

Counterfactuals from SVARs - Questions

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1 What we have done so far:

1. Recovered structural shocks from our identified VAR
2. Used them together with the impulse responses to generate what Kilian calls “cumulative contribution of a shock j ” to TFP. These are historical decompositions of TFP in the sense that, relative to the trend of our TFP series, we can see the percent deviations caused by the shocks - together with the responses to them - in our sample. Mathematically, the cumulative effect of a shock j on TFP is:

$$\hat{y}_{TFP,t}^j = \sum_{i=0}^{t-1} B(L)^i A s_{j,t-i} \quad (1)$$

where $j = \{IT, news\}$ and s is the structural shock. Then, the overall cumulative effect of all shocks is

$$\hat{y}_{TFP,t} = \sum_{j=IT,news} \hat{y}_{TFP,t}^j \quad (2)$$

3. The object we’re interested in is

$$TFP - f(\hat{y}_{TFP,t}^{IT}) \quad (3)$$

and our question is: what is f ?

In other words: the problem comes from the fact that $\hat{y}_{TFP,t}^{IT}$ is in percentage deviations from the trend of TFP. What we’re interested in, however, is how TFP would have evolved (in levels) absent the shocks to IT starting in 2000-Q3.