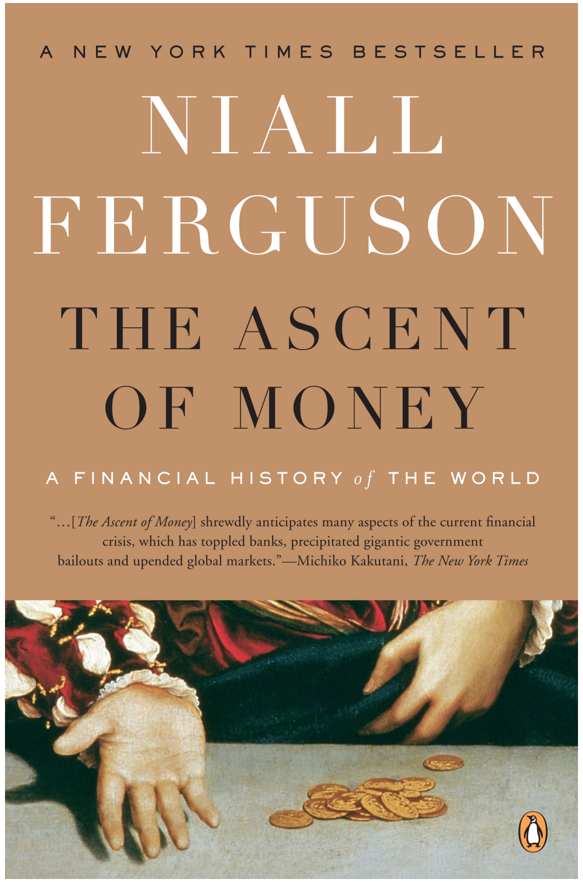
The Panic



Hoover Institution, November 8, 2018

The Queen’s question

- “Why did no one see it coming?” asked Queen Elizabeth II on a visit to the London School of Economics in December 2008.
- Lloyd Blankfein: “This was a hurricane nobody could have predicted. … We should resist a response ... that is solely designed around protecting us from the 100-year storm.”

The historian’s reply

- “[O]ver the next two years the monthly payments on about $600 billion of mortgages taken out by borrowers in the so-called subprime market (those with checkered or nonexistent credit histories) will increase by as much as 50 percent. This is because many A.R.M.'s have two-year teaser periods to entice borrowers. After that, the meaning of ‘adjustable’ suddenly becomes … painfully apparent.”—June 11, 2006
- “Growing U.S. household debt has been the single biggest driver of global growth in the past five years. When Americans do finally stop borrowing and start saving, the effects could be bigger than the banks anticipate.”—June 16, 2006
- “Speculative behavior: everyone is too big to fail … Rest of developed world likely to follow Japan into deflationary, low growth.”—Nov. 10, 2006
- “… It is perfectly possible to imagine a liquidity crisis too big for the monetary authorities to handle alone. … governments would need to step in. … Federal bail-outs for the likes of Goldman Sachs may seem unimaginable to us now. But financial history reminds us that [such] events do happen. And … liquidity can ebb much more quickly than it previously flowed.”—January 2007
- “[A] day of reckoning is approaching, when the costs of this policy will have to be borne not just by a minority of over-burdened households, but by everyone.”—July 15, 2007

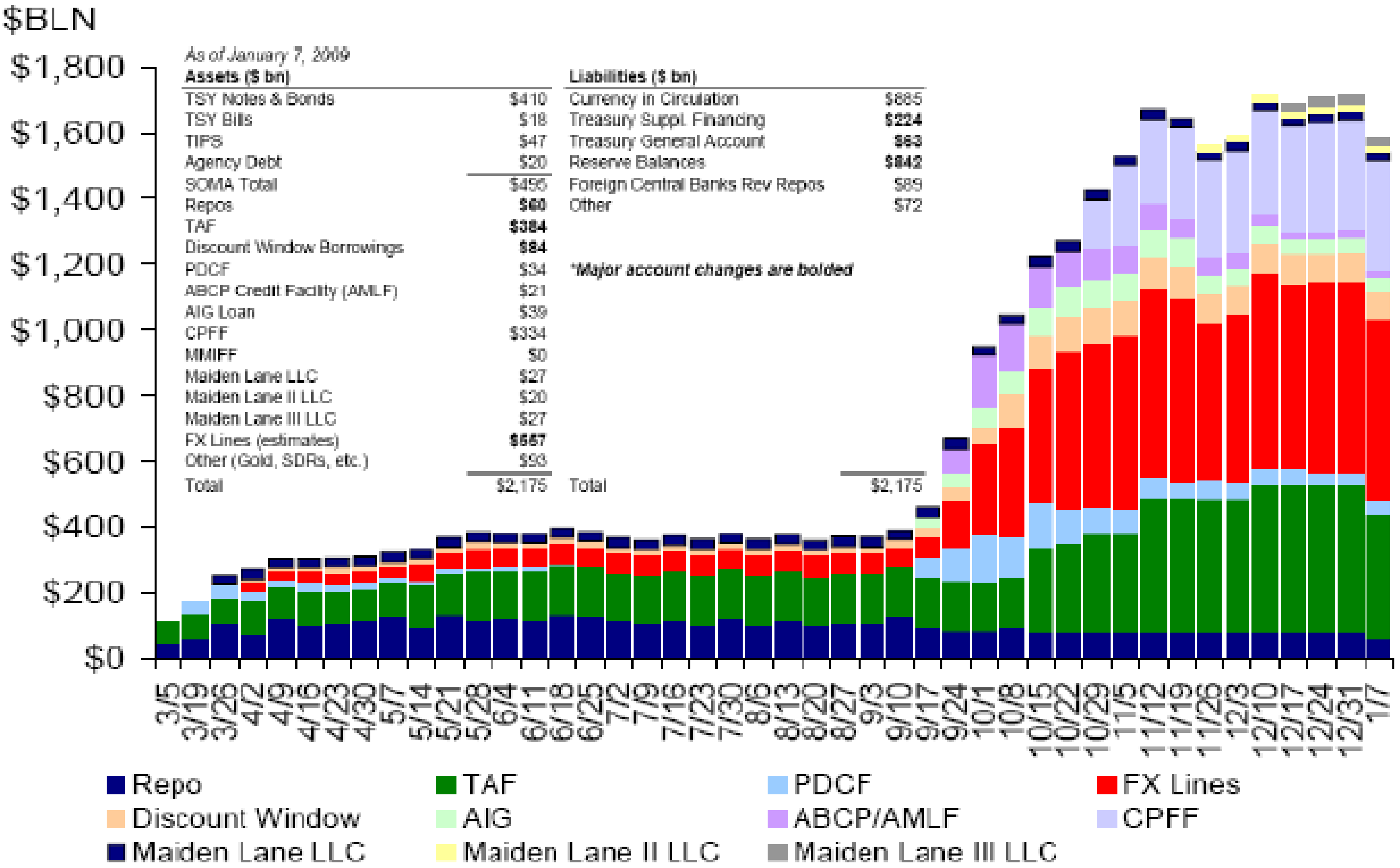
What caused the crisis?

