Firm Market Power, Worker Mobility and Wages in the US Economy

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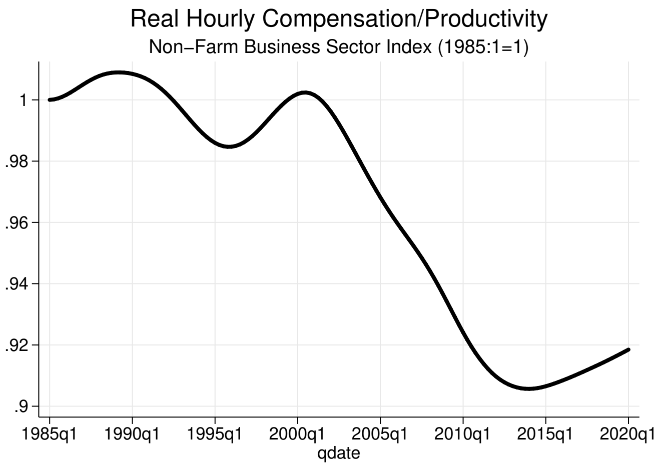
Secular Trends in US economy: Declining Wages/Productivity

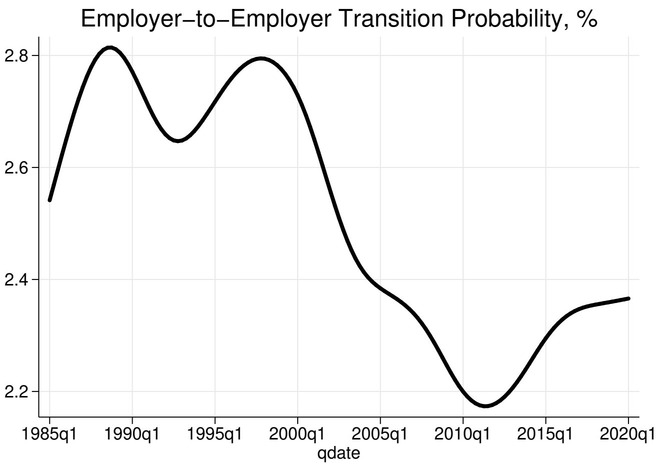


Source: Bureau of Labor Statistics, HP-filtered trend.

Secular Trends in US economy

1. Wages/productivity have declined
   - Real wages are positively related to employer-to-employer (EE) transitions.

Secular Trends in US economy: Declining EE Transitions



Source: Current Population Survey (Fujita, Moscarini & Postel-Vinay, 2020; Blanchard and Diamond, 1990), HP-filtered trend.

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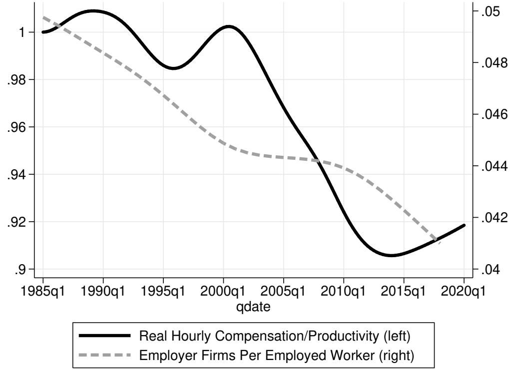
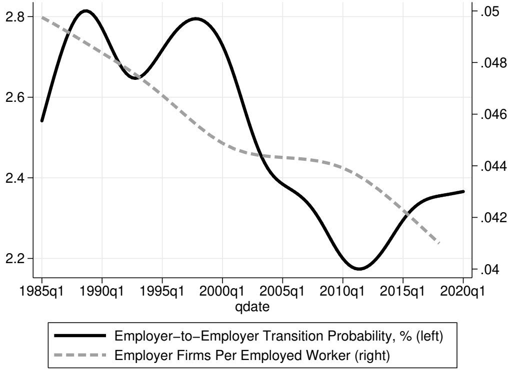
Secular Trends in US economy: Declining Firms Per Worker

Real Hourly Compensation/Productivity, EE Transitions and Number of Firms per Worker





Source: Business Dynamics Statistics, HP-filtered trend. (Firms Per Worker)

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   - EE transitions reflect competition among firms for employed workers.
3. Declining Employer Competition for Workers
   - Lack of job options for workers; anti-competitive practices by firms.

