

Deregulating the U.S. financial markets: current issues and developments

Lecture 1: Ensuring Financial Market Stability

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Overview of Lecture Series

- ▶ Objectives of the two-part lecture series
 - Selectively explore the current regulatory framework governing the banking system and U.S. capital markets in achieving stated regulatory objectives
 - Most of Administration's and Congress's reform focus is on the banking system – main focus of these lectures
 - Highlight strengths and weaknesses of current regulation
 - Separate fact from fiction in what is “too big to fail” and explore what are effective, realistic approaches to TBTF
 - What role regulation plays regarding informational advantages in the capital markets vis-à-vis regulatory objectives
 - Describe and critique deregulatory proposals
 - Such as they can be identified – they offer crucially relevant way to explore effectiveness of purported regulatory objectives
- ▶ Current issues in capital markets are not as crystallized
- ▶ To explore the assumptions and arguments underlying opinions and positions

Roadmap for the two lectures

▶ Topic 1: Mitigating systemic risk

◦ Three key components of current regime

1. Capital solution to system risk – Basel III requirements; Fed’s stress testing
2. Structural solution to systemic risk –“Volcker” rule
3. Orderly Liquidation Authority and “living wills”: Lehman case study

◦ De-regulatory (or pro-regulatory?) proposals

- *Capital v. structural solutions*: Higher, simplified regulatory capital for banks in exchange for eliminating many Dodd-Frank requirements
- Glass-Steagall v.2: separation of banking from non-banking
- Revamp resolution process for large, complex failing financial institutions

▶ Topic 2: Explore regulatory approaches to informational asymmetries in the capital markets

◦ Certain market participants have informational advantages. Bad?

1. Issuers: exceptions to mandatory disclosure system, JOBS Act, and future extension of JOBS Act – reducing regulation for small businesses
2. SEC’s and CFTC’s regulation of disclosure in swap markets
3. Issuer-institutional investor communications under 10b-5 and Reg FD

Some key questions we will cover

- ▶ Financial crisis of 2007–9 (FC) uncovered “distasteful brew of private risk-taking and socialized losses” (Jarque and Price, FRB Richmond (2014))
- ▶ FC caused systemic risk and “macro-prudential” regulation to move front and center
 - Dodd–Frank is a systematic effort to address systemic risk
- ▶ What is “systemic risk” and what causes it? How does a regulatory system most effectively address it?
- ▶ What is “too big to fail” (TBTF) and “moral hazard”?
- ▶ What makes financial institutions (FIs) fragile and prone to runs?
- ▶ Capital adequacy regulation has become very complex. Isn’t a simpler system better?
- ▶ Is the Fed’s broad discretion in stress testing and living wills a good thing?
- ▶ How current regulation and proposals balance SEC’s three core missions:
 - (i) investor protection; (ii) efficient markets; (iii) capital formation

Good intentions, unintended consequences

- ▶ History of financial market regulation is littered with detritus of well-intentioned laws and rules whose impact is the opposite of the regulatory objective
 - Gaming by banks of risk-based capital regulation
 - Permitting internal modeling taps into risk management incentives
 - Stock-linked compensation to align executives with SH interests
 - SEC's Regulation Fair Disclosure to "level the playing field" chilled issuer disclosure
 - Institution-based financial regulation \Rightarrow regulatory arbitrage
 - Eastland tragedy on Lake Michigan after Titanic. Kroszner: "New regulations can undermine their own goals, creating new sources of instability."
- ▶ Do lawmakers understand the financial markets?
- ▶ Andrew Haldane (BOE): Regulation has evolved into a complex tapestry in response to crises events
- ▶ Banking industry consolidated during FC through government's own actions – further contributing to TBTF

Regulatory arbitrage

- ▶ Institution-based regulation most prone to regulatory arbitrage as products migrate outside boundaries (Kroszner).
 - E.g. – demand for cash liquidity
- ▶ Regulatory arbitrage occurs when FIs change the form of a particular activity to avoid regulations without fundamentally changing the risks of the activity. (Allen)
- ▶ Since any effective regulation forces firms to deviate from their preferred option, they always have an incentive to move their business outside the boundary of regulation. *Fundamentals of financial regulation.*

Role of a regulatory ethos

- ▶ Assumption that an ethos drives regulatory/de-regulatory proposals
 - Various approaches to financial market regulation have an underlying ethos that underlies proposals
 - An ethos can come from variety of sources
- ▶ Assumption: same objective is common to both – “safety and soundness” of banking system; investor protection
- ▶ Potential driving forces of pro-regulatory ethos
 - Public choice or public interest legislation
 - Just got to “do something” after a financial crisis
 - Ideological – reflexive market failure narrative (lack of regulation created crisis – 1929 Crash and Great Depression – regulation steps in to correct the failure
 - Hubristic belief by regulators (populated by Ph.D. economists) in power of modeling to capture market risk (e.g., risk-based capital rules

Market-based regulatory ethos

- ▶ Also known as “market fundamentalism,” a more coherent approach than pro-regulatory ethos in *eliminating* regulation, but also a variety of rationales
 - *Empirically and theoretically based* – e.g., cap and trade
 - *Ideological*: “Economism” – simplistic application of Econ 101 (James Kwak). Power of S&D in price setting and efficiency.
 - Belief that Economics 101 accurately describes the real world – markets are self-correcting in a competitive market economy
 - “A competitive price system is indispensable to liberty and material progress.” *National Review*
 - *Combat bureaucratic arbitrariness and red tape* – remove burdensome regulation that hamstrings small business and startups
- ▶ We will see these versions of this ethos in both banking (Lecture 1) and capital markets (Lecture 2)
 - Alphabet programs and agencies during the FC (e.g., TARP) and Dodd-Frank (e.g., FSOC, OFR)
- ▶ *Economism* is an overarching, unifying theme in the market-based ethos

Key factors leading to the financial crisis

- ▶ Housing crisis and lowered or fraudulent subprime mortgage underwriting contributed to historically high defaults
- ▶ Main Street's speculated in housing market (124%: '98-'06), spurred by government's support of ownership (GSEs)
- ▶ Housing frenzy entered financial markets as investors and intermediaries sought more high yield debt
- ▶ Complex, opaque debt and derivative instruments introduced unknown, correlated and concentrated risk into the markets
- ▶ OBS vehicles allowed banks to lever up and still satisfy capital ratios
- ▶ Highly leveraged FIs that fund long-term, illiquid assets with short-term, runnable debt in "shadow banking" system (eye of the hurricane)
- ▶ Pervasive "Mark-to-Market" (MtM) accounting and market-sensitive risk management systems – sudden \$ billion write-downs and firesales
- ▶ "Originate and distribute" intermediary business model
- ▶ Lehman Brothers "experiment" froze credit markets and showed how ill-equipped is bankruptcy for large, complex financial institutions

Key concepts

- » Systemic risk
 - Interconnectedness or contagion?
 - Too big to fail (TBTF)
 - Systemically Important Financial Institutions (SIFIs)
 - Moral hazard

What is “systemic risk”?

- ▶ “The likelihood of a sudden, usually unexpected event that disrupts information in financial markets, making them unable to effectively channel funds to those parties with the most productive investment opportunities.”

Frederic Mishkin, Columbia Business School

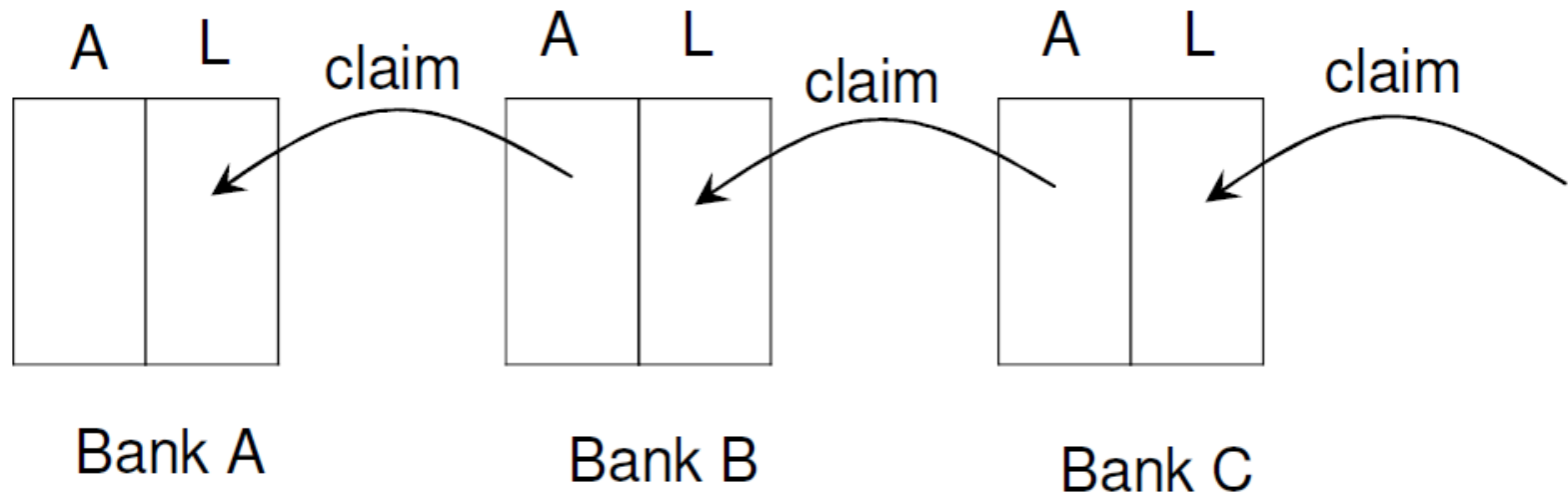
- ▶ “Systemic risk refers to the risk or probability of breakdowns (losses) in an entire system as opposed to breakdowns in individual parts or components and is evidenced by comovements (correlation) among most or all the parts.
- ▶ Thus, systemic risk in banking is evidenced by a high correlation and clustering of bank failures in a country, a number of countries, or globally; and in currencies, by a clustering of depreciations in exchange rates in a number of countries.”

George Kaufman, Loyola University (Chicago)

What types of “systemic risk” cause financial crises?

- ▶ Is it a matter of large, complex financial institutions (LCFIs)? But banking panics occurred throughout U.S. history, even without mega-FIs
- ▶ Two main categories: (1) “interconnectedness” and (2) “contagion”

Domino theory of financial crisis



Bank A borrowed from bank B. Bank B borrowed from bank C, and so on. If A defaults, Bank B will suffer a loss or default. If Bank B defaults, Bank C suffers a loss or defaults.

