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Do food manufacturers drive inflation in Europe? An analysis of firm-level markups and their persistence

Maximilian Koppenberg¹ and Stefan Hirsch²

¹ Business Economics Group, Wageningen University and Research, Netherlands

² Chair of Management in Agribusiness, University of Hohenheim, Germany
(s.hirsch@uni-hohenheim.de)

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Background

- EU recently facing high inflation with food prices as one of main drivers (European Central Bank, 2024)
- Food retailers and public debate accusing large multinational food and beverage manufacturers of increasing prices on back of consumers (e.g., Retaildetail, 2023; Reuters, 2023)
- However, farm-level prices increasing stronger compared to manufacturing and retail (Figure 1)

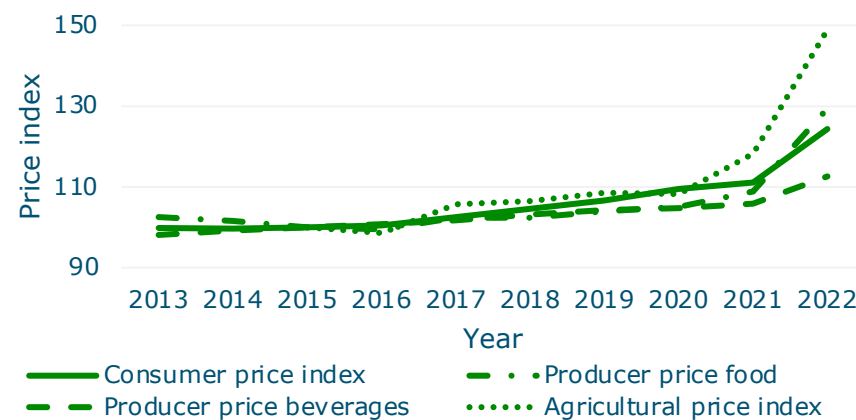


Figure 1. Output price index on farm, manufacturer and retail level

Materials & Methods

- Production function approach to estimate markups of price over marginal costs (De Loecker et al., 2020)
- Arellano and Bond (1991) dynamic panel estimator to estimate markup persistence and relationship with productivity and firm size
- Financial data from Orbis (2013-2022) for 79,358 companies comprising 411,450 observations from food and beverage manufacturing in EU

Table 1. Arellano-Bond GMM estimation of markup persistence

Variable	Coefficient estimate (robust standard error)
Markup _{t-1}	0.844*** (0.093)
Markup _{t-1} *Productivity	-0.341*** (0.086)
Markup _{t-1} *Firm Size	0.003*** (0.001)
Productivity	1.363*** (0.360)
Firm Size	-0.005*** (0.001)
Model diagnostics	
Wald χ^2	944.560 (<0.01)
Hansen χ^2 for overidentification	4.880 (0.430)
AR 2 z statistic	-0.620 (0.533)

Discussion

- No evidence of manufacturers driving inflation due to markups being flat after 2020
- Companies transmitting short-term productivity gains downstream indicated by negative link between productivity and persistence
- Larger companies defending markups more successfully in the short-run

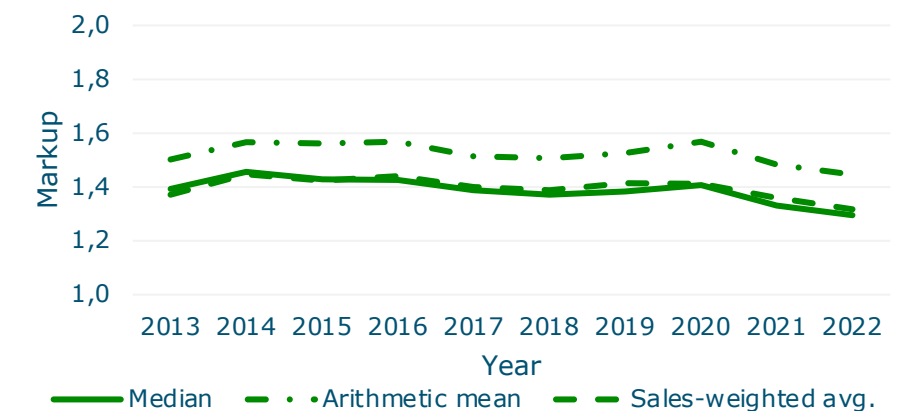


Figure 2. Median, mean and sales-weighted markups in the EU

Objective

- Estimation of markups of price over marginal cost and their persistence to identify if manufacturers abuse market power to increase markups
- Prices increasing at higher rate than marginal costs would be evidence for increased rent seeking by manufacturers

Results

- Markups flat with negative trend (Figure 2)
- Significant markup persistence (Table 1)
- Markup persistence negatively related to productivity and positively to firm size (Table 1)
- Markups linked positively to productivity and negatively to firm size (Table 1)

Conclusion

- Competition in food manufacturing stable over time
- No need for interference from public authorities indicated by results
- Retailers potentially blaming manufacturers as a marketing strategy