BANK FOR INTERNATIONAL SETTLEMENTS

Comments on *"A Model of the Fed's View on Inflation"* by Thomas Hasenzagl, Filippo Pellegrino, Lucrezia Reichlin and Giovanni Ricco

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The views expressed are my own and do not necessarily reflect those of the BIS

The Hasenzagl et al paper: A nice review of the literature and presentation of new empirical work

- Support for the "Fed view" of three factors driving inflation (a) Trend reflecting expectations; (b) the degree of economic slack; and (c) independent oil price component
- Phillips curve is well identified; though CPI inflation also has cycle unrelated to real variables capturing correlation of inflation expectations and oil prices.
- Trend inflation captured by SPF expectations which are unbiased, while University of Michigan consumer expectations are not.
- The Phillips curve trade-off is "only a small component of inflation dynamics"; "disentangling Phillips curve from oil cycle" can explain many inflation puzzles.
- Ability of central bank to anchor expectations is limited … because oil can "persistently affect consumer expectations independently from the state of the real economy."

Some additional minor points/questions raised here

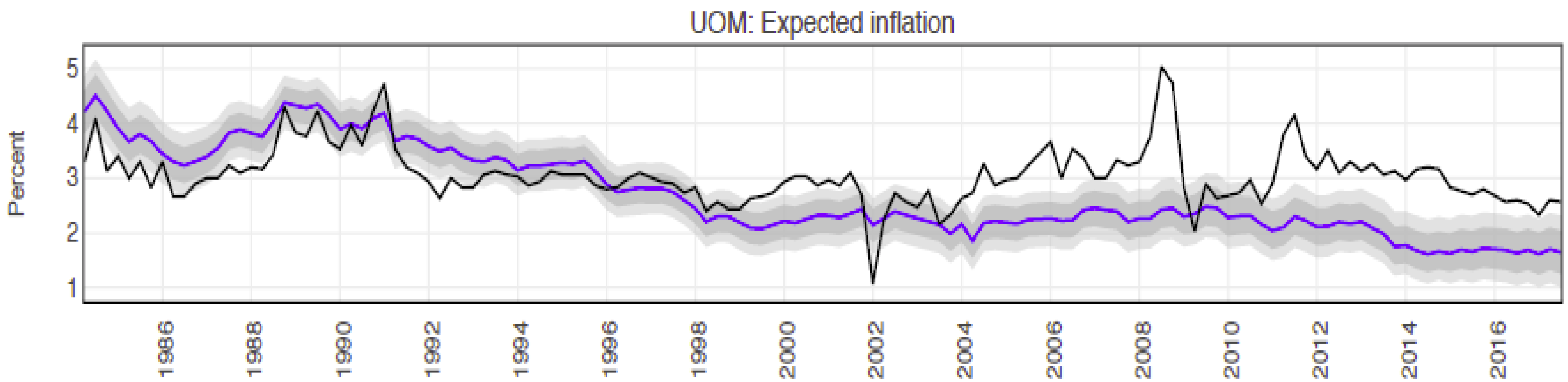
- The restrictions of the model
- Persistently too high household INF expectations?
- The high level of the model-based output gap
- Global factors?

Model of oil prices

$$\begin{pmatrix} u_t \\ y_t \\ oil_t \\ \pi_t \\ uom_t \\ spf_t \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 \\ \delta_y & 0 & 0 \\ 0 & 1 & 0 \\ \delta_\pi & \gamma_\pi & \phi_\pi \\ \delta_{uom,1} + \delta_{uom,2}L & \gamma_{uom} & \phi_{uom} \\ \delta_{spf,1} + \delta_{spf,2}L & \gamma_{spf} & \phi_{spf} \end{pmatrix} \begin{pmatrix} \psi_t^{PC} \\ \psi_t^{EP} \\ \mu_t^C \end{pmatrix} + \begin{pmatrix} \psi_t^u \\ \psi_t^y \\ \psi_t^{oil} \\ \psi_t^\pi \\ \psi_t^{uom} \\ \psi_t^{spf} \end{pmatrix} + \begin{pmatrix} \mu_t^u \\ \mu_t^y \\ \mu_t^{oil} \\ 0 \\ \mu_t^{uom} \\ \mu_t^{spf} \end{pmatrix} \quad (2)$$

