The Fall of the Labor Share and the Rise of Superstar Firms

David Autor, MIT and NBER
David Dorn, University of Zurich and CEPR
Lawrence Katz, Harvard and NBER
Christina Patterson, MIT
John Van Reenen, MIT and NBER

NBER, CRIW, June 2017
Figure 1: International Comparison: Labor Share by Country

Notes: Each panel plots the ratio of aggregate compensation over value-added for all industries in a country based on KLEMS data.
Significance of decline in Labor share

• Overturns a key ‘Kaldor fact’
• Fall is real and significant
  • Elsby et al. ’13; Karabarbounis & Neiman ’14; Rognlie ’14; Koh et al. ’16; Piketty ’14; Bridgeman ‘14
• Why is this a concern?
  1. Slow GDP growth → Labor getting a shrinking slice of slow-growing pie
  2. Since distribution of capital far more unequal than distribution of labor → Growing income inequality (IMF, ’17)
Causes of the Falling Labor Share?

Role of technology: Karabarbounis & Neiman ‘14

- Falling capital price (mainly due to ICT) and, critically, elasticity of L-K subst $\sigma > 1$
- But empirical literature suggests $\sigma \leq 1$, e.g., Lawrence ‘15, Oberfield-Raval ‘14, Antras ‘04, Hamermesh ‘90

Role of trade exposure: Elsby et al. ‘13

- Driven by falling labor share in trade-impacted manufacturing industries (China competition)
- But hard to explain why also in non-manufacturing

These representative firm models leave out fact that aggregate fall is reallocation between firms
Contributions of this Paper

Discuss a ‘Superstar Firms’ hypothesis (Furman & Orszag ’15)

• Large firms tend to have lower labor shares
• Rising prevalence of “winner take most” competition
• Small set of large firms capture increasing share of market, aggregate labor share falls due to reallocation

Presents evidence consistent with this hypothesis

1. Three decades of outcome measures
2. U.S. firm & establishment data – Economic Censuses from multiple sectors (not just manufacturing)
3. Cross-national OECD comparisons using industry (KLEMS, COMPNET) & firm-level (BVD ORBIS) data
Some Related Literature

General Trends: Piketty ’14; IMF ’17

Explanations of labor share fall: (a) Measurement: Rognlie ’14; Koh et al. ’16; (b) Market Power: Kalecki ‘38; Barkai ’16; Berkowitz et al ‘17; (c) ICT: Karabarbounis & Neiman ‘14; (d) Trade: Elsby et al ’13; (e) Regulations & Institutions: Blanchard & Giavazzi ’03; Azmat et al ’12;

“Superstar” Firms: Brynjolfsson & McAfee ’08; Furman & Orszag ’15; Bain ‘51; Demsetz ‘73; Schmalensee ‘87

Productivity: Andrews et al ’15; Bartelsman et al ’13

Firms & Inequality increase: Davis & Haltiwanger, ’92; Faggio et al, ’10; Card et al ‘13; Song et al ’17

Firm-level Decompositions of labor share: Bockerman & Maliranta ’12; Kehrig & Vincent ’17
Overview

1. A Model of Superstar Firms

2. Data and Measurement

3. Empirical Evidence
   - Sales Concentration rises
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
Heterogeneous firms $i$ in an industry, $A_i$ (TFPQ)

- $Y_i = A_i V_i^{1-\alpha} K_i^\alpha$
  - $Y$ = value-added
  - $K$ = capital
  - $V$ = variable labor
- Total labor input is $L = V + F$; where $F$ is overhead labor, a fixed cost of production
- Competitive factor markets: wage $w$, capital cost $r$
- Imperfectly competitive product markets with a mark-up $\mu_i$ of price $P_i$ over marginal cost $c_i$
The Firm-level Labor Share, $S_i$

First Order Condition wrt labor gives labor share $S = \text{payroll } wL$ in nominal value added $PY$ for firm $i$

$S_i = \left( \frac{wL}{PY} \right)_i = \frac{1-\alpha}{\mu_i} + \frac{wF}{(PY)_i}$

