Online Appendix – Employer Concentration and Wages for Specialized Workers

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Appendix A: Further details on the institutional setting

Privatization

To privatize the market, the state-owned company *Apoteket Omstrukturering AB (OAB)* was formed by a parliament decision in 2008 (see Government Bill 2008) as a temporary parent company to *Apoteket* during the deregulation. *OAB* handled the details of the privatization process. The horizontal division of *Apoteket* took place in two steps: (i) 466 out of *Apoteket*'s 946 pharmacies were sold to private firms in eight clusters during 2009, and (ii) a further 150 pharmacies were transferred to a separate state-run company, *Apoteksgruppen*. (SOU 2017:15 2017). Individual pharmacies in *Apoteksgruppen* were sold throughout 2010, after completion of the cluster sales. There was also a vertical split of *Apoteket*. Certain functions previously performed by *Apoteket* (IT infrastructure, database handling, etc.) were moved to a separate state-owned company (Swedish Agency for Public Management 2011).

OAB (and agents hired by *OAB*) analyzed the profitability and location of each pharmacy and subsequently decided which to sell in clusters, which to transfer to *Apoteksgruppen* and which *Apoteket* would keep. There is no public information on exactly how the pharmacies were divided, or what motivated the division. Regarding the cluster sales, the pharmacies were organized into eight clusters.[1] Two large clusters had 198 and 171 pharmacies respectively, three smaller clusters had 20 to 21 pharmacies and a further three had 10 to 12 pharmacies. The two large clusters were national – they consisted of pharmacies located throughout the country – while the six smaller clusters were regional. Two of the small clusters consisted of pharmacies that were co-located with healthcare institutions.

[1] Information on the cluster sales draws heavily on National Audit Office 2012.

OAB started identifying potential buyers in the fall of 2008. The clusters were made public in May 2009 and the first round of bids were received by June 2009. Bids could be placed on all clusters, but certain clusters could not be jointly acquired.[2] Fifteen bidders were invited to a second round of bids and submitted final bids in October 2009. Four winners were made public in November 2009, and began operations at the start of 2010. The four winners consisted of three investment companies or venture capitalists, and one pharmacy wholesaler (Swedish Competition Authority 2010).

Pharmacists and pharmacy technicians

Pharmacists work primarily, but not only, in pharmacies. In addition to pharmacies, pharmacists generally work in pharmaceutical companies, governmental agencies, hospitals and universities. In 2016, 63.9% of all educated pharmacists worked in a pharmacy. The second largest industry at the five-digit level was manufacture of pharmaceutical preparations (6.2%) and the third largest wholesale of pharmaceutical goods (4.6%). Pharmacists can obtain an occupational license from the National Board of Health and Welfare. Formally, there are two types of pharmacists in Sweden: those with at least a Master's degree (*apotekare*) and those with a Bachelor's degree (*receptarie*) in Pharmacy. The legal requirements apply to either type of pharmacist and there are only small differences in tasks performed (SOU 2017:15 2017, p. 209). Consequently no distinction is made between the two categories in this paper.

Pharmacy technicians work almost exclusively at pharmacies: based on data for 2016, nearly 95% of pharmacy technicians work in the pharmacy industry. Over a longer time period, they are hard to consistently identify in data as they lack unifying educational backgrounds or occupational codes.[3] At pharmacies, they work with sales and advice on non-prescription drugs and retail items and can assist with dispensing medicines. Prior to the deregulation, *Apoteket* internally trained pharmacy technicians. Post-deregulation, there are vocational degrees. In 2016, 62% had upper secondary schooling or less.

[2]The largest cluster could be jointly acquired with one smaller cluster. The second largest cluster could be jointly acquired with two smaller clusters. At most three small clusters could be acquired together.

[3]From 2014, they have the occupational (SSYK12) code 5227.

Wage-setting institutions

The pharmacy market is fully covered by collective agreements. Framework agreements are set at the central level and the agreements can be adjusted locally. Wage levels are not specified in the collective agreements but are set flexibly in individual wage negotiations between the employee and their manager, which take place annually. The collective agreements are generally renegotiated every three years.

In the pre-deregulation period, there was one main employer organization, *Almega*, in which the public firm was a member, and two main unions, *Sveriges Farmaceutförbund* and *Farmaciförbundet*. The former mainly organized pharmacists and the latter mainly organized pharmacy technicians. In the post-deregulation period, some firms are members of a second employer organization, *Svensk Handel*. Moreover, *Farmaciförbundet* merged with the trade union *Unionen* in 2014.

