# Discussion: Limited Energy Supply, Sunspots, and Monetary Policy

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IMFER

# Motivation

- The recent rise in energy prices has renewed interest in its economic consequences.
- Auclert et al. (2023), Bachmann et al. (2022), Kanzig (2021), Olivi, Sterk, and Xhani (2022), and Pieroni (2023)
- Rising energy prices affect economies through two main channels:
  1. Negative shock to aggregate supply: $\downarrow$ productivity
  2. Negative shock to aggregate demand: $\downarrow$ real income
- This paper: Can energy shortages raise the risk of self-fulfilling fluctuations?
- Other contexts:
  1. Food Crops
  2. Metals
  3. Water

# Model

- New Keynesian two countries model - Blanchard and Gali (2009)
- Two goods - consumption goods and energy
- Consumption goods are produced using labor and energy
- Energy is produced only in the foreign country by a monopolistic firm
- Energy produced firm uses its revenue:
  1. Buy domestically produced goods
  2. Build foreign asset position
- Home country imported energy in exchange for domestically produced goods
- Trade balance does not need to balance immediately

# Model - Households

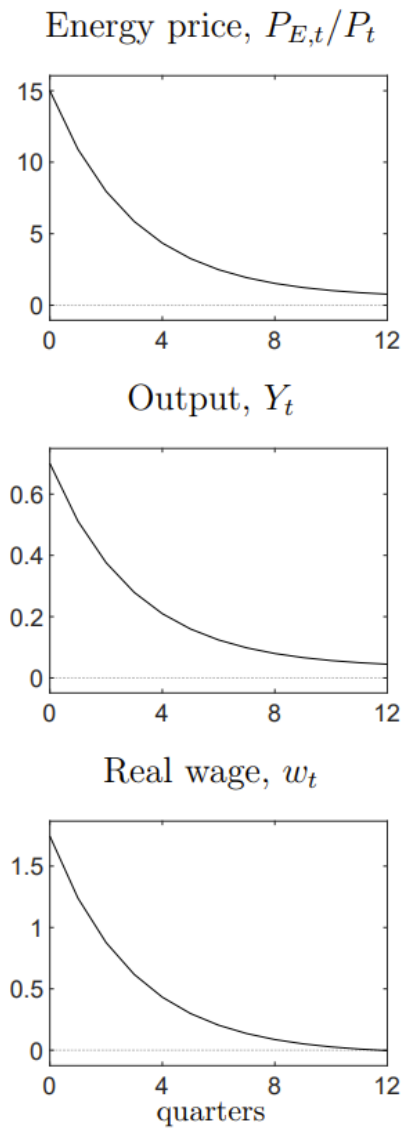
- Two types of Households - Bibiie(2021)
- Savers and Hand-to-Mouth (transition across types)
- Savers:
  1. have access to financial markets
  2. Own firms and respond to changes in the idiosyncratic risk
- Hand-to-mouth: consume their entire income

# Model - Government

- Monetary Policy
  - Central Bank controls nominal interest rates
  - Follows a Taylor rule that responds to core inflation (benchmark)
- Fiscal Policy
  - The government taxes profits from firms and can redistribute it
  - The government subsidizes energy prices by taxing savers

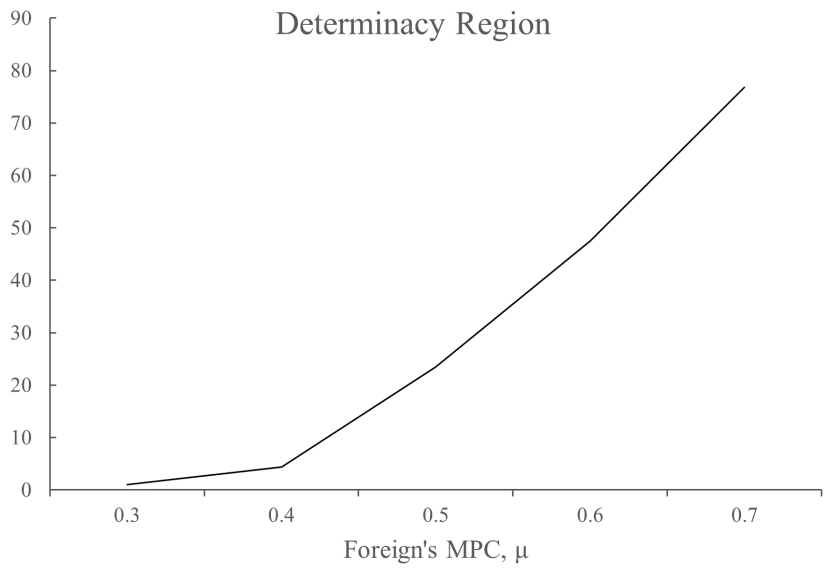
# Main Result - Self-Fulfilling Fluctuation