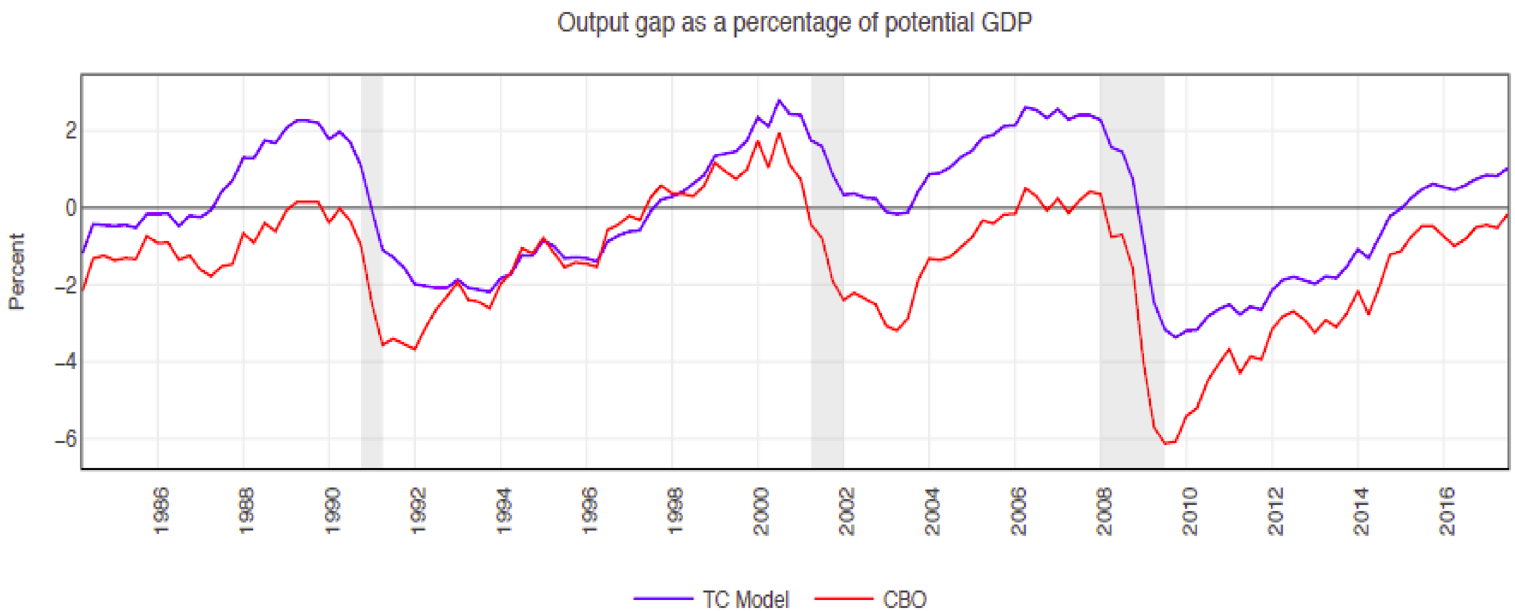
- The model's relation of economic activity and oil prices
- Possible to survey Fed views/statement about monetary policy and the underlying commodity cycle – to increase our comfort level with the restriction?

