Outsourcing, Occupational and Industrial Concentration*

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Abstract

We use data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau to investigate the concentration of firms, occupations, and industries over time. We find strong evidence for increased concentration of firms in terms of a secular decrease in the number of occupations and industries in which firms are active. The mean number of 5-digit occupations per establishment has fallen from 6.5 to 5.5 since 2000, with the top 3 occupations now accounting for over 85% of total establishment employment. Firm employment and payroll is increasingly concentrated in a few core industries. We argue that the rise of outsourcing and pressure on firms to focus on their core competencies is driving this concentration of activities within firms. Finally, we argue this could play a role for the rising segregation of employees by income and education across firms.

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Keywords: occupational concentration, outsourcing, core comptencies

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1 Introduction

Over the last thirty years U.S. business schools and the business media have been increasingly focused on outsourcing and core competencies. Outsourcing is argued to allow firms to spin off noncritical activities like security, catering, cleaning, accounting, or real-estate to external providers that can potentially perform these tasks more cheaply and/or more effectively, and has been gaining interest since the early 1990s.[1] The related concept of core competencies refers to the idea that firms have a set of activities they can perform well, and outside these "core competencies" their ability starts to deteriorate (Prahalad and Hamel (1990)). This is either because of a lack of innate ability - for example, the claim that Walmart should focus on retailing, Marriot on hotels, and Starbucks on coffee shops - or potentially due to managerial distraction when firms span multiple industries. Recent papers have documented a rise in alternative work arrangments, with Katz and Krueger (2015) finding an increase from 1995 to 2015 in the Contingent Worker Survey and Dey et al. (2010) documenting growth in the employment services sector across multiple data sources. And a number of papers have linked this phenomena to growing income inequality, arguing that firms can cut wages for peripheral activities by outsourcing them (e.g. Dube and Kaplan (2010); Goldschmidt and Schmieder (2017); Handwerker and Spletzer (2015); Song et. al (2019)).

This paper investigates the extent of domestic outsourcing and industrial concentration by using two types of microdata. The first looks at occupational concentration within firms using the Bureau of Labor Statistics (BLS) Survey of Occupational Employment Statistics (OES). The OES is unique in the U.S. in having detailed panel data on the occupational breakdown of up to 200 occupations per firm in a twice-yearly panel covering around 200,000 establishments a year. Using this data we show a gradual increase in occupational concentration since the current occupational classification system began in 1999. The second uses U.S. Census data on firm industry mix based on the employment shares of firms across industries using the primary industry of their establishments from the Longitudinal Business Database (LBD). The data shows a similar increase in industrial concentration within firms since the 1970s. We also confirm this pattern in a panel of Compustat data, which covers U.S. publicly listed firms.

[1] As one measure of this the frequency of the word "Outsourcing" in books according to Google Ngrams starts to gradually rise from zero in the mid-1970s and then accelerates upwards beginning in the late 1980s

In section 2 we discuss our BLS and Census microdata, in section 3 we discuss our results on rising occupational concentration and in section 4 our results on industrial concentration.

2 Data

2.1 Bureau of Labor Statistics Occupational Employment Statistics

The Occupational Employment Statistics is a semi-annual survey of U.S. business establishments that collects data on the distribution and earnings of occupations within establishments. To reduce respondent burden, each establishment is surveyed at most once every 3 years, and the BLS' published occupation statistics are calculated from 3-year waves. Employers are asked to categorize each of their workers into 800+ detailed occupations based on the Standard Occupational Classification (SOC) system, and to further assign each worker into one of 12 wage intervals that are updated periodically to keep up with inflation. In 2006 for example, the hourly wage intervals spanned from under $7.50, $7.50-$9.49, $9.50-$11.99, ... up to $80 or more. The same intervals are simply multiplied by 2,080 (the number of hours in a typical work year) for salaried workers, but the employer makes no designation as to whether their assignment is based on an hourly or salary wage.

Employees are assigned to occupations based on the work they perform and not on the basis of their education or training. For workers who perform duties of multiple occupations, employers are asked to report the one that requires the highest level of skill. In this project we aggregate detailed occupations to the 5-digit SOC level. For example, "Packers and Packagers, Hand" would be aggregated with three other occupations to form "Laborers and Material Movers, Hand". For some occupations, such as Customer Service Representatives or Food Preparation Workers, the detailed occupation code is synonymous with the 5-digit SOC group. Out of the establishments sampled, response rates range from 75 to 85%. Because data are imputed for each non responding establishment, we drop imputed establishments from our sample. Furthermore, we drop any establishments smaller than 5 employees to remove units too small to generate meaningful measures of concentration.