Source: Goodhart et al, *The fundamental principles of financial regulation* (2009)

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“Domino” or interconnectedness theory

- ▶ Criticism of interconnectedness theory
 - Implausible that institutions will sit idly by. All will take actions at the same time to protect their liquidity position.
 - Model assumes asset prices are fixed – unrealistic in today’s market-based, Mark-to-Mark (MtM) system
 - With MtM, changes in prices lead to losses that may transmit the shocks to other institutions even when they do not hold claims against each other
- ▶ Hall Scott: key risk is contagion, not interconnectedness
 - Critical need to preserve Fed’s “lender of last resort” function
 - But Dodd-Frank curtailed it and Republican proposals even more

Interconnectedness issues in resolving troubled FIs

- ▶ Despite Hal Scott's criticism, "interconnectedness" makes winding down LCFIs extremely challenging
 - Regulators also were panicked due in part to opacity of counterparty risk
- ▶ Transformations on both liability and asset sides of bank balance sheets have created greater interlinkages among FIs
 - On liability side: banks and other FIs rely on market-based sources of short-term funding (ABCP, repos). Money market funds are key source of funding
 - On asset side, intermediaries may securitize many of the assets they originate (AER, 2011)
 - Derivatives have exploded. Off-balance sheet assets don't require capital, leading to arbitrage and higher leverage.
- ▶ Interconnectedness results in opaque distribution of risks (German banks held U.S. subprime-based assets)

Systemic risk: contagion

- ▶ Risk that some financial shock causes a set of markets or institutions to simultaneously fail to function effectively
 - Indiscriminate run by short-term creditors of FIs that can cause solvent FIs due to fire sales needed to fund withdrawals
 - Bank runs – general collapse of depositor confidence; panic
 - Herding behavior due to correlated asset strategies
- ▶ Diamond–Dybvig model of bank runs: a run can be self-fulfilling based on depositors’ expectations
- ▶ Asymmetric information theories of rational, information-based bank runs

Sources: Hal Scott, Connectedness and Contagion (2016); “[Systemic risks and macroprudential bank regulation](#)” (April 2011)

Financial crises always are demands for cash by lenders

- ▶ Gary Gorton: The problem in the market economy is that depositors need bank money (on demand at par), but the private sector cannot create riskless collateral to back the money – only the government can (Treasuries)
 - Aaa-rated MBS collateral turned out to be very risky
- ▶ Gorton theorizes that “money” is or should be “information-insensitive”. This broke down in FC.
- ▶ Shadow banking was an example of contagion but invisible to the American public (and many in Congress)
 - Instead of long lines of retail depositors, the shadow-banking run took place on Wall Street trading floors

Does contagion explain the financial crisis?

- ▶ Hal Scott: contagion, not connectedness, explains the financial crisis
 - Asset connectedness universally rejected as plausible cause of the crisis
 - Liability connectedness: Lehman's failure didn't pose this risk – not a significant funder in U.S. system
 - Our financial system still depends on \$7.4 to 8.2 trillion of runnable and uninsured short-term liabilities (< 1 mo. maturity) and non-banks hold 60%
- ▶ But Dodd-Frank is structured based on assumption that interconnectedness was the major source of the financial crisis
 - Capital adequacy regulation, including capital surcharges and CCAR/DFAST
 - Warren Buffet: “No capital requirements protect you against a real run.”
 - Capital and liquidity requirements designed *ex ante* to prevent contagion, not fight it when it occurs and only apply to banks and two nonbank SIFIs
 - Central clearing of OTC derivatives (swaps)
 - Net exposure limits for banks
 - Designation of systemically important financial institutions (SIFIs)
 - Orderly Liquidation Authority hasn't been tested
- ▶ With strong anti-contagion weapons, we can let LCFIs fail

Parsing “too big to fail”

- ▶ TBTF term aptly describes a scenario in the financial markets with potentially catastrophic collateral consequences
 - A failing TBTF firm could start a financial crisis (e.g., LCTM) or a crisis could cause such a firm to fail and need a bailout
 - Generally only applies to FIs where systemic risk is at issue
 - But GM and Chrysler were also bailed out!
- ▶ *Bailouts* take many forms, ranging from nationalization, explicit infusion of cash through equity investment, government guarantees, to purchases of deteriorating assets and shotgun marriages
 - Fed acting as lender of last resort, i.e., as a liquidity provider lending against adequate collateral of solvent FIs, is not a bailout
- ▶ Bailouts of TBTF FIs are one type of government action to mitigate systemic risk
 - Simply put, Dodd–Frank is an attempt to legislate *ex ante* ways of addressing TBTF and systemic risk

TBTF and moral hazard

- ▶ More fundamental issue goes beyond the source of funds used for a bailout
- ▶ U.S. government vastly expanded safety net in financial crisis, exacerbating TBTF problem
- ▶ Potential of a creditor bailout, due to previous bailouts, creates “moral hazard,” altering incentives of market participants:
 1. Incentive for large FIs to become even larger, creating ground for even bigger financial crisis
 2. Incentive for large FIs to increase leverage
 3. Less incentive for creditors to monitor risk of borrower
 4. Implicit federal guarantee reduces funding costs to competitive disadvantage of smaller FIs (outgrowth of (2))
 5. Plausible argument: moral hazard led to greater risk-taking prior to the FC and rescue of Bear Stearns led to greater risk taking of Lehman Brothers

Political resonance of “TBTF”

- ▶ “TBTF” and “bailout” are politically charged buzz words
- ▶ Vast majority of politicians and pundits don’t understand the issues involving TBTF and bailouts or historical conditions that led to them
 - Politicians’ obsession with bailouts is driven by populist outrage on both right and left over the government’s rescues of FIs in the FC
- ▶ TBTF closely related to the broader concept, “too big to jail” (Brandon Garrett)
- ▶ Some conservatives argue that no matter how large, let the FI fail, reflecting *economism* beliefs

Obsessive focus on TBTF is counterproductive ... and dangerous

- ▶ Many scholars argue that, instead of the obsessive focus on TBTF, regulation should attempt to minimize the severity and after-effects of a financial crisis.
 - Economists Rogoff and Reinhart demonstrate, the worst after effects arise from an over-leveraged financial system, leading to systemic crises (*This Time is Different*)
 - Following the 2007–9 crisis, banks could not lend because they had depleted their capital
 - After the dot.com bubble burst in 2000, the recession was relatively mild because it was equity-driven.
- ▶ Curtailing Fed's power to intervene in a financial crisis is short-sighted
 - Dodd-Frank amended §13(3) of Federal Reserve Act to limit Fed's discounting powers for non-banks to "broad-based eligibility". In FC, Fed used §13(3) for individual non-bank FIs
- ▶ Combine fiscal and monetary policies to reduce likelihood of financial crises and severity when they do occur

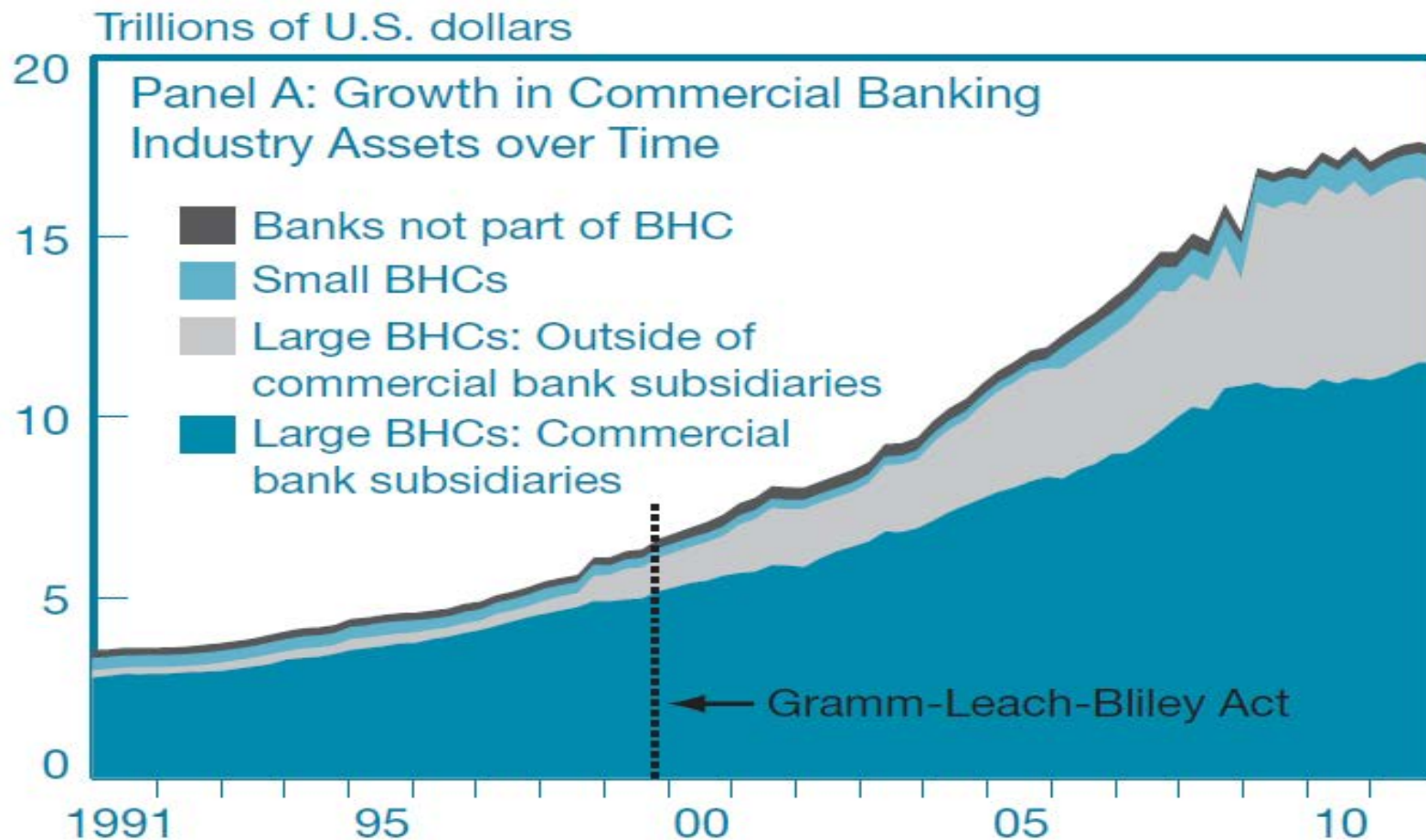
Historical precedents for TBTF

- ▶ Concept of TBTF was created decades ago by several taxpayer-funded rescues or interventions by the government to prevent a likely financial crisis
- ▶ 1984 Continental Illinois, 1994 Mexican peso crisis, LTCM in 1998 (“good offices” of Fed), 2008 bailouts
- ▶ Individual rescues by FDIC designed not to be bailouts because they tap the insurance fund assessed against banks
- ▶ S&L crisis did involve bailouts but no TBTF firms
- ▶ In many cases the Fed has injected emergency liquidity into the financial system
 - Though technically not bailouts, they were controversial, particularly the numerous funding facilities initiated in 2008–9