The main wage-setting institutions have not changed between 2004 and 2016 i.e. the period that is studied in this paper. Prior to the deregulation in 2009, the public firm adhered to the wage-setting institutions described above and individualized wage-setting was the norm.[4] One institutional change in the post-period is that wage floors were introduced for workers organized by *Farmaciförbundet/Unionen* in 2009. The wage floors stipulated the lowest full-time pay for workers aged 20 and above. In practice, the data show that very few workers were paid below the wage floors even before they were introduced.

Figure A.1 below shows the wage distribution in the first and last year of observation. Over time, the wage distribution has widened somewhat by shifting out the upper tail of the distribution.

[4]Even so, there may for example have been a fairness norm that limited how much wages were differentiated across employees.

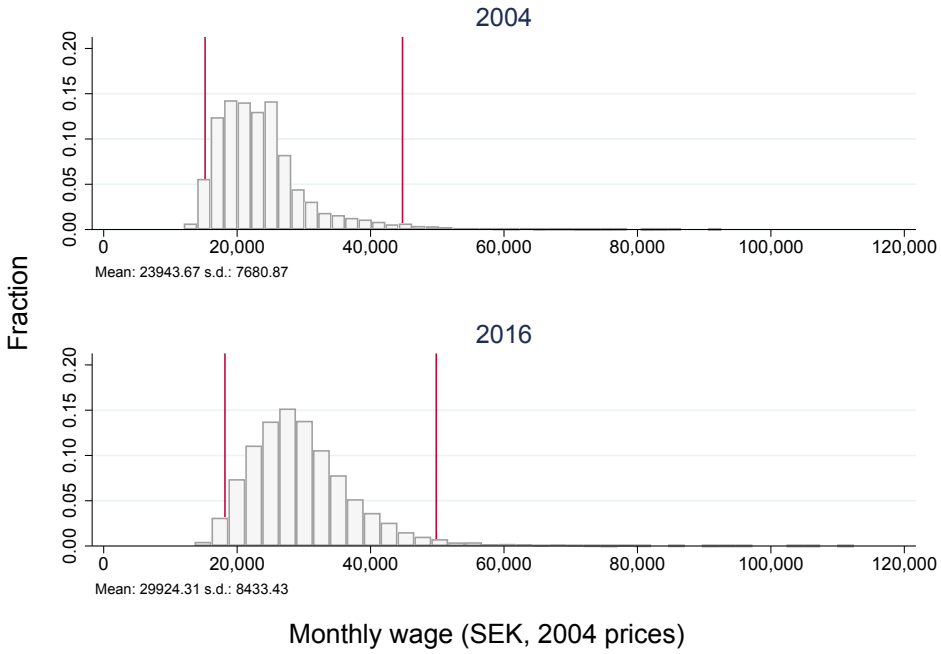


Figure A.1: Wage distribution (2004 and 2016)

Note: The figure plots the wage distribution in the pharmacy industry in 2004 and 2016. Wages are deflated to 2004 prices. The two lines mark the 2.5 and 97.5 percentiles.

Appendix B: Transition and leave shares

I calculate *transition shares*, $\pi_{i \to j}$ and *leave shares*, ρ_i, for i = commuting zones or industries.

$$\pi_{i \to j} = \frac{\text{Quits from } i \text{ to } j}{\text{Total number of quits in } i}$$

$$\rho_i = \frac{\text{Quits from } i \text{ to any} j \neq i}{\text{Total number of quits in } i}$$

The transition share captures the likelihood of moving from i to j, conditional on being someone who quits their firm in i. The leave share is the likelihood of moving anywhere out of i, conditional on being a quitter.[5]

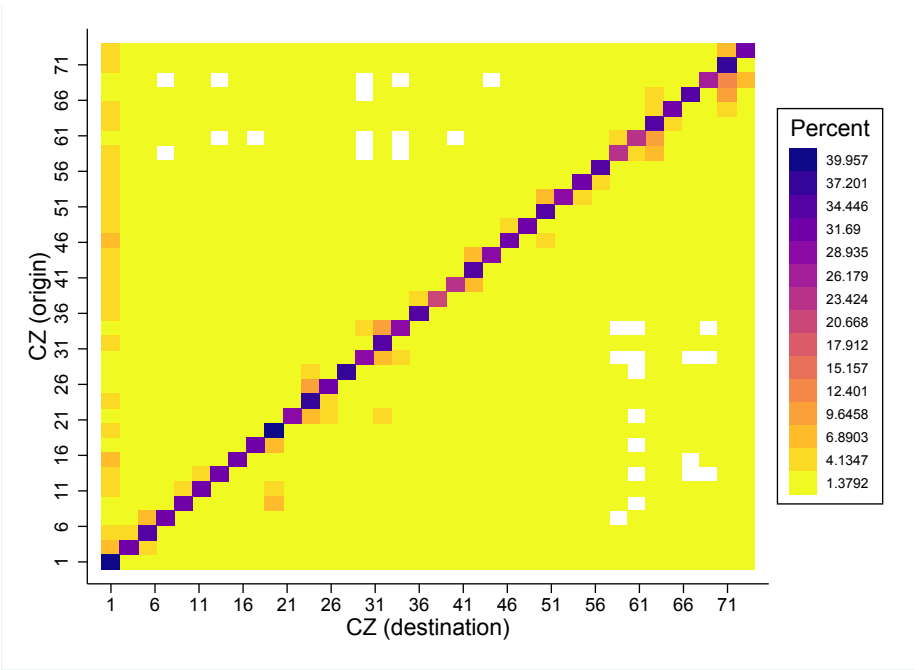
I define quits as working at a firm in year t but no longer working at the same firm in year $t+1$. It is not considered a quit if over 50% of employees at the firm in year t quit to the same firm in $t+1$. The industry is defined using the origin and destination workplace industry (SNI) code at the 5-digit level. The transition and leave shares for commuting zones aggregate the full data between 2004 and 2016. When I calculate statistics for industries, I restrict the sample to the years 2010 to 2016. This is because I'm primarily interested in the pharmacy industry, in which there was only one firm until 2009. I exclude quits to non-employment. After calculating the transition and leave shares, I also exclude observations if there is only one person moving from i to j.

