

Financial reform – the slow emergence of capital

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Bottom line

1) Is the financial system safer?

- ▶ Yes, a bit. Almost entirely because capital is higher.

2) Lessons of the crisis, after 10 years of thought and analysis?

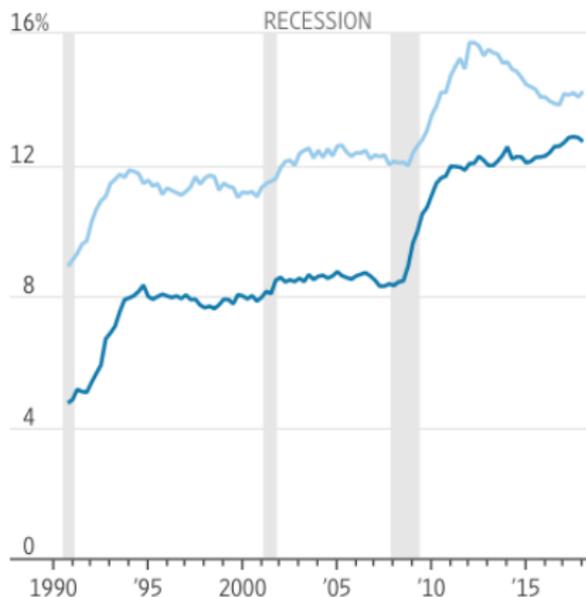
- ▶ Crisis is a run. Period. → The other “causes” do not really matter.
- ▶ Capital is the key, and not socially costly. The other policy & regulation are mostly a waste. (Intense risk regulation, Basel XVII, Central banks to Manage “credit cycle.”) View is slowly emerging.
- ▶ A very optimistic view! Fixing all the other culprits is impossible!
- ▶ Now: Not enough capital. We missed a once-in-a-lifetime chance to end private crises forever. (And ameliorate sovereign crises.)
- ▶ Looming dangers? Sovereign debt, funneled through banks. Cyber-run. Geopolitical. Capital would make all better.

Is the financial system safer?

Buffered Up

Capital, as a percentage of assets, has risen substantially since the last recession, particularly for the largest banks.

- Banks with \$50 billion or more in assets
- Banks with less than \$50 billion in assets



Source: WSJ

“Several important reforms have increased the loss-absorbing capacity of global banks. First, the quantity and quality of capital required relative to risk-weighted assets have been increased substantially...”

- Janet Yellen, 2017

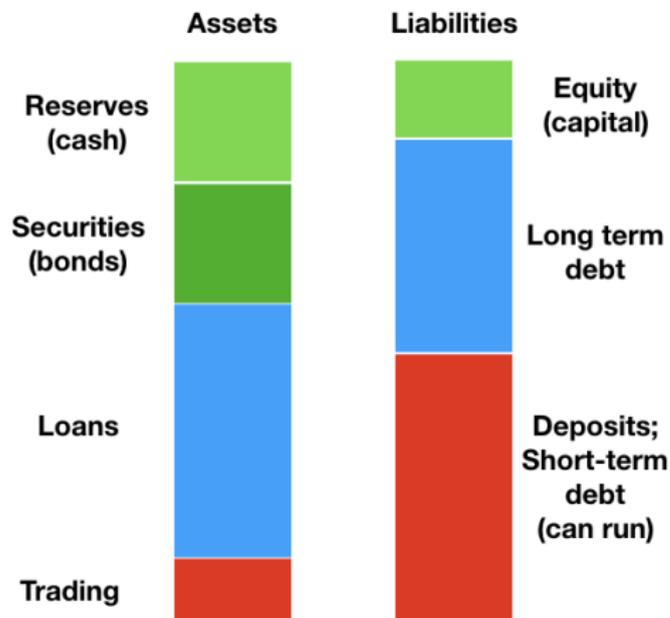
“... reforms have made the system more stable, including the fact that banks must hold far more capital.”

- Ben Bernanke 2016

Note

- ▶ Silence after that (others)
- ▶ Capital during the crisis
- ▶ Actual capital/assets 2-3%.
- ▶ “Small” banks.

