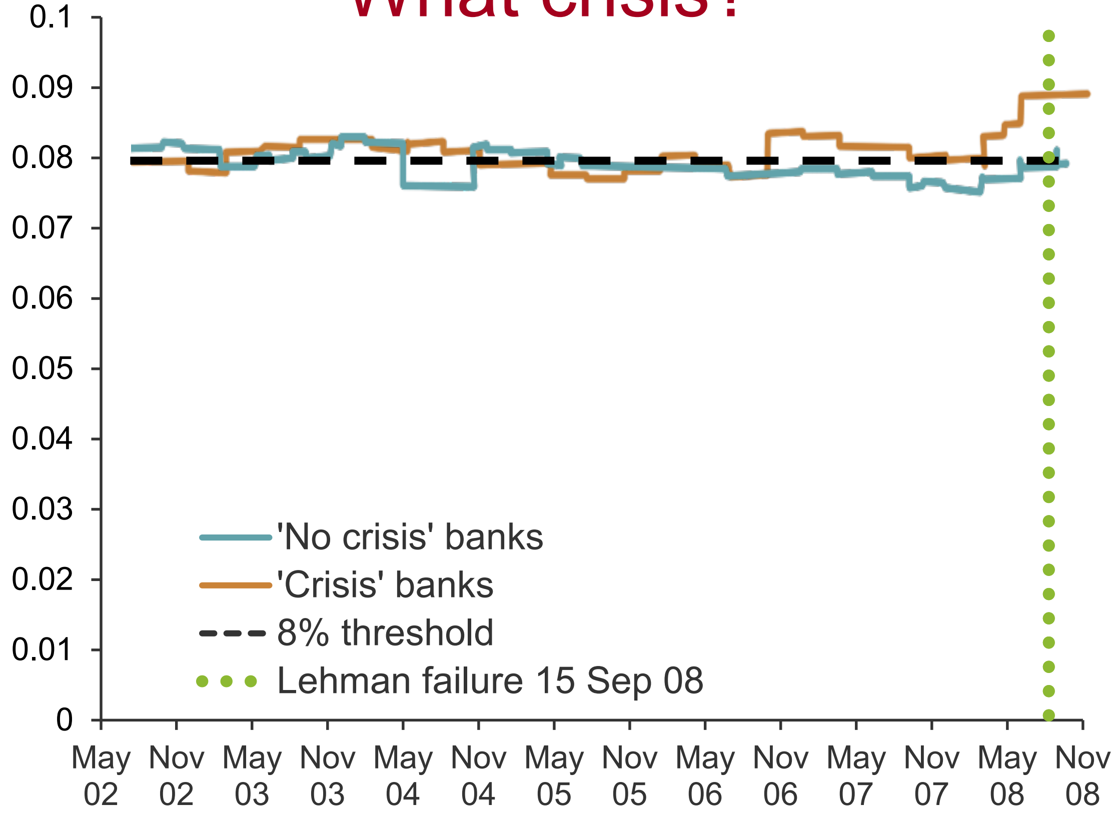
Fed committed $7.7 trillions in below-market loans to 407 banks.

“Tier 2 capital” proved useless to absorb losses (except Lehman).

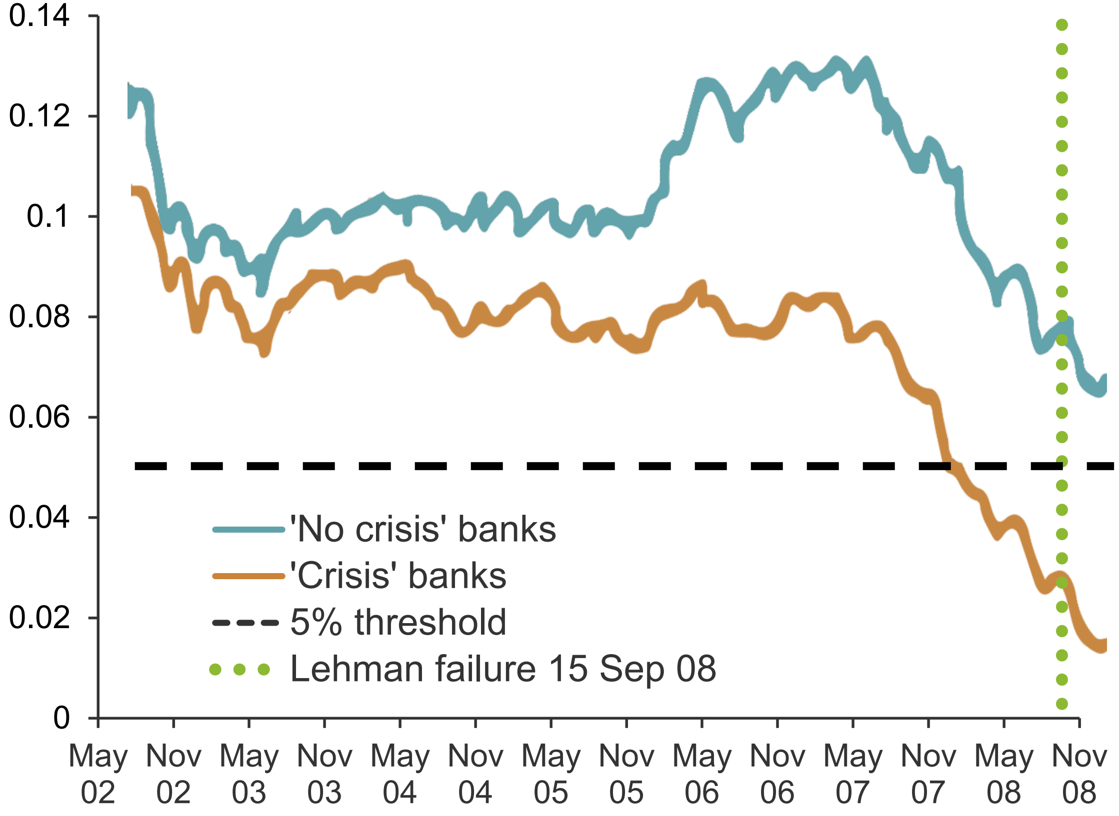
From: Andrew Haldane, “Capital Discipline,” January 2011)

Regulatory Measures are Uninformative

“Tier 1” capital ratios: What crisis?



