

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

An NBER Working Paper

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## Introduction

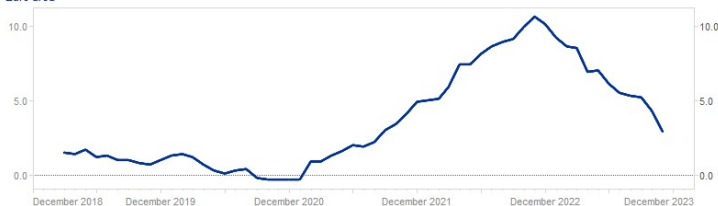
## Methodology

## Findings & Conclusion

## 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.

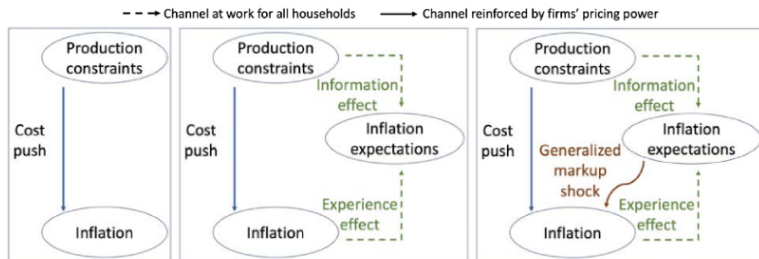


# Inflation Expectations

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

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](#).