1. Banks were undercapitalized
2. Securities markets were contaminated by wrongly rated CDOs
3. Monetary policy was too loose
4. The U.S. real estate market (and others) became a bubble
5. Derivatives markets created new contingent liabilities
6. Chimerica channeled Asia’s glut of savings into the U.S. economy

The catalyst: Lehman’s bankruptcy in context

1. Nationalization (“conservatorship”) of Fannie and Freddie: Sept. 7
2. Bank of America takeover of Merrill Lynch: announced Sept. 14
3. *Bankruptcy of Lehman Brothers*: Sept. 15
4. Bail-out of AIG: Sept. 16
5. Morphing of Morgan Stanley and Goldman Sachs into commercial banks: Sept. 22
6. WaMu placed in receivership of FDIC: Sept. 25

The Fed was aggressive after 9/15



Bridgewater

But it could not stop the chain reaction

- Market for commercial paper issued by banks collapsed, removing around $500bn of short-term funding from the system within a week.
- The asset- backed commercial paper market fared equally badly, forcing banks to take around $1.3trn back on to their balance sheets from the “conduits” (shadow banks).
- Money market fund Reserve Primary “broke the buck” on September 16 because of losses on unsecured commercial paper it had bought from Lehman.
- A massive run not so much on banks as on any other kind of financial institution with short-term liabilities.

The CDS blow-up

- Lehman had $400bn of CDS written against it, producing $360bn in losses to those contracts alone (recovery rate at auction was only 8.625%).
- “This repricing of bailouts and many other forces triggered a massive change in CDS pricing on Monday that is flowing through to substantial margin payments, which is driving all kinds of market prices. In the corporate CDS market, players post margin every day based on daily gains and losses. The Lehman default presents a unique cash flow challenge because a) there is a huge amount of Lehman CDS outstanding, and b) the size of Friday’s margin call is many multiples of any past margin call. …. We ballpark estimated that this margin call amounted to about $140 billion.”—Bridgewater, Sept. 16, 2008.
- The entire $62trn credit-default swaps market came close to seizing up.

The effect on rates

	Change in Rates 1/1/08 to Lehman Bankruptcy	Change in Rates since Lehman Bankruptcy, 9/15/08 (sorted by)
US Banks Yield	1.39%	-0.88%
3m Fed Funds (OIS)	-2.29%	-0.65%
A1/P1 Non-Financial Commercial Paper	-1.85%	-0.43%
A1/P1 Financial Commercial Paper	-1.75%	0.02%
Investment Grade Corporates	0.43%	0.25%
3m T-bill	-2.44%	0.32%
10Yr Treasury	-0.64%	0.34%
Fixed Rate Mortgages	-0.42%	0.51%
Home Equity Loans	4.93%	1.04%
3m Libor	-1.89%	1.24%
A1/P1 ABCP	-2.13%	1.29%
CMBS	1.60%	2.55%
A2/P2 Non-Financial Commercial Paper	-1.92%	2.90%
High Yield Corporates	2.23%	3.10%
Auto Loans	0.70%	3.46%
Credit Card	0.26%	3.51%

* TED spread = difference between rates on interbank loans and T-bills

Bridgewater

The first TARP vote administered another blow to confidence

BAILOUT FAILS; STOCKS PLUNGE

Dow Loses 777 Points After Vote

House Rejects Package, 228-205

By CARL HULSE and DAVID M. HERSZENHORN 17 minutes ago

In a moment of historic drama in the Capitol and on Wall Street, the House of Representatives voted on Monday to reject a $700bn rescue of the financial industry.

For Stocks, Worst Single-Day Drop in Two Decades

By MICHAEL M. GRYNBAUM 4:38 PM ET

The drop reinforced the fear coursing through Wall Street as investors wondered whether the bailout plan would eventually pass Congress. [It did finally on October 3.]

