

Discussion of “Managing an Energy Shock: Fiscal and Monetary Policy” by Auclert, Monnery, Rognlie and Straub

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Bank of Chile Annual Conference

November 21, 2022

The views expressed herein are those of the authors and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

Important Question

- Energy price shocks are not a thing of the past!
- Still not much consensus on how best to respond
- Are we currently doing a good job?

- There is a lot going on in this paper and the authors' related work.
- To understand it all, you need to know the ins and outs of:
 - ▶ sticky price monetary models
 - ▶ heterogeneous agent macro
 - ▶ international finance

Language / Framing Comment

- Agree that we should not assume markets are internationally complete
- But lots of papers in the literature with limited international risk sharing
- e.g. “Oil Shocks and External Adjustment” (2011) by Bodenstein, Erceg and Guerrieri
- Also “representative agent” does not mean “representative agent + internationally complete markets”

Back to Basics

- Two symmetric countries, representative household in each
- Foreign country has endowment of oil E
- No nominal frictions

$$y^{non-oil} = h$$

$$C = \left(c^{non-oil}\right)^\alpha \left(c^{oil}\right)^{1-\alpha}$$

- Utility logarithmic in composite C , separable in hours \Rightarrow

$$u(c^{non-oil}, c^{oil}, h) = \alpha \log c^{non-oil} + (1 - \alpha) \log c^{oil} - \frac{h^{1+\sigma}}{1 + \sigma}$$

- Non-contingent bond that pays C traded internationally

$$p^{non-oil} c^{non-oil} + p^{oil} c^{oil} + qB' = wh + B$$

$$c^{non-oil} + c^{non-oil*} = h + h^*$$

$$c^{oil} + c^{oil*} = E$$

Energy Shock

- Unexpected non-permanent decline in oil production E
- What happens?
- Answer: Not much!
- p^{oil} rises by same amount E falls
- Both countries reduce c^{oil} by the same proportion
- No change in h or $c^{non-oil}$ in either country
- No change in importer's non-oil exports or (value of) oil imports
- No equilibrium international borrowing or lending
- In both countries, w/P and C temporarily depressed, r temporarily elevated
 - ▶ Cole Obstfeld: change in TOT insures E shock \Rightarrow bond = complete markets
 - ▶ Separability in preferences \Rightarrow no impact on equilibrium hours

Low Oil Substitutability

- What if $c^{non-oil}$ and c^{oil} more complementary in consumption?
- Now p^{oil} rises by more than E declines
⇒ oil shock better news for oil producer than for importer
- What happens to non-oil output?
- Depends on motive to smooth composite C over time (increase hours)
vs. motive to smooth $c^{non-oil} / c^{oil}$ (reduce hours)
- Suppose latter concern dominates (e.g. Leontief aggregator)
⇒ low E → reduce h and $y^{non-oil}$
⇒ oil supply shocks ⇒ non-oil recessions! (and efficiently so)
- What about current account?
- Oil shock non-permanent ⇒ importer temporarily relatively poor ⇒ borrows from oil exporter

Introducing Heterogeneity

- Heterogeneity is an important part of this paper
- Imagine two groups: workers and capitalists
 - ▶ Workers hand-to-mouth
 - ▶ Capitalists access international bond market
- Now two problems emerge
 1. If workers have balanced growth preferences, they will not reduce hours when the oil shock hits \Rightarrow hours and output will be inefficiently high
 2. Capitalists in importing country will consume more than workers
- Optimal policy? Make transfers to workers to boost their consumption and reduce their hours
- Transfers improve efficiency but are contractionary!

Wage Frictions

- Now introduce wage friction: workers reluctant to accept lower real wage
- Suppose two countries produce different goods, preferences biased toward locally-produced good
- Now E shock leads to a larger recession
 - ▶ higher real wage \Rightarrow firms charge higher prices \Rightarrow less demand for domestic goods
- Impact amplified through Keynesian multiplier:
 - ▶ reduced income + high MPCs \Rightarrow less demand \Rightarrow further income decline

Optimal Policy?

- Again, capitalists can borrow to smooth consumption
- So again use fiscal policy to provide similar smoothing for workers

- Now, monetary policy can also impact allocations
- If importing govt cuts rates, increased domestic demand \Rightarrow higher price of domestic goods \Rightarrow firms hire more workers and raise output
- Expansionary monetary policy depresses domestic real rate and depreciates real exchange rate by same amount \Rightarrow UIP preserved

- So perhaps monetary stimulus can undo impact of the wage friction
 - ▶ But how do wage-setters respond to changes in MP?
 - ▶ And note that stimulating demand will further increase oil prices!

Energy Subsidies and Policy Co-ordination

- Important message: energy subsidies are a terrible idea!
- Subsidies increase demand for oil, and push oil price even higher!
- Only look good for inflation when you measure post-subsidy price – inflation is hidden in govt budget deficit
- Better to make transfers people can spend however they like (UK) rather than paying a fraction of energy bills (France)

- Single small economy cannot impact the price of oil
- But if all countries tax (subsidize) oil, price will fall (rise)
- Coordinated monetary tightening can also reduce the oil price (but monetary policy is a blunter tool)

Painful Medicine

- Energy shocks are fundamentally bad news
 - ▶ Higher oil prices shrink the budget set for an oil importer
 - ▶ Lower oil supply shrinks set of feasible allocations for the global economy

⇒ oil importer cannot “manage” an oil shock without pain: residents must consume less or work more
- Other recent shocks work similarly (reduced Russian gas, Ukrainian wheat, Taiwanese microchips)
- Through fiscal and monetary policy, govt can choose what mix of pain citizens will feel in response to these shocks
- US policymakers have recently chosen stimulative policy
 - ⇒ Americans feeling pain mostly via higher hours (and high inflation)

Conclusion

- Authors are doing important and exciting work
- My discussion has not done justice to their paper
- Would be great to push further in both positive and normative directions