Because the OES is an establishment level survey, it is possible for multiple establishments from the same firm (here firm is defined as EIN) to be surveyed in any given year. It appears that many firms' establishments still differ by line of business, motivating our complementary analysis of industrial

concentration. Within a subsample of manufacturing EINs surveyed in 2006-2007, 33.5% of EINs with 2 establishments surveyed don't overlap in any of their top 3 SOC-5 occupation codes. Additionally, among multi-unit establishments only 1.5% had all three top SOC-5 occupations in common among all establishments surveyed.

2.2 Census Bureau Longitudinal Business Database

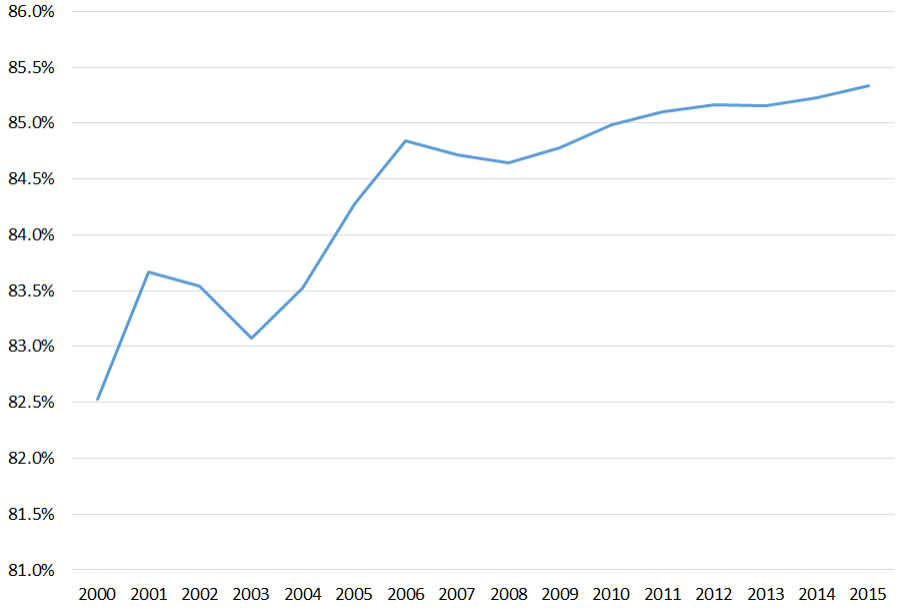
Our measures of the industrial concentration of firms are constructed using data from the Census's Longitudinal Business Database (LBD). The LBD covers the universe of employer business establishments and contains annual data on the industry classification and parent firm of each establishment, as well each establishment's payroll and employment in the payroll period containing the week of March 12. The data are available for the years 1976 though 2015. To avoid outliers we drop any establishment whose average payroll is either greater than $250,000 in 2015 dollars, or less than the full-time federal minimum wage.

In order to study the industrial concentration of *firms*, we aggregate the establishment-level LBD to the firm-level. The first step in this process is to assign each of the firm's establishments to a unique industry. We define an industry as a 6-digit NAICS code using the longitudinally-consistent definition from Fort and Klimek (2018). We then calculate the share of the firm's total employment (or total payroll) in each industry. The measures of industrial concentration we consider are the share of firm employment in the firm's largest industry, the employment share in the firm's 3 largest industries, and the employment HHI over all of the firm's industries. We also construct analagous measures for payroll shares. Finally, we collapse the data to create a firm-year panel dataset containing all firms in the U.S. from 1976 through 2015, excluding outliers as described in the preceding paragraph.

3 Occupational Concentration

Using OES microdata from 1999 to 2016, we construct a number of different occupational concentration measures and study their change over time. We aggregate occupations into 5-digit SOC groups, and then calculate the following concentration measures at the establishment level: occupational HHI, employment share of each establishment's top 3 occupations, and number of occupations per estab-

Figure 1: Mean Employment Share in Top 3 Occupations (1999-2016)



Notes: Top 3 Share calculated by summing the employment shares of the top 3 SOC-5 occupations in each establishment. Means are weighted by survey weight and then smoothed over 3-year averages