Market-based measures



From: Andrew Haldane, “Capital Discipline,” January 2011)

Basel "Capital Regulation"

(No proper justification)

Basel II (pre-crisis)	Basel III (reformed rules)
"Common equity Tier 1 capital" to risk-weighted assets: **2%**	"Common Equity Tier 1 Capital" to risk-weighted assets (RWA): **4.5%** » Plus 2.5% conservation buffer » Plus 1.5% "Tier 1" to RWA Leverage Ratio: "Tier 1" to total » Basel III: **3%** » US: BHC: **5%**, insured banks: **6%**
"Tier 2" Loss-absorbing debt	"Tier 2"/TLAC ("loss-absorbing debt").

“Tripling almost nothing does not give one very much.”

Martin Wolf, “Basel III: The Mouse that Didn’t Roar,”
Financial Times, Sep 13, 2010

“If **at least 15%** of banks’ total assets were funded by equity, the social benefits would be substantial. And the social costs would be minimal, if any.

Temporarily restricting bank dividends is an obvious place to start.”

Anat R. Admati, Franklin Allen, Richard Brealey, Michael Brennan, Markus K. Brunnermeier, Arnoud Boot, John H. Cochrane, Peter M. DeMarzo, Eugene F. Fama, Michael Fishman, Charles Goodhart , Martin F. Hellwig, Hayne Leland, Stewart C. Myers, Paul Pfleiderer, Jean Charles Rochet, Stephen A. Ross, William F. Sharpe, Chester S. Spatt, Anjan Thakor

Financial Times, November 9, 2010

“The omission of off-balance sheet items in the standard measures implies a substantial underestimation of bank leverage

Off-balance sheet funding is higher now than in 2007

“Leverage, a Broader View,” Singh and Alam, IMF, March 2018”

Risk Weights Undermine the Purpose of Regulation

Complex; illusion of “science,” ignore interest rate risk, and correlation of “tail events.”

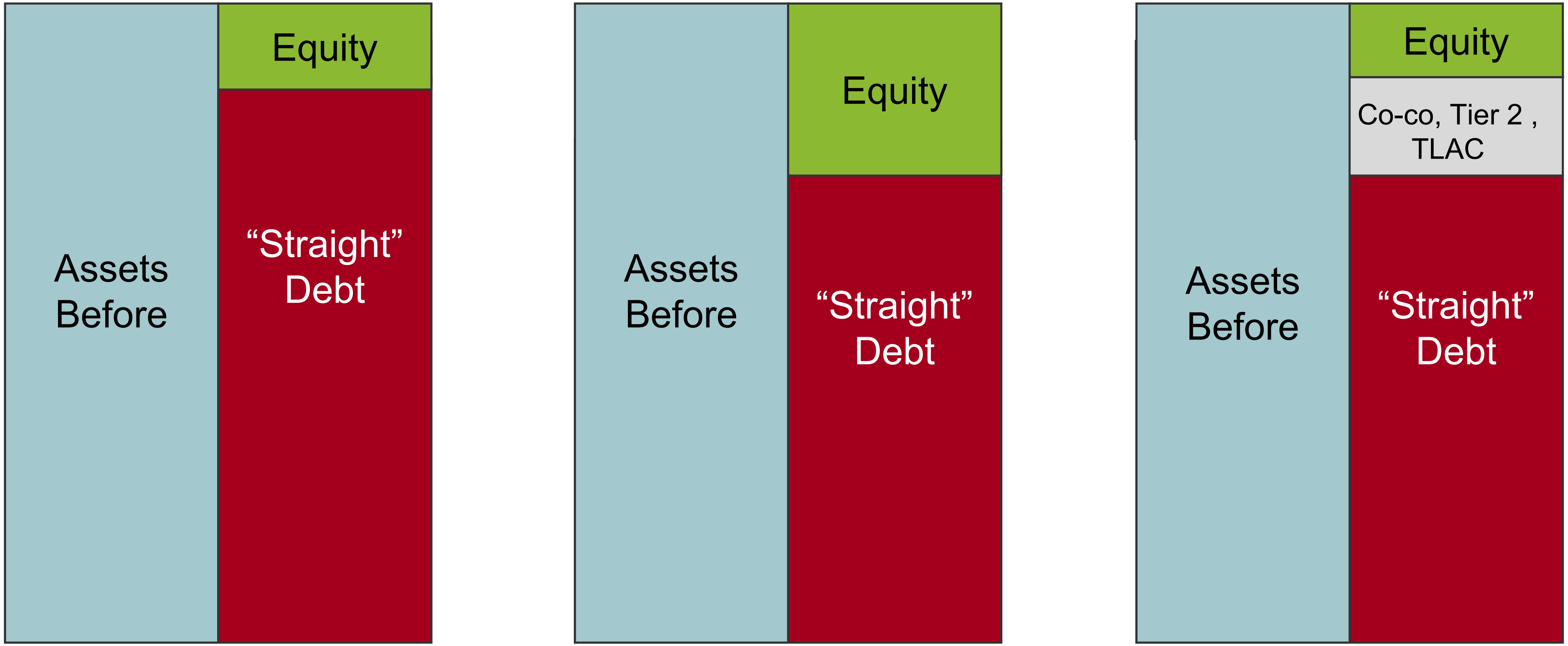
Manipulable, distortive, and political

» E.g., Favor government and traded assets over business lending

Low equity levels, intensify distorted incentives, used to “economize” on equity

» Add fragility, interconnectedness, systemic risk

“Anything but Equity” Why?



Too Little Equity

Much Safer

Will it Work?
Why do we need it?

