Discussion on
Corporate Leverage and Monetary Policy Effectiveness in the Euro Area

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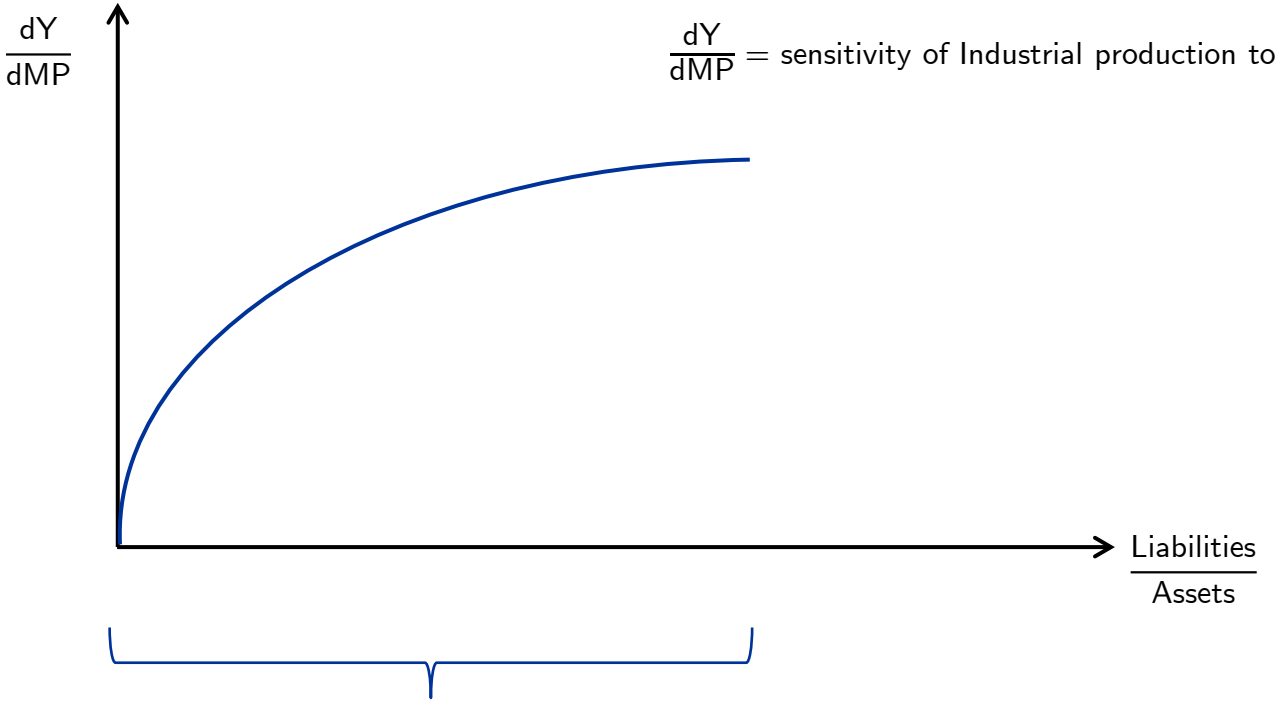
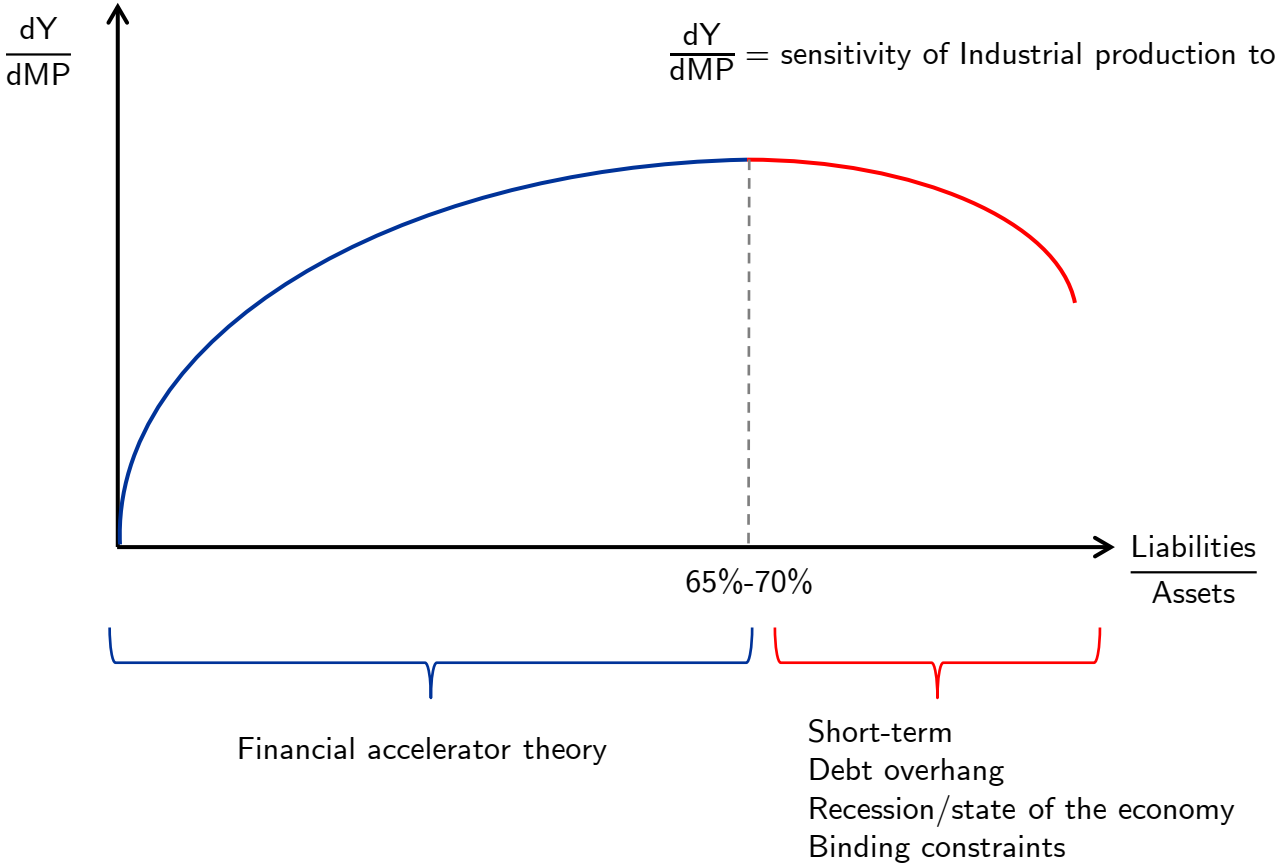
SUERF and Banca d'Italia Virtual Workshop on
"The effectiveness of monetary policy in a low interest rate environment"