Banks and capital

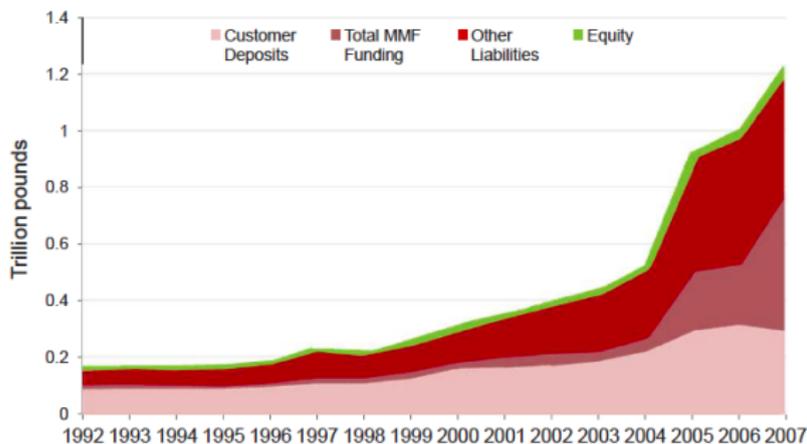


Money flows this way



- ▶ Capital is a source of funds, not a use.
- ▶ Capital \neq reserves.
- ▶ Issue, retain, not “hold” capital!
- ▶ Many capital sources.
- ▶ Short-term debt = run-prone.
- ▶ In fact, capital was and remains tiny.

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.

Courtesy Anat Admati

JPMorgan Chase Balance Sheet

Dec. 31, 2011

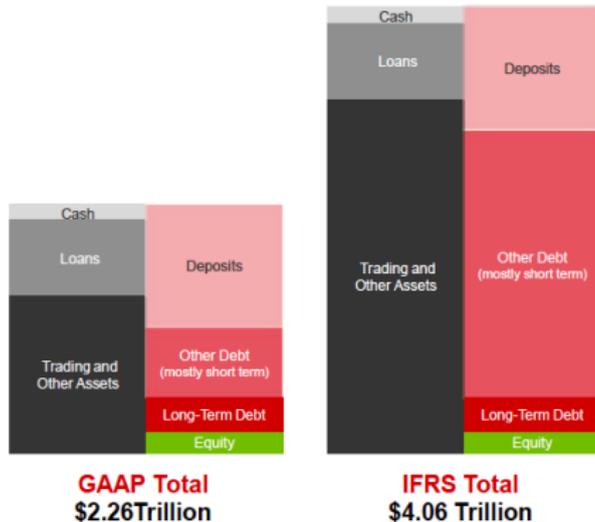
Loans = \$700B less than
Deposits = \$1.1T

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

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

Significant off-balance-sheet
commitments

“Bank Holding Company:”
A conglomerate.



Source Anat Admati

Cause of crisis

- ▶ Now: The crisis was a systemic run.
- ▶ Gorton and Metrick 2012, and Ordoñez 2014: Run on repo; broker-dealers. “information-insensitive” assets became “information-sensitive”
- ▶ Bernanke 2016: “...a run of short-term funding...” “This crisis involved a 21st century electronic panic by institutions,” “It was an old-fashioned run in new clothes.”
- ▶ Doug Diamond: “Private financial crises are everywhere and always due to problems of short-term debt”
- ▶ Subprime mortgages vs. tech stocks? Short term debt.
- ▶ Gas in the basement. → The spark is less important. The firehouse is less important. Other things don't really matter.

Things that in retrospect don't really matter

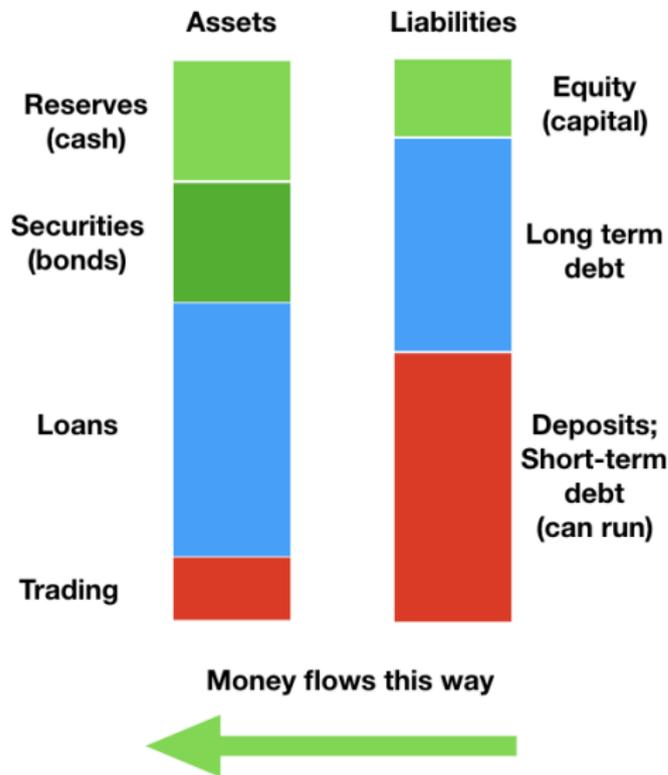
"There was an explosion in risky subprime lending and securitization, an unsustainable rise in housing prices, ... egregious and predatory lending practices, dramatic increases in household mortgage debt, and exponential growth in financial firms' trading activities, unregulated derivatives,... Yet there was pervasive permissiveness; little meaningful action was taken to quell the threats in a timely manner." – Financial crisis inquiry commission (2011):

