UTA

Economics

The U.S. Economy:

Some insight on the policy responses

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Weak Recovery?

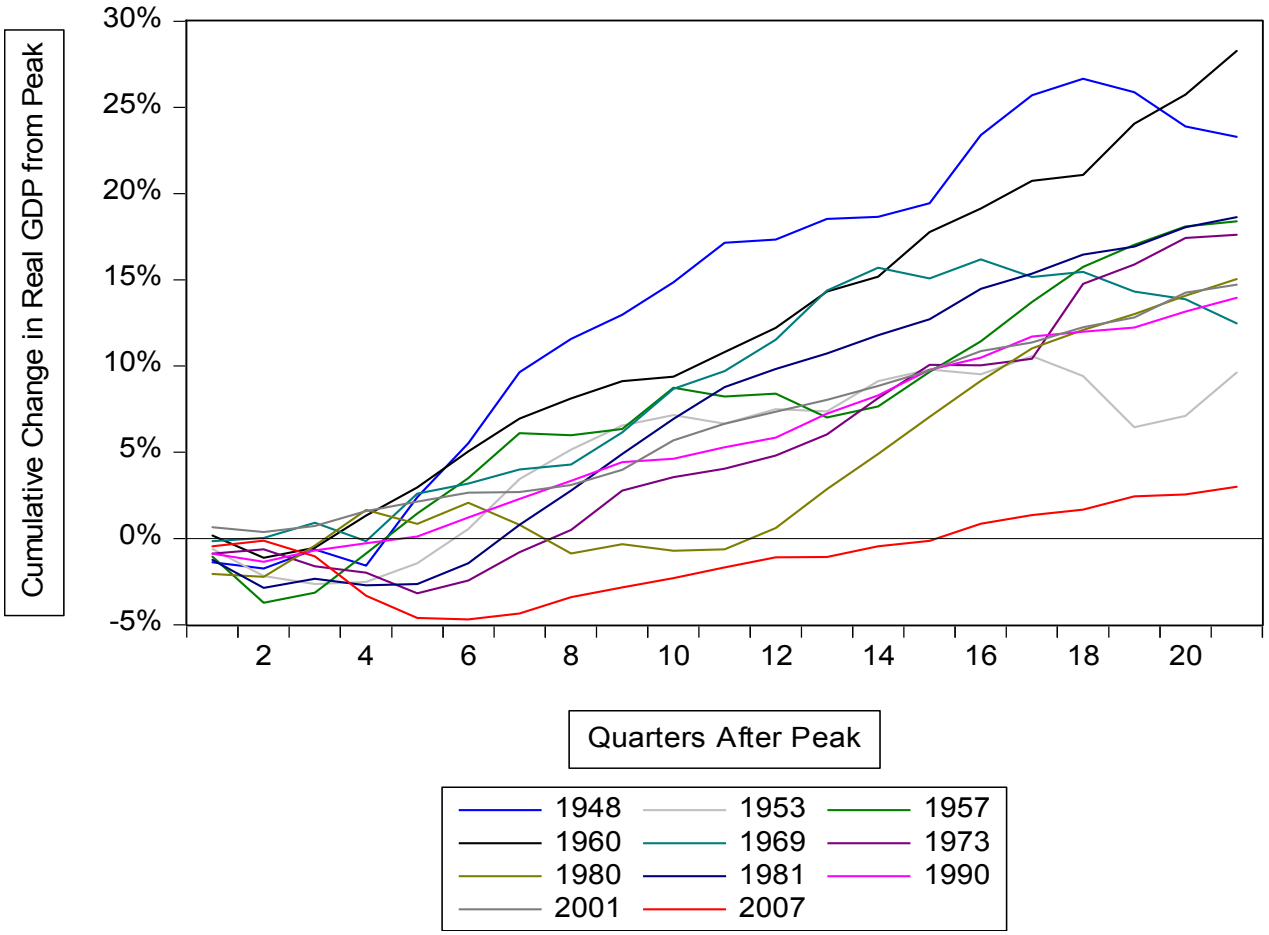
It's no secret that the U.S. economy has still not fully recovered from the financial crisis and subsequent recession.

The economic expansion following the 2007 recession has been the weakest of the post–World War II era and remains an outlier among postwar recoveries along several dimensions.

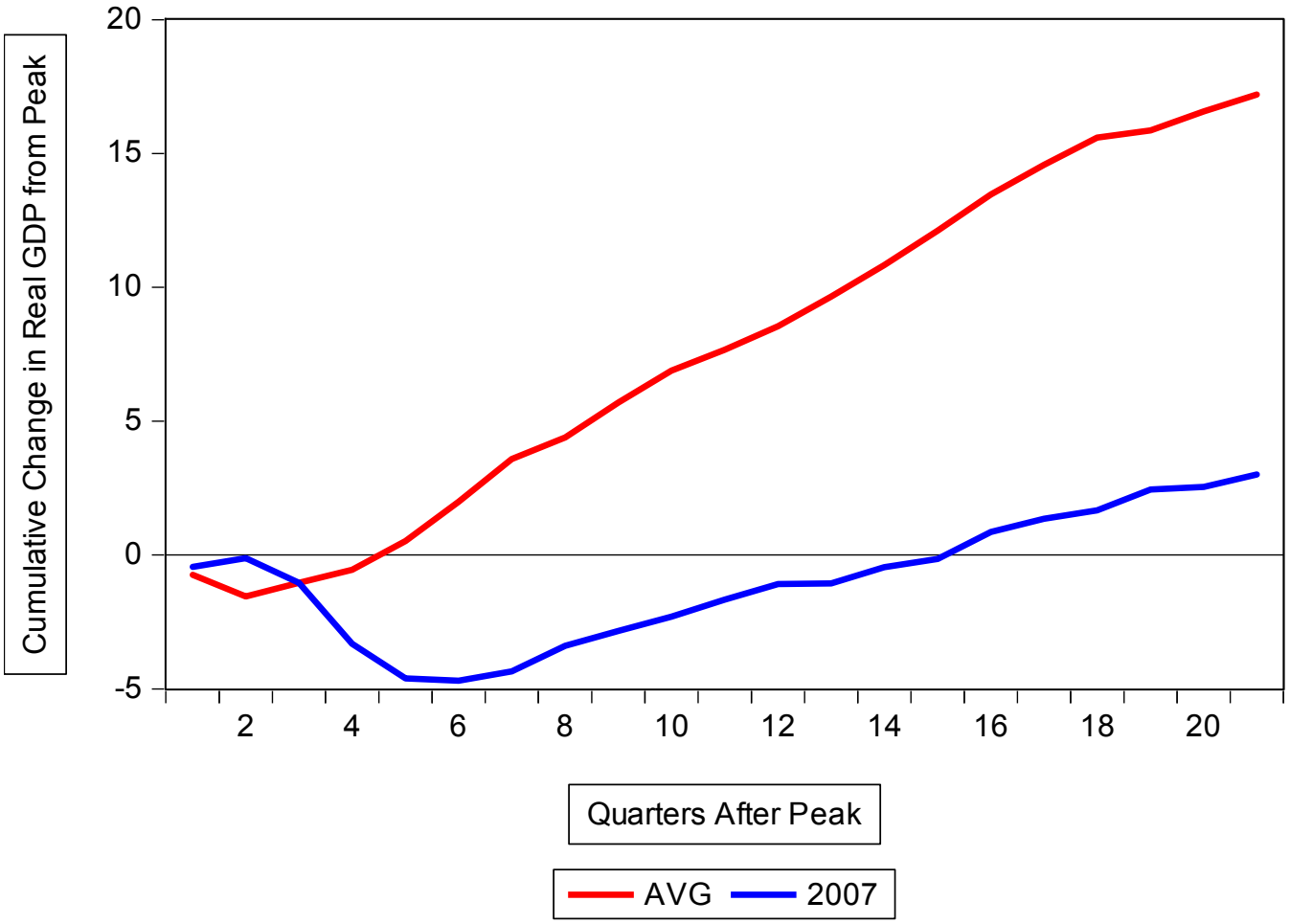
The Most Recent Data

	Last Quarter	Last Year	Last 5 Years
Real GDP	4.03%	1.93%	1.19%
Unemployment	7.0%	7.8%	6.8%
Inflation	0.4%	1.2%	0.1%
Labor Force Participation Rate	75.2%	75.5%	77.8%
10-year Treasury Note	2.72%	1.65%	3.53%

