SPECIALISTS OR GENERALISTS? CROSS-INDUSTRY JOB MOBILITY AND OCCUPATIONAL WAGES

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This paper uses empirical evidence and a two-sector on-the-job search model to investigate the effect of policies increasing cross-sectoral job mobility/skill transferability on industrial concentration of employment(HHI) and on the distribution of wages and wage-productivity gaps across and within industries for low and middle-wage occupations. Within this framework, I assess the effect of Career and Technical Education Programs—an educational policy encouraging the training of "career-oriented" skills transferable across industries—on the HHI index and wages. My results suggest that policies fostering industry skill transferability and thus cross-sectoral mobility could be welfare improving for workers in low and middle wage occupations.
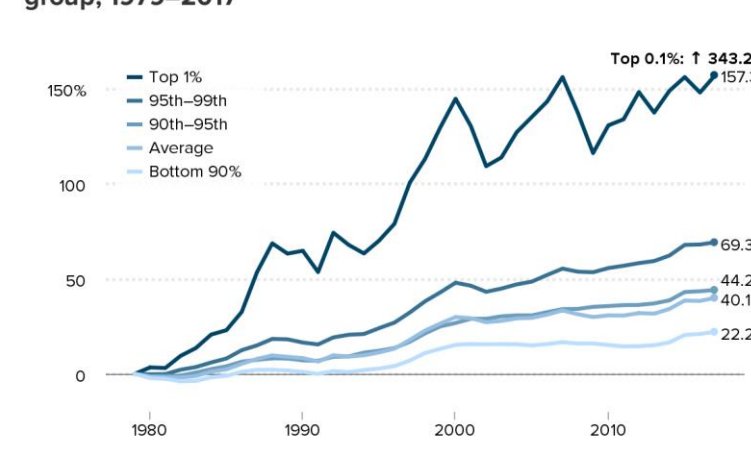
RESEARCH QUESTION

Is « industry specificity » negatively associated with wages at the occupational level?

Why has low wage growth mostly affected low/middle wage workers in the past 30 years? Which characteristics of low wage jobs can explain low wage growth? Could this reflect a higher level of constraints in the job search process for occupations that are typically lower wage?

Several theories have been proposed to explain wage stagnation:
- Technological advancement leading to capital labor substitution (Karabarbounis and Neiman 2013, Acemoglu and Restrepo 2018)
- Trade integration and offshoring (Autor et al. 2014)
- Loosening of collective bargaining

Cumulative percent change in real annual wages, by wage group, 1979–2017
Source: EPI analysis of Kopczuk, Saez, and Song (2010, Table A3) and Social Security Administration wage statistics
Economic Policy Institute

Naidu et al(2018) further identify "industry skill-specificity" as one possible source of frictions and firm market power. There is however no empirical evidence on this yet.

Occupational Industry Specificity: The degree of specialization of an occupation with respect to an industry. Measured by a Herfindahl Hirschman Index (HHI) capturing the concentration of an occupation's employment across industries.

HYPOTHESIS

"Industry specific" low and middle wage occupations face lower wages

- **Hypothesis** : Low wage workers often have occupations whose skills are demanded across a limited range of industries, while being easily replaced by similar workers because of their low level of qualification. This might manifest in employment being concentrated in only a few industries for some of the low/middle wage occupations; these occupations are "industry" specific.

- **This paper** *investigates the effect of industrial concentration of employment (HHI) on occupational wages.*

- It is equivalent to studying the correlation between the degree of cross-industry transferability of an occupation and its wage (as the degree of transferability of an occupation is inversely correlated with the degree of industry specificity).

