UNIVERSITY OF CALIFORNIA
DEPARTMENT OF ECONOMICS

Economics 134
Spring 2018
Professor David Romer

LECTURE 3
POSTWAR FLUCTUATIONS AND THE GREAT RECESSION
JANUARY 24, 2018

I. CHANGES IN MACROECONOMIC VOLATILITY
- A. The pre-depression era versus the early postwar decades
  1. The old facts
  2. The new facts
  3. Why didn't the economy become more stable?
- B. The early postwar decades versus 1985–2005
  1. The facts: the "Great Moderation"
  2. Why did the economy become more stable?

II. INFLATION AND MONETARY POLICY OVER THE POSTWAR PERIOD
- A. Inflation
  1. The big picture: The rise and fall of inflation
  2. Looking in more detail
- B. The role of monetary policy
  1. Monetary policy and inflation
  2. Issues that this raises

III. THE RUN-UP TO THE GREAT RECESSION
- A. The 2001 recession
- B. The rise and fall of house prices
- C. Financial distress
- D. The first stages of the downturn
- E. The initial policy response

IV. CRISIS IN THE FALL OF 2008 AND EARLY 2009
- A. Financial crisis in September 2008
- B. Comparison with the start of the Great Depression
- C. Real decline
- D. International contagion
- E. Policy actions in the heart of the crisis
- F. Rapidly rising unemployment and (slightly) falling inflation

V. THE SLOW RECOVERY
- A. The trough
- B. The pace of recovery
- C. Possible reasons for the slow recovery

VI. A LITTLE ABOUT THE EUROPEAN CRISIS

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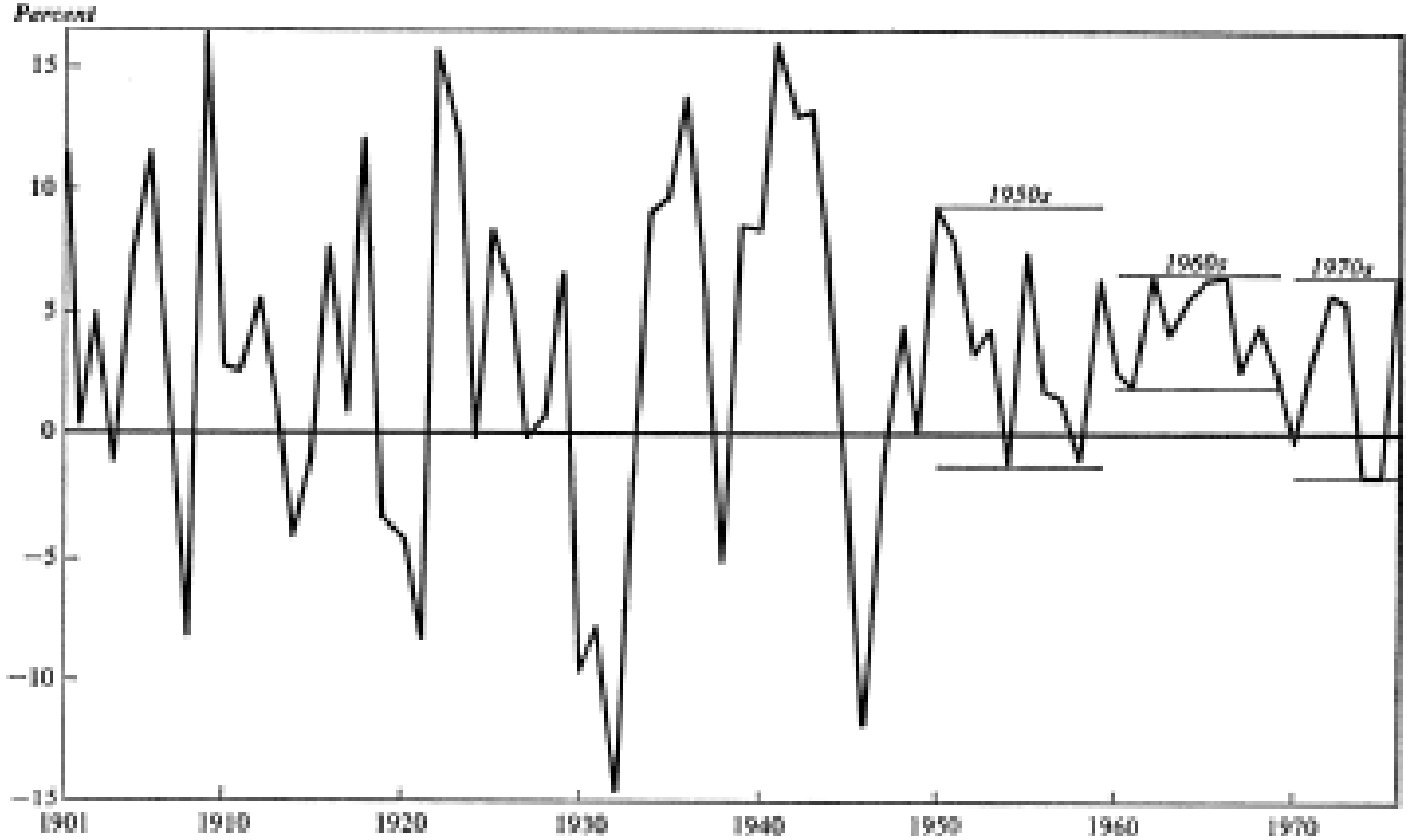
LECTURE 3
Postwar Fluctuations and the Great Recession

January 24, 2018

I. Changes in Macroeconomic Volatility

Figure 1. The Rate of Growth of Real Gross National Product, 1901–76



Sources: U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970*, pt. 1 (Government Printing Office, 1975), series F1; *Economic Report of the President*, January 1977, p. 188; *Survey of Current Business*, vol. 57 (July 1977), table 1.2.

Traditional data series showed a dramatic stabilization of the economy.

Table 1

Standard Deviation of Percentage Changes

Series	*1886–1916*	*1920–1940*	*1948–1997*
Industrial Production	6.2%	16.0%	5.0%
GNP	3.0	7.1	2.5
Commodity Output	5.2	9.0	4.9
Unemployment Rate	1.4		1.1

Notes: For the commodity output series, the interwar sample period stops in 1938 and the postwar sample period stops in 1996. For the unemployment series, the prewar sample period covers only the period 1900–1916 and consistent interwar data are not available. The standard deviation for the unemployment rate is for simple changes and so is expressed in percentage points rather than percent.

Table 2

Standard Deviation of Percentage Changes

Series	*1948–1984*	*1985–1997*
Industrial Production	5.7%	2.2%
GNP	2.8	1.3
Commodity Output	5.3	3.6
Unemployment Rate	1.2	0.6

Notes: The standard deviation for the unemployment rate is for simple changes and so is expressed in percentage points rather than percent. The later sample period for commodity output ends in 1996.

Macroeconomic volatility in the early postwar decades was very similar to before the Depression (or before WWI).

The Rise of Stabilization Policy

- Keynes's *General Theory* (1936).
- The maturation of the Federal Reserve.
- The greater size of government (leading to automatic stabilizers and more scope for discretionary fiscal policy).
- Deposit insurance.
- Formal government commitment to stabilization: "It is the … responsibility of the Federal Government … to promote maximum employment, production, and purchasing power" (Employment Act of 1946).

Possible Reasons that the Rise of Stabilization Policy Did Not Cause the Economy to Quickly Become Much More Stable

- Perhaps the tools of stabilization policy are not effective.
- Perhaps the tools were used badly.
- Perhaps there were other changes.

Table 2

Standard Deviation of Percentage Changes

Series	*1948–1984*	*1985–1997*
Industrial Production	5.7%	2.2%
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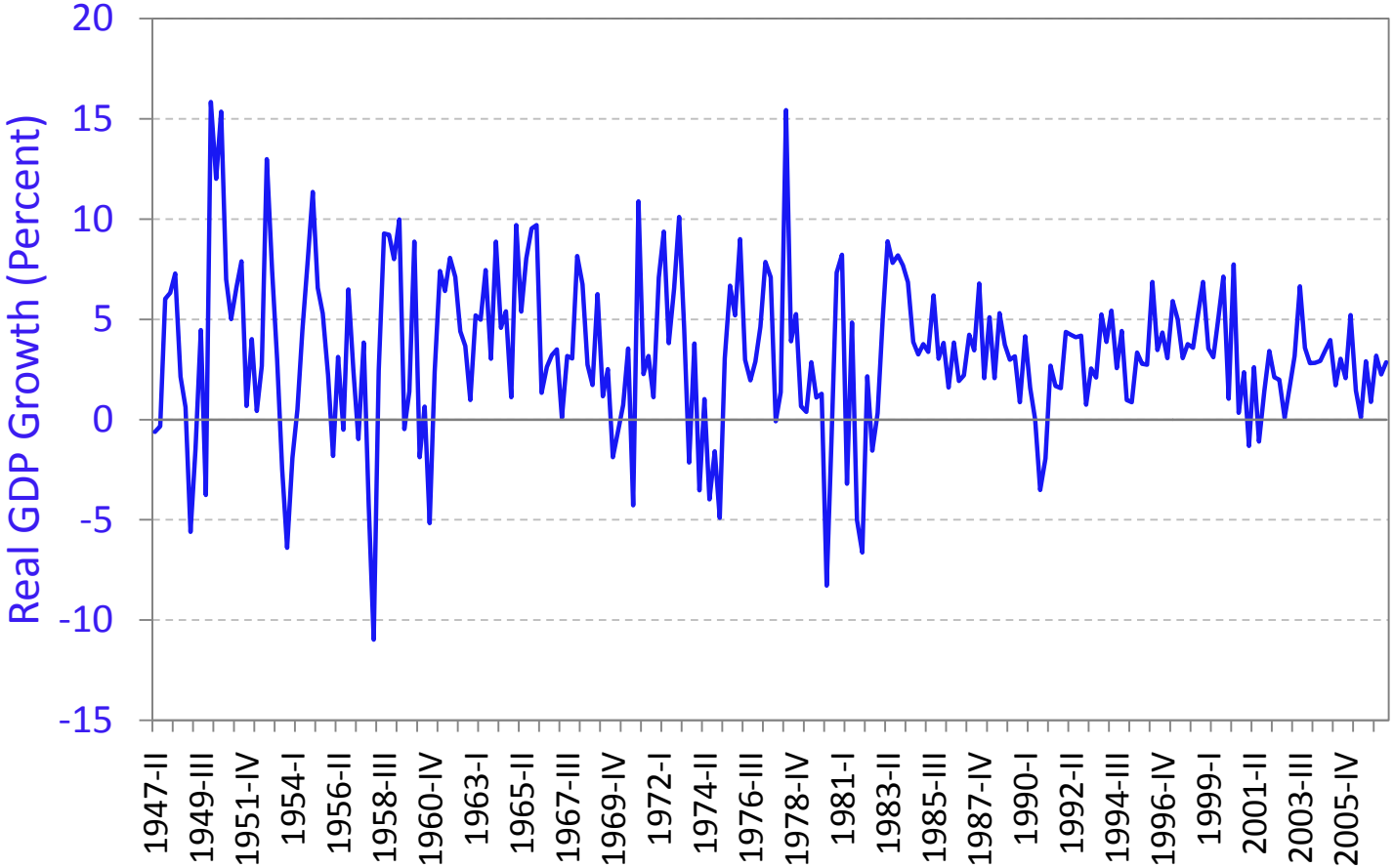
Notes: The standard deviation for the unemployment rate is for simple changes and so is expressed in percentage points rather than percent. The later sample period for commodity output ends in 1996.

Macroeconomic volatility fell dramatically around the mid-1980s.

Real GDP Growth
1947:2-2007:4



The fall in volatility in the mid-1980s shows up clearly in real GDP growth.

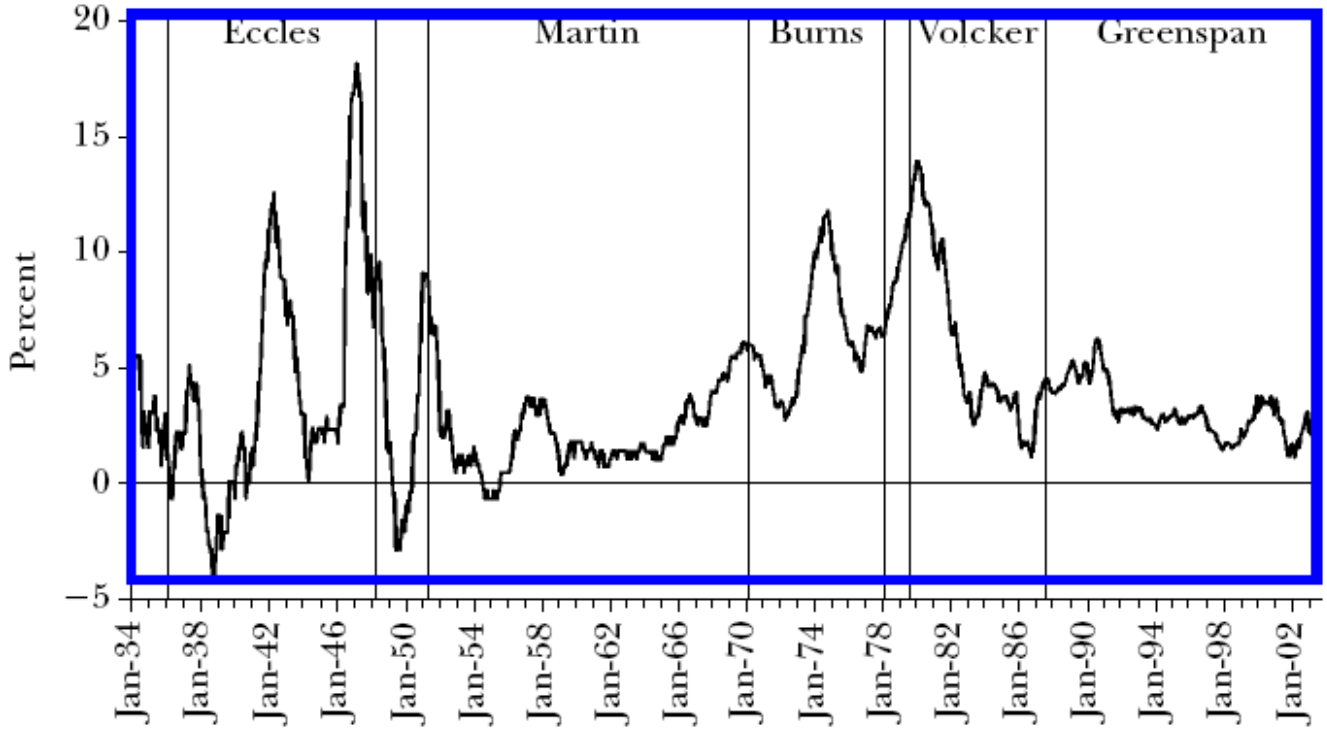
Possible Reasons that the Economy Was Much More Stable from Roughly 1985 to Roughly 2005 (the "Great Moderation")

- Perhaps policy was used well.
- Perhaps it was good luck.
- Perhaps there were structural changes.

II. Inflation and Monetary Policy over the Postwar Period

Figure 2

Inflation Rate

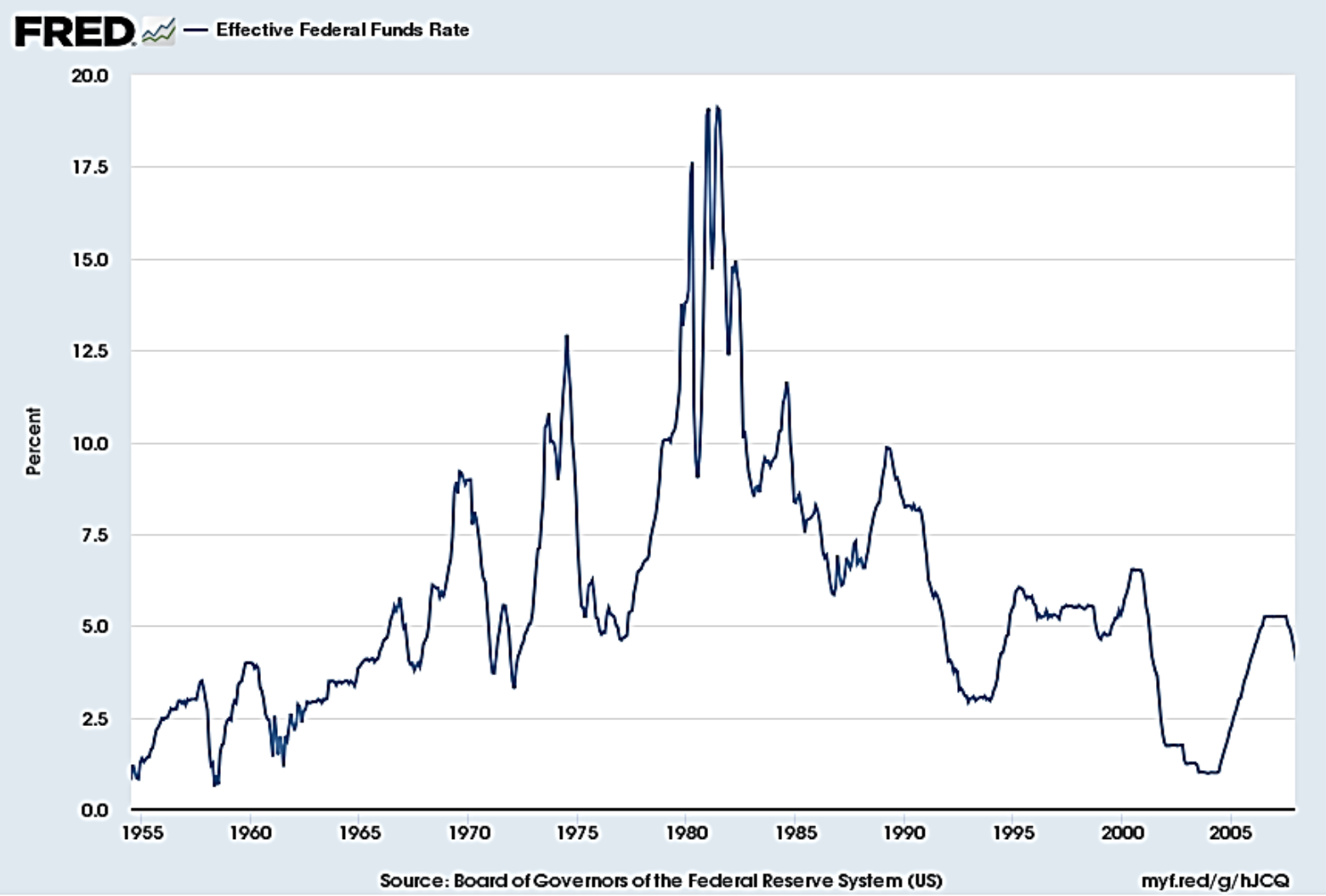


Source: Bureau of Labor Statistics, ⟨http://www.bls.gov⟩, series CUUR0000SA0. The inflation rate is calculated as the 12-month log difference of the Consumer Price Index for all urban consumers. While the early CPI data are surely less accurate than the postwar data, virtually all price series show a return of deflation in 1938. The vertical lines show the months when each chairman's tenure began.

