# Discussion of Revisiting the ERPT: A General Equilibrium Perspective

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# Summary of Garcia-Cicco and Garcia-Schmidt (GG)

- Great paper, carefully executed and very relevant issue for CBs.
- Revisit an important question through lenses of a DSGE model: How much ERPT in small open economy?
- Estimation of ERPT from exchange rate to prices difficult empirically because:
  - Endogenity of Exchange Rate (hard to observe truly exogenous movements).
  - Role of monetary policy important to determine the magnitude of ERPT.
- DSGE laboratory suited to disentangle both issues.

# Summary of ERPT for Chile

- This paper proposes two DSGE-based measures of ERPT:
  - $UERPT^M$ : Weighted average of Conditional ERPT
  - $UERPT^{PV}$: using model generated data and estimating a finite order VAR (Sims-Nason-Cogley style).
- Focus on CERPT of two shocks in DSGE model of a small open economy estimated for Chile
  - Shocks to common trend of international prices
  - Shocks to risk-premium (deviation from UIP)
- Three key results
  - CERPT very different than UERPT
  - Model based UERPT similar to VAR based
  - Path of monetary policy important for magnitude of CERPT and UERPT

# Rest of my discussion

I will focus my discussion on two issues:

- **Transmission mechanism**
- Importance of monetary future monetary policy

# Transmission mechanism: Real side

- Go back to the basics. Striped down model without nominal rigidities and exogenous production:
- Two important shocks, $F^*$ and $R^*$, are the textbook open macro shocks:
  - $\Delta^- F^*$ shock generates negative income effects. Consumption of M and N falls. If $y^N$ in fixed supply then: $\Delta^- p^N \rightarrow \Delta^+ RER \rightarrow \Delta^- C(c^N, c^M)$
  - $\Delta^+ R^*$ shock generates substitution effects $\rightarrow \Delta^- C(c^N, c^M)$ but $y^N$ is fixed $\rightarrow \Delta^- p^N \rightarrow \Delta^+ RER$
- Takeaway is that both shocks have identical effects on RER and consumption. Similar intuition extends to more complex models with more bells and whistles like GG

