Central banks, commitment, credibility and the financial crisis

— Closing arguments —

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Sumário

I – Before the "Great Recession" ...

modern Macro looked just great

Theory and beauty

1. A new theoretical consensus had emerged in the 1990's
2. A model (New Keynesian Model) that was bridging the two polar positions: old Keynesians and Classicals
3. Microeconomic foundations, rational expectations, optimal behavior under rigidities, general equilibrium results, and computations were the main ingredients
4. Most central banks in the world started using this new theoretical model to guide monetary policy
5. Most research in Macro was conducted under the banner of the NKM
6. Monetary policy was back on track as a crucial stabilization tool (bye, bye RBC)
7. ... Not fiscal policy: no role as a stabilization tool

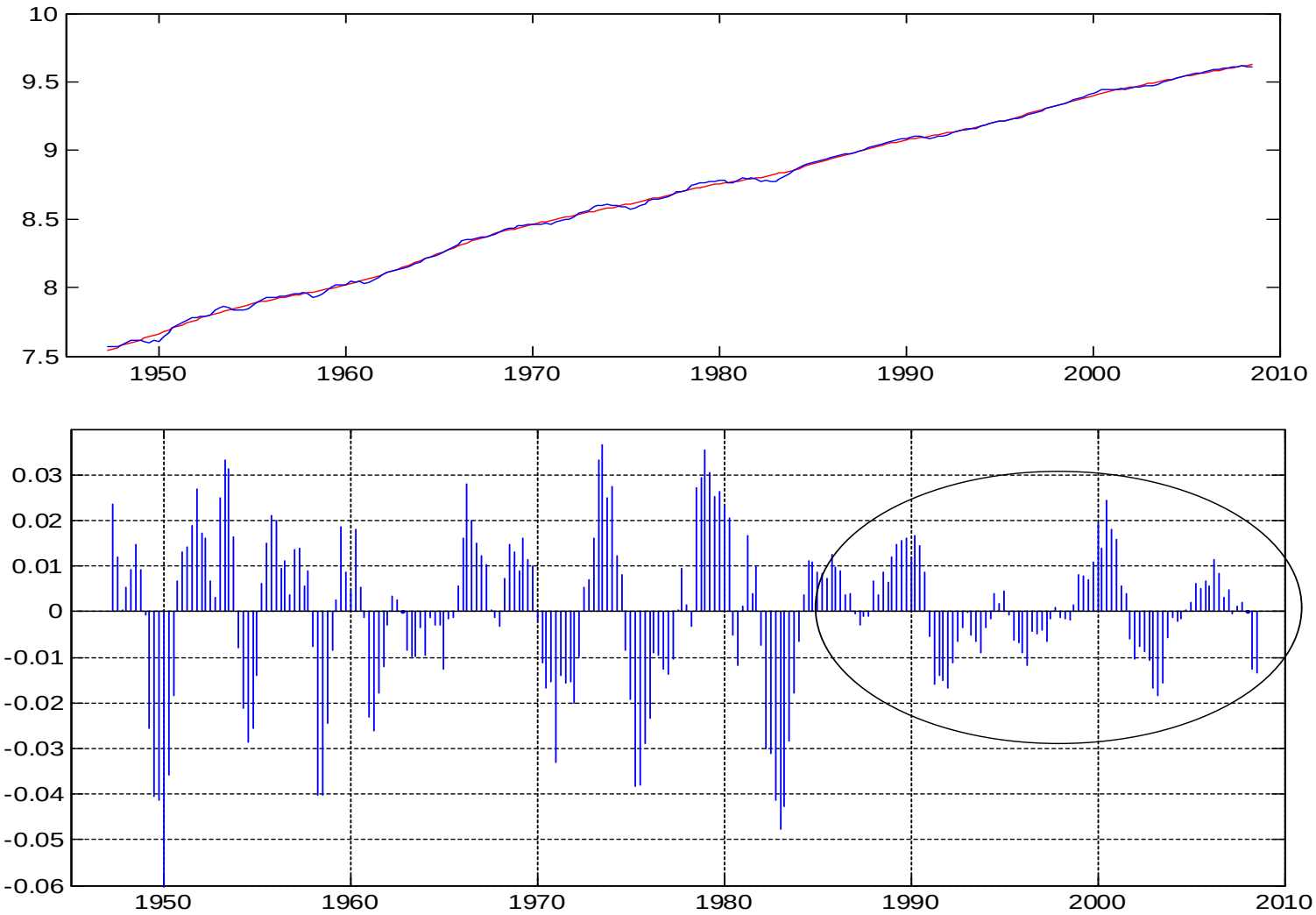
The "Great Moderation"

The great moderation

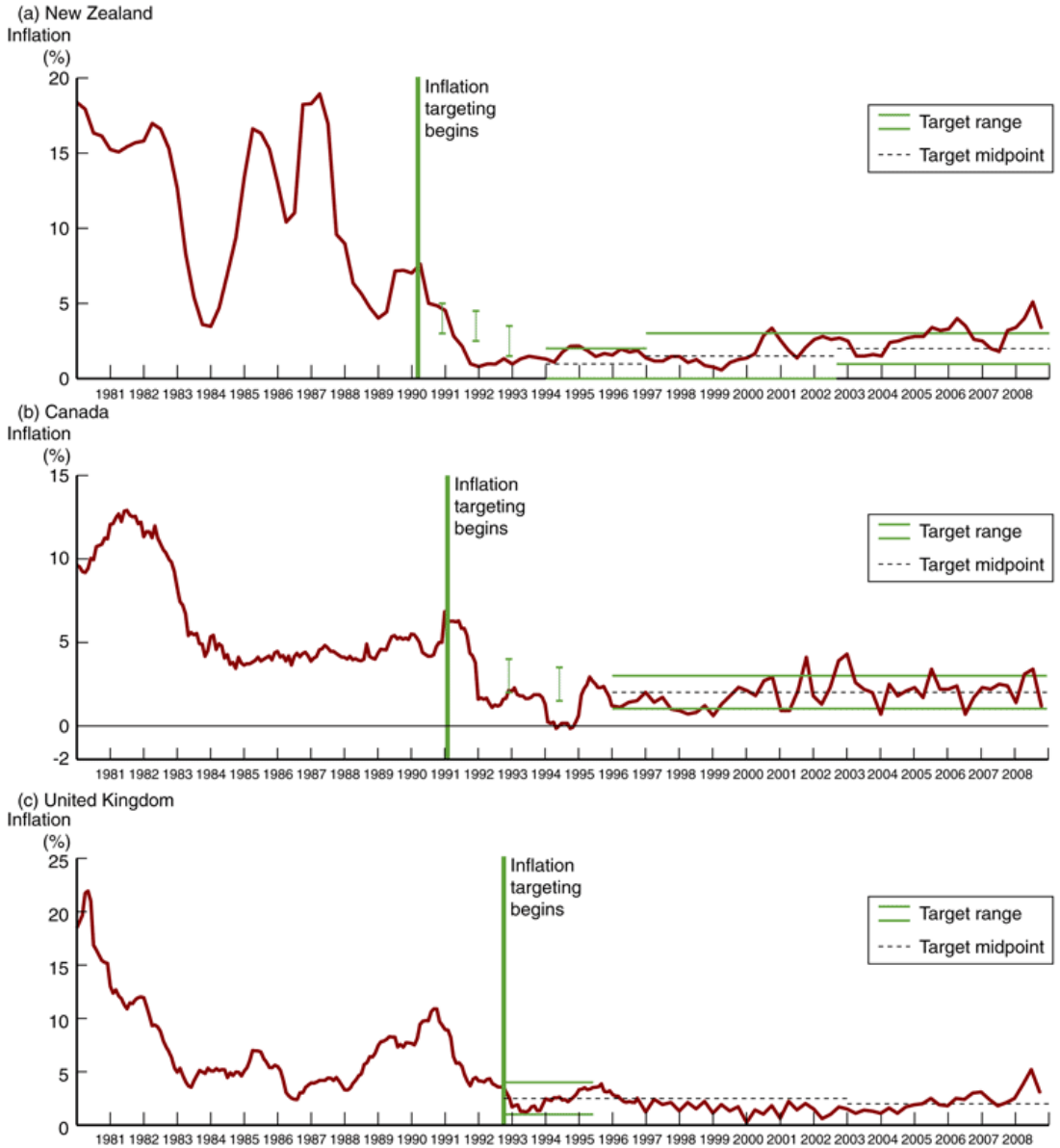
"One of the most striking features of the economic landscape over the past twenty years or so has been a substantial decline in macroeconomic volatility. In a recent article, Olivier Blanchard and John Simon (2001) documented that the variability of quarterly growth in real output (as measured by its standard deviation) **has declined by half** since the mid-1980s, while the variability of quarterly inflation **has declined by about two thirds**. Several writers on the topic have dubbed this remarkable decline in the variability of both output and inflation **"the Great Moderation."** Similar declines in the volatility of output and inflation occurred at about the same time in other major industrial countries, with the recent exception of Japan, a country that has faced a distinctive set of economic problems in the past decade."

