Market Power under Heterogeneous Financial Frictions

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Observed increase in market power in recent decades across advanced economies currently a hot topic: actual (De Loecker & Eeckhout, 2018) vs. measurement error (Gutierrez & Philippon, 2019); causes (Autor et al., 2017; Haskel & Westlake, 2017).

Agreement on two facts: 1. heterogeneous firms (markups, productivity, profits, ...); 2. estimated markups not necessarily related to actual profits (variable vs. fixed costs)
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- Rise of intangible investments in many advanced economies implies a front-loaded cost structure in many industries
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  - Rise of intangible investments in many advanced economies implies a front-loaded cost structure in many industries
  - Higher markups (measured on standard COGS) used to cover higher 'fixed' costs related to the purchase of intangibles
  - Firms' heterogeneity in the ability to access external finance (a feature of firms, eg Irlacher and Unger, 2016) then correlated with cross-sectional behaviour of markups
Firm-level data from EFIGE:
- harmonized and representative cross-country samples
- ~ 15,000 manufacturing firms (+10 employees)
- 7 countries (Austria, France, Germany, Hungary, Italy, Spain, UK)

Firm-level balance sheet information (fixed assets, sales, number of employees, ...) merged from Amadeus for the period 2002 - 2013

Link with balance sheet data allows calculation of firm-level markups and TFP over time, covering the crisis years 2008-2010

Dataset provides information on relevant firms’ characteristics (e.g. internazionalization, access to finance) observed once during the years 2008-2010
Key Variables


2. TFP: estimated through Woolridge (2013), with labor productivity (value added per employee) as robustness check

3. Financial frictions: ability to access external finance as proxied by balance sheet information
   - Whited and Wu (2006) index of financial constraints (inverted and normalized): score from 0 (no financial capability) to 1 (maximum financial capability)
   - Robustness: ratio of interests on loans to the firm’s operating revenues (higher values indicating less constrained access to external finance)
   - Robustness: normalized ASCL (Age, Size, Cash, Leverage) index of financial constraints (Mulier et al., 2016): score from 0 (constrained access to external finance) to 1 (unconstrained access)
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Markups over time, average before/after 2008


Overall trend and magnitude in line with De Loecker & Eeckhout (2018)
Markups vs. profit rates over time

Note: Weighted average of DLW(2012) markups with Woolridge(2013) TFP estimation, and profit rates calculated as EBITDA/Revenues
Markups over time by access to finance

\[ \ln \mu_{isct} = \alpha + \beta_0 \cdot \ln TFP_{isct} + \beta_1 \text{Fin Access}_{isct} + \gamma_i + \delta_{sct} + \varepsilon_{isct} \]

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1) OLS Markup</th>
<th>(2) OLS Markup</th>
<th>(3) OLS Markup</th>
<th>(4) OLS Markup</th>
<th>(5) OLS Markup ACF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln_TFP</td>
<td>1.555***</td>
<td>1.650***</td>
<td>1.591***</td>
<td>1.518***(0.00914)</td>
<td>1.518***</td>
</tr>
<tr>
<td>WW</td>
<td>0.294***</td>
<td>0.215***</td>
<td>0.254***(0.0113)</td>
<td>0.215***</td>
<td>0.254***</td>
</tr>
<tr>
<td>Interest paid / OR</td>
<td>1.198*** (0.0113)</td>
<td>1.198***</td>
<td>1.198***</td>
<td>1.198***</td>
<td>1.198***</td>
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<tr>
<td>ASCL</td>
<td>0.0604***</td>
<td>0.0604***</td>
<td>0.0604***</td>
<td>0.0604***</td>
<td>0.0604***</td>
</tr>
<tr>
<td>Labor Productivity</td>
<td>1.253*** (0.00762)</td>
<td>1.253***</td>
<td>1.253***</td>
<td>1.253***</td>
<td>1.253***</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.832***</td>
<td>-3.922***</td>
<td>-3.791***</td>
<td>-5.236***</td>
<td>-3.910***</td>
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<tr>
<td>Observations</td>
<td>49,413</td>
<td>39,389</td>
<td>47,081</td>
<td>53,052</td>
<td>56,142</td>
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<tr>
<td>R-squared</td>
<td>0.964</td>
<td>0.967</td>
<td>0.961</td>
<td>0.937</td>
<td>0.956</td>
</tr>
<tr>
<td>FE</td>
<td>i, sct</td>
<td>i, sct</td>
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<td>i, sct</td>
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<tr>
<td>SE</td>
<td>cluster mark</td>
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<td>cluster mark</td>
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</tbody>
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Note: Weighted regressions with firm and Sector x Country x Year FE, clustered s.e. Financial capability is the (inverted, normalized) Whited and Wu (2006) index calculated on balance sheet data.
Results point at a static “long-run” effect of financial factors on markups, through their interplay with firm sunk investments, and cost structure.

Results confirmed in IV regressions exploiting quasi-experimental variation in working capital needs across firms in France (Beaumont and Lenoir, 2019).

Results consistent with a theoretical model with heterogeneous financial frictions, heterogeneous marginal costs and variable demand elasticity.

General equilibrium results seem to show that a tightening of financial constraints has effects on markups through both the intensive (lower) and the extensive (higher) margin.

Key takeaway: local financial frictions can play a role in shaping how common shocks (e.g., euro-area demand shocks, monetary policy) generate a different pattern of pass-through across different countries.

Altomonte et al., 2019
Markups and Financial Frictions

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