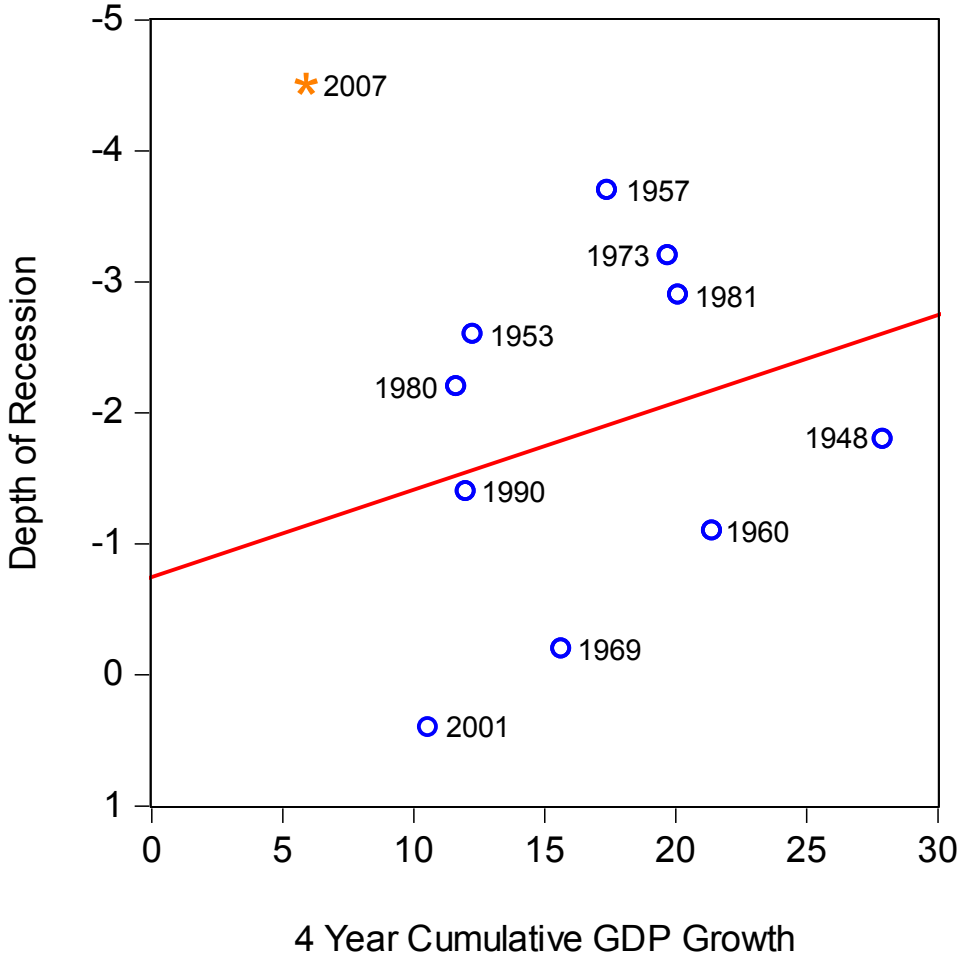
Real GDP Growth



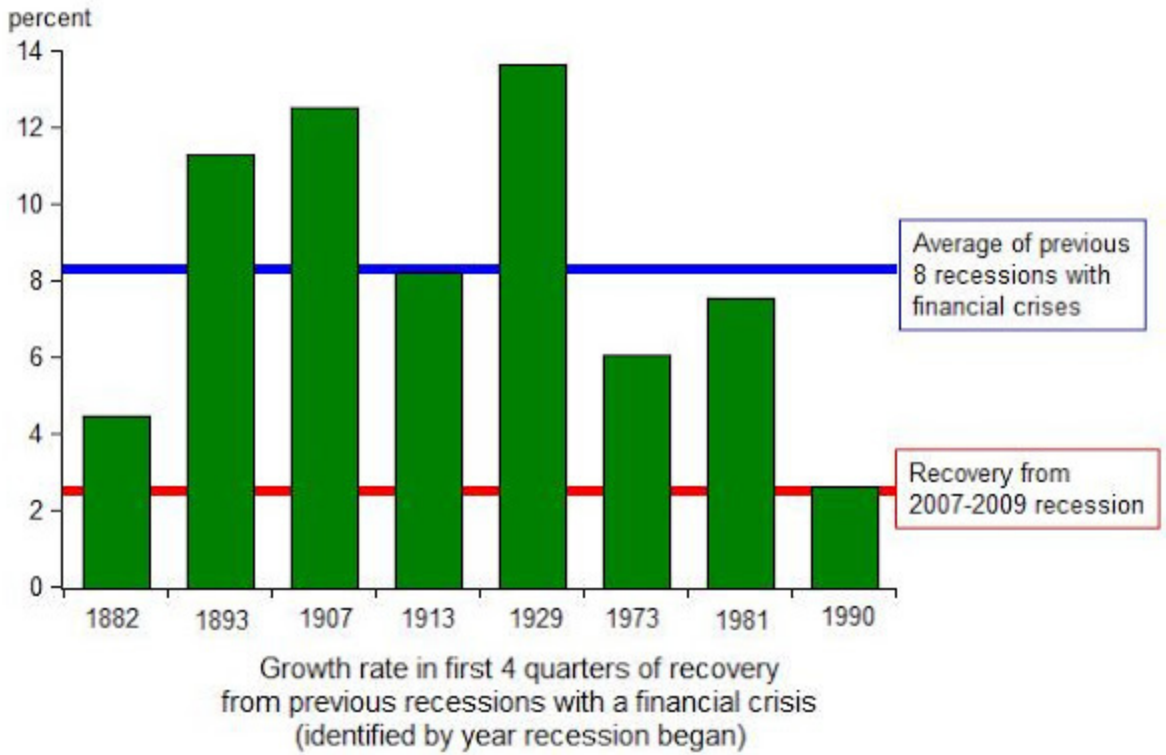
Real GDP Growth



The Deeper the Plunge

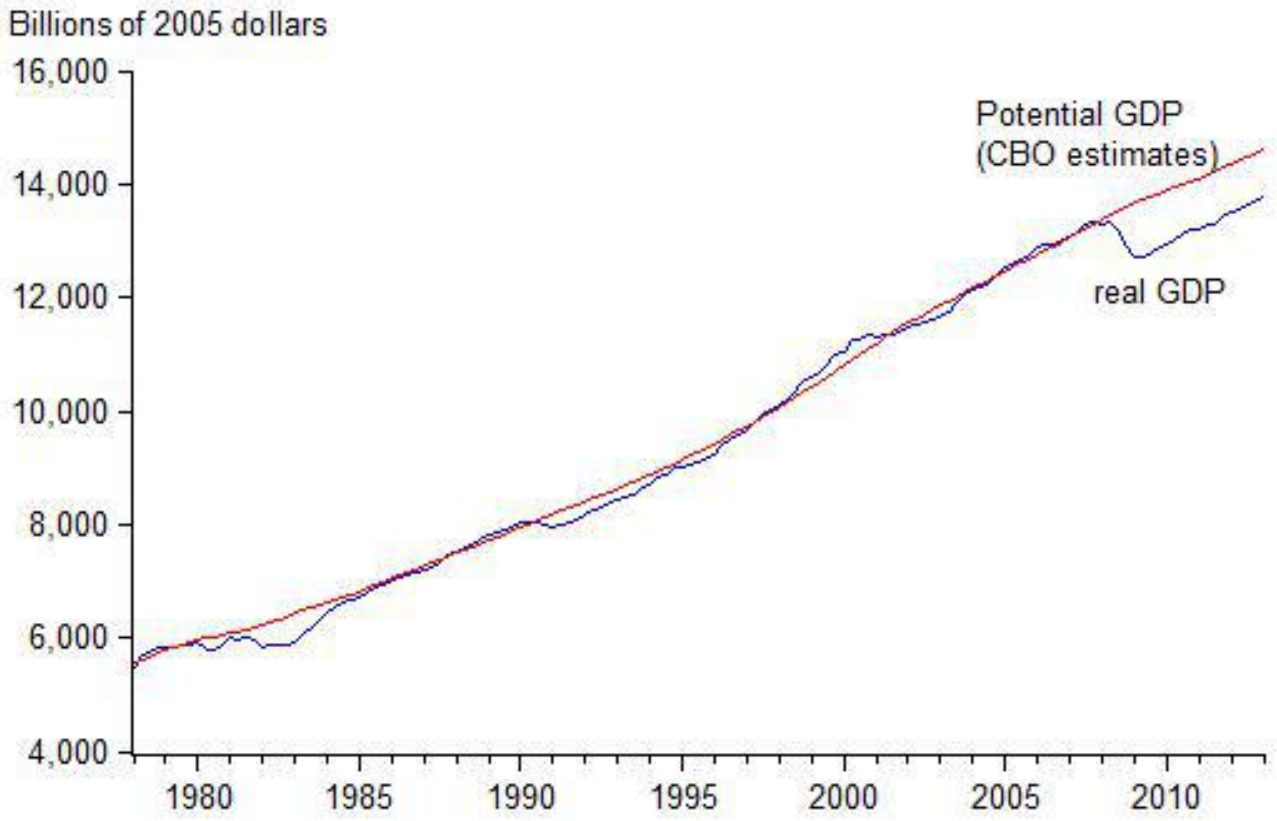


Recoveries Following Financial Crises



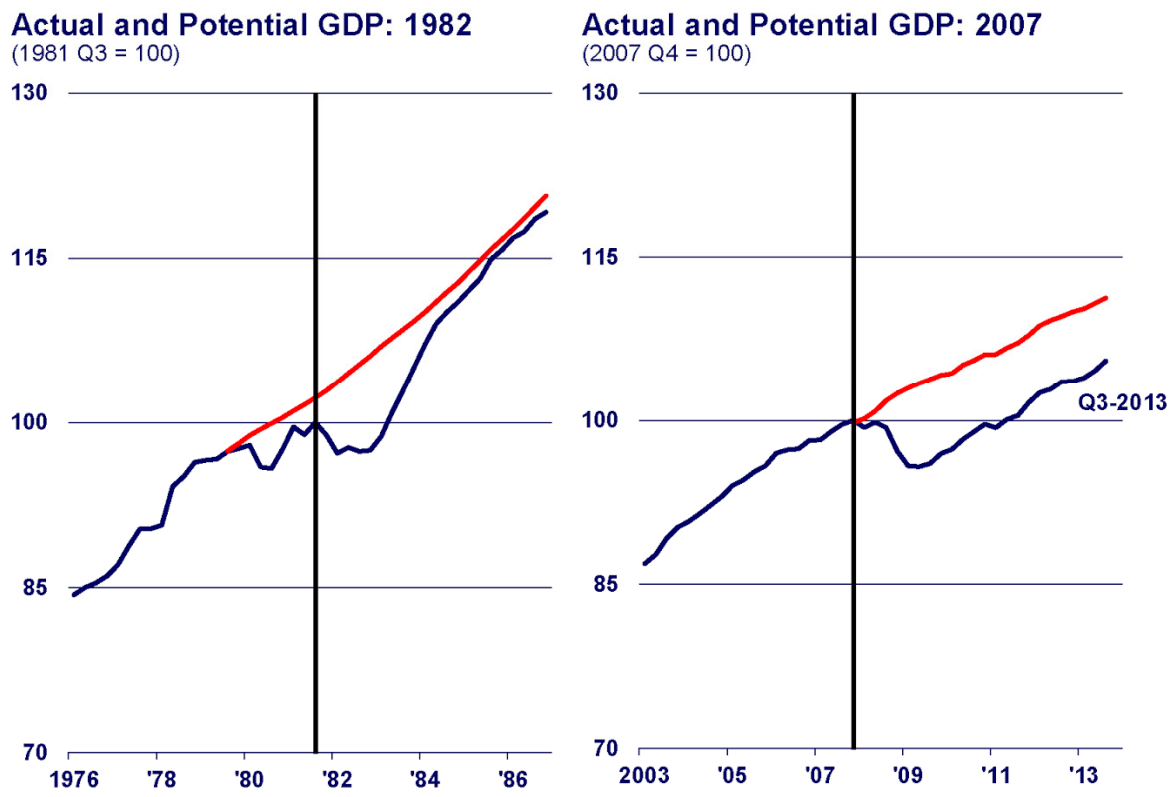
Source: John Taylor, http://economicsone.com/