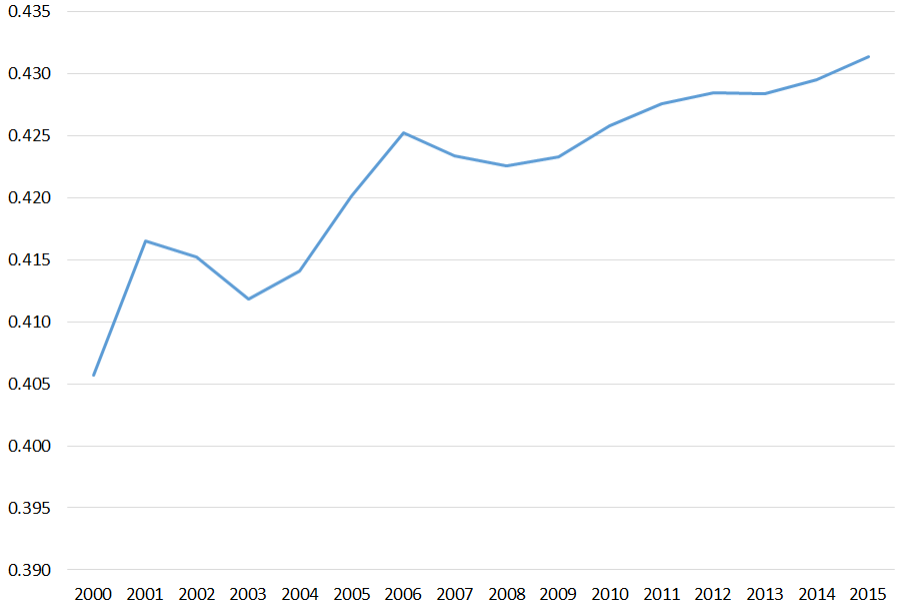
lishment. Next, we take 3-year averages of each of these concentration measures, weighting by survey weight. This is in line with BLS' methodology of using 3-year panels to create published estimates, as establishments are only surveyed at most once every 3 years (to reduce respondent burden). Figures 1 through 3 plot the averages of each of these measures over time.

Figures 1 and 2 show a clear increase in occupational concentration with the mean HHI index and the employment share in the establishment's top 3 occupations both rising from 2000 onwards.[2] Similarly, in Figure 3 we see the average number of occupations per establishment falls by about 1 between 2000 and 2015 (from 6.5 to 5.5), suggesting that on average one occupation per establishment has potentially been outsourced over this period. There was also a dip in concentration around the Great Recession that would be consistent with an establishment's largest occupations being more susceptible to layoffs due to excess labor.

When we break down these measures by size class, we observe that the rise in concentration is primarily driven by small establishments of 10 to 99 workers, and to a smaller degree large estab-

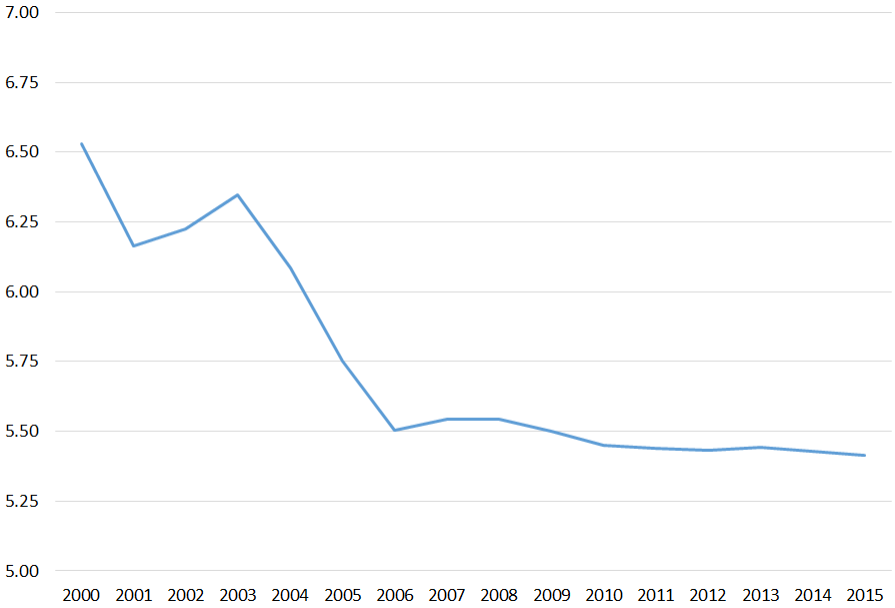
[2]The first spike in occupational concentration is due to the 2002 survey being somewhat of an outlier. 2002 was also the year in which the OES transitioned from an annual survey to a biannual collection.

Figure 2: Mean Occupational HHI (1999-2016)



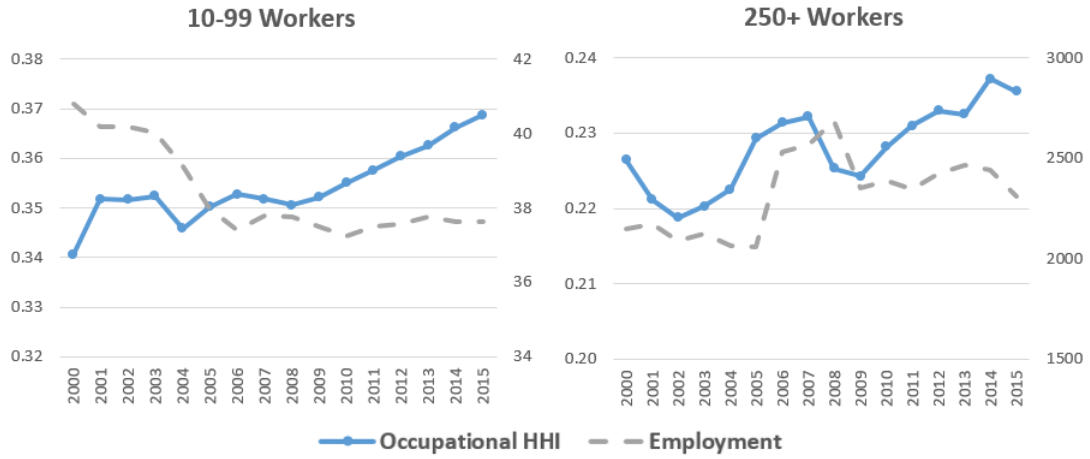
Notes: Occupational HHI is calculated for each establishment, with occupations defined at SOC-5 level. Means are weighted by survey weight and then smoothed over 3-year averages.