Increasing industry concentration and complexity

- ▶ Gramm–Leach Bliley Act of 1999 (GLBA) and other deregulatory moves greatly enhanced industry concentration on a large scale
 - Emergence of large “universal banking” model
- ▶ GLBA greatly accelerated trend that began in 1970s when Glass–Steagall Act’s barriers began to erode
- ▶ Riegle–Neal Interstate Banking and Branching Efficiency Act of 1994 dismantled the centuries–old restrictions on interstate banking, allowing bank holding companies (BHCs) to realize full economies of scale
- ▶ The BHC structure became a favored legal mechanism as a market response to highly restrictive state bank regulation
 - Allow firm to expand, via subsidiaries, into nonbanking activities such as securities underwriting
- ▶ Growing complexity of BHCs
 - As of 4th Q 2011, the top four BHCs owned over 2,000 subsidiaries
 - In 1991, only one firm had over 500 subsidiaries
 - Each of the seven most internationally active banks controls subsidiaries in at least 40 countries

GLBA contributed to concentration in the banking industry

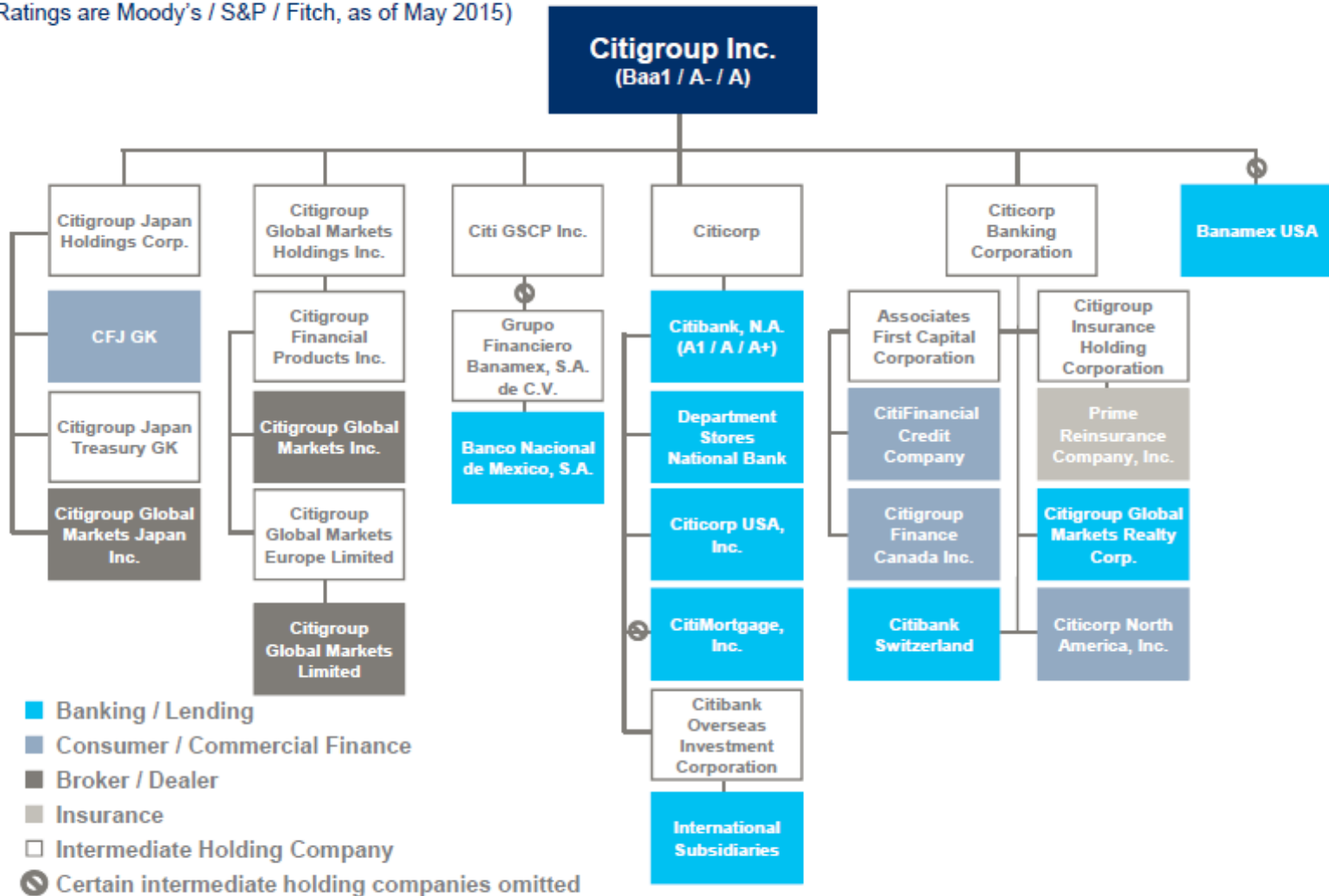


Source: FRBNY (based on data from National Information Center; FRB Y-9C; FFIEC 031; FFIEC 041).

BHC example: Citigroup Inc.

Citigroup Organization

(Ratings are Moody's / S&P / Fitch, as of May 2015)



Note: For a list of ratings for Citigroup Inc. and certain subsidiaries, please see the Citigroup Investor Relations website: <http://www.citigroup.com/citi/investor/rate.htm>.

Overview of current banking regulatory framework

- » Federal Reserve System, OCC, FDIC
- Bank examination process
- Dodd–Frank Act
- Financial Stability Oversight Council (FSOC)

Functional regulation under GBLA

- ▶ GLBA systematized the regulation of activities that were “not related to banking”
 - Introduced concept of a “financial holding company” (FHC) that contains the non-banking subsidiaries of a BHC
- ▶ FHC status allows a company to undertake an extremely broad range of “financial” activities such as securities underwriting, merchant banking, and activities “incidental” or “complementary” to financial activities according to a highly indefinite set of standards
- ▶ GLBA mandates functional regulation of non-bank subsidiaries
 - SEC regulates broker-dealers, the CFTC, commodities future commission merchants, and the state insurance commissioners, insurance subsidiaries
- ▶ Nearly all large BHCs are now registered as FHCs

U.S. banking regulation: background

- ▶ Highly fragmented, driven by historically powerful states, resulting in a confusing patchwork of regulatory governance
- ▶ Significantly contributes to regulatory arbitrage
- ▶ U.S. has a “dual” banking system with either federal or state charters
 - All institutions that accept deposits must obtain a charter from either states or U.S. government
- ▶ Most countries have only one bank regulator
 - Japan and U.K.: one financial-services agency combines regulatory authority over banking, securities and insurance industries
- ▶ On U.S. federal level, 3 main federal bank regulators
 - Fed, OCC, and FDIC
 - Additionally, Farm Credit Administration, Federal Housing Financial Agency
- ▶ Generally, each banking institution has a “primary regulator,” with some firms having more than one regulator

Federal Reserve Board (Fed)

- ▶ Each banking institution has a “primary regulator,” with some firms having more than one regulator
- ▶ Fed is the primary regulator of state–chartered banks that are members of the Federal Reserve System, and international banking operations in the U.S. organized as BHCs
- ▶ Fed also has “consolidated supervisory authority” over BHCs
 - Allows Fed to have integrated oversight of the banking system

Office of Controller of the Currency (OCC)

- ▶ Under U.S. Department of Treasury, the oldest of the banking regulators (founded 1863)
- ▶ Primary supervisor for national banks, and federal branches of foreign banks operating in U.S.
- ▶ Also supervises thrifts and federal savings associations
- ▶ OCC's primary mission: to ensure that banks under its jurisdiction operate in a "safe and sound" manner, provide fair access to financial services, treat customers fairly, and comply with applicable laws and regulations
- ▶ Fed's and OCC's broad jurisdiction grew slowly over time

Federal Deposit Insurance Corporation (FDIC)

- ▶ Created in 1933 after long period of experimentation with bank runs under state regulation
- ▶ FDIC provides insurance on customer banking deposits up to \$250,000 and puts insolvent banks into receivership; it does not charter banks
- ▶ FDIC, like other bank agencies, also oversees compliance with federal consumer protection laws (those not covered by CFPB), federal lending statutes, and Community Reinvestment Act (CRA)
 - CRA seeks to ensure availability of loans and credit to consumers, including low-income groups
- ▶ FDIC supervises all “state non-member banks:” any state or national bank that is not a member of the Federal Reserve System

Prudential regulation and the role of bank examinations

- ▶ Prudential regulation's objective is to ensure the safety of depositors' funds, and safety and soundness and stability of the financial system
- ▶ Prudential regulation includes monitoring of banks' asset quality, capital adequacy, management, operations, and more generally their risk-taking activities, formalized by "CAMELS" rating system
- ▶ CAMELS: Capital, Assets, Management, Earnings, Liquidity, Sensitivity to market risk
- ▶ Based on a CAMELS evaluation, banking regulators assign a *composite* and *component* rating on a numerical scale from 1–5 to every depository institution ("1" is strongest)
 - *Composite* ratings look to the institution's overall managerial, operational, financial, and compliance performance
 - *Component* ratings reflect in-depth assessments of each CAMELS component

Brief overview of Dodd–Frank Act

- ▶ First comprehensive regulation of financial system since New Deal – 75 years before
- ▶ Dodd–Frank set up Financial Stability Oversight Council (FSOC) and Office of Financial Research (OFR) to identify future risks and study how to respond to them
- ▶ FSOC has power to designate systemically important financial institutions (SIFIs)
 - ▶ All BHCs > \$50 billion in assets and non-depository institutions (only 2 now) + 8 “financial market utilities” (e.g., CME)
 - ▶ “Could pose a threat to the financial stability of the U.S.”