Remarks by Governor Ben S. Bernanke, At the meetings of the Eastern Economic Association, Washington DC, 20 February 2004.

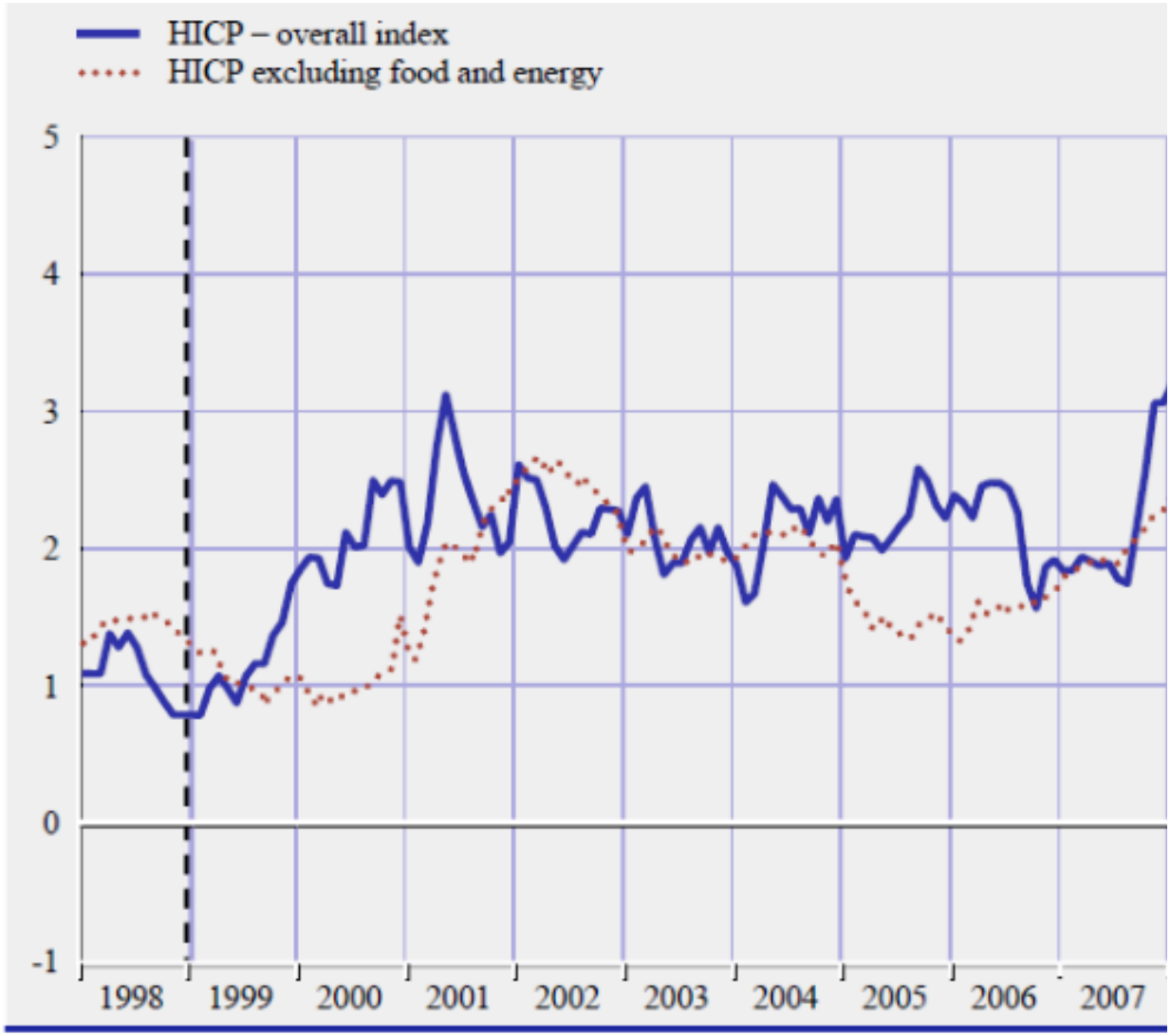
Monetary policy looked indeed very efficient (USA)



