

Inflation, Deflation, Debt, and the Euro

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Fiscal theory



$$\# \text{ Shares} \times \text{Price} = \text{Expected discounted dividends}$$



$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price level}} = \text{Expected discounted surpluses}$$

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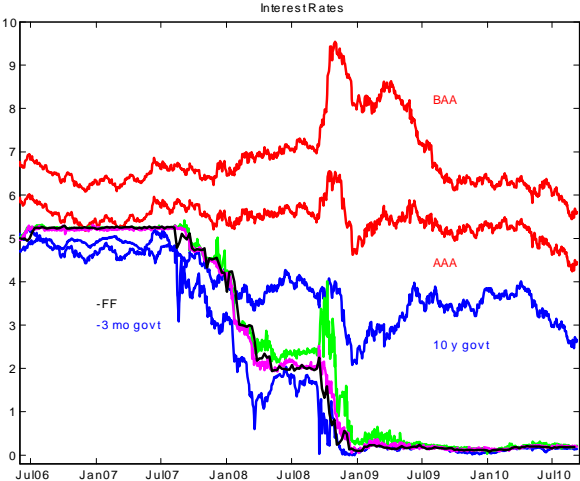
$$(\text{Money} + \text{Deposits}) \times \text{Velocity} = \text{Price} \times \text{Income}$$

Classic doctrines

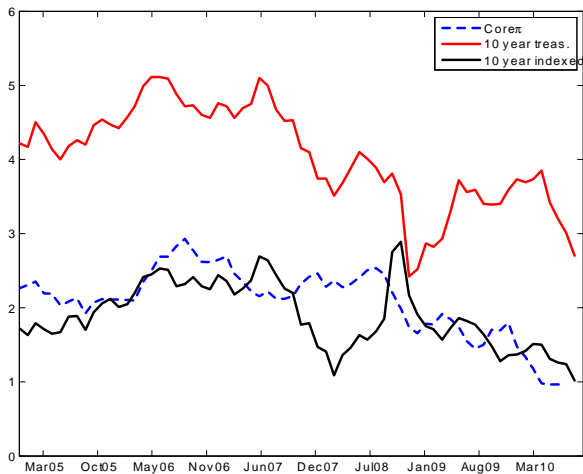
$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price level}} = \text{Expected discounted surpluses}$$

- ▶ Money vs. Debt?
- ▶ Inside vs. outside?
- ▶ Real bills, peg rates, “provide liquidity.”
- ▶ Central bank can still set rates.
- ▶ Central bank can alter the *timing* of inflation
- ▶ Deficits and inflation.

Interest rates 06-10



Long rates, TIPS, inflation and expected inflation

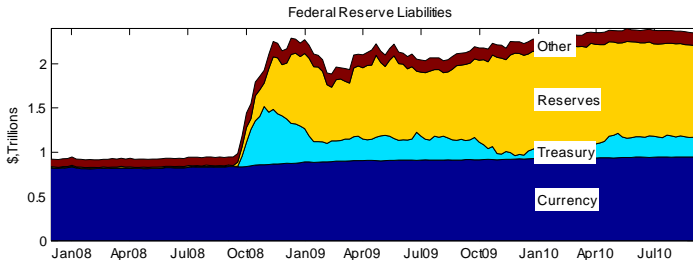
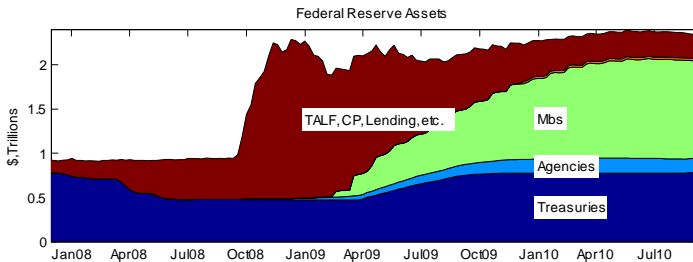


Fighting recessions and deflations

$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price level}} = \text{Expected discounted surpluses}$$

- ▶ Cause? *Discounted.*
- ▶ Tools?
 1. Rates = 0?
 2. Quantitative Easing I – short bonds.
 3. Quantitative Easing II – long bonds.
 4. Quantitative Easing III – private/government debt.
 5. Announcements: Desperation?