Figure 3: Mean Number of Occupations (1999-2016)



Notes: Number of occupations are calculated as the number of unique SOC-5 occupations in each establishment. Means are weighted by survey weight and then smoothed over 3-year averages

Figure 4: Mean Occupational HHI by Establishment Size (1996-2016)



Notes: Occupational HHI is calculated for each establishment, with occupations defined at SOC-5 level. Means are weighted by survey weight*employment and then smoothed over 3-year averages. Mean occupational HHI is graphed on the primary axis and mean employment on the secondary axis.

lishments of 250+ workers. Figure 4 plots mean HHI by establishment size, and shows the largest increase in concentration for small establishments, which rose from 0.34 to 0.37. This phenomenon is not driven by establishment size decreasing over time, as mean employment for this category is relatively stable from 2005 onwards. For large establishments (250 or more workers) we can observe occupational concentration increasing during periods of expansion, and dropping during the Great Recession.

3.1 Regression Analysis

We also investigate this relationship through regression analyses that allow us to control for additional factors such as size and industry. Table 1 estimates a year trend on log occupational HHI over the sample period from 1999 to 2016. Column 1 estimates the baseline relationship over the entire analysis sample, and suggests that occupational HHI increased by 7.5% (=exp(2016-1999)*0.0042) over the period from 1999 to 2016. This estimate is robust to excluding public or government agencies and small specialized NAICS sectors in column 2. These excluded sectors are Agriculture (11), Mining (21), Real Estate (53), Education (61), Other Services (81), and Public Administration (92). Further controlling for log employment, NAICS industry fixed effects, and establishment fixed effects decreases the estimated magnitude, but the year trend remains positive and statistically significant.

Table 1: Occupational HHI (1999 – 2016)

100*Log(HHI)	(1)Baseline	(2)Excl Gov	(3)Excl Gov	(4)Excl Gov	(5)Excl Gov	(6)Multi-unit	(7)Manuf
Year Trend	0.420***	0.423***	0.268***	0.177***	0.0760***	0.0565**	0.143***
	(0.0148)	(0.0168)	(0.0158)	(0.0140)	(0.0203)	(0.0256)	(0.0504)
log(Emp)			-22.6***	-21.3***			
			(0.0824)	(0.0832)			
Mean Log(HHI)	-102	-102	-102	-102	-102	-104	-134
NAICS FE				Yes			
Estab FE					Yes	Yes	Yes
N	3,499,462	2,913,334	2,913,334	2,913,334	2,913,334	2,006,977	407,035

Dependent variable Log(HHI) is scaled by 100. Observations weighted by survey weight. Columns (2)-(7) excludes the following NAICS sectors: 11, 21, 53, 61, 81, and 92. Column (6) limits to multi-unit establishments. Column (7) limits to manufacturing sector. Robust standard errors clustered at establishment level (UDBnum) in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2 estimates the analogous regression specifications for another establishment-level outcome measure, the log number of occupations. The baseline specification in Column 1 shows that the number of 5-digit occupations per establishment fell by 14% (=exp(2016-1999)*0.0796) from 1999 to 2016. This is again robust to a wide variety of controls, including establishment size, industry and even establishment fixed-effects.

Table 2: Number of Occupations (1999 – 2016)

100*Log(#)	(1)Baseline	(2)Excl Gov	(3)Excl Gov	(4)Excl Gov	(5)Excl Gov	(6)Multi-unit	(7)Manuf
Year Trend	-0.796***	-0.765***	-0.397***	-0.279***	-0.218***	-0.162***	-0.615***
	(0.0174)	(0.0198)	(0.0153)	(0.0135)	(0.0213)	(0.0269)	(0.0481)
log(Emp)			53.6***	52.2***			
			(0.0774)	(0.0803)			
Mean Log(#)	145	146	146	146	146	144	193
NAICS FE				Yes			
Estab FE					Yes	Yes	Yes
N	3,499,462	2,913,334	2,913,334	2,913,334	2,913,334	2,006,977	407,035