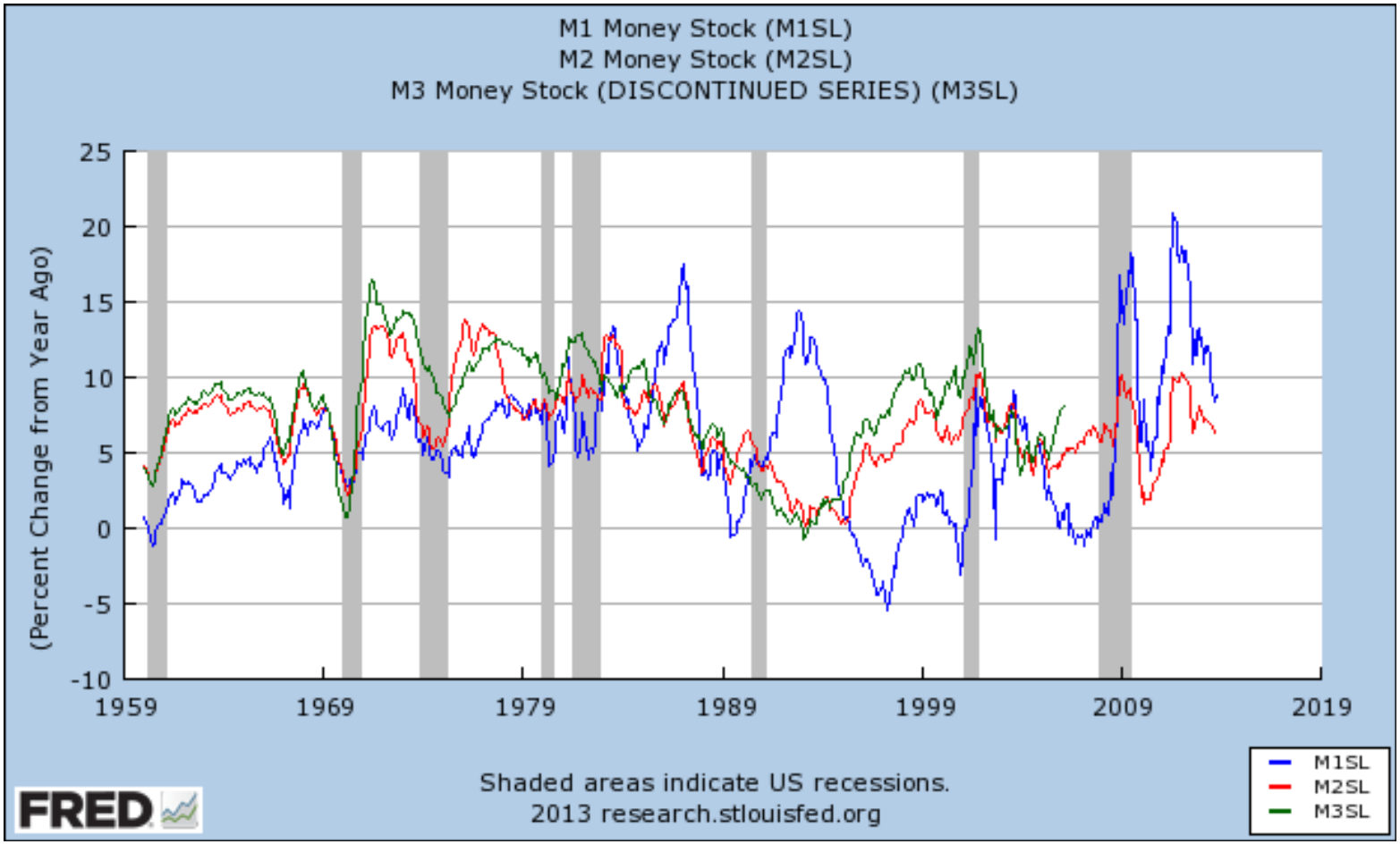
Inflation targeting looked indeed just fantastic



Inflation targeting looked indeed just fantastic (ECB: 2% inflation target)



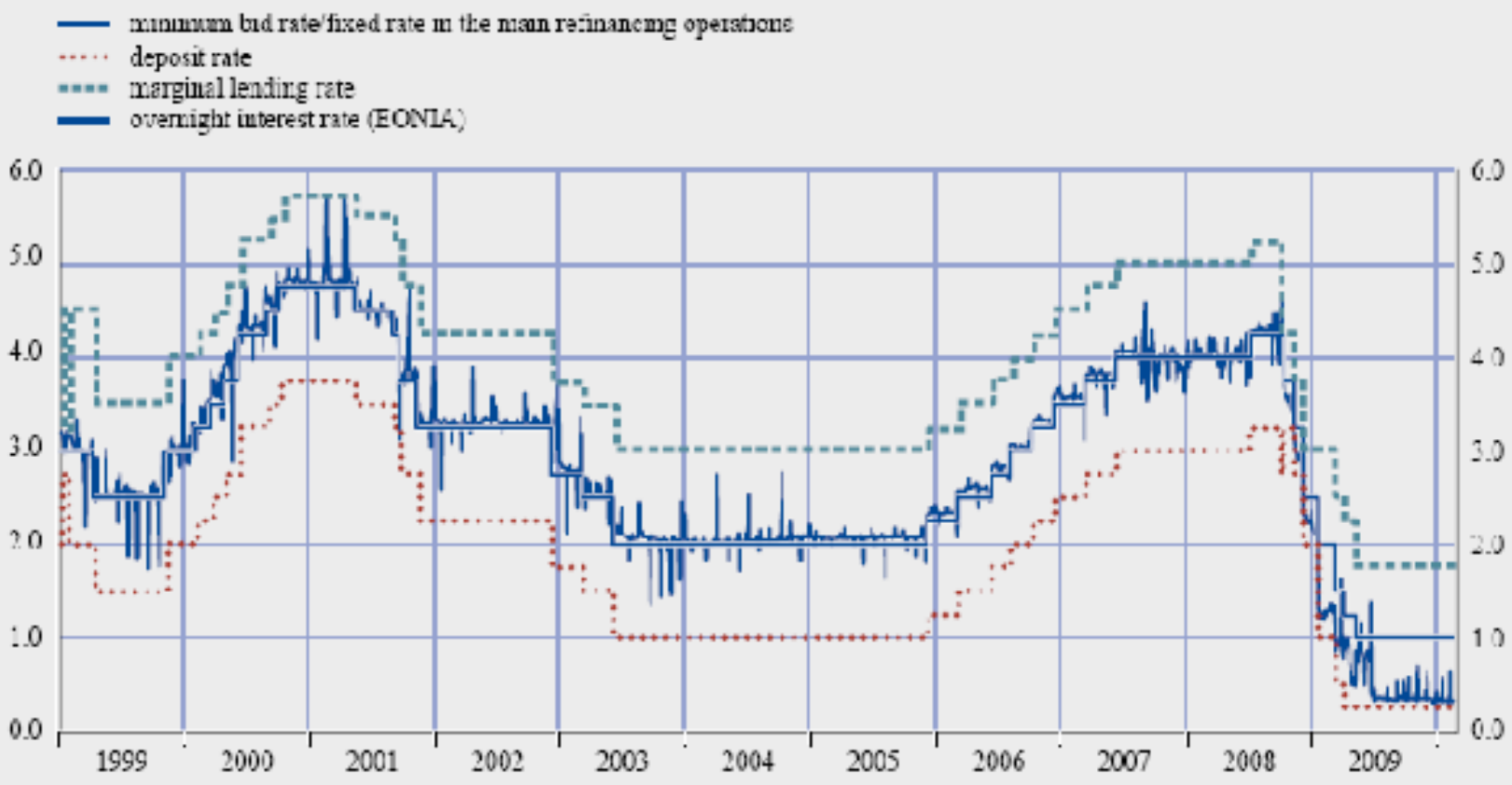
Instability of money aggregates posed no problem



Interest rates were "controlled" to perfection (ECB)

