The Great Recession: A First Look

— Week 7 —

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Summary

1. Recent Shocks to the Macroeconomy
2. Macroeconomic Outcomes
3. Some Fundamentals of Financial Economics
4. Required reading

I – Recent Shocks to the Macroeconomy

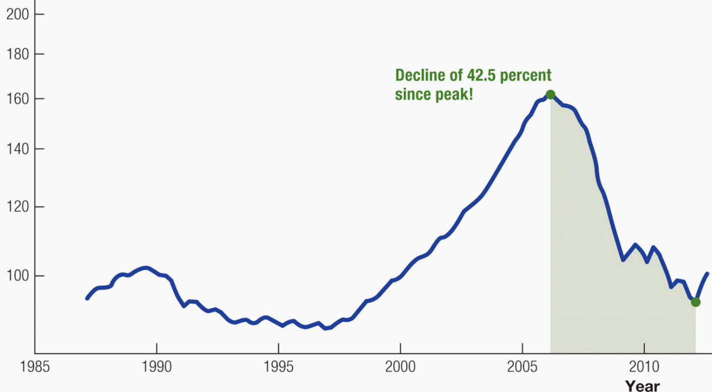
Shocks that have caused the global financial crisis

1. Housing prices
2. Global saving glut
3. Subprime lending and rise in interest rates
4. Previous financial turmoil
5. Oil prices

Housing Prices

1. Housing prices tripled between 1996 and 2006:
    1. "Housing bubble"
    2. The Fed did not realize that there was a housing bubble
2. Between mid-2006 and the first quarter of 2012, the national index for housing prices plummeted by 42 percent:
    1. the bubble "burst"

The housing bubble



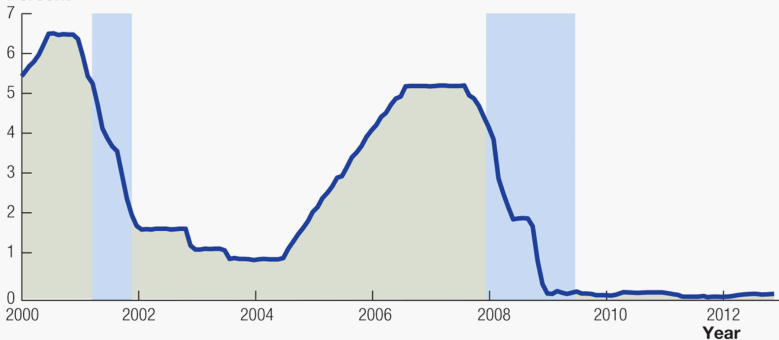
The Global Saving Glut

1. The current financial turmoil was caused partly by prior financial crises.
    1. Ben Bernanke March 2005: "global saving glut"
    2. Glut = "excess"
2. The United States had an excess of savings in comparison to the desire to invest.
3. The savings glut led to low interest rates
4. Many borrowers took out mortgages to buy homes between 2000 and 2006.

Subprime Lending

1. Many of these borrowers were “subprime”
    1. poor credit records
    2. high debt-to-income ratios.
2. But between 2004 and 2006, the Fed raised its interest rate from 1.25 to 5.25 percent.
3. Many subprime borrowers were now facing mortgages that were increasing from their initial teaser rates.
4. By August 2007 nearly 16 percent of subprime mortgages with adjustable rates were in default.
5. This led to a downward spiral of the housing market.