The opinions in this presentation are those of the author and do not necessarily reflect the views of the European Central Bank and the Eurosystem

Helicopter view



Helicopter view

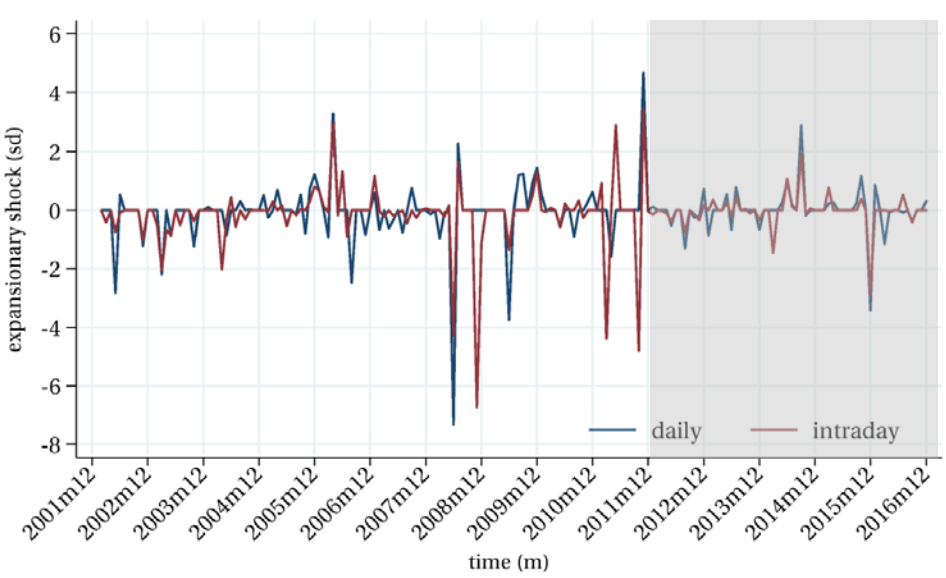


Some comments

- Monetary policy shocks
- Firm data
- Empirical Framework

Monetary policy shocks/surprises used in the paper

Figure 1. High-frequency ECB monetary policy shocks



Source: Auer, Bernardini and Cecioni (2019) Corporate Leverage and Monetary Policy Effectiveness in the Euro Area