Inflation rose irregularly over the 1960s and 1970s, fell dramatically in the early 1980s, and has remained low.

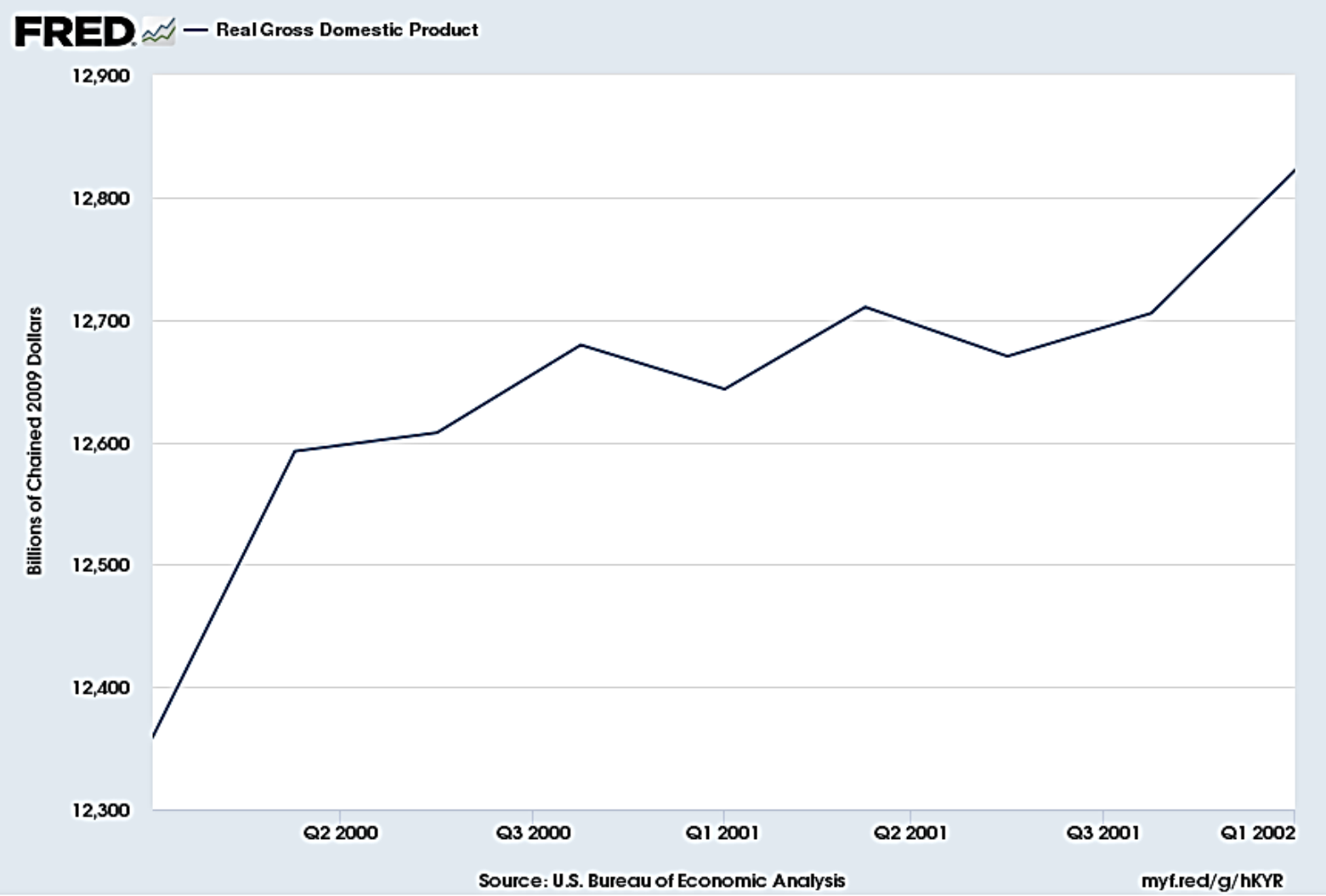
Some Issues Raised by Postwar Inflation Behavior

- Why was monetary policy conducted in a way that led to a rising inflation?
- What changed around 1980?
- What is the link (if any) between the rising inflation and the failure of the real economy to become more stable?
- What is the link (if any) between the conquest of inflation and the Great Moderation?

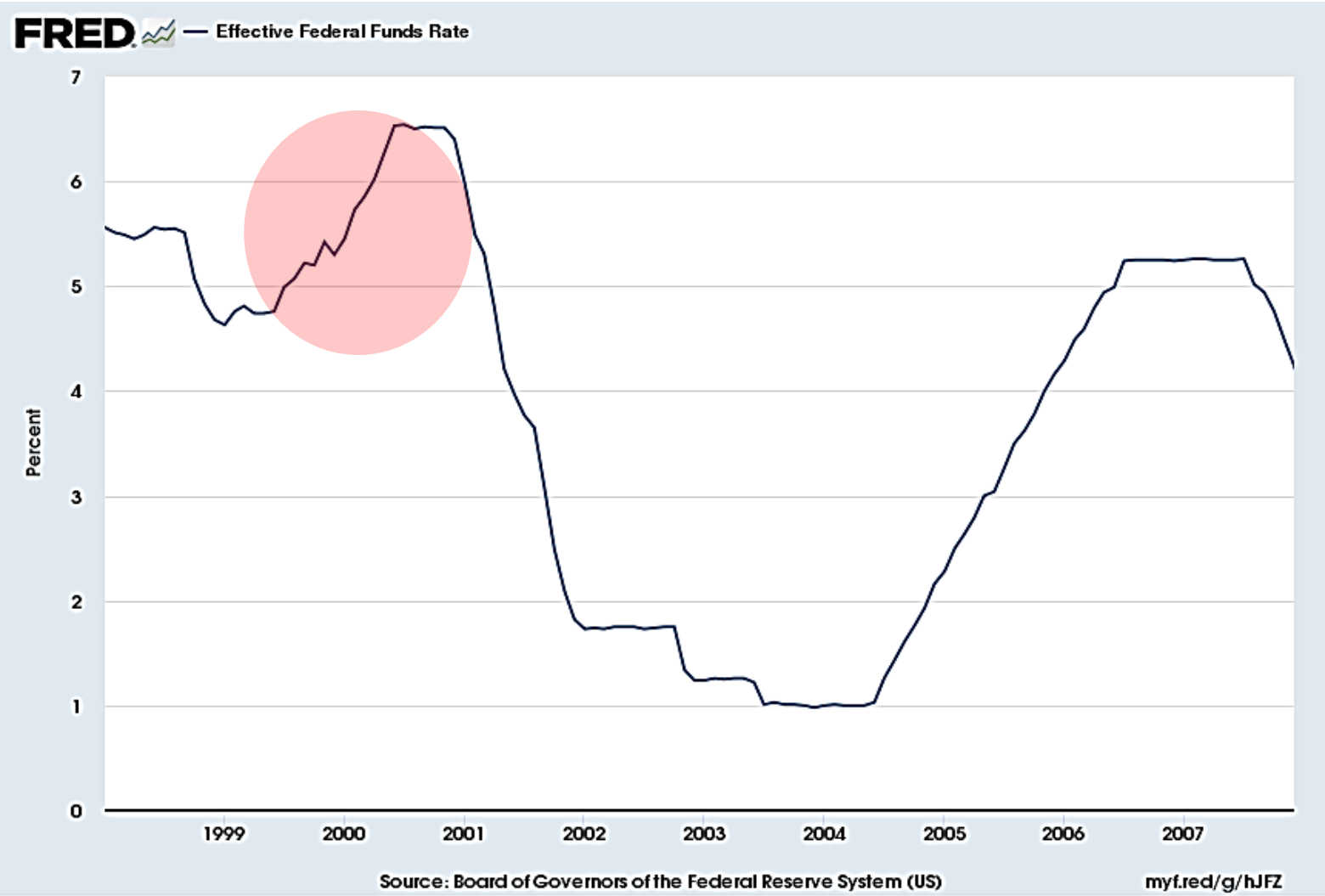


The history of postwar monetary policy is complicated.

III. The Run-Up to the Great Recession



The 2000–2001 recession was the smallest since 1947.

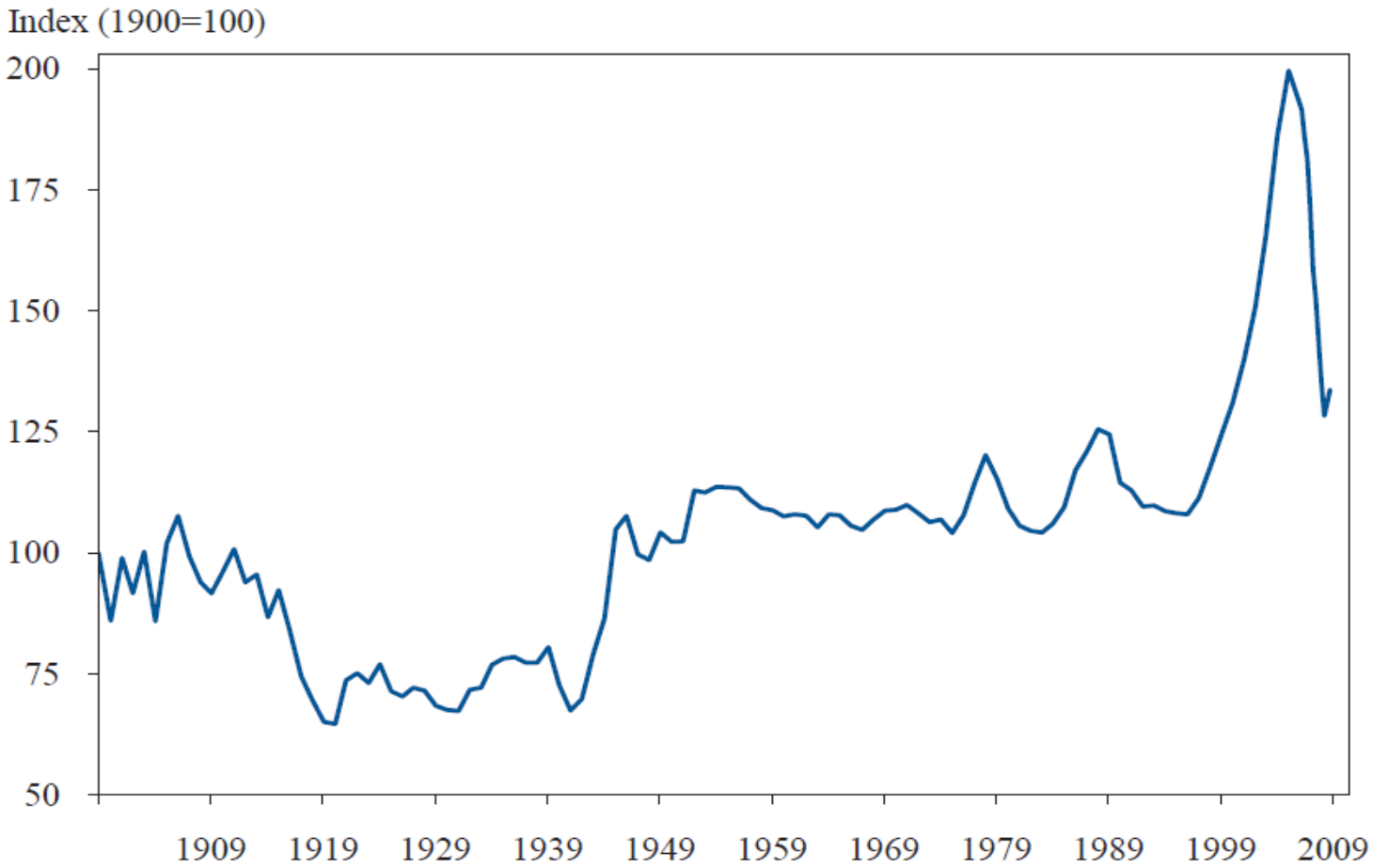


Interest rates didn’t rise much before the 2001 recession.

NASDAQ Composite Index 1994-2005

Tech bubble burst in early 2000.

Figure 2-1
House Prices Adjusted for Inflation



House prices rose dramatically in the mid-2000s—and then fell sharply.

Issues:

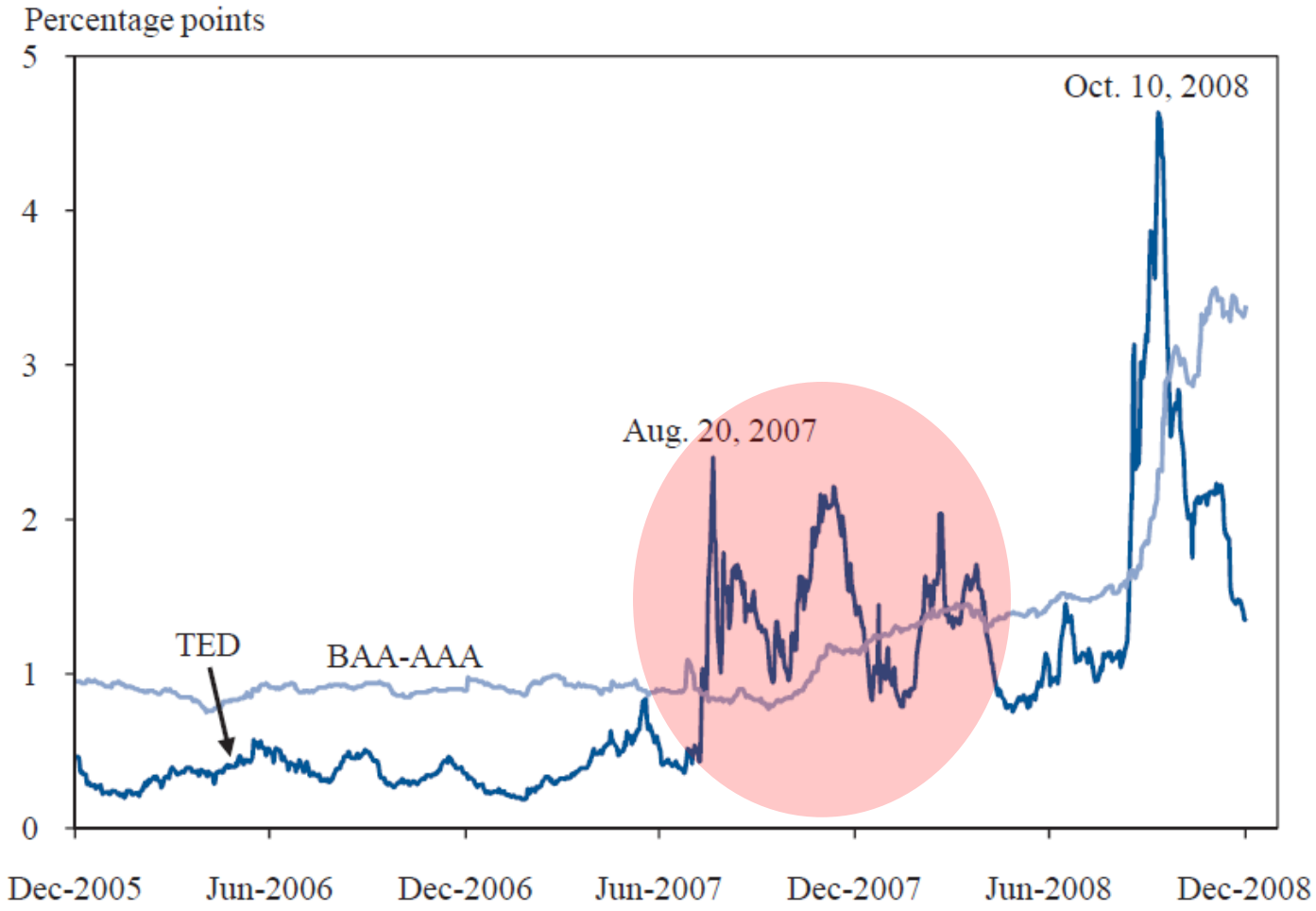
- How might the decline in house prices have affected the economy?
- Why was the aftermath of the bursting of housing bubble so much worse than the aftermath of the bursting of the tech bubble?

TED Spread

Difference between the interest rates on short-term loans between banks (LIBOR) and short-term government debt (T-bills).