This Paper

What is the role of decreasing competition among employers in explaining declining EE transitions and slowing wages?

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$\Longrightarrow$ Weak wages relative to productivity

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What I do:

- A model to quantitatively establish the link between no. of firms, EE transitions and normalized wages
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What I find:

Decline in no. of firms per worker explains:

- 2/3rd of the decline in EE transition probability
- 1/5th of the decline in average wages relative to productivity

Model

Model Framework

Workers

Firms

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- Unit continuum, homogeneous, and infinitely lived with linear prefs.
- Unemployed: derive value from leisure, and search.
- Employed: provide labor and search on-the-job.

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- Finite and heterogeneous in productivity. N productivity levels, each with n firms.
- Post vacancies: either filled or remain vacant.
- Compete with each other over employed workers (poaching).
- Firms do not match with re-applicants (Jarosch, Nimczik & Sorkin, 2020)

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Matching

- Random search. All workers sample from same exog. job offer distribution.
- Output = firm productivity. Worker paid wage, firm keeps remaining output.
- Exogenous separation: worker flows into U, and firm becomes vacant.

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  - If poaching firm more productive than incumbent: Worker quits
  - If poaching firm less productive than incumbent: Workers stays with a wage raise

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- Firm market power lowers worker's outside option:
  1. Finite firms enables decline in no. of potential firms in outside option.
  2. Outside option precludes possibility of getting matched with the same firm.

Calibration

- Simulate model to a monthly frequency.

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- Calibrate parameters to match labor market transitions of 1985-1990 US economy.

Calibration

Parameter	Moment	Model Value	Targeted Value	Source
Contact probability of E	E[EE], %	2.88	2.83	CPS, 1985-90
Contact probability of U	E[UE], %	44.5	44.9	CPS, 1985-90
Separation probability	E[U], %	5.93	6.14	CPS, 1985-90
SD of job offer distn.	SD(offered wages)	0.24	0.24	Hall & Mueller (2018)
Flow value of leisure	as fraction of ALP	0.40	0.40	Shimer (2005)

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No. of prod. levels, N	–	3	–	Fixed
No. of firms at each prod. level, n	–	2	–	Baseline
Worker bargaining share, α	–	0.5	–	Baseline

Experiment

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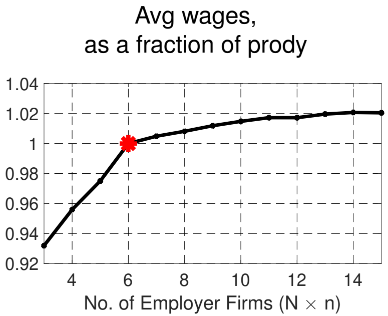
No. of prod. levels, N	–	3	–	Fixed
No. of firms at each prod. level, n	–	2	–	Vary
Worker bargaining share, α	–	0.5	–	Baseline

- Vary n to capture the decline in number of firms per worker

Comparative Statics: Wages and EE transitions

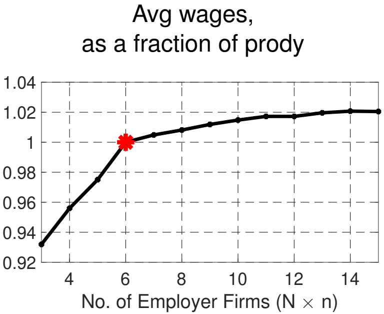


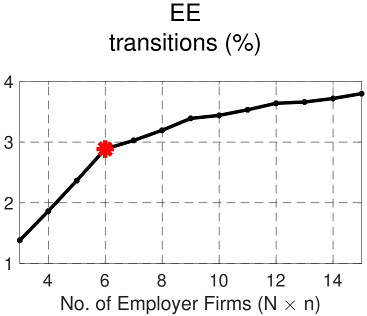
As the number of firms decreases:

- Average real wages decline: Employees affected more if one firm is removed from their outside option.

red point: denotes calibrated model

Comparative Statics: Wages and EE transitions

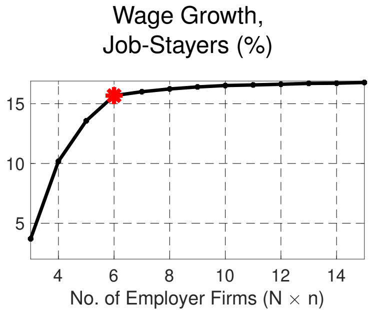




As the number of firms decreases:

- EE transitions decline: Employees face lower likelihood of receiving offers from firms high on the job ladder.