# Transmission mechanism: Nominal side

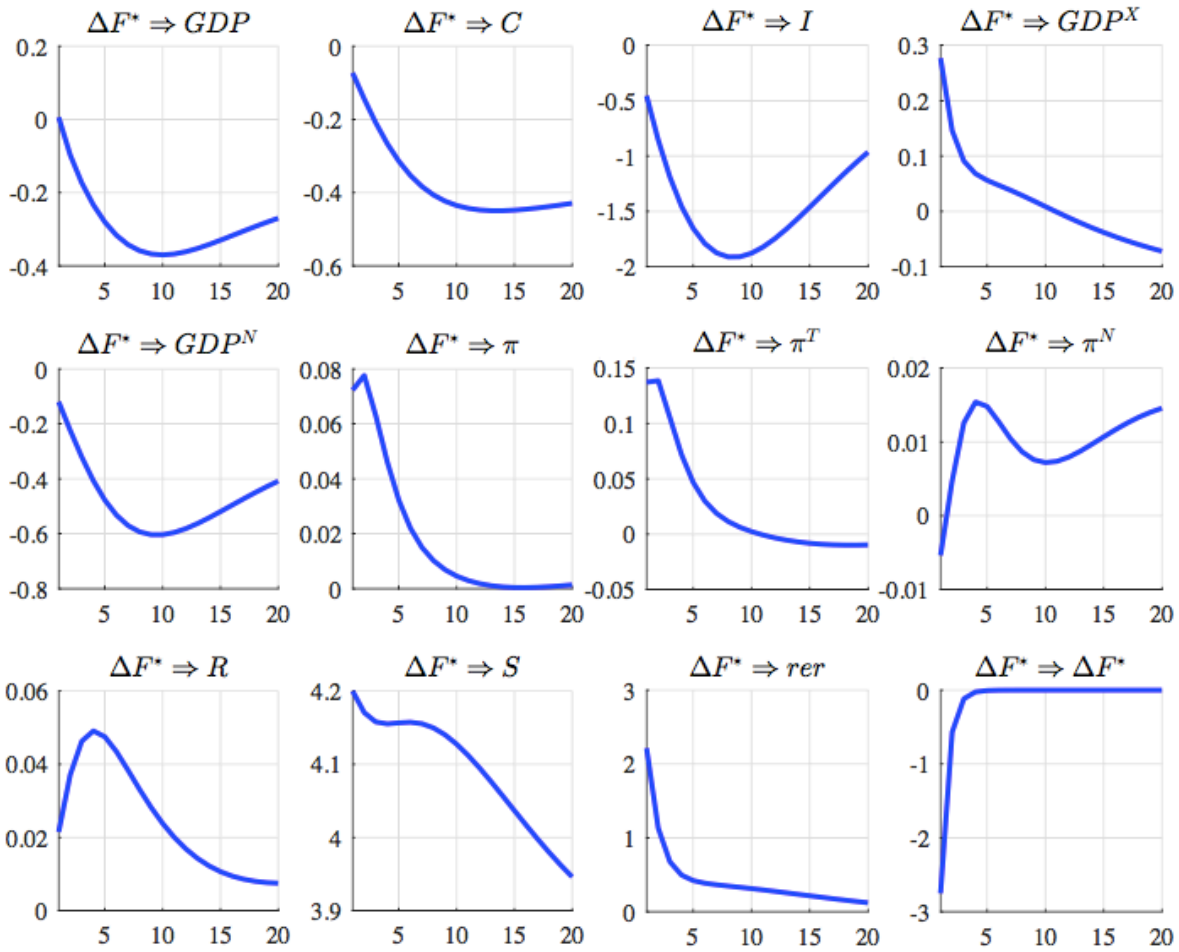
- Open economy Phillips curve (Lubik and Schorfheide, 2007):

$$\pi_t = \beta \mathbb{E}_t \pi_{t+1} + \alpha \beta \mathbb{E}_t \Delta q_{t+1} + \alpha \Delta q_t + \kappa^{open}(y_t - \bar{y}_t) \tag{1}$$

- Where $\alpha$ is the import share, $q_t$ are the terms of trade.
- $F^*$ shocks affect inflation directly through $q_t$ and $\mathbb{E}_t q_{t+1}$ and indirectly through $y_t$ (via RER and IS relation)
- $R^*$ shocks affect inflation indirectly through $y_t$ (via RER and IS relation)
- Takeaway: CERPT will clearly depend on the nature of the shock.