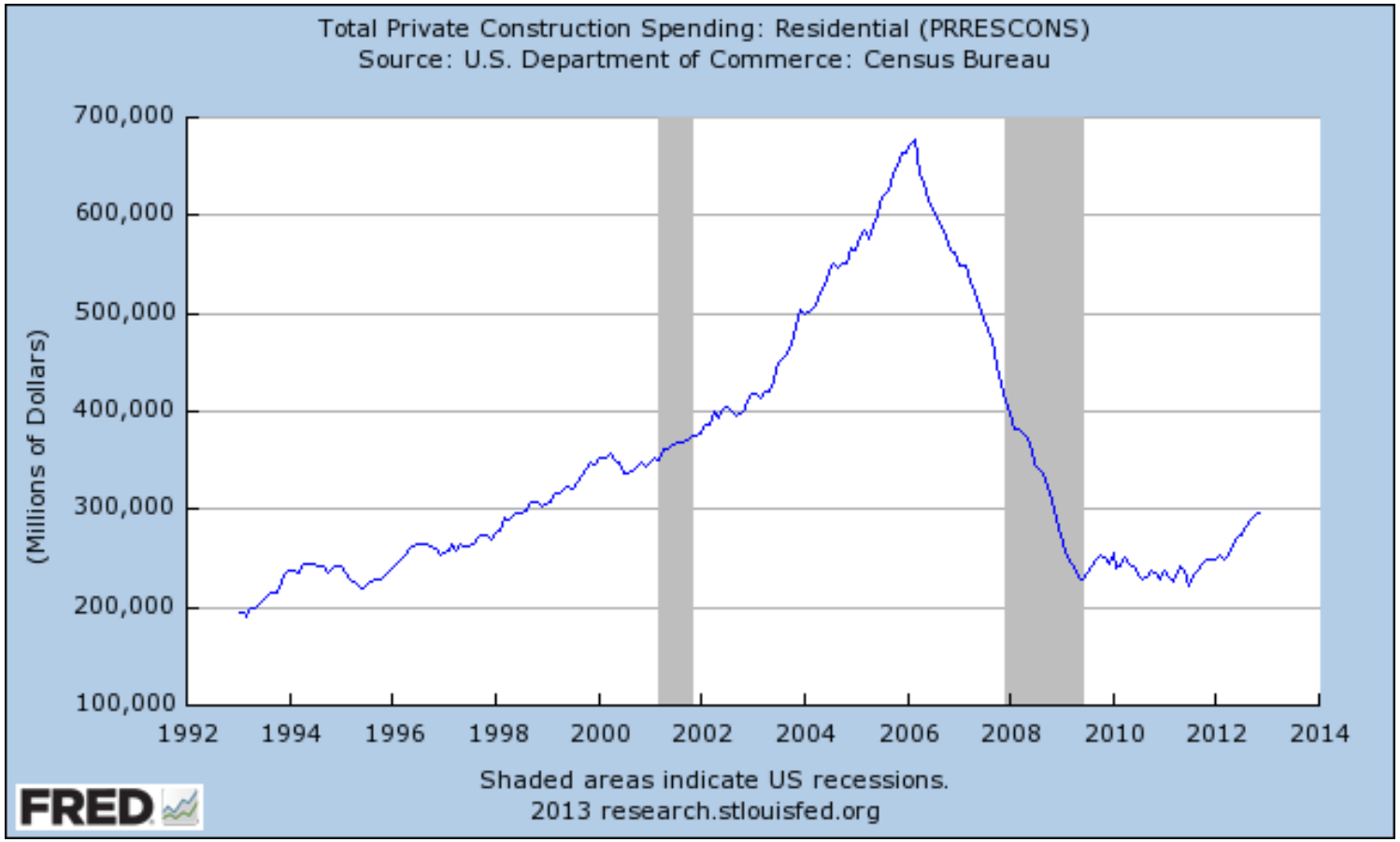
It is a measure of credit risk.

Figure 2-3
TED Spread and Moody's BAA-AAA Spread Through December 2008

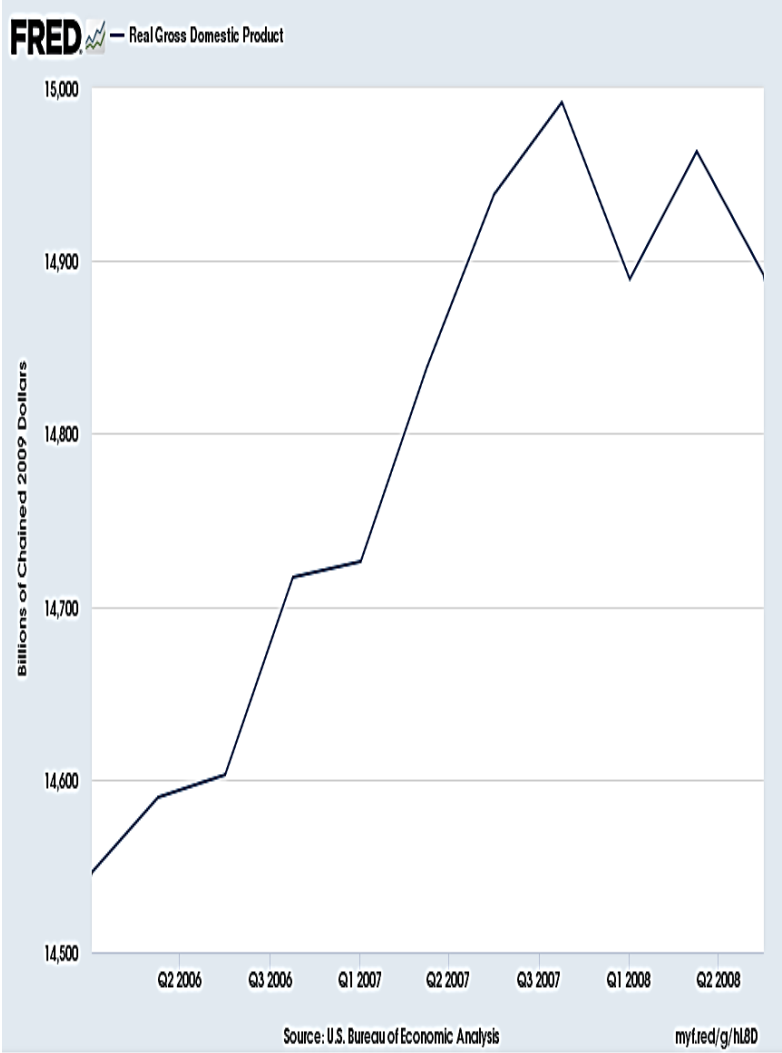


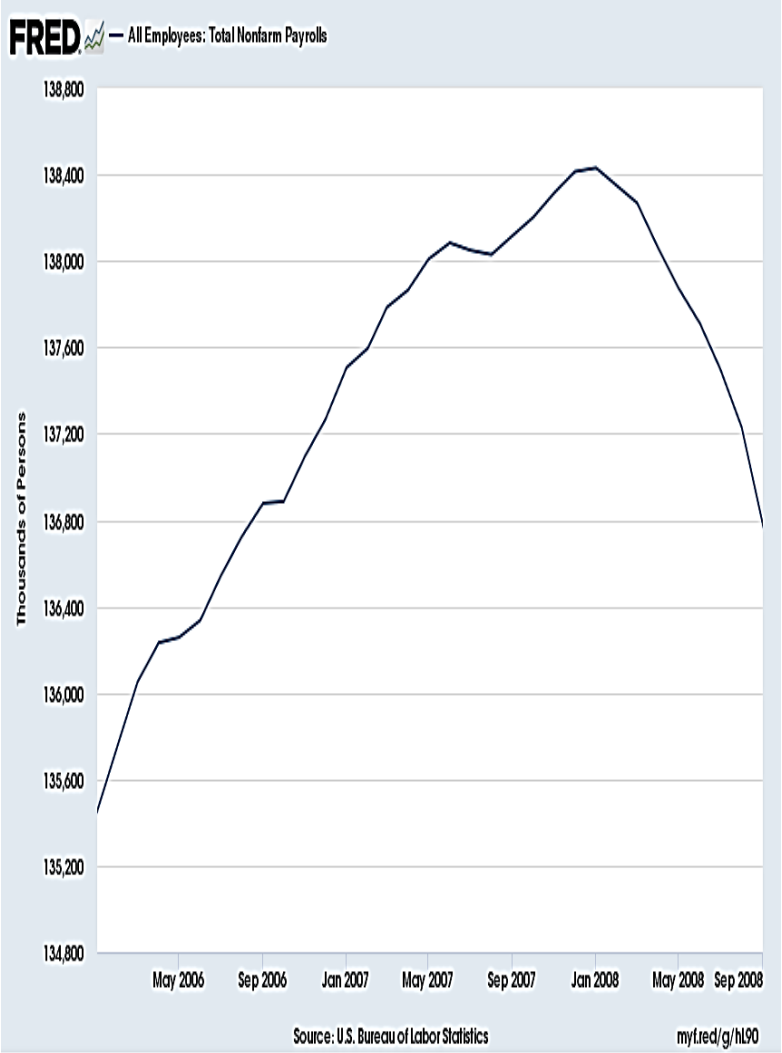
TED spread spiked in August 2007.

Residential Construction Spending



Residential construction began to fall in 2006.

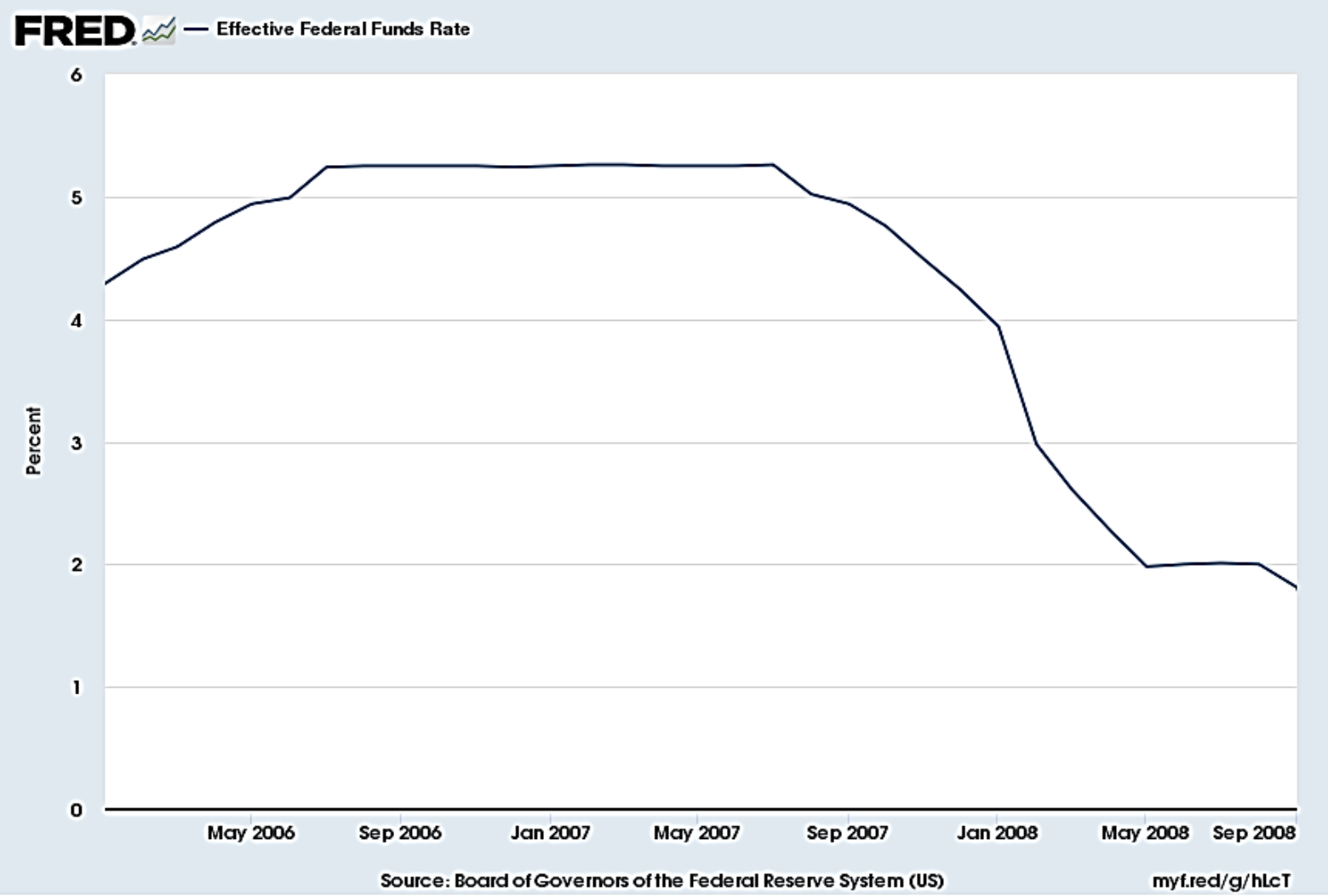




Real GDP peaked in 2007Q4 and then fell moderately. Employment peaked in Jan. 2008 and then fell, first slowly and then rapidly.

Major Policy Actions before September 2008

- Fiscal policy: Economic Stimulus Act of 2008 (February)
- Monetary policy: Lower interest rates; various Fed special programs, and interventions to help troubled financial firms


FRED
— Effective Federal Funds Rate
Percent
6
5
4
3
2
1
0
May 2006
Sep 2006
Jan 2007
May 2007
Sep 2007
Jan 2008
May 2008
Sep 2008
Source: Board of Governors of the Federal Reserve System (US)
myf.red/g/hLcT

