

Discussion of Justiano, Primiceri, and Tambalotti's

“Is There a Trade-Off Between Inflation and Output Stabilization?”

Framework

Small-scale DSGE model

- Differentiated intermediate products with prices $p(j)_t$
 - Prices are sticky
 - Degree of product differentiation is stochastic and time varying
- Differentiated labor with wages $w(j)_t$
 - Wages are sticky
 - Degree of labor differentiation is stochastic and time varying
- Two benchmark models with corresponding output levels
 - “Efficient”: flexible wages and prices, perfectly substitutable intermediate products and labor.
 - “Potential”: flexible wages and prices, no time variation in substitutable intermediate products and labor.

Some Empirical Results:

- $y_t^e - y_t^p$ is relatively small and doesn't vary too much
 - thus $(y_t - y_t^e)$ and $(y_t - y_t^p)$ are similar
- $y_t = y_t^p + (y_t - y_t^p)$... HP filtered versions ...

$$\circ \sigma_y^2 = \sigma_{y^p}^2 + \sigma_{(y-y^p)}^2 + 2\sigma_{y^p, (y-y^p)}$$

- $\sigma_{y^p} / \sigma_y \approx 1.1$
- $\sigma_{(y-y^p)} / \sigma_y \approx 0.85$
- $\rho_{y^p, (y-y^p)} \approx -0.5$

Monetary Policy Result from Benchmark Model:

- Welfare maximizing monetary policy yields
 - $y_t \approx y_t^p$ (so that $(y_t - y_t^p) \approx 0$)
 - $\Delta w_t \approx \text{constant}$
 - $\Delta p_t \approx$ “not too variable” (range from -2% to 4% (paar) over sample period)