Dodd-Frank: title-by-title summary

- ▶ Dodd-Frank is broken down into titles, by subject matter
 - Title I: financial stability – systemic risk and oversight
 - Title II: Orderly Liquidation Authority (FDIC)
 - Title III: FDIC insurance – \$250K permanent cap
 - Title IV: Regulation of hedge and private equity funds
 - Title V: Insurance reform – Office of National Insurance
 - Title VI: Enhances Fed authority to approve bank acquisitions, counter-cyclical capital buffers; Volcker rule
 - Title VII: Swaps and derivatives regulation
 - Title VIII: Payment, clearing, and settlement supervision
 - Title IX: Investor protections and improvements to securities regulation, whistleblower protections, ABS disclosure, exec. Compensation
 - Title X: Consumer Financial Protection Bureau
 - Title XI: Fed no longer has emergency rescue authority for individual institutions but can institute sector-wide facilities
 - Titles XII–XIV: Miscellaneous, includes anti-predatory lending act
- ▶ Nearly every title attempts, in some manner, to address systemic risk

FSOC: one approach to regulating systemic risk and TBTF

- ▶ Prior to FC, regulators focused narrowly on individual institutions and markets
 - Allowed supervisory gaps to emerge and regulatory inconsistencies in regulating firms performing similar functions → regulatory arbitrage
 - No single regulator focused on interconnections among different financial institutions and markets
- ▶ FSOC is designed to fill this regulatory gap
- ▶ 10 financial market regulatory agencies belong to FSOC
 - ▶ Chaired by Secretary of Treasury
- ▶ Identifies risks to the financial system via Office of Financial Research
- ▶ Designates SIFIs
- ▶ Responds to emerging threats to financial stability
- ▶ Requires 2/3 vote of FSOC and a “yes” by Treasury

SIFI designation: costs and consequences

- ▶ Subjects firm to consolidated Fed supervision: intensive and extensive examination powers throughout the company
- ▶ “Enhanced prudential measures”
 - Higher capital requirements
 - Liquidity coverage ratios
 - Leverage (debt-to-equity) limits
 - Fed stress testing
 - Increased reporting obligations
 - Subject to special FDIC resolution process (Orderly Liquidation Authority); must submit “living will” annually
 - Risk management requirements

Capital adequacy approach to systemic risk



Inherent fragility of banks' business model

Basel III capital adequacy

Fed's stress testing (CCAR)

Critiques – regulators and academics

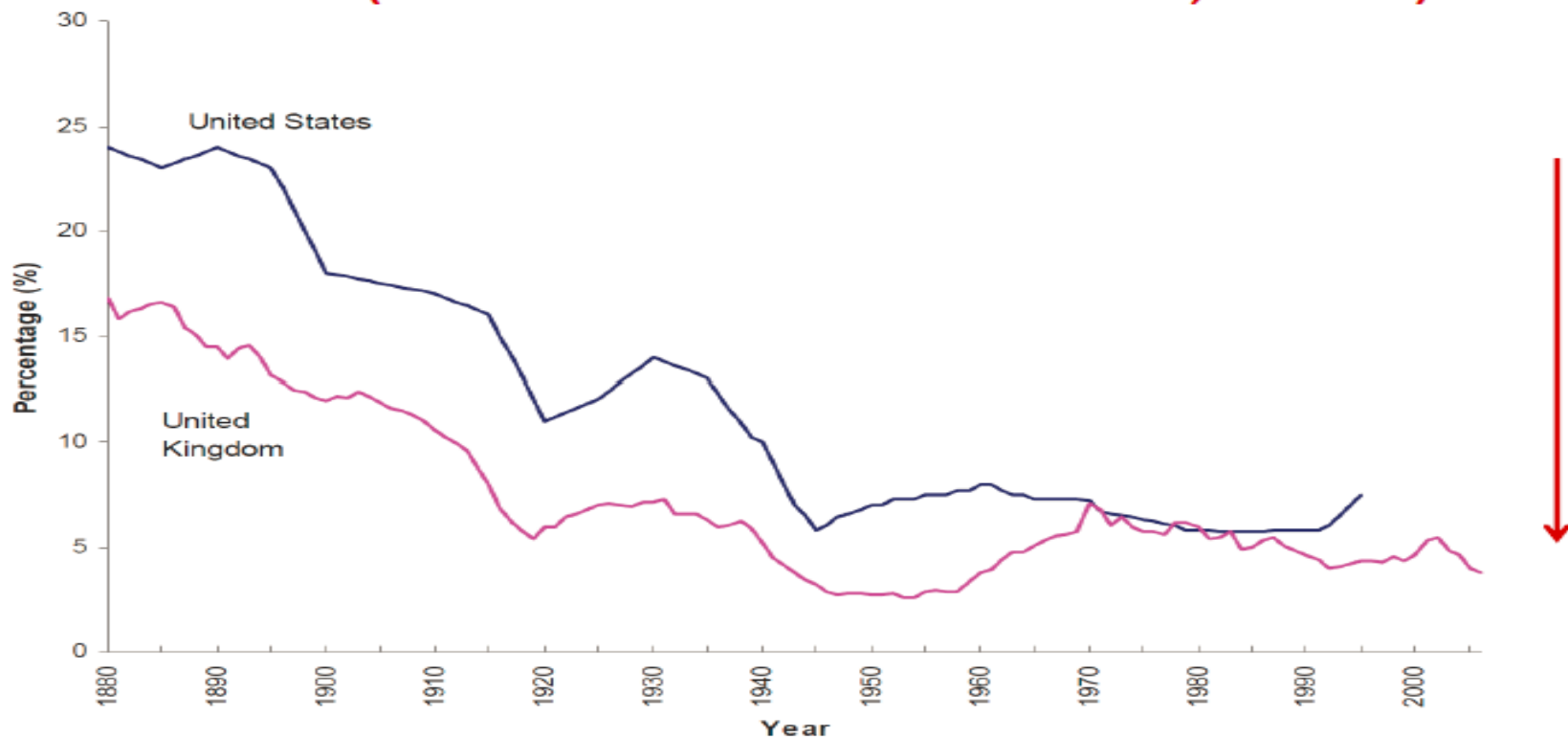
Congressional and Administration proposals

Central role of capital in history of bank regulation

- ▶ Bank capital adequacy rules are the default approach to regulating banks, beginning with the Basel Accord in 1980s
- ▶ Function of bank capital
 - Protect insurance deposit fund and thereby U.S. taxpayer
 - Reduce likelihood that economic shocks (e.g., fluctuating interest rates) result in bank failures
 - Owners are first in line to absorb losses, as they should
 - Higher capital reduces incentive to take risky bets with insured deposits
 - Financial crisis also highlighted role of bank capital in ensuring continued lending in an economic downturn
 - Great Recession was deep and prolonged in part due to banks' lack of capital lost in subprime meltdown and financial crisis
- ▶ Failure of bank capital to protect the system in FC led Congress to enhance bank capital regulation, but to also introduce other, structural protections (FSOC, living wills)

Increase in bank leverage (decreasing equity): 1880–2009

History of Banking Leverage in US and UK (Alesandri 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.

Short primer on regulatory capital

- ▶ Capital (or equity) = amount of equity on the balance sheet = total assets *minus* total liabilities
- ▶ Bank regulatory leverage: key ratio is “regulatory capital” as a % of total adjusted assets (risk-weighted assets (RWA) under U.S. Basel)
- ▶ Two components of bank regulation:
 - Regulatory minimum of capital
 - Exam-based supervision (e.g., stress testing) – regulator has discretion to require additional capital
- ▶ What is bank capital?
 - ▶ Shareholders’ equity, retained earnings, or subordinated debt on balance sheet

Examples: JPMorgan v. Apple

- ▶ JPMorgan Chase (e.g., as of Mar. 31, 2014)
 - ▶ Total assets = \$2.48 trillion
 - ▶ Total liabilities = \$2.26 trillion
 - ▶ Total equity = \$0.22 trillion
 - Amount of capital as % of assets = 8.9%
- ▶ Compare with non-financial institution: Apple (Mar. 31, 2014)
 - ▶ Total assets = \$206 billion
 - ▶ Total liabilities = \$85.8 billion
 - ▶ Total equity = \$120.0 billion
 - Amount of capital as % of assets = 58.3%