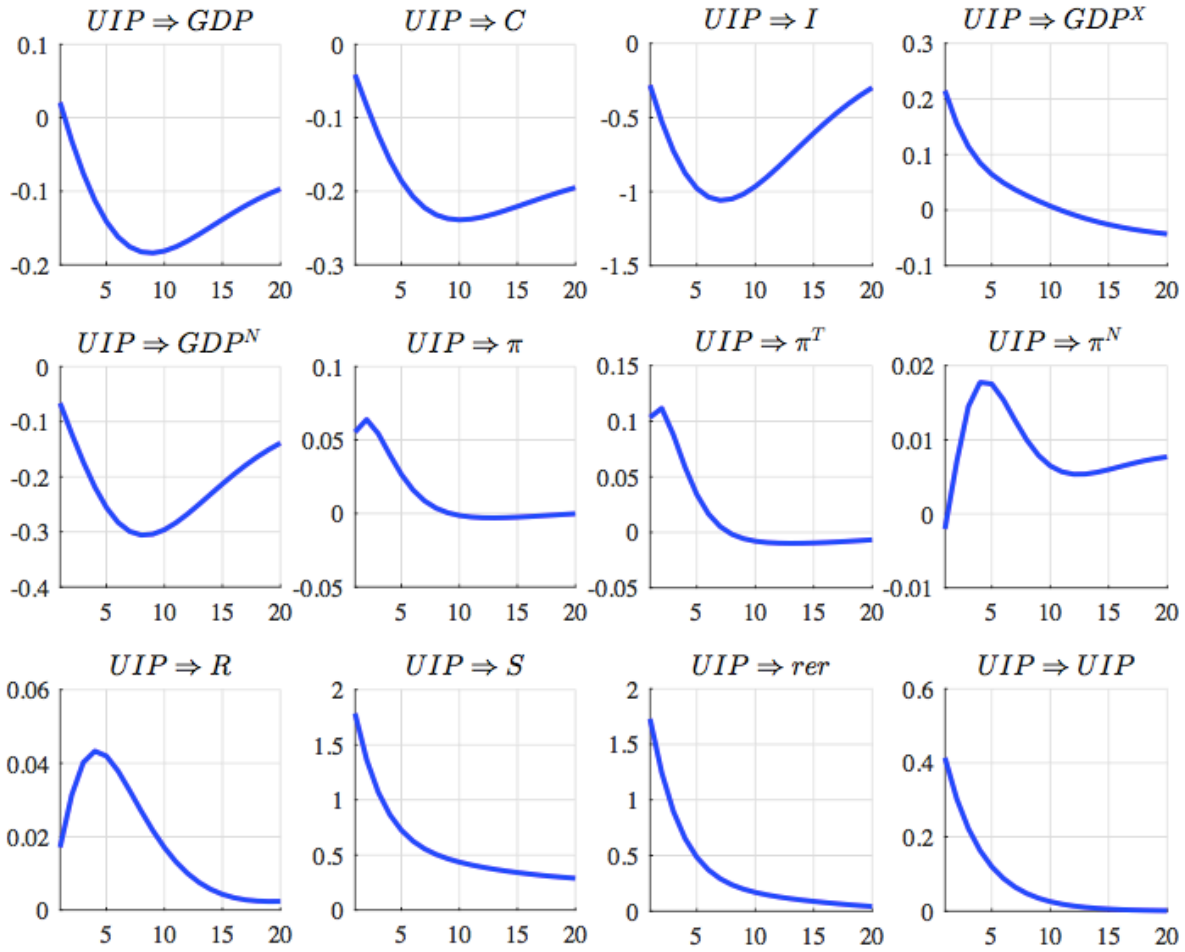
# Transmission mechanism: Back to the GG model