An "industry specialized" occupation: Fast food workers

An "industry generalist" occupation: Data analysts

Occupations with the lowest/ highest levels of Industrial Concentration of Employment
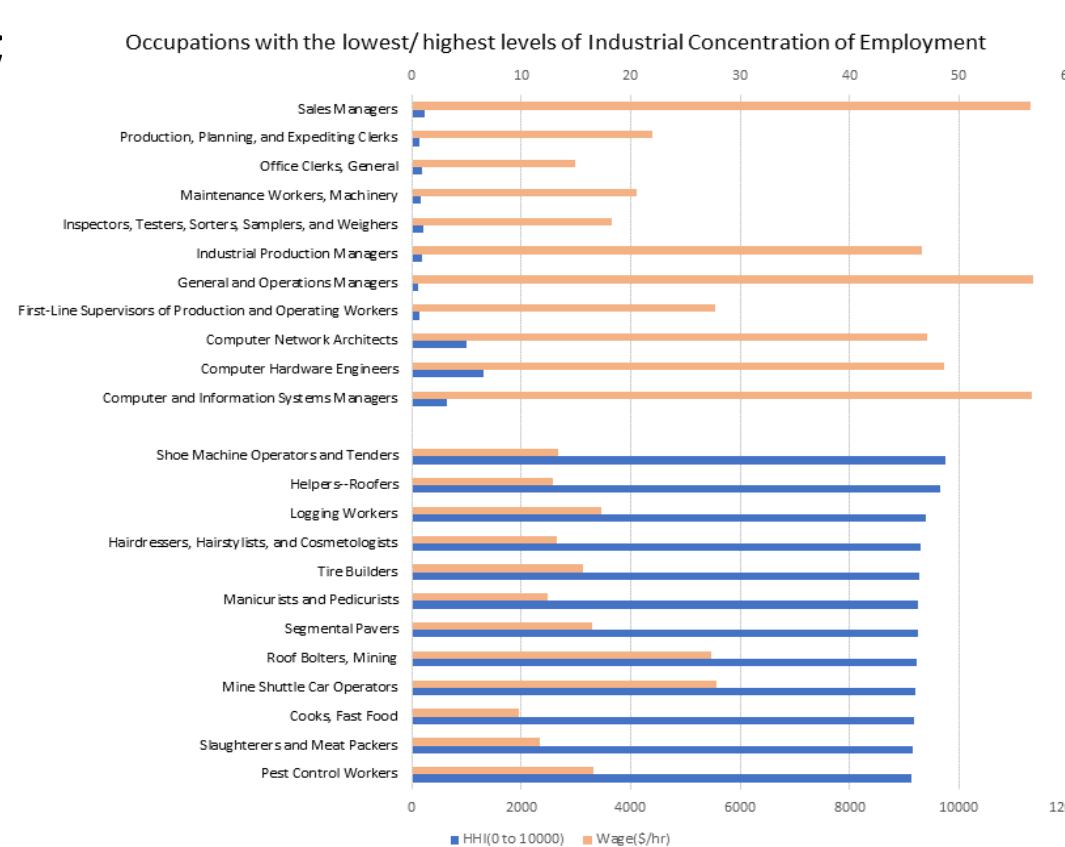
DATA

I construct occupation-level Herfindahl-Hirschman indicators of industrial concentration of employment (HHI)

- Occupation-state level employment data from OES for the construction of the HHI indexes
- Individual-level wage data from National Longitudinal Survey of Youth (NLSY79) to investigate the relationship between HHI and individual wages
- Industry and Occupation-state level covariates :
  - labor share, capital and labor intensity, capital and labor productivity and technology intensity from the BEA (Bureau of Economic Analysis)
  - Offshorability indexes from Blinder and Krueger (2009)

$$HHI_{o,t} = \sum s_{j,o,t}^2$$

METHOD

I use a two step GMM estimation method and a two sector on the job search model to identify a significant negative relationship between industrial concentration of employment/industry specificity and occupational wages .

FE and GMM models

I link macro-level estimates of HHI to micro-level data, I investigate the following reduced form relations HHI and wages at the individual level :

FE model
$$log(Wage)_{i,o,j,c,t} = \alpha_0 + \alpha_1 log(HHI)_{o,t} + \alpha_2 X_{o,t} + \alpha_3 Y_{i,t} + \alpha_4 Z_{j,t} + \delta_i + \mu_{j,c} + \phi_o + \psi_t + \epsilon_{i,o,j,c,t}$$

GMM model
$$log(Wage)_{i,o,j,c,t} = \beta_0 + \beta_1 log(Wage)_{i,o,j,c,t-1} + \beta_2 log(HHI)_{i,o,t} + \beta_3 X_{o,t} + \beta_4 Y_{i,t} + \beta_5 Z_{j,t} + \epsilon_{i,o,j,c,t}$$

$$\Delta log(Wage)_{i,o,j,c,t} = \beta_0 + \beta_1 \Delta log(Wage)_{i,o,j,c,t-1} + \beta_2 \Delta log(HHI)_{i,o,t} + \beta_3 \Delta X_{o,t} + \beta_4 \Delta Y_{i,t} + \beta_5 \Delta Z_{j,t} + \Delta \epsilon_{i,o,j,c,t}$$

Two sector on-the-job search model

- I investigate the potential mechanism driving my empirical results using a two-sector on-the-job search model.