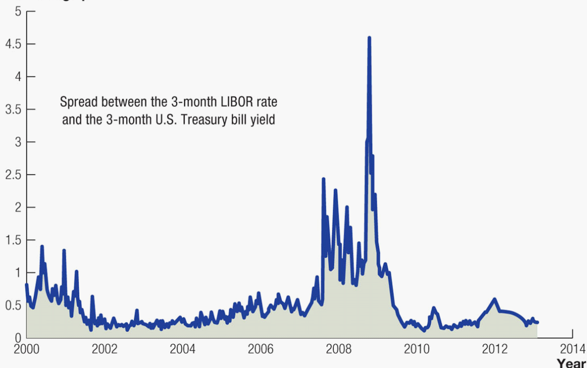
The Fed funds rate



The Financial Turmoil of 2007-2009

1. Before the crisis, subprime mortgages were sold to investors through a financial innovation known as **securitization**.
2. Securitization
   1. The process of pooling a group of **debt** financial instruments — such as mortgages, students loans, car loans — and then slicing them up in a different way and selling off the pieces.
   2. Meant to diversify risk.
3. As mortgages were developed and traded, it became difficult to know how much risk an individual bank was exposed to.
4. August 2007: "flight to safety": lenders put funds in T-bills
5. Those that had bought securities through securitization lost a lot of money

“Flight to safety"



Liquidity crisis

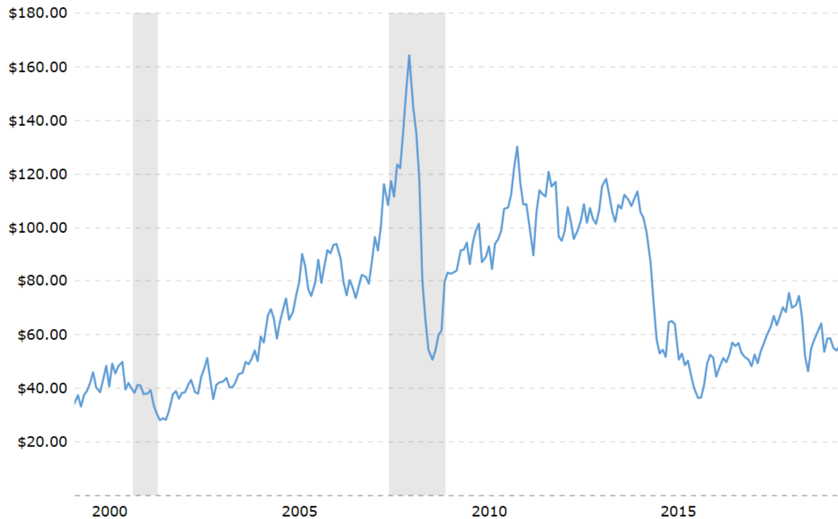
1. “Flight to safety": continued in the following years
2. The volume of transactions in some financial markets falls sharply.
3. Makes it difficult to value certain financial assets.
4. Raises questions about the overall value of the firms holding those assets.
5. Many bankrupcies in financial institutions and banks
6. Financial markets plunged and the S&P index dropped 50 percent from its peak in November 2007.

October 2007: index was 1553 points
March 2009: index was 683 points

Oil Prices

1. To make matters worse, oil prices were extremely volatile in this period.
2. 2002: $30 per barrel.
3. Summer of 2008: $160 per barrel.
4. December 2008: $50 per barrel..
5. The oil price increase was caused by: demand from China, India, and the Middle East.
6. The economic slowdown helped to alleviate oil demand pressures.