Inherent fragility of banking business model

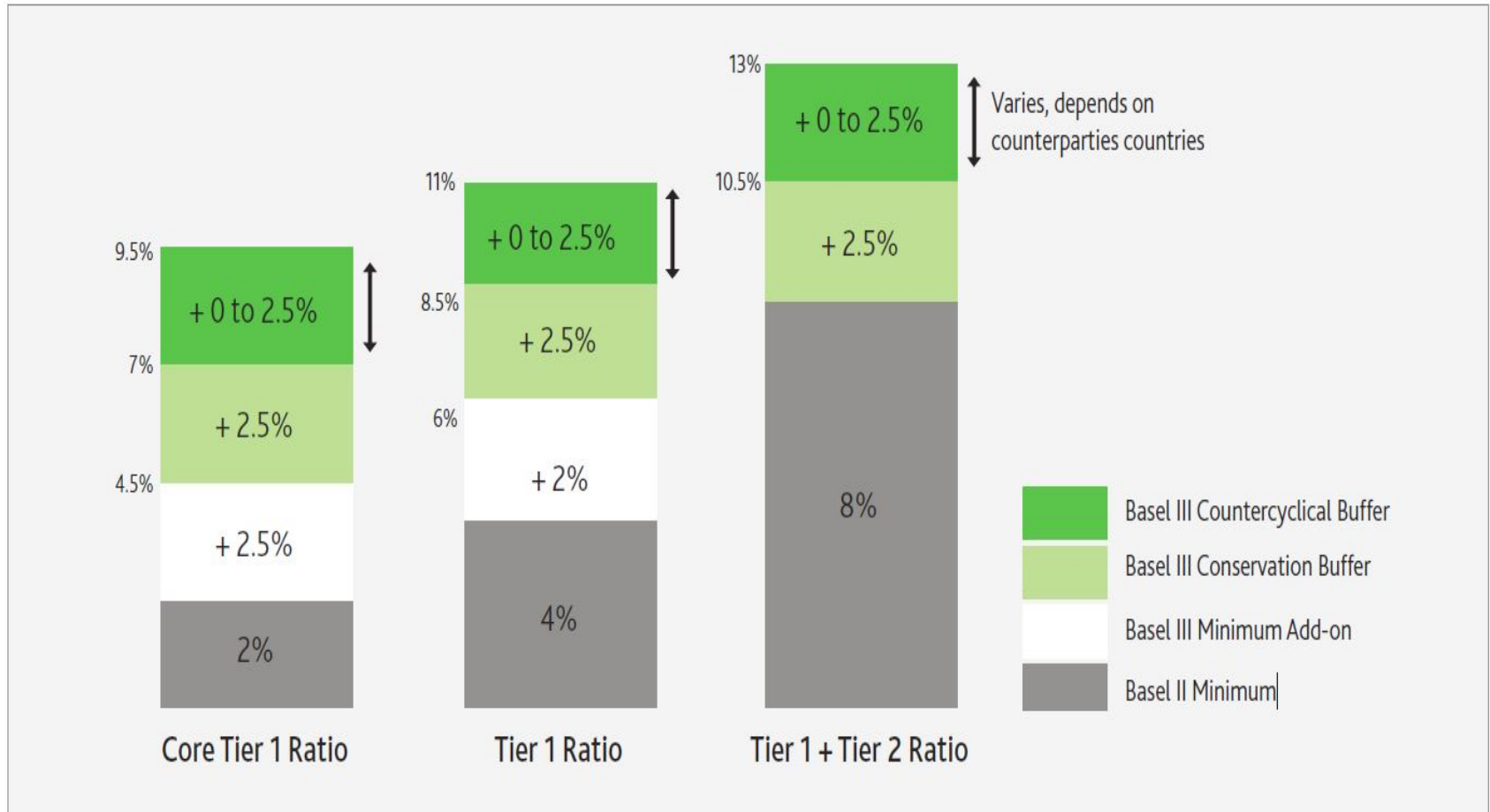
- ▶ Why do banks have so little capital?
- ▶ Unique service of maturity and liquidity transformation
 - Banks offer on-demand liquidity to depositors and funding of long-term, illiquid assets (loans) for business and retail borrowers
- ▶ Seek to build large, low-cost interest- and non-interest bearing deposit base that funds long-term, higher yielding assets → maximize net interest income
- ▶ Also function of fractional reserve banking, guaranteed by FDIC insurance
- ▶ Non-depository FIs follow similar business model (*shadow-banking*) but without explicit government backstop
- ▶ Result – significant liquidity, credit, and market risks

Basel III as implemented in U.S.

- ▶ History of capital regulation
 - At end of the 1970s, capital regulation was relatively ad hoc and depended largely on the judgment and discretion of a bank's supervisors
 - Flat % of balance sheet items
- ▶ Today: Basel Accord – U.S. adopted Basel I, skipped Basel II, and adopted Basel III
- ▶ Basel's regulatory capital ratio = regulatory capital / RWA
 - ▶ $RWA = \text{non-riskless assets} \times \text{pre-determined \% (risk weighting)}$

Enhancements to regulatory capital from Basel II to Basel III

Basel II vs. Basel III Capital Ratios



New Basel III regulatory capital framework

- ▶ Basel III endeavors to enhance capital requirements by “purifying” the type of capital in the numerator and further refining the risk weights in the denominator (RWA)
 - New, “common equity tier 1” (CET1) category = 4.5%; 6.0% of tier 1 capital (CET1 + additional tier 1 capital); and tier 2 capital (remaining 2.0%)
- ▶ Increases risk weights for various asset classes – thus, requiring more capital against assets that proved to be risky in the FC
 - E.g. – different risk weights for sovereign bonds (pre-FC, 0% risk weights for all EU countries (including Greece))
- ▶ Amount of capital ↑: *Eligible* capital ↓ / risk weighted assets ↑ (off-balance sheet items now accounted for)
- ▶ New capital requirement: leverage ratio (3% of *total* assets, off- and on-balance sheet)
- ▶ Result – largest, most complex banking institutions have to have common equity up to 14% of RWA, roughly double what they held in 2007

Comprehensive Capital Analysis and Review (CCAR) – stress test

- ▶ Post-crisis, Fed and other bank regulators have put stress testing front and center of regulatory program
- ▶ CCAR is the Fed's stress testing program for the largest BHCs (systemically important)
- ▶ Senior management takes CCAR exercise extremely seriously – Fed can prohibit capital distributions and stock buybacks
- ▶ CCAR is extremely costly in demands on risk analysis, compliance, and risk management throughout the LCFI
- ▶ Annual CCAR cycle:
 - Details of the stress scenario and changes announced in late November
 - Submission of capital plans due in early January
 - Results announced in March, when the Fed would accept or reject each bank's capital plan
- ▶ Three stress scenarios and 28 variables
 - Baseline, Adverse, and Severely Adverse scenarios

CCAR: quantitative & qualitative components

- ▶ **Qualitative:** Multidisciplinary assessment of strength of each BHC's internal capital planning processes. **Banks create own models in assessing their capital plan.**
 - Focus on BHC's internal procedures and risk management in determining *amount* and *composition* of capital to continue during severe stress
- ▶ **Quantitative:** Rigorous assessment of BHC's capital adequacy even in stressed conditions and BHC continued planned capital actions. **Fed uses its own models to assess losses and capital ratios compared to banks' modeling output.**
 - Each BHC's ability to take capital actions according to its capital plan and maintain post-stress capital ratios above a 5% of CET1 ratio and above applicable minimum regulatory capital ratios during each quarter of planning horizon

Focus of CCAR 2016 stress tests

- ▶ Whether BHC had a comprehensive process for identifying full range of relevant risks arising from its exposures and business mix, including exposures that may become apparent only under stress
 - FRB considers effective *risk-identification process* to be fundamental to capital adequacy
 - Process should cover both on- and off-balance sheet exposures, and significant business lines and operations
- ▶ In 2016 FRB had significantly heightened expectations and more stringent standards for BHCs subject to Fed's "Large Institution Supervision Coordinating Program" (LISCC) program
 - LISCC program created in 2010 to coordinate a data-driven approach to supervising systemically important firms
- ▶ In addition, Fed applies a global market shock and counterparty default scenario components to a subset of the largest BHCs

Fed's regulatory expectations for LISCC firms

SR 15-18: Federal Reserve Supervisory Assessment of Capital Planning and Positions for Large Institution Supervision Coordinating Committee (LISCC) Firms and Large and Complex Firms

“The Federal Reserve expects a LISCC Firm and a Large and Complex Firm to have a more formal risk identification process

- ▶ quarterly updates
- ▶ identify difficult-to-quantify risks
- ▶ segment risks at more granular levels
- ▶ involve multiple stakeholders across the firm in identifying material risks
- ▶ critically assess risk transfer techniques
- ▶ use quantitative approaches supported by expert judgment for risk management

CCAR's requirements in 2017

- ▶ 13 of the largest and most complex BHCs subject to both a quantitative and qualitative evaluation of their capital planning capabilities
- ▶ 21 BHCs with less complex operations no longer be subject to the qualitative portion of CCAR
- ▶ Qualitative component is the most demanding and costly for BHCs and what they find most objectionable

Model risk management under CCAR

- ▶ Errors in modeling assumptions concerning data inputs, and modeling methodologies played a central role in FC
- ▶ Fed's model risk management (MRM) is a cornerstone of CCAR program (SR 11-7 guidance)
- ▶ Models are used in financial institutions for many purposes, beyond CCAR:
 - ▶ Identifying and measuring risks, valuing counterparty exposures, instruments or positions, credit losses
 - ▶ Measuring compliance with internal limits
 - ▶ Testing feasibility of business strategies
- ▶ OCC back in 2000: all financial models prone to error; thus, certain procedural activities, by independent parties, are needed to identify and eliminate errors

Criticisms and proposals to reform capital approach to systemic risk

- » Model complexity
- Ineffectiveness against contagion risk
- Too much discretion in CCAR
- Regulators are listening
- Too much capital!
- Not enough capital!

Drawbacks of current capital approach: model complexity

- ▶ Andrew Haldane (BOE economist): bloated complexity
 - Basel I 30 pages; five different risk weights, 0% to 100%. Basel I was arbitrated
 - Basel II, 347 pages: introduced market risk assessments, allowing banks to use internal models to calculate capital
 - Move to internal models, and from broad asset classes to individual loan exposures, led to ballooning in estimated risk weights. But also heavily gamed by banks
 - Basel III, post-financial crisis: 616 pages
 - Primary source of complexity is granular, model-based risk weighting in capital ratio's denominator
- ▶ Risk categories in RWA calculations have exploded: desire to achieve greater risk sensitivity (granularity)
 - Large bank: from around 7 under Basel I to 200,000 under Basel II, to 200 million calculations to determine regulatory capital ratio (Haldane)

Increase of model risk and consequences

- ▶ Models can be “overfitted” – random error or noise due to too many, highly sensitive parameter estimates
- ▶ Haldane: “The Dog and the Frisbee” (2012)
 - Dogs follow rule of thumb instead of aerodynamic calculations
 - Herbert Simon’s theory of “bounded rationality”
- ▶ Complex rules may cause people to “manage to the rules” for fear of falling foul of them. The trees for the forest.
- ▶ But recent evidence of a return to less complexity
 - Basel Committee’s “fundamental review of trading book” curtails use by large banks of internal modeling to calculate their capital requirements
 - Fall-back to “standard” approach in which regulator pre-assigns risk weights

Ineffectiveness of capital against contagion risk

- ▶ Several scholars argue no amount of capital will protect against short-term debt panics
- ▶ Diamond–Dybvig model of bank runs: rational behavior by depositors based on expectations of what others will do (not amount of capital)
 - Lender of last resort is critical, but only for solvent banks (liquidity lending)
 - Fractional reserve banking ⇒ fund withdrawals only with fire sales of long-term illiquid assets
- ▶ But capital regulation is not directed at contagion
 - Reduces number of insolvent banks in a crisis
 - But opacity of banks' balance sheet causes system-wide hoarding of cash

Criticisms of CCAR

- ▶ Fed has too much discretion to keep moving the goal post in both quantitative and qualitative components
- ▶ Fed's stress tests create potential for new systemic crises (Kevin Dowd)
 - Fed tests are overly prescriptive and suppress innovation and diversity in bank risk management
 - Expose whole financial system to the weaknesses in the Fed's models and greatly increase systemic risk
- ▶ Fed has no credible forecasting track record so can't be entrusted to tell banks how to forecast their risks

Jamie Dimon's 2017 letter to shareholders

- ▶ “Essentially too big to fail has been solved.”
- ▶ “It is clear that banks have too much capital.”
- ▶ More of that capital can be used to finance the economy.