• More productive (high $A_i$) firms will have larger sales and lower labor shares because their:
  1. Share of fixed costs $wF$ in total revenues is lower
  2. Mark-up $\mu_i$ is higher (in some imperfect competition models such as Cournot)

• Change in the environment ($z$) which reallocates more market share to productive firms will tend to reduce the aggregate labor share
The Industry Aggregate Labor Share

- \( S = \sum \omega_i S_i \); \( \omega_i = \frac{P_i Y_i}{\sum P_i Y_i} \); value added share of firm \( i \)

Olley-Pakes ’96 decomposition applied to labor share:

\[
S = \left[ \sum (\omega_i - \bar{\omega})(S_i - \bar{S}) \right] + \bar{S}
\]

- Aggregate labor share divided into:
  1. **Reallocation** (covariance) term \( \sum (\omega_i - \bar{\omega})(S_i - \bar{S}) \)
     - bigger firms have lower labor shares
  2. Cross-firm **unweighted average**, \( \bar{S} \)

- The effect of a change in economic environment depends on the effects on between-firm reallocation and “within firm” unweighted mean
Overview

1. A Model of Superstar Firms

2. Data and Measurement

3. Empirical Evidence
   - Sales Concentration rises
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
Data Sources (USA)

Labor share and sales concentration

- US Economic Censuses, 1982 - 2012
- Conducted every 5 years
- Use six sectors covering ~ 80% of private sector jobs
  1. Manufacturing
  2. Retail
  3. Wholesale
  4. Services
  5. Finance
  6. Utilities & Transportation
- 5.2 million establishment-year observations
- 4.0 million firm-year observations
Measurement

Measuring labor share

- Manufacturing sector
  - payroll/ value-added
- All other sectors
  - payroll / sales

Measuring sales concentration

- Time consistent industries (built on 4-digit SIC-87)
  - 288 in non-manufacturing, 388 in manufacturing
- CR4, CR20, HHI (Herfindahl-Hirschman Index)
- Robust to adjusting for contribution of imports to domestic market size
Table 5: Basic Descriptive Relationship—Larger Firms Have Lower Labor Shares

\[ S_{ijt} = \gamma_t + \beta \text{SalesShare}_{ij} + \varepsilon_{ijt} \]
Overview

1. A Model of Superstar Firms
2. Data
3. Empirical Evidence
   - Concentration rises
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope
4. Discussion
Table 4: Rising Concentration in Manufacturing and Finance

Manufacturing Sector

Finance Sector

Notes: Weighted average of 4 digit industries within each large sector. Manufacturing: 388 inds; Finance: 31
Table 4 – cont.: Rising Concentration in Services and Utilities + Transport

Service Sector

Utilities + Transportation Sector

Notes: Weighted average of 4 digit industries within each large sector. Services: 95; Utilities & Transport: 48;
Table 4 – cont.: Rising Concentration in Retail and Wholesale Trade

**Retail Trade**

**Average Concentration**
4-digit Industries in Retail Trade

**Notes:** Weighted average of 4 digit industries within each large sector. Retail: 58; Wholesale: 56
Overview

1. A Model of Superstar Firms
2. Data
3. Empirical Evidence
   - Concentration rises
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope
4. Discussion
Table 3: Rising Concentration $\rightarrow$ Falling Labor Share; Manufacturing, 5 year changes

\[
\Delta \left( \frac{\text{Payroll}}{\text{Value Added}} \right)_{jt} = \Delta S_{jt} = \alpha + \beta \Delta \text{Conc}_{jt} + \gamma_t + \varepsilon_{jt}
\]

<table>
<thead>
<tr>
<th></th>
<th>CR4</th>
<th>CR20</th>
<th>HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Baseline</td>
<td>-0.148**</td>
<td>-0.234**</td>
<td>-0.189*</td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
<td>(0.047)</td>
<td>(0.096)</td>
</tr>
</tbody>
</table>

Notes: ** 1% significance; * 5%; ~ 10%; 2,328 obs & 288 SIC4; SE clustered by ind
Table 3: Rising Concentration $\rightarrow$ Falling Labor Share; Manufacturing, 5 year changes

$$
\Delta \left( \frac{\text{Payroll}}{\text{Value Added}} \right)_{jt} = \Delta S_{jt} = \alpha + \beta \Delta \text{Conc}_{jt} + \gamma_t + \varepsilon_{jt}
$$

