EUROPEAN CENTRAL BANK

EUROSYSTEM

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What Does Anticipated Monetary Policy Do? Discussion of D´Amico and King

The Future of Forward Guidance
Stockholm, 11-12 May 2017

Assessment

- Very well and carefully written paper.
- Lots of reflections on the role of survey expectations in a NK model and a VAR.
- Smart identification scheme linked to a NK model with news.
- Extensive robustness checks with other time-series and other identification schemes.
- Highly relevant research question.

- I very much enjoyed reading!

Summary of results

- The effects of policy-expectations shocks are large.
  - A 2 bp decline in the one-year expected short rate leads to a 15-20 bp increase in GDP, CPI and hours.
- They are larger than unanticipated policy shocks.
  - An unanticipated decline of 10 bp in the short rate leads to a 15 bp increase in GDP and CPI.
- They are larger the further out they are in the future (corroborating model results).
  - A 1 bp decline in the 11-years expected short rate leads to a 25 bp increase in GDP, a 22 bp increase in CPI and a 28 bp increase in hours.
- These effects are significant and persistent.

The methodology

- Add survey expectations to an otherwise standard monetary-policy VAR.
- Identify policy-expectation shocks.
  - "Just as identifying a conventional monetary-policy shock requires capturing a deviation from the historical policy rule, identifying an *anticipated* monetary-policy shock requires capturing an *anticipated* deviation from the historical policy rule."
- A «two-in-one» VAR.

$$\begin{pmatrix} E_t^S\left[\mathbf{x}_{t+h}\right] \\ \mathbf{x}_t \end{pmatrix} = \boldsymbol{\theta}_0 + \boldsymbol{\Theta}(L) \begin{pmatrix} E_t^S\left[\mathbf{x}_{t+h}\right] \\ \mathbf{x}_t \end{pmatrix} + \begin{pmatrix} \mathbf{e}_{1,t} \\ \mathbf{e}_{2,t} \end{pmatrix}$$

- Tricky question: How to link these two parts of the VAR?

Do expectations belong into a VAR?

- «A VAR on $\mathbf{x}_t$ alone will produce omitted-variable bias with respect to Φ, as well as an estimated variance of the reduced-form errors that is too large.»
- «Indeed, in the presence of news, measures of expectations are required even if the researcher has no interest in the effects of news shocks themselves and only wishes to estimate the effects of the unanticipated structural shocks $\mathbf{u}_t$.»
- This assumes that macro variables are determined today by expectations of their future realisations.
  - Plausible for financial variables/asset prices.
  - Plausible for GDP and CPI as well? Expectations are formed by professional forecasters, not by the representative agent who is making the consumption and production decisions like in the model.

Somewhat rational expectations

- Rationality of responses to anticipated and unanticipated shocks is imposed.

$$\Gamma_{\eta}^{E^S[GDP]} = E_t\left[\frac{\partial GDP_{t+H}}{\partial \eta_t}\right], \quad \Gamma_{\eta}^{E^S[CPI]} = E_t\left[\frac{\partial CPI_{t+H}}{\partial \eta_t}\right], \quad \Gamma_{\eta}^{E^S[i]} = \frac{1}{H}\sum_{h=1}^{H} E_t\left[\frac{\partial i_{t+h}}{\partial \eta_t}\right]$$

$$\Gamma_{u}^{E^S[GDP]} = E_t\left[\frac{\partial GDP_{t+H}}{\partial u_t}\right], \quad \Gamma_{u}^{E^S[CPI]} = E_t\left[\frac{\partial CPI_{t+H}}{\partial u_t}\right], \quad \Gamma_{u}^{E^S[i]} = \frac{1}{H}\sum_{h=1}^{H} E_t\left[\frac{\partial i_{t+h}}{\partial u_t}\right]$$

- No rationality imposed on responses to other (non-identified) shocks.
- Coefficient restrictions from NK model are not imposed in the estimation.

$$\begin{pmatrix} E_t\left[\mathbf{x}_{t+1}\right] \\ \mathbf{x}_t \end{pmatrix} = \begin{pmatrix} \boldsymbol{\theta}_1 & \boldsymbol{\theta}_2 \\ \mathbf{I} & \mathbf{0} \end{pmatrix} \begin{pmatrix} E_{t-1}\left[\mathbf{x}_t\right] \\ \mathbf{x}_{t-1} \end{pmatrix} + \begin{pmatrix} \mathbf{e}_{1,t} \\ \mathbf{e}_{2,t} \end{pmatrix}$$

System seems to be overdetermined

- In response to an unanticipated policy shock expectations move and vice versa.
- No draws could be found where expectations do not move when the policy rate does.
- Scenarios to isolate the „pure“ effects of expectations and forward guidance.
  - When offsetting the expectations effect to the short rate, responses to an unanticipated policy shock become insignificant.
  - The same path for the policy rate produces much larger responses if expectations can react (marginal effect of forward guidance).
- Results rely on the correct identification of these shocks, which relies on strong assumptions with respect on to the rationality of expectations and the law of motion for the macroeconomic variables.

Do long-term expectations have a stronger effect?

- VARs including expectations at different horizons relate to different economies as they assume different data generating processes for the macro data.
- Comparison of the results on the different forecast horizons not the same as in the NK model.
- Changes in long-term expectations are unlikely to be closely related to expected monetary-policy actions, calling this interpretation of results into question.

Thank you