Oil Prices

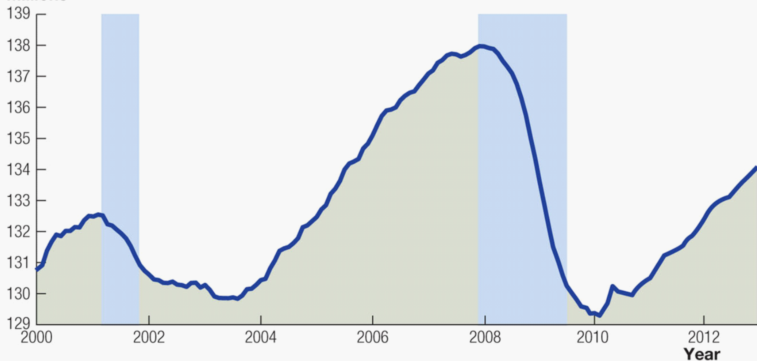


II – Macroeconomic Outcomes

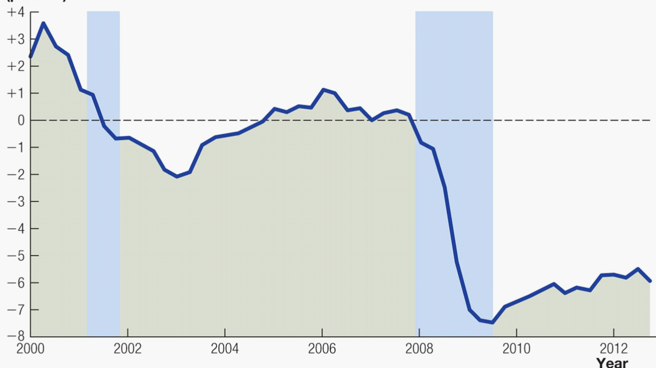
The great recession: some quick facts

1. The recession started in December 2007
2. Was first visible in unemployment.
3. By 2009:
    1. Output was 7 percent below potential.
    2. Unemployment reached 10 percent.
4. February 2010:
    1. 8.5 million jobs lost
5. Compared to previous recessions since 1950, this recession is significantly worse.

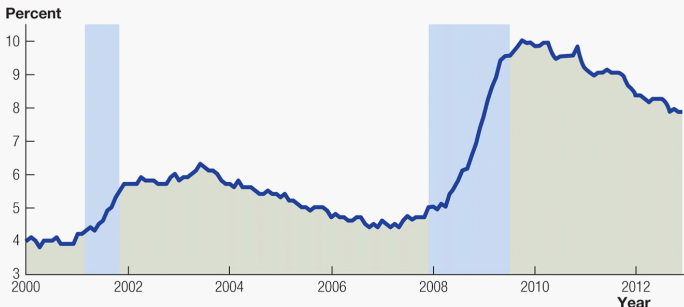
Total nonfarm employment



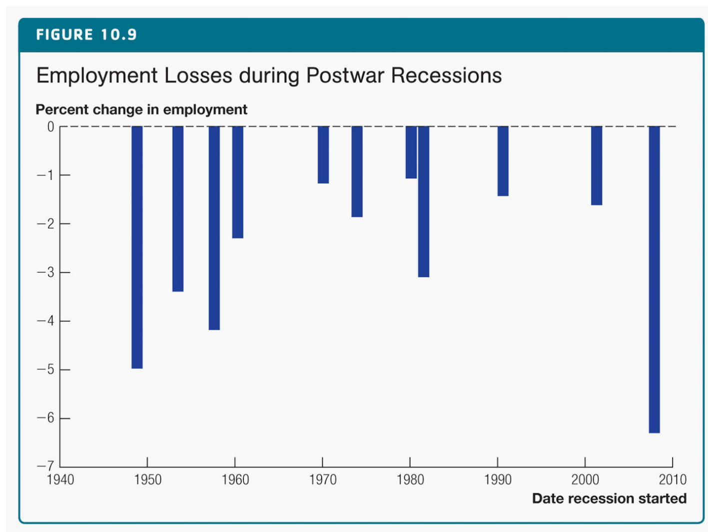
The short-run output (or the output gap)



The unemployment rate



The employment losses



Summary table

TABLE 10.1

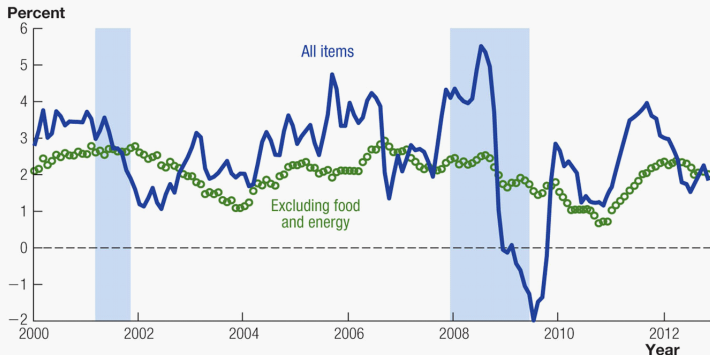
Changes in Key Macroeconomic Variables: Previous Recessions and the Great Recession