Well Below Potential

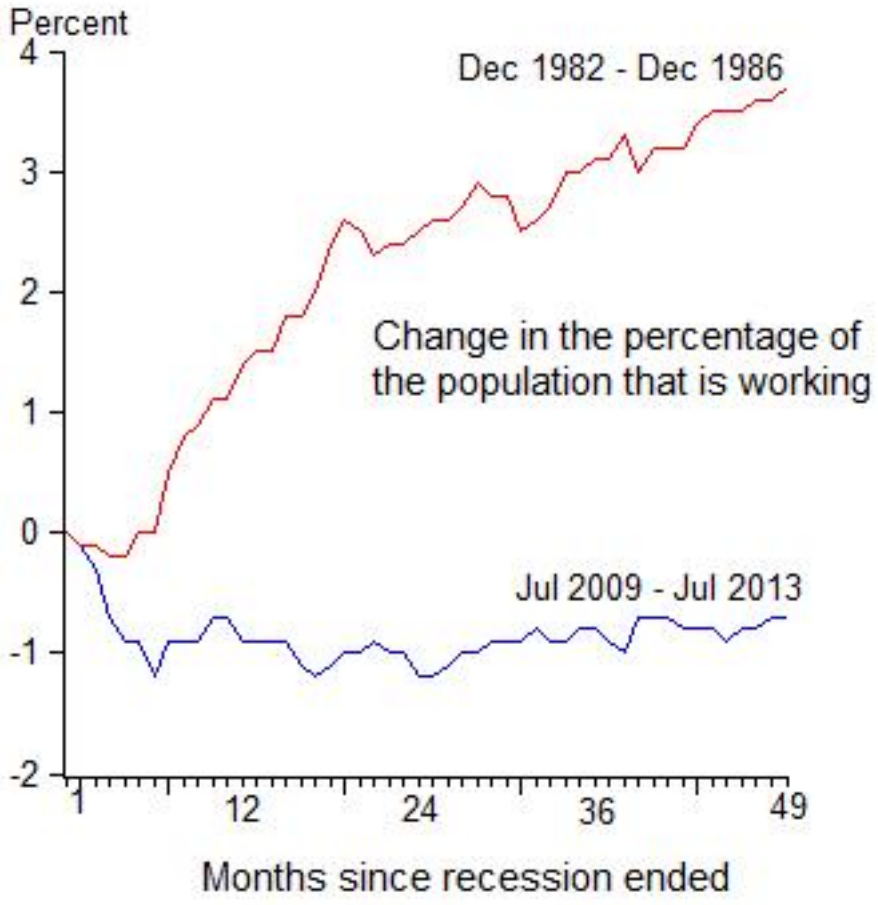


Historical Comparison

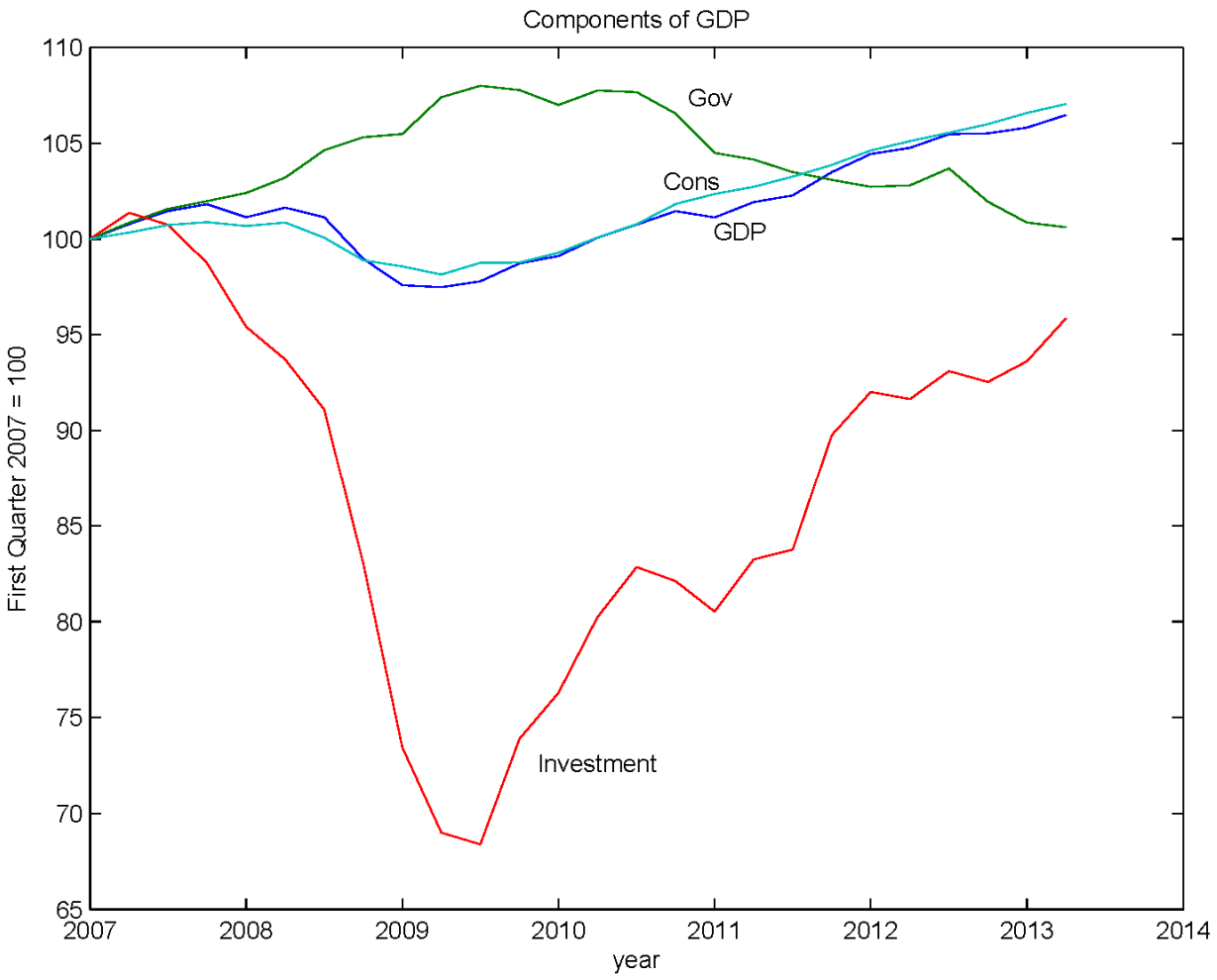
Output Gap: 1982 Recovery vs. Today



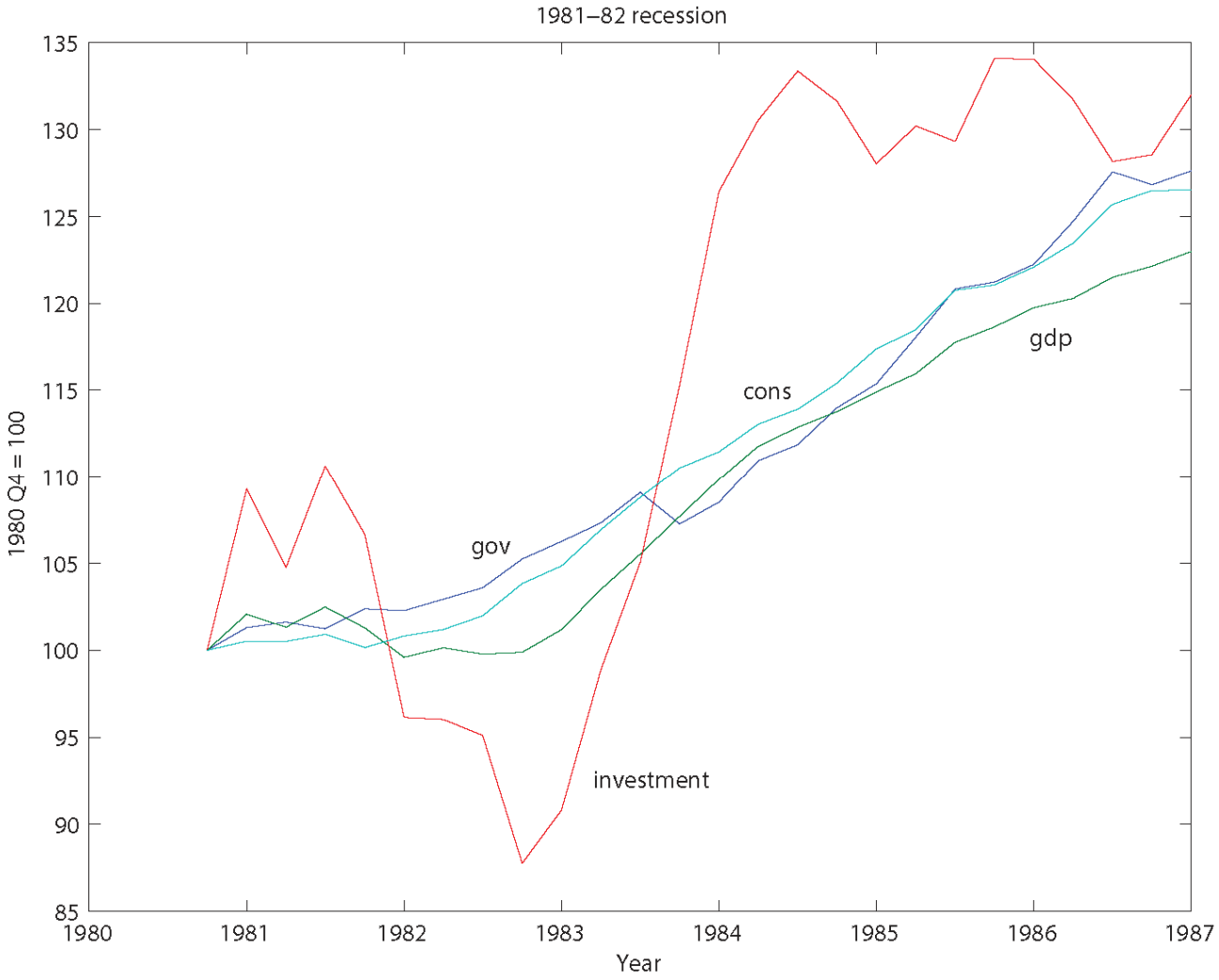
% of Population Employed



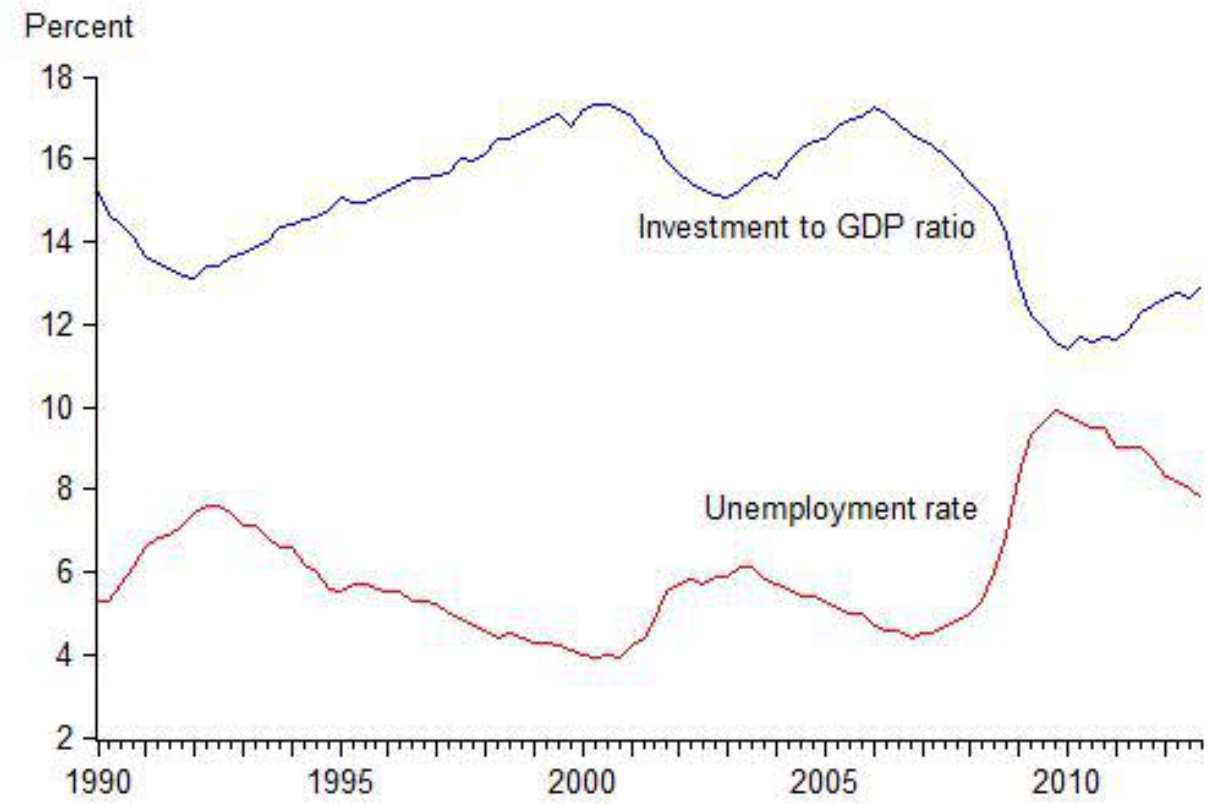
Historical Comparison



Historical Comparison



How Important is Investment?



Monetary Policy: Understanding The Fed's Actions

- In order to understand why the Federal Reserve has adopted it's current policy stance we need to know a little more about money.

Monetary Policy

- The supply of money is important to an economy because money provides the means to conduct transactions, a quality economists call “liquidity services”.

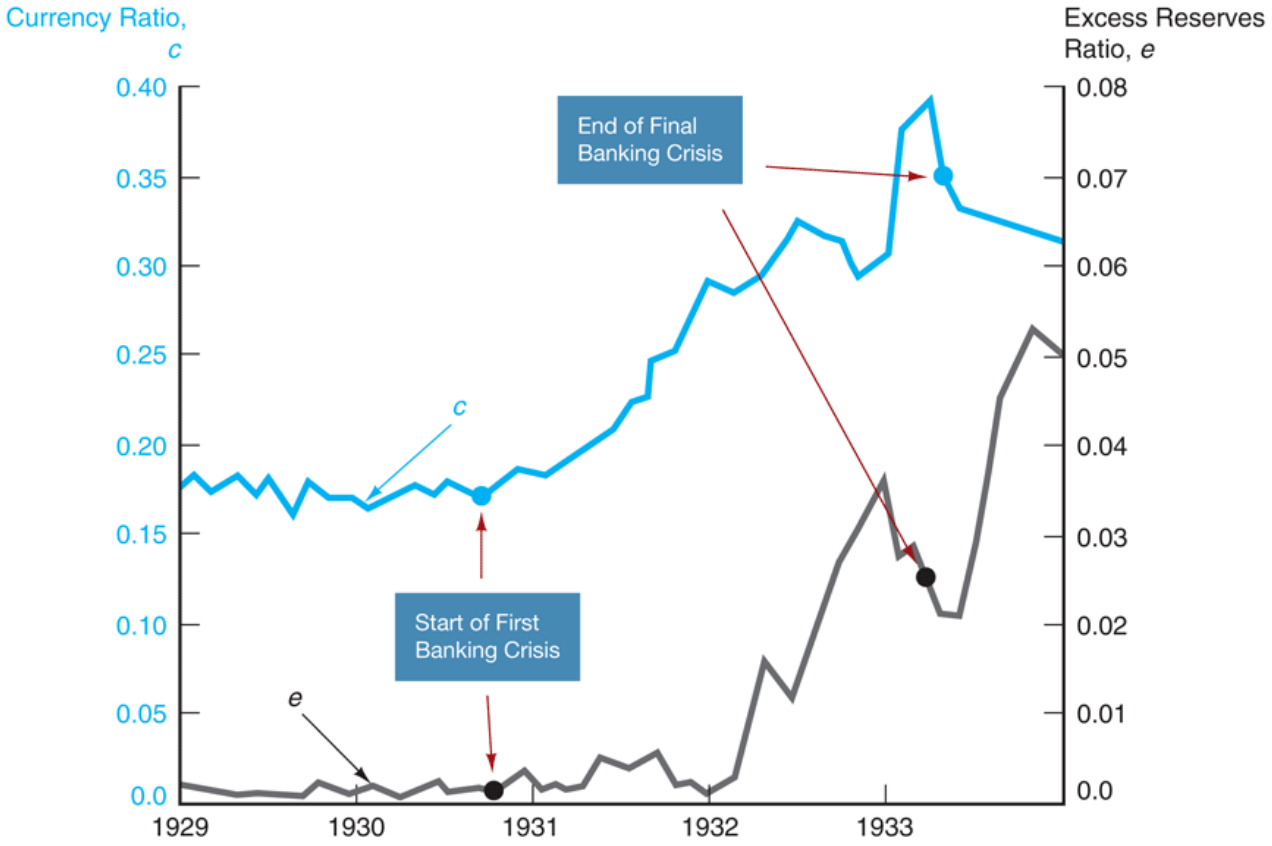
1. Money has (up until recently) been the only asset that could provide such services.
2. Without liquidity services transactions must be conducted via barter and barter is an extremely costly form of trade.
3. Money reduces transactions costs and allows a more efficient division of labor.
4. Too much money can lead to inflation.