Results are presented for commuting zones first, and industries second. For the industry dimension, I analyze (i) everyone employed in the pharmacy industry (ii) all educated pharmacists.

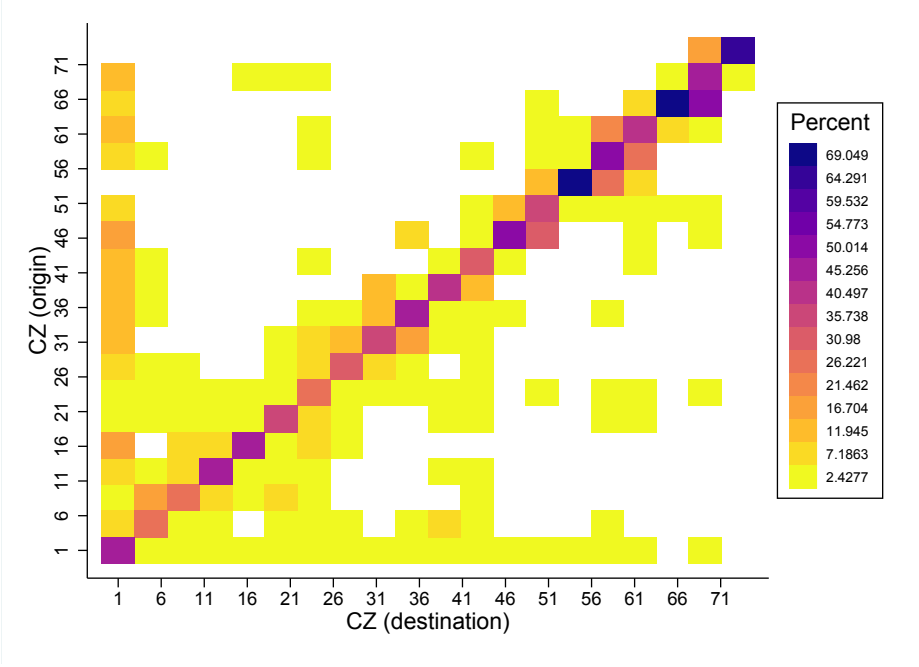
Commuting zones

Figure B.1 plots transition shares between origin and destination CZs. In Panel (a) all industries are used, and in Panel (b) the sample is restricted

[5]The analysis is inspired by Schubert, Stansbury, and Taska (2022). Notice that the definition differs from Schubert, Stansbury, and Taska (2022) in two main ways. First, they consider transitions between occupations. Second, when calculating the transition share, they are interested in the outside occupation options and condition on leaving the occupation i.e. they do not include transitions between jobs within the same occupation.



(a) All employees



(b) Pharmacy industry employees

Figure B.1: Transition shares across commuting zones

Note: The figure plots transition shares for the 73 commuting zones using data for 2004 to 2016. In Panel (a), all employees are included. In Panel (b), the sample is restricted to employees in the pharmacy industry.

to the pharmacy industry. The dark area along the diagonal show that transitions first and foremost are within commuting zones, particularly for the pharmacy

industry. The weighted average leave share from the commuting zone in the pharmacy industry, weighting by total quits between 2004 and 2016, is 19%, i.e. over 80% stay in the commuting zone when switching firms.

Industries

Pharmacy industry: The leave share for everyone employed in the pharmacy industry is 39%, meaning over 60% quit for another job in the same industry. To put this in relation to another industry that we expect to be relatively specialized, the leave share for compulsory schools (SNI-code 85.201) is 20 percentage points higher – at nearly 60% – between 2010 and 2016. Table B.1 shows transition shares for the five most popular industries for individuals who originate in the pharmacy industry. The second most common transition – at 2.7% – is orders of magnitude smaller than transitions within the industry.