Household experience: Expected INF persistently too high



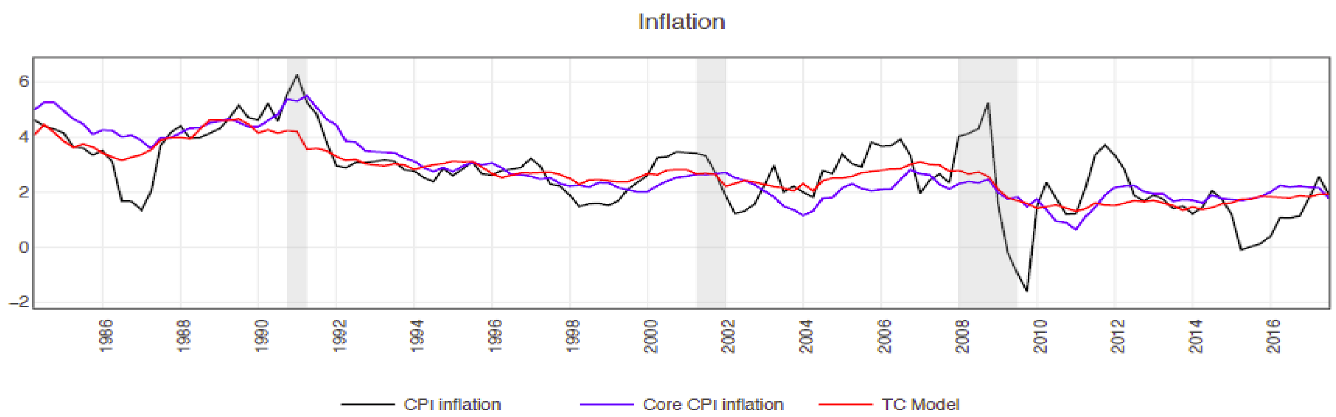
- Given that estimated common trend inflation (long-term expectations plus drift) seems relatively anchored ..
- .. why do surprises in oil prices should affect inflationary expectations for such a long time?
- Why is the feedback from actual inflation to expectations so weak as to not mitigate these large, persistent deviations?

The model-based output gap: representative of the Fed's view?



- The difference between the non-partisan CBO model and that emerging from the model is very large, consistently higher and with opposite signs for a large portion of the sample period.
- This suggests the Fed is consistently more optimistic than the CBO on the economy
- Do our observations of other Fed's output gap estimates– or quoted statements - show similar discrepancies?

Core CPI



- Model does not include core CPI, though model-implied measure can be estimated …
- Model's core CPI is consistently below actual in mid-1980s to mid-1990s, while model core CPI is consistently above actual in the 2000s. Any reasons that might be the case?
- Possible robustness check: possible to run the parts of the model with actual core CPI?

Global components to inflation

- Frequent explanation for inflation
  - Stylised fact that INF co-moves globally (Kearns (2016), many others)
  - Quantification of global determinants (BIS, 2016; Auer et al, 2017)
- Global factors can be incorporated into models of inflation with permanent (trend INF) and transitory (INF gap) components
  - Global shocks more important for INF gap than trend INF (Kamber and Wong, 2018)
  - Perhaps this finding is related to commodity price shocks
- Perhaps look at global factors as a robustness check?

Does the paper necessarily lead us to conclude that the Fed's management of expectations is all that important?

- "Managing expectations, we find, has a key role"
- Is another possible interpretation that managing some expectations is not all that important …
  - … for even when they (UOM) get completely out of whack for an extended period, actual inflation can remain well behaved?

Much to like about the paper

- Distinguishing between the trend, which presumably is what monetary policy credibility is about, and cyclical fluctuations.
- Beyond the trend, nice decomposition of drivers of inflation into that influenced by Philips curve vs. energy prices
- Useful spectral analysis: it is good to know which components are persistent, it helps CB communication a lot.

- It would be also useful to see a little more exploration of whether the implications of the model indeed correspond with other evidence of the Fed’s view.

References

- Auer, Raphael, Borio, Claudio, and Andrew Filardo. "The globalization of inflation: the growing importance of global value chains" BIS Working Papers No. 602, January 2017.
- Bank for International Settlements, 86th Annual Report, 2016.
- Kearns, Jonathan. "Global Inflation Forecasts" BIS Working Papers No. 582, September 2016.
- Kamber, Gunes and Benjamin Wong. "Global Factors and Trend Inflation" BIS Working Papers No. 688, January 2018.