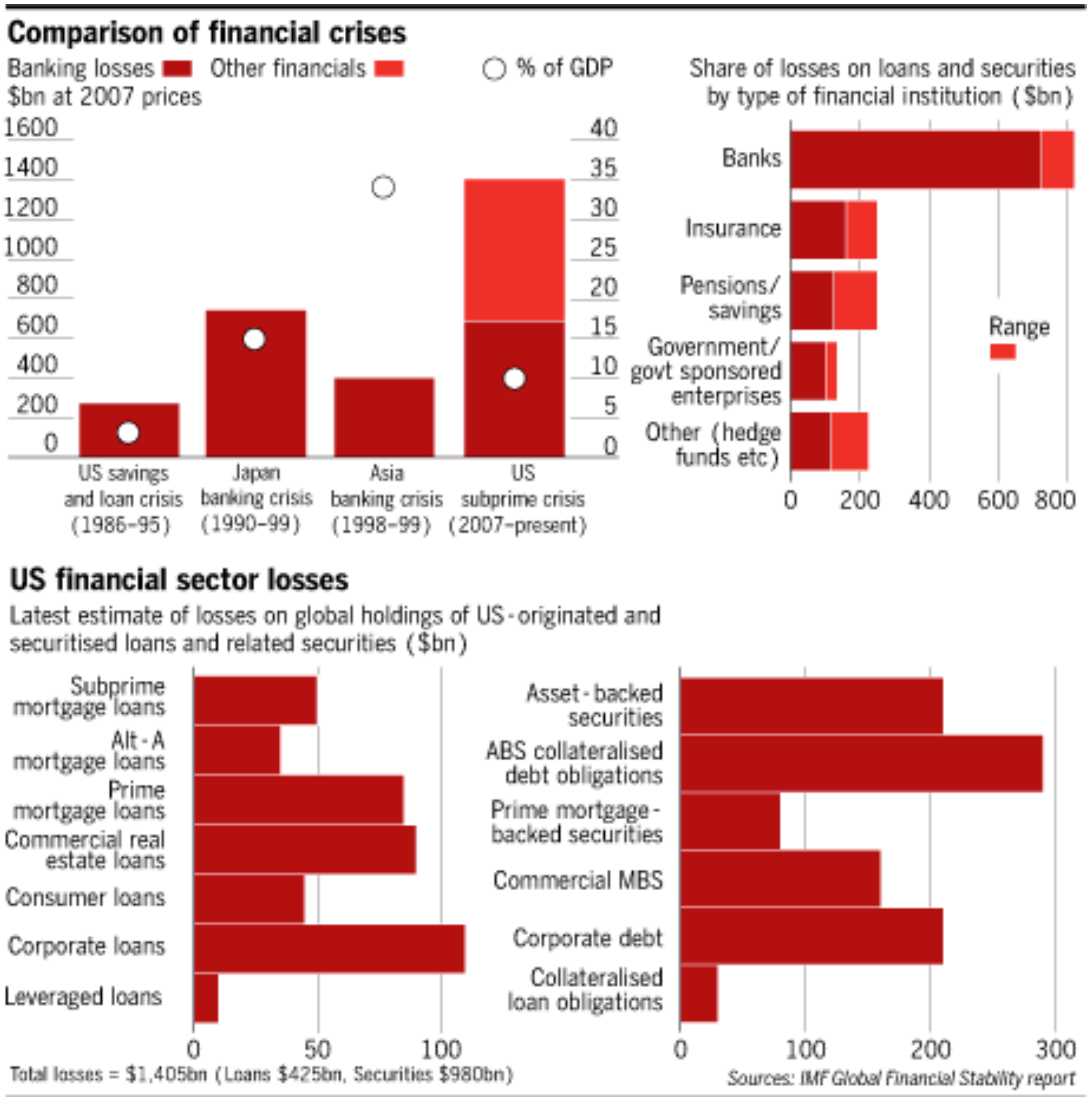
Norris: Making $700 Billion Look Small

September 29, 2008

The effect on stocks

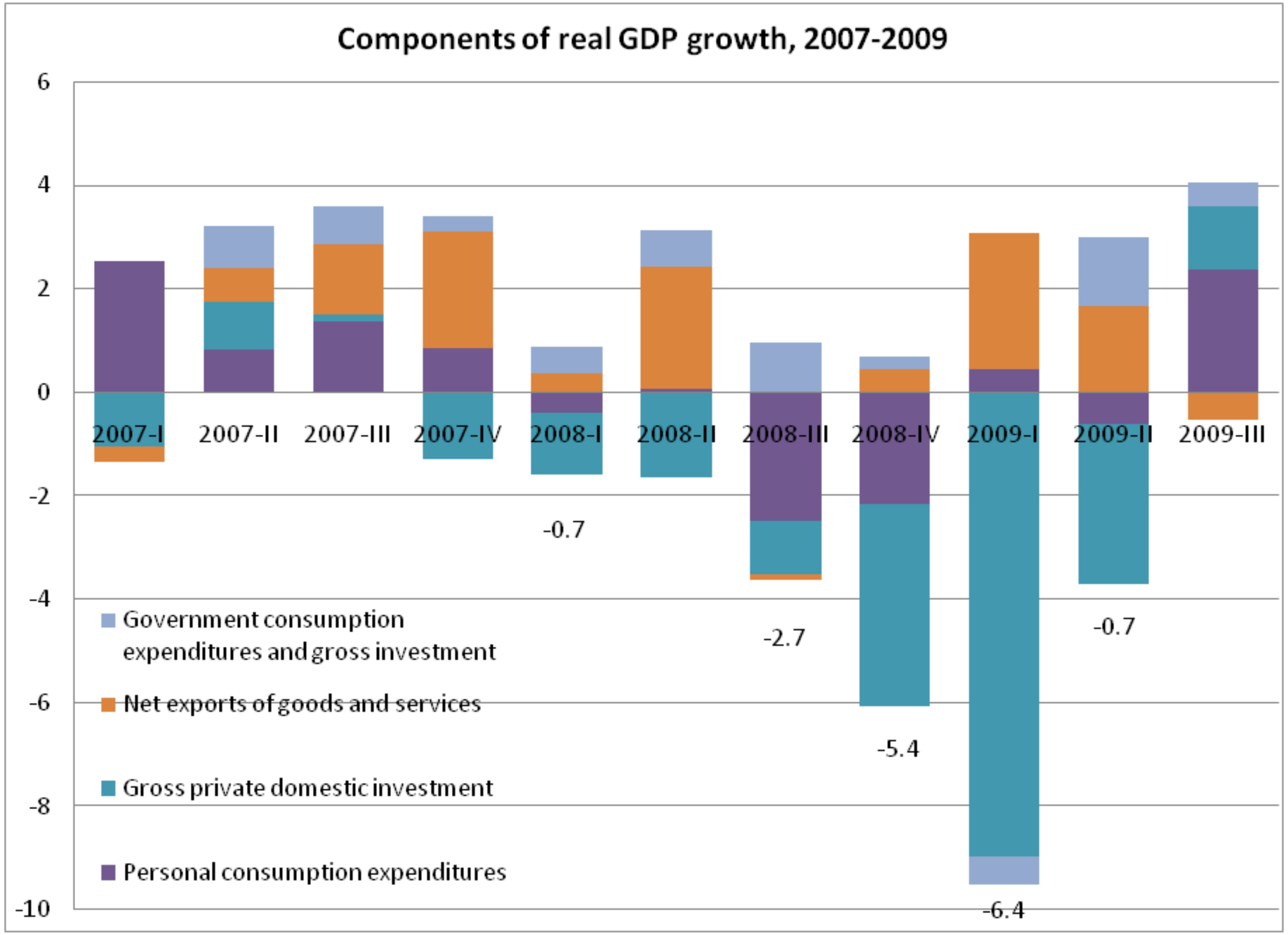
	S&P 500
09/10/2007	1565.15
12/09/2008	1251.7
15/09/2008	1192.7
27/01/2009	845.71
Peak to trough	-46%
Of which Lehman	8%

