

The Quantile Impacts of Real Competition on Industrial Wage Inequality

United States, 1998-2018

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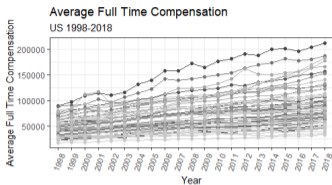


Inter-Industry Income Inequality

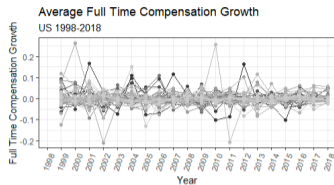
What if wage inequality reflected differences between firms rather than between workers?

- ▶ Firms write checks: Firm characteristics as inequality-increasing factors.
- ▶ Income inequality is inherently distributional: Differential impacts for low-, middle- and high-income workers.
- ▶ Firms encounter each other in competition: Persistent Inequalities but also turbulent equalization.
- ▶ Workers encounter each other on the labor market **via firms**.
- ▶ Karl Marx: *"The competition between workers is only another form of the competition among capitalists."* (1999, 651)

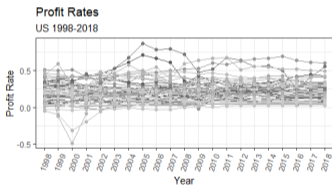
Persistent Inequalities and Turbulent Equalization



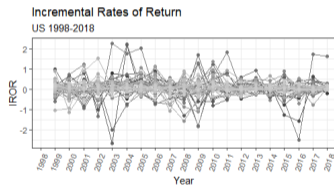
Data: BEA Industry Accounts



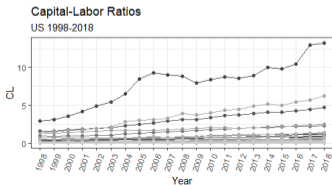
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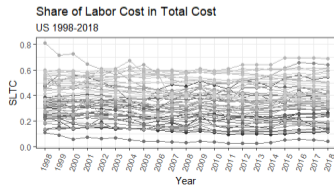
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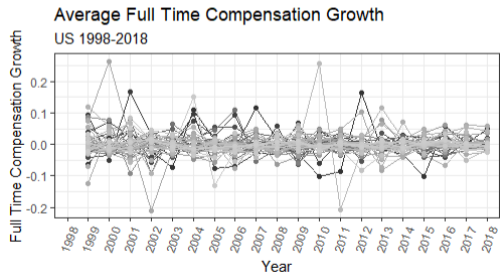
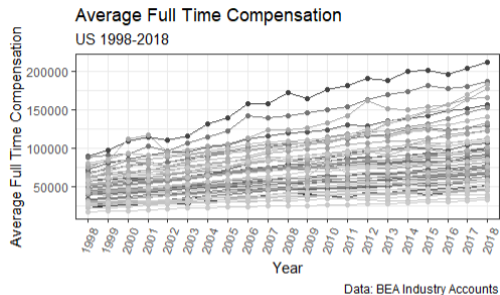


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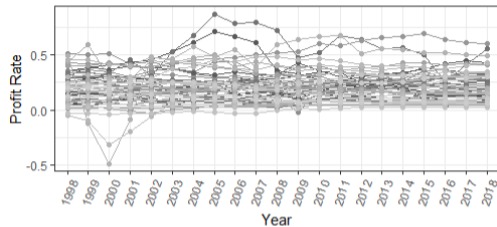
Wages



Profit Rates

Profit Rates

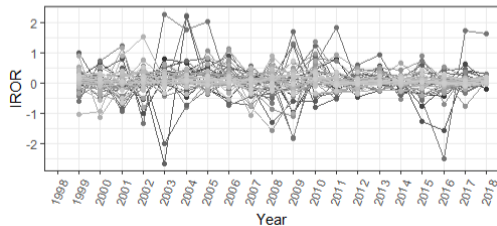
US 1998-2018



Data: BEA Industry Accounts

Incremental Rates of Return

US 1998-2018

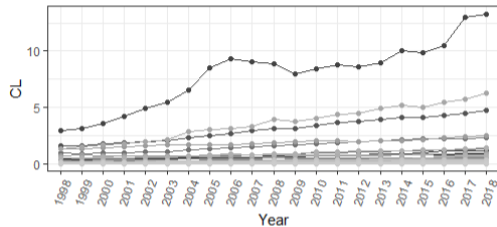


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Industry Structure

Capital-Labor Ratios

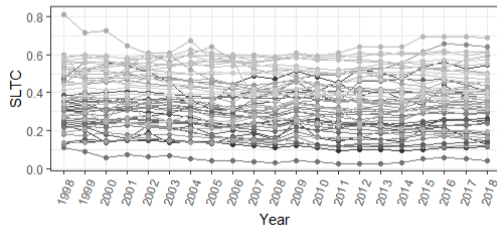
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Share of Labor Cost in Total Cost