	Average of previous recessions since 1950	The Great Recession
GDP	−1.7%	−4.7%
Nonfarm employment	−2.5%	−6.3%
Unemployment rate	2.5	4.5
Components of GDP		
Consumption	0.4%	−3.4%
Investment	−14.4%	−34.0%
Government purchases	1.2%	5.5%
Exports	−1.5%	−10.3%
Imports	−4.2%	−18.7%

Inflation

1. Volatile oil prices caused sharp swings in inflation for all items in 2008.
2. In the recession, core inflation (all items excluding food and fuel) declined slightly.
3. See nex figure

Inflation



The Rest of the World

TABLE 10.3

Percentage Change in Real GDP around the World

	2009	2012	2013(f)
Japan	−6.3	2.0	1.2
United Kingdom	−4.9	−0.2	1.0
Euro area	−4.3	−0.4	−0.2
Italy	—	−2.1	−1.0
Spain	—	−1.4	−1.5
United States	−3.5	2.3	2.0
Asian NICs	−0.7	1.8	3.2
Brazil	−0.6	1.0	3.5
India	+6.8	4.5	5.9
China	+9.2	7.8	8.2

(f) denotes forecast.
NICs denotes newly industrializing countries.

III – Some Fundamentals of Financial Economics

Balance Sheets

1. Balance sheet:
    1. Accounting tool with assets on the left side and liabilities and net worth on the right side.
    2. The two sides sum to the same value when net worth is included.
2. Assets: items of value that an institution owns.
3. Liability: an amount that is owed to someone else.
4. Equity:
    1. The difference between total assets and total liabilities on a balance sheet.
    2. Represents the value of an institution to its shareholders or owners.
    3. Also known as net worth or capital.

Banks's balance sheets: some items

1. The reserve requirement
    1. A mandate that financial institutions keep a certain percent of their deposits in a special account with the central bank.
2. The capital requirement
    1. The legal obligation that a financial institution have a certain ratio of its assets supported by capital on its balance sheet.

Banks's balance sheets: an example

TABLE 10.4

A Hypothetical Bank's Balance Sheet (billions of dollars)

Assets		Liabilities	
Loans	1,000	Deposits	1,000
Investments	900	Short-term debt	400
Cash and reserves	100	Long-term debt	400
Total assets	2,000	*Total liabilities*	1,800
		Equity (net worth)	200

Leverage

1. The ratio of total liabilities to net worth.
2. This ratio magnifies any changes in the value of assets and liabilities in terms of the return to shareholders.
3. This principle also applies to homeowners
4. If a bank is highly leveraged, it may make:
    1. Large gains off of small increases in market prices.
    2. Large losses off a small decrease in prices.
5. Insolvency: situation in which the liabilities of a bank or other company exceed its assets.
6. Before the financial crisis, many investment banks were highly leveraged.

Bank Runs and Liquidity Crises

1. The Great Depression of the 1930s was caused by nearly all depositors converging on banks at once and demanding the return of their deposits.
2. Bank run
    1. A situation in which depositors or creditors worry about a financial institution's solvency and its ability to repay its deposits or short-term debt.
    2. Everyone "runs" to withdraw all funds, and the bank can't meet all these requests.

Systemic risk

1. In the recent crisis, a similar problem occurred:
   1. Financial institutions usually have large amounts of short-term debt, which are often financed by commercial paper.
   2. After the collapse of Lehman Brothers, banks became worried about lending to other banks.
   3. Interest rates spiked on commercial paper, leading to a liquidity crisis.
2. Systemic risk is a danger to the financial system or economy as a whole when financial institutions are integrated, leveraged, and subject to shocks that affect them as a group
3. You can **hedge** individual risk, but not systemic risk

IV – Required readings

Required reading

For this week you are required to read **Read Chapter 10** of our adopted textbook.

Charles I. Jones (2014). Macroeconomics, Third Edition, W. W. Norton & Company.