Dependent variable Log(# of Occupations) is scaled by 100. Observations weighted by survey weight. Columns (2)-(7) excludes the following NAICS sectors: 11, 21, 53, 61, 81, and 92. Column (6) limits to multi-unit establishments. Column (7) limits to manufacturing sector. Robust standard errors clustered at establishment level (UDBnum) in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

3.2 Identifying Outsourceable Occupations

Next we propose a method to identify occupations that are likely to have faced outsourcing throughout our study period, beyond the common occupations described by or focused on by previous studies. Out of over 800 detailed occupation codes, we limit our analysis to the top 50 ranking occupations in terms of employment in the 2000-2005 period. We then construct a measure that looks at overall employment in an occupation divided by the total number of establishments reporting at least one worker in that occupation. We call this the Employment to Establishment ratio, and calculate it for each occupation-by-survey wave. This measure captures the fact that when employers outsource a given occupation, they will no longer be considered an establishment reporting that occupation, and therefore the denominator of the E:E ratio shrinks. For example, if there are a large number of janitors but they are all employed by a few janitorial firms then the ratio of janitors to janitorial establishments will be high. Of course this will also pick up industry and geographic concentration - so it is by no means a perfect measure - but levels and changes in this measure provide an indirect measure of outsourcing.

Table 3 lists the 20 occupations with the largest percentage change in the mean of the E:E ratio from 2000-2005 to 2011-2016. What we see is that many of the usual suspects for outsourcing - e.g. janitors and cleaners, catering, security guards - alongside other less obvious outsourcing occupations like home health aides, registered nurses, manual workers (laborers, packers and assemblers) and accountants.

The rising demand for health care and long term care services has resulted in large employment growth for health workers. Some hospitals looking to reduce labor costs "rely on outsourced labour, hiring nurses and other workers from independent agencies on a temporary basis".[3] Lowe's provides another example of the outsourcing of less obvious occupations: "The home-improvement chain notified maintenance staff and assemblers that put together grills, wheelbarrows and other products that they were being laid off, according to the company and employees. Those roles will be taken over by third-party companies".[4]

However, increases in the E:E ratio may be partly driven by growth in labor demand for a given occupation, as evidenced by Registered Nurses and Home Health Aides. Therefore, we calculate an alternative measure of concentration named the Mean Proportional Deviation, defined below. The reasoning behind this measure is that it captures changes in the deviation of occupational employment shares across establishments. If an occupation is becoming increasingly concentrated in a few specialized employers, there will be a growing dispersion in employment shares, with firms that haven't outsourced employing low shares while the providers of outsourced labor employ large shares.

$$MPDev_j = \frac{1}{n}\sum_{i=1}^{n}\left|\frac{share_{ij} - avgshare_j}{avgshare_j}\right|$$

$$where \quad share_{ij} = \frac{Emp_{ij}}{TotEmp_i} \quad and \quad avgshare_j = \frac{\sum_{i=1}^{n} Emp_{ij}}{\sum_{i=1}^{n} TotEmp_i}$$

We can then list the set of occupations that show large changes (over 25%) in their Mean Proportional Deviation from 2000-05 to 2011-16. We claim that these occupations are also likely to have been subjected to greater outsourcing from 2000 to 2016, and warrant further study. Four occupations appear in both lists: Food Preparation Workers, Receptionists and Information Clerks, Billing and Posting Clerks, and Maids and Housekeeping Cleaners.

[3] "Why nurses are the new auto workers", The Economist, July 25, 2014.
[4] "Lowe's lays off thousands of store workers", Wall Street Journal, August 1 2019.

Table 3: Occupations with Largest Growth in Employment to Establishment Ratio

SOC Code	Description	Emp:Est Ratio 00-05	Emp:Est Ratio 06-10	Emp:Est Ratio 11-16	% Change in E:E
31-1011	Home Health Aides	35.68	42.26	53.07	49%
41-9041	Telemarketers	23.96	24.84	31.36	31%
43-3021	Billing and Posting Clerks	3.21	3.67	4.16	30%
13-2011	Accountants and Auditors	2.93	3.29	3.71	26%
53-7064	Packers and Packagers, Hand	15.84	17.38	19.94	26%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	14.81	16.30	18.33	24%
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	6.96	8.19	8.49	22%
35-2021	Food Preparation Workers	8.17	8.66	9.89	21%
37-2012	Maids and Housekeeping Cleaners	12.68	14.49	15.15	19%
29-1141	Registered Nurses	35.84	39.69	42.67	19%
53-7051	Industrial Truck and Tractor Operators	10.34	11.02	12.16	18%
53-3033	Light Truck or Delivery Services Drivers	5.79	6.40	6.76	17%
39-9021	Personal Care Aides	49.53	65.62	57.30	16%
43-1011	First-Line Supervisors of Office and Administrative Support Workers	2.77	3.05	3.18	15%
51-4041	Machinists	9.22	10.26	10.53	14%
15-1121	Computer Systems Analysts	9.91	10.92	11.24	13%
33-9032	Security Guards	20.46	21.68	23.07	13%
43-4171	Receptionists and Information Clerks	2.63	2.71	2.97	13%
51-2092	Team Assemblers	32.78	33.46	36.90	13%
15-1132	Software Developers, Applications	14.40	14.68	16.01	11%

