

Labour Market Concentration Since the British Industrial Revolution

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Motivation

Labour share has boomed since the British Industrial Revolution, starting from 0.55 in the mid-18th century and heading toward 0.75 in the 2000s.

Research question

Does concentration decline as labour share rise? How **labour market concentration** evolve during the second stage of the Industrial Revolution, from 1851 to 1911?

Results

- Declining labour share aligns with lower business dynamism, while a rise corresponds with higher dynamism.
- Nationwide concentration and inequality rise despite labour share growth.
- In contrast, local market concentration declines as labour share rises.

Research design and data

1. Size Distribution

- Define the distribution of firms and estimate their average size.

3. Local Concentration

- Estimate local labour concentration and its link to labour share.

2. National Concentration

- Estimate nationwide labour concentration and inequality using HHI, CR, and the 10/90 ratio.

4. Business Dynamism

- Explain the heterogeneity and dynamism among firms using stylized facts.

Labour Share: [Karabarounis, 2024]

$$s_\ell = \frac{1}{\underbrace{\mu\theta}_{\text{Markups on labour}}} \left[1 - \underbrace{\alpha^\sigma \left(\frac{A_k}{\mu R} \right)^{\sigma-1}}_{\text{Capital-labour substitution effect}} \right] \quad (1)$$

National Labour Market Concentration:

$$HHI_\ell = X \sum_k W_{\ell,kt} \times W_{\ell,cjt} \times HHI_\ell \quad (2)$$

Local Labour Market Concentration: [Autor et al., 2023]

$$HHI_{ct} = 100 \times \left(\sum_{i \in j,c} s_{icjt} \right)^2 \quad (3)$$

where X is a scaling factor, $W_{\ell,kt}$ and $W_{\ell,cjt}$ are weight factors over occupations and regions, k indexes the occupation, HHI_{ct} , and s_{icjt} represents the share of firm i in occupation j within city c at time t .

Macroeconomic data are from ESCoE [1] and BoE [2]. Labour market concentration is calculated from the Integrated Census Microdata (I-CeM) and the British Business Census of Entrepreneurs (BBCE) [3].

Average firm size and concentration increase

Average size by both frequency and MLE approaches.

Nationwide concentration based on (2).

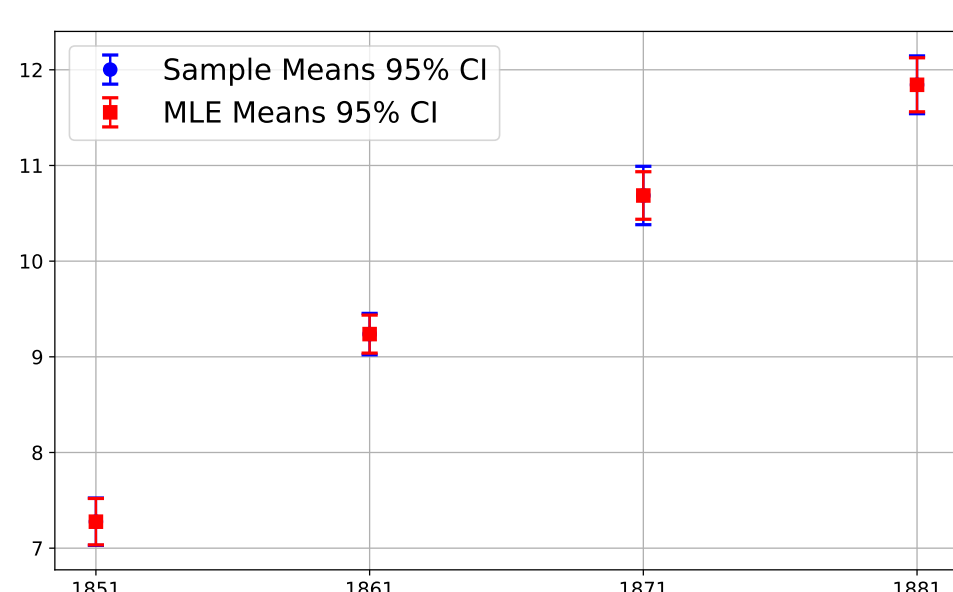


Figure 1. Average Firm Size.

