Optimal Monetary Policy during a Cost-of Living Crisis

by Alan Olivi, Vincent Sterk, and Dajana Xhani

Discussion by Jenny Chan
Bank of England

E1 Workshop in Quantitative Macroeconomics
April 24, 2025

Summary - Motivation

Highly policy-relevant paper for past and present events

- Trade fragmentation may entail larger and more frequent supply shocks
  - ... making sectoral price changes more significant for aggregate inflation (Attinasi et al., 2024)
  - Looking ahead: weaponisation of critical supply chains, food price inflation from adverse climate events

Summary - Motivation

- How should monetary policy respond in a world with
  - Different consumption baskets leading to heterogeneity in inflation rates across households
  - Sectoral supply shocks
- Do distributional effects of shocks affect policy trade-offs?
- Is the CPI still a suitable target?

Summary - Model

Standard NK model with homothetic CES preferences:

- All HHs share the same price index, equally affected by sector-specific price increases

This paper:

- Multi-sector
- Permanent income and wealth heterogeneity
- Non-homothetic preferences

  $\rightarrow$ Heterogeneity in inflation rates, real wages, real interest rates, price elasticities of demand

  $\rightarrow$ Heterogeneity in price elasticities of demand across consumers

Summary - Results

- Two new wedges in the NKPC (non-homotheticity + endogenous markup)

Summary - Results

- Two new wedges in the NKPC (non-homotheticity + endogenous markup)
- Sectoral origin of the shock shifts NKPC uniquely

  → Productivity shock in necessity sectors: upward shift of NKPC (increases inflation, reduces output gap)
  → Productivity shock in luxury sectors: inflation and output gap move in the same direction

Summary - Results

- Two new wedges in the NKPC (non-homotheticity + endogenous markup)
- Sectoral origin of the shock shifts NKPC uniquely

  $\rightarrow$ Productivity shock in necessity sectors: upward shift of NKPC (increases inflation, reduces output gap)
  $\rightarrow$ Productivity shock in luxury sectors: inflation and output gap move in the same direction

- Following an adverse shock to the necessity sector, optimal policy is loose initially, then tightens.

Summary - Results

- Two new wedges in the NKPC (non-homotheticity + endogenous markup)
- Sectoral origin of the shock shifts NKPC uniquely

  → Productivity shock in necessity sectors: upward shift of NKPC (increases inflation, reduces output gap)
  → Productivity shock in luxury sectors: inflation and output gap move in the same direction

- Following an adverse shock to the necessity sector, optimal policy is loose initially, then tightens.
- Marginal CPI is the appropriate target (weighs sectors by marginal rather than regular budget shares)

Summary - Results

- Two new wedges in the NKPC (non-homotheticity + endogenous markup)
- Sectoral origin of the shock shifts NKPC uniquely

  → Productivity shock in necessity sectors: upward shift of NKPC (increases inflation, reduces output gap)
  → Productivity shock in luxury sectors: inflation and output gap move in the same direction

- Following an adverse shock to the necessity sector, optimal policy is loose initially, then tightens.
- Marginal CPI is the appropriate target (weighs sectors by marginal rather than regular budget shares)

Comment 1

- Blanco and Diz (2025)
  - Size of the food sector is relevant
  - However, they derive similar optimal policy results in a RANK model– does H2M make this relevant for developed countries?
- Role of H2M and how this matters for the results
  - Anand et al. (2015): H2M receive profits from the food sector. With non-homothetic preferences and low EOS between food and non-food, an increase in food price inflation leads to a surge in demand from H2M HHs, requiring a contractionary monetary policy response.

Comment 2

- How significant are within-category shifts in spending (cheapflation)?
- Current model captures the effects of differences in households' spending *across* product categories, but apparently not the impacts of differential price changes across individual products *within* these categories
- Household budget surveys (even relatively detailed ones) can significantly mismeasure the degree of inflation inequality
- The pattern of price rises across the quality ladder (rather than changes in the make-up of consumption baskets across households of different resources) is key to explaining recent inflation inequality (Chen et al., 2024)

Comment 2a

Kantar/Nielsen/Auto-CPI: (1) high frequency and (2) large cross-section

Use these datasets to understand whether cost-push shocks have distributional effects.

Motivate a heterogeneous agent framework where consumption (1) varies across households (non-homothetic consumption) and (2) varies within consumption categories (3) and markups are endogenous

- Supply side: within narrow product categories, is it the case that low-end products are more price elastic? Are markups and therefore pass-through different for consumers of different varieties?
- Prior: low-income consumers are very price-sensitive, so markups are lower already and pass-through from cost-push shocks would therefore be higher.
- Demand side: plausible that households trade down in recessions. As the elasticity of demand for low-end goods changes, demand curve steepens (higher markups), which also affects pass-through.

Comment 3

- How does an open-economy setting change the NKPC relationship?
- This paper considers adverse productivity shocks; endogenous increase in marginal costs
- For a small, open economy (UK), food and energy prices largely determined in global markets - classic cost-push shocks; exogenous increase in marginal costs
- For a cost-push shock: weaker link between domestic economy activity and inflation in these sectors (inflation rises independently of domestic demand conditions)
- A monetary contraction may reduce domestic demand and increase the output gap, but has no effect on global food/energy prices – neutral output gap may become negative due to monetary policy

Minor comments

- Optimal monetary policy recommendation poses a communications challenge (risk criticism that you have been late to tighten). Are other instruments more appropriate – fiscal policy/price caps?
- Wedges and their relationship to optimal monetary policy
- Very topical paper with important policy insights!

References

Rahul Anand, Eswar S. Prasad, and Boyang Zhang. What measure of inflation should a developing country central bank target? *Journal of Monetary Economics*, 74:102–116, 2015. ISSN 0304-3932.

Maria-Grazia Attinasi, Michele Mancini, Lukas Boeckelmann, Marco Bottone, Francesco Paolo Conteduca, Claire Giordano, Baptiste Meunier, Ludovic Panon, Ana M. Almeida, Irina Balteanu, Marta Bańbura, Elena Bobeica, Oscar Borgogno, Alessandro Borin, Peonare Caka, Rodolfo Campos, Juan Carluccio, Bernardo De Castro Martins, Paola Di Casola, Dennis Essers, Guillaume Gaulier, Rinalds Gerinovics, Simona Giglioli, Demosthenes Ioannou, Juuso Kaaresvirta, Makram Khalil, Ambre Kutten, Laura Lebastard, Wolfgang Lechthaler, Catalina Martínez Hernández, Noemi Matavulj, Richard Morris, Riikka Nuutilainen, Javier Quintana, Michele Savini Zangrandi, Katja Schmidt, Roberta Serafini, Gabriel Smagghue, Felix Strobel, Sebastian Stumpner, Jacopo Timini, and Francesca Viani. Trade fragmentation and global supply chains. Occasional paper series or working paper, European Central Bank, 2024. ECB.

Cesar Blanco and Sebastian Diz. Optimal monetary policy with non-homothetic preferences. *International Journal of Central Banking*, 21(2):309–350, April 2025.

Tao Chen, Peter Levell, and Martin O'Connell. Cheapflation and the rise of inflation inequality. Working paper, Institute for Fiscal Studies, 2024. IFS.