- Government (Taxpayers)
- Shareholders
- Other lenders (TLAC, Co-Cos, Bail-in Debt)
- Short-term secured lenders
- Depositors (unsecured, insured)

"Too Big To Fail remains with us."

Tom Hoenig (FDIC)
February 2018

“

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

“Running on Empty,” John Cochrane, *Wall Street Journal*, March 1, 2013

”

Well-designed leverage regulation:
Not a silver bullet, but best bargain in regulation

Why live dangerously and waste resources when there are alternatives?

Why not get more stability and fewer distortions at bargain cost?

Bank Stress Tests: False Reassurances

Inappropriate “pass” benchmarks

Numerous strong assumptions

Cannot predict contagion dynamics

» Common and correlated exposures (OFR, 2016)

» Run dynamics

» Derivatives and CCPs (OFR, 2015)

Very costly!!

“[The suggestion that the largest bank holding companies are strongly capitalized and would be able to lend to households and businesses during a severe recession] is a comically absurd conclusion… And the fact that that assertion continues to be made has to undercut whatever credibility one would otherwise attach to the very substantial efforts that have been made to strengthen financial regulation.”

Lawrence Summers, September 8, 2018

Large Banks are Opaque

"Banking remains too much of a black box... for many investors scarcely an investible proposition."

Andrew Haldane, BoE, Nov 2011

"Investors can't understand the nature and quality of the assets and liabilities... The disclosure obfuscates more than it informs."

Kevin Warsh, Jan. 2013

"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, Jan. 2014

A Market-Based Stress test: Raise New Equity!!

Inability to raise equity, or significant dilution, are flags

Weak business model

Dependence on subsidies

Too opaque

“Uninvestible”

Why Not?
Confusion, flawed narratives and claims

“Banks are not special, except for what they are allowed to get away with…. The model is intellectually bankrupt. The reason that this is not more widely accepted is that bankers are so influential and the economics are so widely misunderstood.”

“Why Bankers are Intellectually Naked,” Martin Wolf, *Financial Times*, March 17, 2013

“ Because we have substantial self-funding with consumer deposits, we don’t have a lot of debt… ”

John Stumpf, Wells Fargo Bank CEO, 2013

"Because we have sub… elf- f… co… sits, we d… a lot of debt…

HUH??

John Stumpf, Wells Fargo Bank CEO, 2013"

“

US banks forced to hold $68 billion in extra capital

Financial Times April 8, 2014

”

“

US banks forced to hold $68 billion in extra cash.

Telegraph. April 8, 2014

”

“

US banks … old $68
billi… sh.

…, 2014

”

Every dollar of capital is one
less dollar working in the economy.

Steve Bartlett, Financial Services Roundtable, Sept 2010

“

Every d… is one
less doll… e economy.

Steve Bartlett, Financ… Roundtable, Sept 2010

”

“

This rule will keep billions out of the Economy

Tim Pawlenty, Financial Services Roundtable, July 2015

”

This ... ep billions ... conomy

Tim Pawlenty, Financi... Roundtable, July 2015

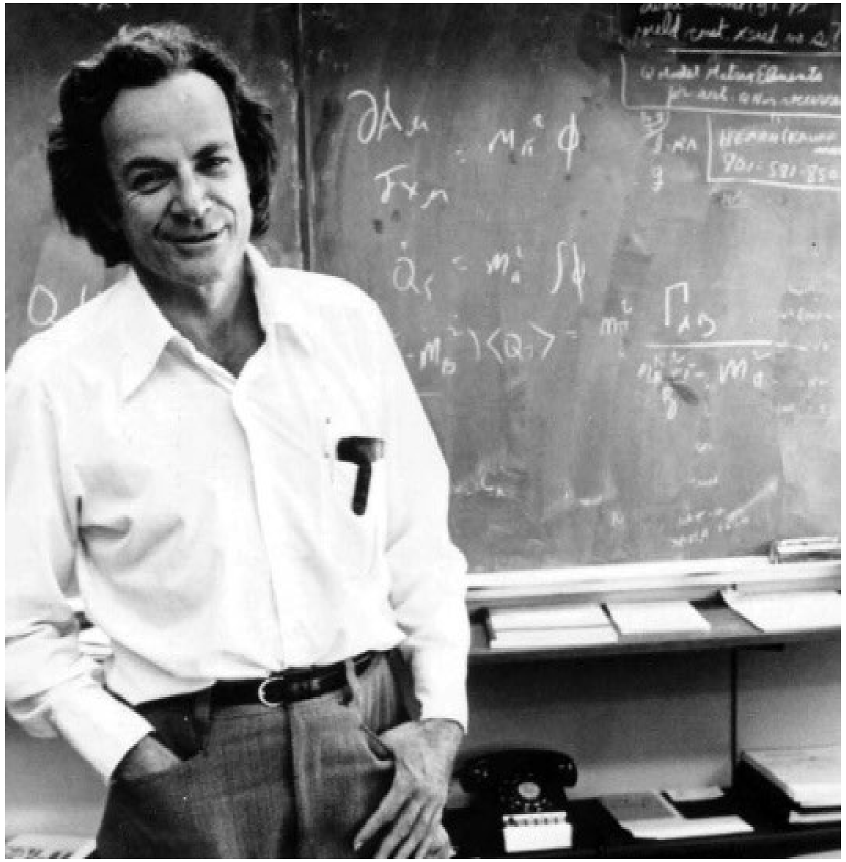
“

With such friends [as academics], who needs lobbyists?