Notes: Listed are the 20 occupations within the Top 50 that have the highest growth in their E:E Ratios. E:E Ratio 00-05, 06-10, 11-16 denotes Employment to Establishment ratio over 2000-2005, 2006-2010, and 2011-2016 periods respectively. % Change in E:E denotes the percentage change of the E:E Ratio from 2000-2005 to 2011-2016.

Table 4: Occupations with Largest Growth in Mean Proportional Deviation

SOC Code	Description	MPDev 00-05	MPDev 06-10	MPDev 11-16	% Change in MPDev	% Change in E:E
47-2031	Carpenters	3.76	5.33	6.80	81%	-25%
29-2061	Licensed Practical and Licensed Vocational Nurses	1.26	1.57	1.89	50%	-14%
41-2031	Retail Salespersons	0.96	1.22	1.40	45%	-17%
47-2111	Electricians	4.42	5.66	6.34	44%	-9%
37-3011	Landscaping and Groundskeeping Workers	3.86	4.62	5.50	43%	-5%
43-6011	Executive Secretaries and Executive Administrative Assistants	2.06	2.43	2.94	42%	-5%
35-2021	Food Preparation Workers	1.69	2.13	2.39	42%	21%
49-9071	Maintenance and Repair Works, General	2.13	2.60	3.01	41%	-4%
47-2061	Construction Laborers	0.85	1.00	1.20	41%	-17%
41-2011	Cashiers	1.71	2.12	2.38	39%	-5%
43-4171	Receptionists and Information Clerks	2.62	3.16	3.58	37%	13%
35-3031	Waiters and Waitresses	0.77	0.89	1.03	33%	-3%
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	1.87	2.09	2.48	32%	3%
43-3021	Billing and Posting Clerks	2.09	2.49	2.75	32%	30%
43-9061	Office Clerks, General	1.94	2.28	2.48	28%	-12%
37-2012	Maids and Housekeeping Cleaners	1.73	1.97	2.17	25%	19%
43-5071	Shipping, Receiving, and Traffic Clerks	1.68	1.74	2.11	25%	4%

Notes: Listed are the occupations from the Top 50 that have the highest growth in their MPDev. MPDev 00-05, 06-10, 11-16 denotes Mean Proportional Deviation over 2000-2005, 2006-2010, and 2011-2016 periods respectively. %Change in MPDev denotes the percentage change of the MPDev from 2000-2005 to 2011-2016. % Change in E:E denotes the percentage change of the E:E Ratio from 2000-2005 to 2011-2016.

4 Industry Concentration

We construct several measures of firm-level industry concentration using Census microdata from 1976 to 2015: share of firm employment in the firm's top 6-digit NAICS industry, share of firm payroll within the firm's top industry, share of firm employment within the firm's top three industries, the HHI of firm employment across industries, and the HHI of firm payroll across industries. Figure 5 plots the annual employment-weighted mean of each of these variables from 1976 through 2015, with the mean taken over all of the firms meeting the criteria described in section 2.2.

All of the measures of industrial concentration have been steadily rising over time. For example, the share of firm employment in the firm's largest industry (the solid red line in Figure 4) has increased by over 10 percent in the sample period, rising from 0.77 in 1976 to 0.85 in 2015. The other measures we study in Figure 5 show a similar increase in industrial concentration, with the share of firm payroll in the firm's top industry rising by 9 percent, the share of firm employment within the firm's top three industries rising by 8 percent, the HHI of firm employment across industries rising by 12 percent, and the HHI of firm payroll across industries rising by 9 percent.