- Intraday: 3-month OIS leaves limited role for non-standard measures
- Daily: concomitant events might bias the estimates (e.g. US release)
- Selected events:
  - January 2015: no visible change due to APP announcement
  - December 2015: the only visible change is due to "market disappointment"

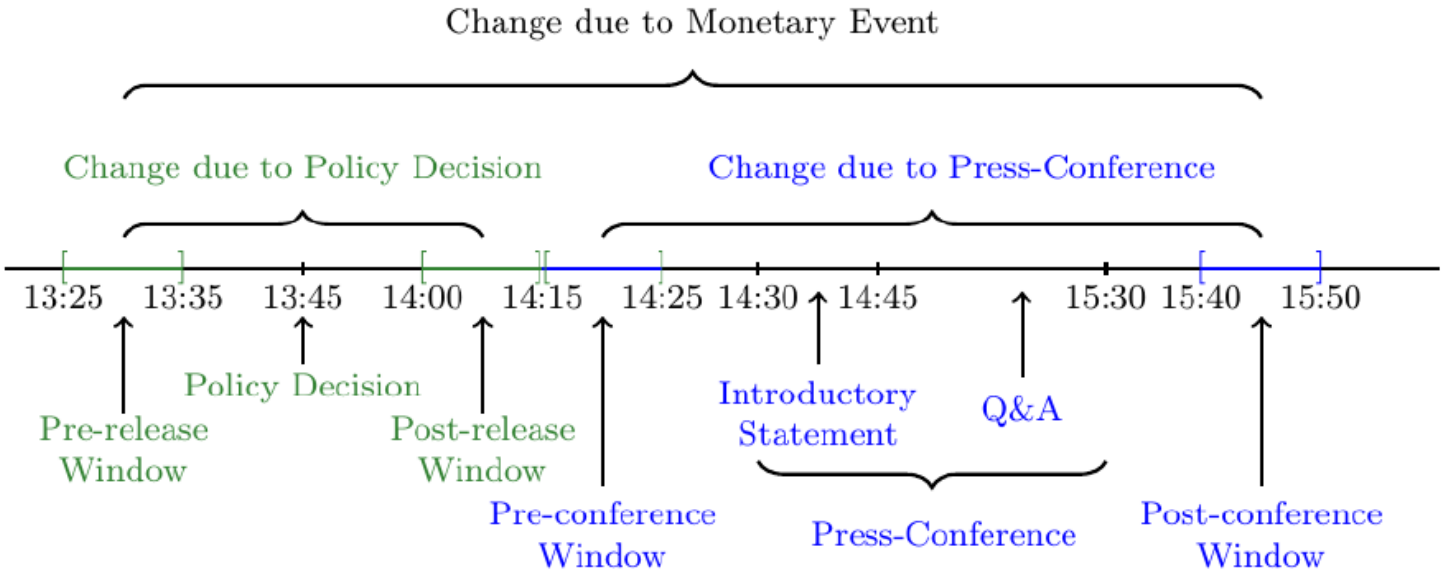
High-frequency Identification

Ex: Kuttner (2001), Jardet and Monks (2014), Andrade and Ferroni (2016), Cieslak and Schrimpf (2018), Kane et al. (2018), Rogers et al. (2014), Wright (2012), Jarociski and Karadi (2018) , and Altavilla et al. (2019).

Publicly available High-frequency database

Euro Area Monetary Policy Database (EA-MPD): High-frequency database that covers all official policy actions across different maturities (for several asset classes).