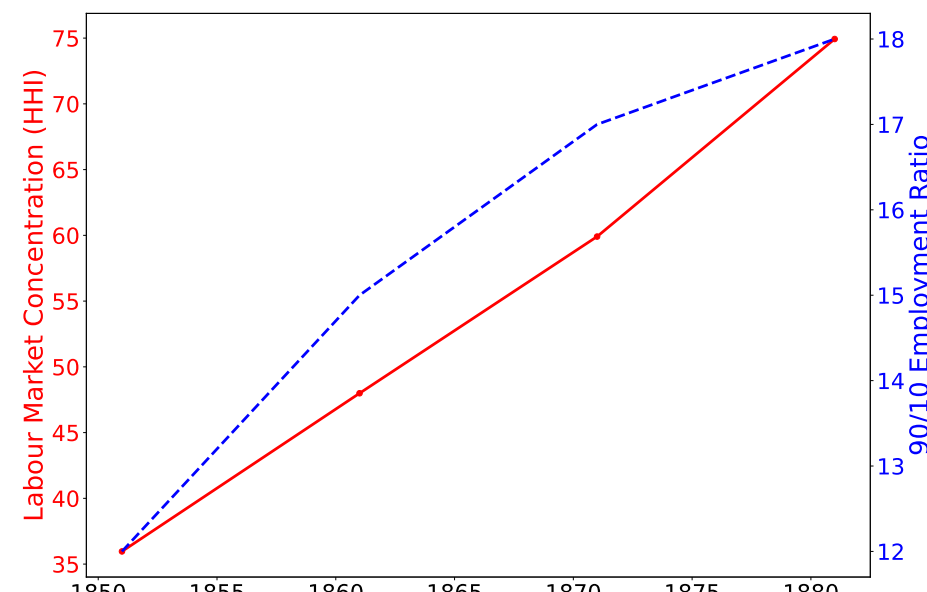


Figure 2. Labour Concentration.