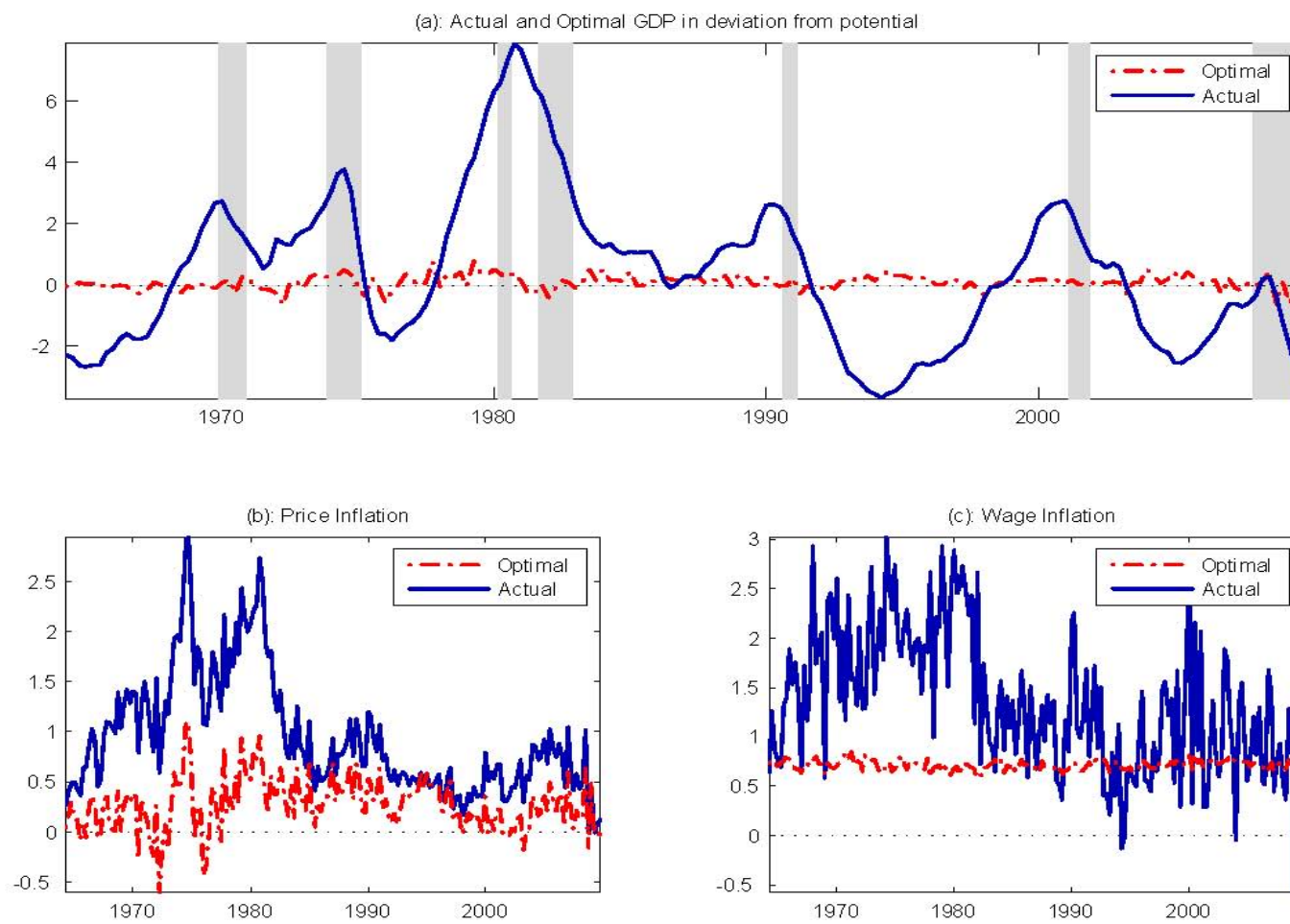


FIGURE 3. Optimal output, price and wage inflation in the baseline model.

This result depends critically on treatment of high-frequency variability in wage data

- Benchmark model treats this as noise
