

# Looking Through Supply Shocks versus Controlling Inflation Expectations: Understanding the Central Bank Dilemma

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**This paper:** standard New Keynesian model except

- Prices adjust faster than wages in response to supply shocks. One period ahead wage and price setting.  
→ Focus on cross-sectional interdependence of wages and prices.
- Agents follow level- $k$  thinking  
→ Attenuate general equilibrium (GE) effects in response to shocks.

**Results:**

- Optimal monetary policy looks through supply-driven inflation at first, then pivots.
- Strong monetary policy tightening can be compatible with a soft landing.

### Full Information Rational Expectations

#### Relax FI, keep RE

- Relax common knowledge of shocks
- Best suited for studying "normal" business cycles and "systematic" policy rules
- Morris and Shin (2002); Woodford (2003); Nimark (2008); Angeletos and Lian (2018)

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#### Keep FI, relax RE (approaches include level- $k$ thinking)

- Relax common knowledge of rationality
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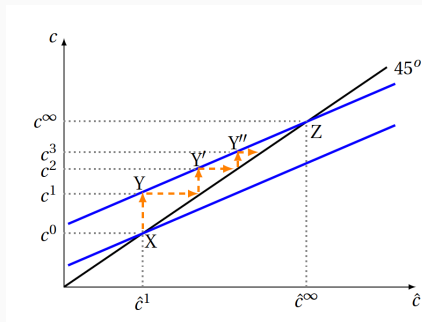
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#### Relaxing either FI or RE

- Dampens the GE effects of shocks
- Optimal monetary policy should therefore take into account how agents form expectations

What is  $k$  intended to capture?



- Is  $k$  high or low in the current environment? What does it depend on?
- **Why is  $k$  important?** High  $k$  implies that a risky soft landing should be less of an issue.

### **Traditional view**, but

- Large fluctuations in real output difficult to square quantitatively with small cost share of oil in domestic output
- Not much empirical evidence for alternate transmission channels related to productivity (i.e., decline in capital stock)
- (Kim and Loungani, 1992; Backus and Crucini, 2000).

### **Alternate view**: oil price shocks affect the economy primarily through consumer and firm expenditures

- Generates larger effects than would be expected based on the small share of energy in consumption
- Demand channel (sectoral shifts) can also rationalise asymmetric responses to oil price increases versus decreases
- (Barsky and Kilian, 2004; Hamilton, 2008).

→ If an oil price shock cannot be modeled purely as a productivity shock, what does this imply for the optimal pivot point?

- Results are more generalisable, applicable even when energy is not a large part of the consumption basket (Känzig, 2021; Chan, Diz and Kanngiesser, 2022; Del Canto et al., 2023).
- Reflective equilibrium may improve tractability, perhaps also sharpen intuition for the optimal policy results (Angeletos and Lian, 2017; García-Schmidt and Woodford, 2019; Angeletos and Sastry, 2021).
- Can the framework be extended to understand when tightening cycles should end?
- Do the findings extend to strategic price setters?



- Very insightful paper, on a highly topical issue
- Offers conditions for the optimality of reversals, when we usually emphasise the costs
- Provides a rich framework to understand a lot of the issues policymakers have been thinking about in the past year

## References

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- Angeletos, George-Marios and Chen Lian. 2017. Dampening General Equilibrium: From Micro to Macro. Technical Report 23379 National Bureau of Economic Research.
- Angeletos, George-Marios and Chen Lian. 2018. "Forward Guidance without Common Knowledge." *American Economic Review* 108(9):2477–2512.
- Angeletos, George-Marios and Karthik Sastry. 2021. "Managing Expectations: Instruments vs. Targets." *Quarterly Journal of Economics* .
- Backus, David K. and Mario J. Crucini. 2000. "Oil Prices and the Terms of Trade." *Journal of International Economics* 50(1):185–213.
- Barsky, Robert B. and Lutz Kilian. 2004. "Oil and the Macroeconomy since the 1970s." *Journal of Economic Perspectives* 18(4):115–134.
- Chan, Jenny, Sebastian Diz and Derrick Kanngiesser. 2022. "Energy Prices and Household Heterogeneity: Monetary Policy in a Gas-TANK." *SSRN Electronic Journal* .  
**URL:** <https://ssrn.com/abstract=4255158>

Del Canto, Felipe N, John R Grigsby, Eric Qian and Conor Walsh. 2023. Are Inflationary Shocks Regressive? A Feasible Set Approach. Working Paper 31124 National Bureau of Economic Research.

**URL:** <http://www.nber.org/papers/w31124>

Farhi, Emmanuel and Iván Werning. 2019. “Monetary Policy, Bounded Rationality, and Incomplete Markets.” *American Economic Review* 109(11):3887–3928.

García-Schmidt, Mariana and Michael Woodford. 2019. “Are Low Interest Rates Deflationary? A Paradox of Perfect-Foresight Analysis.” *American Economic Review* 109(1):86–120.

Hamilton, James D. 2008. Oil and the Macroeconomy. In *The New Palgrave Dictionary of Economics*, ed. Steven N. Durlauf and Lawrence E. Blume. Second ed. Houndmills, U.K. and New York: Palgrave Macmillan pp. 1–8.

Iovino, Luigi and Dmitriy Sergeyev. 2023. “Central Bank Balance Sheet Policies Without Rational Expectations.” *The Review of Economic Studies* .

Känzig, Diego R. 2021. “The Unequal Economic Consequences of Carbon Pricing.” *SSRN Electronic Journal* .  
**URL:** <https://ssrn.com/abstract=3786030>

Kim, In-Moo and Prakash Loungani. 1992. “The Role of Energy in Real Business Cycle Models.” *Journal of Monetary Economics* 29(2):173–189.

Morris, Stephen and Hyun Song Shin. 2002. "Social Value of Public Information." *The American Economic Review* 92(5):1521–1534.

Nimark, Kristoffer. 2008. "Dynamic Pricing and Imperfect Common Knowledge." *Journal of Monetary Economics* 55(2):365–382.

Woodford, Michael. 2003. Imperfect Common Knowledge and the Effects of Monetary Policy. In *Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*.