Risk manager in a major systemic institution, 2016

”

“It Takes a Village to Maintain a Dangerous Financial System,”
Anat Admati, in *Just Financial Markets: Finance in Just Society*, Lisa Herzog (ed.), 2017



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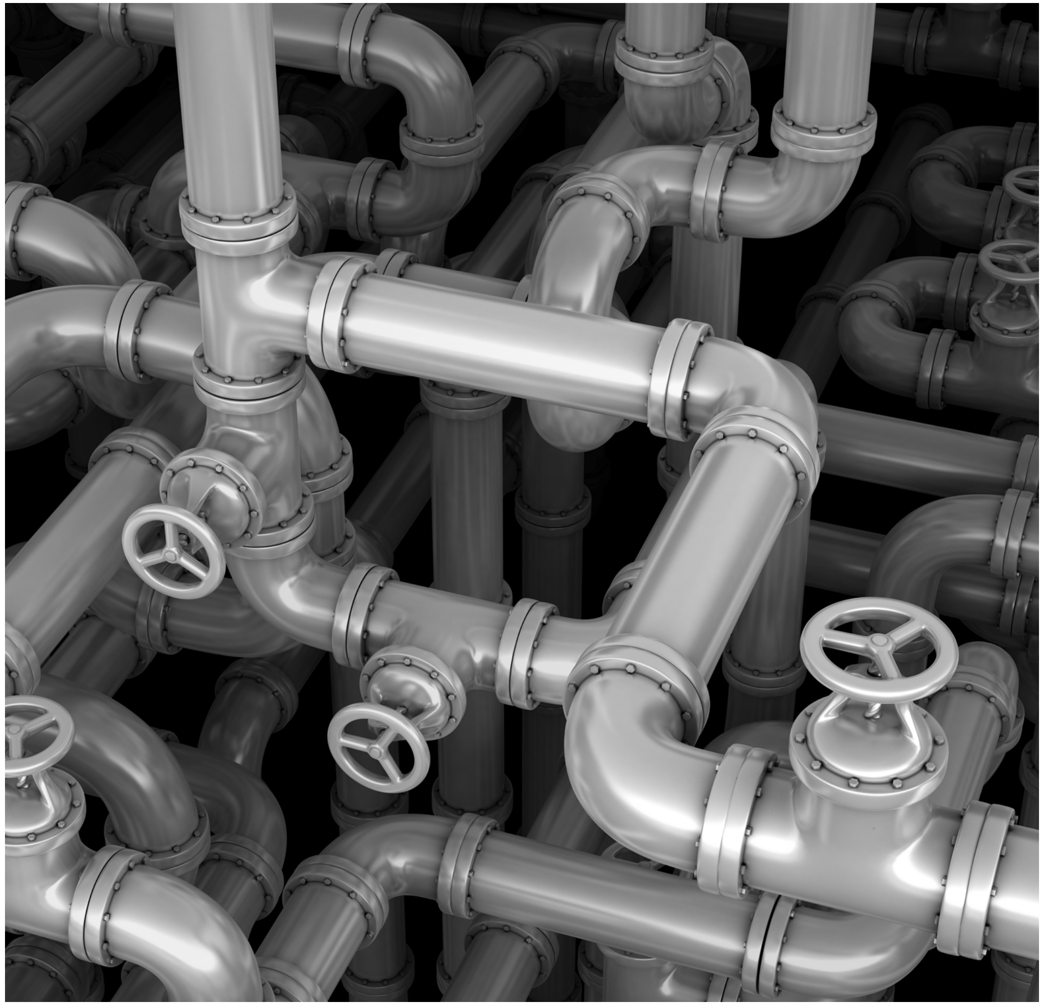
Science is what we have learned about how to keep from fooling ourselves.

Richard Feynman

”

“Chameleons: The Misuse of Theoretical Models in Finance and Economics,”
Paul Pfleiderer, 2014 (forthcoming, *Economica*, 2018)

A Liquidity Problem?



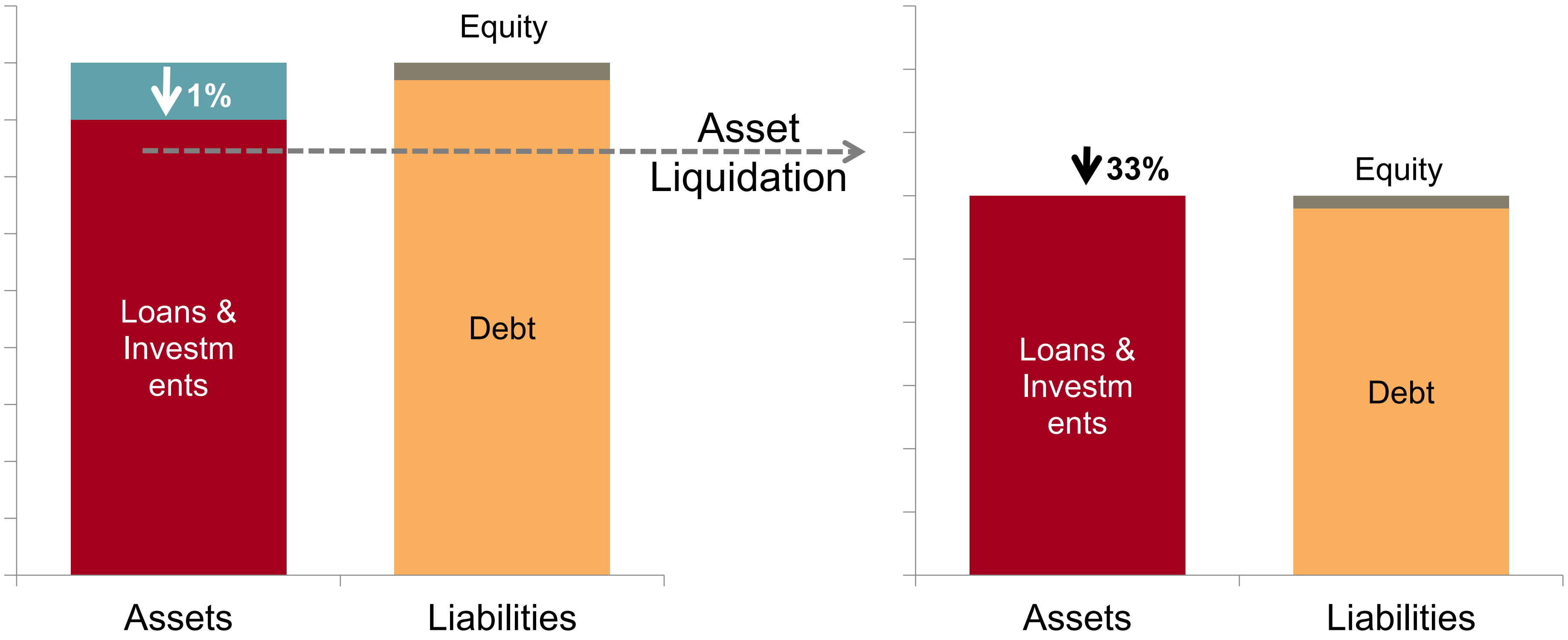
"A Classic Bank Run?"

