Overview

- Worst economic contraction since Great Depression
- Could do an entire course on subject
- Won’t go into too much detail on deeper underlying causes
- Want to think about unique policy responses in context of our models
Causes

- Conventional sequencing:
  - Fall in house prices
  - Financial problems
  - Zero lower bound
  - Non-standard policy responses
  - Tradeoffs: heightened uncertainty in wake of non-standard policy responses?
RBC or NK?

- RBC model doesn’t seem like a good candidate
- Only way to fit data is through drop in $A_t$
  - Doesn’t seem reasonable given actual events
  - Would imply counterfactual path of interest rates
  - In data, productivity has not fallen much or at all (depending on how one measures it)
- NK model with a few twists seems like a more promising route
Huge decline in home prices, much of it before any significant decline in output
Home Prices in Our Model

- Homes are a source of wealth for households
- Declining home prices $\Rightarrow$ less wealth $\Rightarrow$ less consumption (and want to work more)
- $Y^d$ curve shifts in, $Y^s$ shifts out
- Fed responds by aggressively cutting interest rates
- By start of 2008, interest rates very low, but not much output decline yet
Next Stage: Financial Crisis and ZLB

Suppose that the interest rate relevant for firm financing decisions is $r_t + \theta$. $r_t$ is the “riskless” real interest rate (rate on government debt), while $\theta$ is a “risk premium” or “term premium”.

Because of exposure to housing market through mortgage backed securities, large financial institutions became weary of making loans and concerned about defaults.

This manifests itself as higher $\theta$.

Consistent with data.
A Crude Measure of $\theta$

Bond Spreads

Great Recession Fall 2012
An increase in $\theta$ reduces investment demand, therefore shifting the $Y^d$ curve in to the left

Fed responds initially by lowering $r_t$ more, but soon runs out of room. By mid-2008, nominal funds rate more or less hits zero

Zero lower bound: nominal interest rates cannot go negative

This has the effect of making the LM curve perfectly horizontal at $r_t = -\pi_{t+1}$, where $\pi_{t+1}$ is expected inflation, which we take as given

Inward $Y^d$ shift along with flat LM curve: large reduction in $Y_t$
Federal Funds Rate

Sims (ND)  Great Recession  Fall 2012
Efficient Level of Output

- Because of ZLB, actual output almost certainly fell below potential
- Increase in $\theta$ is itself probably inefficient and the result of informational frictions
- Thus, there was/is an apparent welfare justification to do something
- But what? Can’t simply shift LM curve out
Monetary policy responses in the crisis boil down the following two goals

- Reduce $\theta$ (shift $Y^d$ up)
- Increase $\pi_{t+1}$ (shift horizontal LM down)

TARP, bailouts, QE, QE1, QE2, QE3, and “Operation Twist” can all be understood as trying to accomplish one or both of these goals.

Can make a reasoned argument for policies like these, although one might quibble with the implementation and/or longer term implications (more below)
In normal times, fiscal policy should not be used to stabilize the economy because changes in spending/taxes affect the efficient level of output.

At ZLB this is not necessarily true.

Increase in $G_t$: shifts $Y^d$ out one-for-one, increases $Y^e$ less than one for one (would normally raise $r_t$).

Increase in $G_t$: even though it would increase $Y^e$, would increase $Y_t$ more, so would help “close the gap,” which is good.

Indeed, some empirical evidence that fiscal policy more potent when interest rates near zero.
Tradeoffs

- While these policies make some sense in light of our model, they are not without tradeoffs (no such thing as a free lunch).
- Non-standard monetary policy has to lead to fears of significantly higher future inflation.
  - Although in model this shifts horizontal LM down, in a more complicated setting could work to increase $\theta$ because of higher risk/uncertainty.
- Fiscal expansion has led to fears of solvency issues and potential default.
  - Again, would have effect of increasing $\theta$.
- Some evidence that uncertainty is indeed higher, could wipe out gains from policies.
• Great Recession really a “perfect storm”: large decline in wealth from housing, coupled with a financial crisis and the zero lower bound
• All this conspired to lead to a large (and most certainly “too large” from efficiency perspective) decline in output, and normal policy options not on the table
• Non-standard policies do make some sense in light of our basic framework, but have led to heightened uncertainty which at least partially undermines them
• Empirically very difficult to tell how effective the policies have or have not been