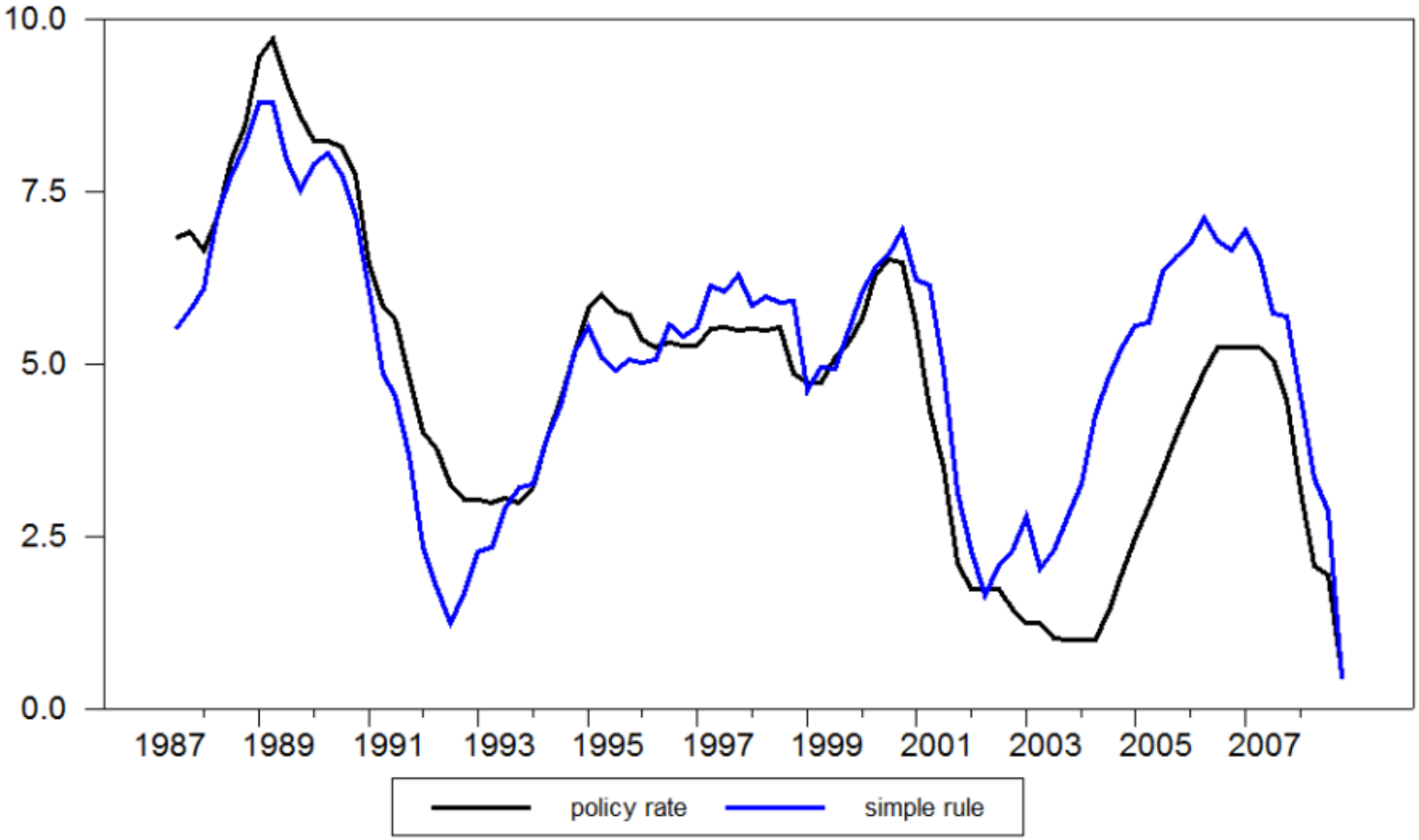
Chart 1 ECB interest rates and money market rates

(percentages per annum; daily data)



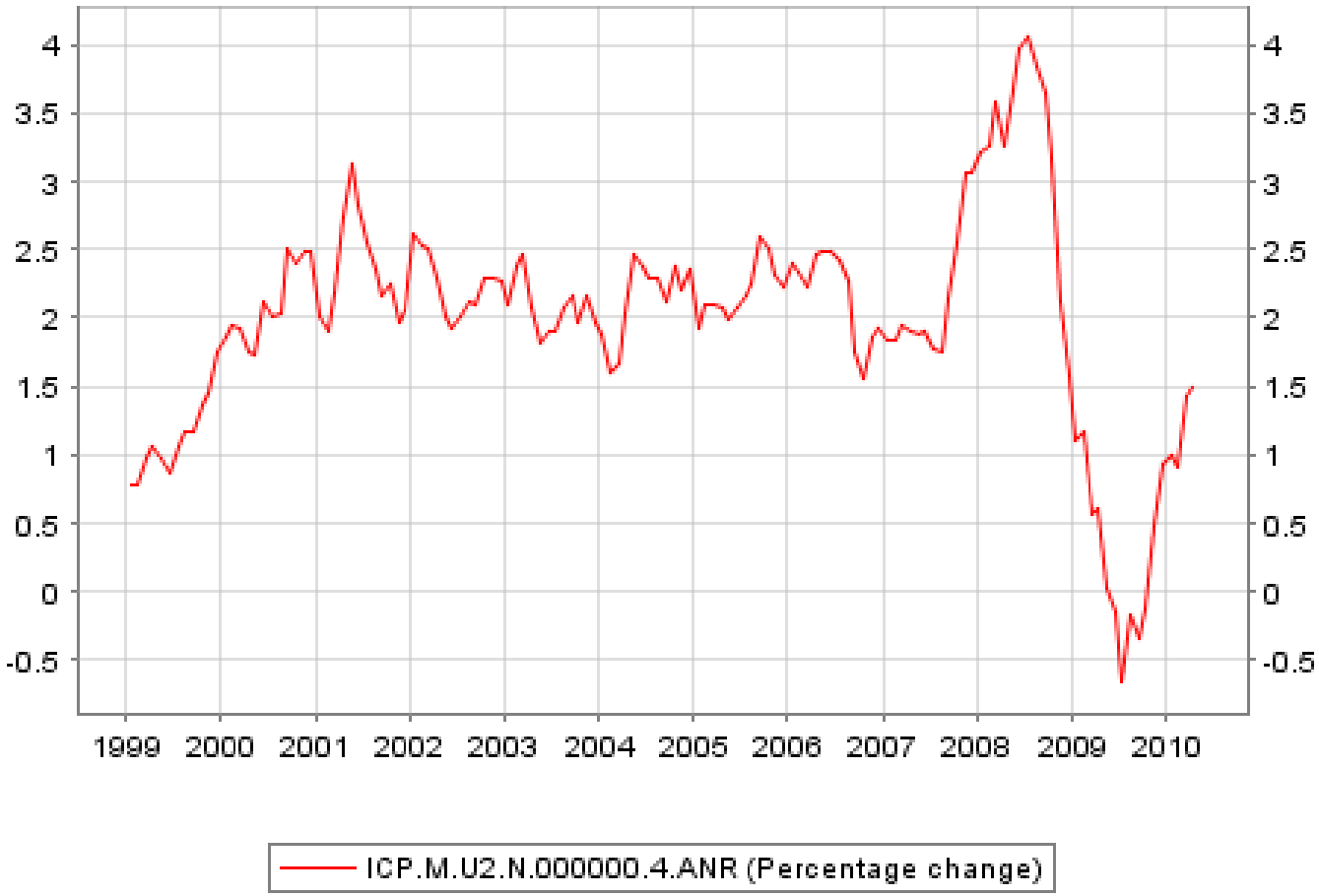
Source: ECB.
Note. The last observation relates to 26 February 2010.

