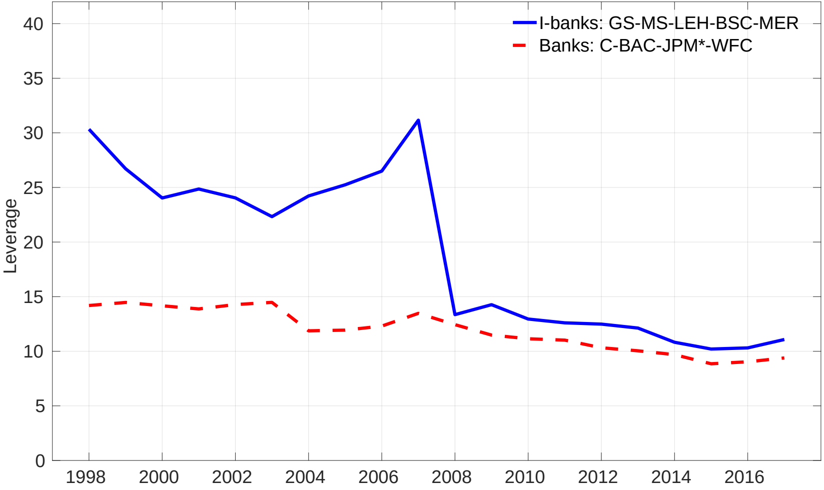
Lessons from the Crisis

Darrell Duffie
GSB Stanford

The 2008 Financial Crisis
Hoover Institution, December 2018

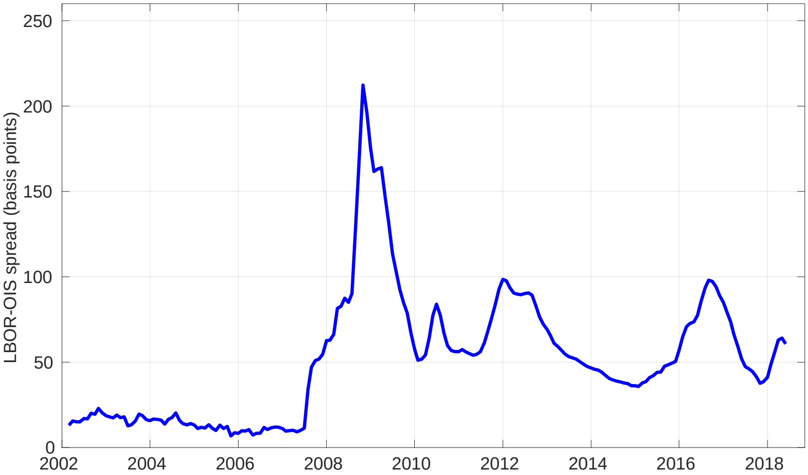
Drawing from joint work with Antje Berndt and Yichao Zhu

Average leverage of systemic banks and investment banks



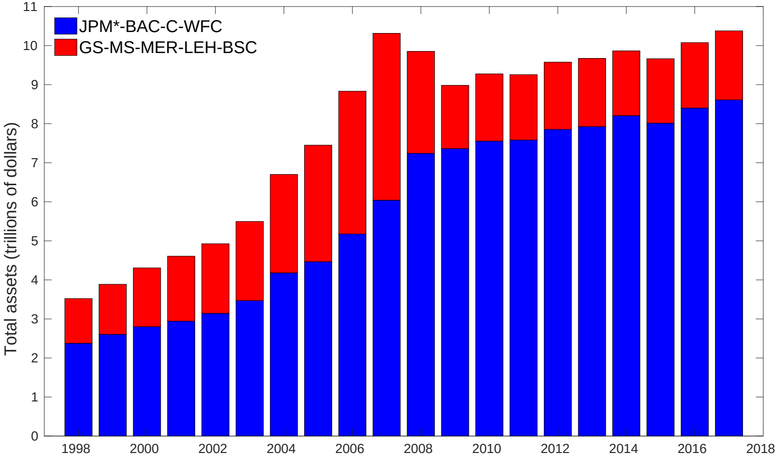
Data source: 10K filings. J.P. Morgan includes preceding mergers, pro forma.

