Systemic Risk: Definition and Sources

- **Definition**: Events that threaten the stability of the financial system, and thus real economic activity.

- **Sources**: Bank runs (historically the key driver); falling asset prices (e.g., real estate prices); contagion (TBTF); sovereign bond defaults (e.g., Greece); maturity and foreign exchange mismatches; collapse of payment system, interbank market and repo market; uncertainty; and government policies (e.g., loose monetary policy and excessive availability of credit, Freddie Mac and Fannie Mae).

- **Identification and Measurement**: GSIFIs, DSIFIs, DFAST and CCAR (see Acharya and Engle, [https://vlab.stern.nyu.edu/en/welcome/risk/](https://vlab.stern.nyu.edu/en/welcome/risk/)).
A History of Crises and Governmental Response: More Laws & Lower Capital-to-Asset Ratio

- **Bank Holding Company Acts (1956 and 1970)**
  - BHCs could engage in business deemed to be “closely related to banking” by the Federal Reserve
  - Restricted interstate bank ownership
  - Defined a bank

- **Depository Institutions Deregulation and Monetary Control Act (1980)**
  - Phases out deposit rate ceilings by April 1986
  - Allows NOW accounts at all depository institutions
  - Allows S&Ls to make consumer loans and issue credit cards

- **Gramm-Leach-Bliley Financial Services Modernization Act (1999)**
  - Repeals last vestiges of the Glass-Steagall Act of 1933
  - Expands the permissible scope of activities for bank holding companies and bank subsidiaries

- **Federal Housing Finance Regulatory Reform Act (2008)**

- **Emergency Economic Stabilization Act (2008)**

- **Garn-St Germain Depositary Institutions Act (1982)**
  - Allows possibility interstate and interinstitutional mergers
  - Allows S&Ls to make some commercial loans

- **Financial Institutions Reform, Recovery and Enforcement Act (1989)**
  - Changes structure of S&L institution regulation
  - Replaces FHLBB with OTS
  - Replaces FSLIC with SAIF

- **Federal Deposit Insurance Corporation Improvement Act (1991)**
  - Mandates prompt corrective action

- **Dodd-Frank Wall Street Reform and Consumer Protection Act (2010)**

- **Sarbanes-Oxley Act (2002)**
  - Establishes new or enhanced standards for all U.S. public company boards, management, and public accounting firms.

- **Riegle-Neal Interstate Banking and Branching Efficiency Act (1994)**
  - BHCs can acquire banks nationwide
  - Nationwide branching after June, 1997 unless state opts out

- **National Currency Act (1863)**

- **Federal Reserve Act (1913)**
  - Furnishes “elastic currency”
  - Establishes the Federal Reserve System as the central banking system of the U.S.

- **Great Depression**
  - SEC
  - Federal deposit insurance for banks and S&Ls
  - Banking Act of 1933 (Glass-Steagall) separates commercial and investment banking
  - Federal Home Loan Bank System

- **National Bank Act (1864)**
A History of Crises and Governmental Response: More Regulators

Identify emerging systemic risks and improve interagency cooperation
- Financial Stability Oversight Council (Treasury, Fed, OCC, CFPB, SEC, CFTC, FDIC, FHFA, NCUA, OFR, FIO and three state regulators)

Nonbank financial and bank holding companies posing systemic risk
- Federal Reserve

Fannie Mae, Freddie Mac, and Federal Home Loan Banks
- Federal Housing Finance Agency

Protect consumers across the financial sector from unfair, deceptive, and abusive practices
- Consumer Financial Protection Bureau

Credit Unions
- National Credit Union Administration
- State credit union regulators

Fed is the regulator when subsidiaries include a commercial or savings bank

National commercial banks and federal savings banks
- OCC
- FDIC

State commercial and savings banks
- State bank regulators
- FDIC
- Fed—state member commercial banks

Hedge funds, private equity funds, and venture capital funds
- SEC

Insurance companies
- 50 State insurance regulators plus District of Columbia and Puerto Rico

Securities brokers/dealers
- FINRA
- SEC
- CFTC
- State securities regulators

Other financial companies, including mortgage companies
- Fed
- State licensing (if needed)
- U.S. Treasury for some products

Foreign branch
- OCC
- Host country regulator

Foreign branch
- Fed
- Host country regulator

Justice Department
- Assesses effects of mergers and acquisitions on competition

Federal courts
- Ultimate decider of banking, securities, and insurance products
The First Great Financial Crisis of the 21st Century

- Unemployment: Rate peaked at 10.1 percent in October 2009.
- Government Bailouts: The government poured about $23 trillion into a host of programs and bailouts.
- Lost Household Wealth: When home prices tanked, there was an estimated loss of $7 trillion in the real estate industry. The stock market declined contributing another $11 trillion in losses, and retirement accounts lost $3.4 trillion.
More than 2,000 pages...

Dodd-Frank Act: Regulation Complexity

6 pages

... longer than the Torah, Bible and Quran COMBINED!
## Basel Capital Accords: Capital Complexity

<table>
<thead>
<tr>
<th>Regulatory capital requirements</th>
<th>US minimum capital standards based on Basel I (%)</th>
<th>Basel II (%)</th>
<th>Basel II.5 (%)</th>
<th>Basel III (%)</th>
<th>as of 1 Jan 2019</th>
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<td><strong>Tier 1 leverage ratio and supplementary leverage ratio (viewed as a complement to risk-based ratios)</strong></td>
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<td>1991–1992</td>
<td>4 (3 for banks that are CAMELS 1-rated)</td>
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<tr>
<td>2019</td>
<td>3 (AA)</td>
<td>3 (AA)</td>
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<td><strong>Minimum CET1 capital ratio (introduced in 2009 in the United States)</strong></td>
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<td>3.5</td>
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<tr>
<td>2019</td>
<td>4 (NAA)</td>
<td>4 (NAA)</td>
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<td><strong>Phase-in of deductions from CET1 (including amounts exceeding the limit for deferred tax assets, mortgage servicing rights, and financials)</strong></td>
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<td><strong>Capital conservation buffer</strong></td>
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<td>2019</td>
<td>0.25 to 4.5</td>
<td>0.50 to 4.5</td>
<td>0.75 to 4.5</td>
<td>1 to 4.5</td>
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<td><strong>Countercyclical capital buffer for GSIBs (discretionary, 0.0% to 2.5%)</strong></td>
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<td>2009</td>
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<td>2019</td>
<td>0.25 to 4.5</td>
<td>0.50 to 4.5</td>
<td>0.75 to 4.5</td>
<td>1 to 4.5</td>
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<td><strong>Capital instruments that no longer qualify as CET1 or Tier 1 capital</strong></td>
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<td>0.75 to 4.5</td>
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## Citigroup:
### Different Financial Ratios Provide Different Information

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<td>Actual Tier 1 Capital Ratio Minus Required Minimum Tier 1 Capital Ratio of 4 Percent</td>
<td>4.38</td>
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