"Round up the usual suspects" – Inspector Renault

Not, centrally,

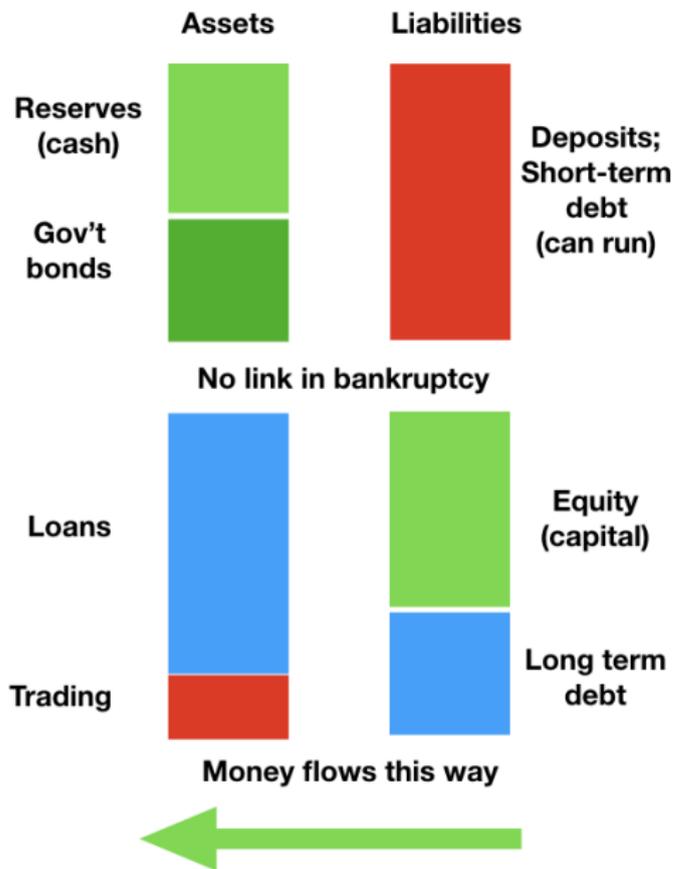
Bankruptcy dominoes, cross-exposure; Liar Loans, No Doc Loans, NINJA Loans, Subprime Mortgages; Housing price "bubble" (contrast tech "bubble"); Mortgage debt. Securitization; Fannie, Freddy, CRA, insane US housing policy and debt subsidy; Ratings; Banks and regulators failing to follow existing capital and other regulations, not seeing it coming; Predatory lending, bank malfeasance, CEO incentives; Trading activity, derivatives; Too-low interest rates, monetary policy, "savings glut."

The current regulatory approach to stop runs



- ▶ Guarantee debt.
- ▶ In crisis: central bank lending, “bailouts” (shotgun marriage + creditor), prop up asset prices.
 - ▶ Moral hazard?
- ▶ Asset risk & liquidity regulation.
 - ▶ Safest assets on the planet?
 - ▶ Sell-in-bad-times risk management? To who?
- ▶ Limits on competition
- ▶ Small, complex capital requirements.
- ▶ Now: counter cyclical capital, prick bubbles?
- ▶ Each time it fails, increase.

Equity-financed banks and narrow deposit-taking



- ▶ No risky or illiquid assets backed by run-prone *liabilities*. → no runs.
- ▶ *We can end financial crises forever!*
- ▶ No need for most regulation; clairvoyance, ex-post action.
- ▶ Little (or no) change for investors, borrowers.
- ▶ Not 1930s. (?)
Communications, financial, and computational technology, gov't debt make it possible.
- ▶ Yes, a dreamy ideal world. But much more accepted than in 2009!

Objections

- ▶ 2006: 2% capital
- ▶ 2008: 5% capital and the world will end! Trust regulation.
- ▶ 2018: 20, 30 40% in polite company. 100% not ridiculous. Less faith in regulation, clairvoyance, ex-post action (?).