Quantitative easing I II III, Debt Operations



Announcements



COURTESY: GERALD R. FORD PRESIDENTIAL MUSEUM

Fighting recessions and deflations

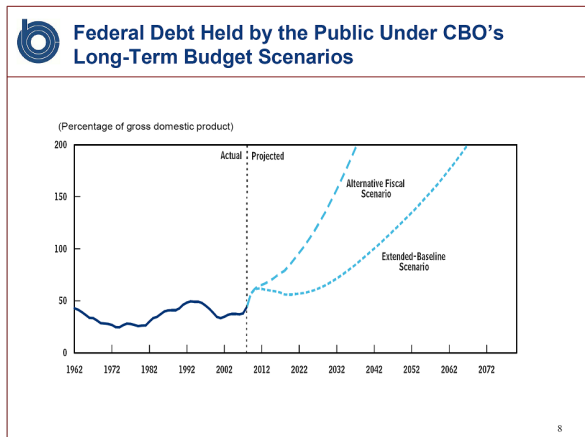
$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price level}} = \text{Expected discounted surpluses}$$

► New tools?

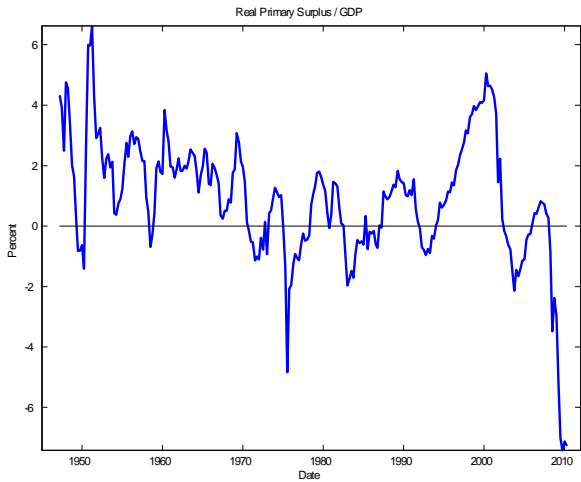
1. Helicopter drop?
2. Commodity standard?
3. CPI futures/TIPS spread?

Fighting inflation

$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price level}} = \text{Expected discounted surpluses}$$



Real primary surplus / GDP



Fighting inflation

$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price Level}} = \text{Expected discounted surpluses}$$

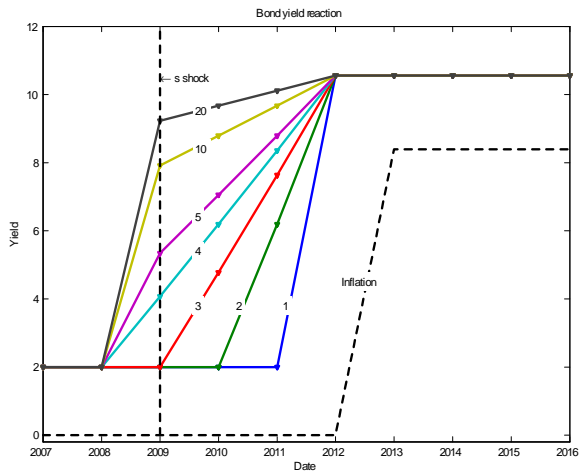
- ▶ “Unsustainable” long-run deficits
- ▶ Nominal credit guarantees (houses), government salaries, pensions, state/country bailouts: inflation reduces deficits.
- ▶ Present value Laffer curve: slow growth is the enemy.

$$PV_t = \int_{s=0}^{\infty} \frac{1}{e^{rs}} \tau Y_{t+s} e^{gs} ds = \frac{\tau Y_t}{r - g}$$