Academics' critique

- ▶ Banks assert: regulations require banks to *hold* too much capital, *reducing* ability to lend
- ▶ Anat Admati: Rhetorical and nonsensical. Banks choose to borrow cheaply. They should behave like other companies by borrowing less and financing operations with equity. Banks should have at least 30% equity.
- ▶ John Cochrane's critique of Dimon's "holding too much capital" argument
 - Banks get money from equity holders, bond holders, and deposits, and lend it out. Capital requirements are about the ratio of sources of money. (At best, lower capital requirements would allow banks to borrow more money without issuing more equity to lend. If they wanted to.) Capital is not reserves.
 - "No bank "holds" capital, and I hope Mr. Dimon didn't actually say that, as much as he would like lower capital requirements. Capital is not "held" like reserves."

Financial Choice Act 2.0

- ▶ “The Financial Choice Act: Growth for All, Bailouts for None” – would eliminate much systemic regulation and supervision for large, well-capitalized banks
 - May 4 – approved by House Financial Services Committee
- ▶ If BHC has at least 10% leverage ratio (% of total, non-risk adjusted assets, both on- and off-balance sheet), it can opt out of:
 - Basel III capital regulation
 - All stress testing requirements
- ▶ Even if BHC does not opt out, Choice Act would:
 - Prohibit agencies from blocking capital distributions if BHC meets qualitative component
 - Require more transparency of stress test methodology and data
 - Put CCAR stress tests on biannual cycle

FDIC Hoenig's capital regulation proposals

- ▶ Thomas Hoenig, Vice Chair of FDIC, proposed new approach for BHCs with non-banking activities
- ▶ Remove risk-weighted capital requirements, stress testing, and failure resolution planning, replacing all of the above with a 10% leverage ratio and internal restructuring
- ▶ Eliminate CCAR, risk-based capital rules (e.g., RWA), among other things

William Dudley's ideas on reforming CCAR

- ▶ Keep in mind the goal: Ensure all systemically important FIs have enough capital and liquidity so that risk of failure is very low.
- ▶ Majority of banks aren't in "systemically important" category and have less ability to spread compliance costs across businesses.
- ▶ Regulatory and compliance burdens can be much smaller.
- ▶ Increase in compliance burden can give larger firms a competitive advantage.
- ▶ The \$50 billion threshold for a higher prudential regime could be raised.
- ▶ Fed recently removed CCAR qualitative assessment for large, non-complex firms.

Dudley, Speech, "Principles for Financial Regulatory Reform" (April 21, 2017)

Structural solution to systemic risk

- »» Volcker rule
 - Repeal the Volcker rule
 - Modify the Volcker rule
 - Glass-Steagall v.2
 - Break them up!

Overview of Volcker rule

- ▶ Primary objective is to prevent banking institutions from engaging in proprietary trading and risky investments, which put FDIC insurance fund at risk
- ▶ One of most contested rules under Dodd–Frank
 - Proprietary trading is big source of profit for banks
 - OCC estimated up to \$4.3 billion one–time charge
 - Significant ongoing costs in compliance with a complex rule
 - Forced Goldman Sachs, Morgan Stanley, and other large banks to spin off hedge funds and private–equity subsidiaries
- ▶ Lengthy rulemaking by 5 agencies, resulting in a nearly 1,000–page final rule adopting release
 - Final rule issued in December 2013, but long grace period for divesting private–equity holdings

Paul Volcker on “culture” of Wall Street created by proprietary trading

- ▶ Volcker views proprietary trading as destructive of the traditional, conservative values of a bank
- ▶ Volcker would like to limit banks to utility-type “essential” banking services

“The point is that this kind of trading affects the culture of the whole institution. And when it becomes important in the institution — when you’ve got some very highly paid people taking this kind of risk and speculating — people elsewhere in that commercial bank, traditionally conservative people, worried about credits and being careful say, ‘What’s going on here? I want to be better paid too and I want to take some more risk.’”

[“The Volcker Rule: An Essential Reader,”](#)
Interview with Bill Moyers (2012)

“Market-making” exemption

- ▶ Market-makers provide liquidity to a market
 - A broker-dealer that accepts risk of holding an inventory of a given security to facilitate customer orders for buying or selling such security
- ▶ Rule puts burden on bank to demonstrate genuine market-making – facilitating customer orders
- ▶ Most controversial aspect – extensive analysis of past trading data
 - Criticized as overly complex, unworkable: no bright line dividing market making from proprietary trading
 - Unrealistic means of rebutting presumption of prop trading
 - Extensive reporting, documentation, compliance requirements to monitor and prevent gaming of this exception
 - Criticized for reducing market liquidity but evidence is not conclusive
- ▶ Nevertheless, the most widely used exemption
- ▶ Trading desks must continuously set, justify, monitor risk and position limits to demonstrate “market making”

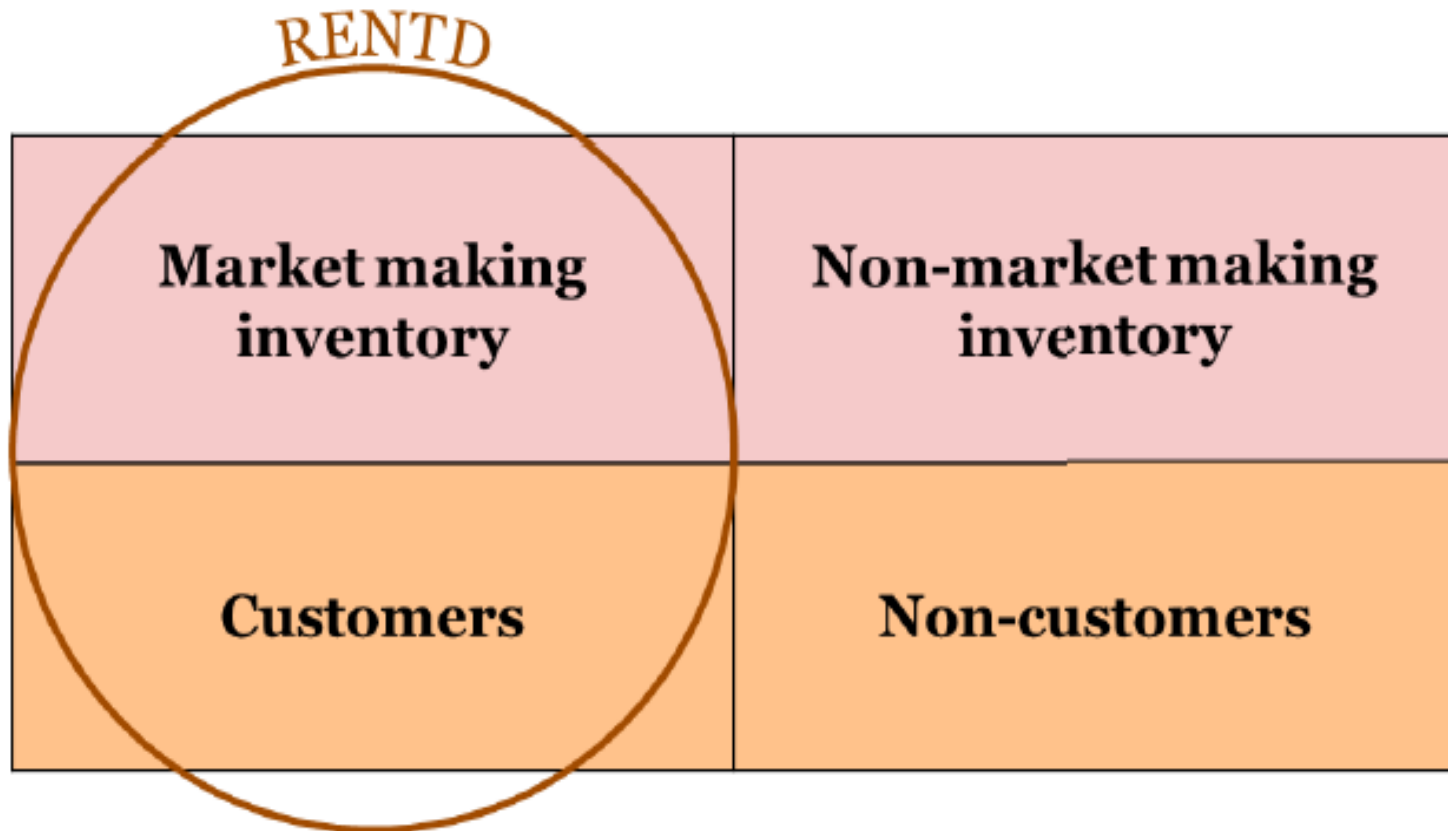
Elements of market-making exemption

- ▶ Market making activities permitted only if:
 - Relevant trading desk “routinely stands ready” to purchase and sell one or more types of financial instruments related to its financial exposure
 - Desk is willing and available to quote, purchase or sell those types of FIs for its own account in commercially reasonable amounts and throughout market cycles
 - On a basis appropriate for the liquidity, maturity and depth of the market for the relevant types of FIs
- ▶ Amount, types, and risks of financial instruments in trading desk’s inventory can’t exceed “reasonably expected near term demand” (RENTD) of clients, customers, or counterparties

RENTD: essential evidence of “market making”

- ▶ **RENTD** – an estimate of future customer demand based largely on past customer demand using trade-level data from customer trades
- ▶ **RENTD** calculations are challenging because pre-Volcker rule firms don't have IT systems that capture relevant data (e.g., data on market making inventory, trades with customers v. non-customers)
- ▶ **RENTD** itself is not a limit but used to show compliance
- ▶ Trading desk must take **RENTD** into account (i.e., show demonstrable analysis of customer demand) in setting risk and position limits in 4 areas:
 1. Market making inventory (FIs held for customer orders)
 2. Hedges
 3. Risk factors relating to overall financial exposure of desk's entire portfolio
 4. Inventory holding periods
- ▶ Desk can exceed **RENTD**-defined limit by demonstrating it is facilitating customer demand through monitoring, escalation, and approval process for resolving breaches