Pre-crisis big-bank credit spreads were tiny



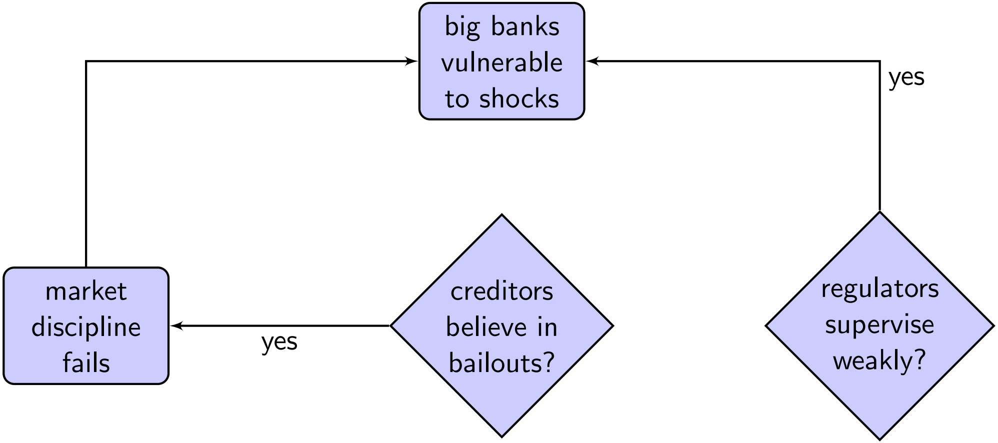
One-year USD LIBOR-OIS spread. Data source: Bloomberg.

Big-bank pre-crisis asset growth



Total assets of nine bank and I-bank holding companies. Data source: 10K filings.

Pre-crisis conditions were set for an unstable core financial system

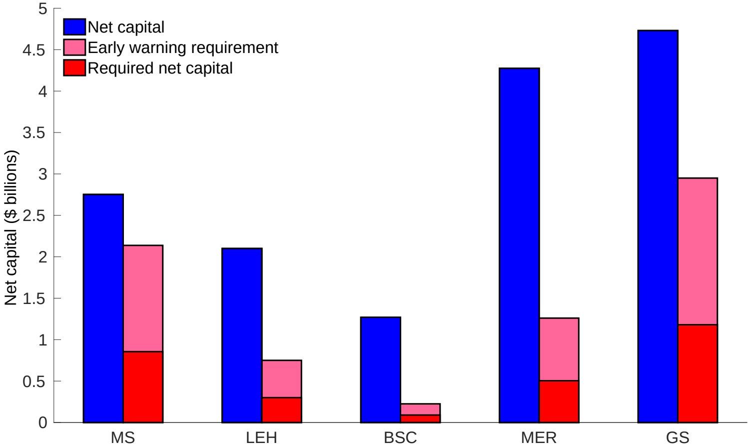


What were they *thinking*?

Potential explanations:

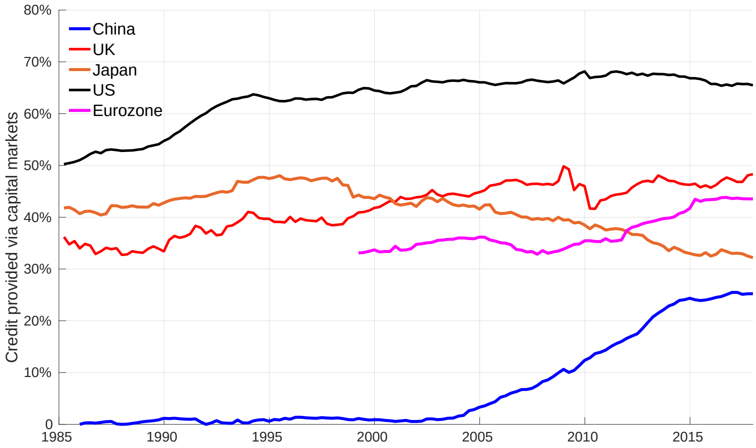
1. Irrationally low belief in disaster scenarios (Gennaioli and Shleifer, 2018).
2. Fragile by design (Calomiris and Haber, 2014).
3. Dogmatic reliance on market discipline (Greenspan, 1997).
4. It was too difficult, within reason, for regulators to detect the problems.
5. Failure to assign regulators a clearer financial-stability mandate (Kohn, 2014).