4.1 Regression Analysis

As with our analysis of occupational concentration, we now investigate the change in industry concentration over time through regression analyses, controlling for additional factors such as firm size and age and primary industry. Specifically, we estimate the equation

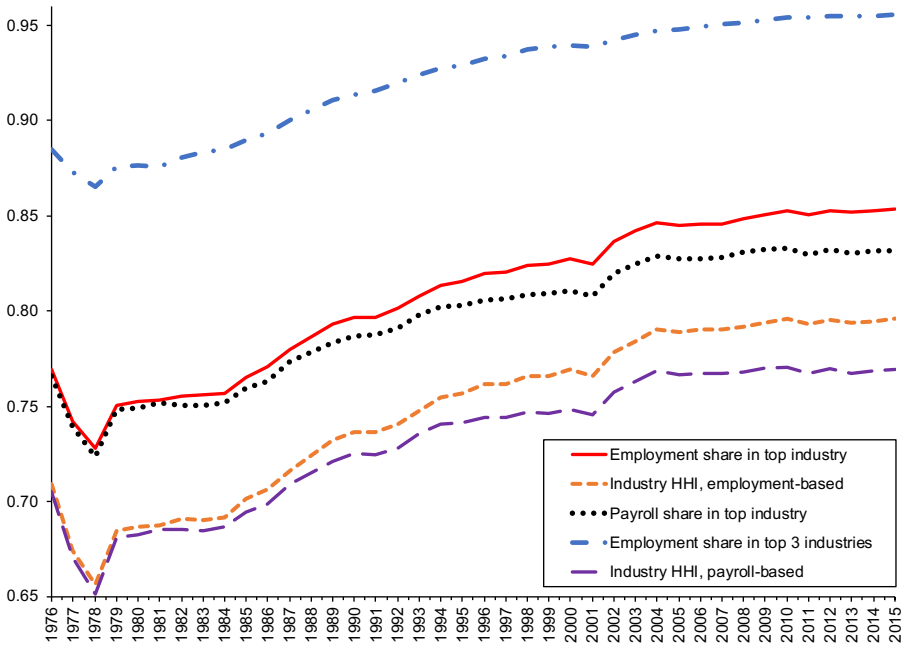
$$y_{ijt} = \alpha + \sum_{age=0}^{39} \beta^{age} + \beta_j + \tau_t + \ln(employment_{it}) + \epsilon_{it} \quad (1)$$

where y_{ijt} is a measure of firm-level industrial concentration for firm i in sector j[5] in year t, the share of employment in the firm's largest industry in the baseline analysis, β^{age} are age fixed effects[6] , and τ_t are year fixed effects. Figure 6 plots the year fixed effects from estimating equation 1 via

[5]Sector is defined at the 1-digit NAICS level. We assign a sector to each firm based on the 1-digit NAICS which has the plurality of the firm's employment.

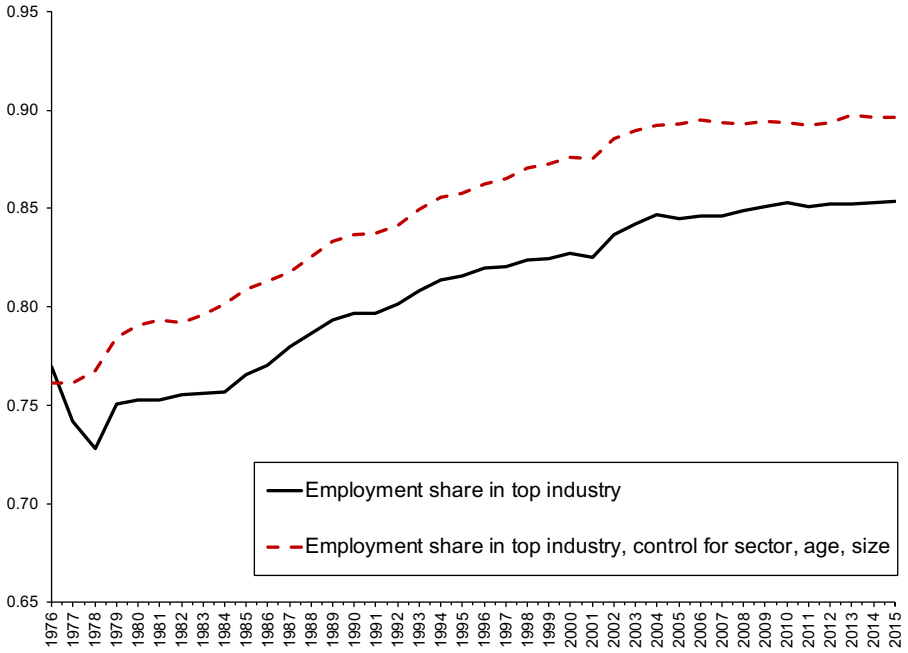
[6]Firm age in the Census data is imputed from establishment birth (see Haltiwanger et. al 2013). Establishment birth is censored at 1976, the first year of the Longitudinal Business Database. Hence firm age in any given year t is censored at *t-1976*.

Figure 5: Rising industrial concentration of firms



Notes: Industry HHI is calculated for each firm, with industry defined at 6-digit NAICS level. The figure plots the employment-weighted mean of firm-specific measures of annual industry concentration using data from the Census Bureau's Longitudinal Business Database.