- Alternative model yields policy optimal $(y_t - y_t^p)$ that is quite variable (std deviation of 2-3%)
 - variability in wage inflation leads to inefficient composition of labor being used for production.

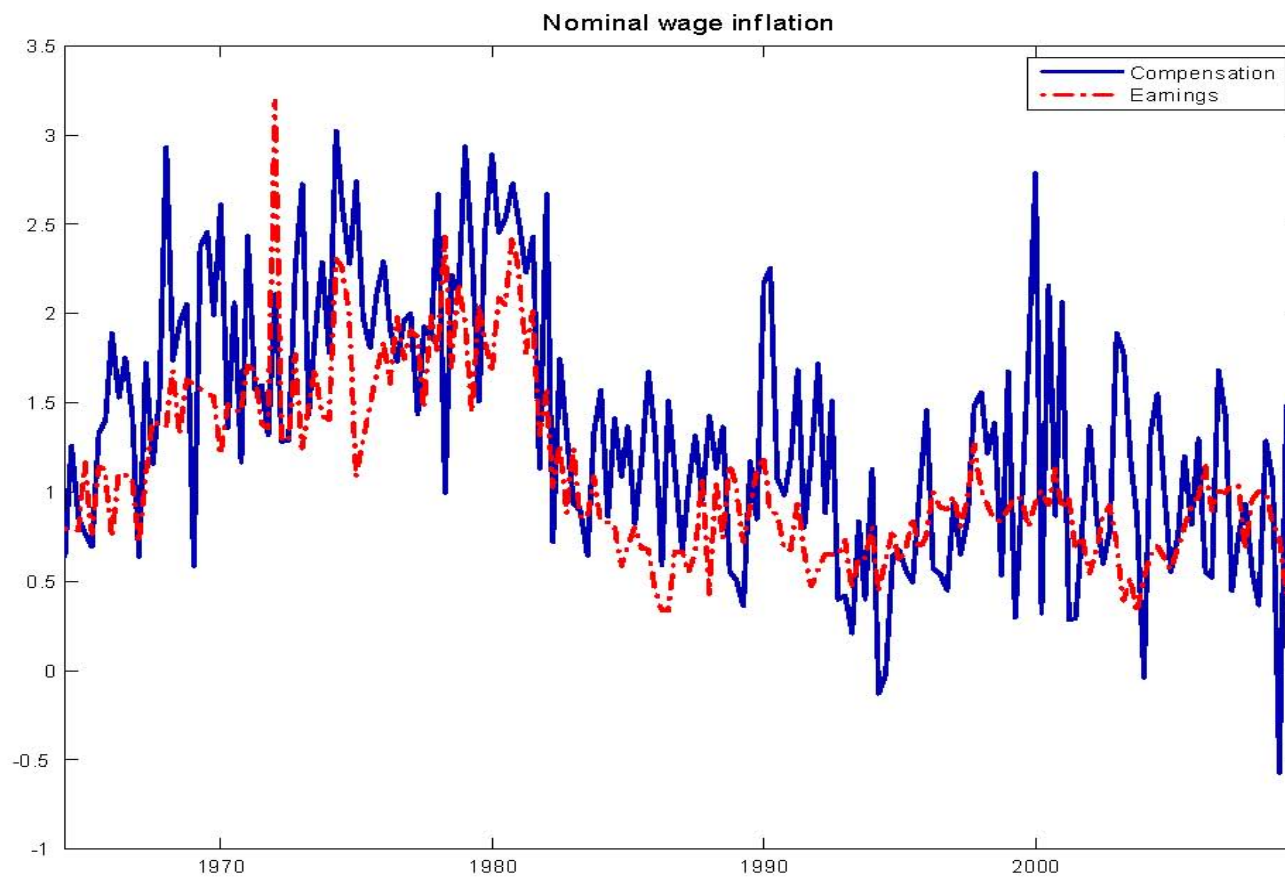


FIGURE 4. Two measures of nominal wage inflation.