Investment banks' net capital in 2005, versus SEC required net capital



Data source: 10K filings.

Heavy U.S. dependence on credit supplied through bond markets



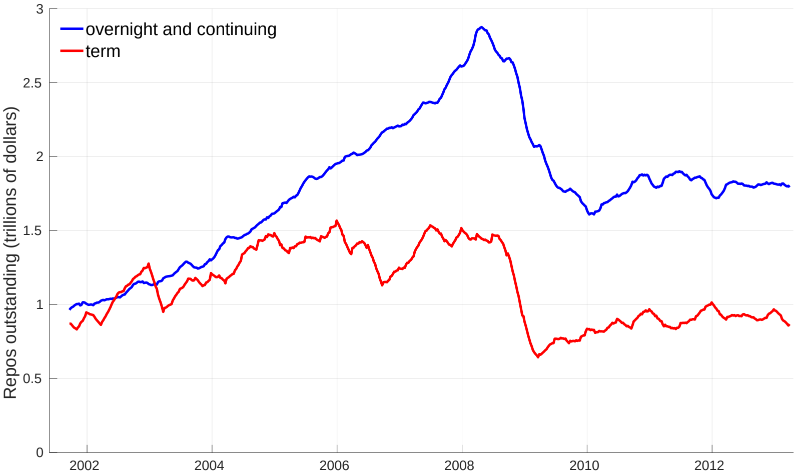
Data source: Bank for International Settlements.

Vulnerability to short-term debt in the core of the financial system

"Private financial crises are everywhere and always due to problems of short-term debt."

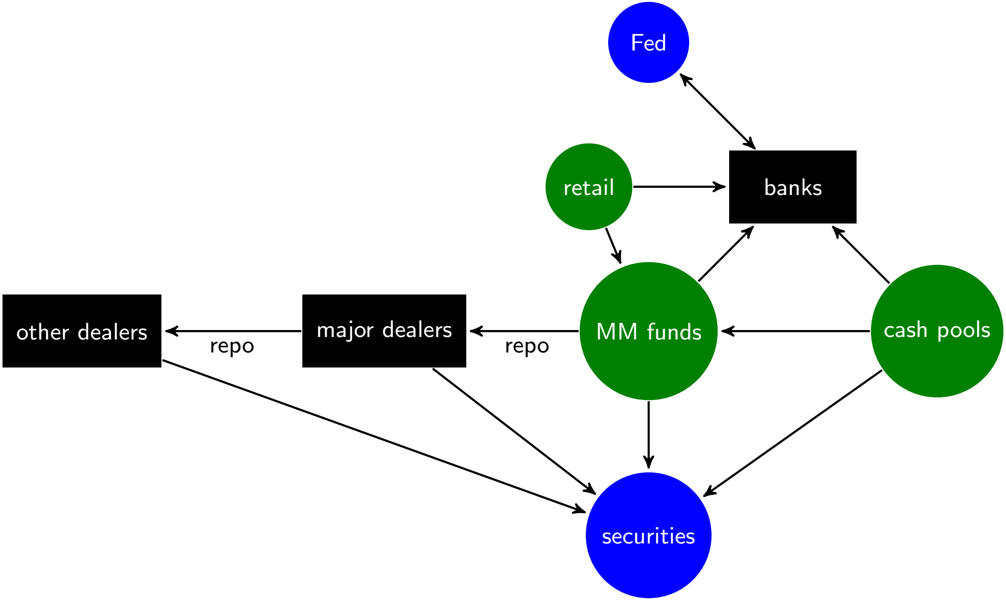
– Douglas Diamond (2013)

