

How Do Supply Shocks to Inflation Generalise? Evidence from the Pandemic Era in Europe

An NBER Working Paper

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Introduction

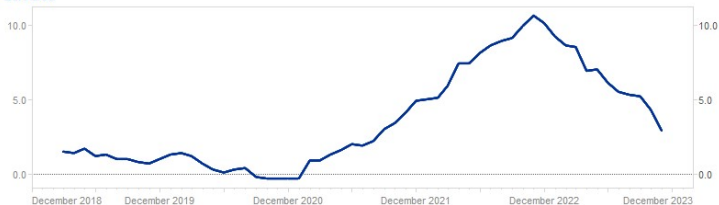
Methodology

Findings

Extensions

Inflation

HICP inflation rate - Overall index
Euro area



Blanchard and Bernanke, 2023

- Sharp increases in commodity prices and sectoral shortages

Firm Pricing Power & Mark Ups

Franzoni, Giannetti, and Tubaldi, 2023

- supply-chain constraints lead to a decrease in competition benefiting large firms

Bräuning, Fillat, and Joaquim, 2023

- increased industry concentration may amplify inflationary pressures.



Inflation Expectations

The central contribution of this paper:

- Supply shortages lead to inflationary pressures
- Upward push on inflation expectations
- Increased inflation expectation → further increased markups

Inflation Expectations

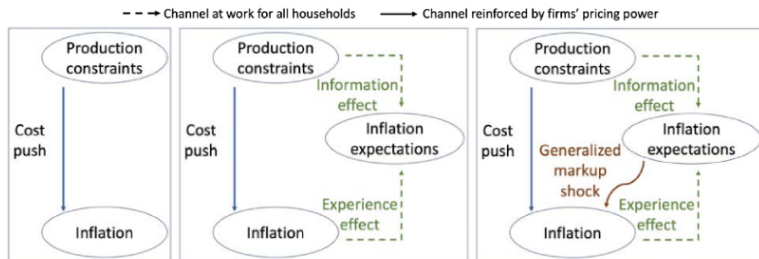


Figure 1: From supply-chain constraints and localized inflation to high inflation expectations and generalized inflation. This figure shows the main channels at the core of our hypotheses. The left panel shows how production constraints might affect inflation through a cost-push channel. The middle panel shows how production constraints and inflation might increase inflation expectations. The right panel shows how inflation expectations might contribute to the rise in generalized inflation.

Data

- Joint Harmonised EU Programme of Business and Consumer Surveys (BCS)
- ECB Consumer Expectations Survey (CES)
- Eurostat (PPI & CPI)
- Firm-level financial data from Compustat Global
- Google Trends

Regression Analysis

First type:

$$\hat{\pi}_{ct}^e = \beta_1 \text{Material}_{ct} + \beta_2 \text{Material}_{ct} \times \text{Post}_t + \beta_3 \text{Food Inflation}_{ct} + \beta_4 \text{Energy Inflation}_{ct} \\ + \beta_5 \text{Core Inflation}_{ct} + \beta_6 \text{High Perception}_{ct} + \nu_c + \epsilon_{ct},$$

Second Type:

$$\hat{\pi}_{ct}^e = \sum_{f \in \text{Constraint}} \beta_{1f} f_{ct} + \sum_{f \in \text{Constraint}} \sum_{\tau=20,21,22} \beta_{2f\tau} f_{ct} \times \text{Year}_{\tau} + \beta_3 \text{Food Inflation}_{ct} \\ + \beta_4 \text{Energy Inflation}_{ct} + \beta_5 \text{Core Inflation}_{ct} + \beta_6 \text{High Perception}_{ct} + \nu_c + \epsilon_{jct},$$

Findings

Supply shock → inflation

- Supply Shocks associated with increases in PPI
 - Firms in concentrated industries pass on higher production costs
- Supply shocks associated with increases in CPI

Supply shock → Inflation Expectations

- Lead to increased inflation expectations

Findings & Conclusion

Supply shock → Firm Mark ups

- Firms with higher ex-ante pricing power saw increased in mark ups

Inflation Expectations → Firm Mark ups

- Some evidence to show Higher HH expectations are associated with increased mark ups in 2022

Conclusion

The paper documents interactions between inflation and:

- supply-chain pressures
- firm pricing power
- and household inflation expectations

Policy Implications

- ① Unanchored Inflation Expectations
 - Decisive and clear monetary policy
 - Transparent Communication
- ② Role of competitiveness

Possible Issues

- ① Causality?
 - No counterfactual.
- ② Evidence of wide spread increase in mark-ups during the Pandemic is disputed (Weber et al., 2022)
 - Inflated prices in systematically significant sectors lead to wide-spread inflationary pressures.



Blanchard, Olivier J and Ben S Bernanke (2023). *What Caused the US Pandemic-Era Inflation?* Tech. rep. National Bureau of Economic Research.



Bräuning, Falk, Jose L Fillat, and Gustavo Joaquim (2023). “Cost-price relationships in a concentrated economy”. In.



Franzoni, Francesco A, Mariassunta Giannetti, and Roberto Tubaldi (2023). “Supply Chain Shortages, Large Firms’ Market Power, and Inflation”. In: *Large Firms’ Market Power, and Inflation (September 27, 2023)*.



Weber, Isabella M et al. (2022). “Inflation in times of overlapping emergencies: systemically significant prices from an input-output perspective”. [In.](#)