“The Fall of the Labor Share and the Rise of Superstar Firms”
by Autor, Dorn, Katz, Patterson, Van Reenen

Discussion by Matthias Kehrig

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What this paper does

Empirical contributions:

1. The labor share decline at aggregate/sectoral/industry level stems from reallocation of value added between firms, not a decline of firm-level labor shares.

2. Sales concentration within industries rises over time.

3. Increasing concentration and declining labor shares seem related.

Theoretical interpretation: A model of 'superstar firms' that are highly productive, charge a relatively higher markup, are large producers ⇒ have a big weight in the aggregate labor share.
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1. highly productive,
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3. are large producers ⇒ have a big weight in the aggregate labor share.
Comment 1: On the implications of fixed costs

Two model variants: First has fixed input costs à la Melitz (2003).

- Production: \( Y_i = z_i (N_i - F)^{\alpha K_i^{\beta}} \) implies labor share \( S_i = \frac{w_i N_i}{P_i Y_i} = \alpha + \frac{w_i F}{P_i Y_i} \).
  
- The last term will be small for highly productive firms that are large (big \( P_i Y_i \)) and have a low labor share.
  
- The aggregate labor share may decline if...

...the productivity distribution widens (highly productive firms expand thus lowering their labor share while marginal surviving firm almost unaffected).
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     ⇒ How does the dispersion of productivity evolve over time?
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- Estimate TFP using establishment-level data (manufacturing only) and study cross-sectional dispersion $\text{Var}(\log z)$:

**Figure 1: Secular run-up in TFP dispersion**

Note: From Kehrig (2011): “The Cyclicality of Productivity Dispersion,” Appendix C.2, Fig. 14
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  **Figure 1:** Secular run-up in TFP dispersion

  ![Figure 1](image)

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⇒ Calculate how much of a labor share decline this increase in productivity dispersion yields.
Comment 2: On markups

Two model variants: Second has linear-quadratic preferences à la Melitz/Ottaviano (2008).

- Demand curve: \( q(\omega) = \frac{1}{A} - \frac{1}{\gamma p(\omega)} \) implies labor share \( S_i = \frac{w_i N_i}{P_i Y_i} = \frac{\alpha}{m_i} \).

Highly productive firms have a higher markup ⇒ a lower labor share.

Measuring markups: notoriously difficult,


James Treina (2018): Markup over total cost is mostly constant ⇒ Construct total cost (including cost for advertising, HQ functions, ...) which Census starts to collect in 2002. What does sales/total cost do?
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**Figure 2:** Employment and output become less and less correlated

\[ \text{Note: Own calculations based on establishment-level data from the Annual Survey of Manufactures} \]
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In this context:

- Ilut et al. (2014, Table 5) show that the relationship between productivity and net hiring in U.S. manufacturing weakens since the 1980s.

**Figure 3: High-productivity establishments don't hire (any more)**

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Discussion of “The labor share and superstar firms”
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⇒ Suggest to check the following:
  ▶ Did Cov(sales growth, employment growth) fall outside manufacturing as well?
  ▶ Are firms in CR4(Sales) the same as CR4(Employment)?
  If not:
  ▶ Is the production function we all use still the right one?
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Comment 4: Concentration and labor share declines

- Write aggregate labor share and its change as:

\[ S_{\text{agg}} = \frac{\sum_i w_i L_i}{\sum_i Y_i} = \sum_i \frac{w_i L_i}{Y_i} \frac{Y_i}{\sum_i Y_i} = \sum_i S_i \omega_i \]

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Figure 4: What does \( S^{agg} \) do and what does distribution of \( S_i \) do?

Note: From Kehrig/Vincent (2017): “Growing productivity without growing wages...,” Fig. 3.
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$\Rightarrow$ Statements about the changes in concentration and changes in the aggregate labor share are two sides of the same coin.