The Taylor rule seemed to work quite well (USA)



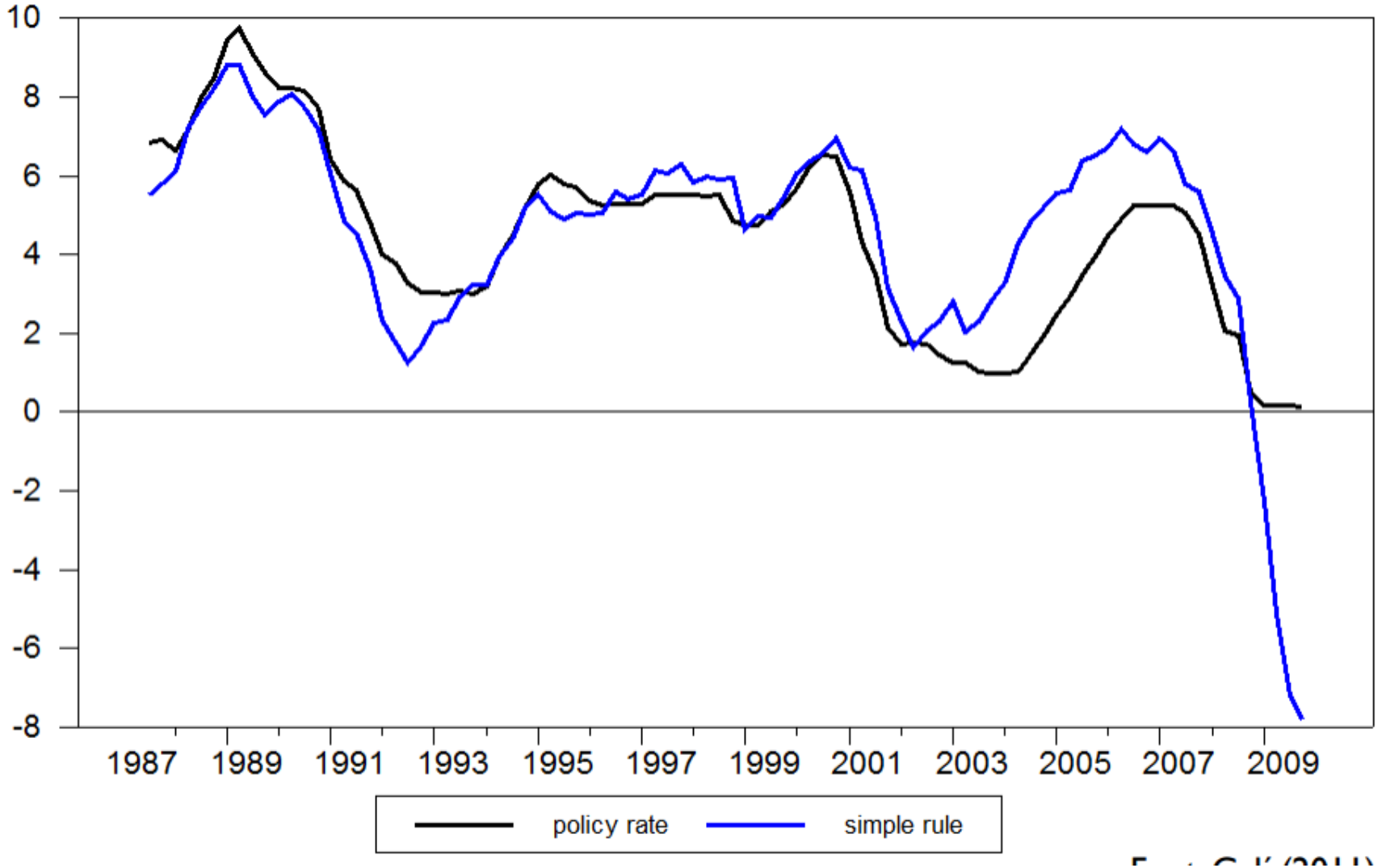
II – After the "Great Recession" ... modern Macro looks just ... bad

Price stability: what stability?

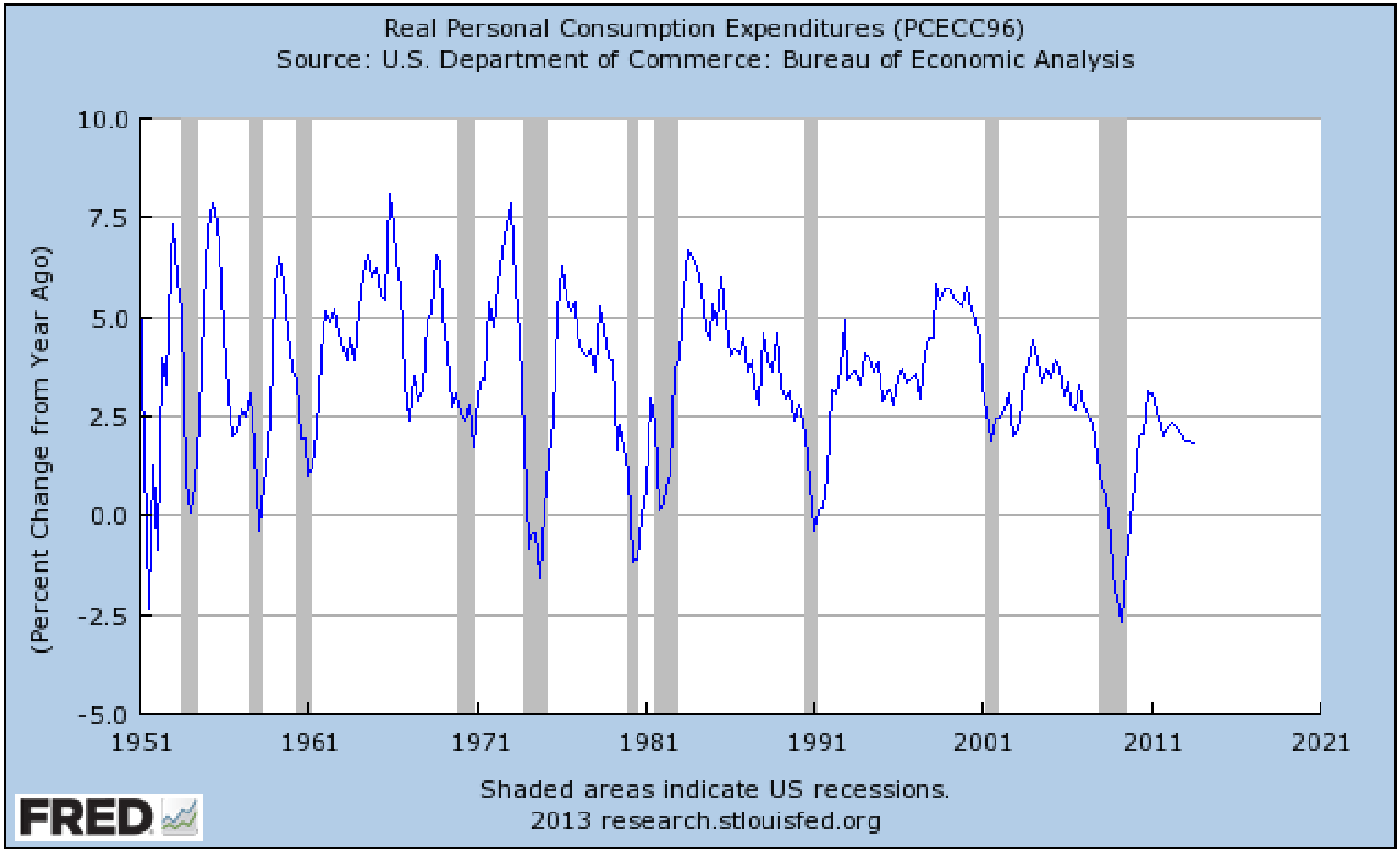


Rules, what rules?