2008-2018: Overcoming many objections.

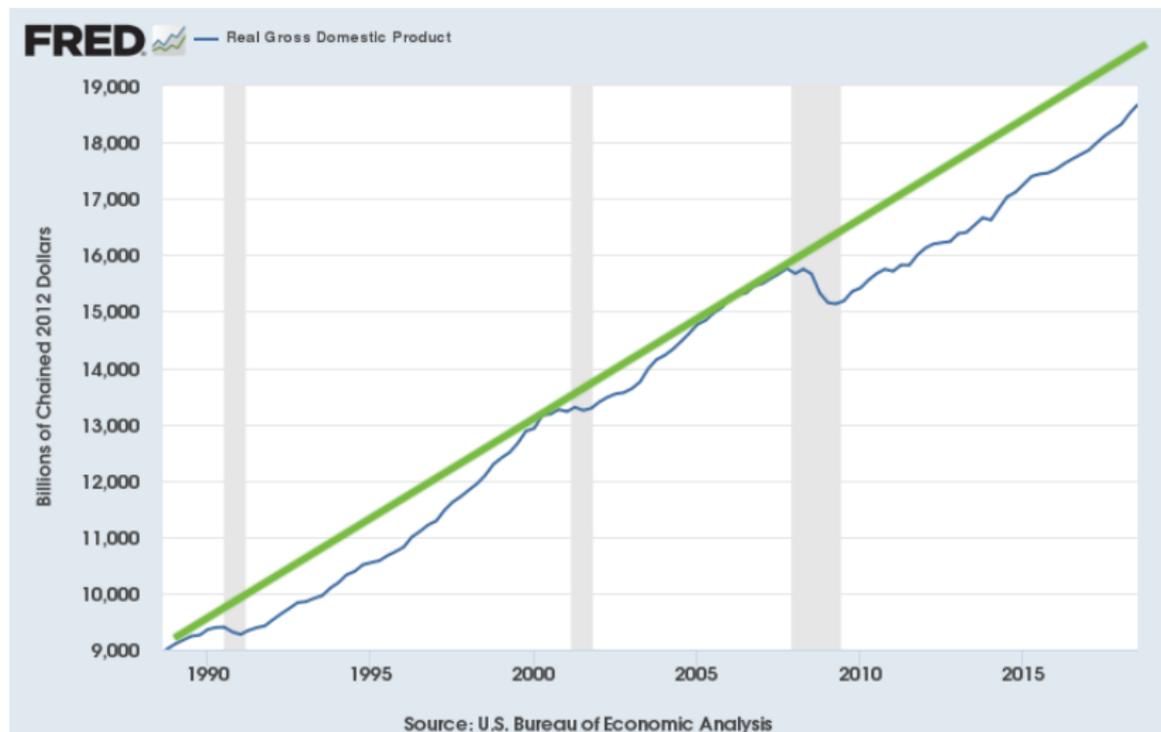
- ▶ If banks “hold” more capital they will have less money to lend.
- ▶ Equity is costly, banks will have to charge more interest. .
- ▶ We need banks to “transform” assets, “create” money.
- ▶ We need the threat of runs to discipline bankers.
(Gorton vs. Diamond/Rajan).
- ▶ Capital requirements limit banks, making markets illiquid.

(Chicago plan, Friedman, Tobin; Admati & Hellwig; Kotlikoff; Musgrave; me ; many others. narrowbanking.org)

2008-2018: Overcoming objections

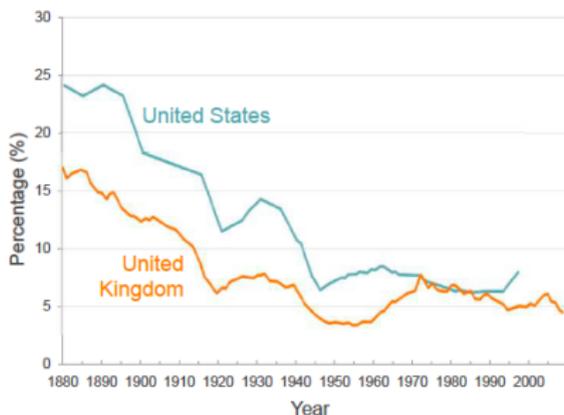
- ▶ If banks “hold” more capital they will have less money to lend.
- ▶ **Equity is costly, banks will have to charge more interest.**
 - ▶ Cost and benefit (slide).
 - ▶ *Why* is MM false? Private vs Social MM?
 - ▶ Subsidies, debt guarantees, taxes, social cost of bankruptcy.
 - ▶ MM in general equilibrium. Equity is really cheap!
 - ▶ Private MM → why banks hate equity.
 - ▶ “Agency cost.” Stock prices are too *low*? Retain earnings!
 - ▶ Historic capital (slide).
 - ▶ What happened when capital was doubled? (slide)
 - ▶ Policy, banking world. MM slowly sinking in.