The biggest financial crisis since the 1930s



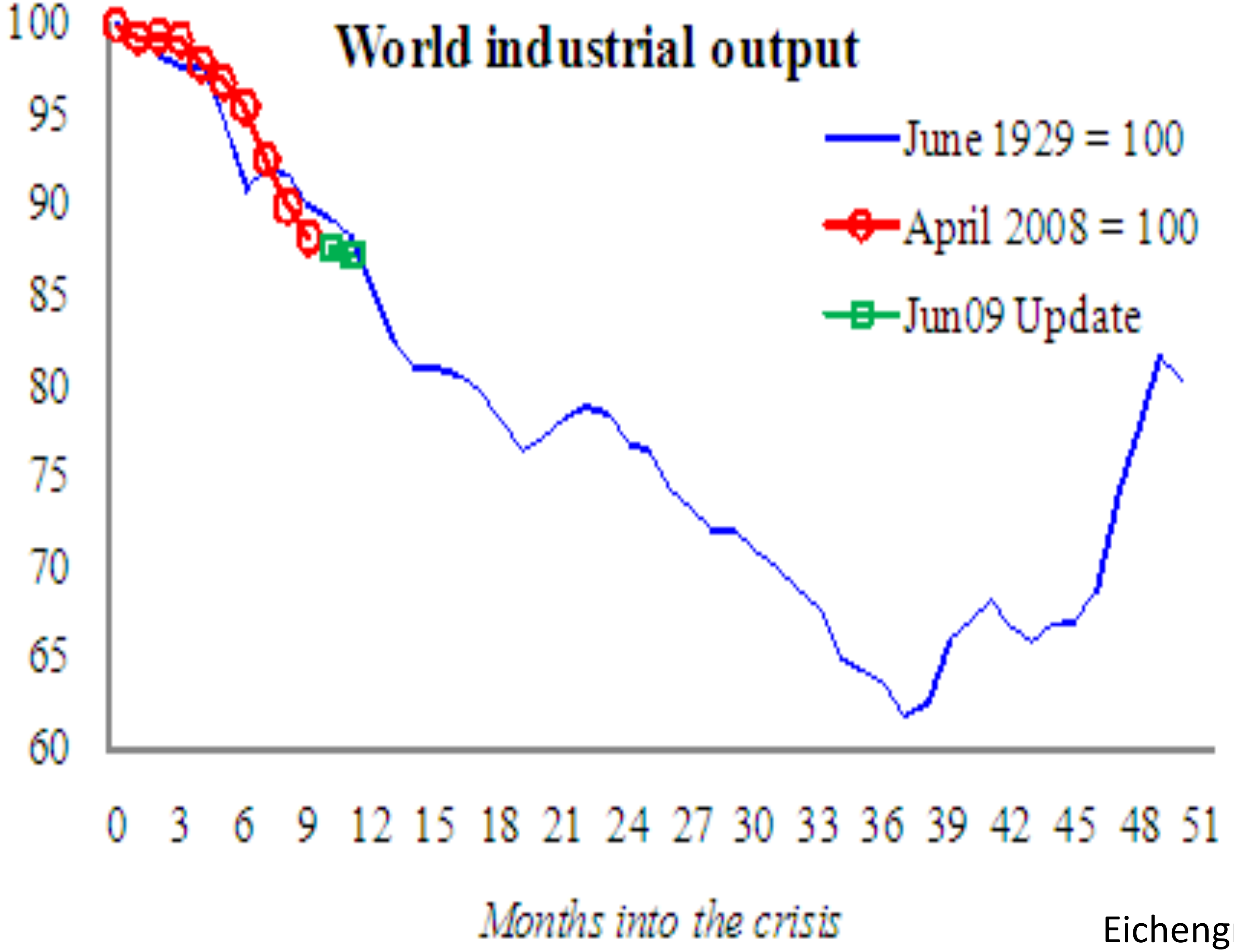
Financial Times

Caused the longest (but not deepest) recession since 1945