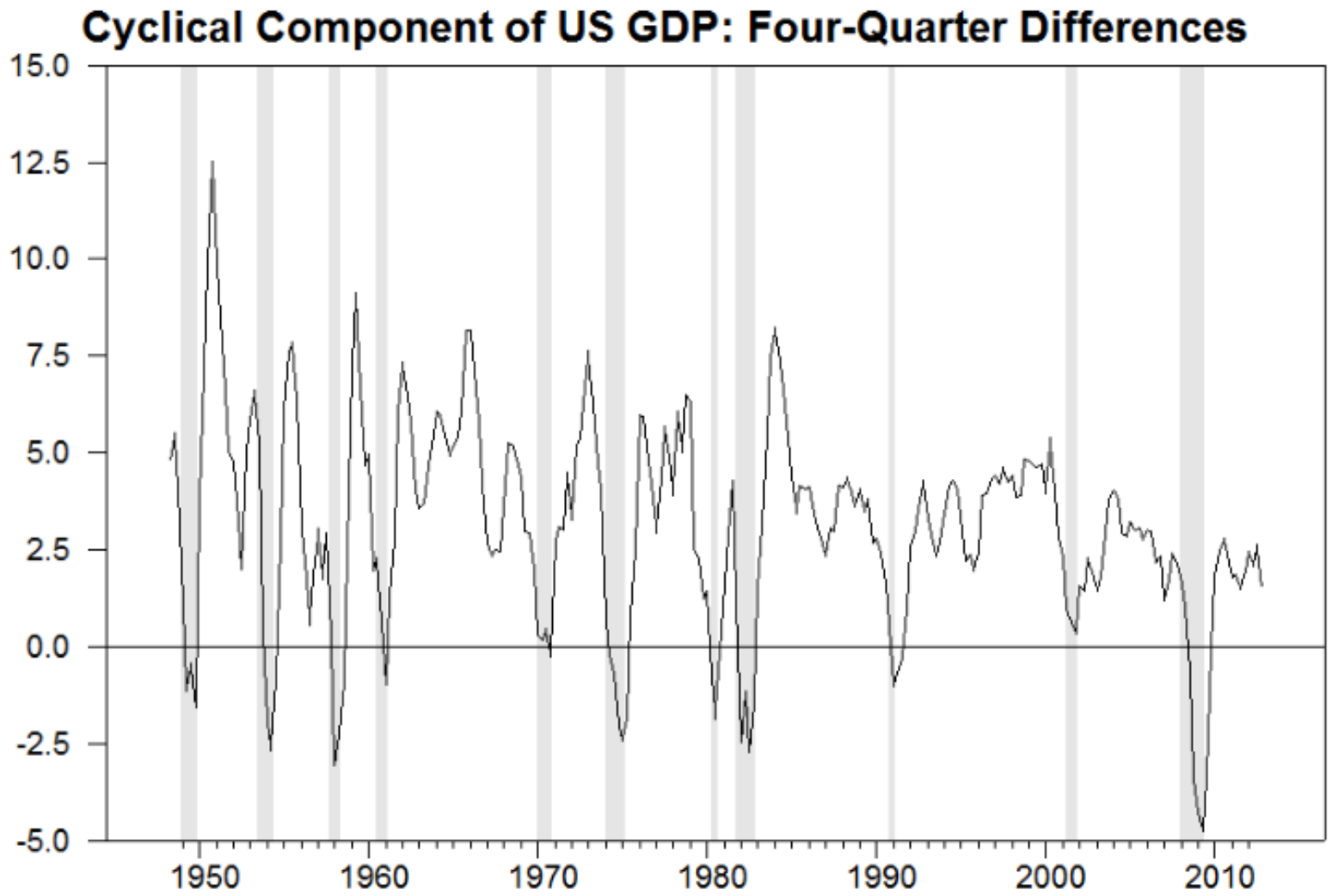
The Taylor rule goes down the floor



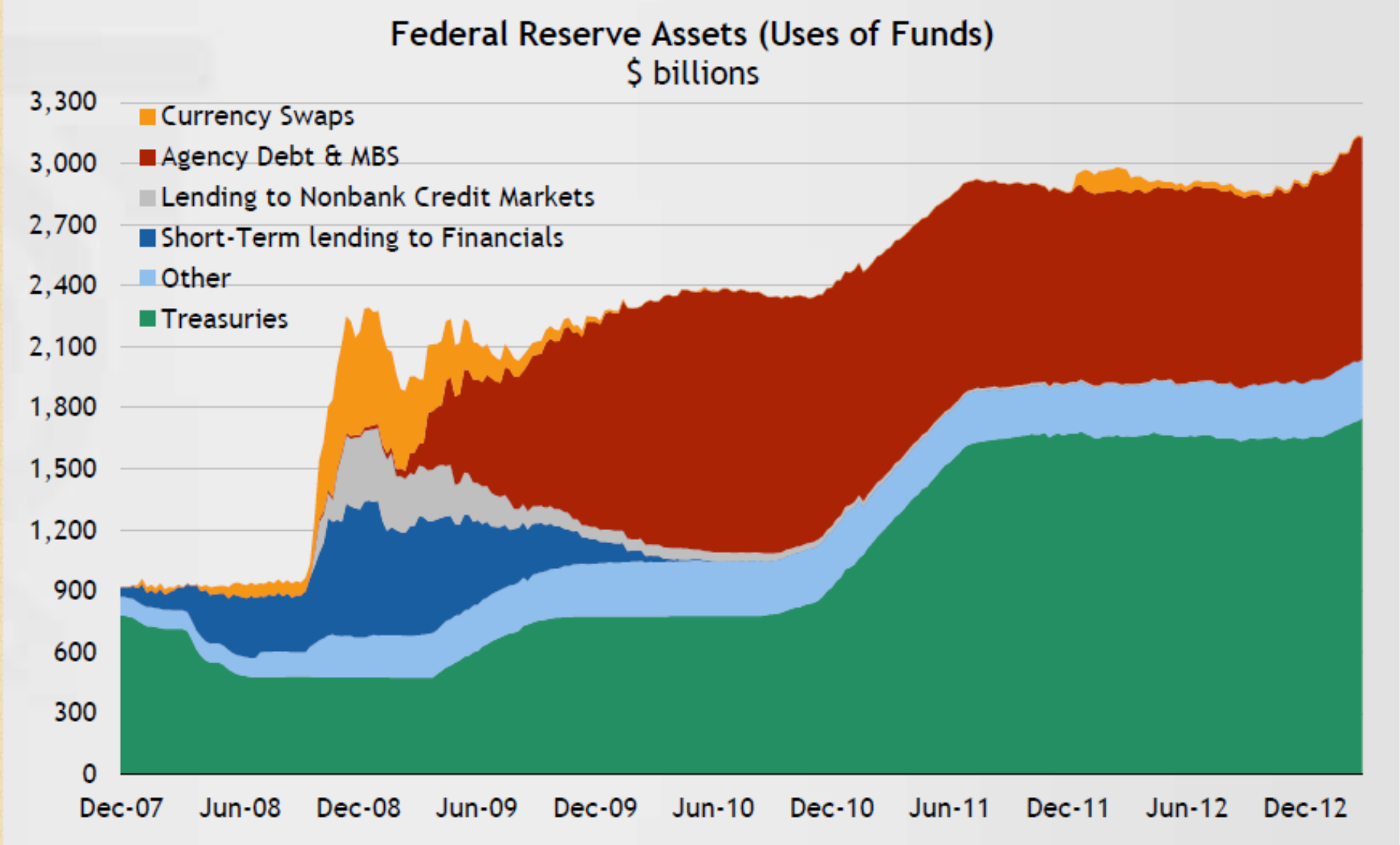
Consumption (80% GDP) dives deeper than never before since the 1930's