5. Too little money can lead to deflation
6. Deflation is worse than inflation.*

Money Supply Process

- The supply of money is governed by three key variables.

1. **Monetary Base**: This is the component the Federal Reserve controls and is positively related to the supply of money.
2. **Currency**: This is controlled by the public as a whole and is negatively related to the money supply.
3. **Excess Reserves**: Banks decide how much to hold and is negatively related to the money supply.

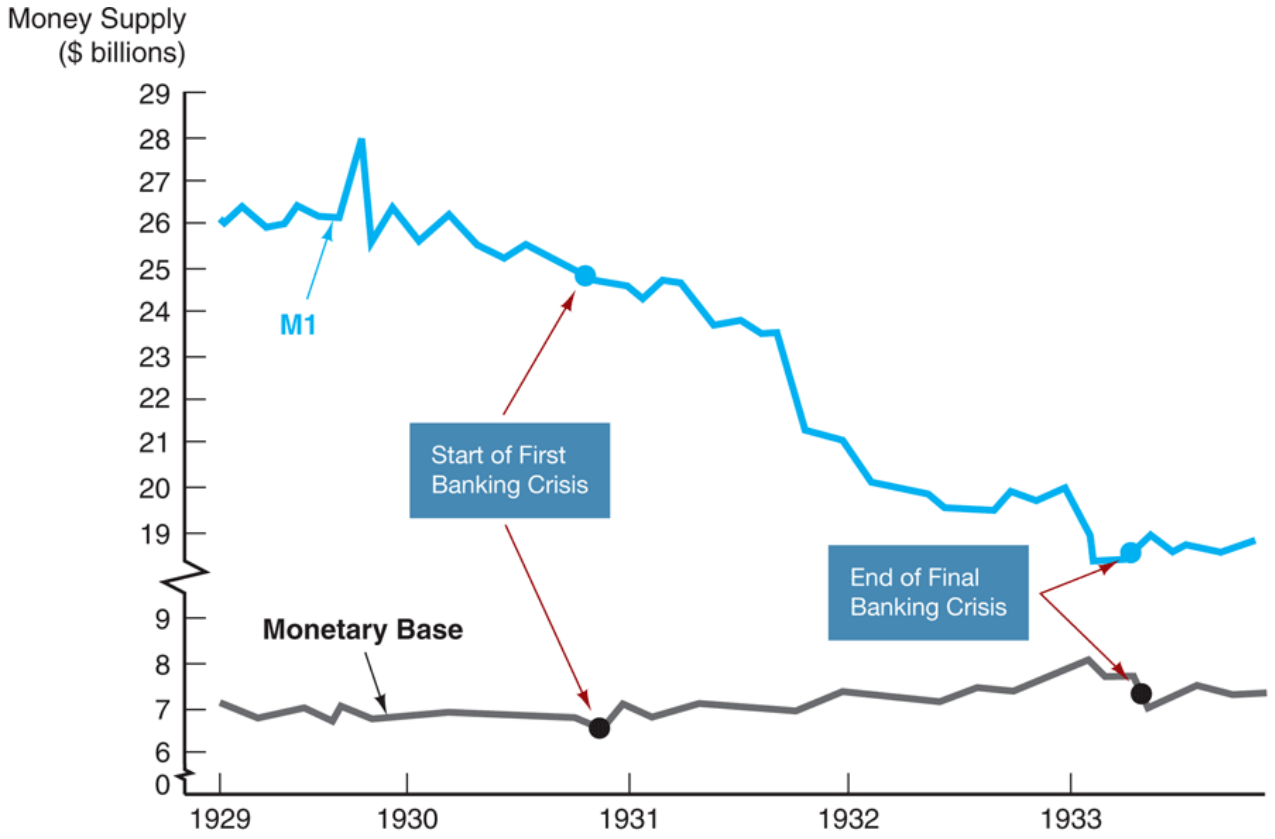
Money Supply Process: Great Depression



Money Supply Process: Great Depression

- When a banking crisis hits, the public loses confidence in bank deposits and holds more currency.
- As more deposits are withdrawn, banks begin to hold more excess reserves to prevent insolvency.
- These will result in a decline in the money supply absent an offsetting increase in the monetary base via Fed policy.

Money Supply Process: Great Depression



Money Supply Process: Great Depression

The bottom of the depression came in 1933.