Local concentration falls as labour share rises

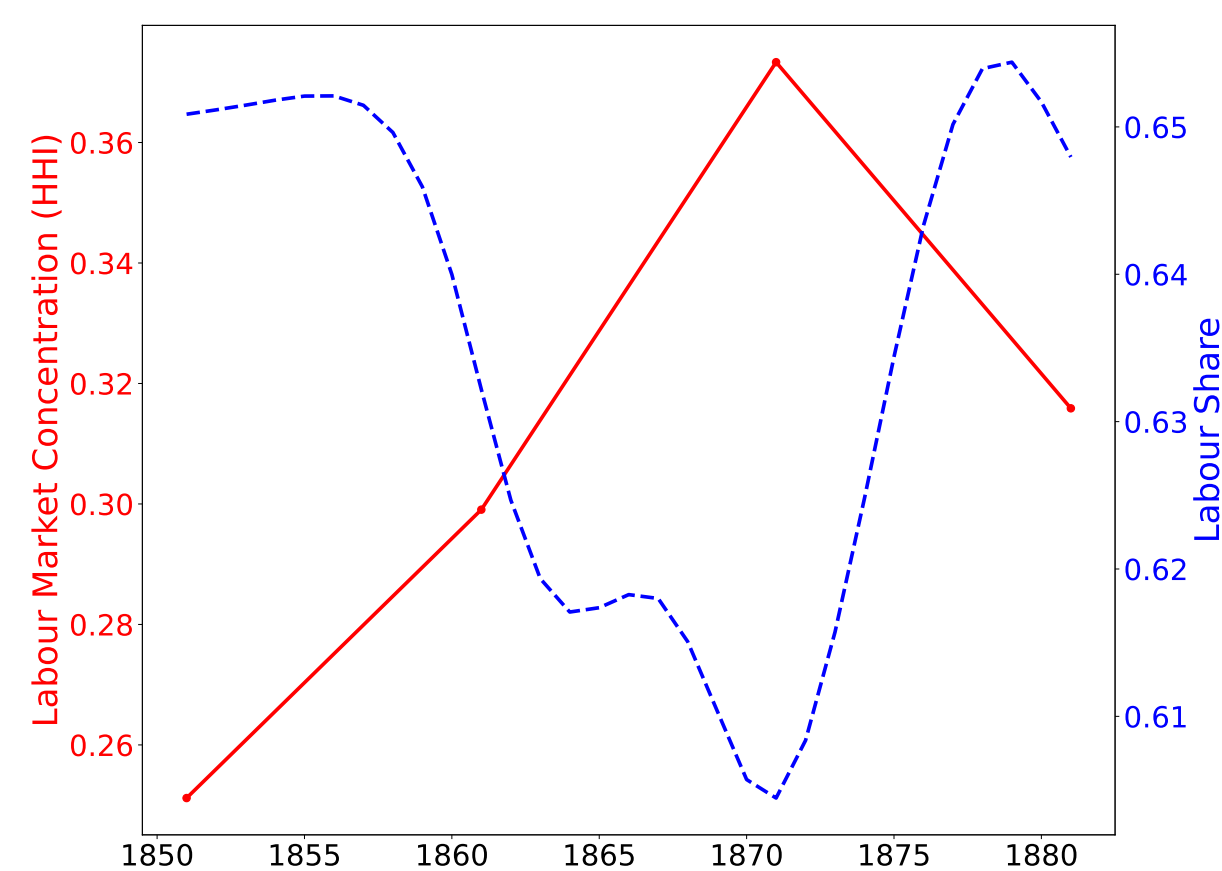


Figure 3. Local Labour Concentration.

Labour share growth began in 1871, coinciding with the decline in local labour market concentration.

Expanding occupations also experience a rise in market concentration.

Business dynamism captures uneven growth

Business dynamism amplifies shifts in labour share, both declining and rising, through three stylised facts:

- How often do businesses enter markets?
- Do the businesses become more stable over time?
- Which part of the distribution drives employment growth?

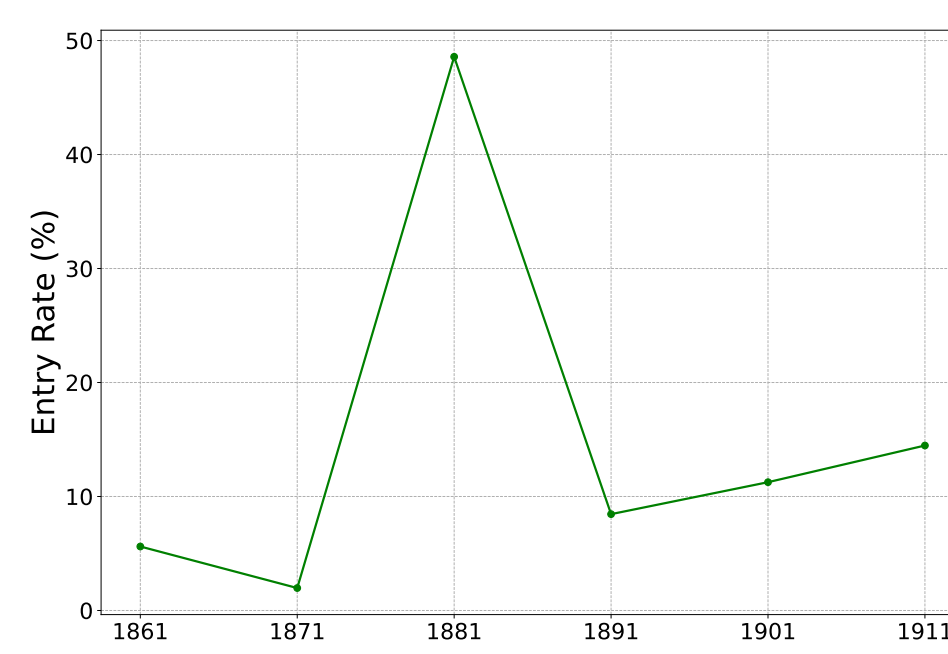


Figure 4. Entry Rate (%) 1851-1911.

