Great Recession

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Overview

- Worst economic contraction since Great Depression (by most measures)
- Could do entire course on the subject
- We will do a very brief overview:
  - Facts
  - Underlying causes: mapping into our model(s)
  - Policy responses: mapping into our model(s)
  - Lingering questions
Facts

- Real GDP declined relatively to trend by as much as 10 percent (or more). Has not been a robust recovery
- Unemployment rose from 5 percent to 10 percent. Labor hours fell by 10 percent
- House prices fell by 30 percent. Stock prices by 60 percent
- US government debt increased substantially to 100 percent of GDP
- Unprecedented policy responses: Fed Funds rate at zero for five years. Financial bailouts
- Important international dimension
Background: Housing Crisis

- Enormous and unprecedented housing price increases throughout early and mid-2000s
- Not completely clear why:
  - “Bubble”?
  - Mortgage finance innovation: people previously unable to get loans were getting them
  - Excessively easy monetary policy?
  - Role of GSEs (government sponsored entities), Fannie and Freddi
- Higher home prices: higher consumer spending (wealth effect and easing of liquidity constraints)
- Higher home prices: more home-building
- House prices level off in 2006 and begin to collapse in 2007
Housing Starts
Construction Employment

Employment in Construction

8.56
8.60
8.64
8.68
8.72
8.76
8.80
8.84
8.88
8.92
8.96

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Mapping Into Our Model

- House price collapse: negative wealth effect
- Demand reduction: inward-shift of IS and inward shift of AD
- Would lead to reductions in $Y_t$ and $P_t$
- Fed responds to this by aggressively lowering interest rates
- End result: not much aggregate output reduction throughout 2007 and 2008
- *But:* interest rates almost all the way to zero by Fall of 2008: ZLB about to bind
Reduction in Housing Wealth: Inward Shift of AD

Reduction in HW (housing wealth) shifts IS and hence AD curve, resulting in falling real interest rate, output, and price level.
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Fed responds by increasing the money supply and lowering interest rates. Little change in output or prices by end of 2007, but interest rates are low.
Fed Funds Rate
Stage 2: Financial Crisis

- A financial crisis (fall of 2008) followed the initial collapse in housing prices (2007)
- In large part because of (i) over-exposure to mortgage related assets and (ii) increasingly complex interconnectedness among financial institutions
- This is where real economic activity really collapses
- Two signs of financial distress: stock market prices and corporate bond-spreads
Corporate Bond Spread

Bond Spreads
Mapping Stage 2 Into Our Model

- Large reduction in $q$
- Leads to large inward shift of IS and accompanying shift of AD
- Particularly problematic: we were functionally at the ZLB by time this happened: particularly large decline in output
ZLB was binding by time financial crisis hit.
Large Drop in $q$: Big Output Contraction

\[ r_t^0 = -\pi_t^e + 1 \]

\[ \downarrow q: \text{shifts IS and hence AD in. Reduction in output much larger than it would have been had ZLB not been binding} \]
Real GDP vs. Linear Trend
Unemployment
Inflation

The graph shows the fluctuation of inflation over time from 2000 to 2013. The blue line represents the inflation rate, and the dashed line represents the mean inflation rate. The inflation rate fluctuates significantly, with peaks and troughs indicating periods of higher and lower inflation.
Summary Facts and Model Predictions

- Data: large falls in output and employment (increase in unemployment). Fall in inflation
- Model does a pretty good job fitting this, particularly at ZLB
Policy Responses

▶ “Normal” policy response of cutting interest rates: out the window
▶ Many different things were tried:
  ▶ Financial bailouts, TARP
    ▶ “Lender of last resort” type of function. Trying to keep systemically important institutions afloat. Effectively trying to halt decline in $q$ / raise $q$
  ▶ Non-standard monetary policy: Quantitative Easing, Forward-Guidance, Operation Twist
    ▶ Trying to lower longer maturity rates directly
    ▶ Trying to engineer expected inflation, or at least keep deflation at bay
    ▶ Fiscal policy makes more sense at ZLB
    ▶ But large increase in US government debt
Financial market reforms and interventions directly targeted at reversing the decline in $q$ and raising it, which would shift the IS and hence AD curves out.
Fed tries to engineer higher expected inflation in hopes of lowering real interest rate, stimulating demand, and shifting AD out.
Fiscal stimulus involved combination of increasing government spending and reducing taxes in such a way as to stimulate demand, resulting in rightward shifts of the IS and hence AD curves.
Did it Work?

- Hard to say
- We didn't have another Great Depression
- But constructing the counterfactual is hard
- Economy weak for a long time
Lingering Questions

- Why did house prices rise and fall so much in first place?
- Why did financial system get so interconnected and over-exposed to housing?
- Why is the recovery been so weak, particularly in labor markets?
Thinking About Policy Going Forward

- Pros and cons to more regulation of housing and finance
- Moral hazard: bailing out gives incentive to misbehave
- High uncertainty caused by policy incertitude (e.g. bailing out Bear Sterns, not Lehman), fiscal imbalance plus demographic problems, non-standard monetary policies
- Are problems “structural” or “cyclical”? Employment in construction and autos has not recovered. Need for reorganization of labor markets?