1. M1 money supply had declined by 30%.
2. Real GDP had declined by 30%.
3. Unemployment was 25%.

Monetary Policy

- The lesson learned during the Great Depression episode is that it is critical that the central bank supply sufficient liquidity to prevent an overall contraction in the money supply and avoid a catastrophic disruption in credit flow.

- Successful Fed responses to liquidity crises

1. Oct. 19, 1987
2. Sept. 23, 1998
3. Sept. 11, 2001

Monetary Policy

Q - But once the crisis has ended, can monetary policy aid in the recovery?

A - It depends on how monetary policy affects the economy.

P1 - The Liquidity Effect – short run

P2 - The Fisher Effect – long run

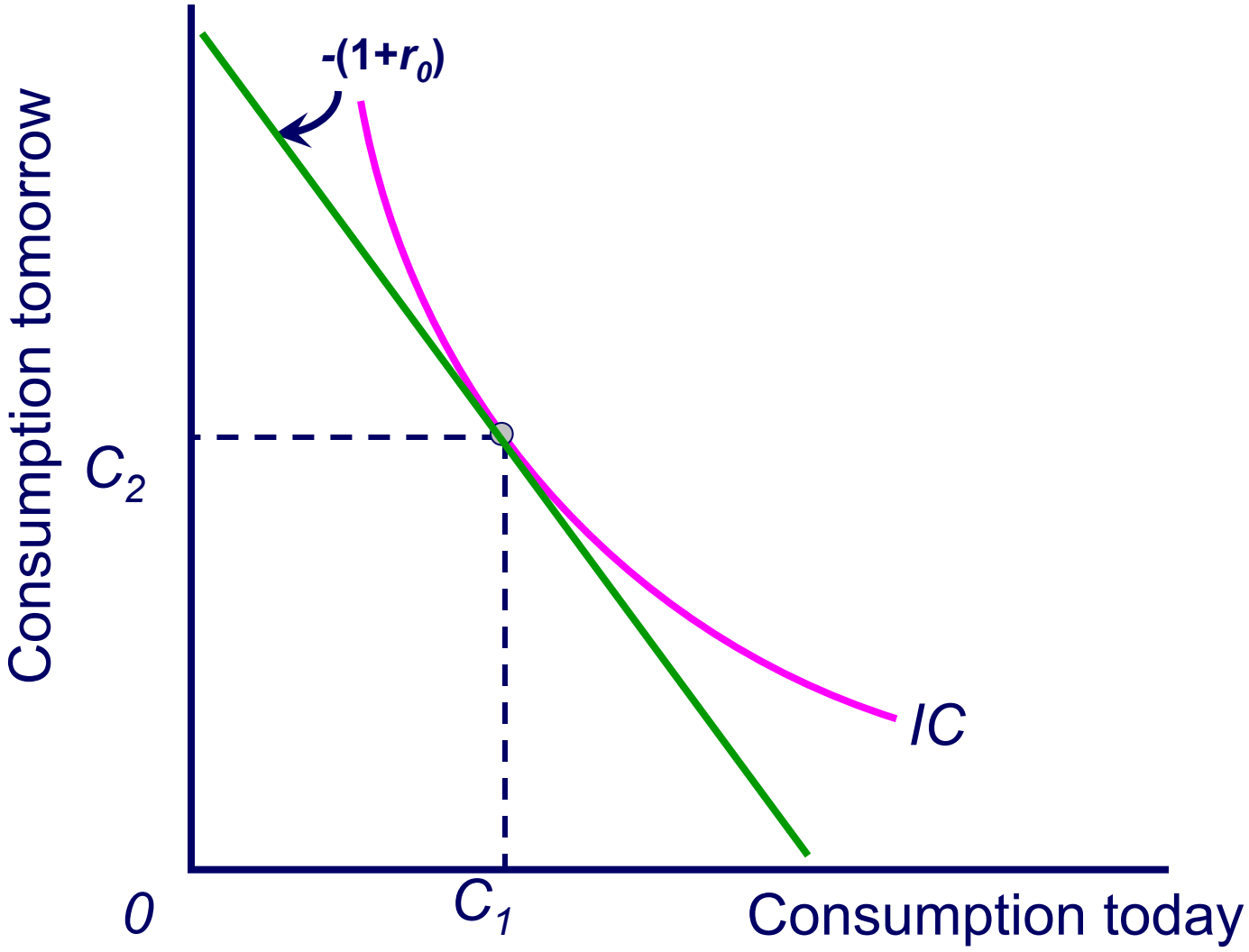
Monetary Transmission

A majority of macroeconomists believe that monetary policy can impact the economy through the real interest rate. Traditional Keynesians believe this operates through capital investment by firms. New Keynesians rely on the intertemporal substitution effects of changes in the real interest rate.

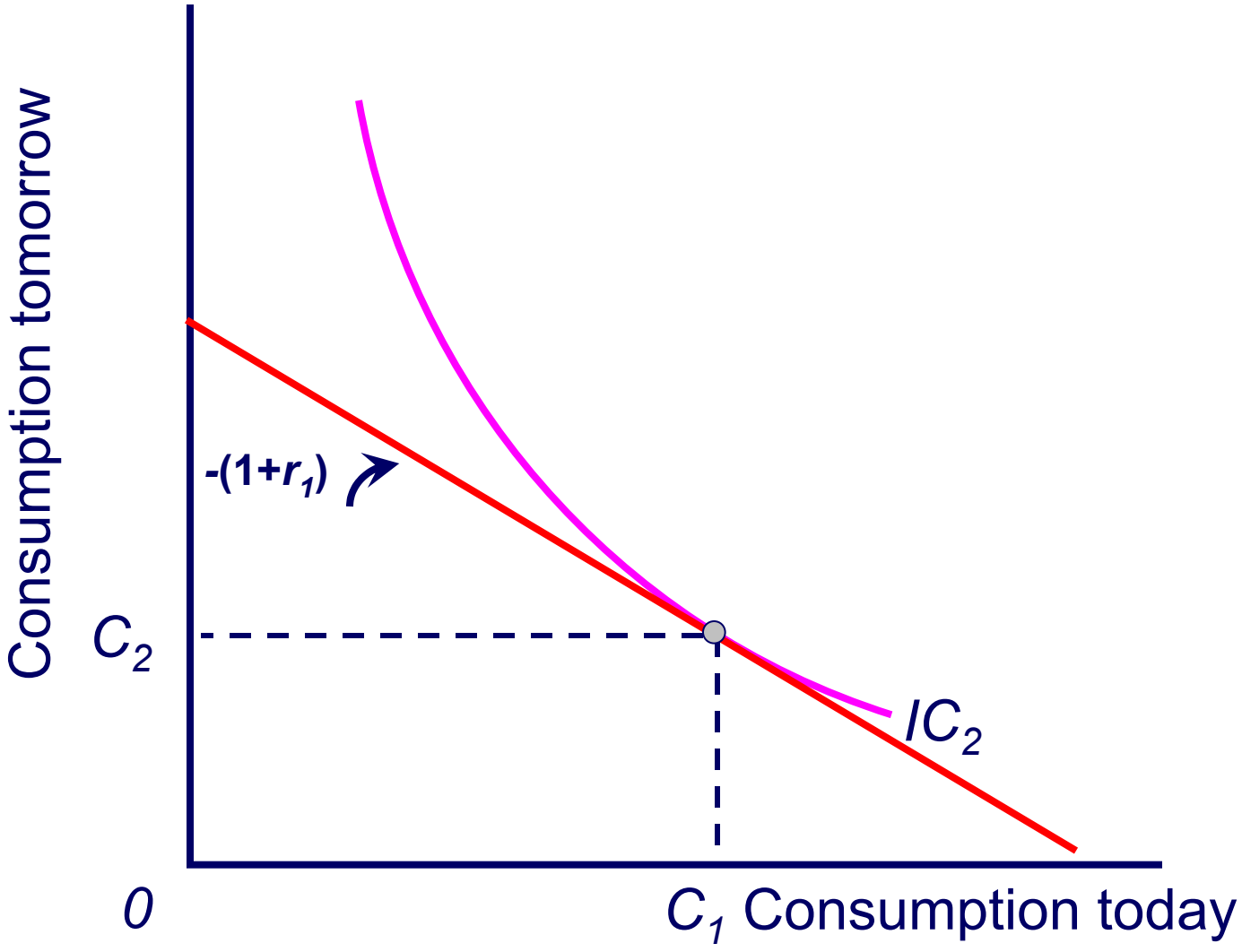
The real interest rate is the price of trading current consumption for future consumption. Reducing the real interest rate will make current consumption relatively cheaper compared to future consumption.

The ability of the central bank to impact the economy relies on the ability to alter the real interest rate.

Optimal Consumption



Fed Lowers Real Interest Rate to Increase Current Consumption



The Fisher Effect

$$i_t = r_t + E_t[\pi_{t+1}]$$

When a loan is made the interest rate on the loan has two components.

The first is compensation for the loss of happiness (utility) for giving up use of the money for the period of the loan, r_t.

The second is compensation for the expected decline in the purchasing power of money, $E_t[\pi_{t+1}]$.

If the real rate has an equilibrium level that it naturally moves toward over time, then in the long run the nominal interest rate will be driven by expected inflation.

The Liquidity Effect

$$i_t = r_t + E_t[\pi_{t+1}]$$

When the Fed wants to lower (raise) the interest rate i_t it buys (sells) U.S. Treasury bonds in the open market. This has the effect of injecting (draining) money in (from) the banking system so that monetary base increases and the money supply increases.*

The eventual rise in the money supply creates higher inflation expectations which will then cause the nominal rate to increase, i.e. the Fisher effect.

But as long as inflation expectations do not adjust to the higher money supply, the decline in the nominal rate will be reflected in a temporary decline in the real interest rate, i.e. a liquidity effect.