<table>
<thead>
<tr>
<th></th>
<th>CR4</th>
<th>CR20</th>
<th>HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Baseline</td>
<td>-0.148</td>
<td>**</td>
<td>-0.234</td>
</tr>
<tr>
<td></td>
<td>(0.036)</td>
<td></td>
<td>(0.047)</td>
</tr>
<tr>
<td>2 Compensation Share of Value Added</td>
<td>-0.175</td>
<td>**</td>
<td>-0.264</td>
</tr>
<tr>
<td></td>
<td>(0.046)</td>
<td></td>
<td>(0.061)</td>
</tr>
<tr>
<td>3 Deduct Service</td>
<td>-0.331</td>
<td>**</td>
<td>-0.517</td>
</tr>
<tr>
<td>Intermediates from VA</td>
<td>(0.062)</td>
<td></td>
<td>(0.071)</td>
</tr>
<tr>
<td>4 Industry Trends (Four-Digit Dummies)</td>
<td>-0.171</td>
<td>**</td>
<td>-0.307</td>
</tr>
<tr>
<td></td>
<td>(0.042)</td>
<td></td>
<td>(0.053)</td>
</tr>
<tr>
<td>5 1992 - 2012 Sub-Period</td>
<td>-0.181</td>
<td>**</td>
<td>-0.316</td>
</tr>
<tr>
<td></td>
<td>(0.044)</td>
<td></td>
<td>(0.063)</td>
</tr>
<tr>
<td>6 Including Imports (1992 - 2012)</td>
<td>-0.204</td>
<td>**</td>
<td>-0.288</td>
</tr>
<tr>
<td></td>
<td>(0.052)</td>
<td></td>
<td>(0.045)</td>
</tr>
</tbody>
</table>

Notes: ** significant at 1% level; * = significant at 5% level; ~ = significant to 10% level
Figure 6: $\Delta$Labor Share of Sales regressed on $\Delta$Concentration: Results Across Six Sectors

\[ \Delta S_{jkt} = \alpha_k + \beta_k \Delta CR20_{jt} + \gamma_t + \epsilon_{jt} \]

Notes: OLS Regression coefficient of $\Delta$lab share (payroll over sales) on CR20 (5 year changes); 95% confidence intervals; 1982-2012.
Overview

1. A Model of Superstar Firms

2. Data

3. Empirical Evidence
   - Concentration rises while labor share falls
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
Fig 9: Melitz-Polanec (2015) Decomp Between firm reallocation is main component; Manufacturing

Notes: MP decomposition over 5 year periods, aggregated to two 15 year periods
Fig 9: Melitz-Polanec Decomposition Between firm reallocation is main component; Manufacturing

Notes: MP decomposition over 5 year periods, aggregated to two 15 year periods
Fig 10: \( \Delta \) Labor-Share Decomposition in 6 Sectors; Reallocation component dominates

Notes: MP decomposition over 5 year periods, aggregated over the full sample period
10: ∆ Labor-Share Decomposition in 6 Sectors
Unweighted av lab share for incumbents rises

Notes: MP decomposition over 5 year periods, aggregated over the full sample period
Overview

1. A Model of Superstar Firms

2. Data

3. Empirical Evidence
   - Concentration rises while labor share falls
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely a reallocation between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
11. Regression of \( \Delta \) Labor Share Components on Sector Level \( \Delta \) CR20: Loads on reallocation term
1. A Model of Superstar Firms

2. Data

3. Empirical Evidence
   - Concentration rises while labor share falls
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
Summary of Empirical Findings

1. A pervasive fall in labor share across countries

2. Mainly due to reallocation of sales between-firms within industries rather than within-firm changes

3. Industries with largest increases in concentration had largest falls in labor share

4. And this was due to the reallocation component of falling labor share, not a general fall in share

5. Comparable international findings in industry & firm-level data across OECD countries
1. A Model of Superstar Firms

2. Data

3. Empirical Evidence
   - Labor share falls while sales concentration rises
   - Industries with larger increases in concentration see larger falls in labor share
   - Labor share falls largely between firms
   - Reallocation component of falling labor share is largest in industries with rising concentration
   - Patterns are broadly international in scope