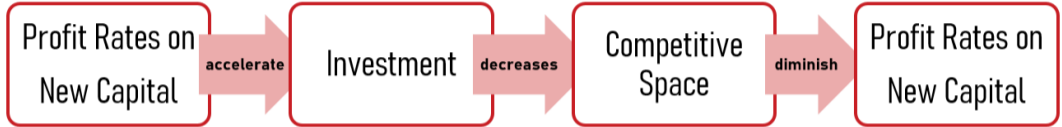
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Data: BEA Industry Accounts

Transmission: Profit Rates

Turbulence



Persistence

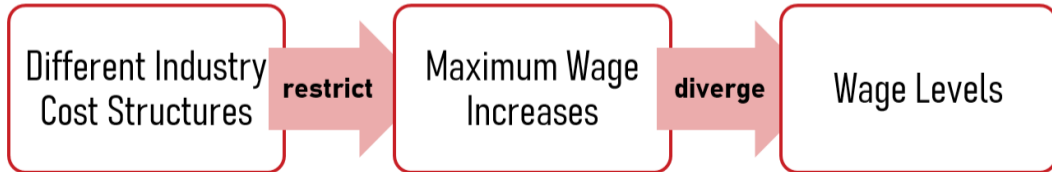


Transmission: Wages

Turbulence



Persistence



Limits to wage growth per worker (Botwinick 2018)

Profitability: profit rates and capital-labor ratio

$$m = \frac{Y - K}{Q} = \frac{K}{Q}$$
$$w'_1 = \frac{m}{L/Q} = r \frac{K Q}{Q L} = r \frac{K}{L}$$

Competitive Advantage: share of labor cost in total cost and competitive distance to closest contender.

$$w'_2 = \frac{k^s - k^*}{(L/Q)^*} = \frac{k^s - k^*}{l^*}$$

For $\left[\frac{k^s - k^*}{k^*} \right]_A = \left[\frac{k^s - k^*}{k^*} \right]_B$

$$\frac{w'_{2,A}}{w'_{2,B}} = \frac{\frac{k^s - k^*}{l^*} \bigg|_A}{\frac{k^s - k^*}{l^*} \bigg|_B} = \frac{(k^*/l^*)_A}{(k^*/l^*)_B}$$

Distributional and Differential Aspects

Distribution

- ▶ Competition (persistent inequalities) between Industries would affect general bargaining, ie. all wage groups.
- ▶ Competition within Industries would affect **coaxing**, more prevalent for high-earners.
- ▶ Workers recruited from unemployment (low-earners) have less leverage from bargaining.

Differences

- ▶ Relationship of negative versus positive profits and wage increases?
- ▶ Unionization: better use of ability to pay, better defense against cuts?

Extremes

- ▶ The **turbulent transmission mechanism** (profit rates on new capital) is most effective where substantial **capital mobility** is induced.

Turbulent Equalization

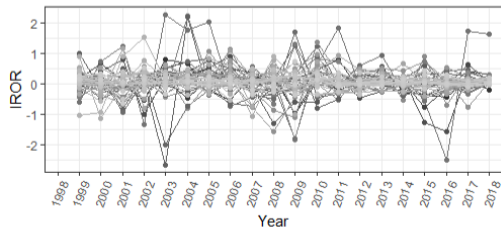
Vaona (2013) Test for $i \in I$ industries.

$$\tilde{x}_{it} = \alpha_i + \frac{\beta_{1,i}}{t} + \frac{\beta_{2,i}}{t^2} + \frac{\beta_{3,i}}{t^3} + \epsilon_{i,t}$$

$$\epsilon_{i,t} = \rho_i \epsilon_{i,t-1} + \xi_{i,t}$$

Incremental Rates of Return

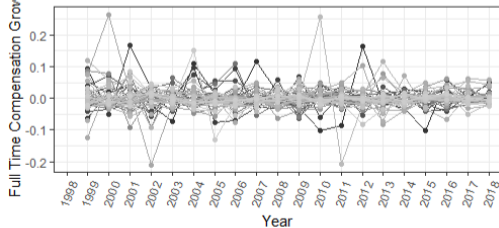
US 1998-2018



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Average Full Time Compensation Growth

US 1998-2018

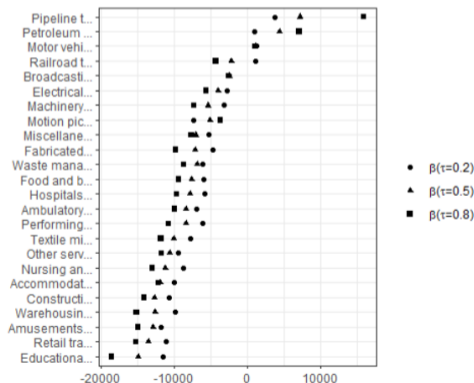


Data: BEA Industry Accounts

Industrial Wage Differentials

For occupations $o \in O$, years $t \in T$, industries $i \in I$ and individuals $j \in J$.