- ↑ Energy price shock (subsidize)
- ↑ Nominal Interest rates
- ↑ Foreign energy revenue
- ↑ Real wages (↑ demand and substitution between inputs)
- Larger impact for hand-to-mouth (high MPC)
- ↓ Precautionary saving (lower profit)
- ↑ Demand and production



# The Role of Foreign Demand

- Energy producer demand plays a key role
- Foreign country spends half of its oil revenue on exports
- A decline in foreign demand leads to a sharp decline in the self-fulling loop likelihood
- Effect absent in Blanchard and Gali (2009)
- Weak connection with the current experience

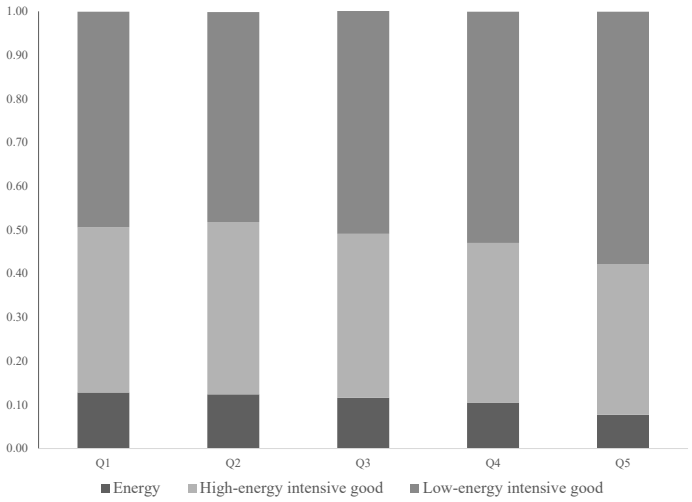


## The Role of Fiscal Policy

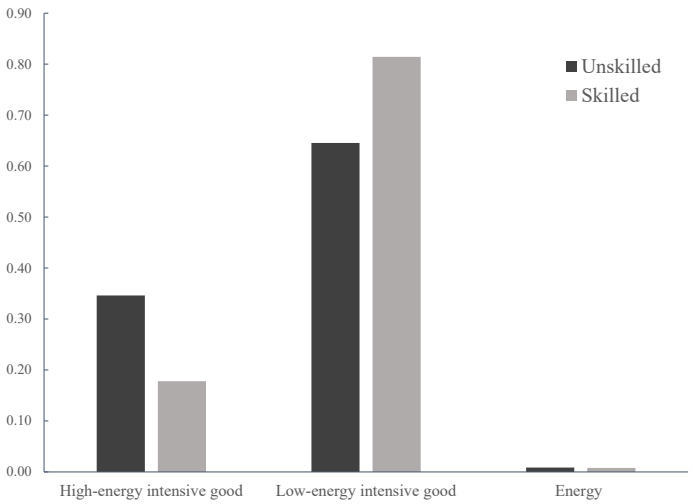
- No active role of fiscal policy
- Energy price subsidy is given both to consumers and producers
- IMF policy recommendation is to target subsidies/transfers to the most vulnerable
- How would the likelihood of self-fulfilling fluctuation change when subsidies are targeted vs. untargeted?
- Targeted subsidies may propagate self-fulfilling crisis
- Reducing untargeted subsidies may reduce propagation:
  1. Lower foreign energy producer demand
  2. Larger input prices

# The Role of Distribution

- Savers are more likely to consume energy and energy-intensive goods (WEO October 2020)
- They are also more likely to work in high energy-consume industries
- The impact of the increase in energy price may be much larger than estimated




(A) Consumption




(B) Employment by Sector (%)

## Conclusion

- Wonderful paper, this paper
- Studies how central bank monetary policy may respond to energy prices shocks.
- Finds that energy price shocks may generate self-fulling equilibrium
- Shows that changing the monetary authority's objective can reduce the likelihood of self-fulling equilibrium.