4. Discussion
What’s Not Going on

Results do not appear explained by

- Purely U.S.-specific factors such as antitrust law; weakening labor institutions
- Susceptibility to ‘routine-replacing technical change’
- ‘China shock’ – trade exposure not major predictor (Table A6)
Not simple “Rigged Economy” story: Concentrating industries have fastest increases in innovation & Productivity

Correlation Between Changes in Industry Concentration and Changes in Industry Characteristics

- Patents Per Worker
- Output Per Worker
- Mat. Costs Per Worker
- Assets Per Worker
- 5-factor TFP
- Payroll Per Hour

Regression Coefficient

Range: -2 to 2
Conclusions

• Develop Superstar Firm model to explain fall in labor share

• Generates 5 predictions that are consistent with US and international micro-data

• Concern that even if superstars become dominant on the merits, can now erect entry barriers

• Next steps: Link to general increase in inequality between workers (Song et al, 2017)
Thank You!
Figure 3.1. Evolution of the Labor Share of Income (Percent)

The labor share of income has been on a downward trend in both advanced economies and emerging market and developing economies.

Sources: CEIC database; Karabarbounis and Neiman (2014); national authorities; Organisation for Economic Co-operation and Development; and IMF staff calculations.

Note: For advanced economies the figure shows averages weighted by nominal GDP in current U.S. dollars. For emerging market and developing economies the figure shows year fixed effects weighted least squares regressions (using nominal GDP weights) that also include country fixed effects. Year fixed effects are normalized to reflect the level of the labor share in 2000.

Example of Superstar Firm Model (akin to Bartelsman et al. ‘13, AER)

- Monopolistic competition: CES demand with consumer price elasticity $\rho > 1$
- Firms pay sunk cost of entry $\kappa > 0$ for random draw of productivity $A_i$
- Low productivity firms who cannot cover fixed costs exit. Selection on extensive margin

$$\tilde{A}^\rho = \frac{b^{\rho-1}r^\alpha \rho W^{1-\rho\alpha} F^{1-\rho\gamma}}{\alpha^\rho \alpha (\gamma - \alpha) \rho^{(\gamma - \alpha)} \rho^\rho \left(1 - \gamma \rho\right)^{1-\gamma \rho}}$$

- Revenues of producing firms increases in relative productivity. Selection on intensive margin
Some Predictions

1. Consider \textbf{Rise} in product market competition $\rho \uparrow$
   - Output shifts to high $A_i$ (low labor share) firms
   - This reallocation will push down the aggregate labor share

2. Note
   - Fall of labor share reinforced by selection on the extensive margin as low productivity/high labor firms exit when competition gets tougher
   - But offset by squeeze on profit margins of incumbent firms which will lifts firm-specific labor share
Example of Superstar Firm Model

\[ K_i^* = A_i^{1-\rho} \Omega (w, r) \]

\[ V_i^* = L_i^* - F = A_i^{1-\rho\gamma} \frac{r(\gamma - \alpha)}{w\alpha} \Omega \]

\[ S_i = \frac{wL_i^*}{P_iY_i} = \frac{wF}{P_iY_i} + wb^{\rho-1} \left( \frac{r(\gamma - \alpha)}{w\alpha} \right)^{1-\rho(\gamma - \alpha)} \Omega^{1-\rho\gamma} \]

For pair of firms \( A_i > A_j \) implies

\[ \omega_i/\omega_j = \left( A_i/A_j \right)^{(\rho-1)/\rho(1-\rho\gamma)} > 1 \]

Higher \( \rho \) amplifies effect of productivity differences on market shares
How Aggregate Labor Share changes when environment shifts (z)

\[
\frac{\partial S}{\partial z} = \frac{\partial}{\partial z} \left[ \sum (\omega_i - \bar{\omega})(S_i - \bar{S}) \right] + \frac{\partial \bar{S}}{\partial z}
\]

**Reallocation Effect:** what effect of z on covariance of firm relative size & firm relative labor share?

**Within firm effect:** what effect of z on the unweighted labor share average
How Aggregate Labor Share changes when product market competition rises ($\rho \uparrow$).