- I assess the effect of an increase in cross-sector mobility rates for workers in the less productive sector (sector B) on:
  - sector B's share of employment
 - wage distributions in both sectors
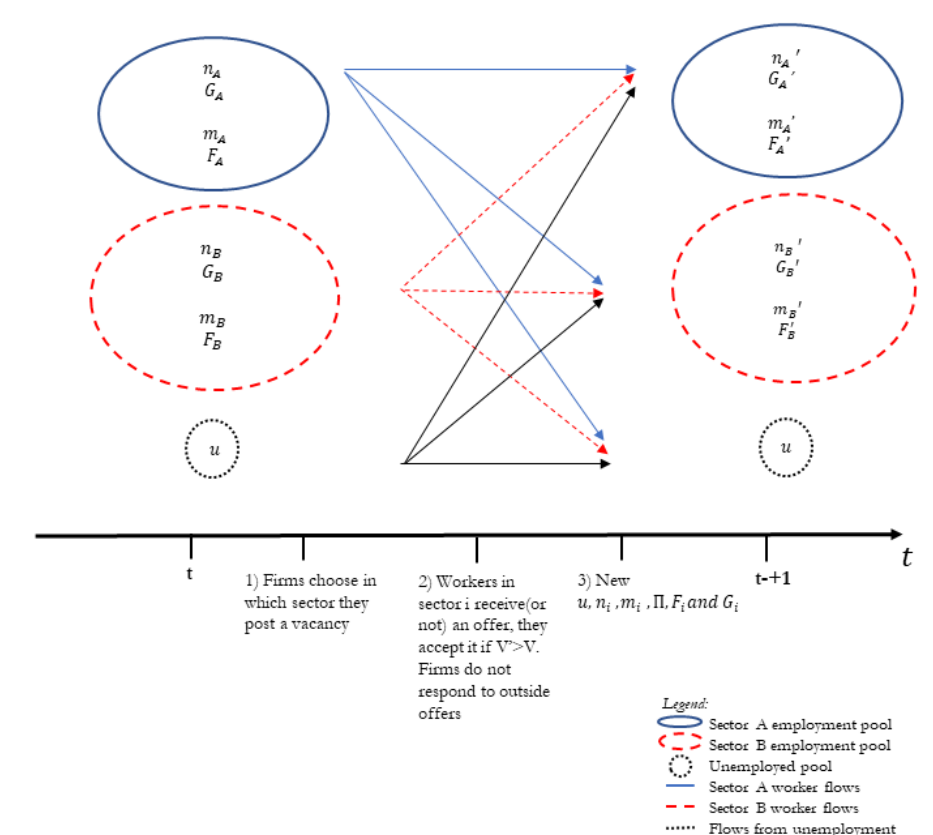
RESULTS

Consistent with empirical results, I find that decreasing an occupation's concentration of employment in low productivity industries has a positive effect on wages across all industries

Empirical finding : a significant negative relationship between HHI and wages, i.e I find that more concentrated occupations (occupations that are less transferable across industries) pay lower wages .

The economic magnitude of the effect is sizable: a one standard deviation increase in HHI is associated with a 7.9 percent decrease in real hourly wages.