High Leverage, Fire Sales, and “Deleveraging”

A 1% Asset Decline with 3% equity …

$\Rightarrow$ 33% Balance Sheet Contraction

- Asset Fire Sales
- Illiquidity / Market Failure
- Bailouts



Liquidity Regulations: Costly and Challenging

Market liquidity

» Related to information dissemination in markets

Funding liquidity

» Related to financial strength

The challenge

» Markets can freeze (too much info asymmetry)

» Insolvency concerns cause withdrawals and runs

BHCs have access to LOLR (Fed); Mutual funds must not over-promise liquidity

Fear of “Shadow Banking” is an Excuse

Crisis exposed ineffective enforcement.

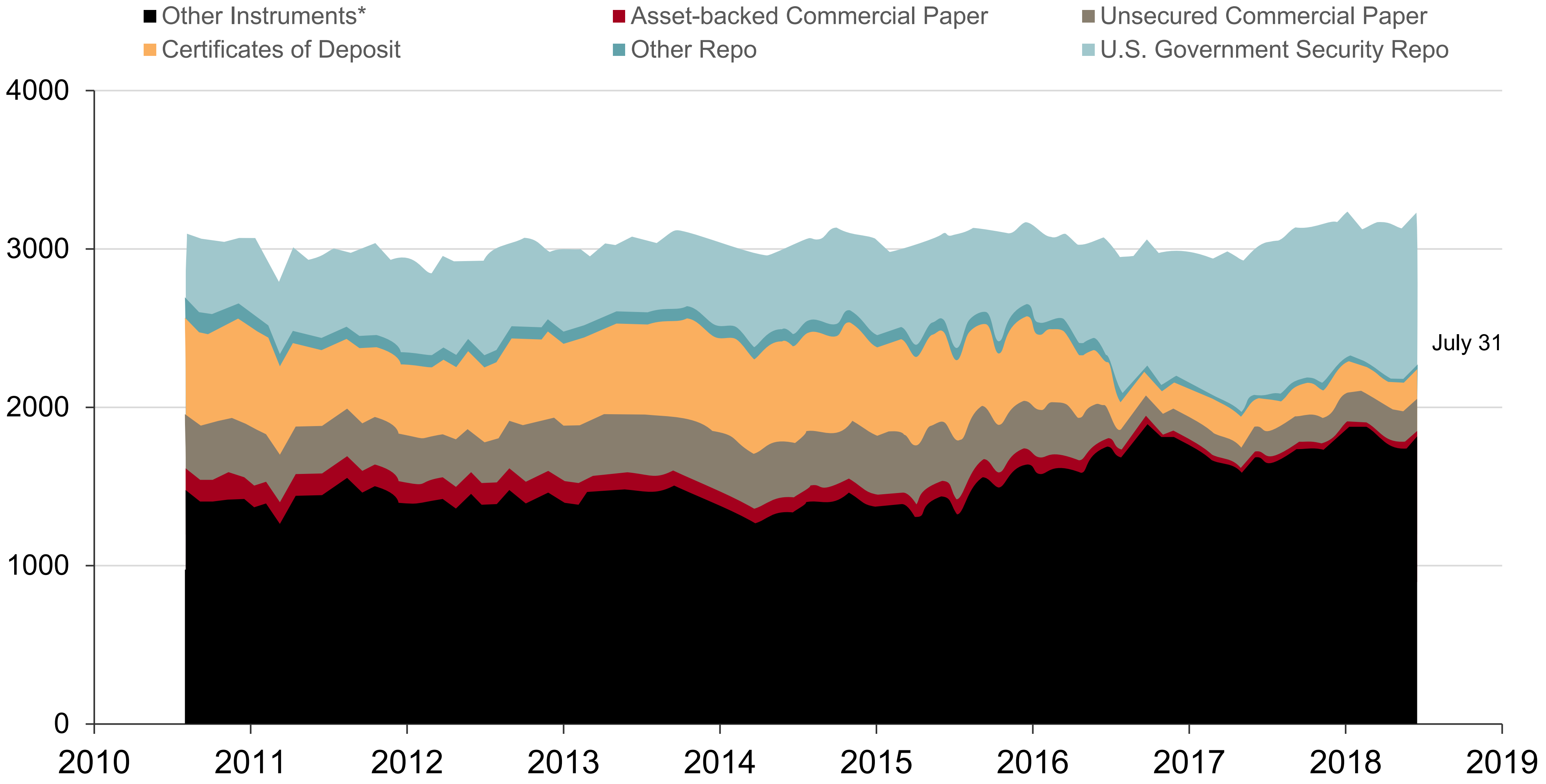
+ Rules are meaningless unless enforced properly.

