Determinants of the wage share: Evidence from publicly listed firms for the UK and the EU14
Alexander Guschanski and Özlem Onaran
Outline

• Literature
  – The technological change hypothesis: robots and automatization
  – The superstar firm hypothesis: market concentration
  – The bargaining power hypothesis: financialisation

• This paper
  – Dataset
  – Wage share dynamics of publicly listed firms
  – Concentration
  – Financialisation
  – Empirical strategy and Results

• Conclusion and policy implications
The technological change hypothesis
(Karabarbounis and Neiman 2014; Bentolila and Saint-Paul 2003)

- Hypotheses:
  - ↓ Relative price of capital &
  - ↑ offshoring labour intensive tasks →
  - ↑ capital-output ratios
  - Elasticity >1
  - Ambiguous impact of measures of bargaining power

- Evidence
  - Capital-output ratio mostly constant (ICT capital ratios increased)
  - Elasticity ≤1
  - Positive impact of bargaining power
The superstar firm hypothesis

• ↑ Concentration → ↓ wage share
• Different mechanisms
  – Barkai 2016: Consistent with between & within effect
    • ↓ Competition → ↑ concentration → ↑ mark-ups → ↓ WS
  – Autor et al. 2017: |between effect| > |within effect|
    • ↑ Competition → ↓ mark-ups → ↑ within WS
    • ↑ Competition → ↑ concentration → ↓ between WS (scale effects)
The bargaining power hypothesis
(Stockhammer 2017; Blanchard & Giavazzi 2003; Rodrik 1998)

- Traditionally focus on labour market institutions & globalisation
  - Decline in union density & collective bargaining coverage
  - Stricter strike legislation
  - Increased mobility of capital: offshoring-threat
  - Labour market flexibility and decreases in gross replacement ratios

- Financialisation:
  ‘the increasing role of financial motives, financial markets, financial actors […] in the operation of the domestic […] economies.’
  - Epstein (2005)
Change in corporate governance and financialisation

- Financial motives
  - Shareholder value maximisation \(\rightarrow\) Performance-based pay, stock options, market for corporate control (Jensen & Fama 1983; Jensen & Murphy 1990)
  - Effects: ↑ productivity (Palia & Lichtenberg 1999); ↑ work intensity (Bryan et al. 2009); wage suppression (Lazonick 2014)

- Financial actors
  - ↑ Financial payments \(\rightarrow\) ↑ mark-ups (Hein 2015; Dunhaupt 2016)

- Financial markets
  - Alternative source for profits increases fall-back options of capital (Lin & Tomascovic-Devey 2013)

- Three channels. All based on a within firm effect on the wage share
Dataset

- Worldscope, supplied by Thomson Reuters
- Publicly listed companies in the UK, Germany and France (1995 – 2016)
  - Effect of financialisation relevant for listed companies
- International comparability
- Information on financial incomes and payments
- Consolidated balance sheets:
  - Captures global output of the firms
  - Not possible to reconstruct country-level aggregate labour share
Aggregate labour share (publicly listed firms)
Aggregate labour share (publicly listed firms)

Normalised aggregate Labour Share (1995=1)
Preconditions of the ‘superstar firm’ hypothesis

• Did concentration increase in countries other than the US?
• Are changes in the aggregate labour share driven by within-firm changes in the labour share or between-firm reallocation of output?
Evidence for the EU for publicly listed companies

• Did concentration increase in countries other than the US?
  – Concentration constant or even declining in France, Germany, the UK, and Sweden based on Herfindahl Index and market share of the 4 largest firms
  – Result confirmed in EU14 sample (including the UK)
  – Confirmed with CompNet database for France and Germany

• What drives the change in the aggregate wage share of publicly listed firms?
  – Within component explains largest share in France & Germany
  – Between component relevant for the UK until the Great Recession (1995-2007); Post-2007 within component dominates

→ Focus on the technological and bargaining power variables
Did concentration increase in European publicly listed firms?

<table>
<thead>
<tr>
<th>Measure</th>
<th>Database</th>
<th>Top10-sales share</th>
<th>Top4-sales share</th>
<th>Herfindahl-Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td></td>
<td>CompNet</td>
<td>Worldscape</td>
<td></td>
</tr>
<tr>
<td>Share of sector with a decline in concentration</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>France</td>
<td>Germany</td>
<td>EU14+UK</td>
<td>EU14+UK</td>
<td></td>
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<tr>
<td>2000-2007</td>
<td>31/44</td>
<td>27/51</td>
<td></td>
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<tr>
<td>2000-2012</td>
<td>23/44</td>
<td>21/51</td>
<td></td>
<td></td>
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<tr>
<td>1995-2007</td>
<td></td>
<td>29/35</td>
<td>31/36</td>
<td></td>
</tr>
<tr>
<td>1995-2015</td>
<td></td>
<td>28/35</td>
<td>30/36</td>
<td></td>
</tr>
</tbody>
</table>

Top10 sales share - CompNet

- c10_France
- c10_Germany
What drives the change in the aggregate wage share of publicly listed firms?