The costs



Historic Capital

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 Szegő, G (1995). UK: Sheppard, D.K (1971), BBA, published accounts and Bank of England calculations.

Source Anat Admati

The effects of higher capital requirements



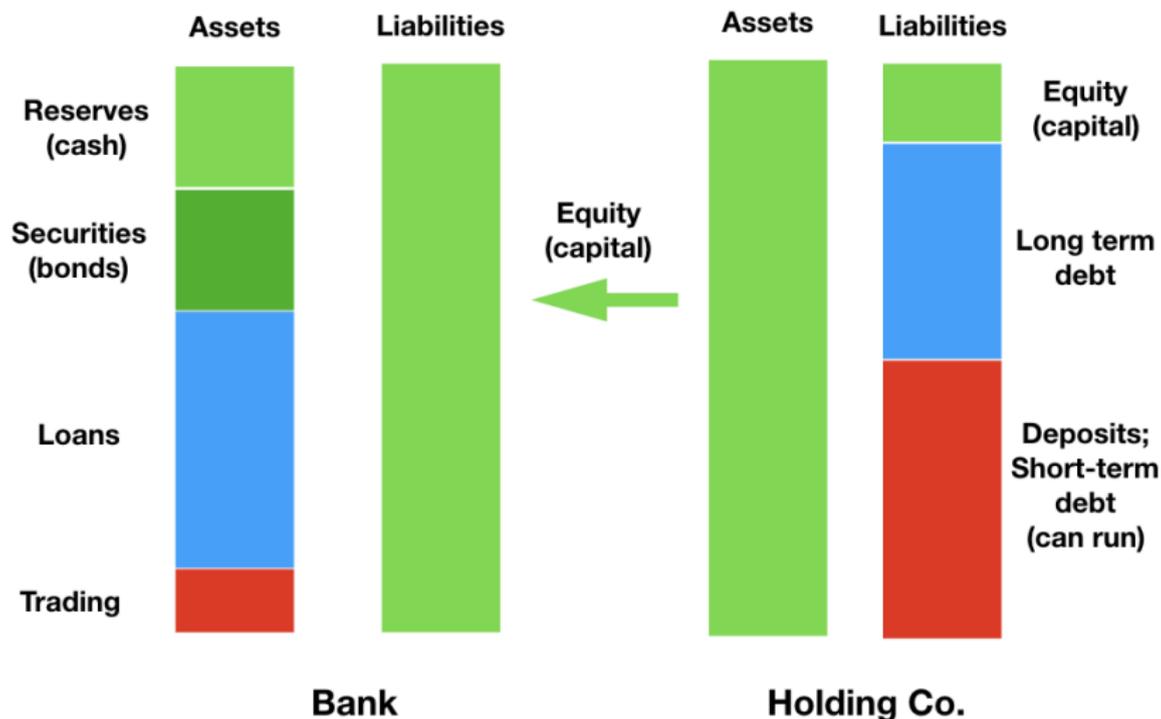
15 year mortgage and 10 year treasury

- ▶ Capital requirements *were* raised. Where is the disaster in mortgage rates?

2008-2018: Overcoming objections

- ▶ If banks “hold” more capital they will have less money to lend.
- ▶ Equity is costly, banks will have to charge more interest.
- ▶ **We need banks to “transform” assets, “create” money.**
 - ▶ 19th c. Coins, private notes. → government. Do it again!
 - ▶ \$20 trillion in Federal debt! (+ Agency debt etc.)
 - ▶ Easy to issue more, especially if it is needed = liquidity discount in r !
 - ▶ Central bank, money market fund, or treasury issues “reserves” (and swaps interest rate risk), bypassing banks.
 - ▶ $M1 = \$3.7T$. All Deposits = $\$10.5T$. Bank holdings of Govt securities (assets) = $\$7.3T$ Reserves = $\$1.6T$. Nearly there!
 - ▶ Modern economy does not need vast trove of fixed-value, instant payment, i.e. run-prone assets. Liquidity \neq runnability today. Pay for coffee with S&P 500 index.
 - ▶ Or, if levered bank equity really is needed, get the leverage out of the banks. Resolve in minutes without stopping operations. (slide)

Get leverage out of banks!