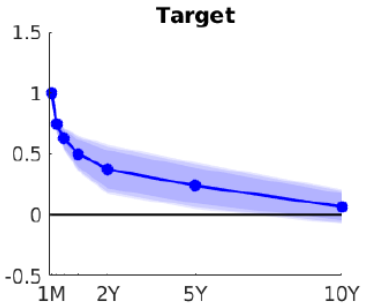
Available on-line: https://www.ecb.europa.eu/pub/pdf/annex/Dataset_EA-MPD.xlsx



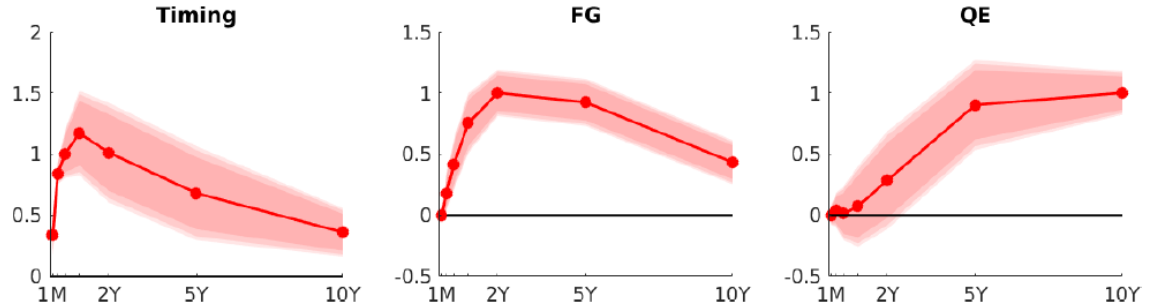
Altavilla, Brugnolini, Gürkaynak, Motto, Ragusa (2019) JME

The Footprint of monetary policy measures

Press Release Window



Press Conference Window



Altavilla, Brugnolini, Gürkaynak, Motto, Ragusa (2019) JME

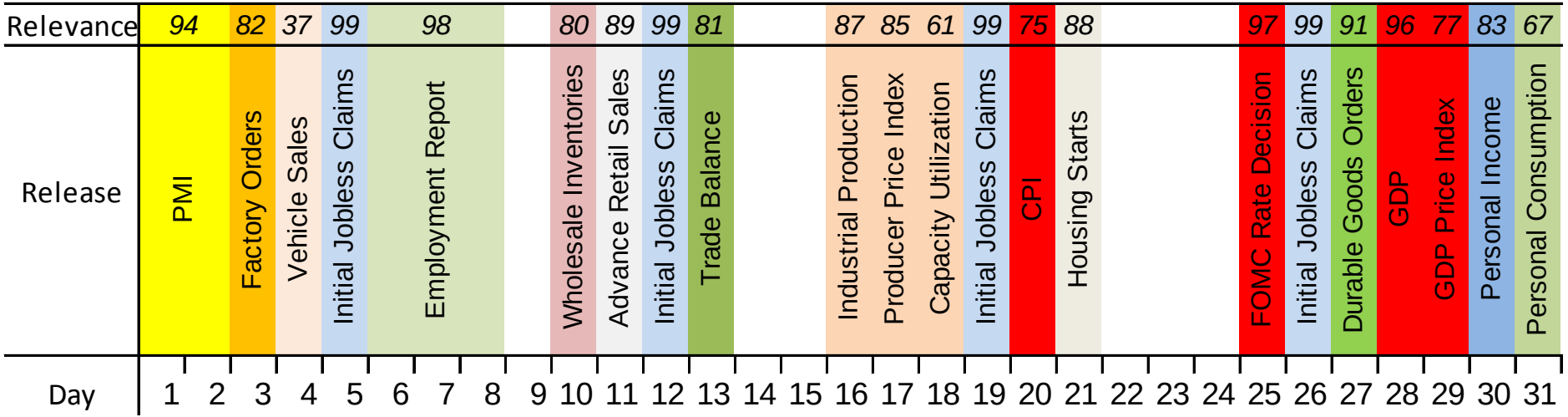
Refining the daily surprises: a Controlled Event Study

$$\Delta y_t = \sum_{j=1}^{k} \alpha_j D_{j,t} + \sum_{s=1}^{m} \gamma_s News_{s,t} + \varepsilon_t$$

Δy_t Daily change in yields for a given asset y

$D_{j,t}$ Event dummies

News Surpirse component of macro release



Altavilla, C. and Giannone, D., (2017), "The Effectiveness of Non-Standard Monetary Policy Measures: Evidence from Survey Data", *Journal of Applied Econometrics*

Empirical Framework used in the paper

Q1: How different are the responses of industrial production to a common monetary policy shock across statistical units?