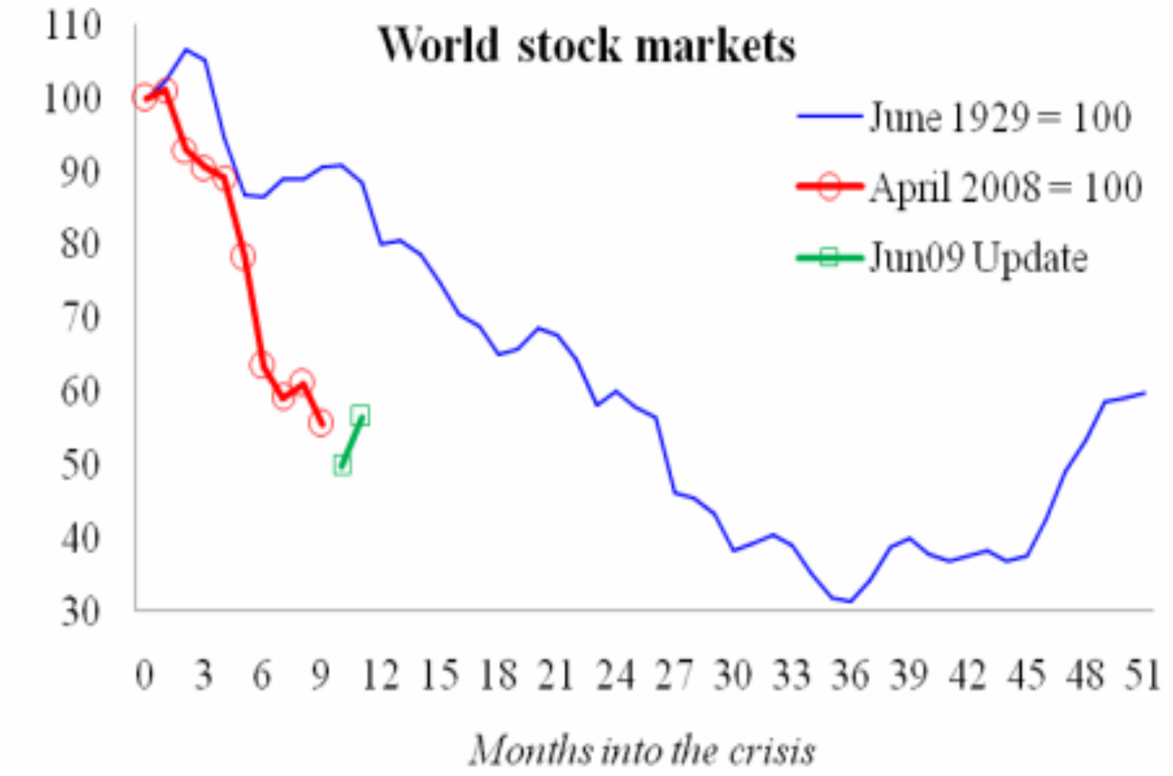
BEA

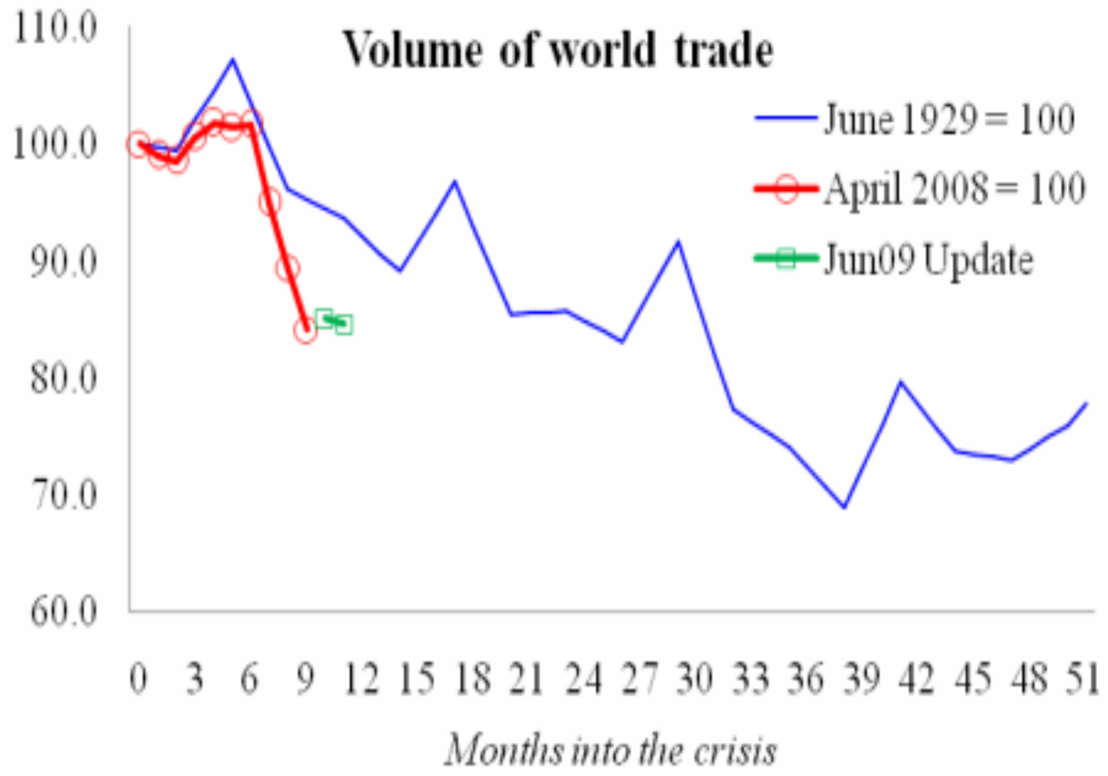
The crisis had the potential to be another Great Depression



Eichengreen and O'Rourke (2009)

