Lecture 12:
Too Big to Fail and the US Financial Crisis

October 25, 2016

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Beginning of the Crisis

- Why did banks want to issue more loans in the mid-2000s?
- How did they increase the issuance of new loans?
- Why did they think this was okay?
- What was the flaw in their plan?
- What happened to the mortgage issuers?
- How did that affect the housing market?
Origins of the US Financial Crisis

- Interest rates were very low for a long period of time
- Large international demand for safe assets
  - “Giant Pool of Money”
- Big run up in housing prices nationally, and particularly in some areas
  - Southern California
  - Nevada
  - Florida
- Rampant speculation
Real Estate Bubble Pops

- Speculation fueled by ease of borrowing
- Many speculators were highly “leveraged”
- Borrowers began to default more than expected
- Then: Banks began to raise lending standards
- Then: Harder to sell homes
- Then: Prices of houses went down
- Then: More people defaulted
- Cycle continues….
Why Does This Cause a Recession?

- **Unemployment:**
  - A large number of people had started working in construction and related fields
  - Construction halted, workers laid off

- **Banks:**
  - Many banks failed as they had a lot of bad debt
  - Not available to make regular business and consumer loans

- **Household assets:**
  - Value of stocks and houses collapsed
  - When wealth declines, people consume less
Stock Market

https://www.google.com/finance?q=INDEXSP%3A.INX&ei=g9AbVsGUDsKCjAHrgKQQ
Timeline of the Crisis

- March 2008: Bear Sterns collapse
- Height of the crisis in Sept-Oct 2008
- Failures, takeovers or receivership:
  - Lehman Brothers
  - Merrill Lynch
  - Fannie Mae and Freddie Mac
  - Washington Mutual
  - Wachovia
  - Citigroup
  - AIG
Government Reaction

- Selective bank bailouts:
  - Bear Stearns and Lehman Brothers failed
  - AIG and Citigroup were saved

- Troubled Asset Relief Program (TARP)
  - $475 billion in purchases of extremely risky assets from banks
  - Banks unable to sell these assets on the open market, so this is a huge subsidy to banks
Fiscal and Monetary Response

Monetary Policy:
- The Fed cut interest rates quickly
  - Cut rates to lowest levels ever: 0-0.25%

Fiscal Policy:
- The federal government under both Bush and Obama greatly increased government spending
  - Bush stimulus: $170 billion tax cuts
  - Obama stimulus: $787 billion ARRA (tax cuts and spending increases)
Big Increase in Money
Big Increase in Debt

[Graph showing Federal Debt: Total Public Debt as Percent of Gross Domestic Product from 2002 to 2014]
Brand New Monetary Policy

- Normally the Fed operates by raising and lowering interest rates during recessions

- New Fed programs:
  - Pay interest on reserves
  - Maiden Lane holding companies: (I) Bear Stearns, (II) and (III) for AIG
  - Quantitative easing: Purchase of longer duration assets (2-10 year instead of 90 day)
  - Purchase of Mortgage Backed Securities, instead of government bonds
Too Big to Fail

- The financial industry is important for the economy

- Help consumers to:
  - Save
  - Insure
  - Borrow

- Help businesses:
  - Invest in new projects (factories, etc.)
  - Respond to risk

- If financial markets break down, all this stops.
Too Big to Fail

- Because financial firms are beneficial to the economy, governments may bail them out when the financial industry is in trouble.
- Keep the whole industry from collapsing.
**Moral Hazard**

- **Moral hazard** is when insurance changes behavior because *downside risk* is borne by someone else.

- **Examples:**
  - Insured drivers drive more recklessly.
  - Corporations take more risks than sole proprietors.

- If big banks are so important that the government will bail them out, that is a form of insurance.
  - They are “too big to fail.”
Financial Crises and Bank Concentration

- If banks are “too big to fail”, they take more risk because they expect to be bailed out by the government.

- They have incentives to take correlated risks:
  - If one bank fails, unlikely to get government bailout.
  - If all banks fail, government bailout likely.

- Example: Subprime mortgage crisis:
  - Very risky loans (more risk than before).
  - Almost all banks sold them (correlated risks).
Failure of Markets or Failure of Regulation?

- One interpretation:
  - Financial firms caused the recession through moral hazard
  - “Privatized profits and socialized losses”

- Alternative interpretation:
  - Regulators were in a better position to see the problem and do something about it
  - Banks just responding to prices that they see
  - Regulators could create regulations to stop the problem before it happened
Long Term Effects

- Because the Fed increased the money supply by so much, inflation may be a problem in the future.
- Because deficits increased so much, they must eventually be paid off.
  - How can we pay off those debts?
Big Problem: Normal interest rates with high debt...

- Currently interest rates on government debt are near zero
- As we return to normal times:
  - Interest rates are around 4% on government debt
  - Government receipts are 18% of GDP
- If debt = 100% of GDP, then debt interest will be:
  - 4% of GDP
  - >20% of government budget
  - Larger than the entire defense budget
Possible ways out:
#1 Fiscal Responsibility

- Raise taxes and/or cut spending
- May slow down the economy, which itself reduces tax revenue
Possible ways out: #2 Fast Growth

- If the government can encourage fast economic growth, the importance of the debt shrinks.
- Debt exposure measured as debt divided by GDP.
- Fast growth means easier to repay debt, since tax receipts grow with GDP.
- Hard to implement: if the government knew how to engineer growth, it would always do so.
Possible ways out:

#3 Inflate Away the Problem

- Almost all US debt is “nominally denominated”
  - Pays out an amount given in US dollars
- Big inflation reduces the real amount the government has to pay out
  - Printing a lot of money increases the price of everything: wages, business incomes, etc.
  - But the amount of dollars owed by the government doesn’t respond to inflation
- This is effectively a “partial default” and would make it harder for the US to borrow in the future
Likely Outcome

- Gradual move toward fiscal responsibility as the economy recovers
- Possible big inflation from the huge amount of money the Fed has created
- Bad possibilities:
  - “Sudden stop”: foreign lenders stop giving the US money, leading to problems
  - Expectation of default causes upward spiral in US government interest rates