* - Zero Lower Bound or the Liquidity Trap

The Liquidity Effect

$$i_t = r_t + E_t[\pi_{t+1}]$$

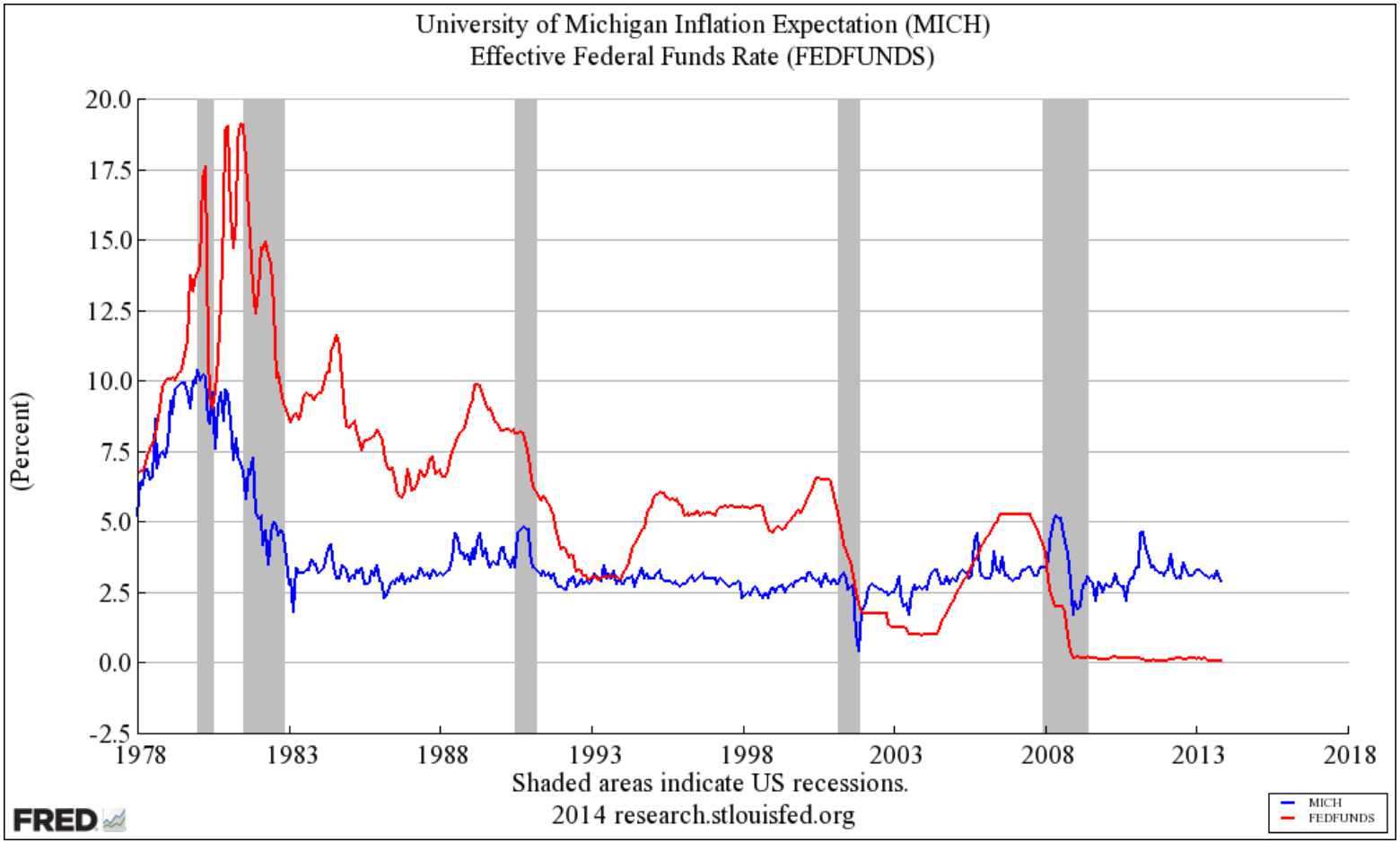
Nobody will accept nominal interest rate below zero. This is known as the zero lower bound or ZLB.

Q - If i_t is already zero, how can Fed policy affect r_t?

A - Through the expected inflation channel.

The idea is that the Fed can lower the real interest rate by increasing expectations of future inflation when the nominal rate is at the ZLB.

The ZLB


University of Michigan Inflation Expectation (MICH)
Effective Federal Funds Rate (FEDFUNDS)
(Percent)
20.0
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
1978
1983
1988
1993
1998
2003
2008
2013
2018
Shaded areas indicate US recessions.
2014 research.stlouisfed.org
FRED
MICH
FEDFUNDS

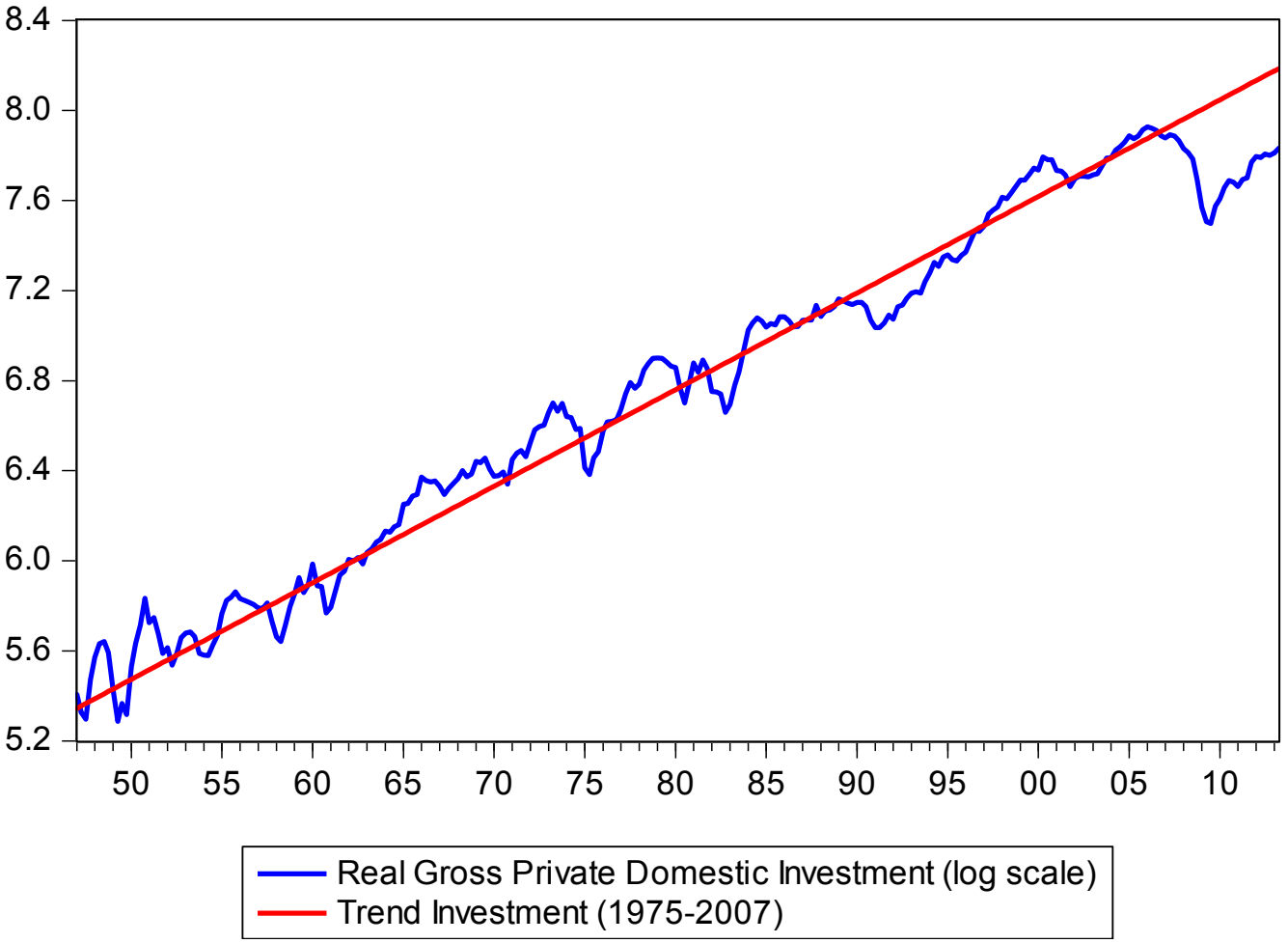
The Liquidity Effect

Real interest rates were much higher when the economy was strong, 1983-1990 and 1993-1999.

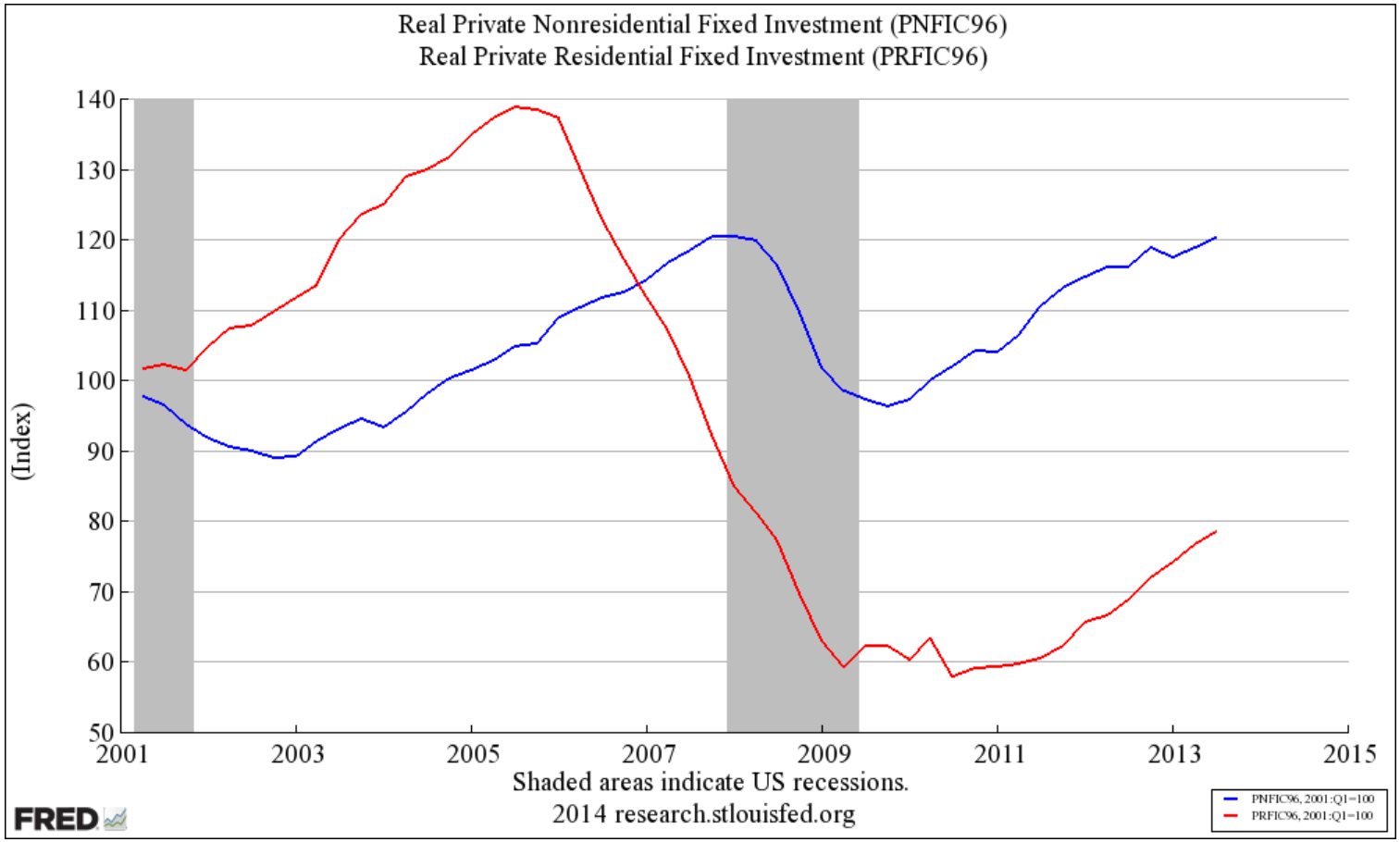
Real interest rates are very low (negative) by historical standards but has this generated the desired result?