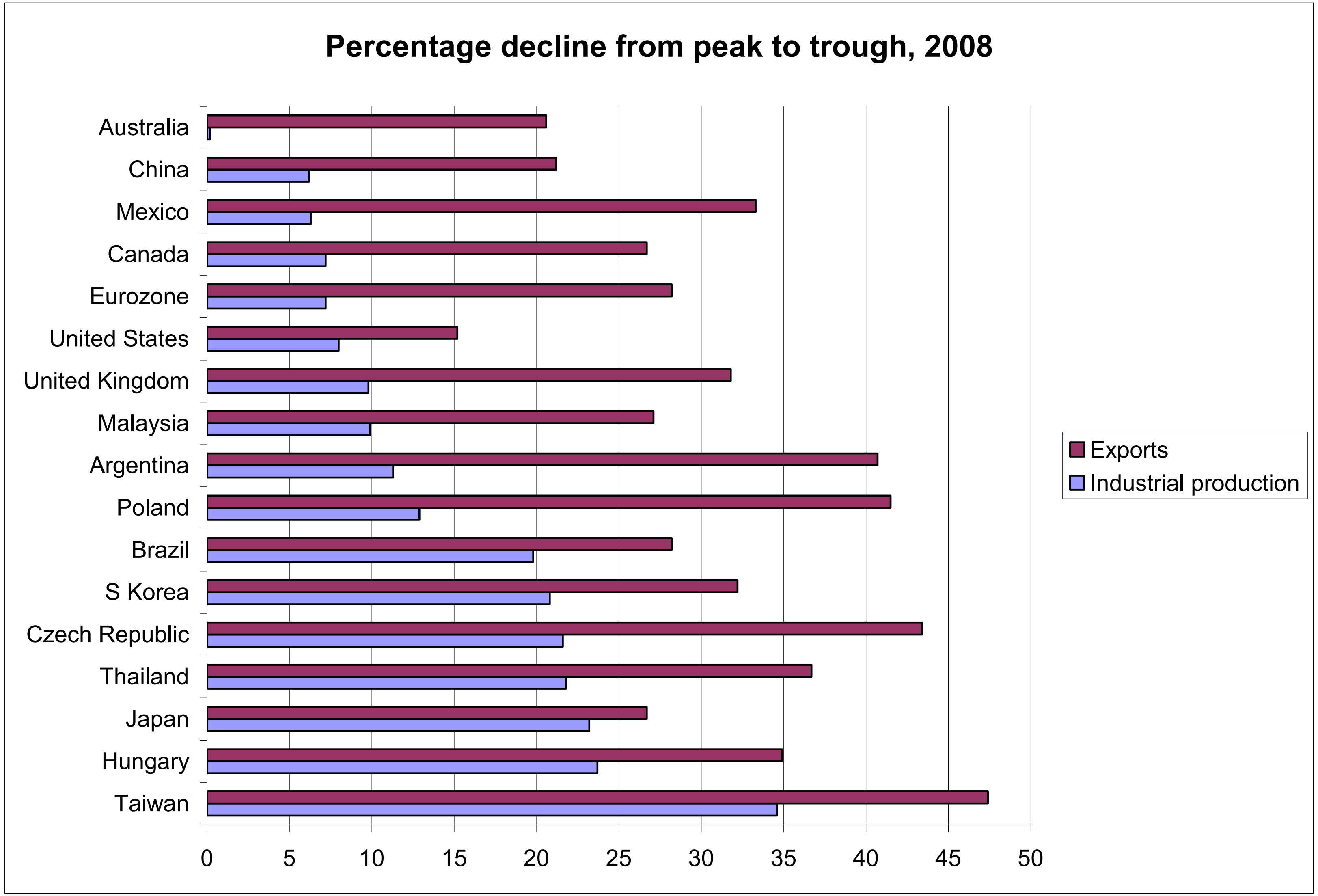
The first half of 2009 was a very scary time