Pre-crisis buildup of primary dealers' short-term repo financing

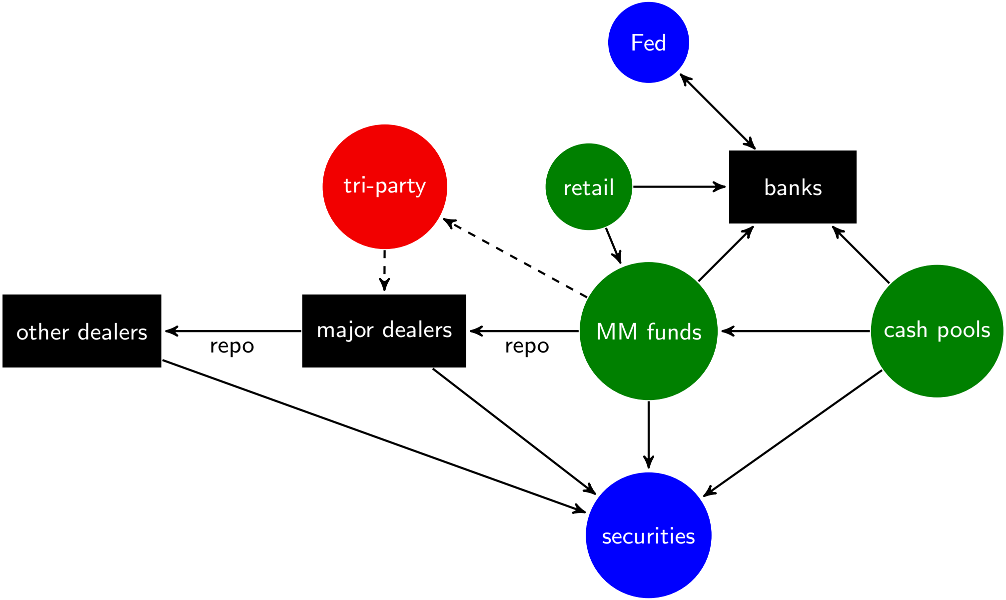


Rolling quarterly average of repos of primary dealers. Data source: Federal Reserve Bank of New York.

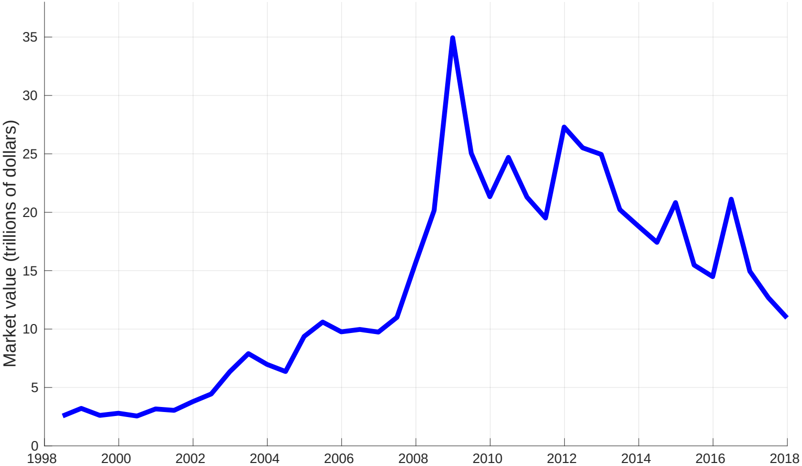
Pre-crisis securities financing in U.S. money markets