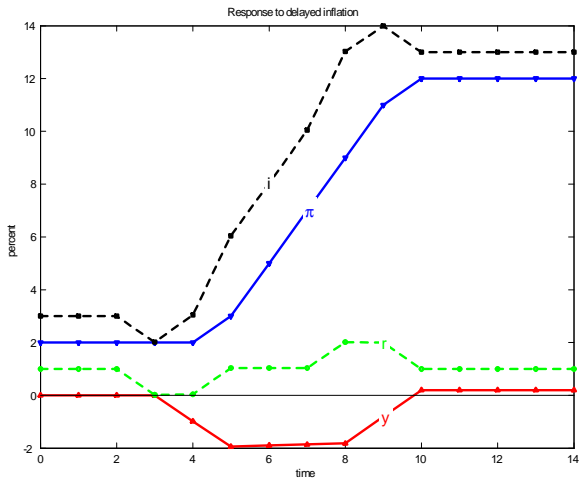
$$\frac{\partial \log PV}{\partial \log \tau} = 1 + \frac{\partial \log Y}{\partial \log \tau} + \frac{1}{r - g} \frac{\partial g}{\partial \log \tau}$$

- ▶ $\tau = 30 \rightarrow 35\% = 15\%$ reduction in Y .,
- ▶ $\tau = 30 \rightarrow 35\% = 0.3\%$ reduction in g !

Inflation scenario



Inflation scenario – New Keynesian model



Is the Fed Worried?

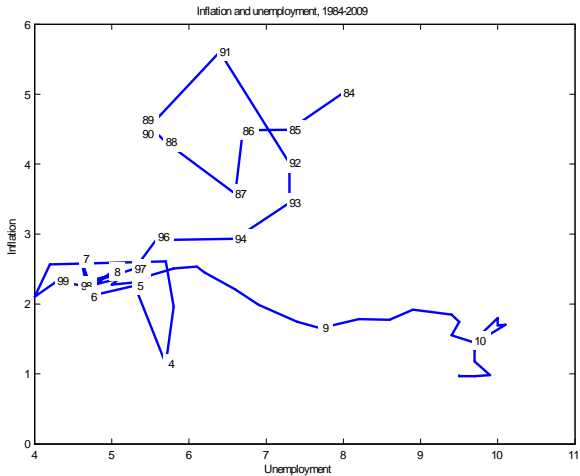
"Measures of underlying inflation have trended lower in recent quarters and, with substantial resource slack continuing to restrain cost pressures and longer-term inflation expectations stable, inflation is likely to be subdued for some time."

(FOMC August 10 2010)

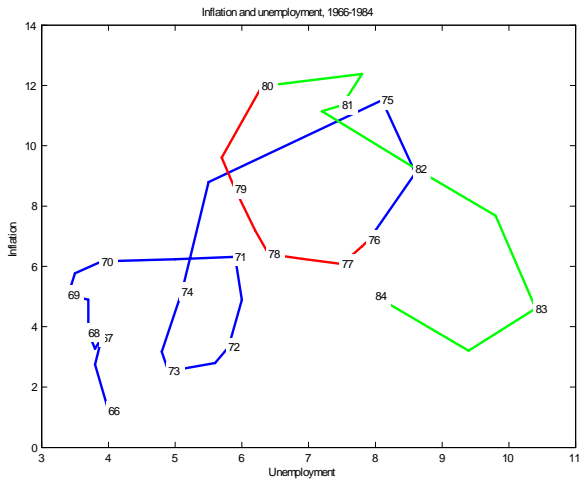
Fed view

Fed $r \rightarrow$ other $r \rightarrow$ "demand" \rightarrow "slack," "gaps" $\rightarrow \rightarrow$ inflation
Other shocks \nearrow expectations, costs \nearrow

Phillips curves don't work



Phillips curves don't work – 70s



- Inflation can break out despite “slack!”

Greece and Euro

$$\frac{\text{Money} + \text{Gov't Debt}}{\text{Price Level}} = \text{Expected discounted surpluses}$$

- ▶ Debt vs. Equity; inflation vs. default
- ▶ Currency union and fiscal union
- ▶ “Optimal currency area”
- ▶ Commitment to pay ex-post lets you borrow more ex-ante
- ▶ “Capital ratios” – long term debt
- ▶ “Government equity?”

More

“Fiscal theory of the price level”

1. “Understanding Policy”
2. “Money as Stock”
3. “Long Term Debt and Optimal Policy”
4. “Determinacy and Identification in New-Keynesian Models”
5. “A Frictionless view of US inflation”
6. Etc., Etc., Etc.

<http://faculty.ChicagoBooth.edu/john.cochrane/research/Papers/>