Example: 2 Firms, both stay in market; $A_1 > A_2 \Rightarrow \omega_1 > \omega_2$; $z = $ increase in competition ($\rho \uparrow$).

\[ \frac{\partial S}{\partial \rho} = \frac{\partial \omega_1}{\partial \rho} (S_1 - S_2) + \omega_1 \frac{\partial S_1}{\partial \rho} + (1-\omega_1) \frac{\partial S_2}{\partial \rho} \]

- Size share of superstar firm rises
- Labor share of superstar firms are always smaller
- Change in labor share within each firm (weighted by market shares)

**Reallocation Effect:** as superstar firm (with low lab share) gains bigger market share: $S \downarrow$

**Within firm effect:** both firms see a rise in labor share as competition squeezes margins, $S \uparrow$
Change in the Labor Share in US manufacturing

Figure 2: The Labor Share in Manufacturing

Notes: This figure plots the aggregate labor share in manufacturing from 1982-2012. The green circles (plotted on the left axis) represent the ratio of wages and salaries to value-added. The red diamonds (also plotted on the left axis) include a broader definition of labor income and plots the ratio of wages, salaries and fringe benefits to value-added. The blue squares (plotted on the right axis) show wages and salaries normalized by sales rather than value-added.
Change in Labor Share (Payroll-Sales Ratio): Manufacturing, Finance

Panel A: Manufacturing

Panel B: Finance
Change in Labor Share (Payroll-Sales Ratio): Services, Utilities & Transportation

Panel C: Services

Panel D: Utilities and Transportation
Change in Labor Share (Payroll-Sales Ratio): Retail and Wholesale Trade

Panel E: Retail Trade

Panel F: Wholesale Trade
Falling Labor Share of Value-Added Evident in Many Countries

Karabarbounis and Neiman, 2014

Figure II
Declining Labor Share for the Largest Countries
Table 5: Basic Descriptive Relationship - Larger Firms Have Lower Labor Shares

\[ S_{ijt} = \gamma_t + \beta \text{SalesShare}_{ij} + \varepsilon_{ijt} \]
Table 3: Results in 6 Broad Sectors ($\Delta$Labor Share of Sales)

$$\Delta S_{jt} = \alpha + \beta \Delta Conc_{jt} + \gamma_t + \varepsilon_{jt}$$

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$n = 2328; 1,164$</td>
<td>-0.064 **</td>
<td>-0.087 **</td>
<td>-0.107 **</td>
<td>$n = 348; 174$</td>
<td>-0.036 ~</td>
<td>-0.085 *</td>
<td>-0.045 ~</td>
<td>$n = 570; 285$</td>
<td>-0.090</td>
<td>-0.127 **</td>
<td>-0.354 **</td>
<td>$n = 336; 168$</td>
<td>-0.035 **</td>
<td>-0.039 *</td>
<td>-0.079 *</td>
<td>$n = 124; 62$</td>
<td>-0.230 **</td>
<td>-0.265 **</td>
<td>-0.565 **</td>
<td>$n = 144; 48$</td>
<td>-0.118 **</td>
<td>-0.116 **</td>
<td>-0.434 **</td>
<td>$n = 3,850; 1,901$</td>
<td>-0.076 **</td>
<td>-0.093 **</td>
<td>-0.144 **</td>
</tr>
<tr>
<td>(0.013)</td>
<td>(0.024)</td>
<td>(0.027)</td>
<td>(0.021)</td>
<td>(0.037)</td>
<td>(0.026)</td>
<td>(0.057)</td>
<td>(0.037)</td>
<td>(0.083)</td>
<td>(0.012)</td>
<td>(0.016)</td>
<td>(0.039)</td>
<td>(0.018)</td>
<td>(0.018)</td>
<td>(0.070)</td>
<td>(0.043)</td>
<td>(0.158)</td>
<td>(0.083)</td>
<td>(0.080)</td>
<td>(0.204)</td>
<td>(0.026)</td>
<td>(0.044)</td>
<td>(0.054)</td>
<td>(0.016)</td>
<td>(0.022)</td>
<td>(0.028)</td>
<td>(0.019)</td>
<td>(0.024)</td>
</tr>
</tbody>
</table>