For investment? consumption?

Investment Spending



Investment Spending



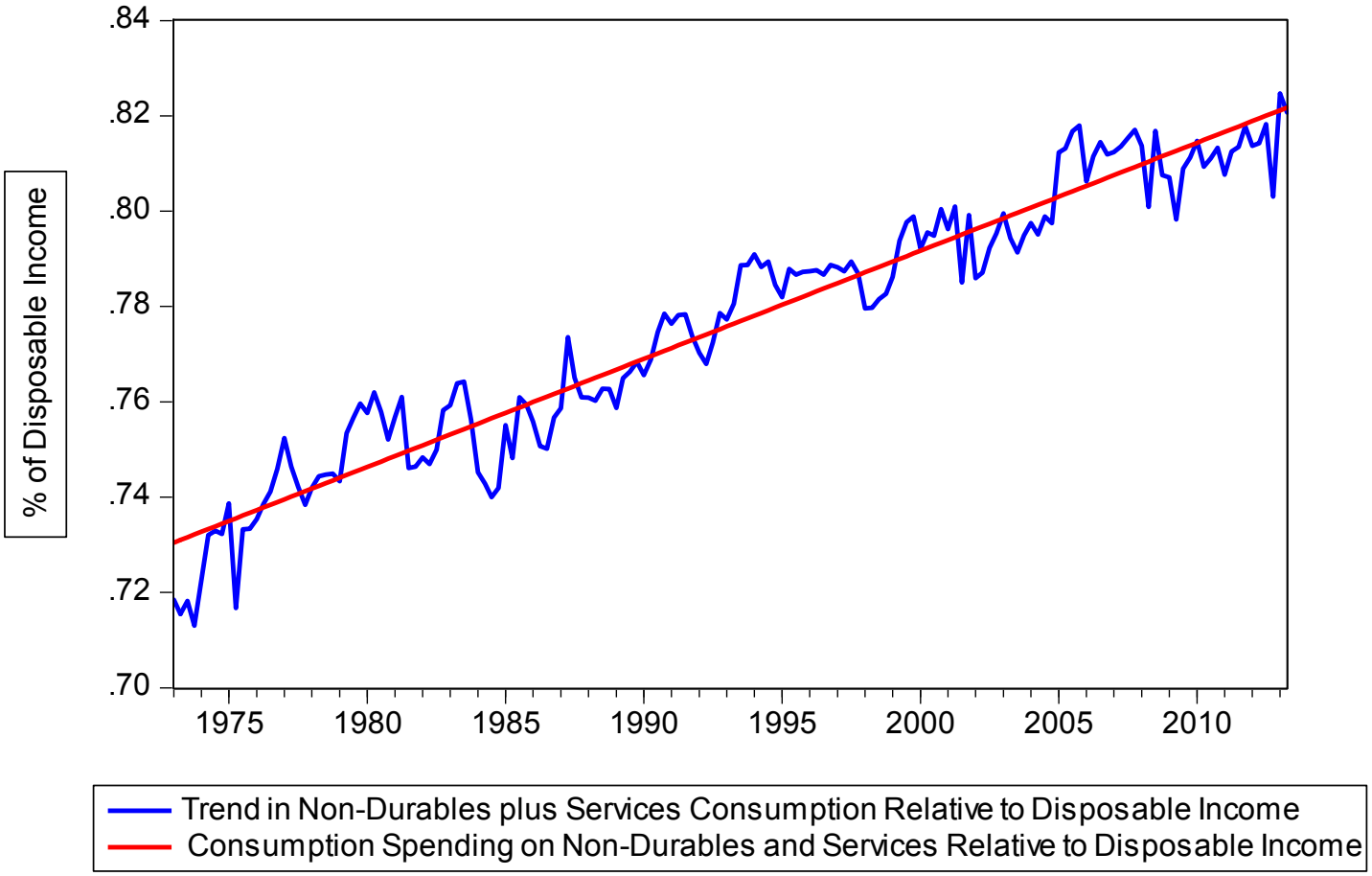
Investment Spending

Firms have largely recovered their level of investment spending to pre-recession levels.

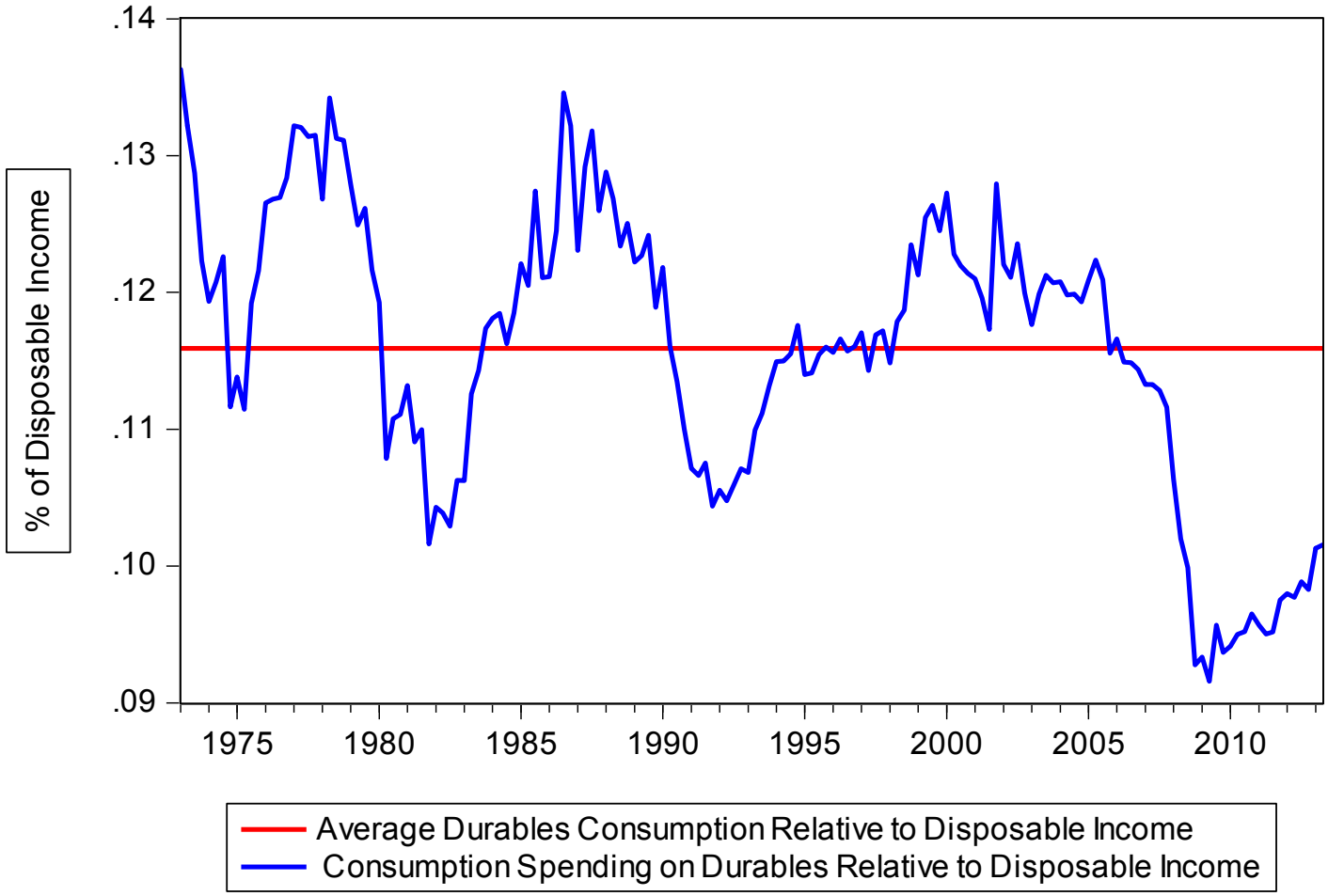
Households clearly have not.

The Federal Reserve's response has been QE.

Non-Durable Consumption



Consumption of Durables



Consumption Spending

Spending on non-durables has recovered.

Spending on durable goods has not.

The Federal Reserve's response has been QE.

What Exactly is QE?

Normally the Fed buys short term U.S. Treasury bills. But when confronted with the ZLB further purchases of T-bills have no liquidity effect.*

QE - Buy longer term U.S. Treasury bonds to flatten the yield curve.

QE2 - Buy mortgage backed securities from private non-bank institutions to lower mortgage rates.

QE3 - Buy other forms of credit backed assets like securitized auto loans or credit card receivables to lower rates on consumer credit.

*- "The prevailing theory of inflation these days has nothing to do with money or transactions: The Fed sets interest rates, interest rates affect "demand," and then demand affects inflation through the Phillips Curve." – Stephen Williamson, Robert S. Brookings Distinguished Professor in Arts and Sciences Washington University in St. Louis

What Could Possibly Go Wrong?

A growing minority of macroeconomists (e.g. John Cochrane) including some within the Federal Reserve system (Philadelphia Fed President Charles Plosser) see the unconventional monetary policy as impotent at best and potentially dangerous if continued.

In addition to QE and the other unconventional policy options the Fed has undertaken the Dodd-Frank act gives the Fed wide-ranging discretion over the regulation of the banking industry including designating SIFIs.

What Could Possibly Go Wrong?

1. By keeping real interest rates so low for so long the Fed is distorting the normal market-based incentives. For example capital is very cheap with such low rates, so firms find it more profitable to substitute capital for labor. Investment goes up, profits rise but employment stagnates.

   Savers are punished to the benefit of borrowers.

   Asset price bubbles are more likely to form.

What Could Possibly Go Wrong?

