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# 1 The Macroeconomic and Financial Crisis of 2007 and Beyond

## 1.1 Background: The Great Moderation

### 1.1.1 Macroeconomic performance from the mid-1980s to roughly 2006

Few recessions; steady growth. All around, things aren't so bad.

### 1.1.2 Candidate Explanations

- Good luck
  - Maybe the distributions changed to have lower variances, so we got good draws
  - Maybe nothing changed and we got lucky
- Structural change
  - Transition from manufacturing
- Good policy
  - Defeatism in the 30's
  - permanent inflation/employment tradeoff

Raises questions:

- In light of current crisis, which explanation continues to make sense?
- In light of current crisis, which will stand out 20 years from now as the exception: the great recession or the great moderation?

## 1.2 The Run-up and Bust in House Prices

### 1.2.1 The explosion of house prices

**Basic Facts** Prices rose steadily (doubling over the beginning of the decade). But this happened in places even without much land scarcity: Arizona, Nevada, Tennessee.

**Issues this Raises** How the hell do we price assets? Can our old models explain this? Rational bubble?

### 1.2.2 The fall

**Old Bank Model** Bank issues a loan and holds it on its balance sheet

**New Bank Model** Bank issues loan, packages it up, sells it, sold shares of overall debt with different shares of the default risk. Credit rating agencies made ratings but it's different from rating firms because there's a higher overall macroeconomic risk.

Weird government relationship between private firm.

Constant nominal payments front-load payments of mortgages. Relevant calculation was "Can I make the first payment?" But later mortgage instruments backloaded payment. People continued to make decisions based on first payment.

How did housing prices affect construction industry? It was huge. Near all time highs on new housing starts and housing share of economy.

If we were prepared for this, what could we have done? Education: Fed convince people to not buy. Fed could have raised minimum interest on mortgages.

The view beforehand use to be: there wouldn't be a huge crash in housing prices, but if there were, the macroeconomic effects would be kind of small. What that view missed was the financial repercussions. The old view assumed lower housing prices would just decrease household income, but increasing defaults had rippled.

## 1.3 The Real Economy

### 1.3.1 Macroeconomic performance from 2006 to mid-2008

### 1.3.2 Macroeconomic performance in late 2008 and early 2009

GDP in late 2008 and early 2009, according to latest revision

- -4.0% 08Q3
- -6.8% 08Q4
- -4.9% 09Q1

This was inconceivable in 2005.

But according to the first release:

- -0.3% 08Q3
- -3.8% 08Q4
- -6.??% 09Q1

Usually, we use expenditure-based estimates. The income-based estimates might be better and have been more quickly available.

## **1.4 Why Were the Real Effects of the Financial Stress So Large?**

### **1.4.1 Candidate Explanations**

1. Long-term investment declines
2. Day-to-day production  
Financing payroll for inventories takes some short-term borrowing
3. Confidence: people just freaked out.
4. Policy uncertainty
  - (a) Bear-Sterns bailed out
  - (b) Lehman allowed to collapse
  - (c) AIG Bailed
  - (d) Fannie and Freddy continued
5. Other

### **1.4.2 A Few Facts**

There are stories of container ships turning around in mid-ocean the week after Lehman.

Something about Chile. (Macro-effects of finance, supports 3 somehow.)

Stock market was fine the week after Lehman collapsed.

Olivier Blanchard delivered speech to IMF the day after Lehman collapsed. He mentioned nothing about Lehman.

## **1.5 Financial Regulation and Unconventional Monetary Policy**

### **1.5.1 Interventions in Financial Markets**

Regulators have been intervening in these markets all along, not simply after the interest rate went to zero.

### **1.5.2 What are the grounds for government intervention?**

**Economists' usual view of government intervention** The stories you hear in econ 1 don't seem to have anything to do with financial market.

Usually hear two types of explanation: too broad, nearly metaphorical (credit is the blood of the markets) or too narrow (asymmetric information models ad infinitum).

**Analyses of intervention in financial markets**

**Some examples of difficult policy issues**

## **1.6 The importance of the Zero Lower Bound on Nominal Interest Rates**

### **1.6.1 The zero lower bound**

The problem is there exists an asset that earns 0% with 100% certainty. There's a huge debate as to whether the Fed had interest rates too low for too long.

### **1.6.2 Its importance in the episode**

Should we have targeted higher inflation all along?

### **1.6.3 Possible ways of dealing with the zero lower bound**

Historical view of such a crisis: raise the target inflation rate. No one did this. Maybe they were afraid for political reasons.

Maybe we should ban currency. Then we could avoid zero lower bound.

## **1.7 A Few Thoughts about Fiscal Stimulus**

### **1.7.1 The gap between frontier academic models and models used in practice.**

DSGE models were not as effective as Blue Chips forecaster.

### **1.7.2 The political economy of fiscal stimulus**

People consider fiscal stimulus stupid and immoral.

