

How do supply shocks to inflation generalize? Evidence from the pandemic era in Europe

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Overview

- ▶ Understand inflation dynamics in Europe in the pandemic era
 - ▶ What led to the initial surge in inflation?
 - ▶ Why did inflation persist?
 - ▶ Why did we see a broad-based rise in the general price level?
- ▶ Can the interaction between **supply side shocks**, **household inflation expectations**, and **firms' pricing power** explain the observed inflation dynamics?
- ▶ Answer this question using a combination of datasets at the product, household, and country level and an IV estimation for causal interpretation

Main findings

1. Sectors more affected by supply chain disruptions see a greater increase in consumer prices
2. Supply shocks lead to a broad-based increase in inflation expectations of households
 - ▶ Consumers experience higher prices of goods in their consumption basket: **experience channel**
 - ▶ Exposure to news regarding supply side constraints (delays in cargo ship deliveries): **news channel**
3. Higher inflation expectations allow firms to charge higher markups even in those sectors that were initially unaffected by supply shocks
 - ▶ Inflation become generalized

Discussion

- ▶ Studies a fundamental topic in monetary and macroeconomics
 - ▶ Contributes to the ongoing discussion on the slope of the Phillips curve
- ▶ Findings relevant for monetary policy: suggest that monetary policy has a role in anchoring inflation expectations even if the shock is supply driven
- ▶ Hard to answer empirically: many macro variables are changing simultaneously; use of fixed effects and IV strategy to address this challenge

Comments

- ▶ Questions about the conceptual framework
- ▶ Suggestions on empirical analyses

Comment 1: Nature of supply-side shocks and inflation expectations

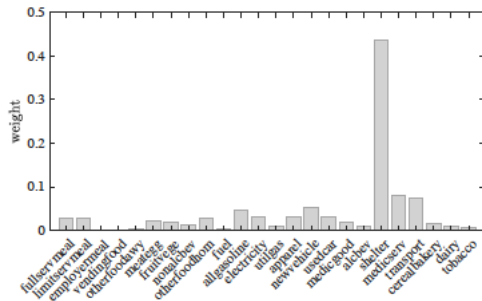
- ▶ What kind of supply-side shocks are necessary for a broad-based increase in inflation expectations?
- ▶ **Do we need the supply-side shocks to be broad-based** for a broad-based increase in inflation expectations?
 - ▶ Input used in only few sectors vs multiple sectors
 - ▶ Effect on household inflation expectations when only a single brand of luxury items consumed by the wealthiest section of the population is affected vs when the supply of a more fundamental input affecting multiple sectors is affected

Comment 1: Nature of supply-side shocks and inflation expectations

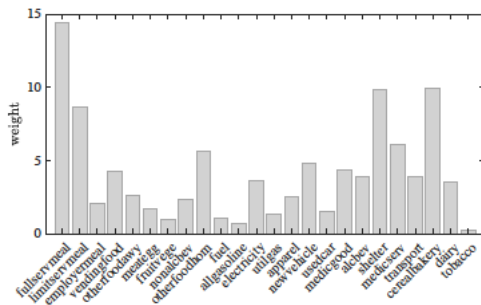
- ▶ Beaudry, Hou, and Portier (2024) build a model to understand the impact of supply-side shocks on inflation dynamics
- ▶ Some predictions on the nature of supply side shocks could be tested to better understand the impact on inflation expectations
- ▶ Agents extract a common component from their sectoral inflation signals to predict future inflation
- ▶ Findings:
 - ▶ Narrow and unsynchronized supply shocks have little impact on inflation dynamics even if the size of the each shock is large
 - ▶ Broad-based supply shocks that hit multiple sectors simultaneously lead to a generalized increase in perceived inflation

Comment 1: Nature of supply-side shocks and inflation expectations

(a) BLS weights



(b) Common Component weights



Sectors that have a high weight in the extracted common component do not have a high weight in the consumption basket

Does the **salience** of the product matter in affecting inflation expectations? For example, milk, chocolates in Switzerland?

Comment 2: Evidence on the experience channel

$$\begin{aligned}\hat{\pi}_{ht}^e = & \sum_{f \in \text{Constraint}} \beta_1 f_{ct} + \beta_2 \text{Food Inflation}_{ct} + \beta_3 \text{Energy Inflation}_{ct} + \beta_4 \text{Core Inflation}_{ct} \\ & + \beta_5 \text{High Perception}_{ht} + \mu_h + \epsilon_{ht},\end{aligned}\tag{7}$$

- ▶ Supply-side constraints measured at the country level
- ▶ Results could be affected by other country-level factors: announcement of government support measures
- ▶ Possible to measure the experience channel at a regional level by looking at the exposure of households to prices of goods in their consumption basket?
- ▶ Differences in demographics across regions, could be exposed to sectors differentially affected by supply-side shocks
- ▶ Exploiting within-country heterogeneity will help address concerns about other macro factors driving the results

Comment 2: Evidence on the news channel

- ▶ Authors find that greater interest in searching news about supply chain issues is positively related to higher inflation expectations
- ▶ Is there a more direct way of measuring the effect of news on inflation expectations?
- ▶ For example, textual analysis of news articles to see how they discuss the potential impact of supply chain disruptions on future inflation

Comment 3: Role of budget constraints in spillover to other sectors

- ▶ The last part of the paper shows that supply shocks lead to a generalized increase in inflation as sectors that are initially unaffected by supply chain disruptions are able to increase prices
 - ▶ Especially true for sectors where firms have pricing power
- ▶ This is because households expect inflation to be higher for all goods
- ▶ Upward shift of the demand curve (willingness to pay)
- ▶ What about households' ability to pay?
- ▶ Would firms' pricing power lead to a similar generalized increase in prices if the Covid shock had a significant negative impact on household incomes?
- ▶ Could you exploit heterogeneity in the 'upward shift' of demand curve for sectors unaffected by supply chain constraints to see how budget constraints interact with firms' pricing power in generating a generalized increase in inflation?

Conclusion

- ▶ Comprehensive study of inflation dynamics in Europe in the pandemic era
- ▶ Findings of the paper have practical implications for monetary policy
- ▶ Would be useful to have a discussion about whether the findings can be generalized to other inflation episodes outside Covid