IV. Crisis in the Fall of 2008 and Early 2009

Delinquency Rate on Single-Family Mortgages

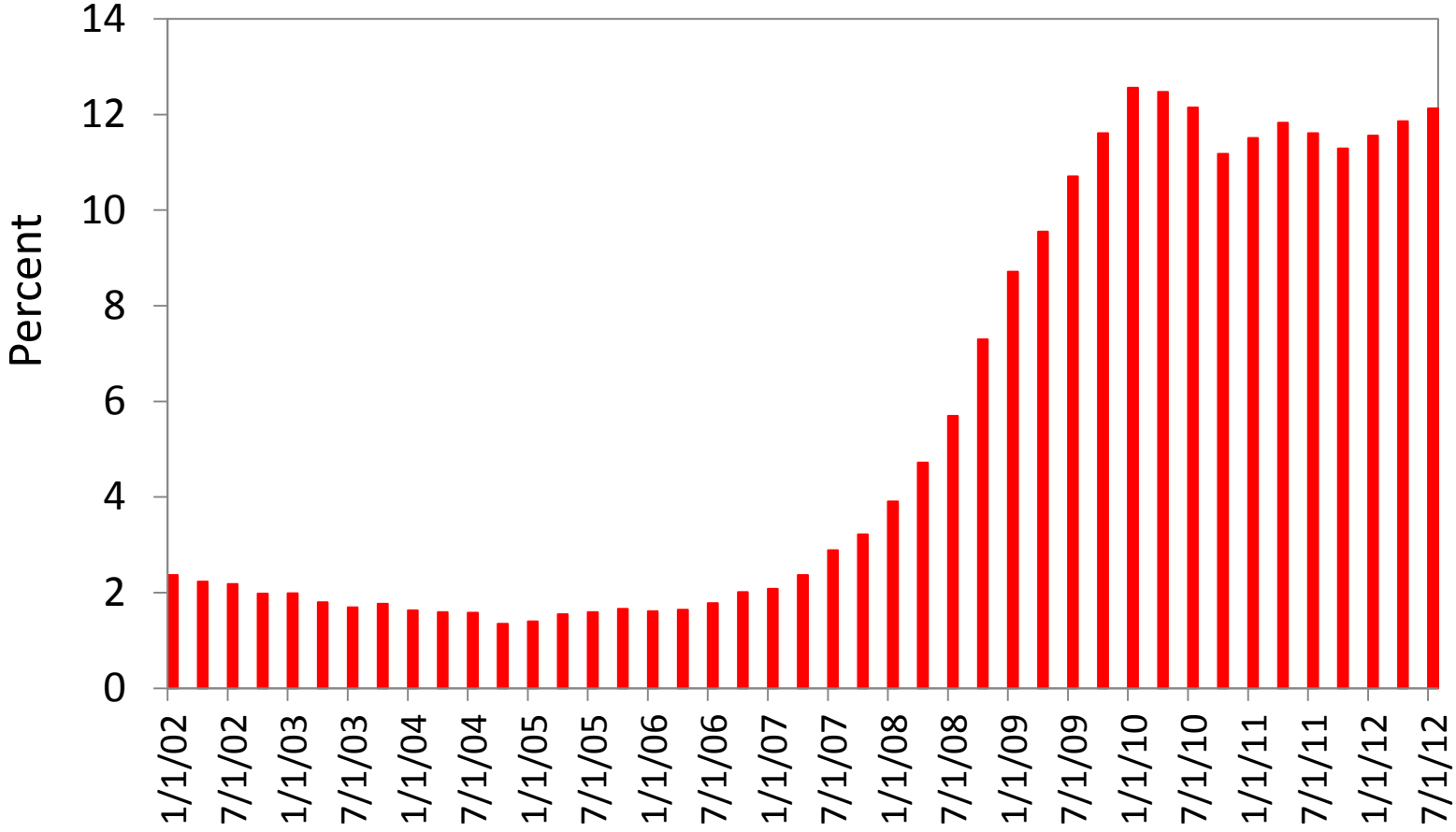
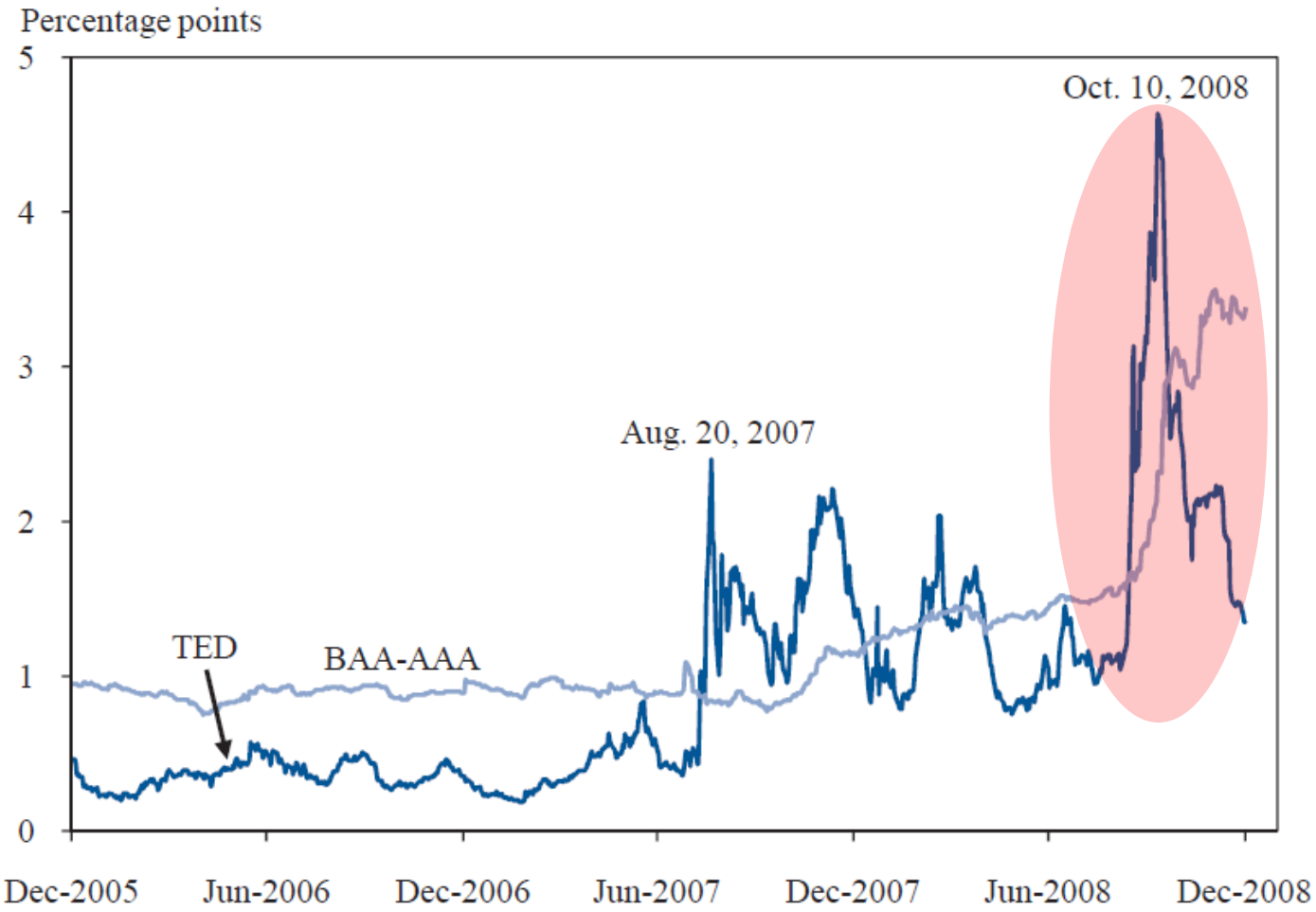
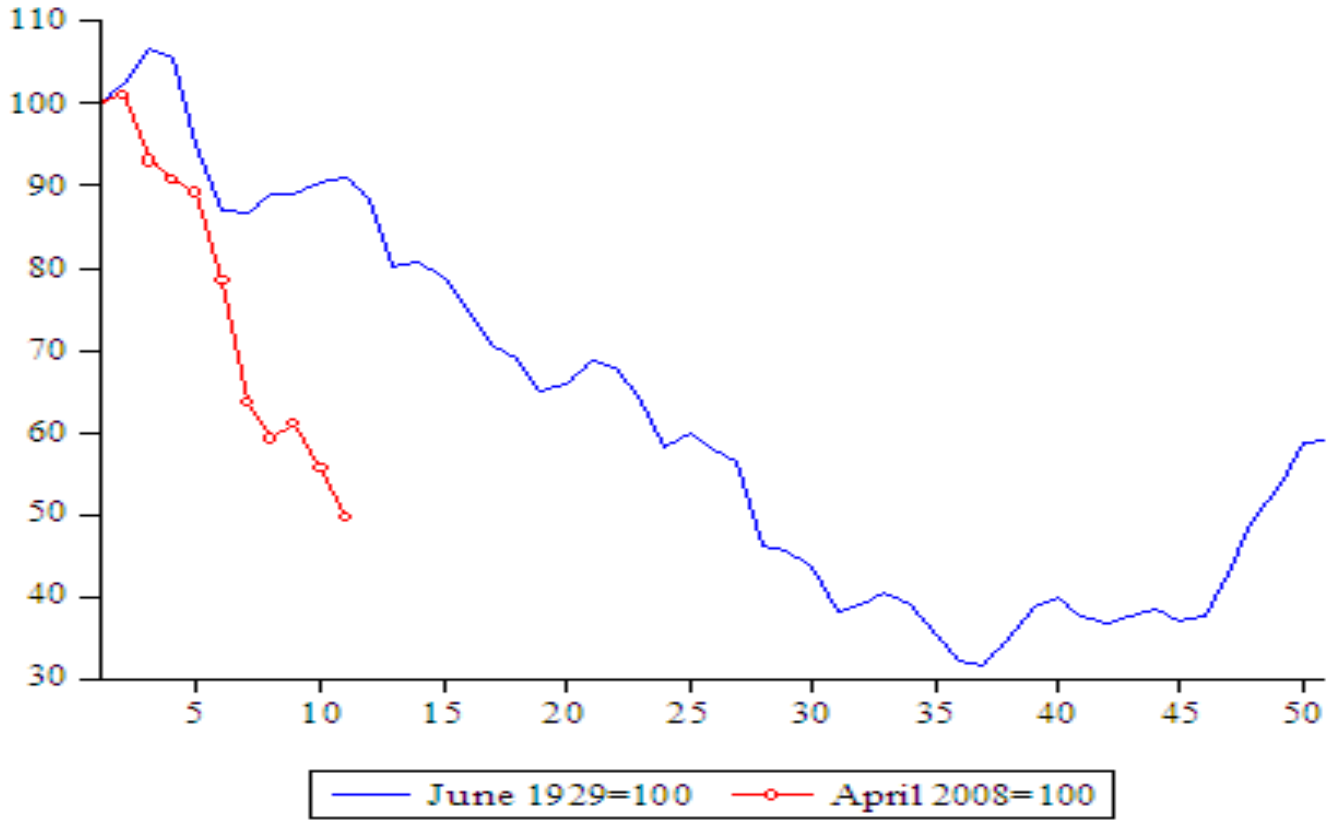


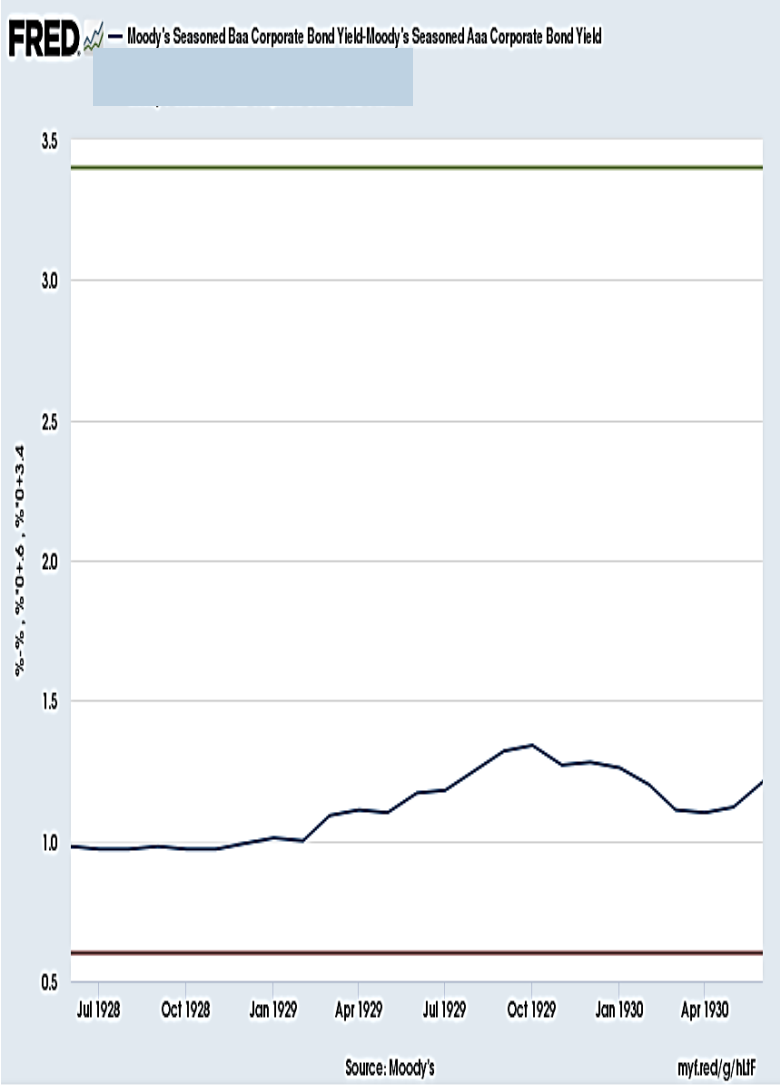
Figure 2-3
TED Spread and Moody's BAA-AAA Spread Through December 2008

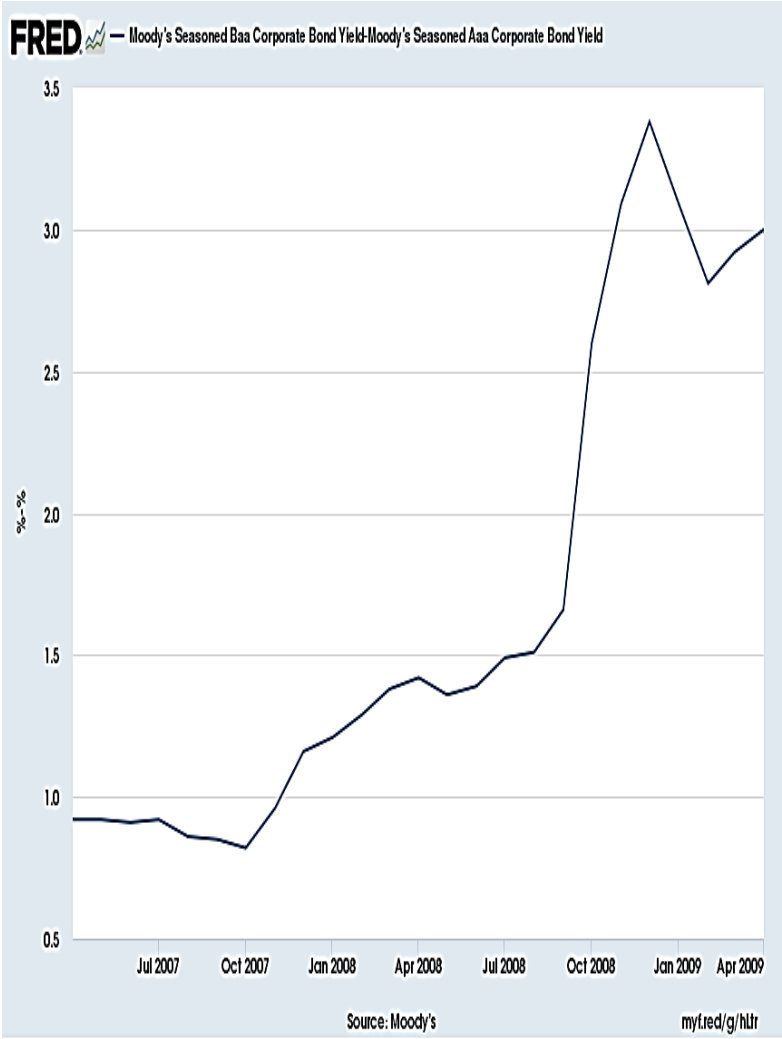


World Stock Prices, 1929 and 2008



Initial fall in stock prices was larger in 2008-09 than in 1929-30.

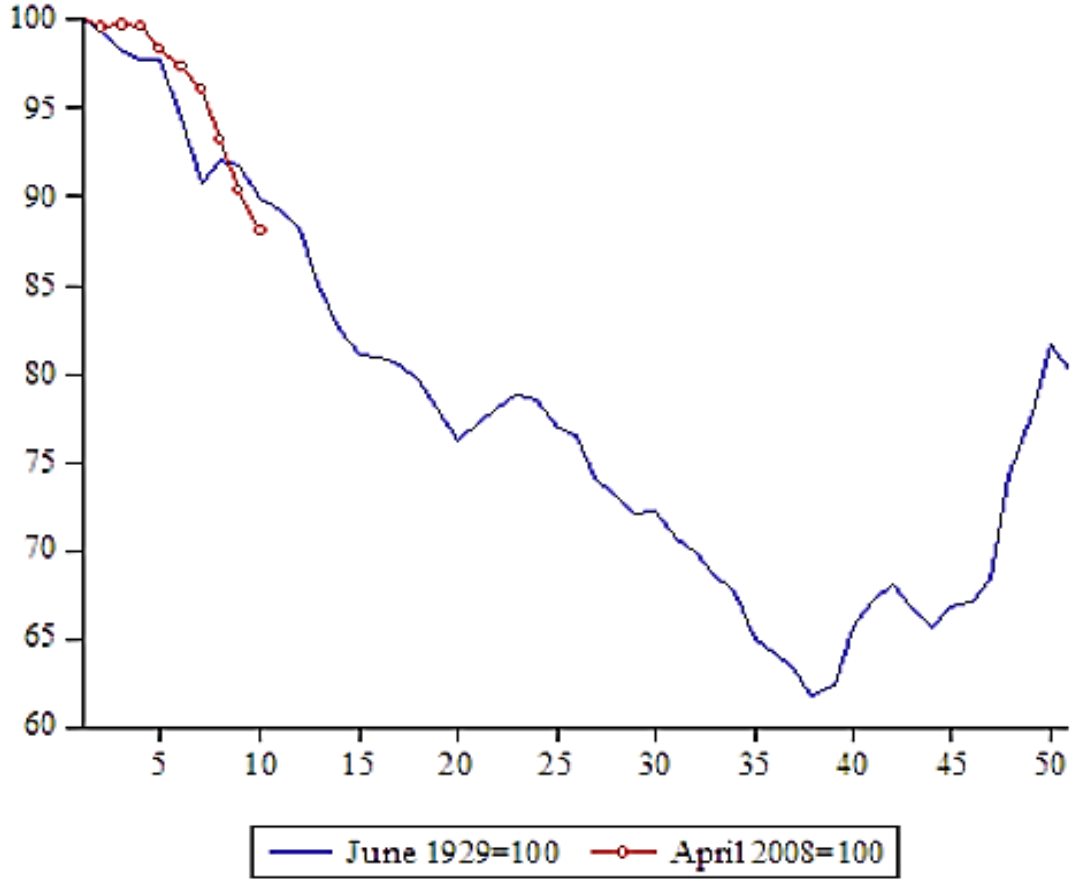




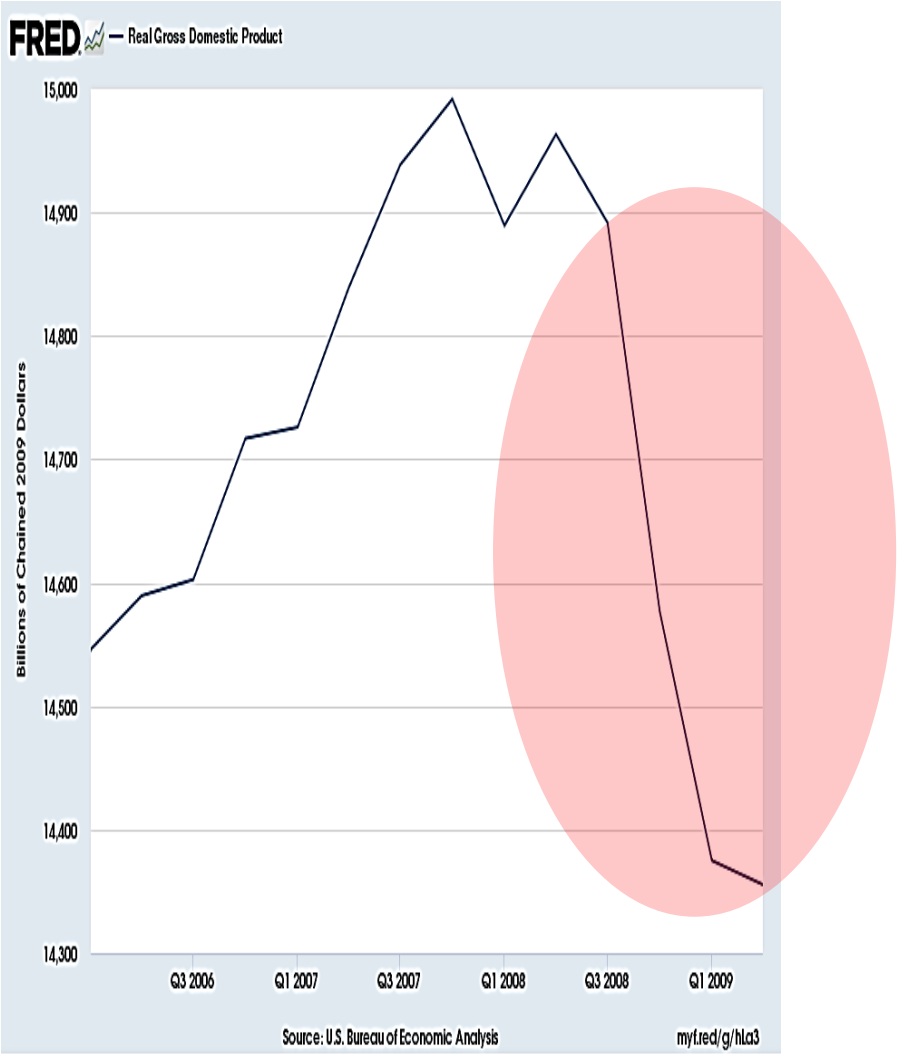
Initial rise in interest rate spreads was much larger in 2008-09 than in 1929-30.