Enforcement challenge is invalid argument against regulation:

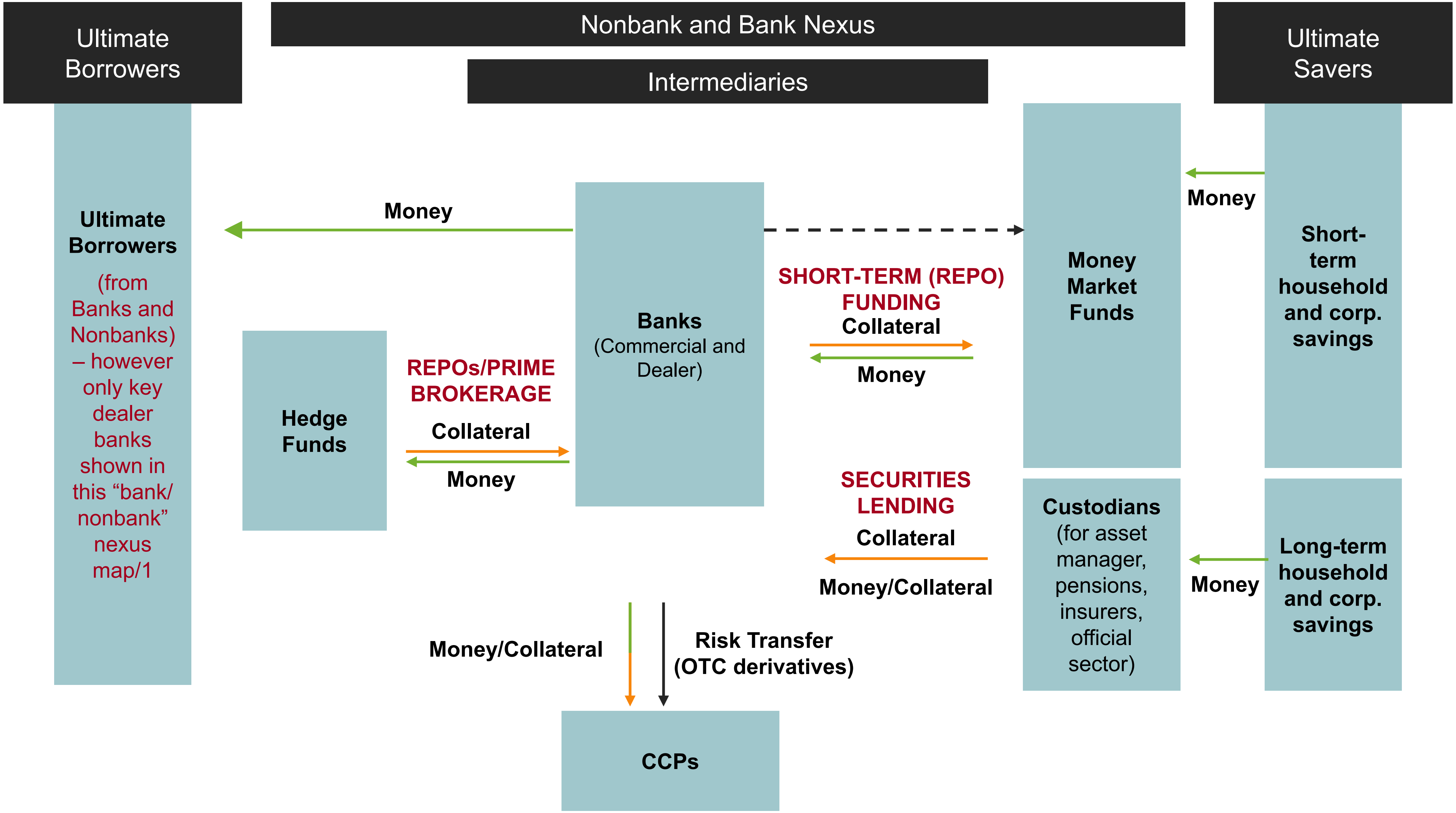
+ Allow robbery if robbers go to dark alleys?

Regulators have sufficient authority to trace risk

Money Market Fund Investments by Assets (billions)