Device used my JPT

$$\begin{bmatrix} \Delta w_{1t} \\ \Delta w_{2t} \end{bmatrix} = \begin{bmatrix} 1 \\ \lambda \end{bmatrix} \Delta w_t + \begin{bmatrix} e_{1t} \\ e_{2t} \end{bmatrix}$$

Sargent (1989), Boivin and Giannoni (2010)

$$\hat{\sigma}_{e_1} = 2.2\% \text{ and } \hat{\sigma}_{e_2} / \hat{\lambda} = 1.6\% \text{ (paar)}$$

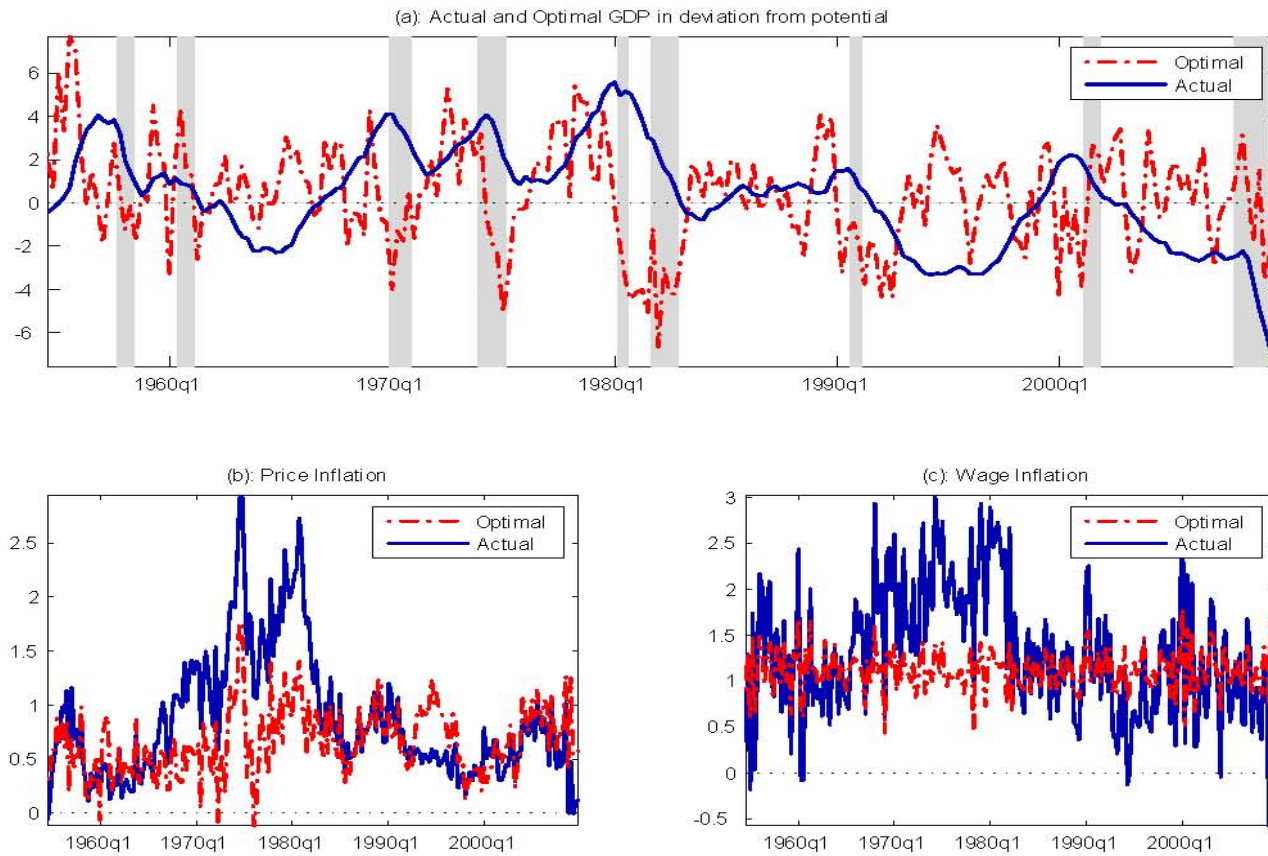
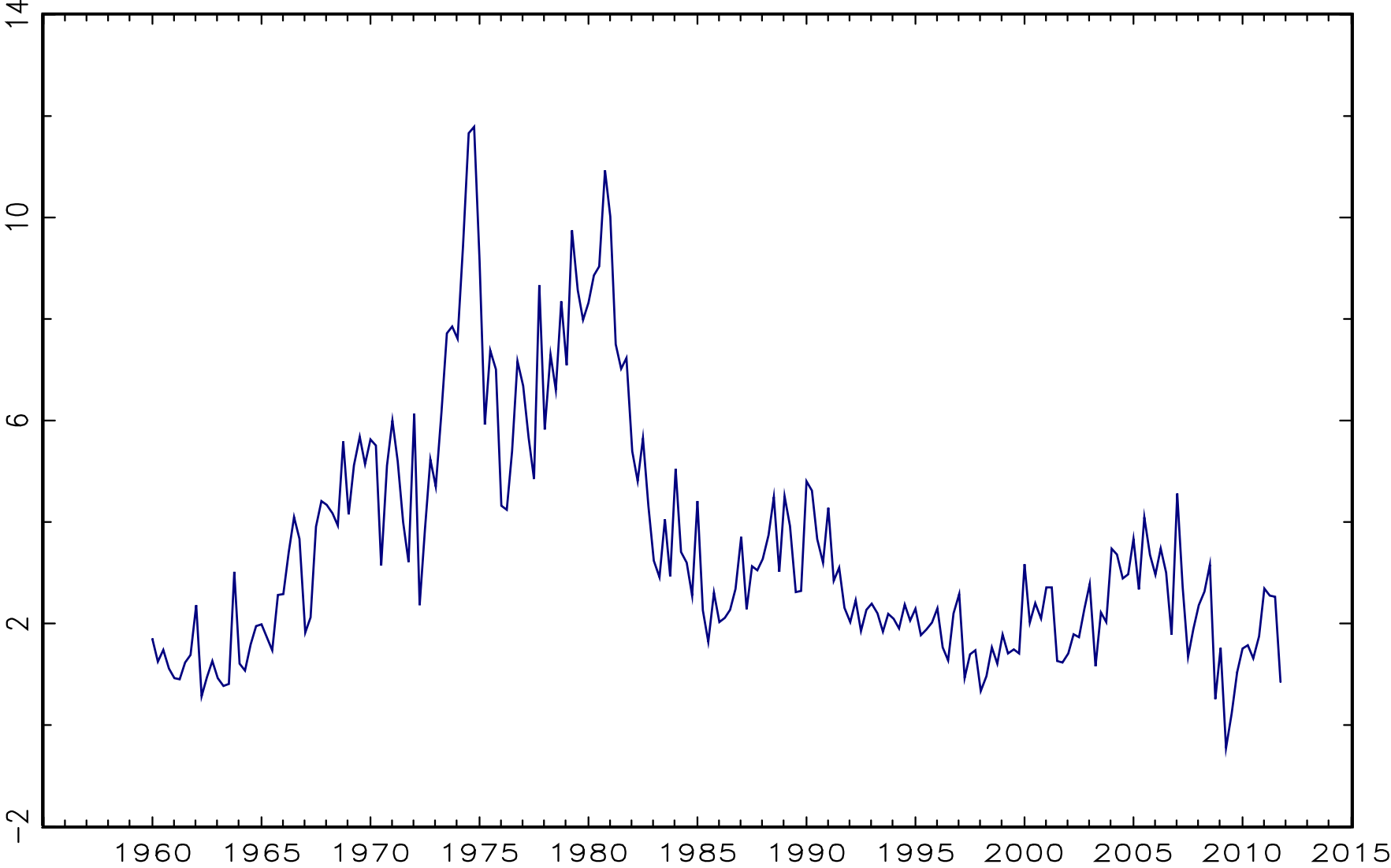
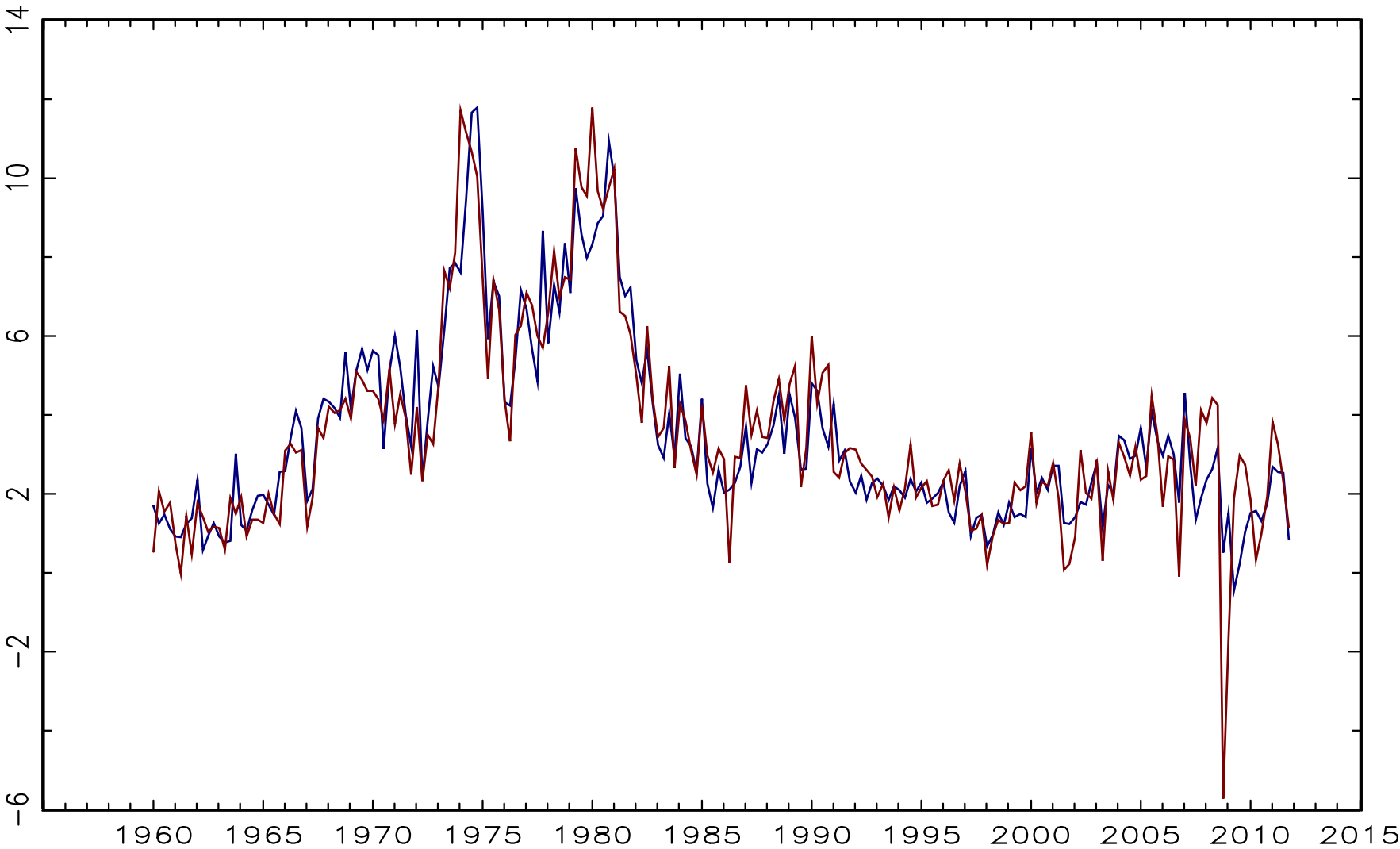