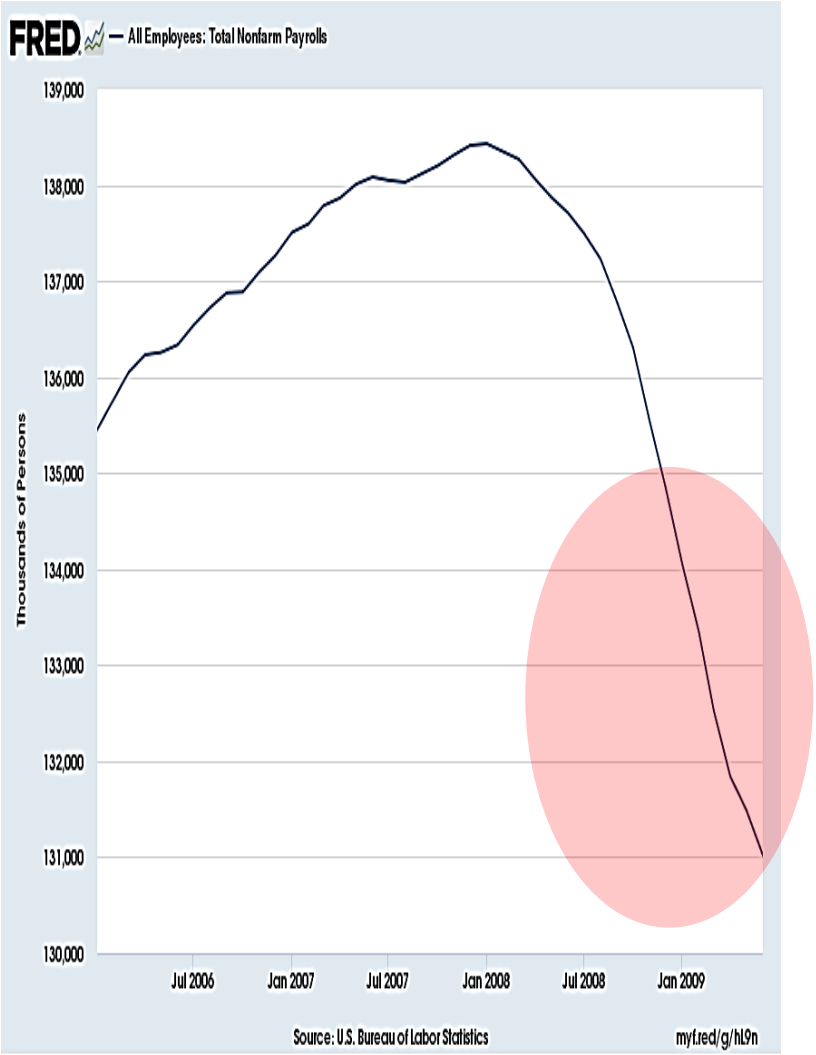
World Industrial Output, 1929 and 2008

Figure 1. World Industrial Output, Now vs Then



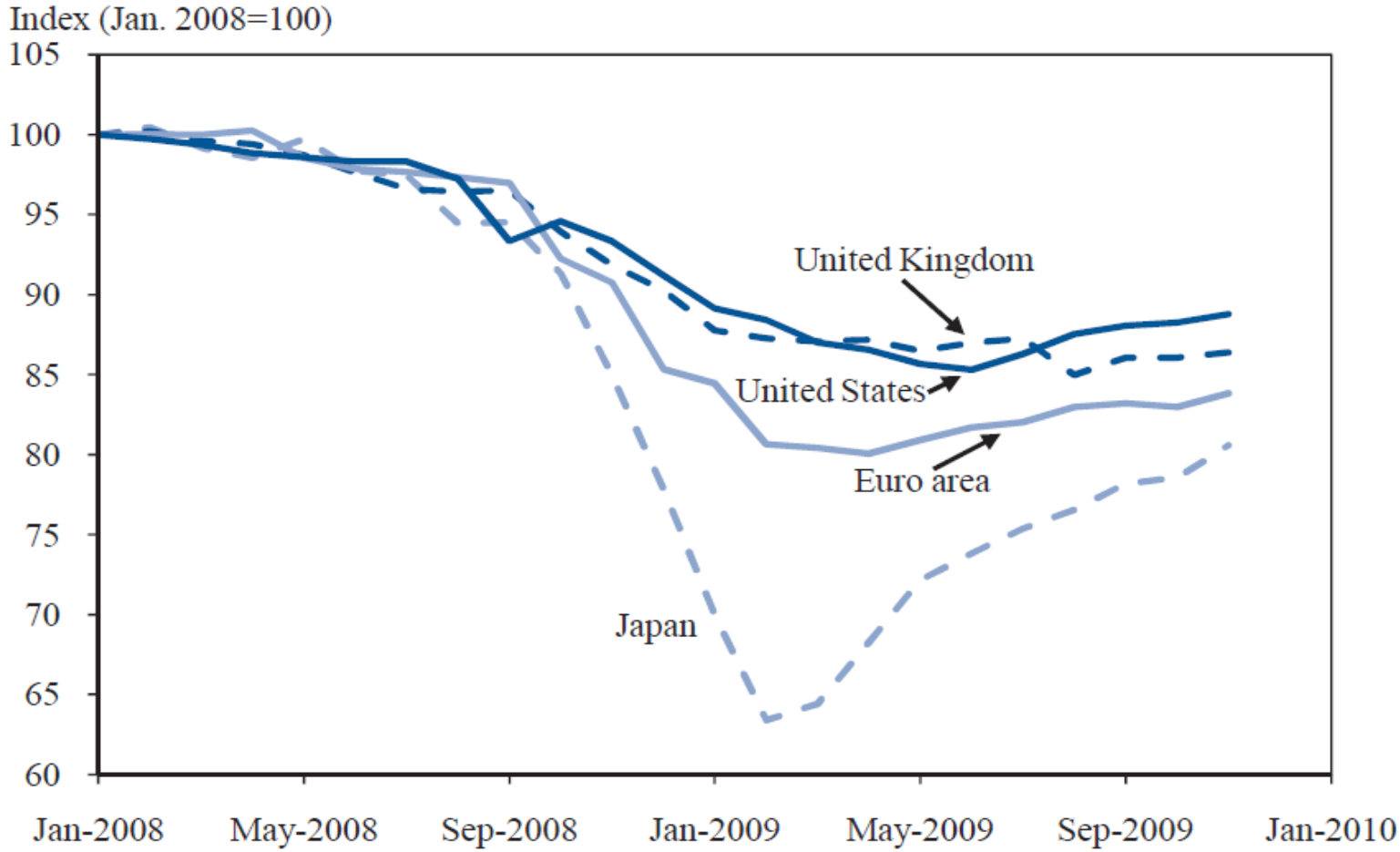
Initial fall in output in 2008-09 was similar to 1929-30.





GDP and employment plummeted in the second half of 2008 and early 2009.

Figure 3-6
Industrial Production in Advanced Economies

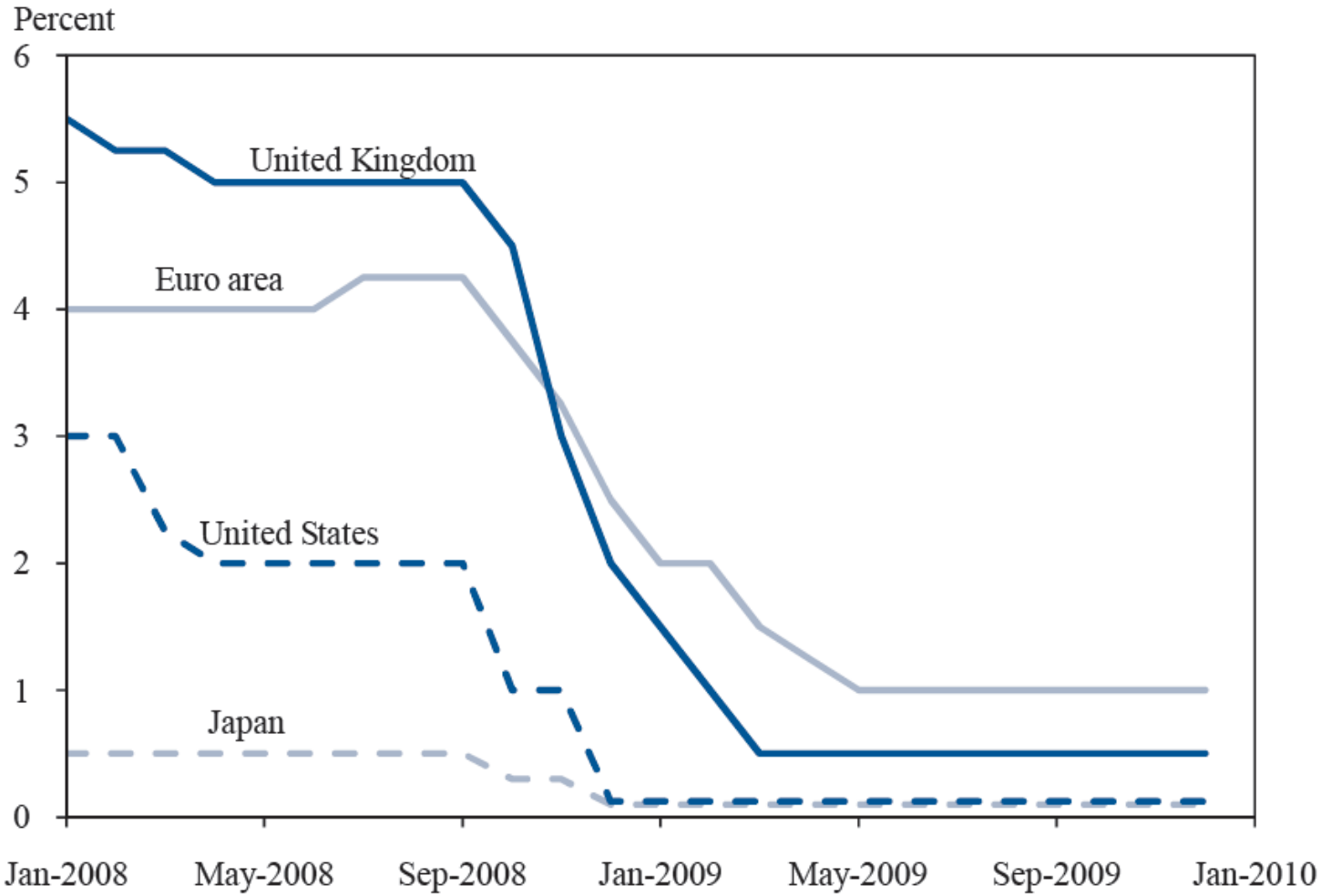


IP fell early in US; rest of the world followed quickly.

The Policy Response

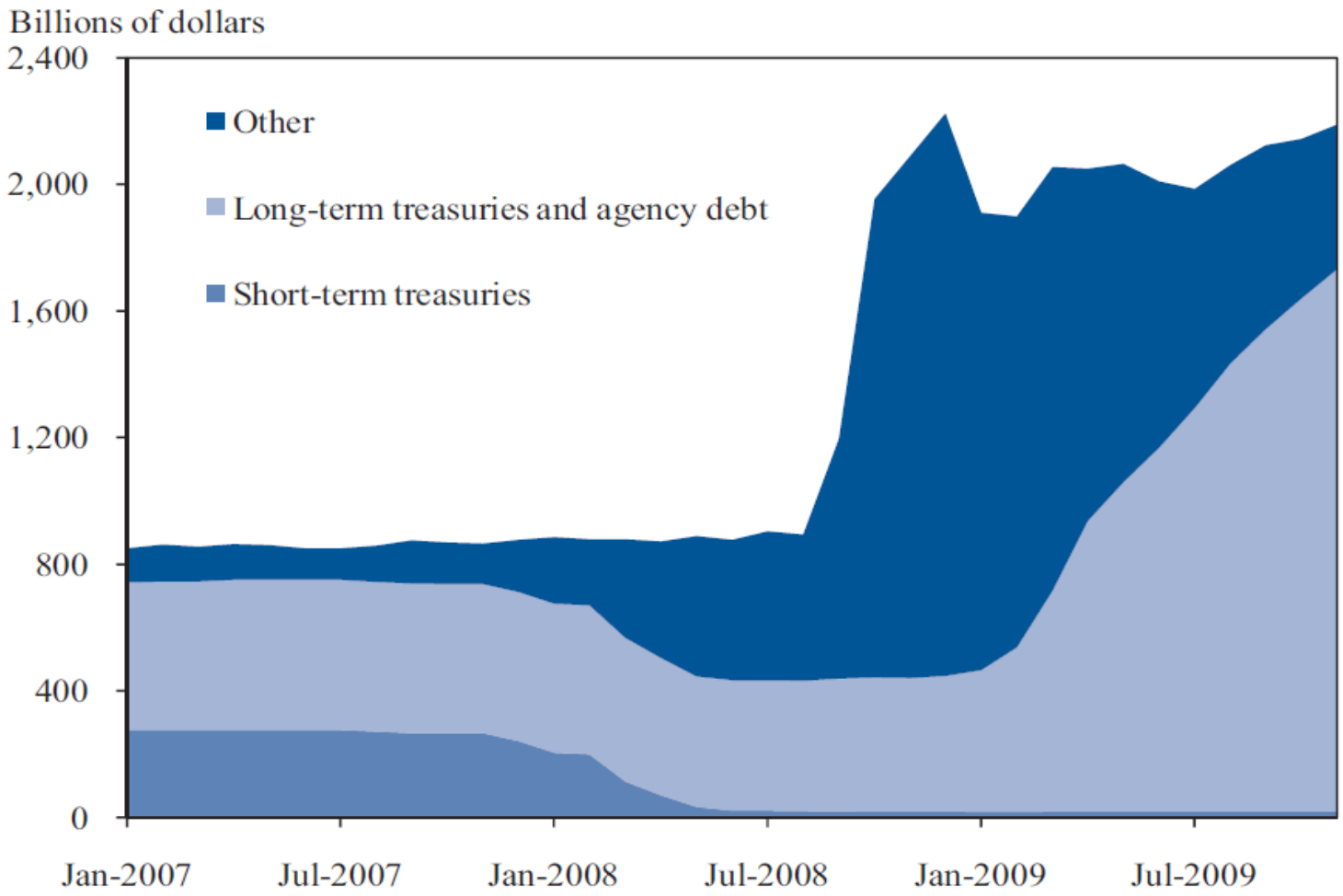
- Monetary policy: Federal funds rate lowered to almost zero (December 2008); quantitative easing (December 2008 and March 2009); more Fed special programs
- Financial rescue: AIG rescue and Fannie and Freddie takeover (September 2008); Troubled Asset Relief Program (TARP) (October 2008); stress test (May 2009)
- Fiscal policy: American Recovery and Reinvestment Act of 2009 (February 2009)

Figure 3-9
Policy Rates in Economies with Major Central Banks



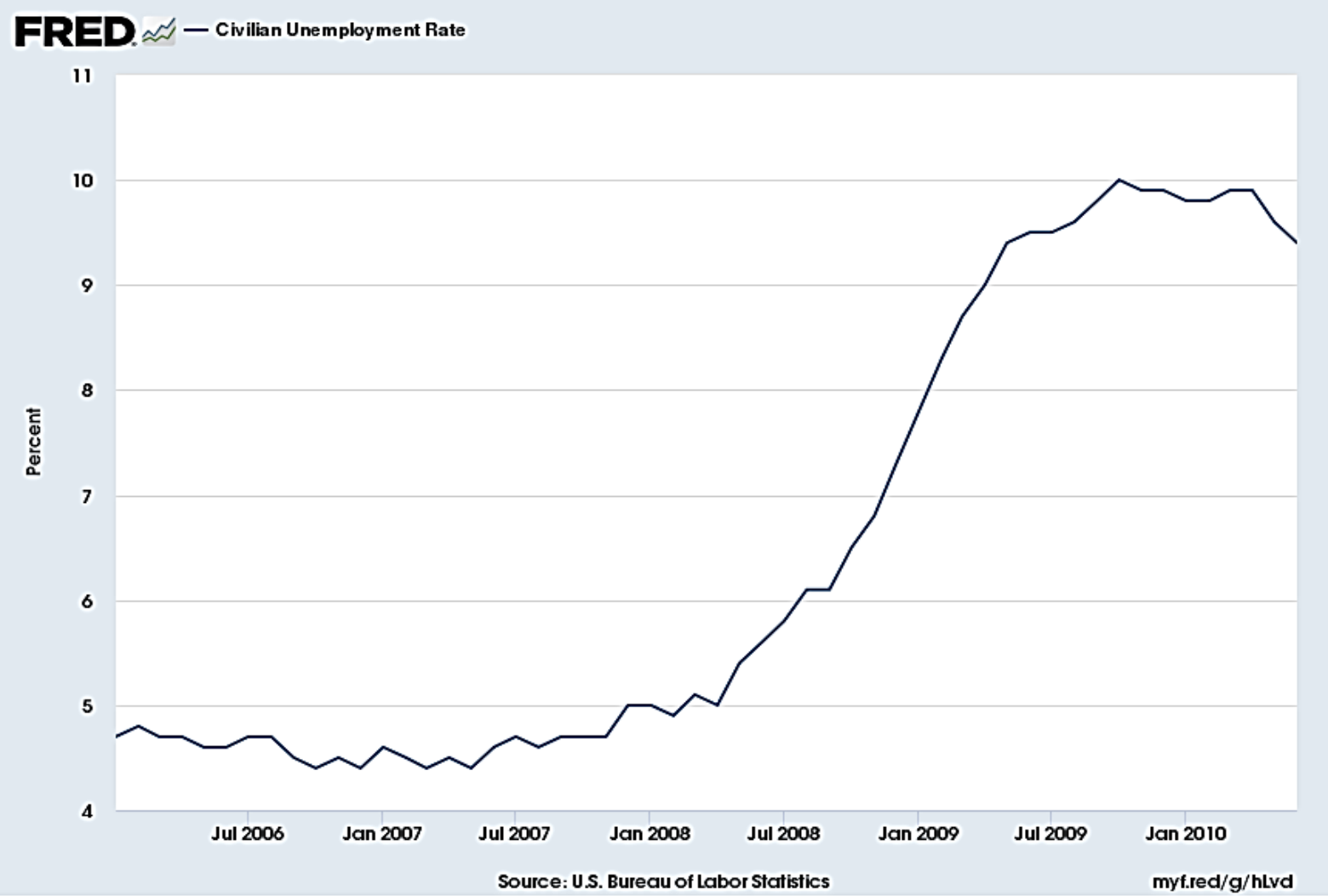
Issues: What (if anything) can monetary policy do when short-term nominal interest rates are close to zero?