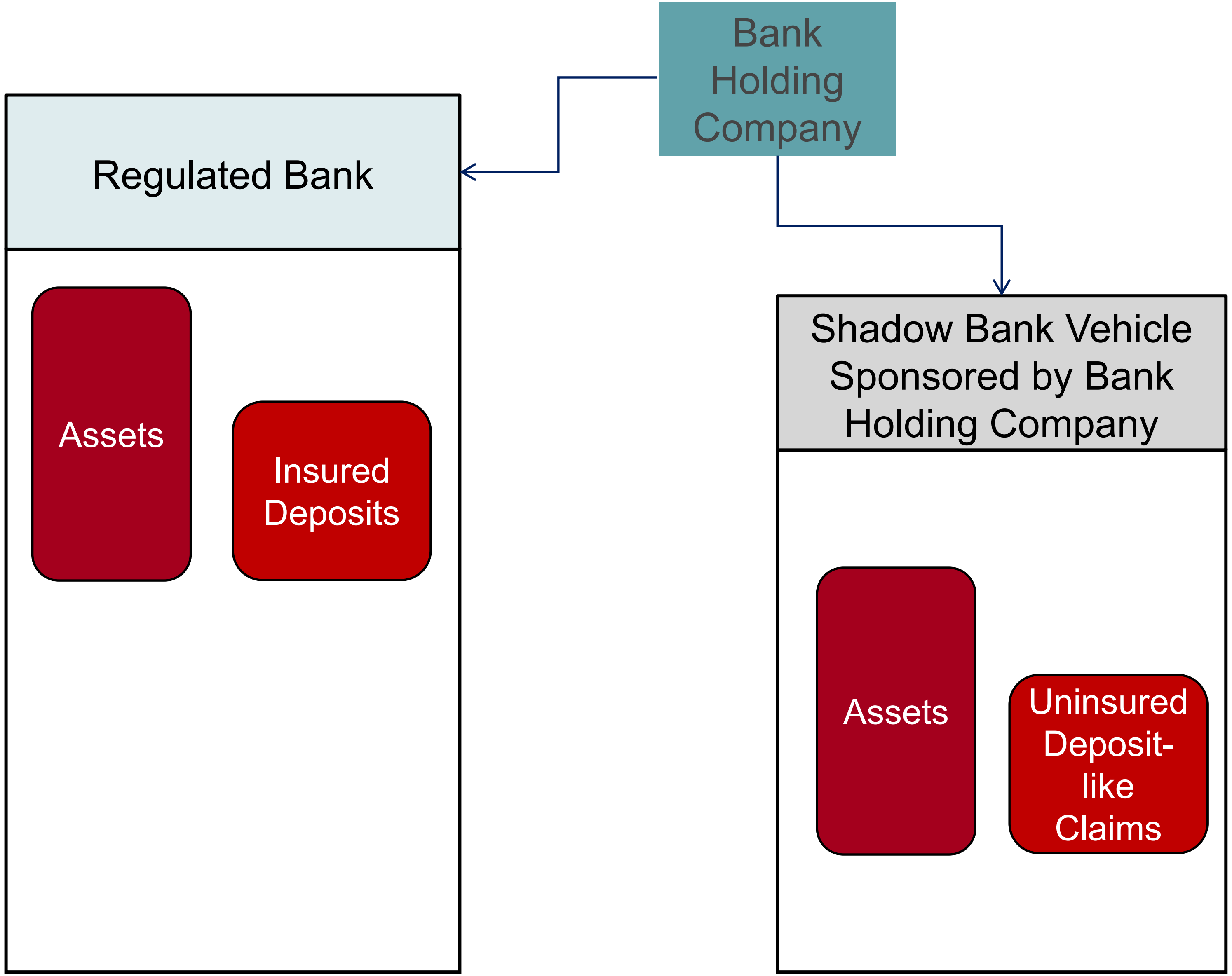


SEC form N-MFP filings. *Other instruments of money market funds include U.S. Treasuries, U.S. Agencies, and tax-exempt securities.

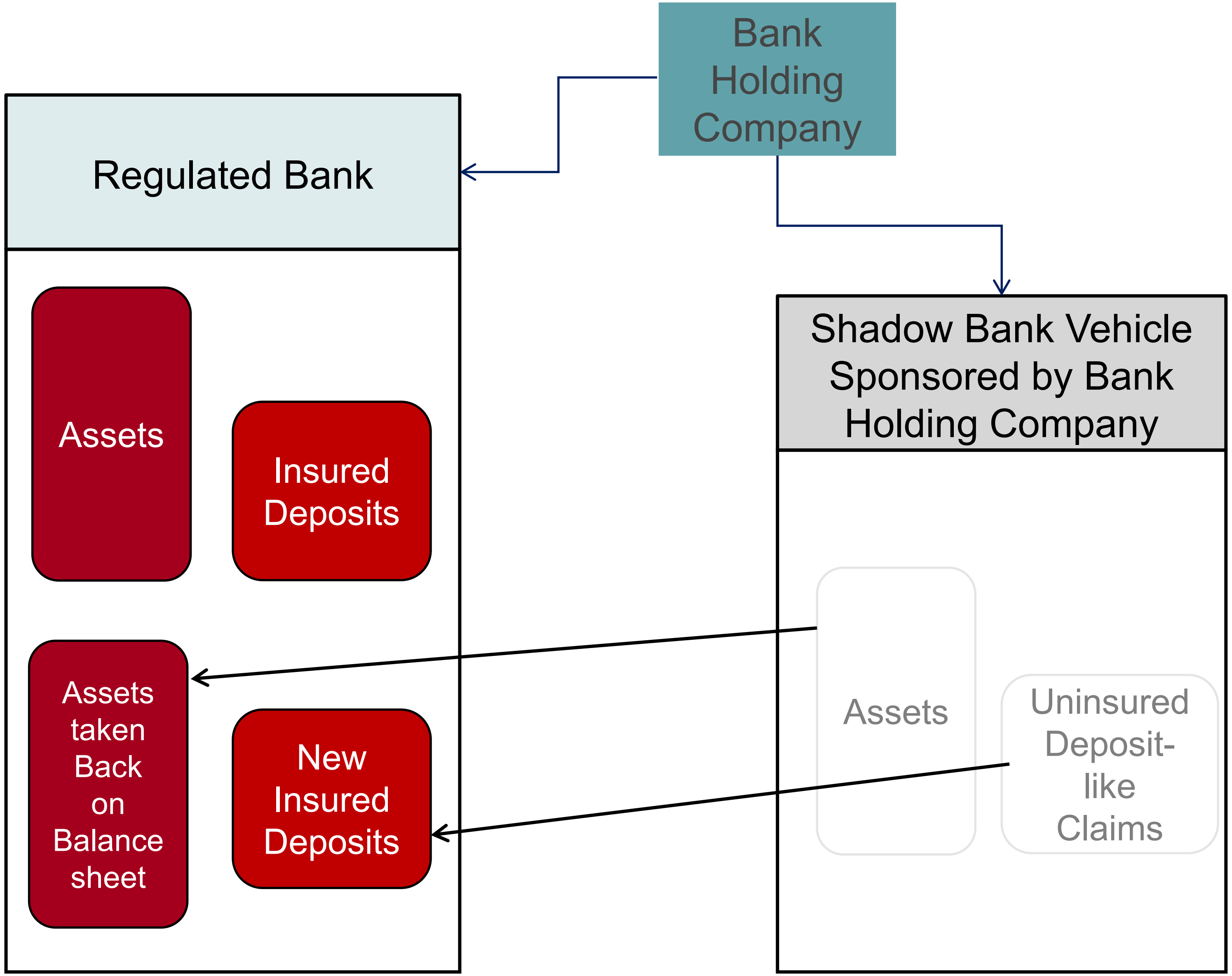


Source: Collateral and Financial Plumbing, Manmohan Singh, 2014; "Leverage: A Broader View," Manmohan Singh and Zohair Alam

Special Vehicles In "Normal Times"