FIGURE 5. Optimal output, price and wage inflation, in the model with only one observable wage series (compensation).

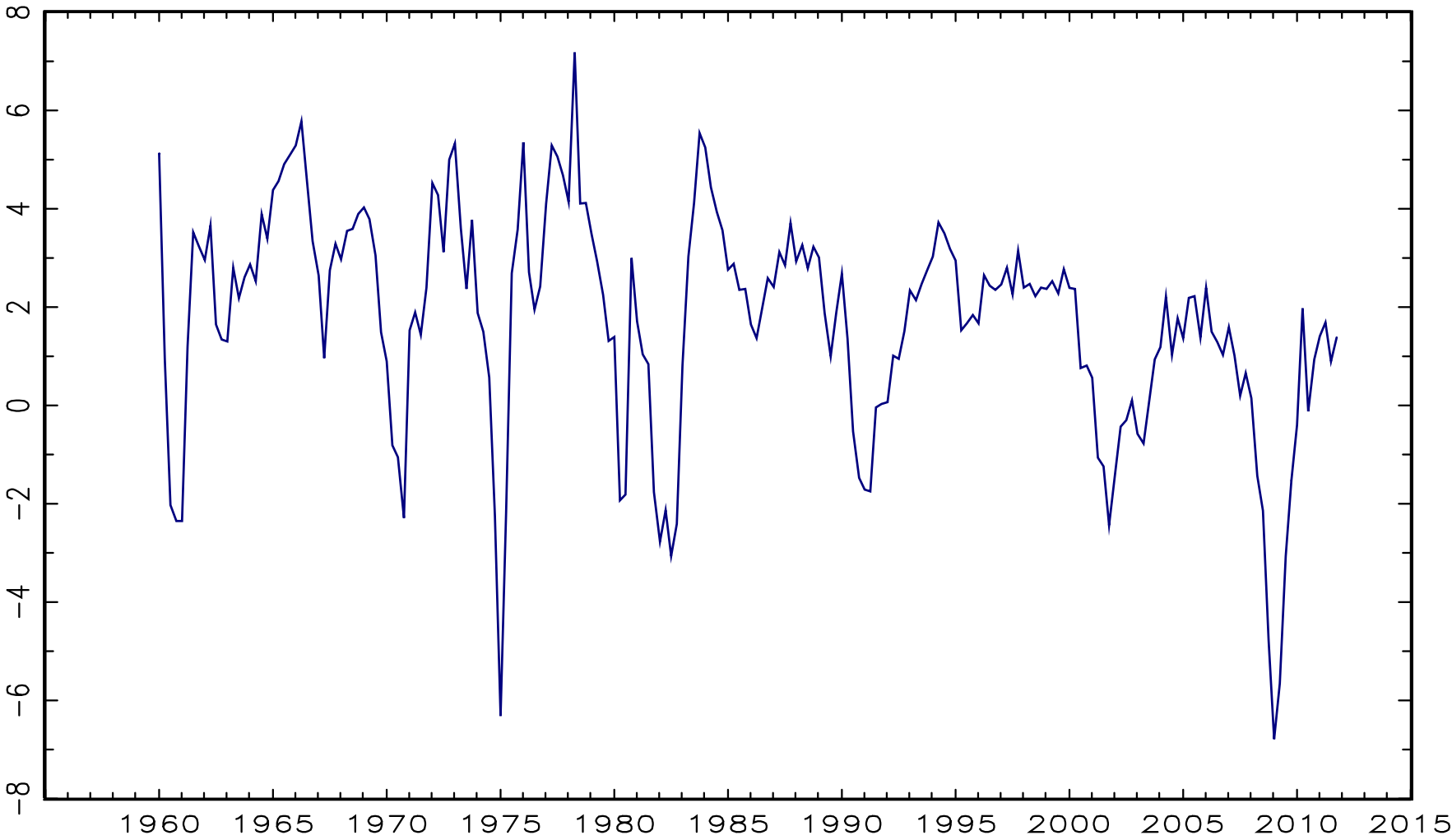
GDP Price Inflation