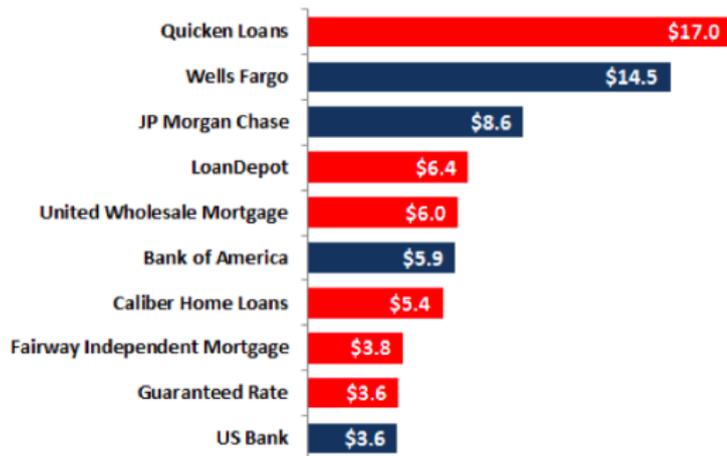


- ▶ If really needed, we can keep *exactly* today's bank liabilities.
- ▶ Holding co. Assets marked to market in ms. Resolve in minutes.

Less need for banks as lenders too.

Largest Mortgage Lenders, by Originations in Q1 2018 In \$ billions, purchase mortgages & refis

"Shadow banks" in red



Source Amit Seru

Mortgage → MBS → mutual fund → pension fund.

2008-2018: Overcoming objections

- ▶ If banks “hold” more capital they will have less money to lend.
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(Gorton vs. Diamond/Rajan)
- ▶ **Capital requirements limit banks, making markets illiquid.**

Duffie debt overhang

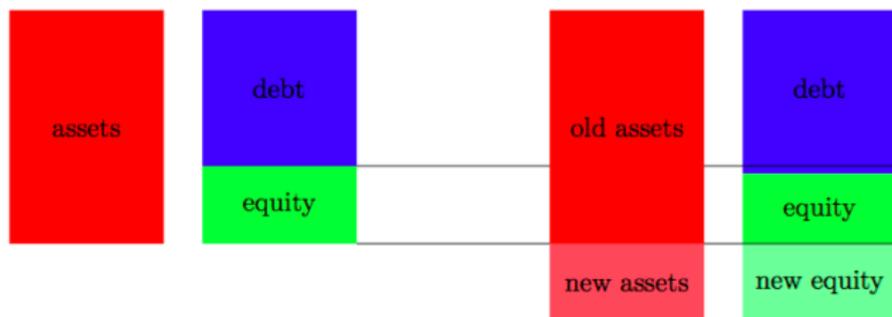


Figure 1.2.1: An example of debt overhang. Purchasing new assets funded by new equity improves the credit quality of the debt, raising its value. The value of the legacy equity position is lowered by this transfer of value to creditors. In the illustration, the

Source: Duffie et al

- ▶ Markets believe individual banks may fail → higher rates; debt overhang.
- ▶ Solution: *more* equity so remaining bank debt is safe.
- ▶ Much prop trading has already moved out of banks (Volcker) to equity-financed hedge funds etc.

Practicalities

Problems

- ▶ Just how much? / BIS and “countercyclical buffers”
- ▶ Risk weight mess?
- ▶ How to measure? (slide)
- ▶ Lifeboat paradox.

Answers

- ▶ So much that it doesn't matter. Nudge not a cliff. Countercyclical?
- ▶ Tax debt, especially short term.
- ▶ Smooth tradeoff of regulation vs. capital.
- ▶ Market value of equity / face value of debt.
- ▶ Let them in! Fintech and TNB. On-ramp!

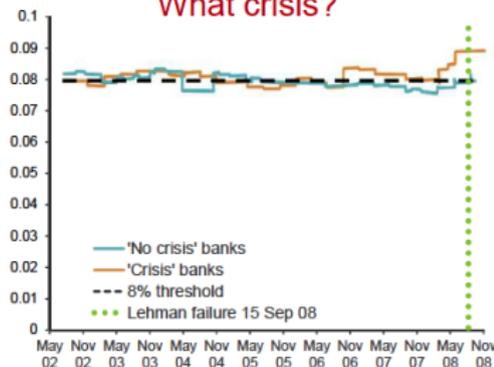
Details

- ▶ Regulatory Cocos and other fancy stuff. What's the question?
- ▶ (Better: Banks should buy put options!)
- ▶ Long term debt, convertible (at bank option), voting vs. nonvoting shares, Kotlikoff “100 percent equity-financed pari-mutuel mutual funds,” “participatory insurance mutual funds,” etc.
- ▶ Key: no large part of financing with fixed value, instant redemption, i.e. run-prone liabilities.