With exposure to intra-day credit from tri-party repo agent banks

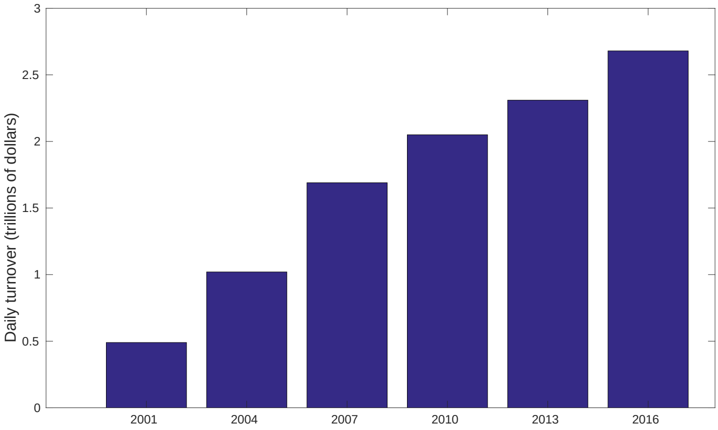


Gross market value of OTC derivatives



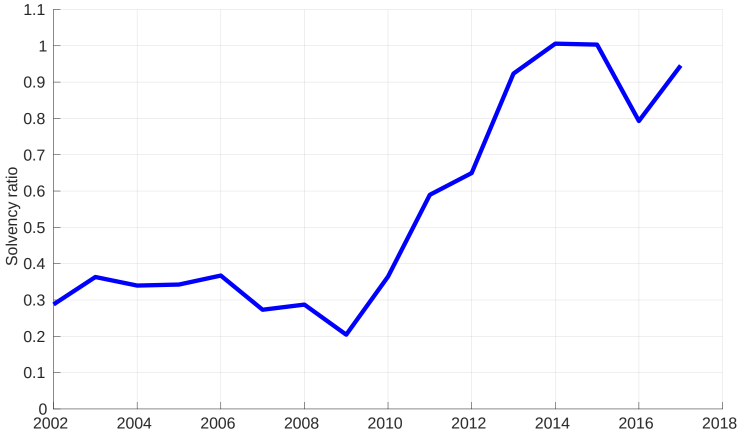
Data source: Bank for International Settlements.

Swap market turnover survives post-crisis regulation



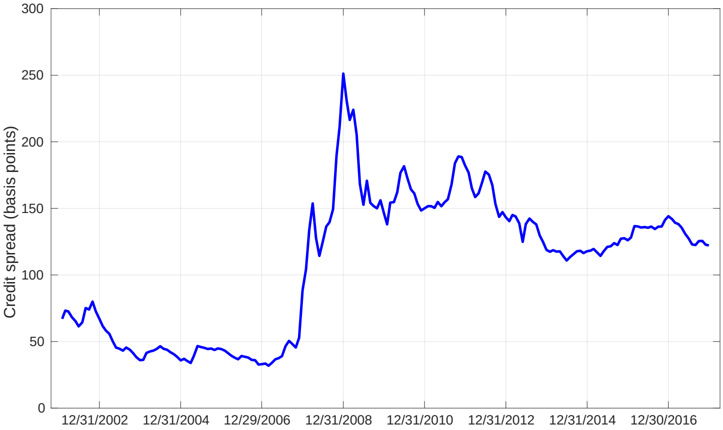
Data source: Bank for International Settlements: Turnover of OTC interest rate derivatives.

The solvency buffers of big U.S. banks have gotten much larger



Tangible equity divided by an estimate of the standard deviation of the annual change in asset value. Asset-weighted average of nine banks and I-banks. Source: Berndt, Duffie, and Zhu (2018).

Estimated 5-year CDS rates of a big bank at a fixed distance to default



Preliminary estimate for U.S. G-SIBs at a distance to default of 2, by Berndt, Duffie, and Zhu (2018).