Discussion: Growth Expectations around FOMC Announcements

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CICF, July 5, 2022

The Question

- Monetary policy shocks are multi-dimensional
  - Standard New-Keynesian model assumes central bank only changes short-term interest rate
    - Monetary policy directly control for short rate
  - Empirical evidence: yield curve of *all maturities* respond to monetary policy shocks
    - Swanson (2021JME): identify surprise changes in the federal funds rate (FFR), forward guidance (FG), large-scale asset purchases (LSAP)
- This paper: How do different components of monetary policy shocks influence market growth rate expectations over different horizons?

Summary of the Paper: Main Results

- ZLB sample (2010-2015): unconventional monetary policy
  - forward guidance (FG) tightening increases growth expectations by 15-30 bps across the term structure
  - large-scale asset purchase (LSAP) tightening (interest rate increase) reduces growth expectations by 10-16 bps
- post-ZLB sample (2015-2019): conventional monetary policy
  - FG tightening reduces growth expectations by 3-30 bps
  - LSAP tightening reduces growth expectations by 1-80 bps
  - FFR tightening reduces growth expectations by 47-106 bps

Summary of the Paper: Methodology

- Calculate risk premium

$$PV(F) = PV[D_{t+n}] \quad (1)$$

$$\frac{F}{\left(1+y_t^{(n)}\right)^n} = \frac{\mathbb{E}[D_{t+n}]}{(1+r_{t,t+n})^n} \quad (2)$$

Define risk premium $\Theta_t^{(n)} = \frac{1+r_{t,t+n}}{1+y_t^{(n)}}$,

$$\log\Theta_t^{(n)} = r_{t,t+n} - y_t^{(n)} \quad (3)$$

- Calculate dividend growth rate expectations

$$F = \frac{\mathbb{E}[D_{t+n}]}{\Theta_t^{(n)}} \Leftrightarrow \Delta\log\mathbb{E}[D_{t+n}] = \Delta\log\Theta_t^{(n)} + \Delta\log F \quad (4)$$

Comment 1: Discount Rate

- Estimate expected risk premium

$$\Delta \log \mathbb{E}\left[D_{t+n}\right] = \underbrace{\Delta \log \Theta_t^{(n)}}_{\text{unobserved}} + \underbrace{\Delta \log F^{(n)}}_{\text{observable}}$$

- Using lower bound estimate (Martin, 2017), VIX and EPU on FOMC announcement days to estimate

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- Using lower bound estimate (Martin, 2017), VIX and EPU on FOMC announcement days to estimate
- Comment 1: bond risk premium
  - risk premium is defined as: $\log \Theta_t^{(n)} = r_{t,t+n} - y_t^{(n)} \neq r_{t,t+n} - r_f$

$$\log \Theta_t^{(n)} = \underbrace{\left(r_{t,t+n} - r_f\right)}_{\text{risk premium}} - \underbrace{\left(y_t^{(n)} - r_f\right)}_{\text{term premium}} \tag{5}$$

  - long term bond is not risk-free, important for LSAP shocks
- Suggestion: standard term structure model to estimate bond premium, e.g. Cochrane Piazzesi (2005AER)

Comment 2: Cash Flow Expectation or Risk Premium

- Suppose the estimation for growth rate expectation is true, why not

$$\Delta \log \mathbb{E}\left[D_{t+n}\right] = \alpha + \sum \beta * \textit{Shocks}$$

- However, this paper further mutes the risk premium channel

$$\begin{aligned}\Delta \log \mathbb{E}\left[D_{t+n}\right] &= \alpha + \sum \beta_1 * \text{High Resolution of Uncertainty} \times \textit{Shock} \\ &\quad + \sum \beta_2 * \text{Low Resolution of Uncertainty} \times \textit{Shocks}\end{aligned}$$

- Q: Why do we need to separate high/low resolution of uncertainty after the estimation for expected risk premium?
- Comment 2: Measurement of resolution of uncertainty

Comment 2: Cash Flow Expectation or Risk Premium

- Comment 2: Measurement of resolution of uncertainty
  - Low (High) Resolution of Uncertainty: low (high) tercile of VIX drop in the 24-hours prior to the announcement
  - Intuitive measurement: FOMC announcement day VIX drop
  - However, use information on announcement day, correlated with monetary policy shocks (60%)
- Suggestion: Ex ante measure of uncertainty resolution:
  - Ai, Han, Pan, Xu (2022JFE); Ai, Han, Xu (wp): use term structure of implied variance *before* announcement to back out announcement-day uncertainty resolution

Minor Comments

- The literature does not find LSAP shocks have significant impact on stock market in the long run. Your results potentially could explain the puzzle.
- The FG sign flip results after 2015 may be purely driven by two different dataset
- If information channel can explain the above result, why Nakamura Steinsson (2018) shocks do not affect your estimated expectation? What's the difference between your measurement and survey expectations used in their paper?