## **1.8 Some other Issues Raised by the Crisis Thus Far**

### **1.8.1 The costs of macroeconomic fluctuations**

They're probably smallish.

### **1.8.2 The behavior of inflation**

We should expect to see a greater decline in inflation after the crisis. Why haven't we? Possibly anchored expectation. Tough to model.

### **1.8.3 How much of our unemployment is structural?**

We're off the beveridge curve.

#### 1.8.4 Political economy of monetary policy?

Why have central banks reacted differently to the macroeconomic crisis than to the financial crisis? People worked around the clock when banks were collapsing. Now, nobody seems to care. :(

### 1.9 Some Other Issues Raised by the Crisis Going Forward

#### 1.9.1 Background: Standard forecasts

People don't see unemployment going back down soon.

#### 1.9.2 Can we do something about this?

Maybe? Fix the zero lower-bound.

### 1.10 Kocherlakota's Speech

- Mismatch: why a sudden change?
  - Why don't you check evidence?
  - Why don't we see openings in other sectors, i.e. where are the shortages?
  - Maybe the mismatch was a longer term trend, such as polarization of labor force, that was accelerated by the crisis.
  - What does Shimer say?
- Tools can address mismatch?
- Silent on jump in productivity early in recession.
- Silent on why they didn't immediately fill in for declining MBS earlier?
- Claim that  $i = 0$  in long run will lead to deflation.
- Are they political or not?

#### 1.10.1 Beveridge Curve Shift?

How do we know that the curve has shifted? Maybe it's just got a funky looking tail? Also, to have an equilibrium, we need a second curve. How do we know it's flat? Maybe it's vertical.

Construction workers exit unemployment just as fast.

### 1.10.2 Long run will lead to inflation

$i$  is federal funds rate.  $r$  is real interest rate.  $\pi$  is inflation

$$\begin{aligned} i &\equiv r + \pi^l \\ \bar{i} &= r^{LR} + \pi^{LR} \\ \implies \pi^{LR} &= \bar{i} - r^{LR} \end{aligned}$$

This is not a stable equilibrium.

### 1.10.3 Politics

Minneapolis has a small sample. Why should he get information from region? Why should he use special in-house models?

## 1.11 How Will the Crisis Change Macroeconomics?

A lot, but who knows how?

# 2 The Looming Fiscal Crisis

## 2.1 Introduction

Large deficits for a long time. 10% of GDP right now.

## 2.2 The Auerbach Framework

Will the government budget constraint be satisfied by current policy? If not, how far off is it?

### 2.2.1 The government budget constraint

GBC:

$$\begin{aligned} \int_{t=0}^{\infty} e^{-R(t)} G(t) dt &= -D(0) + \int_{t=0}^{\infty} e^{-R(t)} T(t) dt \\ \int_{t=0}^{\infty} e^{-R(t)} \frac{T(t) - G(t)}{Y(t)} Y(t) dt &= D(0) \end{aligned}$$

### 2.2.2 Auerbach's calculation

Auerbach: Project  $G, T, Y, R$ . His measure of fiscal imbalance is the solution to:

$$\int_{t=0}^{\infty} e^{-R^{\text{PROJ}}(t)} \left[ \frac{T^{\text{PROJ}}(t) - G^{\text{PROJ}}(t)}{Y^{\text{PROJ}}(t)} + \Delta \right] Y^{\text{PROJ}}(t) dt = D(0)$$

Someone should write a paper about how much  $\Delta$  changes from paper to paper.

## 2.3 Implementing the Framework for the United States Today

### 2.3.1 Characterizing current policy

Why project  $G, T$  when we could just fill them in according to current policy? We know that the policy will change, predictably.

### 2.3.2 Results

Health care reform, social security reform.

If health-care reform is	Then $\Delta$
A success	7.4%
Intermediate	10.4%
A flop	12.1%

## 2.4 Discussion

### 2.4.1 What's driving the results?

#### Demography

**Growth in medical spending** Technological progress leads to greater incentives to spend on personal healthcare.

#### Policy decision made from 2001 to 2008

- Bush tax cuts
- prescription drug coverage added to medicare without funding
- increase in military spending

### 2.4.2 Uncertainty

**How uncertain are these results?** Very.

**How does uncertainty affect optimal policy?** Presumably, we should be more cautious.

## 2.5 Where Do We Go from Here?

### 2.5.1 What would a social planner do?

- Save more
- Spend less on government goods and services
  - Use less than all of available medical technology?
- Work more

**How do markets affect “optimal” policy?** Maybe if I were a true social planner, I would just jack taxes up on my grandkids. But real policy distorts incentives.

**The bottom line** Economically this is completely plausible. Make medicare totally feasible. Increase taxes.

Short run, maybe not such a good idea to do all of these because of the short run crisis.

Phased in value-added tax.

### **2.5.2 What would happen if we tried to stay on your current path?**

- Lower national saving
- Some type of crisis meltdown
- Disruptions at the individual level

### **2.5.3 What is likely to happen?**

Nothing.