

Discussion of: “The Transmission of Monetary Policy through Redistributions and Durable Purchases” by Vincent Sterk and Silvana Tenreyro

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Outline of the discussion

- Aim of the paper and summary of the key findings
- Overall evaluation
- Comments and suggestions
- Conclusions

Aim of the paper

- Study the redistribution channel of monetary policy (open market operation, OMO) using a tractable *OLG model* with *durable goods*. Extension to a search and matching framework and comparison with “helicopter drops”.

Key findings (1)

Empirical results

- High-frequency identification of monetary policy shocks in a VAR with durable goods is powerful.
- It produces plausible impulse functions, resolving some empirical puzzles (i.e. no prize puzzle, gradual increase in durable goods, fall in public debt).

Key findings (2)

Theoretical results

- The OLG model and the presence of durable goods lead to a novel *redistribution channel*:
 - Expansionary monetary policy (using OMO) decreases the nominal interest rate, which stimulates demand and temporarily increases prices.
 - Higher inflation generates a negative wealth effect for the household (government debt holdings value less). Redistribution from the household to the government.
 - Negative wealth effect induces household to increase savings for retirement.
 - Household substitute towards durable goods, generating a boom in the durable sector.

Overall evaluation (1)

Contribution of the paper

- I enjoyed reading the paper. The story is compelling, the model engaging.
- The paper sets up a tractable OLG model and shows that the OLG structure is critical for the wealth effect to operate in the transmission mechanism (see Result 1 and Result 2 in the paper).
- The VAR identification delivers plausible responses for durable goods.

Overall evaluation (2)

Possible refinements

- The motivation of the VAR identification scheme may be strengthened. Are the IRFs plausible?
- Are some assumptions in the model casting the results?
- Uninsurable retirement and longevity risk triggers the wealth effect. Are additional risks properly evaluated? (i.e. unemployment risk and agents risk aversion).

Comment 1. VAR identification scheme (1)

Motivation

- Is the identification scheme based on high-frequency properly motivated?
- The motivation for it in the paper is: “While this “recursive identification” assumption is debatable in general, it is especially ill-suited for our purposes, since the redistribution channel that we study relies on a change in prices when a monetary shock hits, which is ruled out by assumption under the recursive identification scheme. We therefore resort to an alternative approach proposed by Gertler and Karadi (2015), which we describe below.”
- Why should prices move immediately in response to monetary policy shocks? It seems plausible that it takes some time for prices to react to monetary policy. This motivation is questionable...

Comment 1. VAR identification scheme (2)

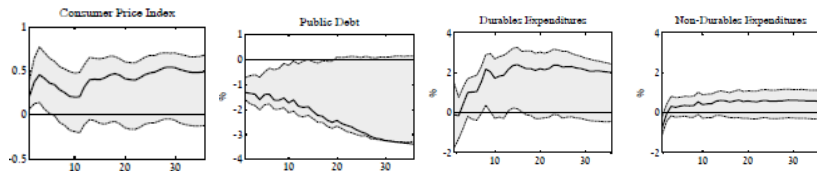
Motivation

- Typically the high-frequency identification is useful to identify financial variables that reacts immediately to monetary policy.
- Thus, the high-frequency identification might be justified if it is motivated by the inclusion of the bond premium and public debt...

Comment 1. VAR identification scheme (3)

Plausibility

- Are the VAR responses plausible?



- The evidence is mixed: consumer price index raises (OK!), real public debt falls (OK!), durable goods possibly increase, non-durable goods possibly negative.
- Some mixed results here. Analysis in the paper overlooks the potential shortcomings of the identification and shiftily moves on...

Comment 2. Model specification (1)

Government constraints

- Government budget constraint:

$$\nu\rho_o\tau_t^n + \nu(1 - \rho_o)\tau_t^y + (1 - \nu)\tau_t^o = \frac{r_{t-1}b_t^g}{1 + \pi_t} + \tau_t^{cb}$$

- Central bank real value of seigniorage transfer:

$$\tau_t^{cb} = \frac{r_{t-1}b_t^{cb}}{1 + \pi_t}$$

- I have one potential issue with the specification of the constraint and another potential issue with the implementation in the model.

Comment 2. Model specification (2)

Specification of the government constraint

- The govt. constraint is

$$v\rho_o\tau_t^n + v(1 - \rho_o)\tau_t^y + (1 - v)\tau_t^o = \frac{r_{t-1}b_t^g}{1 + \pi_t} + \tau_t^{cb}$$

- Note that $v\rho_o$ is the fraction of new born in the economy.
- In the paper it is also assumed: $v\rho_o = \rho_x(1 - v + v\rho_o)$.
- Thus, the budget constrain of the government makes the implicit assumption:

$$\begin{aligned} & \text{number of newborns} \\ = & \text{number of agents retiring} \\ = & \text{number of deceased agents} \end{aligned}$$

Comment 2. Model specification (3)