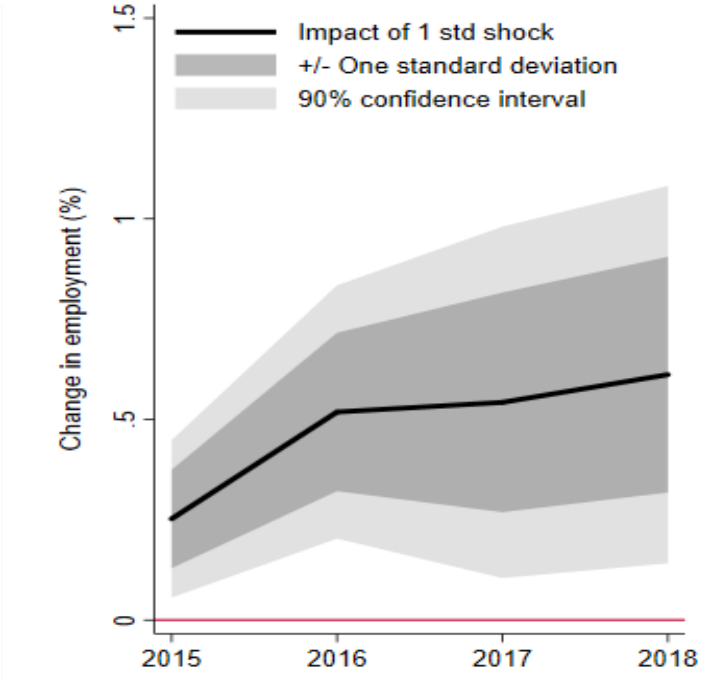
$$\sum_{l=0}^{h} \Delta_{l+1} \ln y_{c,s,t+l} = \alpha_{c,s}^{h} + \beta^{csh} \varepsilon_t + \sum_{p=1}^{12} \theta^{hp} \Delta \ln y_{c,s,t-p} + u_{c,s,t+h}^{h} \qquad (1)$$

Q2: is the heterogeneity in the effects of a common monetary policy shock across countries and industries linked to different leverage positions

$$\begin{aligned}\sum_{l=0}^{h} \Delta_{l+1} \ln y_{c,s,t+l} =& \alpha^{h} + \beta^{h} \varepsilon_t + \sum_{p=1}^{12} \theta^{hp} \Delta \ln y_{c,s,t-p} + \\ &+ \ell_{c,s,t-1} \left[\alpha^{Lh} + \beta^{Lh} \varepsilon_t + \sum_{p=1}^{12} \theta^{Lhp} \Delta \ln y_{c,s,t-p} \right] + \\ &+ \ell_{c,s,t-1}^{2} \left[\alpha^{Qh} + \beta^{Qh} \varepsilon_t + \sum_{p=1}^{12} \theta^{Qhp} \Delta \ln y_{c,s,t-p} \right] + \\ &+ \alpha_c^{h} + \alpha_s^{h} + \alpha_t^{h} + u_{c,s,t+h}^{h}\end{aligned} \qquad (2)$$

Using more granular data would enhance the identification

TLTRO shocks, capital requirement shocks and firm employment



$$\Delta E_{f,H} = \alpha_{c,s,H} + \delta_H TLTRO_f^{shock} + \gamma_H Requirement_f^{shock} + \epsilon_{f,H}$$

$$H = 2015,..,2018$$

The figure reports the coefficients δ_H resulting from the regressions $\Delta E_{f,H}$ is the percentage change in firm f's employment occurred between 2014 and year H, with $H =$ 2015..,2018, $TLTRO_f^{shock}$ and $Requirement_f^{shock}$ are the average TLTRO shock and average capital requirement shock experienced by the same banks of firm f, respectively. Each regression includes country-sector $\alpha_{c,s,H}$ fixed effects and is specific to the horizon H. Solid lines report the coefficients δ_H and γ_H, while grey areas report 90% confidence intervals for each horizon H with standard errors clustered at the bank level. Darker grey areas highlight the coefficients plus/minus one standard deviation.