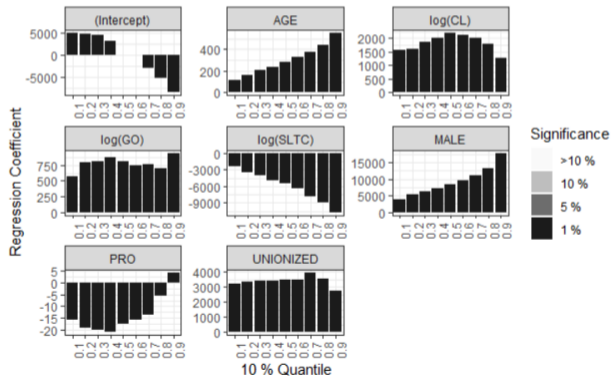
$$\hat{q}_\tau(w) = \alpha_1 + \alpha_{2,o}OCC + \alpha_{3,t}YEAR + \beta_i IND + \nu X_{j,t} + \epsilon_{i,t}$$



Persistent Inequalities

For occupations $o \in O$, years $t \in T$, industries $i \in I$ and individuals $j \in J$.

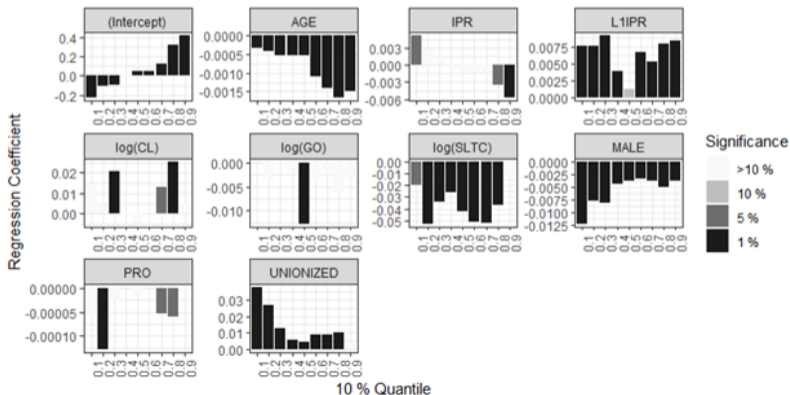
$$\hat{q}_\tau(w) = \alpha_1 + \alpha_{2,o}OCC + \alpha_{3,t}YEAR + \beta_i IND_i + \zeta_1 \log(CL_{j,t}) + \zeta_2 \log(SLTC_{j,t}) + \zeta_3 \log(GO_{j,t}) + \zeta_4 PRO_{j,t} + \nu X_{j,t} + \epsilon_{j,t}$$



Quantile Impacts of Turbulent Competition

For occupations $o \in O$, years $t \in T$, industries $i \in I$ and individuals $j \in J$.

$$\hat{q}_\tau(\Delta w_{j,t}) = \alpha_1 + \alpha_{2,o}OCC + \alpha_{3,t}YEAR_t + \beta_1IPR_{j,t} + \beta_2IPR_{j,t-1} + \zeta_1\log(CL_{j,t}) + \zeta_2\log(SLTC_{j,t}) + \zeta_3\log(GO_{j,t}) + \zeta_4PRO_{j,t} + \nu X_{j,t} + \epsilon_{j,t}$$



Results

- ▶ Real Competition, ie. Turbulent Equalization of Profit Rates and Wage Growth, in majority of US industries (Shaikh 2008, Mokre and Rehm 2020)
- ▶ Persistent Wage Inequalities between Industries and substantial impact of Structural Differences (Botwinick 2018)
- ▶ Key Variable in Turbulent Firm Competition (**Profit Rate on New Capital**) has Substantial Impact on Key Variable in Turbulent Wage Equalization (**Wage Growth**).
- ▶ Within-Industries Competition has bigger impact on High-Earners. Between-Industries Competition has Almost Uniform Impact. Turbulent Equalization has Stronger Impact at the Extremes.

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