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>ΔWage share</th>
<th>Within effect</th>
<th>Between effect</th>
<th>Covariance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The UK</td>
<td>1995-2007</td>
<td>-0.037</td>
<td>14%</td>
<td>83%</td>
<td>3%</td>
</tr>
<tr>
<td>France</td>
<td>1995-2007</td>
<td>-0.179</td>
<td>97%</td>
<td>16%</td>
<td>-13%</td>
</tr>
<tr>
<td>Germany</td>
<td>1995-2007</td>
<td>-0.214</td>
<td>93%</td>
<td>-4%</td>
<td>11%</td>
</tr>
<tr>
<td>EU14 + UK</td>
<td>1995-2007</td>
<td>-0.149</td>
<td>83%</td>
<td>14%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Net Financial payments are increasing

Trend driven by:
↑ dividend payment
Despite: ↑ interest & dividend income &
↓ interest payments
Estimation strategy

- \( WS_{i,t} = \alpha_{WS} WS_{i,t-1} + \alpha_G GROWTH_{i,t} + \alpha_{KI} CAPITAL\ INTENSITY_{i,t} + \alpha_{FNC} FINANCIALISATION + \varepsilon_{i,t} \)
- Net- WS: excluding depreciation from value added
- Financialisation: separate variables for dividend & interest payments, dividend & interest income
- Data cleaning
- Estimation method: difference- & system-GMM
  - General to specific & most robust to most efficient
  - Within-firm WS decline
  - Endogeneity
## Dependent variable: Firm-level Wage Share

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<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>-0.359***</td>
<td>-0.069</td>
<td>-0.267**</td>
<td>-0.623**</td>
<td>-0.247***</td>
</tr>
<tr>
<td>Capital Intensity</td>
<td>0.403***</td>
<td>0.015</td>
<td>0.046</td>
<td>0.117</td>
<td>0.081***</td>
</tr>
<tr>
<td>Capital Intensity(-1)</td>
<td>-0.129*</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Financial Income</td>
<td>0.120</td>
<td>-0.007</td>
<td>0.028</td>
<td>-0.024</td>
<td>0.005</td>
</tr>
<tr>
<td>Financial Income(-1)</td>
<td></td>
<td>0.120</td>
<td>0.028</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>Dividend Payments</td>
<td>-0.103*</td>
<td>-0.038***</td>
<td>-0.027**</td>
<td>-0.014**</td>
<td>-0.006**</td>
</tr>
<tr>
<td>Dividend Payments(-1)</td>
<td></td>
<td>-0.103*</td>
<td>-0.038***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Payments</td>
<td>-0.181**</td>
<td>-0.029*</td>
<td>0.009</td>
<td>0.106*</td>
<td>0.020**</td>
</tr>
<tr>
<td>Interest Payments(-1)</td>
<td></td>
<td>-0.181**</td>
<td>-0.029*</td>
<td>0.106*</td>
<td></td>
</tr>
<tr>
<td>Wage Share(-1)</td>
<td>0.245***</td>
<td>0.272***</td>
<td>0.182***</td>
<td>0.141***</td>
<td>0.225***</td>
</tr>
<tr>
<td>Constant</td>
<td>0.509***</td>
<td>0.722***</td>
<td>0.547***</td>
<td>0.550***</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

- **Year Dummies**: Yes
- **Estimator Type**: Diff-GMM, System-GMM, Sys-GMM, Sys-GMM, Sys-GMM
- **Hansen Test (pval)**: 0.318, 0.579, 0.307, 0.184, 0.199
- **DiffHansen (pval)**: 0.117, 0.422, 0.632, 0.184
- **AR1 Test (pval)**: 0.000, 0.001, 0.000, 0.037, 0.000
- **AR2 Test (pval)**: 0.489, 0.327, 0.670, 0.995, 0.583
- **Instruments**: 138, 149, 146, 148, 146
- **Number of Firms**: 361, 558, 381, 198, 2272
- **F-test**: 7.130, 8.933, 6.242, 4.866, 15.228
- **Observations**: 3845, 7771, 4720, 2135, 29024
Results

• Negative effect of dividend payments on the labour share in the UK, Germany, France, Sweden and EU14+UK pool
• Negative effect of interest payments in France and the UK, insignificant in Germany, positive in Sweden and the EU-pool
• Effect is robust when controlling for capital intensity and the business cycle
• Robust when controlling for sector specific trends (union density & concentration)
• Evidence for endogeneity between explanatory variables & wage share → confirms choice of GMM
Conclusion

• Declining labour share in European publicly listed firms
• Weak evidence for superstar firm & technological change hypotheses among publicly listed firms in Europe
  – Concentration did not increase
  – Between effect does not dominate decline in the labour share, except for the UK pre-2007
  – No negative effect of capital intensity
• Dividend payments have a negative impact on labour share in the UK, Germany, France and Sweden. Also evidence for EU14+UK pool
• We cannot falsify other hypotheses (different sample) but results suggest that without financialisation the labour share would have declined less
• Policy conclusions: Reregulating finance could boost the wage share and investment (Tori and Onaran 2017; Lazonick 2014)
References