Comparative Statics: Wage Growth of Job Stayers and Switchers



As the number of firms decreases:

- Wage growth of job *stayers* declines: Employees less likely to get outside offers that trigger wage renegotiation within jobs.

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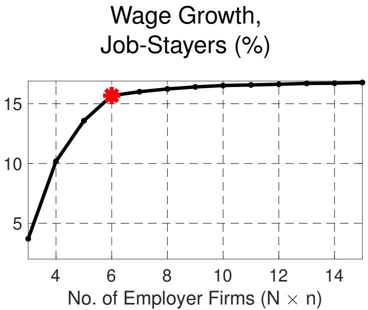
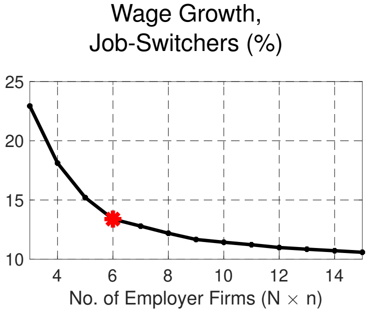
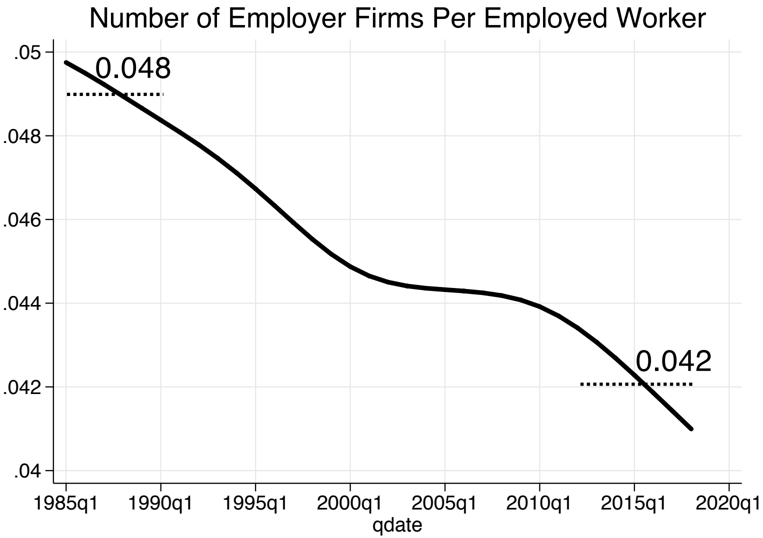




As the number of firms decreases:

- Wage growth of job *switchers* increases: Employees likely to stay on the job longer and at a suppressed wage leading to a large wage gain on switching.

Effect of Declining Firms Per Worker, 1985 to 2017



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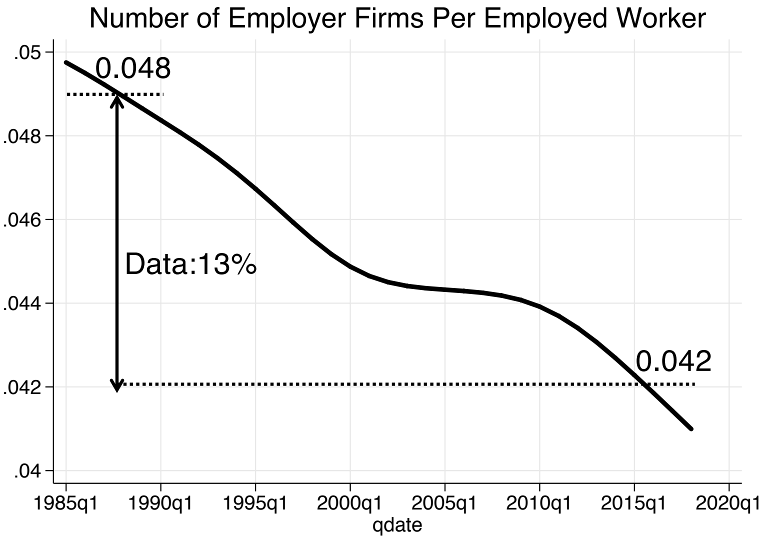