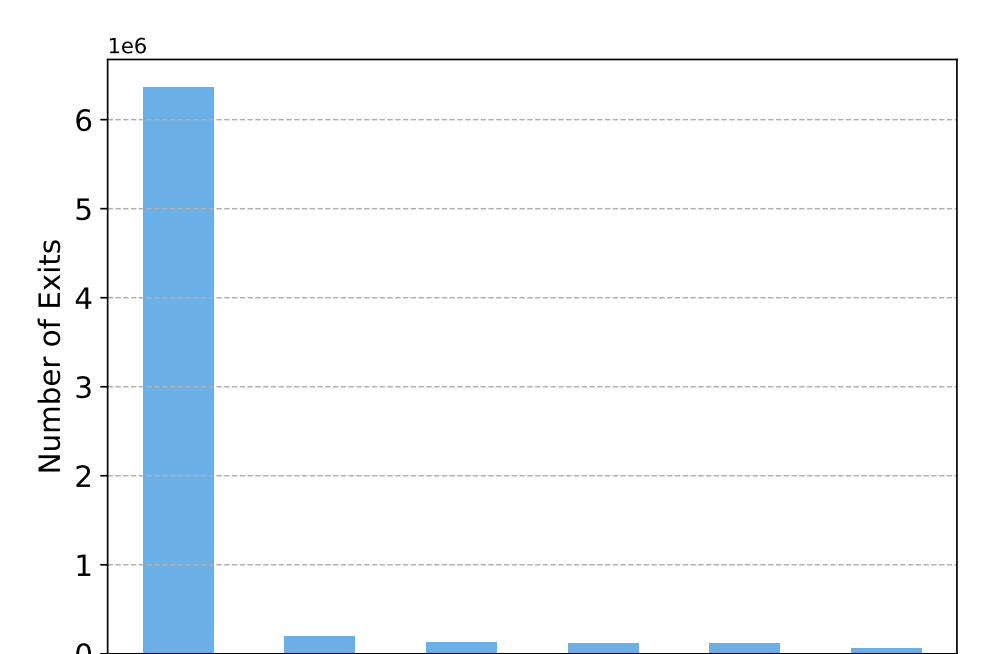


Figure 6. Exits by Age Group.

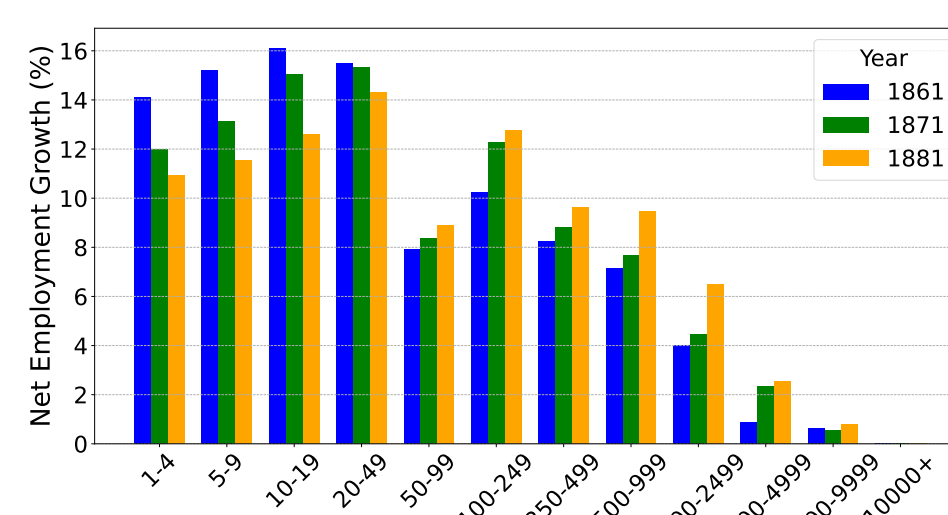


Figure 5. Net Employment Growth.

- There are surprisingly low initial levels of average size, age, and rates of entries and exits.
- Growth came from medium-sized firms.

Primary sources

- [1] Economic Statistics Centre of Excellence (ESCoE). "Data on Historical Economic Trends" and "Capital and Productivity Research." ESCOE.
- [2] Thomas, R. and Dimsdale, N. "A Millennium of UK Data", Bank of England, 2017.
- [3] Cambridge Group for the History of Population and Social Structure (CAMPPOP). "Official Site." University of Cambridge, accessed October 15, 2024. Retrieved from <https://www.campop.geog.cam.ac.uk>