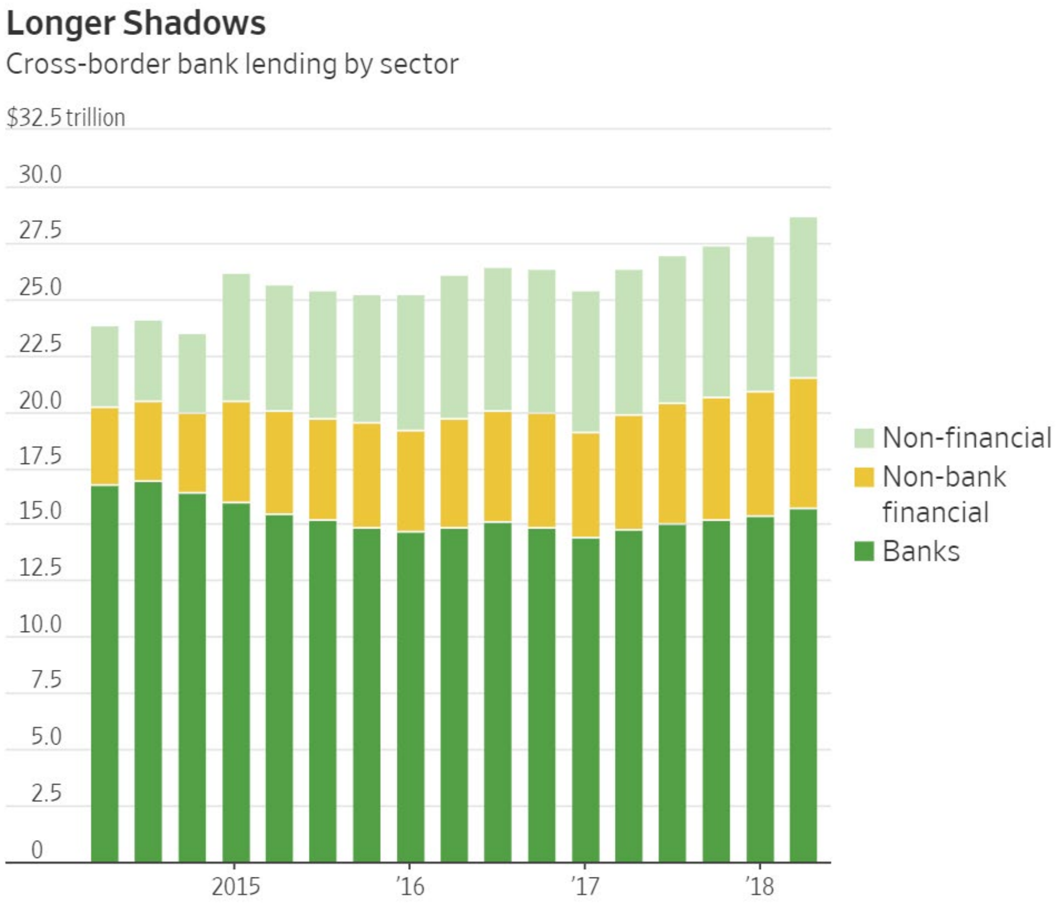


… and in "Troubled Times"



"Banks and private Markets: Making Fresh Connections"

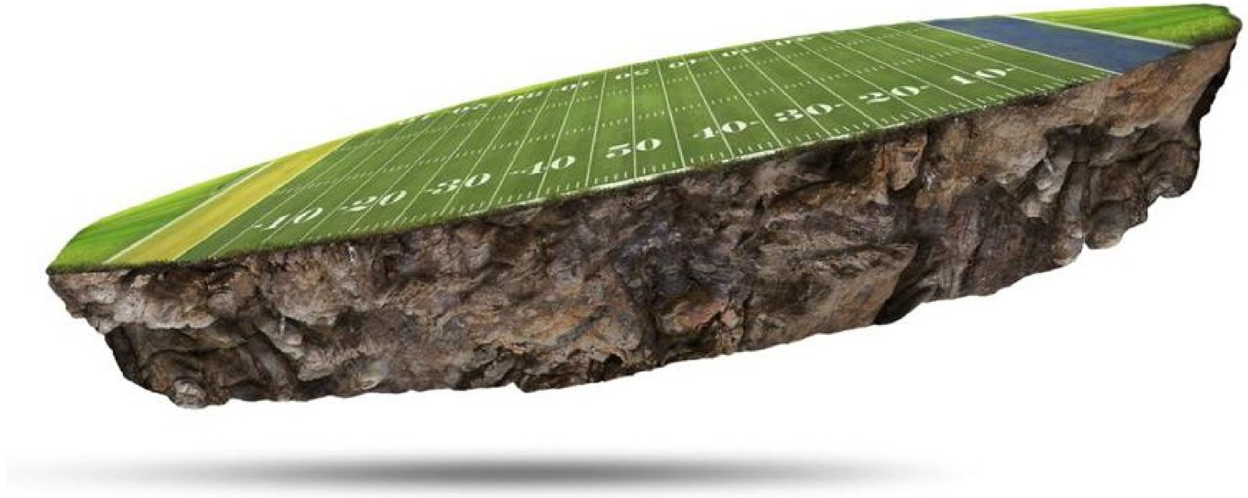
Paul J. Davies, Wall Street Journal, August 8, 2018



Non-banks took market share from the big banks, but almost all of the extra loan-arranging non-banks did was funded by borrowing from those big banks."

"We don't know how much will wash back onto their balance sheets next time the music stops."

Invalid “Level Playing Field” Argument



Banks can endanger the entire economy (see Iceland, Ireland)

Banks’ “success” may come at society’s expense

Banks compete with other industries for inputs (including talent)

Race to the bottom in regulation

“Beware of Unintended Consequences”

“Undesirable” effects may reflect

+ Intended outcomes (fewer distortions in markets for loans or “liquidity”
+ Poorly designed regulations
  - too little equity
  - risk weights
  - liquidity regulations

The “unintended consequence” of policy failures are distortions and crises!!

What about profits from misconduct?
“operational risk?”

Danske's €200bn 'dirty money' scandal

Financial Times, October 2, 2018

Summary

The financial system is too fragile, distorted and dangerous

We can have a better system, but
we need proper diagnoses and political will