HHI Coefficient estimates, GMM results
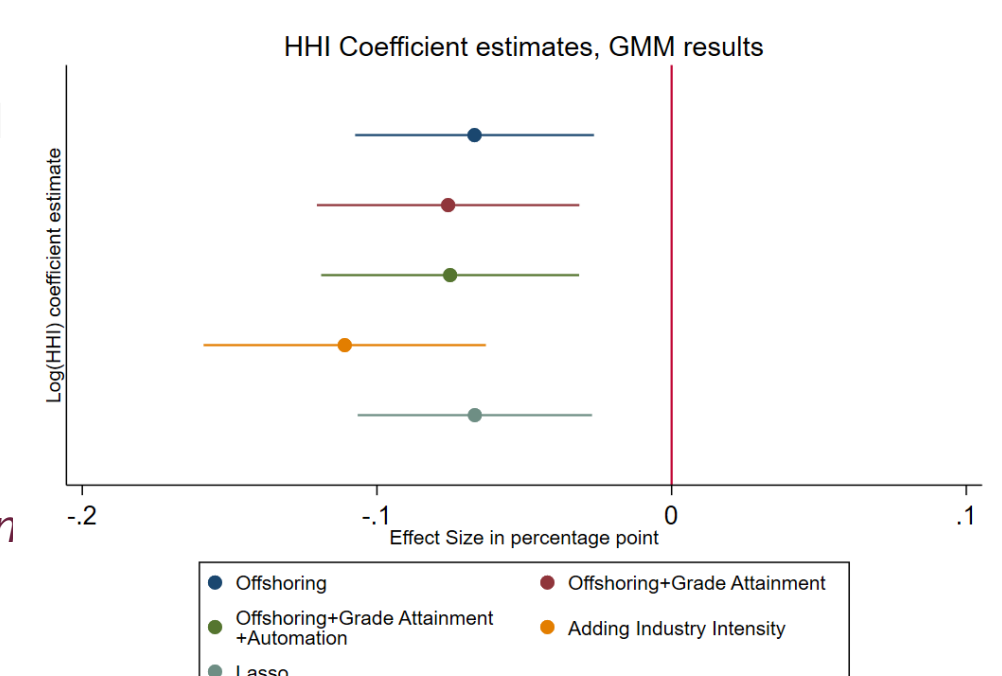
Model simulation results : an increase in between-sector mobility of workers in the less productive sector :
- decreases industrial concentration of employment
- simultaneously increases wages in both low and highly productive sectors
- decreases cross-sectoral wage inequality as measured by the wage range .

Sectoral Offer values for increasing cross-sector A offer rates, PA>PB
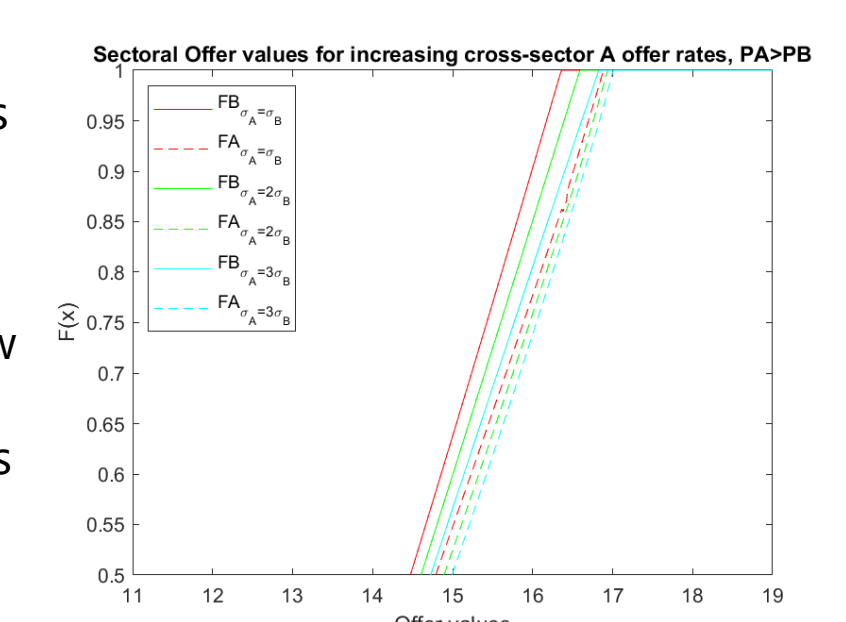
POLICY IMPLICATIONS

Policy implication: programs increasing occupational cross-sector mobility can have a significant and positive impact on wage levels and wage inequality within an occupation and across industries.
- Career and Technical Education programs are an example of such initiatives in the US. They train future workers with transferable skills in areas such as management, trade, services, or more technical fields.