Figure 2-4
Assets on the Federal Reserve's Balance Sheet



Issues: What are the effects of quantitative easing? What are the effects of the huge increase in the monetary base on inflation?

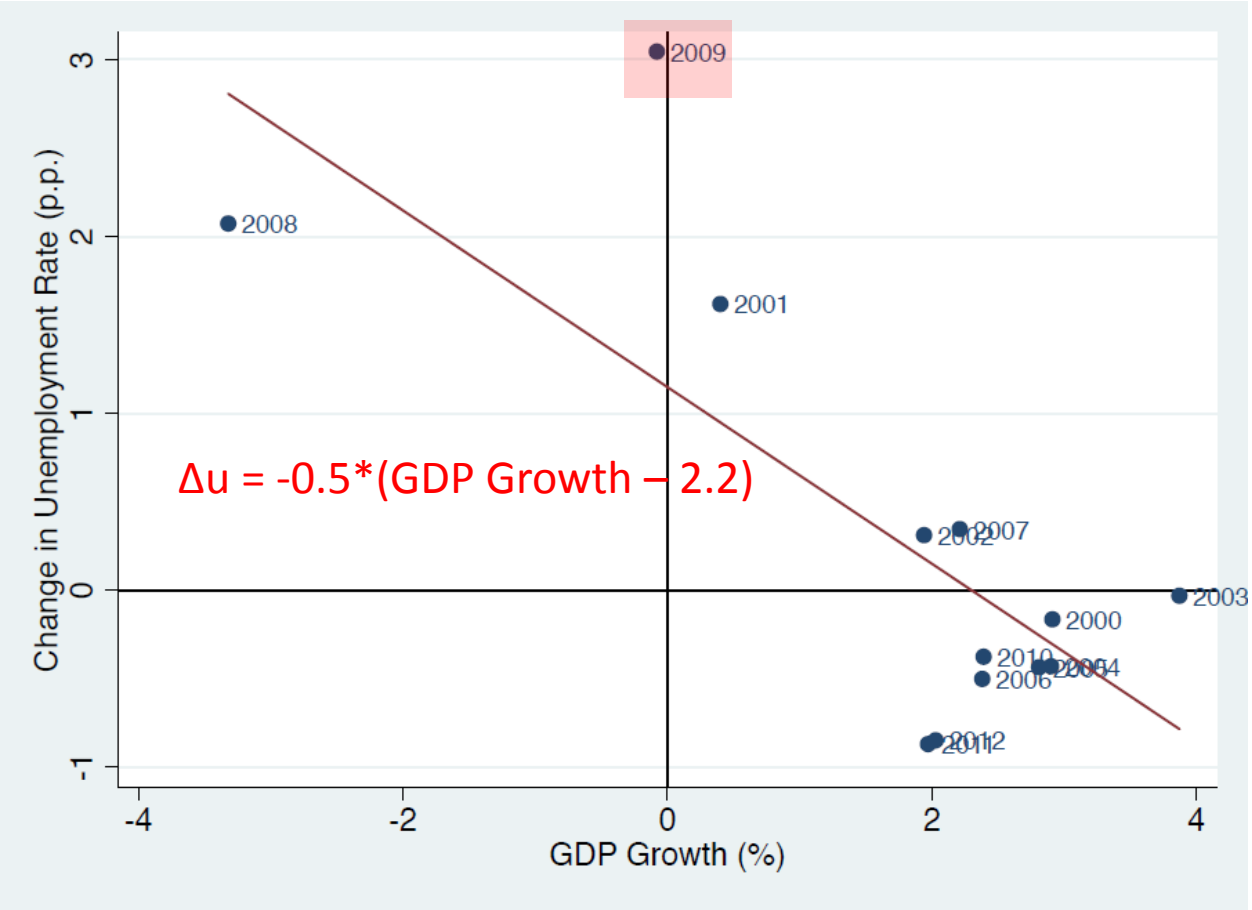
Unemployment



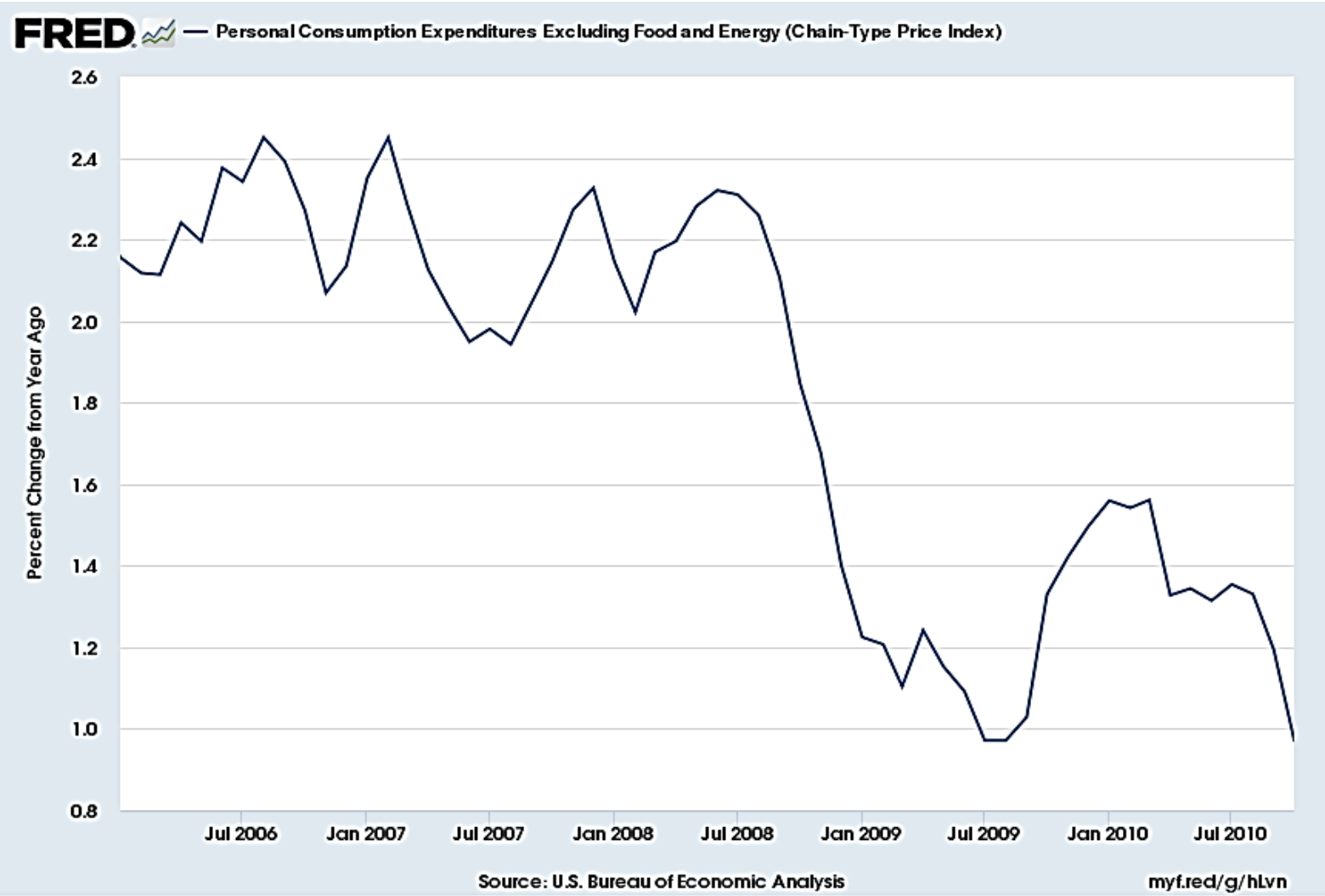
Okun's Law

A shortfall of GDP growth from normal of 1 percentage point is usually associated with a rise in the unemployment rate of about ½ percentage point.

Okun's Law, 2000-2012

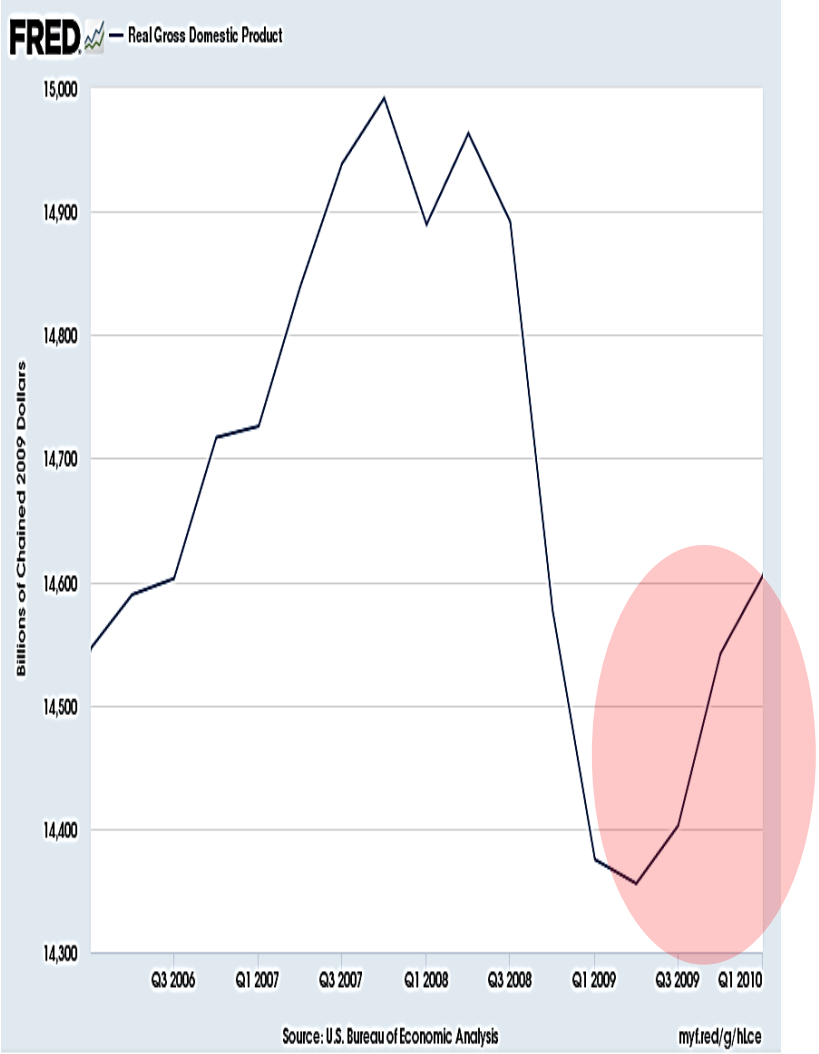


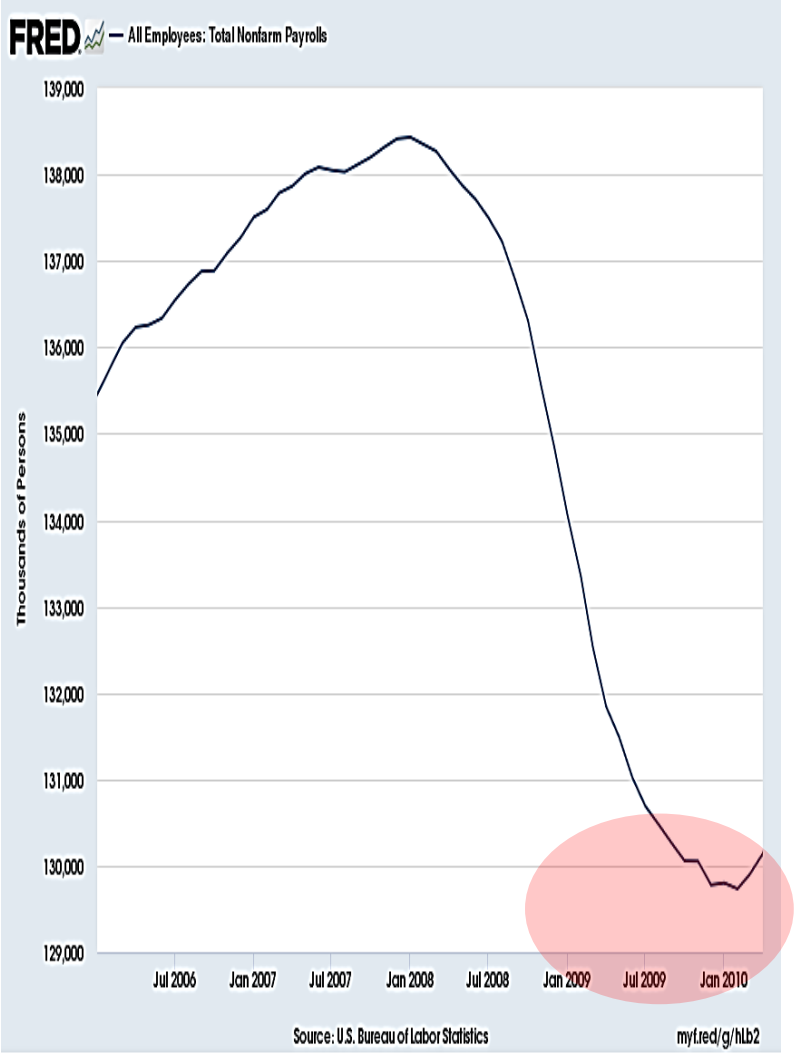
The rise in unemployment in 2009 was unusually large given the behavior of real GDP.



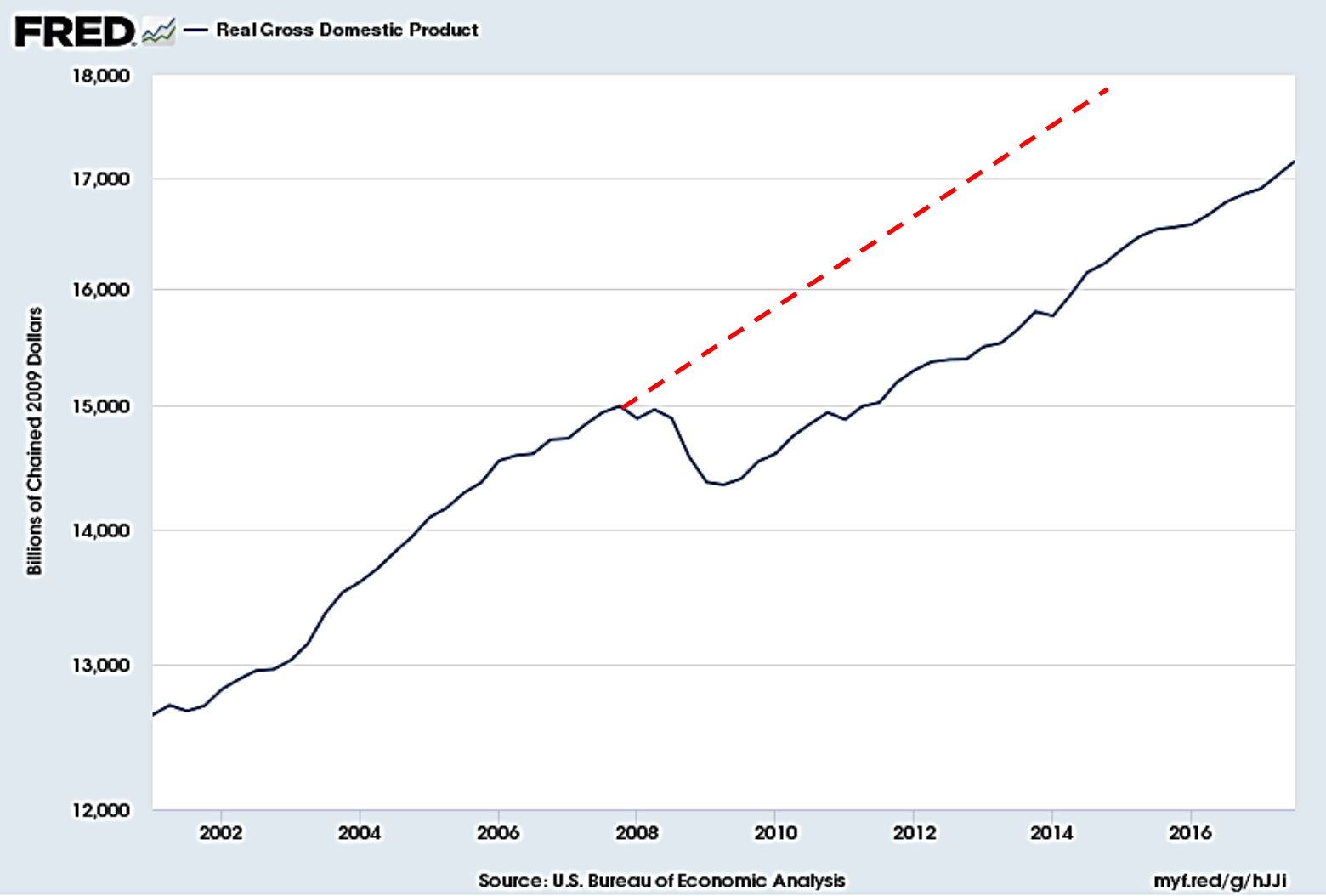
Issue: Core inflation fell during the recession, but not by as much as one might have expected given high unemployment.