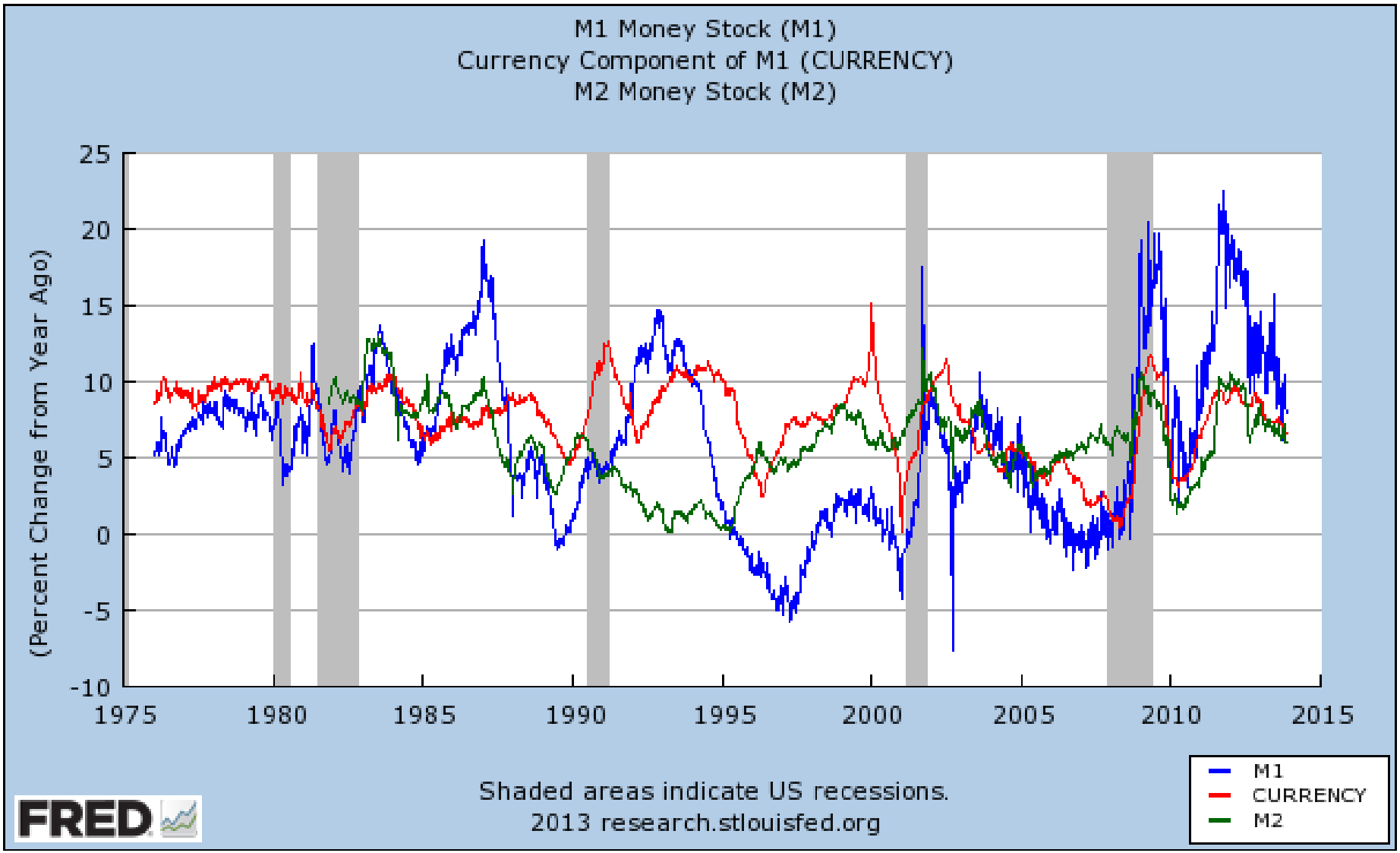
Output dives deeper than never before since the 1930's