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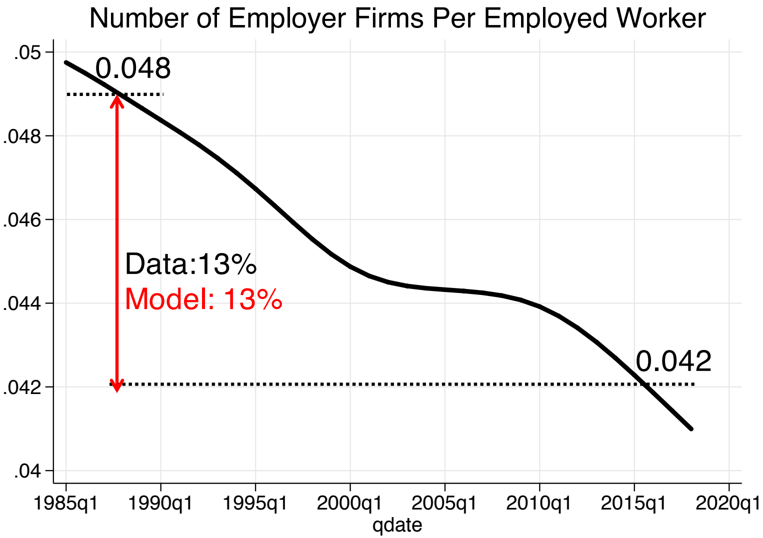

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	EE Transitions Rate		Wages/Productivity	
	Data	Model	Data	Model
% Change from 1985-1990 to 2012-17	-18.9			

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- Model explains 2/3rd of the decline in EE transitions rate

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Effect of Declining Firms Per Worker, 1985 to 2017

	EE Transitions Rate		Wages/Productivity	
	Data	Model	Data	Model
% Change from 1985-1990 to 2012-17	-18.9	-13.5	-9.7	-1.8

- Model explains 20% of the decline in wages/productivity

Summary of Model Predictions

As number of firms per worker $\downarrow$:

1. EE transition rate: $\downarrow$
2. Wages/productivity: $\downarrow$
3. Wage growth of job stayers: $\downarrow$
4. Wage growth of job switchers: $\uparrow$

Testing the Model Predictions in the Cross-Sectional Data

Data

To test model's predictions in the data, I utilize:

- Annual cross-MSA-Sector variation in EE transitions from public-use LEHD (2000-18) and Firms Per Worker from BDS
- Annual cross-State-Sector variation in individual wage growth associated with job switches from SIPP (1996-2000) and Firms Per Worker from BDS

Firms Per Worker and EE transitions in the cross-section

$$\text{EE Rate}_{mjt} = \beta \cdot \text{FPW}_{mjt} + \text{MSA FE}_m + \text{Sector FE}_j + \text{Time FE}_t + \epsilon_{mjt}$$

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	Log EE Rate
Log Firms per Worker	0.062
	(0.008)
N (in '000)	67.7
R^2	0.85

- Firms per worker and EE transitions rate are positively related.
- Effect is robust to workforce composition controls, and other measures of EE transitions.
- Similar effects for NE and EN transitions.

Firms Per Worker and Earnings Growth of Job Switchers in the cross-section

$$\text{Wage Growth}^{EE}_{isjt} = \beta \cdot \text{FPW}_{sjt} + \text{State FE}_s + \text{Sector FE}_j + \text{Time FE}_t + \text{Controls}_{isjt} + \epsilon_{isjt}$$

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	Earnings growth|EE
Log Firms per Worker	-0.010 (0.006)
N (in '000)	38.5
R^2	0.09

- Firms per worker and wage growth of job switchers is negatively related.
- Effect is robust to demographic controls, and growth rate in hourly wages.

Conclusion

- Examined the role of declining firms per worker in explaining the decline in EE transitions and slowing wages.
- Calibrated model implied the decline in firms per worker accounted for 2/3rd of the decline in EE transitions rate and 20% of the decline in wages/productivity.
- Provided cross-sectional evidence to support implications of the model related to frequency and wage growth associated with EE transitions.
- Future work:
    - Examine implications of declining firms per worker on UE and EU transitions.
    - Put together more data to support model's implications.

Thank You!