V. The Slow Recovery

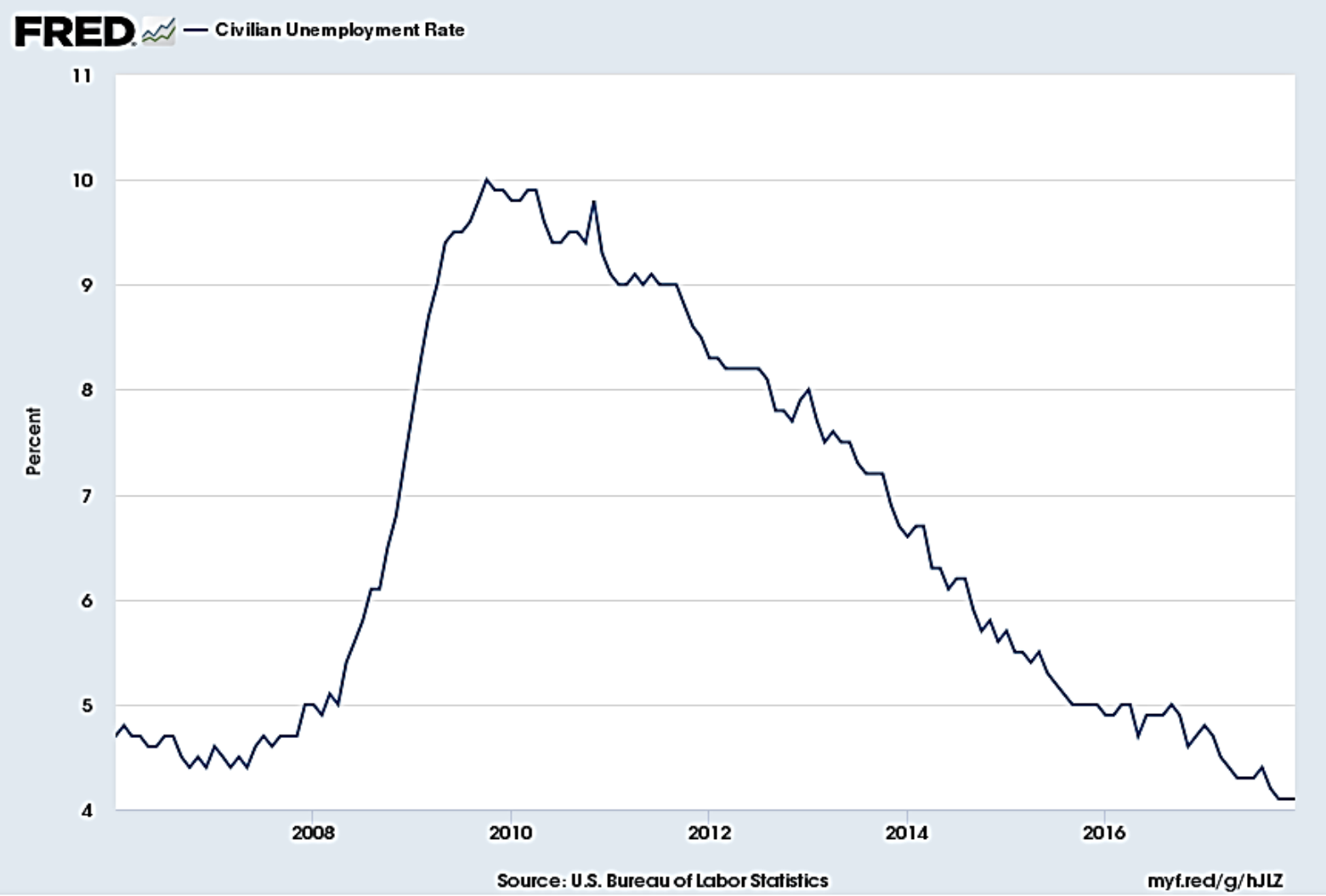




Real GDP reached its low in 2009Q2; employment in Feb. 2010.

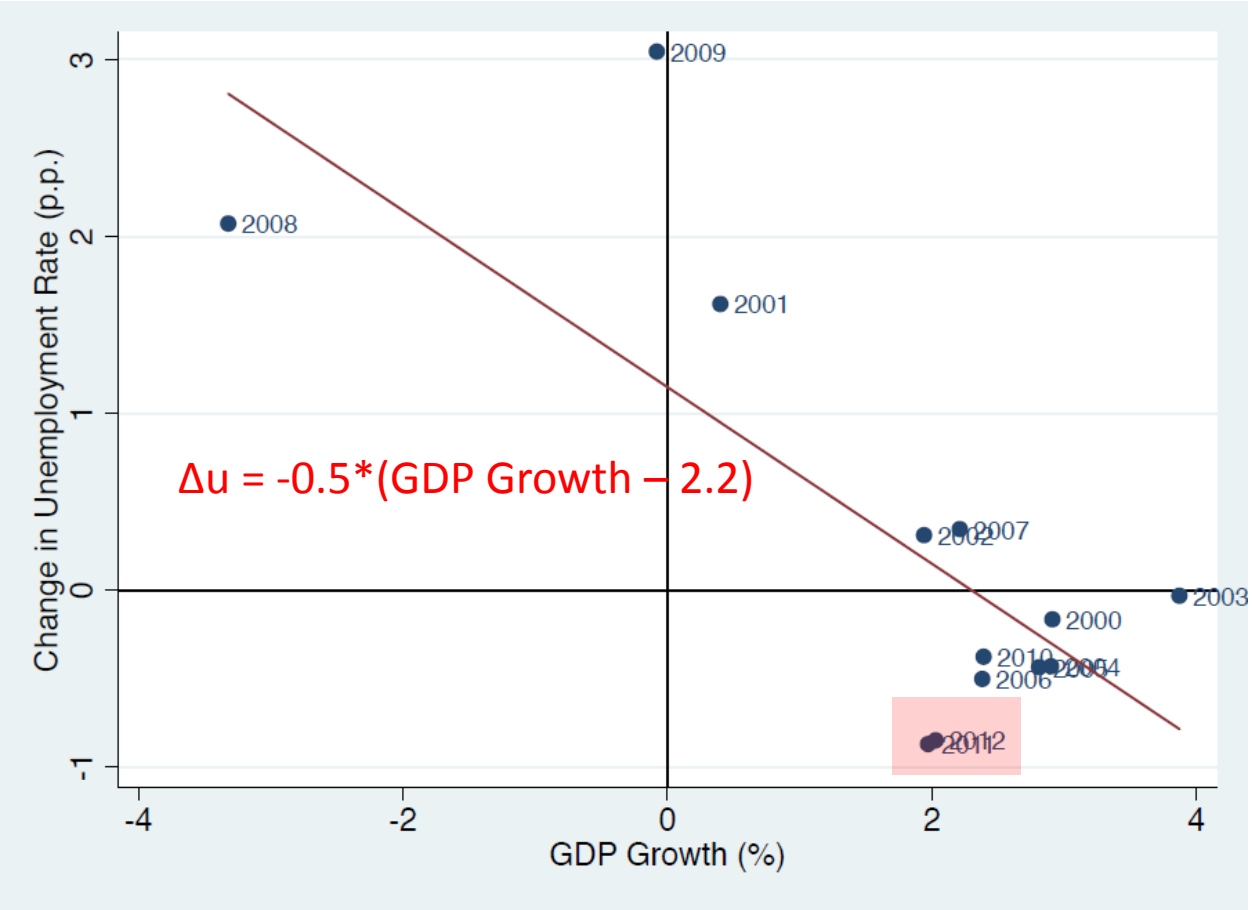


GDP never had a period of rapid growth, and never returned toward its previous path.



The unemployment rate stayed above 6% until Sept. 2014.

Okun's Law, 2000-2012

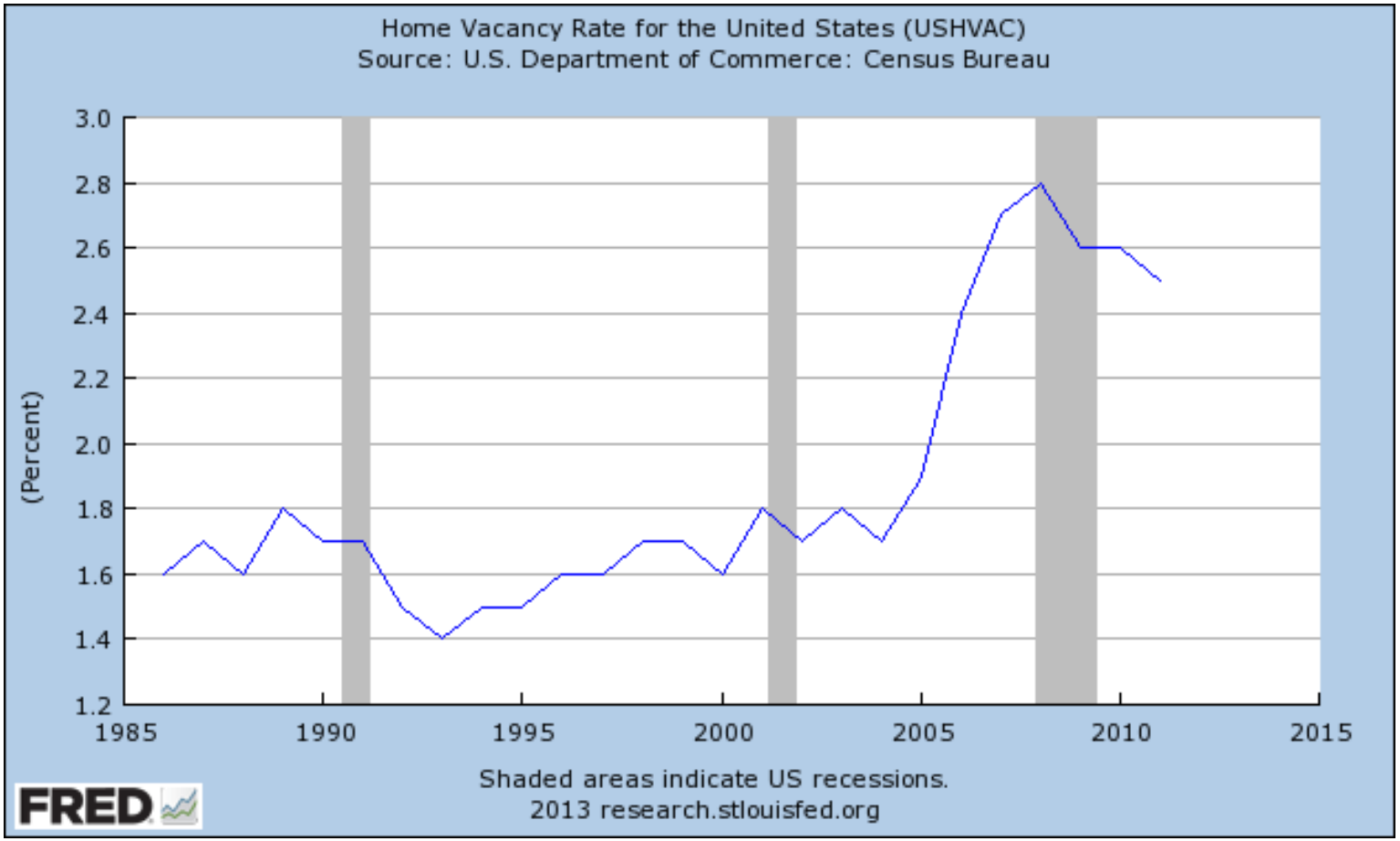


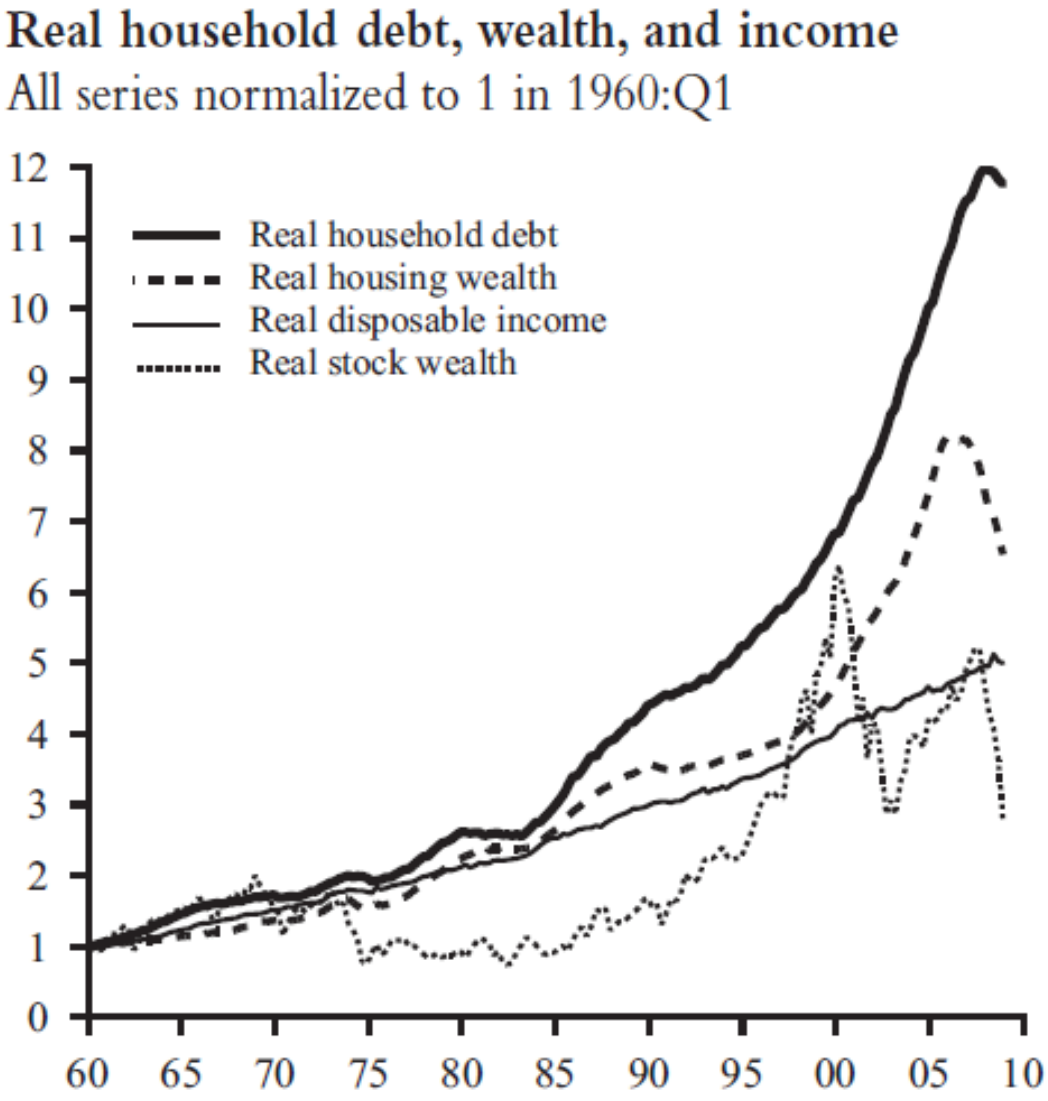
The fall in unemployment in 2011 and 2012 was unusually large given the behavior of real GDP.

Possible Reasons for the Slow Recovery

- Uncertainty.
- Unique nature of the recession – caused by a housing bubble.
- Debt overhang.
- Policy lull.
- Additional negative shocks to the economy.