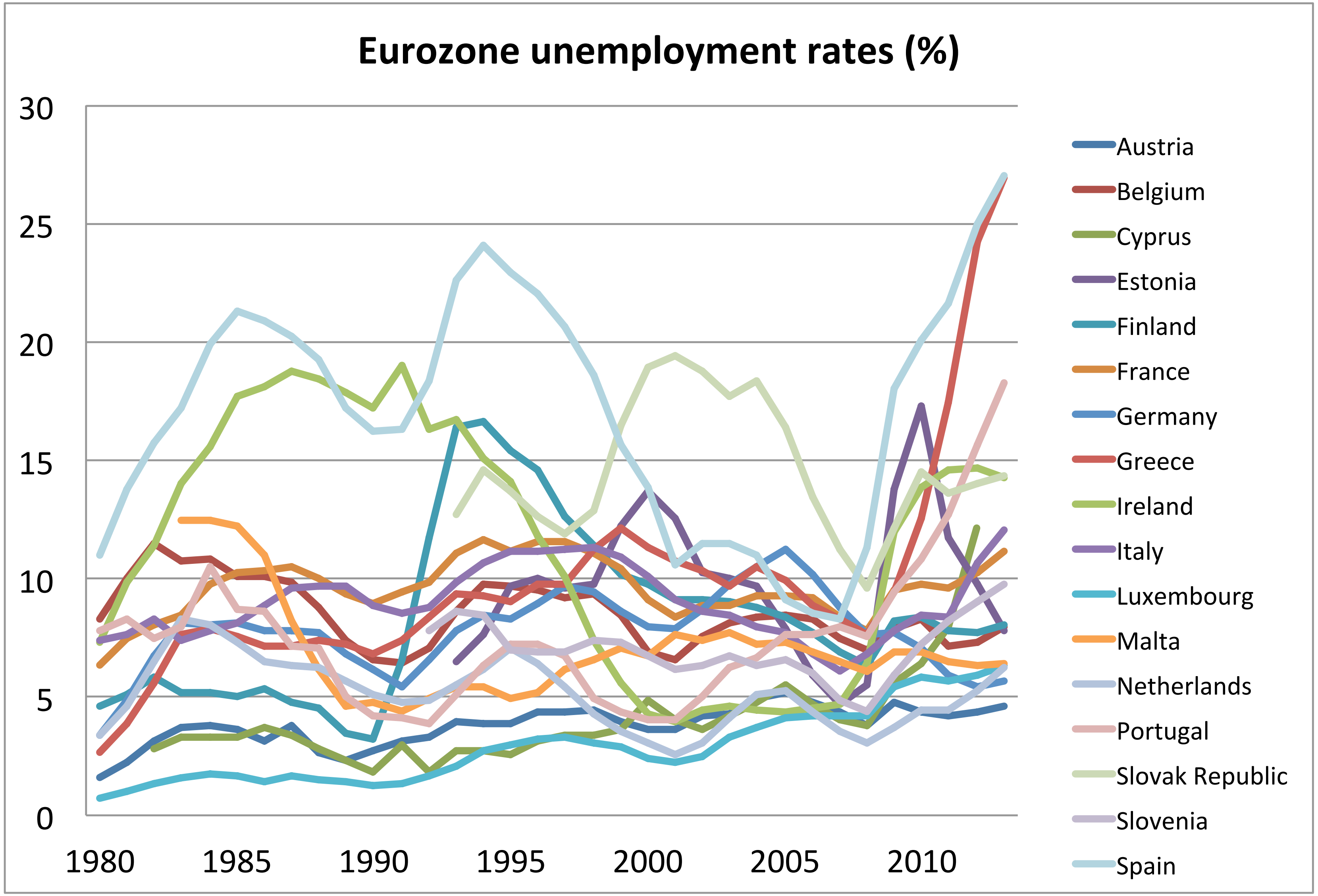


Eichengreen and O'Rourke (2009)

Though the scale of the shock varied between countries



The worst effects on employment were on Europe's periphery



IMF

Some people still warned of Depression in 2010

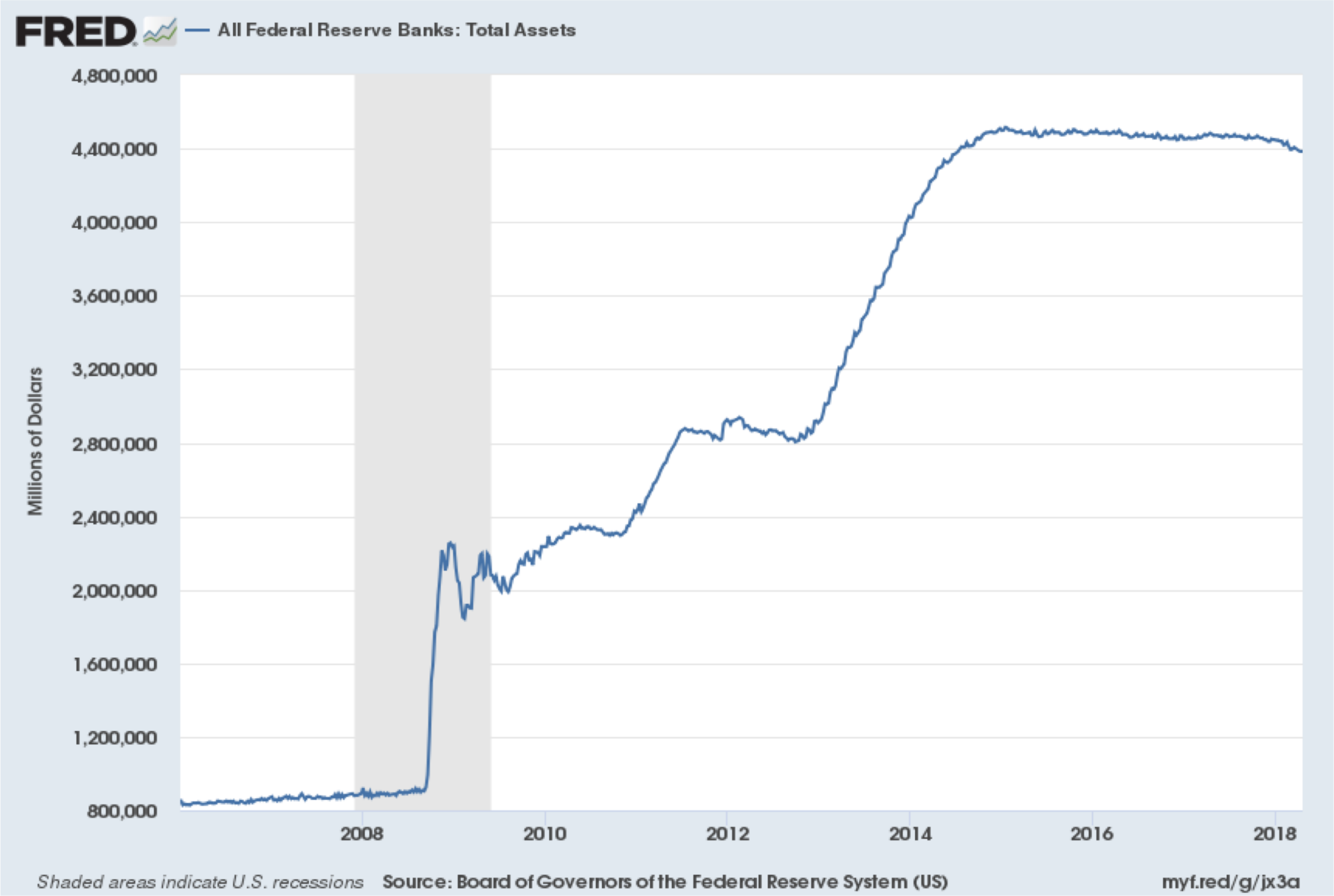
"We are now, I fear, in the early stages of a third depression. … The cost—to the world economy and … to the millions of lives blighted by the absence of jobs—will … be immense. And this third depression will be primarily a failure of policy."—Paul Krugman, *NYT*, June 27, 2010