Assumptions in the government constraint

- The govt. constraint is

$$v\rho_o\tau_t^n + v(1 - \rho_o)\tau_t^y + (1 - v)\tau_t^o = \frac{r_{t-1}b_t^g}{1 + \pi_t} + \tau_t^{cb}$$

- Assumptions: $\tau_t^n = a_t + \tau_t^y$ and $\tau_t^o = 0$.
- If $\tau_t^n = a_t + \tau_t^y$, $\tau_t^o = 0$ and $v\rho_o = \rho_x(1 - v + v\rho_o)$, then the govt. constraint becomes

$$\underbrace{v\rho_o\tau_t^n + v(1 - \rho_o)\tau_t^y}_{[\rho_x(1-v) + v(1-\rho_o + \rho_o\rho_x)]\tau_t^y + v\rho_o a_t} + \underbrace{(1 - v)\tau_t^o}_0 = \frac{r_{t-1}b_t^g}{1 + \pi_t} + \tau_t^{cb} \quad (1)$$

- Eq. (1) shows that the govt. makes transfer to the young only.
- Could it be an issue? What does it imply? ...see next...

Comment 2. Model specification (3)

Assumptions in the government constraint

- If $\tau_t^o = 0$, the old agents budget constraint is (after substitution):

$$c' + d' + m' + b' = (1 - \delta)d + \frac{m}{1 + \pi'} + \frac{(1 + r)b}{1 + \pi'} + \underbrace{\tau_t^o}_0$$

- If inflation raises, old agents have even higher incentives to use durables to carry over wealth in the next period.
- Is the set up of the model engineering a strong pick up in durables? Shall we relax this restrictive assumption?

Comment 2. Model specification (4)

Helicopter money vs. OMO

Recap helicopter money vs. OMO

- The govt. constraint with OMO is:

$$\nu\rho_o\tau_t^n + \nu(1 - \rho_o)\tau_t^y + (1 - \nu)\tau_t^o = \frac{r_{t-1}b_t^g}{1 + \pi_t} + \tau_t^{cb}$$

- The govt. constraint with helicopter money is:

$$\begin{aligned} & \nu\rho_o\tau_t^n + \nu(1 - \rho_o)\tau_t^y + (1 - \nu)\tau_t^o \\ = & \frac{r_{t-1}b_t^g}{1 + \pi_t} + \underbrace{\tau_t^{cb}}_0 + m_t - \frac{m_{t-1}}{1 + \pi_t} \end{aligned}$$

Comment 2. Model specification (5)

Helicopter money vs. OMO

- Is the helicopter money response really surprising in this set up?
- Helicopter money: young and old agents get money transfer
- Young agents constraint:

$$c' + d' + m' + b' = (1 - \delta)d + \frac{m}{1 + \pi'} + \frac{(1 + r)b}{1 + \pi'} + w'h'$$

- Old agents constraint:

$$c' + d' + m' + b' = (1 - \delta)d + \frac{m}{1 + \pi'} + \frac{(1 + r)b}{1 + \pi'}$$

- In OMO the transfer system was such that only young gets transfers and old agents have strong incentive to use durables to carry over wealth to next periods
- In helicopter drops, old agents get the same money transfer than young agents \Rightarrow No strong incentive to invest in durables

Comment 2. Model specification (6)

Role of search frictions

- The model is involved, and it becomes more involved when search and matching frictions are included.
- How do we compare the results across the two models?
 - Different structure
 - labor supply=labor demand vs. fixed wage
 - Vacancy posting condition: $V_t \geq \chi_1 + \frac{\chi_0}{\lambda_t}$
 - Different steady state ($y_t = c_t$ vs. $y_t = c_t + \left(\chi_1 + \frac{\chi_0}{\lambda_t}\right) v_t$)

Comment 2. Model specification (7)

Role of risk

- Risk plays a critical role in the model
- Financial markets are incomplete since there is no insurance against risk associated with retirement and longevity
- It is this risk that induces old to purchase durable goods.
- Durable goods mitigate this risk.—They are an additional asset to hedge against risk.
- In this model there are two additional risk channels that can be potentially important for the incentives to invest in durable goods:
 - Unemployment risk
 - Household's risk aversion

Comment 2. Model specification (8)

Unemployment risk and risk aversion

- The model is silent on the role of unemployment risk
 - The IRFs give the impression that durable goods react more in the presence of unemployment (i.e. search model). Is it because risk of being unemployed in the future induces the agents to purchase even more durable goods?
 - This channel needs to be discussed in the paper.
- The model is silent on the role of risk aversion
 - Durable goods are other assets that the household can use to hedge against risk. Thus, durable goods may decrease risk aversion (similar logic of Swanson (2012)).
 - Some robustness analysis may uncover the role of risk aversion in the model.

- This paper is an important first step in understanding the redistribution effects of monetary policy.
- It proposes a compelling story of the redistribution channel of monetary policy through durable goods.
- This research agenda opens up an array of interesting questions that can be addressed in a similar, possibly less “restricted” model.