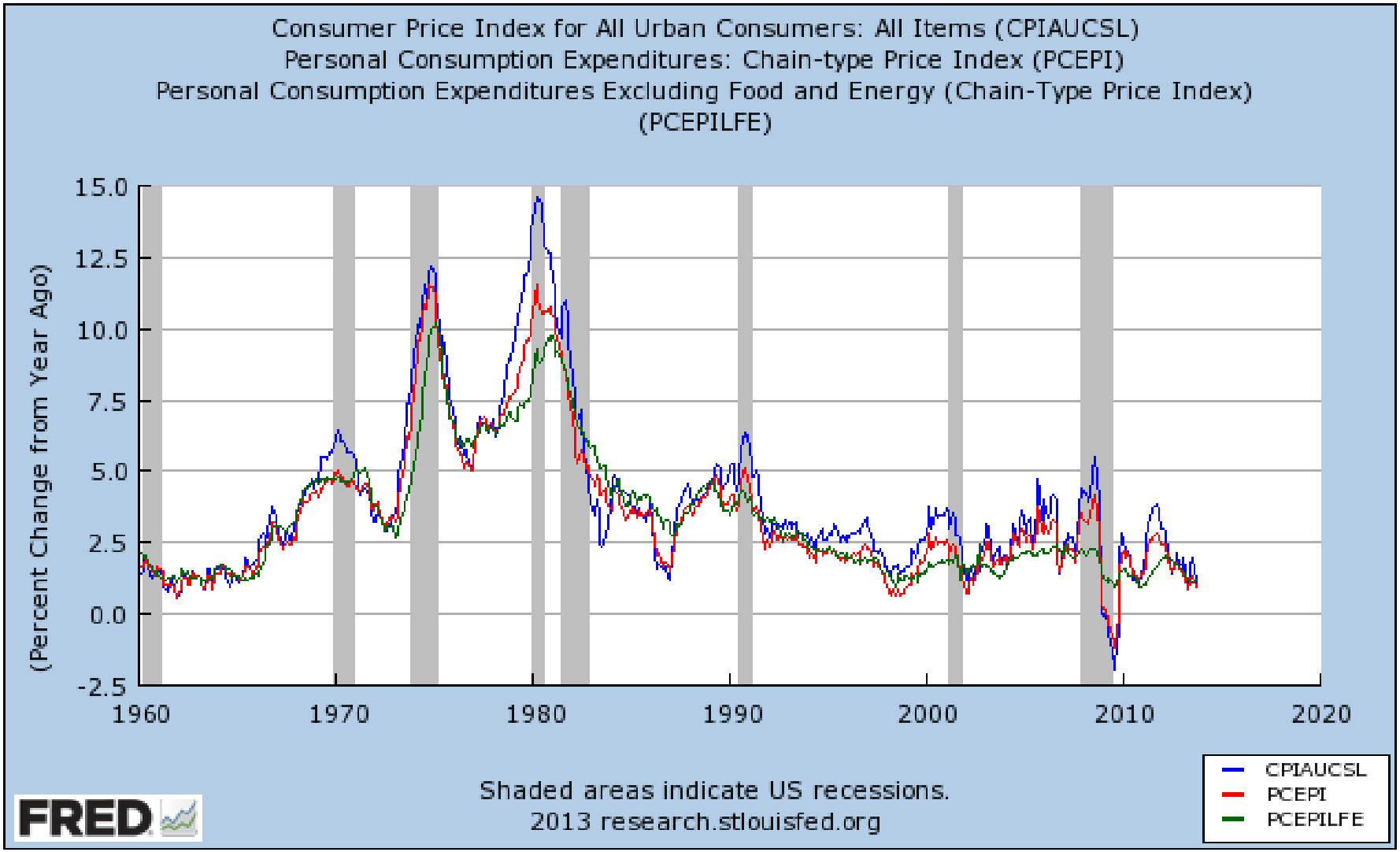
Monetary policy ... becomes crazy



Monetary aggregates reacting accordingly



Hyperinflation: no sight of it

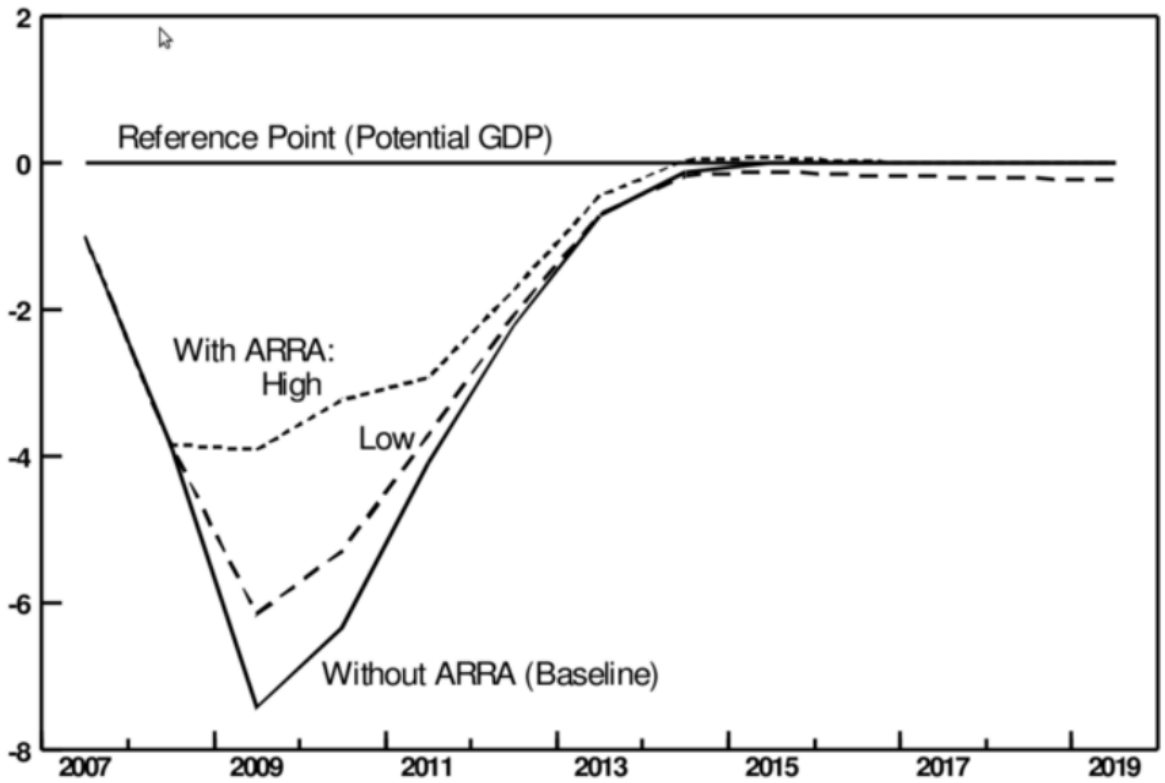


Obama big fiscal countercyclical plan

American Recovery and Reinvestment Act of 2009 (ARRA): $831 billion between 2009 and 2019

Figure 1. Difference Between Potential GDP in CBO's Baseline and Actual GDP Without and With the Impact of the American Recovery and Reinvestment Act of 2009

(Percentage difference in the fourth quarter of each year)



Source: Congressional Budget Office.

II – Some problems that we can not ignore

A set of issues that modern macro can't ignore

1. The Liquidity Trap (Zero Lower Bound on interest rates): normal macro stops here
2. Should central banks target stock prices as well?
3. Inflation targeting: 2% or 4%?
4. Should central banks really be independent? What about accountability?
5. What does really cause inflation? Is it mainly a monetary phenomenon as the monetarists call for? How does it react to stimuli in the ZLB?
6. What about Expectations? Rational expectations: does it have any relevance at all?
7. Is the fundamental equation of the NKM (the AS function) a good tool to describe how inflation behaves?

Problems in the AS function

1. There have been two major problems in the NK AS function
2. Remember that the NK Phillips Curve is given by

$$\pi_t = \beta \cdot E_t \pi_{t+1} + \lambda x_t + v_t$$

3. **Inflation persistence**: the NKPC is very poor in replicating the persistence we find in the data
4. Something like

$$\pi_t = \beta \cdot E_t \pi_{t+1} + \theta \pi_{t-1} + \lambda x_t + v_t$$

performs much better

5. **Wrong causality sign**. Wen we estimate

$$\pi_t = \beta \cdot E_t \pi_{t+1} + \lambda x_t + v_t$$

strangely λ comes out negative, while theory tells us it should be positive.

Why does the sign comes out negative? Very simple

1. Start with the NK Phillips Curve without the shocks in

$$\pi_t = \beta \cdot E_t \pi_{t+1} + \lambda x_t$$

2. Remove $E_t \pi_{t+1}$as follows. The **forecasting error** can be written as

$$\epsilon_{t+1} = \pi_{t+1} - E_t \pi_{t+1}$$

which implies that

$$E_t \pi_{t+1} = \pi_{t+1} - \epsilon_{t+1}$$

3. Inserting this result into the first eq. above leads to

$$\pi_t = \beta \cdot (\pi_{t+1} - \epsilon_{t+1}) + \lambda x_t$$

4. Assuming (for simplicity) that $\beta = 1$ (no big deal as β is in fact very close to 1), the previous eq. can be written as

$$\pi_{t+1} - \pi_t = -\lambda x_t + \epsilon_{t+1}$$

5. Funny: inflation goes down in a boom. V**ery counterintuitive indeed**

Gali and Gertler come to the rescue

Jordi Gali and Mark Gertler (2000). "Inflation Dynamics: A Structural Econometric Analysis," NBER Working Papers 7551, National Bureau of Economic Research, Mass.

1. In this paper the authors claim that the original NKPC uses the output gap as a proxy for real marginal cost (it is difficult to measure real marginal cost, it is much easier to get data for the output gap).
2. However, output gap is not a trusted source of data (well this may be quite a good point).
3. They argue that if a different proxy is used — unit labor costs or the labor share in total output (s_t) — the problem of the wrong sign disappears

$$\pi_t = \beta \cdot E_t \pi_{t+1} + \lambda s_t$$

4. The sign for λ now comes out positive.
5. Problem solved? Not at all. See next.

Gali and Gertler solution has serious problems

Jeremy Rudd and Karl Whelan (2007). "Modeling Inflation Dynamics: A Critical Review of Recent Research," Journal of Money, Credit and Banking, 39(1), 155-170

Sandeep Mazumder (2010). "The New Keynesian Phillips Curve and the Cyclicality of Marginal Cost," Journal of Macroeconomics, 32(3), 747-765.

1. These two papers show that the solution by Gali and Gertler is suspicious
2. The labor share in total income is .... **countercyclical**
3. The solution by Gali and Gertler ends up being an empirical trick, which continues to violate the spirit of the original theoretical proposition.
4. **Problem still unsolved**. May it have anything to do with "countercyclical mark-up rates"?

That's all.

Thank you for coming, hope you enjoyed this course.

I tried to make it as "modern" as possible, as "balanced" as possible, and I tried to be as "neutral" as possible.

Thank you.