Portion of trading desk's activities used to calculate RENTD



Source: "[Volcker Rule: Are you really market making?](#)," PwC (Feb. 2015)

Specific elements of compliance program for market making exemption

- ▶ Must include written policies and procedures, internal controls, analysis and independent testing addressing:
 1. Instruments in which “trading desks” make a market
 2. Actions taken by trading desk to reduce or significantly mitigate promptly risks of its financial exposure
 3. Limits for each trading desk, based on nature and amount of trading desk’s market making–related activities
 4. Internal controls and ongoing monitoring and analysis of each trading desk’s compliance with its limits
 5. Authorization procedures, including escalation procedures, requiring review and approval of any trade exceeding a trading desk’s limit(s), with independent review of such analysis and approval

A “principles–based” critique of Volcker rule

- ▶ Volcker rule is largely a highly prescriptive, “rules–based” approach
- ▶ Why not simply state: “Thou shall not do proprietary trading”

Financial Choice Act 2.0

- ▶ Repeal Volcker rule
- ▶ Repeal FSOC's authority to break up large FIs upon Fed's recommendation
- ▶ Eliminate Office of Financial Research (OFR)

Hoening restructuring proposal

- ▶ 10% leverage ratio plus legally separated and capitalized banking/nonbanking entities, but no complete separation
- ▶ Traditional and nontraditional banking activities inside a Financial Holding Company (FHC):
 - Nontraditional intermediate holding company (NIHC) and bank intermediate holding company (BIHC)
- ▶ Tracking stock at parent holdco linked to P/L at NIHC imposes market discipline
- ▶ Purpose
 - Ensure public safety net is not expanded beyond traditional banking activities originally designed to support
 - Restore open market competition within financial services industry
- ▶ Volcker rule: banks still can't do prop trading but nonbank affiliates can with proper safeguards
- ▶ Limits on funding from FHC to ensure NIHC doesn't benefit from lower cost of funds of BIHC and imposes strong corporate governance on each

William Dudley on Volcker rule

- ▶ President of FRBNY
- ▶ Decline in market liquidity is inconclusive
- ▶ May be worth considering giving greater discretion to trading desks that facilitate client business to intervene when markets are illiquid and volatile
- ▶ Rule an unnecessary burden on community banks, which don't engage in the proscribed activities
 - Exempt them

Dudley, Speech, "Principles for Financial Regulatory Reform" (April 21, 2017)

Glass-Steagall v.2

- ▶ Senators McCain and Warren: “21st Glass Steagall” would “dial back the likelihood of future financial crises”
 - Separates traditional banks that offer savings and checking accounts insured by FDIC from riskier financial services (e.g., investment banking, insurance, swaps dealing, hedge fund and private equity activities)
 - Prohibits depository institutions from transactions that did not exist when Glass-Steagall was enacted (1933) (e.g., synthetic structured finance)
- ▶ Countering regulatory loopholes for risky activities
 - Specifies what activities are considered the "business of banking" and bars non-banking activities from being treated as "closely related" to banking
- ▶ Proposals presume to tackle TBTF: authors concede can't end TBTF but “moves in the right direction” by making FIs “smaller and safer”
- ▶ Contra Glass-Steagall v.2, Brian Moynihan (BoFA CEO/Chair):
 - “Reinstating [Glass-Steagall] would be crazy.” Universal banks can stabilize trading operations in times of stress. BoFA bought Merrill Lynch in 2008 “as the government raced to stop a chain reaction of failures.”
- ▶ Thus, argument that breaking up universal banks would *increase*, rather than *decrease*, fragility of banking system

FT interview with Steven Mnuchin

- ▶ Financial issues that existed when Glass–Steagall was originally created are very different today.
- ▶ Liquidity provision by banks is one of the most important functions that they do.
- ▶ I'm very focused on ... the definitions of the Volcker rule, making sure it provides proper liquidity.
- ▶ I don't think a full rollback of Glass–Steagall makes sense.
- ▶ Ring–fencing is one of the things we could consider.
- ▶ I intend to use FSOC as a very important tool as part of the administration's policies to make sure that there is proper coordination across the different regulators.

Break up the banks

- ▶ Most radical proposal: rather than restructuring the industry, forcibly reduce its concentration
- ▶ Simon Johnson (MIT) and James Kwak (UConn Law School): No evidence we need banks over \$100 billion in assets. Cap at 2%–4% of GDP. JPMorgan: \$2.5T in assets (13% of GDP).
- ▶ Skeptical that sufficiently high capital requirements could be enacted
- ▶ Practical difficulties of Johnson–Kwak proposal
 - How to divide up country's assets, debts and customers among successors?
 - May not result in any safer financial sector. Likely successor entities \$400B.
 - Analytical difficulty in determining TBTF. Fed tried to in its G–SIB systemic footprint rule.
 - Constrain organic growth? Force a company to turn customers away or end relationships with existing, profitable customers?
 - Who to decide how to break up? Government? The FIs themselves?
 - Breaking up by geography will eliminate geographical diversity. By business line will limit economies of scope.
- ▶ US banking sector is far less concentrated than in many other developed countries

Resolution approach to systemic risk

- » Case study: Lehman Brothers
Orderly Liquidation Authority
and “living wills”
Complex issues in resolutions
Alternative approaches to
winding down LCFIs

Case study: Lehman Brothers's bankruptcy – truly TBTF

- ▶ Lehman Brothers Holdings Inc. (Lehman Holdings), 4th largest U.S. investment bank, filed for bankruptcy protection under Ch. 11 of U.S. Bankruptcy Code on Sept. 15, 2008
 - Its subsidiaries filed for protection in following months
 - 209 subsidiaries in 21 countries
- ▶ Caused abrupt standstill in credit markets, cutting off life blood of credit to Main Street, contributing to severity of recession
- ▶ Bankruptcy was largest and most complex in U.S. history. At filing, Lehman was valued at \$639 million. Graphic demo of TBTF.
- ▶ Lack of Lehman Brothers' pre-bankruptcy planning exacerbated unwinding of its bankruptcy estate and reduced asset value
- ▶ Creditors' recovery rate was below historical averages for OTC derivatives, where much of bankruptcy's complexity lay
- ▶ Creditors filed about \$1.2 trillion of claims
- ▶ Lehman estate party to more than 900,000 derivatives contracts

Why was Lehman in trouble?

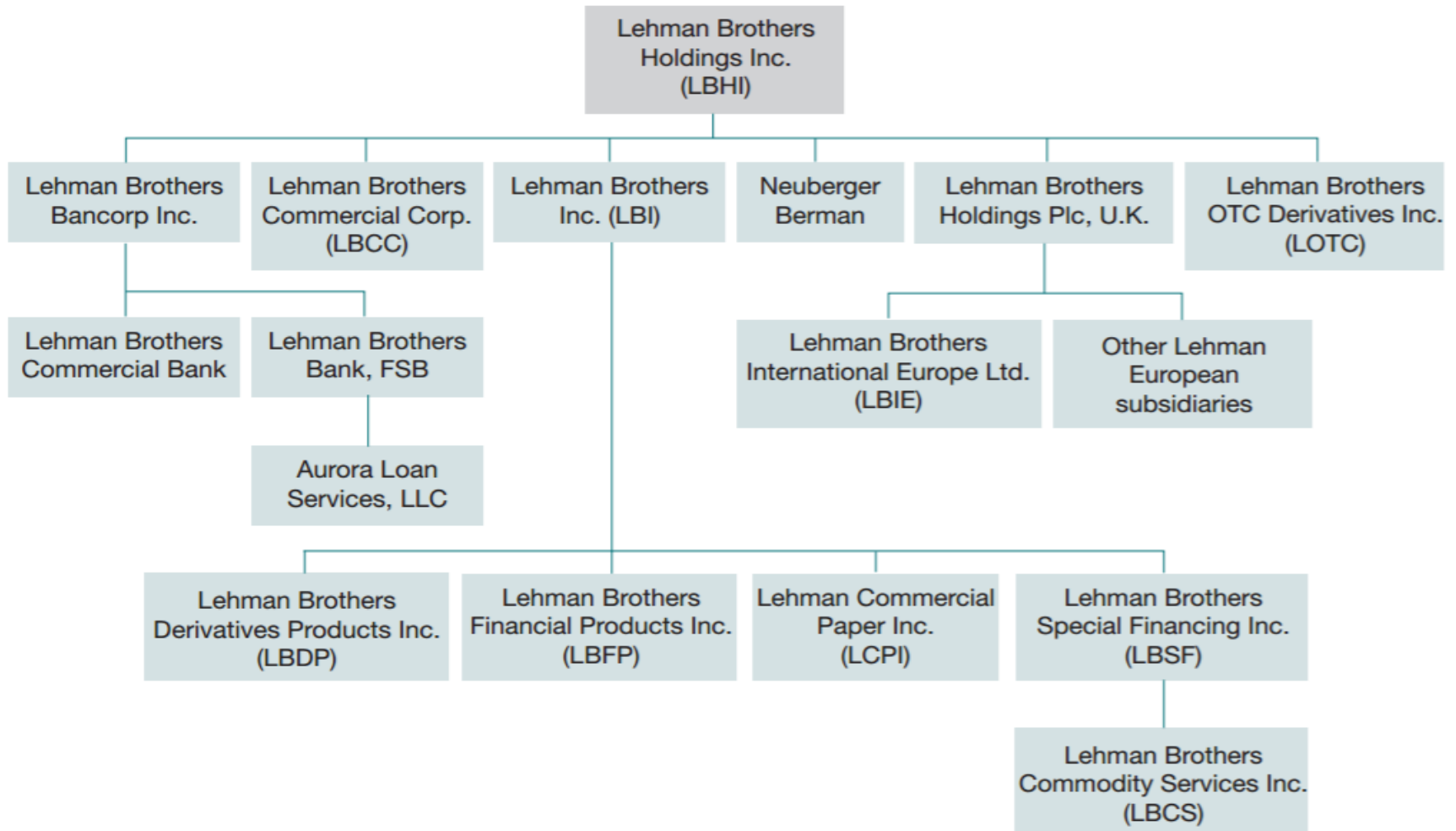
- ▶ Lehman held substantial positions in subprime assets generally and low-rated MBS as well as troubled commercial real estate assets
 - Huge losses occurred in lower rated MBS tranches in 2008; reported \$2.8 billion loss in Q2 2008
- ▶ As with other LCFIs, it borrowed short and lent long
 - Any contagion effect in the market relating to its type of assets (MBS-related) would impact Lehman due to the “bank run” by the short-term repo lenders
 - Got substantial financing in repo market, which began experiencing severe illiquidity problems with high haircuts
- ▶ Highly leveraged: Lehman’s leverage ratio (assets to shareholders’ equity) on eve of bankruptcy filing 31:1