Source: Altavilla, Carlo, Barbiero, Francesca, Boucinha (2020) The great lockdown: pandemic response policies and bank lending conditions, ECB WP No 2465

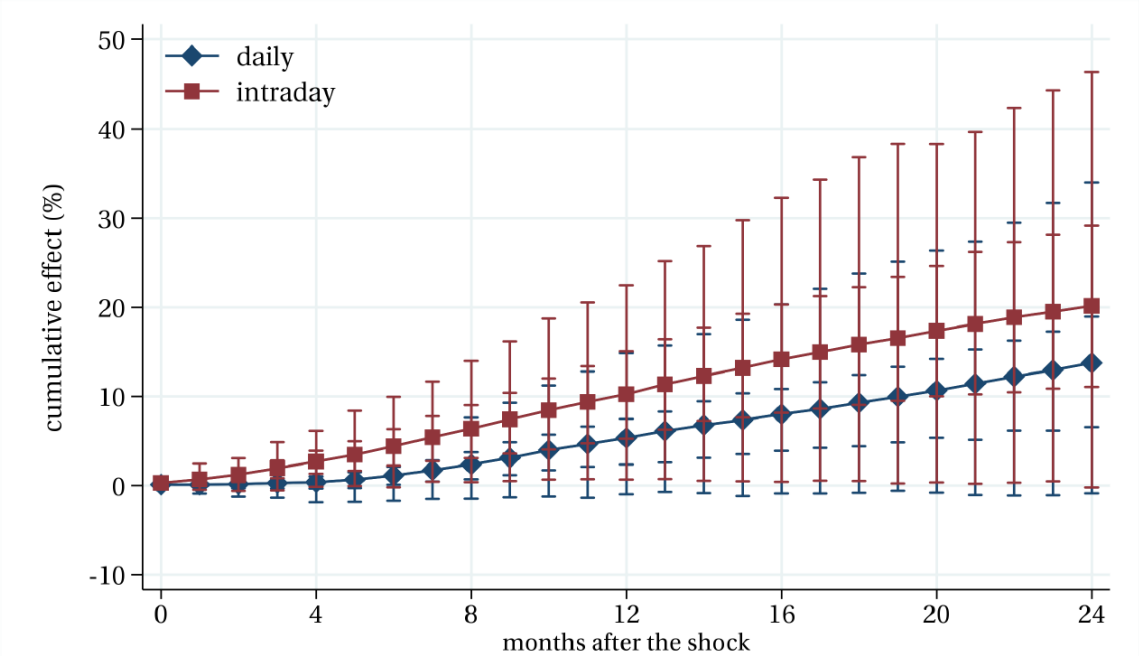
Empirical Framework

Motivate the choice of the modelling framework *vis-a-via* natural alternatives

- Cons: No feedback effects as in the Panel VAR
  Coefficients might be erratic and less precisely estimated because of the fewer imposed for calculating impulse response functions.
- Pros: flexible, simple
- Other settings:
  Panel VAR (Altavilla, Canova, Ciccarelli, 2020 JME)
  Instrumental variable setting: measurement error (Ramey 2016; Mertens and Ravn 2014)
  Non-linear terms in Local Projections needs a special treatment (Goncalves, Herrera, Kilian and Pesavento, 2020)
- Linearity of the model w.r.t easing versus tightening of monetary policy

Estimated impact on industrial production

Figure 2. Heterogeneous effects of an expansionary monetary policy shock



"After two years, the cumulative production gain generated in response to a one-standard deviation expansionary monetary policy shock is around 20 percentage points"

Estimated effects seem huge! (I guess 1-standard deviation is few basis points)

Possible confounding factors related to other channels

- The Cash Flow Effect

  Liquidity of balance sheet and duration of debt: according to the cash flow channel in Gürkaynak et al (2002) some firms can see their cash flows more affected by monetary policy. This depends inter alia upon the duration of debt, which can be correlated with leverage (e.g. markets might allows firms to have high leverage only if their debt is at superlong duration, hence the cash flow is stable).

- 'The Floating Rate Channel

  Monetary policy can mechanically affect the liquidity and balance sheet strength of firms through existing loans, if their loan contracts are extended at floating rates.

  Financially constrained firms (higher leverage) with more unhedged loans display a stronger sensitivity of their fixed capital investment to monetary policy. (Ippolito, Ozdagli, Perez-Orive, JME 2018)

- Size/Age might influence firm's behavior/constraints:

  Following a monetary policy contraction, net worth falls considerably for all firms. However, only younger firms (non-dividend payers) contract their borrowing, as their external finance is mostly exposed to asset value fluctuations (Cloyne et al 2018).

Overall

- ❑ Very nice paper
- ❑ Policy relevant
- ❑ I enjoyed reading it!