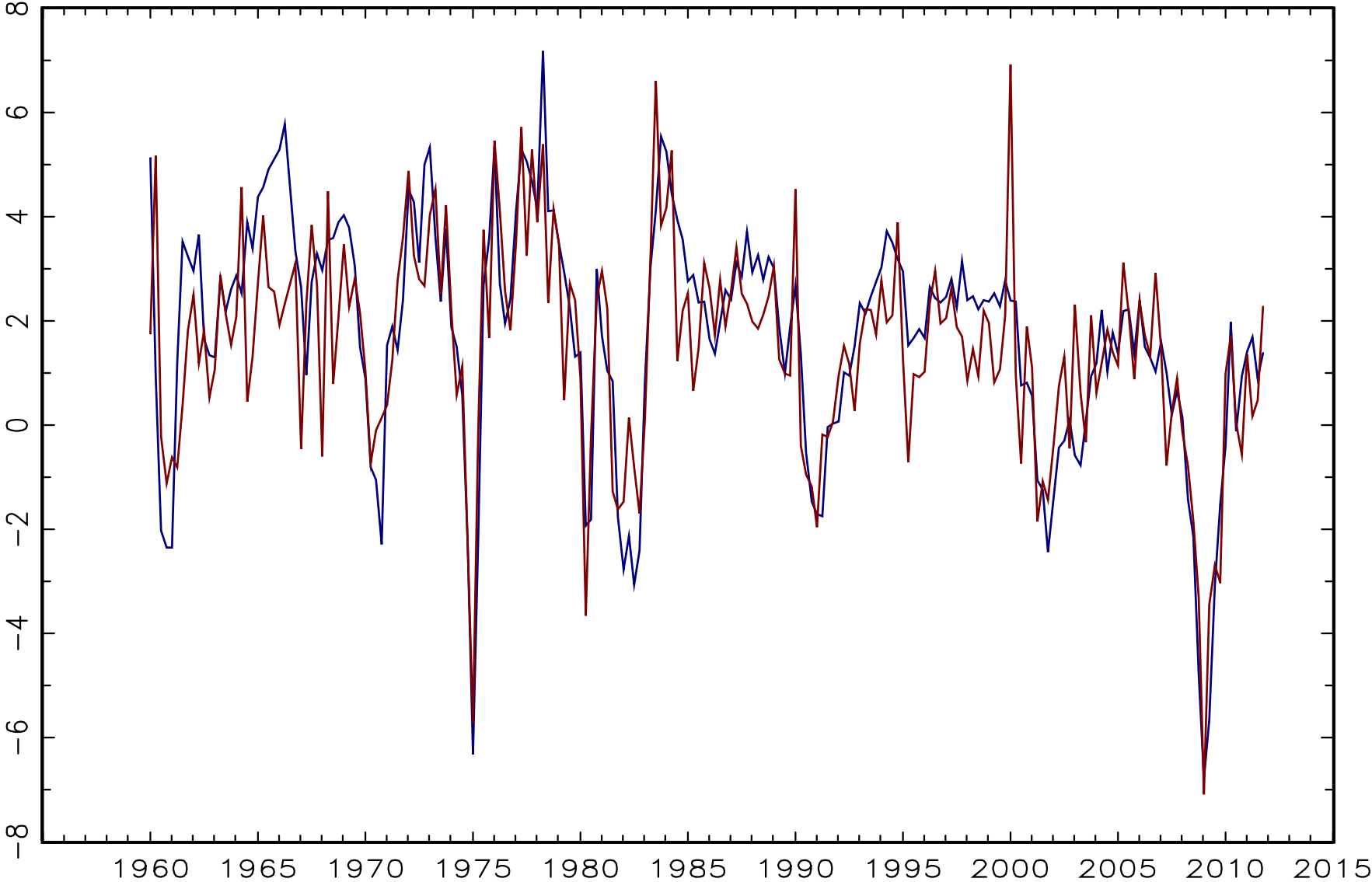
GDP Price Inflation and PCE Inflation



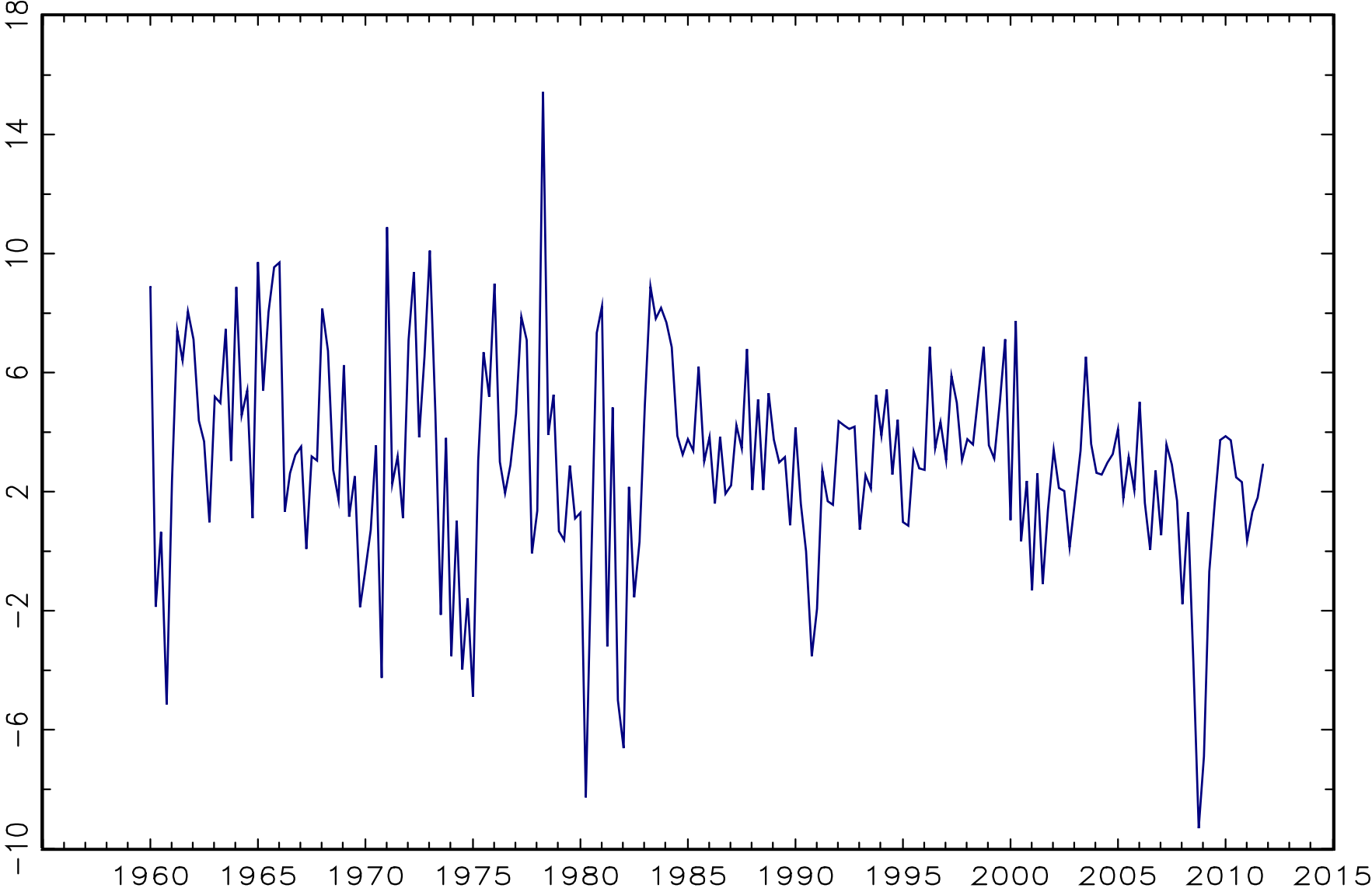
Payroll Employment



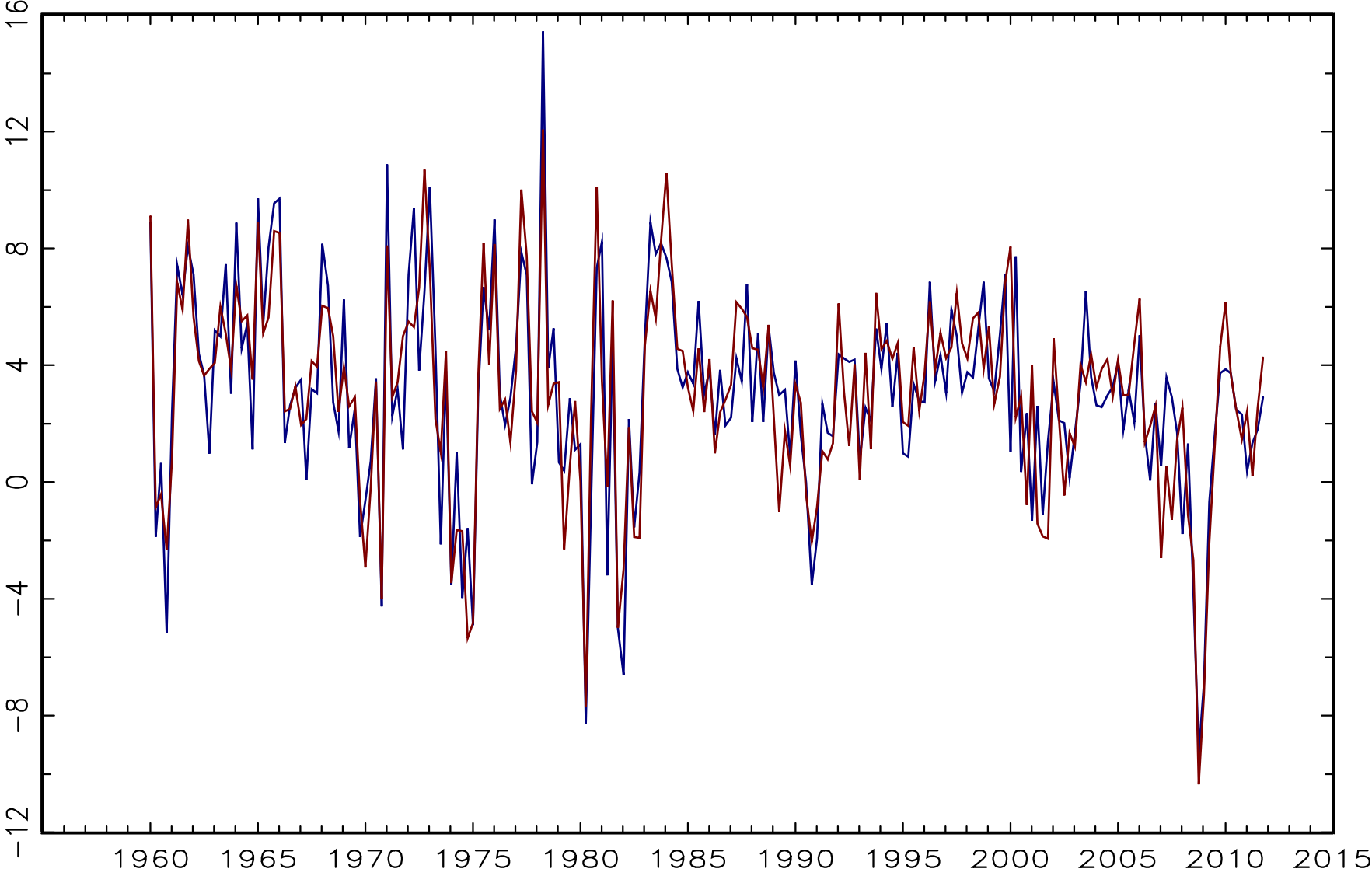
Payroll and Household Employment



Real GDP



Real GDP and Real GDI



A Lesson from JPT:

Fragility of policy advice coming from this type of DSGE model