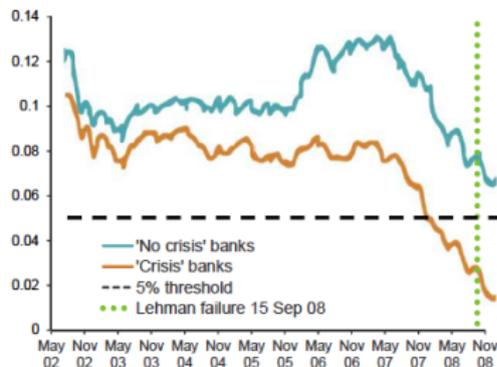
Regulatory Capital

Regulatory Measures are Uninformative

“Tier 1” capital ratios:
What crisis?



Market-based measures



From: Andrew Haldane, "Capital Discipline," January 2011)

Source Anat Admati

Lehman had 11% regulatory tier-1 capital the day it failed.

10 years of intellectual progress

2010: 5% will end the world. Now: 20, 30, 40% mentioned in polite company. 100% is visionary but not idiotic.

BASEL II “Common equity Tier 1 capital” to risk-weighted assets: 2%
Basel III 4.5% plus buffers.

Higher capital “would restrict banks’ ability to provide loans to the rest of the economy. This reduce growth..” - Josef Akermann CEO of Deutsche Bank 2009

Regulations that would require UK Banks to “hold [sic] an extra L 600B of capital that might otherwise have been deployed as loans to business or capital” - British Banker’s association 2010

(Quotes from Admati and Hellwig “The banker’s new clothes”)

“Just about whatever anyone proposes...the banks will claim that it will restrict credit and harm the economy?. It’s all bullshit”

-Paul Volcker, January 2010 (From Payoff: Why Wall Street Always Wins, Jeff Connaughton, 2012)

10 years of intellectual progress

Big Black Boxes from Big Institutions

“The FSB[Financial Stability Board]-BCBS [Basel Committee on Banking Supervision] assessment..in close collaboration with the International Monetary Fund...estimates that each one percentage point increase in bank's actual ratio of tangible common equity to risk-weighted assets will lead to a decline in the level of GDP relative to its baseline path by about 0.20% ”

“Each 1 percentage point increase in the capital ratio raises loan spreads by 13 basis points,” optimum around 12% -BIS 2010

“Our estimates suggest that net benefits are highest at a Tier 1 capital ratio of 10%-14%.” -Brooke et al, Bank of England 2015

Squam Lake Report – Nostra Culpa

THE SQUAM LAKE REPORT

FIXING THE FINANCIAL SYSTEM

Kenneth R. French • Martin N. Bailey • John Y. Campbell
John H. Cochrane • Douglas W. Diamond • Darrell Duffie
Anil K Kashyap • Frederic S. Mishkin • Raghuram G. Rajan
David S. Scharfstein • Robert J. Shiller • Hyun Song Shin
Matthew J. Slaughter • Jeremy C. Stein • René M. Stulz

Chapter 1: Introduction

Chapter 2: A Systemic Regulator for Financial Markets

Chapter 3: A New Information Infrastructure for
Financial Markets

Chapter 4: Regulation of Retirement Savings

Chapter 5: Reforming Capital Requirements for
Financial Institutions

Chapter 6: Regulation of Executive Compensation in
Financial Services

Chapter 7: An Expedited Resolution Mechanism for
Distressed Financial Firms: Regulatory Hybrid
Securities

Chapter 8: Improving Resolution Options for
Systemically Important Financial Institutions

Chapter 9: Credit Default Swaps, Clearing Houses, and
Exchanges

Chapter 10: Prime Brokers, Derivative Dealers, and
Runs

Chapter 11: Conclusion

Capital in Squam Lake Report

“Capital requirements are not free. The disciplining effect of short-term debt, for example, makes management more productive..... When designing capital requirements that address systemic concerns, regulators must *weigh the costs such requirements impose on banks during good times* against the benefit of having more capital in the financial system when a crisis strikes.”