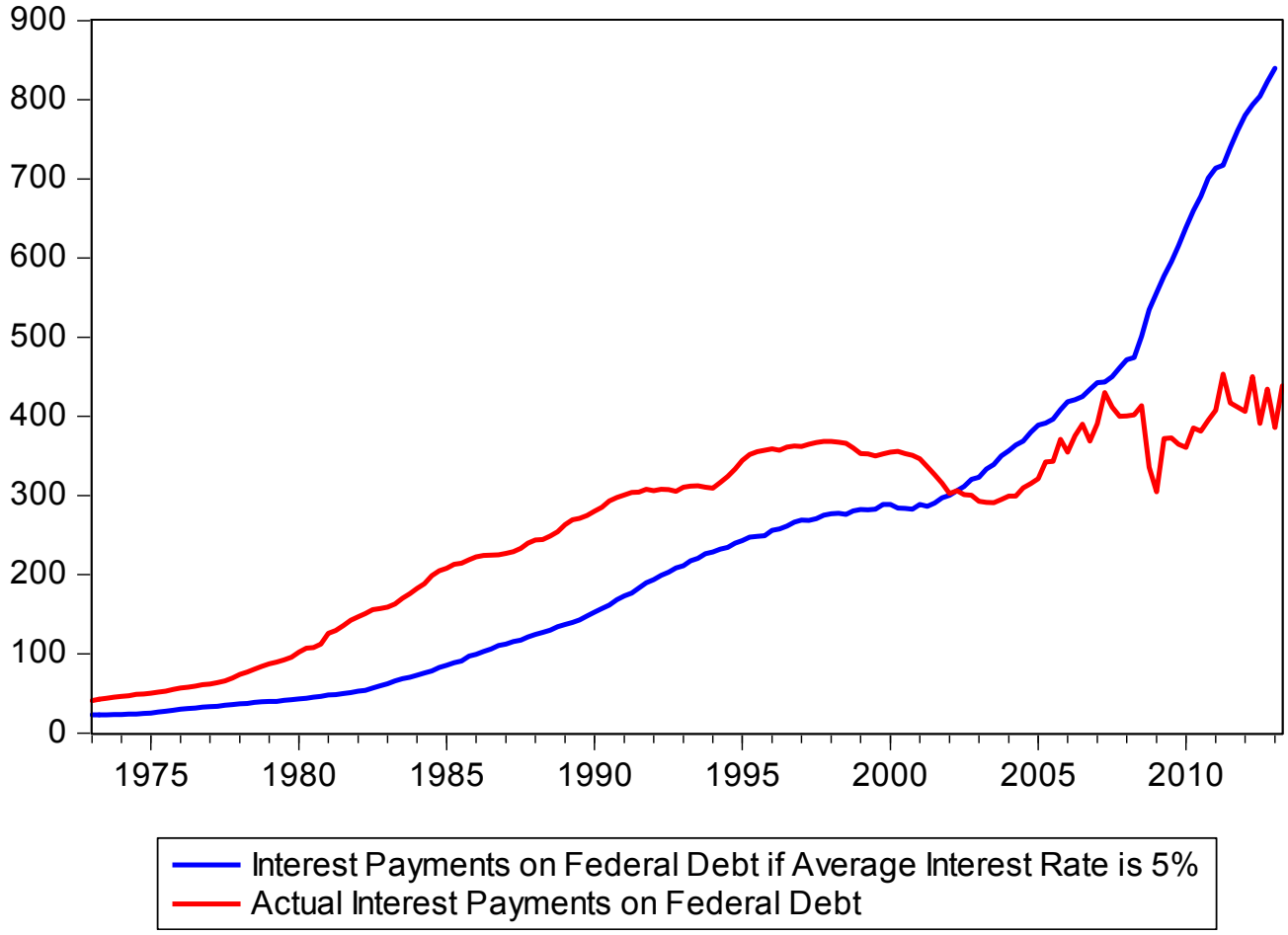
2. By purchasing non-Treasury securities the Fed is effectively deciding where credit should flow in the economy. Government allocation of credit encourages cronyism and rent-seeking behavior which results in large deadweight losses to society.

   Resources are diverted from most productive uses.

What Could Possibly Go Wrong?

3. Keeping interest rates for government spending so low distorts the true trade-offs associated with accumulating government deficits.

When Interest Rates Rise…



What Could Possibly Go Wrong?

4. Bailing out favored institutions exacerbates the asymmetric information problem and distorts the true market signals leading to greater uncertainty (risk) for the economy. It also encourages cronyism and rent-seeking.

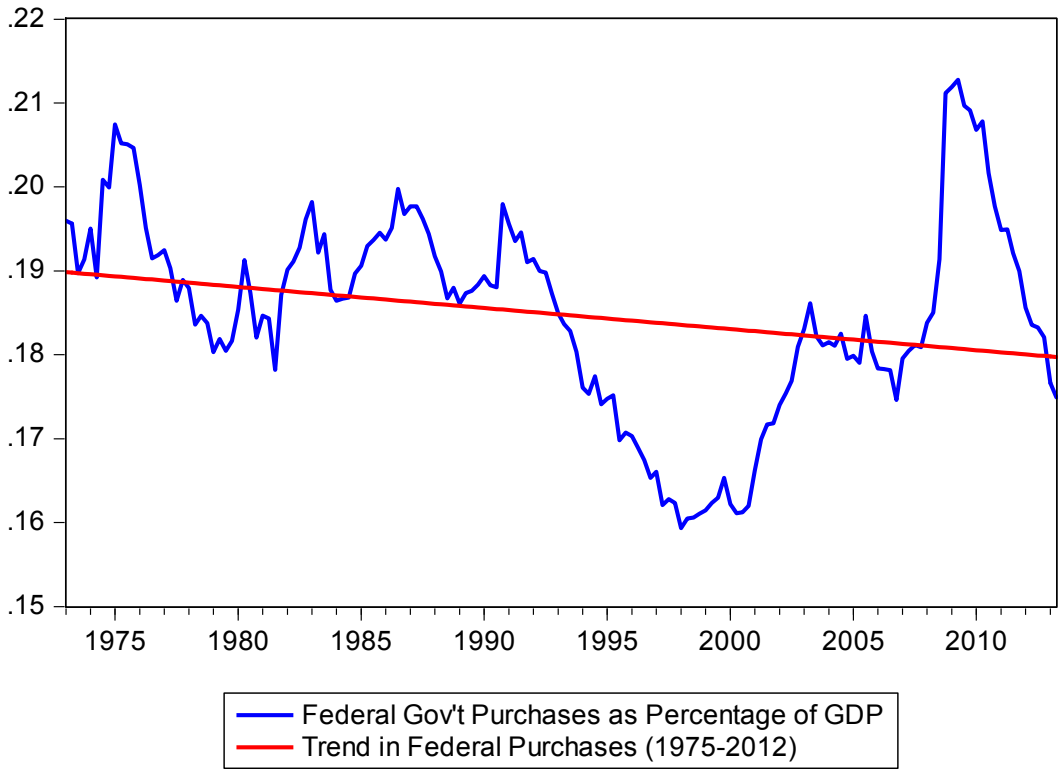
What Role for Fiscal Policy?

The ability of fiscal policy to stimulate the economy is even more uncertain and controversial than the role for monetary policy.

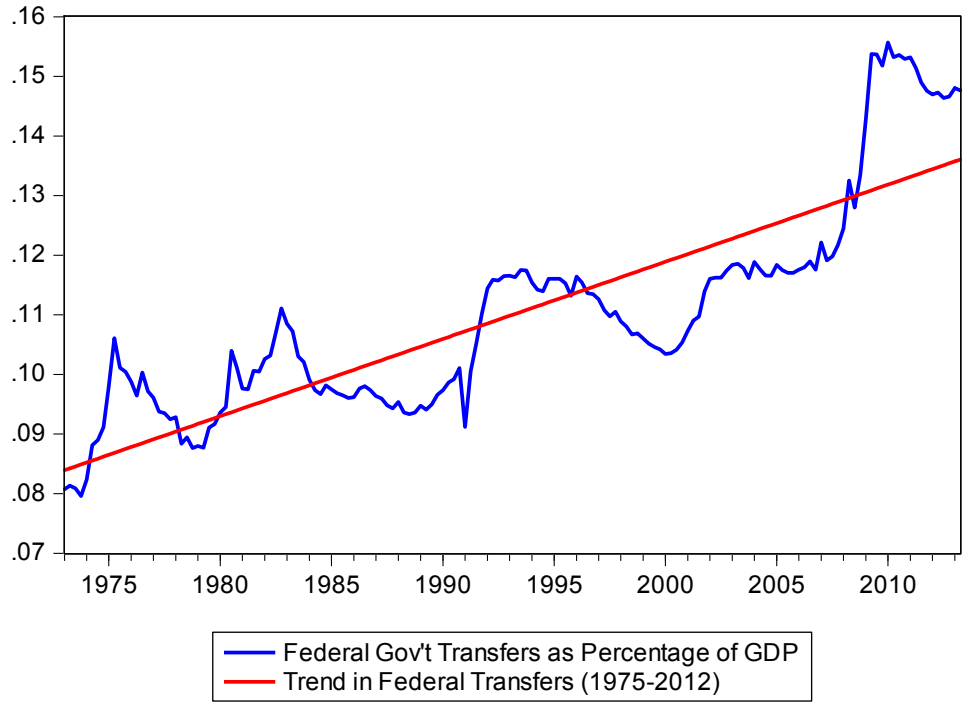
The critical considerations are:

1. Multiplier effect – how big?
2. Deficit spending
3. Rent-seeking
4. Tax inefficiency
5. Regulatory burden

Federal Government Purchases of Goods and Services



Federal Government Transfer Payments



AD or AS

Much of the debate surrounding monetary and fiscal policy depends on whether the Great recession was caused by a shock to aggregate demand (spending) or aggregate supply (production).

The assumption underlying the Fed's policies and the Obama administration's fiscal policies is that this is a spending or AD recession.

If AS is the true underlying cause then the polices pursued have been self-defeating.

AD or AS

I think we've left the point that we can blame generic "demand" deficiencies, after all these years of stagnation. The idea that ‘everything is fundamentally fine with the U.S. economy, except that negative 2 percent real interest rates on short-term Treasuries are choking the supply of credit’, seems pretty farfetched to me. This is starting to look like "supply": a permanent reduction in output and, more troubling, in our long-run growth rate.

– John Cochrane

AQR Capital Management Distinguished Service Professor of Finance at the University of Chicago Booth School of Business

Can we get more growth?

Adam Smith wrote in 1759 that “little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and tolerable administration of justice.”

We’ve known at least since Adam Smith the policy prescriptions that will generate more economic growth.

1. Low and simple taxes.
2. Minimal regulatory burdens.
3. Rule of Law.

Costs of Regulation Accumulate

Since regulations reduce the growth rate of the economy, the costs are like the reverse of compound interest. We keep losing more and more potential output.