Significance at the **1% level, *5% level, ~10% level. Each cell is the coefficient on a concentration measure from a separate OLS regression (standard errors in parentheses clustered by industry). Time period is 1982-2012 using different Censuses aggregated up to four digit industry level. The combined regression in row 7 includes 6 sector fixed effects. Regressions are weighted by the share of sales of the four digit industry in total sector sales in the initial year.
7. Negative relationship between $\Delta$ Labor Share & $\Delta$ Concentration strengthening; Manufacturing

\[ \Delta \left( \frac{\text{Payroll}}{\text{Value Added}} \right)_{jt} = \Delta S_{jt} = \alpha_t + \beta_t \Delta CR20_{jt} + \epsilon_{jt} \]

**Correlation Between the Change in Labor Share and the Change in Concentration**

**Notes:** Average $\beta = -0.148$ over period as a whole (including time dummies). Concentration changes account for bigger % of lab share change in post 1997 period (about 34% of manufacturing change)
7. Relationship between change in lab share of sales & concentration over time
<table>
<thead>
<tr>
<th>Service Sector</th>
<th>Utilities + Transportation Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example: About a third ($0.32 = 0.8/2.5$) of 2012-1982 decline in labor share accounted for by concentration increases.
Fig 8: ‘Explained’ Share of Falling Labor Share

5 Year Change Dummies With and Without CR20

Manufacturing

Dependent variable is the wage-to-sales ratio.
Concentration is defined using sales.
Fig 8: ‘Explained’ Share of Falling Labor Share

Retail Trade

Wholesale Trade

\[ S = \bar{S} + \left[ \Sigma (\omega_i - \bar{\omega})(S_i - \bar{S}) \right] \]

- Aggregate labor share \( S \) divided into
  1. Cross-firm **unweighted average**, \( \bar{S} \)
  2. **Reallocation** (covariance) term \( \Sigma (\omega_i - \bar{\omega})(S_i - \bar{S}) \)
Extended OP Decomposition: Melitz-Polanec (2015) add Entry + Exit

\[ \Delta S = \Delta \bar{S}_S + \Delta \left[ \Sigma (\omega_i - \bar{\omega})(S_i - \bar{S}) \right] \\
\quad + \omega_{X,1} (S_{S,1} - S_{X,1}) + \omega_{E,2} (S_{E,2} - S_{S,2}) \]

1. \( \Delta \bar{S}_S \) is the change in unweighted mean labor share within surviving firms
2. \( \Delta \left[ \Sigma (\omega_i - \bar{\omega})(S_i - \bar{S}) \right] \) is reallocation between survivors
3. \( \omega_{X,1} (S_{S,1} - S_{X,1}) \) is contribution of exiting firms
4. \( \omega_{E,2} (S_{E,2} - S_{S,2}) \) is contribution of entering firms
Figure 12 Panel A: Correlations of Labor Share Levels Across Countries

Average correlation coefficient from pairwise correlations between indicated country and each of the 11 other countries
Figure 12 Panel B: Correlation of Labor Share Changes Across Countries

Average correlation coefficient from pairwise correlations between indicated country and each of the 11 other countries; fraction of negative correlations.
IndustryRegs of Δ Labor Share of Sales on Δ Concentration (COMPNET, 10 year change)
Figure 13: $\Delta$Labor Share: Within/Between-Firm Decomposition by Country (BVD Orbis Data)

- **Sweden ('03-'08)**: -10.4 (Between-Firm), 7.6 (Within-Firm)
- **UK ('03-'08)**: -7.1 (Between-Firm), -0.5 (Within-Firm)
- **Germany ('05-'10)**: -5.5 (Between-Firm), -3.9 (Within-Firm)
- **Italy ('05-'10)**: -2.7 (Between-Firm), 0.6 (Within-Firm)
- **France ('03-'08)**: -1.3 (Between-Firm), -0.4 (Within-Firm)
- **Portugal ('05-'10)**: -1.2 (Between-Firm), 0.2 (Within-Firm)