Figure 6: Concentration rising faster after controlling for sector, age, and size



Notes: The solid black line plots the employment-weighted mean share of firm employment in the firm's top industry. The red dotted line shows the increase in the mean share of firm employment in the firm's top industry after controlling for 1-digit NAICS, firm age, and firm size and is constructed by plotting the year fixed effects from equation 1.

employment-weighted OLS relative to the 1976 baseline level of industrial concentration. The simple weighted mean is also shown for comparison.

The increase in industrial concentration is even larger after controlling for these factors. Hence the concentration of firms is not driven by changes in average firm size or the age distribution of firms over time, nor the changing distribution of employment across industries over the 40 years we study. On net, these factors have tended to decrease the concentration of firms as measured by the share of employment in firms' top industry. After controlling for these factors this measure of concentration rises by 0.1349 percentage points compared to only 0.0843 percentage points without including these controls. This represents a 17.7 percent increase in the initial 1976 level of concentration compared

to an 11.0 percent increase without controls.[7]

4.2 Sales Concentration in Compustat

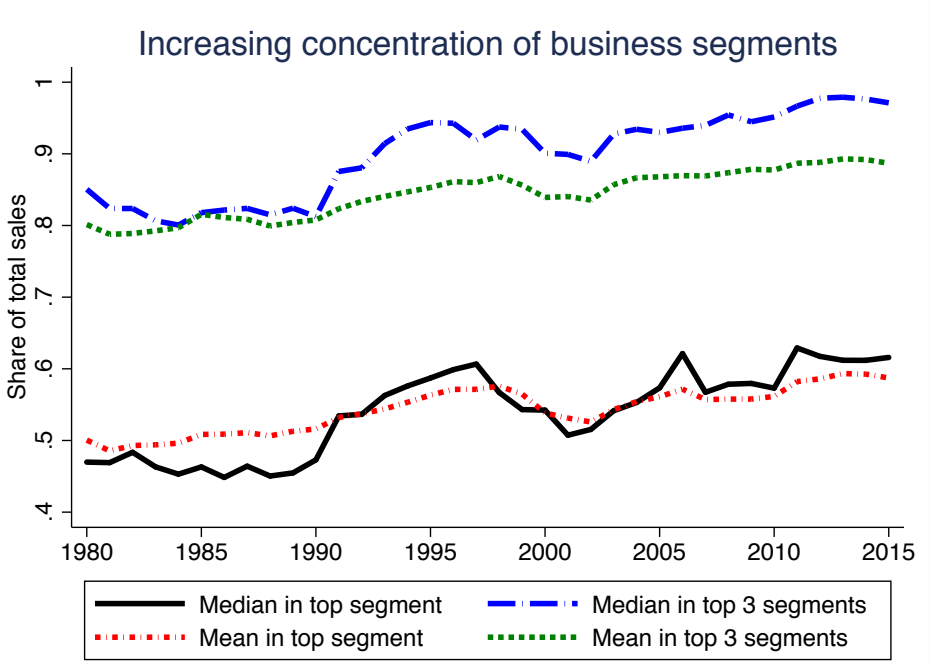
To check yet another measure of concentration we use Compustat data to examine trends in public firms' sales concentration. While Compustat only covers publicly listed firms which are not necessarily representative of all US firms (Davis et al. (2006) find that public firms have differed from private firms in terms of firm level volatility and cross sectional dispersion of growth rates), using Compustat allows us to observe data on product sales. We can therefore confirm that the within-firm concentration in employment shares can also be observed in sales shares measured at the business segment level (each firm categorizes their sales into business segments defined by 4-digit SIC industries). Figure 7 shows this sales concentration for Compustat firms is also rising over the same period, both in each firm's top business segment and top 3 business segments.

5 Conclusion

We use data from the Bureau of Labor Statistics, the Census Bureau and Compustat to investigate the concentration of U.S. firms' occupations and industries over time. We find strong evidence for increased concentration of firms in terms of (a) decreases in the number of occupations and industries in which firms are active (b) increases in the share of employment accounted for by firms' most common occupations and most important industries (c) rising occupational HHI and industrial HHI indices. The mean number of 5-digit occupations per establishment has fallen from 6.5 to 5.5 since 2000, with the top-3 occupations now accounting for over 85% of total establishment employment on average. Moreover, the top industry in a firm now accounts for over 85% of total firm employment compared to just under 77% in 1976. The concentration of activities within firms which we have documented is likely linked to the rise of outsourcing and pressure on firms to focus on their core competencies. In future work we hope to explore drivers of this rise in concentration, as well as the potential role of increased firm concentration on the rising segregation of employees by income and education across firms.

[7] 0.1349/0.7613=0.1772 compared to 0.0843/0.7693=0.1096.

Figure 7: Concentration in Compustat Firms



Notes: The solid black (dotted red) line plots the median (mean) share of firm sales in the top line-of-business segment. The dot-dash blue (dotted green) lines plot the median (mean) share of firms sales in the top three lines of business segments. 1.

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