And yet it wasn't a Depression

If you just boringly held 60:40 stocks/bonds, you did fine

	Annual Returns on Investments in		
Year	S&P 500 (includes dividend	3-month T.Bil	Return on 10-year T. Bond
2007	5.48%	4.64%	10.21%
2008	-36.55%	1.59%	20.10%
2009	25.94%	0.14%	-11.12%
2010	14.82%	0.13%	8.46%
2011	2.10%	0.03%	16.04%
2012	15.89%	0.05%	2.97%
2013	32.15%	0.07%	-9.10%
2014	13.52%	0.05%	10.75%
2015	1.38%	0.21%	1.28%
2016	11.77%	0.51%	0.69%
2017	21.64%	1.39%	2.80%

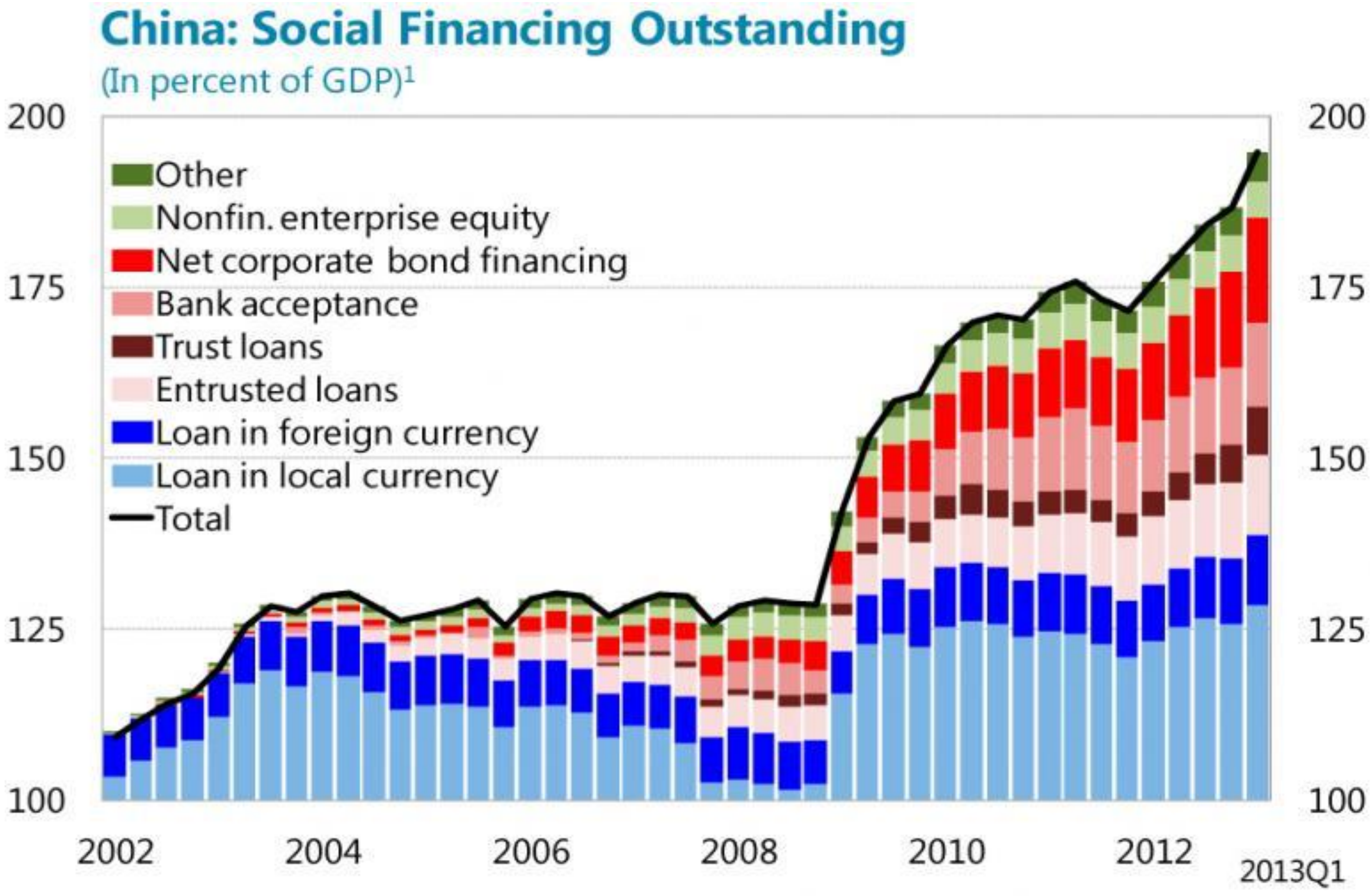
This was partly thanks to monetary policy



And partly thanks to fiscal policy

CBO

But also thanks to China's stimulus



[1] In percent of 4Q rolling sum of quarterly GDP.

Which causes of the last crisis have been addressed?

1. Banks were undercapitalized ☑️
2. Securities markets were contaminated by wrongly rated CDOs ⚠️
3. Monetary policy was too loose ❌
4. The U.S. real estate market (and others) became a bubble ❌
5. Derivatives markets created new contingent liabilities ⚠️
6. Chimerica channeled Asia's glut of savings into the U.S. economy ⚠️

How much has the global financial system changed?