“capital requirements should be higher for larger banks, banks that hold more illiquid assets, and banks that finance more of their operations with short-term debt. Because they bear all the costs and receive only a small part of the societal benefits, we anticipate that banks will object to this proposal”

No specific number

Changing minds

“If ... 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.” -Economists' letter Financial Times on November 9, 2010 (incl. Nobels Sharpe & Fama)

Greenspan and Wooldrige Oct 2018 WSJ (& Book)

“In the wake of the crisis, the federal government passed the monstrously complicated Dodd-Frank Act, which tried to reduce risk in the financial system through regulation. A better approach would have been to focus on the amount of capital that banks are required to hold [sic] in order to operate. In the run-up to the crisis, banks on average kept [sic] about 8 to 10% of their assets as equity capital. If regulators had forced them to keep 25%, or better still 30%, it would have radically reduced the probability of contagious defaults – the root of all financial crises. ”

“Today, despite Dodd Frank, they've only increased it to a little over 11%. It would allow lawmakers and regulators to repeal the bank-related provisions in the Dodd-Frank leviathan with a clear conscience because any bank losses would be absorbed by shareholders rather than by taxpayers.

Policy Today: Stasis and predictable assault on capital

- ▶ Some successes: money market funds.
- ▶ Yellen, Bernanke, Fed: Also defend the rest of Dodd-Frank, regulator clairvoyance.
- ▶ BIS etc. say yes capital, but complex countercyclical buffers macro-financial dirigisme.
- ▶ No on-ramp. TNB denied. Reverse repo and reserves retrench.
- ▶ Hensarling Choice act. Not passing Senate.
- ▶ Capital under siege. S.2155 - "Economic Growth, Regulatory Relief, and Consumer Protection Act March 2018"

Title IV (Sec. 401) "The bill amends the Financial Stability Act of 2010, with respect to nonbank financial companies supervised by the FRB and certain bank holding companies, to:

- increase the asset threshold at which certain enhanced prudential standards shall apply, from \$50 billion to \$250 billion..;

- increase the asset threshold at which company-run stress tests are required, from \$10 billion to \$250 billion;..."

- ▶ So much for "countercyclical capital buffers."

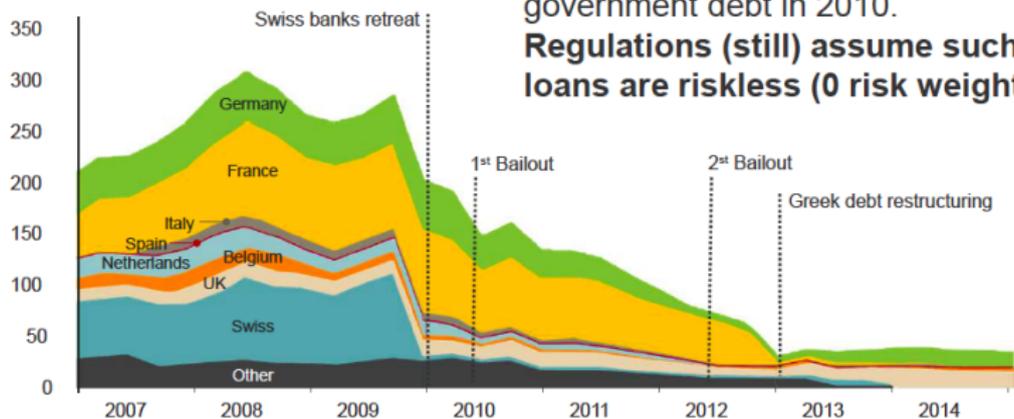
The next crisis?

- ▶ Never the same twice.
- ▶ Debt can't be paid? Phoney accounting? Hidden off-balance sheet credit guarantees? Rolling over short term debt? Sovereigns!
- ▶ Sparks: China. Cyberattack. "Geopolitical event." Global recession.
- ▶ Banks full of sovereign debt, and count on sovereign bailout. The real crisis whose lessons not learned: Greece. (slide)
- ▶ Financial system built on default-free sovereign debt.
- ▶ Capital would insulate in a way regulation, clairvoyance, and ex-post bailout cannot.

Sovereign debt in banks

Bad Regulations Matter

The Awful Case of Greece



BIS (2014), Company Data, EBA (For 2010-11 Greece Exposure Data), German Bankers Association, Morgan Stanley Research

Source Anat Admati

Self-promotion

- ▶ “Toward a run-free financial system” 2014
- ▶ “A New Structure For U. S. Federal Debt” 2015
- ▶ The Grumpy Economist, “financial reform”