- $\sigma^{F*} = 0.028$



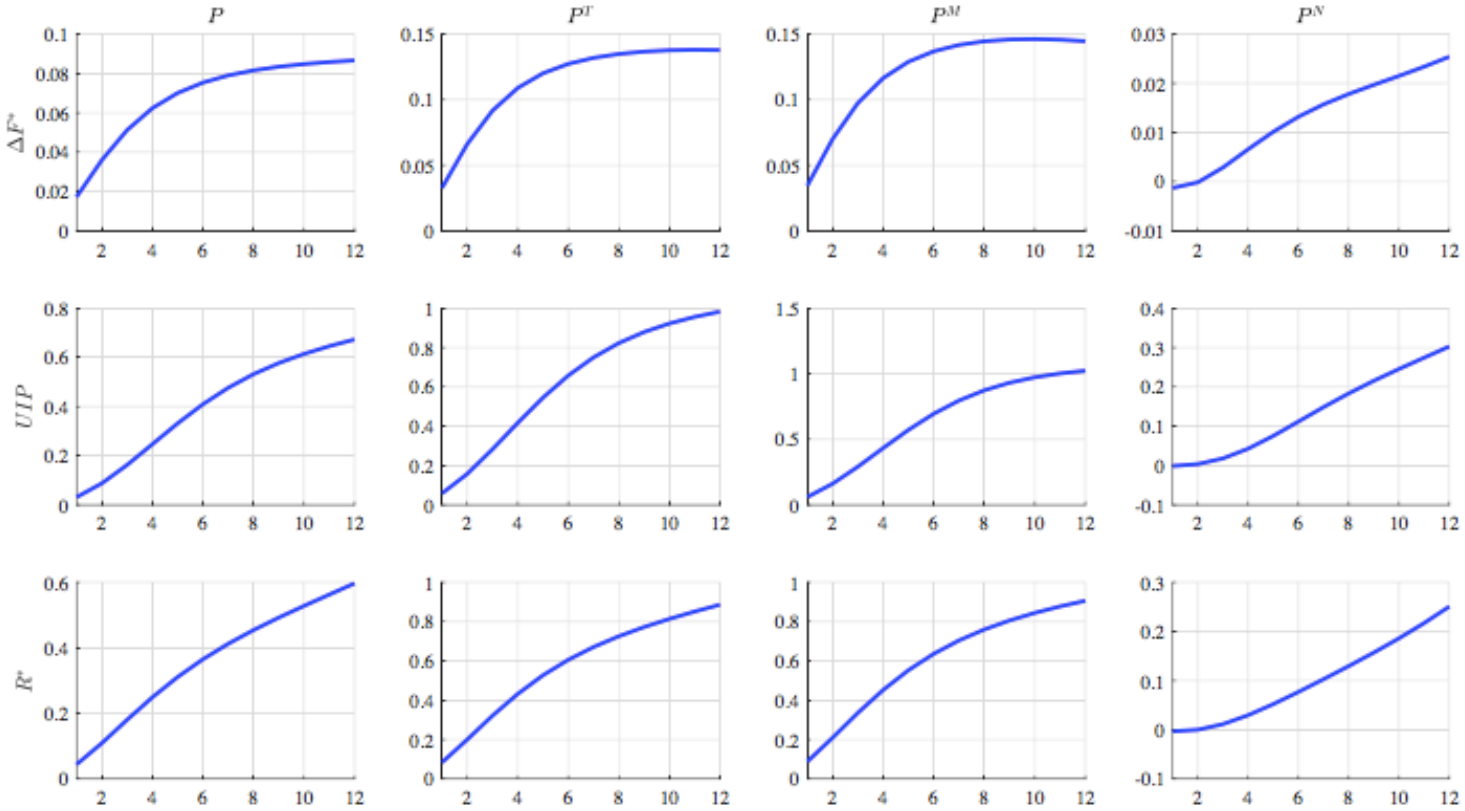
# Transmission mechanism: Back to the GG model

- $\sigma^{R1} = 0.001$, $\sigma^{R2} = 0.004$



# Transmission mechanism: Back to the GG model

- CERPT from $F*$ shock much smaller than CERPT from $R^*$ shock.
- Because $\sigma^{F*}$ is larger then dynamics of UERPT dominated by $CERPT_{F*}$.



# Transmission mechanism: Questions?

Why is $CERPT_{F*}$ much more muted?

- $Y_t^J(i) = \left(V_t^J(i)\right)^{\gamma_J} \left(M_t^J(i)\right)^{1-\gamma_J}$,
- But $1 - \gamma^J$ rather small, so maybe this one is note so important.
- Cointegration of $F^*$ and $P$ which means movements in RER have to be driven by more volatile NER.
- Really can't tell from the paper.
- Maybe show/discuss the CERPT in the restricted model in which $\Gamma^j = 0$

# Role of Expected Future Monetary Policy

- Interesting exercise to see the comparison between counterfactual scenarios in which UERPT might differ
- However, not fully surprising:
  - Models with forward looking agents react strongly to anticipated changes in the interest rate. (McKay, Nakamura,Steinson 2017).
  - Hence importance of shocks generating intertemporal substitution is likely to be greatly amplified. However even in this case $F^*$ shocks continue to drive most (all) of the dynamics.
  - This makes me suspicious that co-integrating trends are inducing larger than standard intertemporal substitution in the model, dwarfing the role of UIP shocks.
  - Another reason to dissect a bit more the transmission mechanism

# Final remarks

- Again this is a great paper, made me think a lot.
- Highlights the importance of DSGE based modeling framework.
- Need to understand better what makes $F^*$ shocks so important.
- Try to quantify how much of the dynamics of CERPT is due to income vs substitution effects.