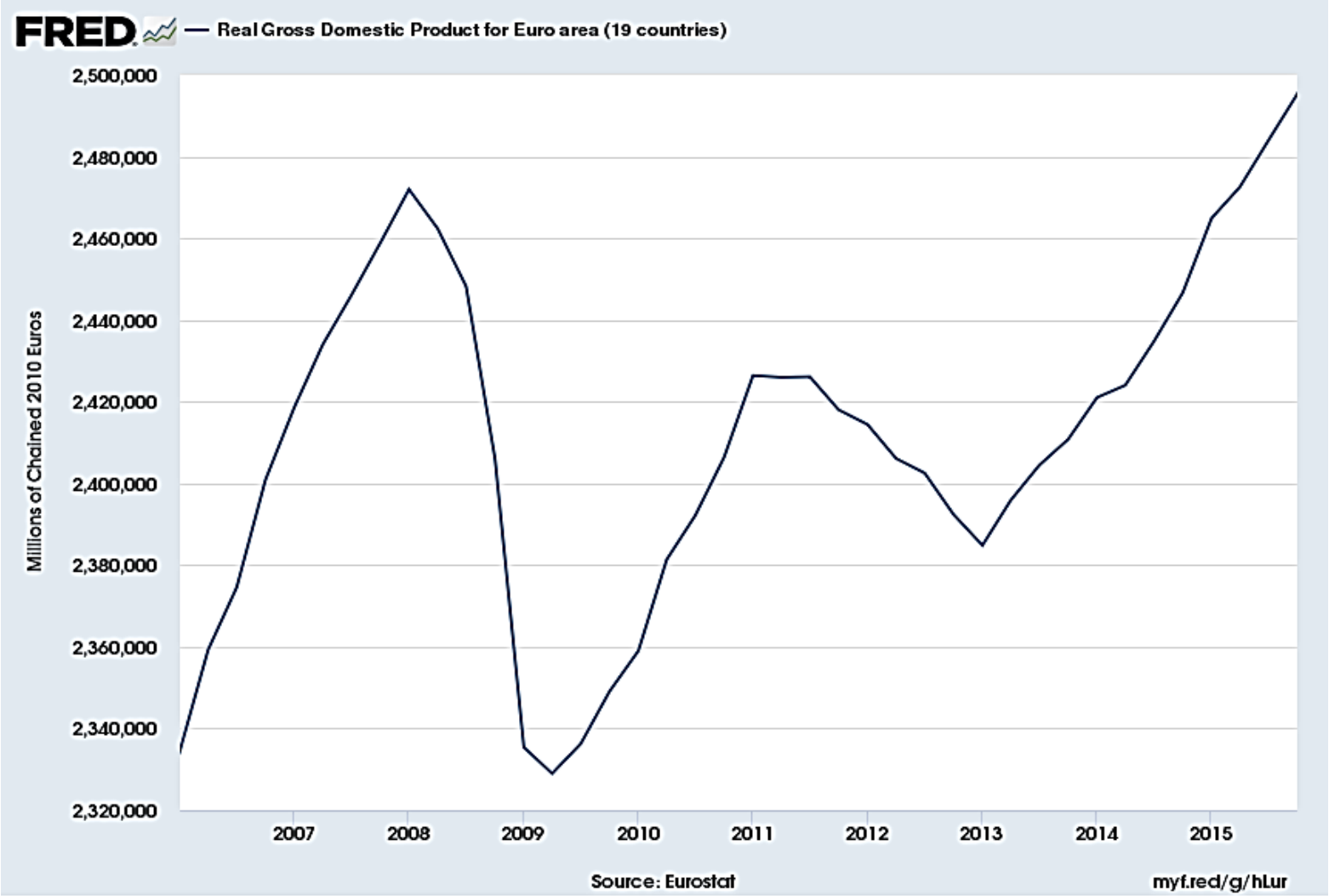
Home Vacancy Rate



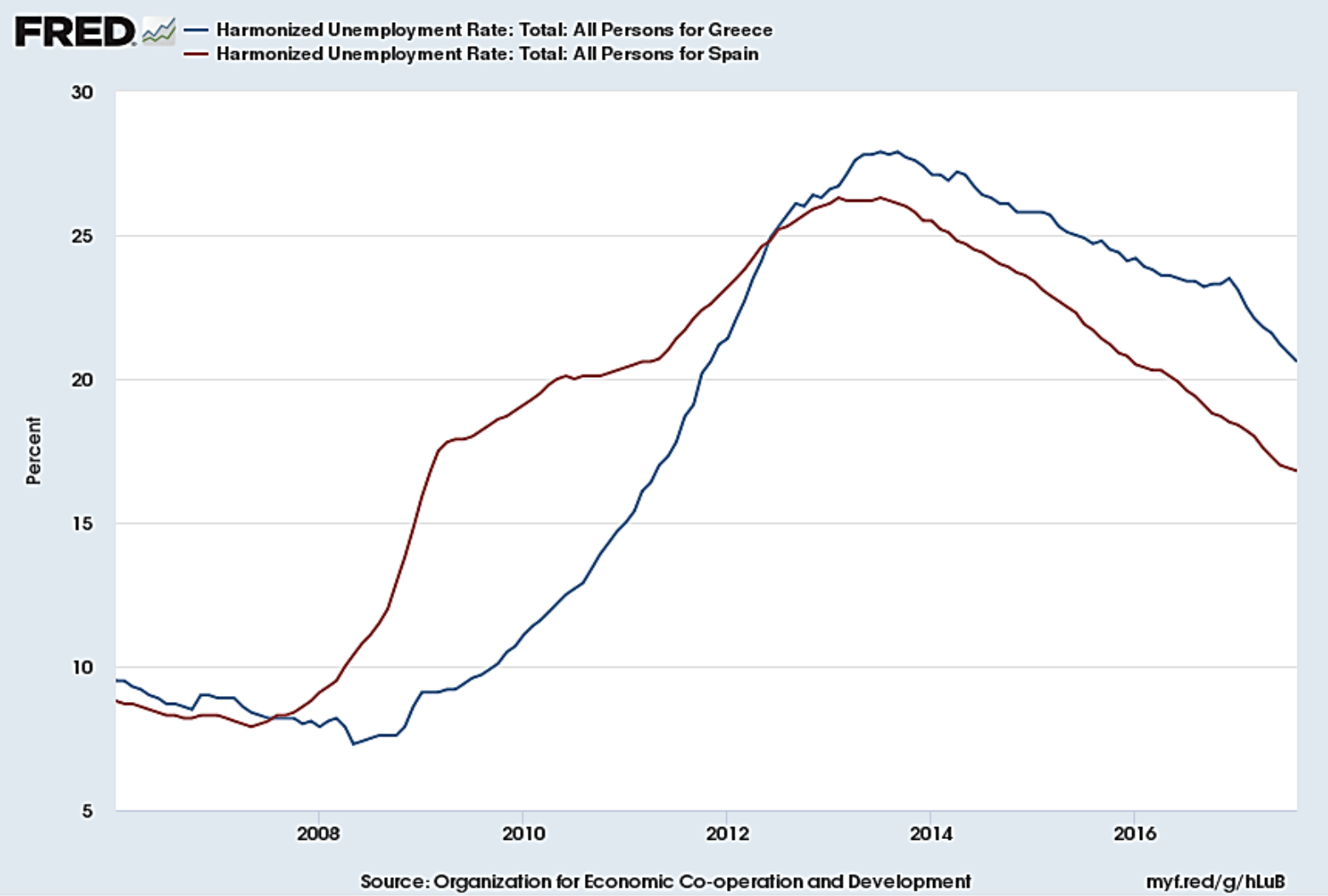


Does high debt depress consumer spending?

VI. A Little about the European Crisis

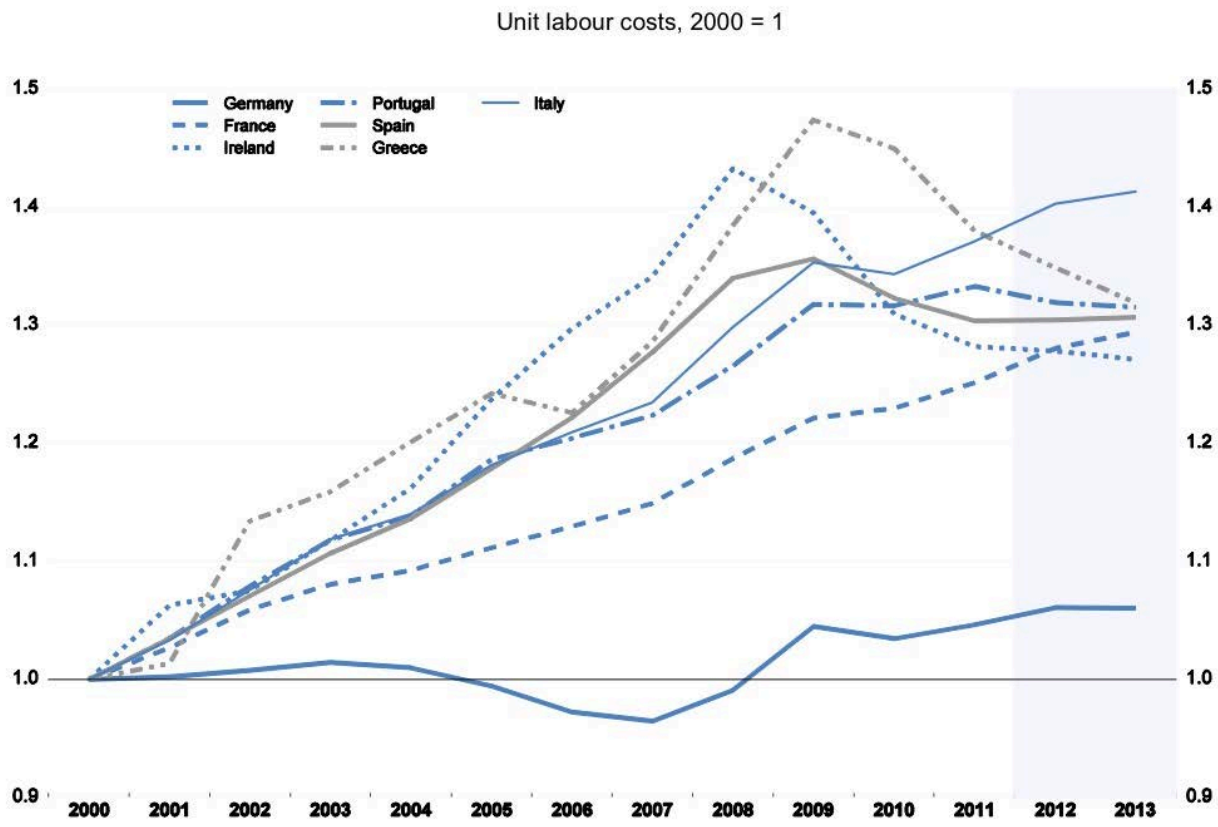


Euro area GDP turned down again in 2011, and did not return to its pre-crisis peak until 2015.

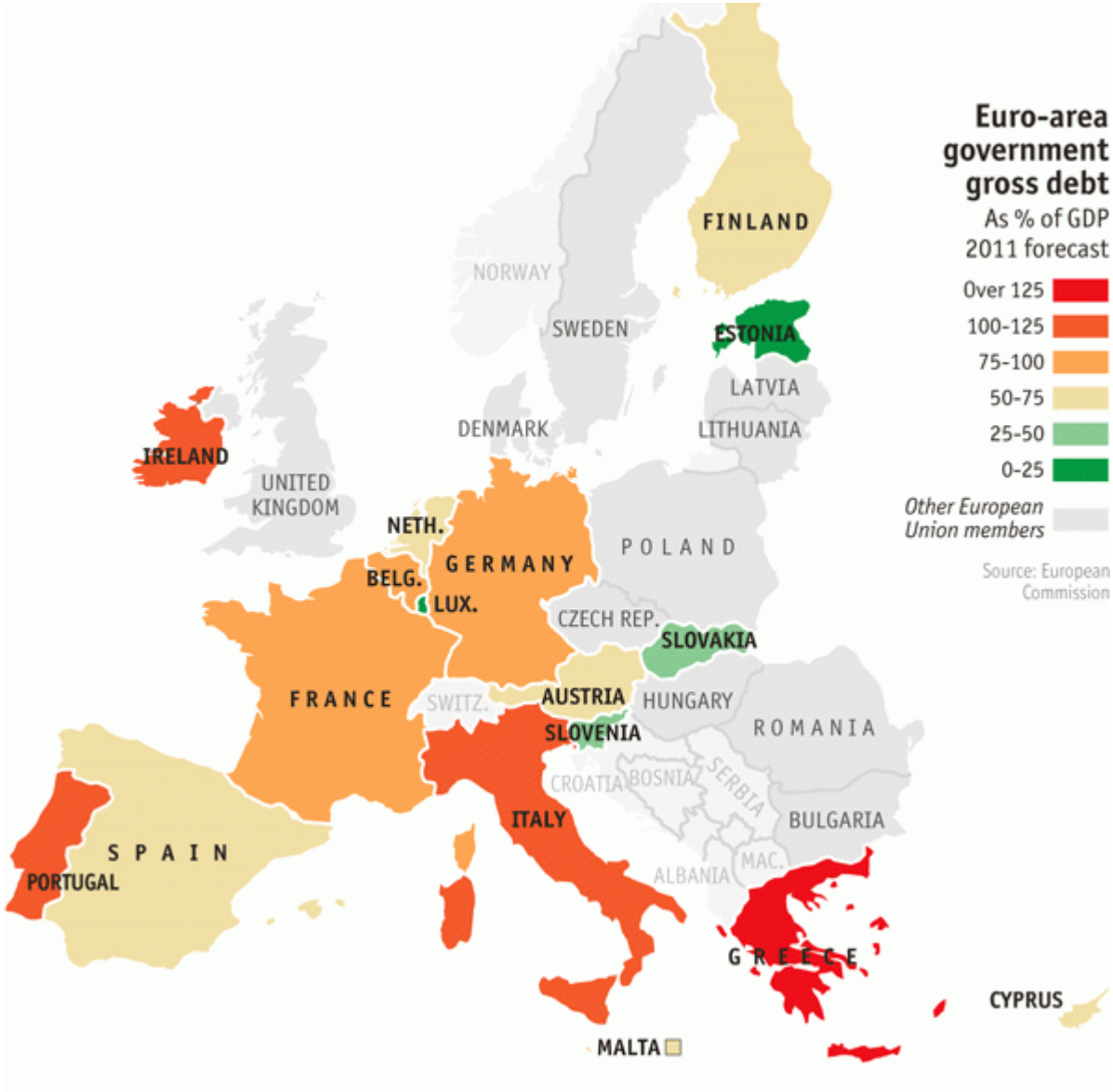


Unemployment in Greece and Spain reached Depression-like levels.

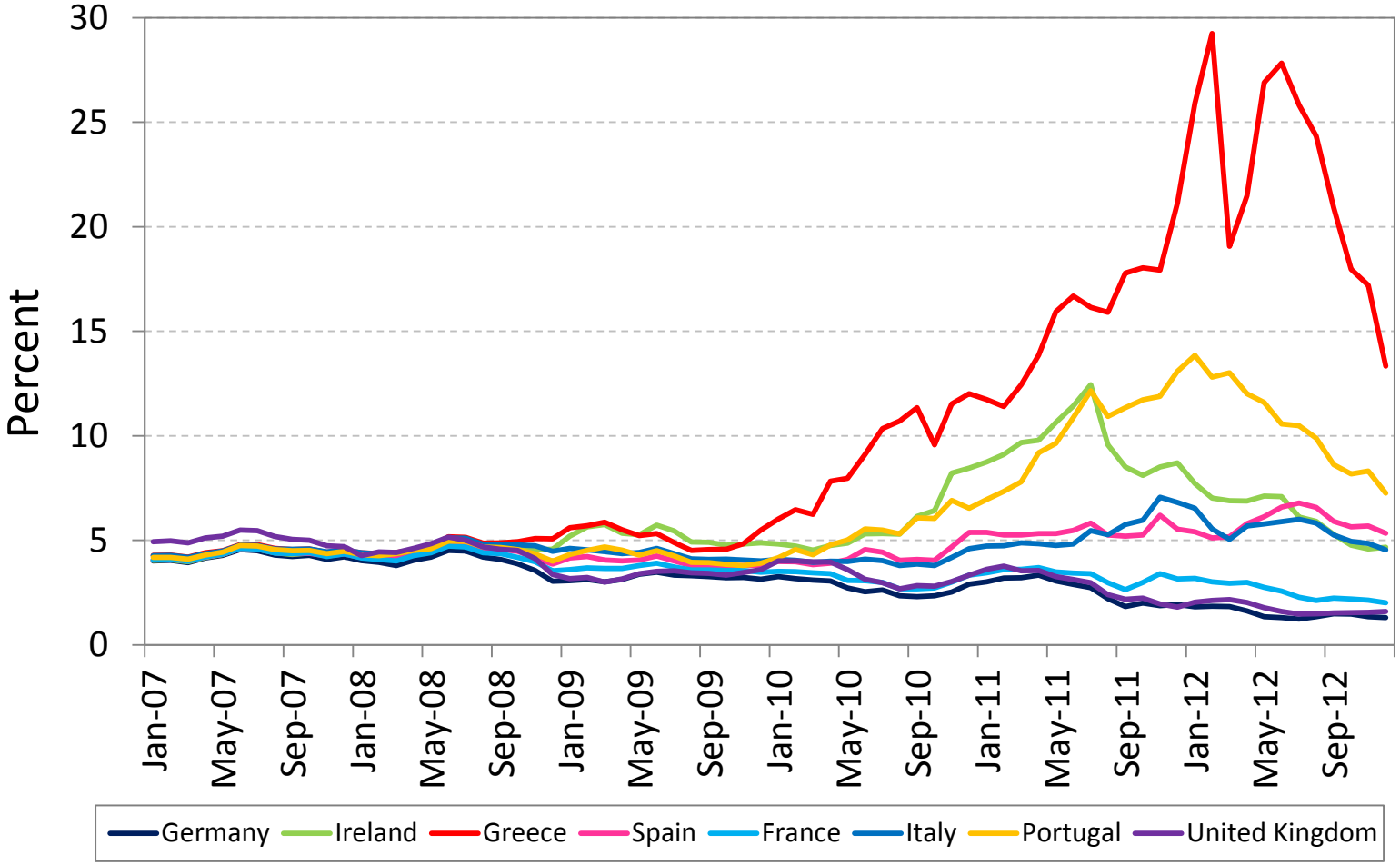
Unit Labor Costs across the Eurozone



Labor costs rose rapidly in many European countries – but not Germany.


Euro-area government gross debt
As % of GDP
2011 forecast
Over 125
100-125
75-100
50-75
25-50
0-25
Other European Union members
Source: European Commission
FINLAND
NORWAY
SWEDEN
ESTONIA
LATVIA
LITHUANIA
DENMARK
IRELAND
UNITED KINGDOM
NETH.
GERMANY
POLAND
BELG.
LUX.
CZECH REP.
SLOVAKIA
FRANCE
SWITZ.
AUSTRIA
HUNGARY
ROMANIA
SLOVENIA
CROATIA
BOSNIA
SERBIA
BULGARIA
ITALY
SPAIN
PORTUGAL
ALBANIA
MAC.
GREECE
CYPRUS
MALTA

10-Year Government Bond Yields



The crisis spread from Greece to many other countries in late 2010.