Multiple regulators, jurisdictions involved in resolution

- ▶ U.S. bankruptcy court (Lehman Holdings and unregulated U.S. subsidiaries)
- ▶ SIPC (broker–dealer customer funds)
- ▶ Foreign insolvency regimes
 - Foreign broker–dealer regulators
- ▶ FDIC insured deposits in state–chartered and federally chartered thrifts
- ▶ Insurance subsidiaries (state insurance commissions)
- ▶ In addition to Bankruptcy Code (Lehman Holdings and subs) and SIPC (Lehman Brothers Inc., a broker–dealer), laws of more than 80 jurisdictions’ insolvency laws applied

Lehman Holdings: regulated and unregulated entities

Organization Chart for Lehman's U.S. and European Subsidiaries



Role of moral hazard in Lehman bankruptcy

- ▶ Some argue that rescue of Bear Stearns created market expectations – shared by Lehman executives – that the government would not let Lehman fail
- ▶ David Skeel (UPenn): Chairman Fuld and the Lehman board of directors had little reason to do pre-bankruptcy planning
 - Pre-bankruptcy planning is routine for any company that is experiencing financial distress, and particularly encountering funding difficulties
 - Arguably, a firm who has an implicit government backstop would do the opposite – deliberately fail to plan for bankruptcy to be as unattractive as possible
- ▶ Lehman's credit default swap spreads prior to the Lehman filing reflect the market's expectations of a bailout
 - Relatively stable in summer and early fall 2008 despite widespread perception that Lehman's position was precarious
- ▶ Skeel believes real point of crisis occurred when government bailed out Bear Stearns – not a TBTF firm
 - Risk of impact of default on Bear's repo loans was overstated
 - A Bear bankruptcy would send clear signal to management, creditors, and shareholders

Orderly Liquidation Authority (OLA) and “living wills”

- ▶ OLA: framework under Title II of Dodd–Frank for winding down large FIs without undue disruption to the financial system
- ▶ OLA: bankruptcy still preferred course of action
- ▶ Objective: to avoid bailouts by making credible regulators’ commitment not to rescue (combatting moral hazard arising from TBTF)
- ▶ Companion provision: SIFIs must prepare “living wills” under Title I of Dodd–Frank that show ability for orderly wind–down
 - ▶ Submit annual plans to the FDIC and Fed
- ▶ If Fed and FDIC find a plan does not provide credible path to resolution without public support, can require the firm to:
 - ▶ Increase its capital or liquidity
 - ▶ Limit its growth, activities, or operations
 - ▶ Even divest assets to make resolution a credible option
 - ▶ Indirectly, a potential means to break up LCFIs

OLA's approach to moral hazard

- ▶ Certain creditors (e.g., subordinated debt holders and long-term bondholders) and shareholders aren't entitled to additional payments
- ▶ FDIC can recoup compensation from current or former senior executives or directors who are “substantially responsible” for the financial condition of the failed firm
 - Negligence standard – lowest liability standard
- ▶ Would cover “any compensation received during 2-year period prior to FDIC's appointment as receiver
 - In the case of fraud, no time limit

Resolution plans (“living wills”) facilitate OLA resolutions

- ▶ With Lehman Brothers’ failure fresh in memory, Congress in Dodd–Frank required SIFIs to submit credible plans for rapid and orderly resolution under U.S. Bankruptcy Code (Bankruptcy Code)
- ▶ On living wills, Fed Gov. Lael Brainard said:

Orderly resolution requires that the large, complex firms simplify and rationalize their structures to align their legal entities with business lines and reduce the web of interdependencies among them to ensure separability along business lines. As the crisis made clear, the tangled web of thousands of interconnected legal entities that were allowed to proliferate in the run up to the crisis stymied orderly wind down and contributed to uncertainty and contagion.

- ▶ Note the emphasis on “connectedness”
 - ▶ Query: if there is contagion in the next crisis, how effective will OLA be?

Government support under OLA

- ▶ Focus of critics: Orderly Liquidation Fund, giving the FDIC the ability to borrow from Treasury to pay creditors of a firm being resolved under OLA
 - FDIC can borrow to lend to or guarantee obligations of a LCFI or a transitional entity, including obligations to unsecured general creditors
 - If FDIC cannot recover all the money from the LCFI it can levy an assessment on large financial firms
- ▶ Beyond optics, real issue – does the Fund maintain moral hazard?
 - §13(3) of Federal Reserve Act, though narrowed by Dodd-Frank, still allows lending based on broad eligibility
 - Fed can always lend to individual banks at discount window
 - Dodd-Frank doesn't limit ability of regulators to go to Congress and ask for funds in a crisis (e.g., TARP)

Difficulties in resolving LCFIs

- ▶ Banks' legal structures often aren't integrated
 - Critical operations can cross legal entities and jurisdictions, and funding is often dispersed among affiliates
- ▶ Integrated structures make orderly resolution difficult
 - One part of the company may trigger a costly collapse of entire group
 - Could transmit adverse effects throughout financial system
- ▶ Resolution “de-groups” the failed bank, depriving it of access to the central resources of the banking group
 - E.g. – central treasury functions, staff, operations and IP and IT resources around the world

Criticism: OLA is too politicized

- ▶ Politicized process
 - Treasury Dept., a cabinet agency, and President play a central role in determining *what* firms to resolve
 - TARP funds were used for GM and Chrysler bailouts in 2009
 - Introduces dangerous ad hoc determinations
- ▶ Unwieldy process for determining that a LCFI should be resolved under FDIC authority of OLA
 - In midst of crisis, need for “three turns of the key”
 1. Fed and FDIC approval and recommendation to Treasury Dept.
 2. Treasury Dept. consults with President
 3. 24-hour judicial hearing
 - It is argued that this is unrealistic: e.g., “Lehman weekend”
- ▶ FDIC’s experience with resolving LCFIs is very limited
 - Most of FDIC receiverships have been of banking entities

Living wills and moral hazard

- ▶ May address government's credibility problem involving moral hazard and previous government bailouts
 - “Time consistency” problem in economics: when your present self wants to bind your future self to do something that may turn out to be contrary to the wishes of your future self
 - Regulators tie themselves to the mast (as Odysseus did vis-à-vis the sirens) with pre-planned bankruptcies
 - By requiring living wills, regulators seek to improve future financial system stability and health of the economy when they resolve a firm without assistance—so the temptation of a bailout won't be there to start with

Living wills: information required

- ▶ FDIC and Fed require information on:
 - all the firm's business units and subsidiaries and their dependencies on each other
 - its material off-balance sheet obligations
 - its key internal reports, and its management information systems and the operations and business lines that they support
 - the firm's detailed strategic plan for rapid and orderly resolution in the event of distress
 - the firm's capital needs and how will it meet them
 - how the firm determine the market values of its business lines and asset holdings
 - how long will the various steps of the plan take to carry out
- ▶ Iterative process with regulators, similar to CCAR, requiring intensive risk analysis across all business lines
- ▶ Like CCAR, industry has strong distaste of living wills process due to regulators' broad discretion to order remedial steps and costly risk analysis

Regulators' upper hand with living wills

- ▶ Regulators can gain a stronger negotiating position with a dying FI
- ▶ In the FC regulators had to intervene without knowing exactly what hidden traps might emerge if a bank were shut down
- ▶ The bankers know this and can exploit the fear of the unknown
- ▶ Detailed disclosures required in living wills would make regulators' "war-game" planning possible
- ▶ Wills force bank managers to think much more carefully about their complex financial structures
 - Incentive to simplify their organizations
- ▶ A bank must estimate number of days to shut it down
 - More capital required for longer periods – incentivize managers to improve their plans
- ▶ Senior management and the board would have to understand the funeral plan and sign off on accuracy
 - Might lead to closer scrutiny of new products or lines of business

Anil Kashyap, "A sound funeral plan can prolong a bank's life" (FT, June 29, 2009)

Financial Choice Act and Trump Administration proposals

- ▶ Republican's Choice Act 2.0.
 - Repeal OLA and replace it with a new chapter of the Bankruptcy Code for large BHCs and non-bank SIFIs
 - Make “living wills” requirement biannual, like stress tests
- ▶ Administration's executive order
 - Review OLA and report to President in 180 days
 - Consider whether availability of OLA could lead to excessive risk-taking by creditors, counterparties, shareholders, or otherwise lead market participants to believe a financial company is “TBTF”
 - Consider whether a new chapter of the Bankruptcy Code would be superior to OLA
- ▶ A lobby group of the world's biggest banks, the Institute for Institutional Finance, urged Treasury to preserve Title II
 - Why would the big banks want to keep OLA?
- ▶ The right has attacked OLA for “codifying” bailouts due to the Liquidation Fund

Concluding remarks

»» FC strengthened TBTF and moral hazard

Dodd–Frank goes part way to address TBTF and moral hazard

Concluding remarks

- ▶ “Too big to fail” and “bailout” are too bandied about by politicians of all persuasions to contribute to intelligent policymaking
- ▶ Hall Scott: with strong anti-contagion weapons, we can let LCFIs fail
- ▶ Higher regulatory capital can reduce severity of a financial crisis and economic downturn – may be all we can hope for
- ▶ TBTF is largely a credibility issue for the government, but for good reason. Resolution planning helps in this regard.
- ▶ In midst of crisis, will government officials always be too frightened not to bail out FIs to avoid Armageddon?
- ▶ Hoenig restructuring proposal would help limit regulatory arbitrage
- ▶ Breaking up banks is impractical and politically challenging
- ▶ Republican’s Choice Act’s hard-wired opt-out may be susceptible to gaming even though assets aren’t risk-adjusted (SLR)
- ▶ It’s an open question whether OLA or the Bankruptcy Code is better for troubled LCFIs, but living wills concentrate the mind. Dodd-Frank tackled TBTF by focusing on “able to fail”.