Table B.1: Transition shares for pharmacy industry

Destination industry	Transition share
Dispensing chemists (i.e. pharmacy)	60.6%
Specialized hospital somatic activities	2.7%
Manufacture of pharmaceutical preparations	2.1%
Temporary employment agency activities	1.9%
Wholesale of pharmaceutical goods	1.9%

Note: The table shows the top 5 transition shares for employees who start in the pharmacy industry, based on data from 2010 to 2016.

Pharmacists: Turning to pharmacists, the table below shows transitions for educated pharmacists, based on their origin industry (pharmacy or non-pharmacy) and destination industry (pharmacy or non-pharmacy). The data suggest that, while there are transitions across industries, the pharmacy industry appears to be quite segregated. For pharmacists employed in the pharmacy industry, over 80% of transitions are to another pharmacy. For pharmacists who originate outside the pharmacy industry, only 28% of transitions are to the pharmacy industry, while 72% are to other industries. The pharmacy industry accounts for around two thirds of pharmacist employment between 2010 and 2016. Thus pharmacists outside the pharmacy industry transition to the pharmacy industry at much lower rates than we'd expect if workers randomly transitioned across firms, and similarly pharmacists within the pharmacy industry transition within the industry at much higher rates than implied by the industry's size.

Again drawing the parallel to teachers, 62% of subject teachers and 69% of compulsory school teachers working in compulsory schools transition to another job in compulsory schools when they quit. This too is lower than the rate at which pharmacists make within pharmacy industry transitions.

Table B.2: Transition matrix for pharmacists

	Destination industry:	
	Pharmacy	Non-pharmacy
Origin industry:		
Pharmacy	80.7%	19.3%
Non-pharmacy	27.8%	72.2%

Note: The table shows aggregated transition and leave shares for educated pharmacists, based on data from 2010 to 2016. Precisely, it shows the proportion of quits for a pharmacist originating in the pharmacy (non-pharmacy) industry into either pharmacy or non-pharmacy destinations.

Appendix C: Additional description and results

Table C.1: Returns to moving in pre-period

Sample:	(1) Full	(2) Pharmacy $t-1$	(3) Pharmacy $t-1$ <15 yrs experience
Move pharmacy	-0.002	0.031	0.007
	(0.003)	(0.006)	(0.008)
R^2	0.511	0.514	0.430
N	50,114	47,223	21,457
Year FE	Yes	Yes	Yes
LLM FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Note: The table provides results from regressing a dummy variable for joining a new pharmacy on log wages in the pre-period (2004–2008). In column (1), the full sample of movers and non-movers in the pharmacy industry are included. In column (2), the sample is restricted to those working in the pharmacy industry, also prior to moving. In column (3), the sample is restricted further to individuals with less than 15 years of industry experience since 1985. Controls are included for age (in five categories), gender, foreign born and level of education (in five categories). Standard errors are clustered by LLM and reported in parentheses.

Table C.2: Summary statistics – pharmacists

	2004–2008		2010–2016	
	Mean	sd	Mean	sd
Female	0.88	(0.33)	0.86	(0.35)
Age (years)	47.79	(12.11)	46.13	(12.85)
Age < 30	0.10	(0.30)	0.10	(0.30)
Age ≥ 50	0.51	(0.50)	0.41	(0.49)
Foreign born	0.10	(0.30)	0.17	(0.38)
Some college	1.00	(0.00)	1.00	(0.00)
Pharmacist	1.00	(0.00)	1.00	(0.00)
≤ 2 years tenure	0.33	(0.47)	0.41	(0.49)
≥ 10 years tenure	0.26	(0.44)	0.18	(0.39)
≤ 2 years experience	0.33	(0.47)	0.38	(0.49)
≥ 10 years experience	0.53	(0.50)	0.41	(0.49)
Non-missing wage	0.79	(0.40)	0.63	(0.48)
Monthly wage (2004 SEK)	29,269	(9,649)	33,437	(10,089)
Monthly earnings (2004 SEK)	27,793	(12,300)	30,566	(13,626)
Employees $\times$ year	42,355		63,545	

Note: The table shows summary statistics for all educated pharmacists in the pre-period (2004–2008) and post-period (2010–2016). Foreign born are born in a country other than Sweden. Experience refers to industry experience from the pharmacy industry.

Table C.3: Top 5 industries for pharmacists (2016)

	%
Dispensing chemists (i.e. pharmacy)	63.90
Manufacture of pharmaceutical preparations	6.16
Wholesale of pharmaceutical goods	4.61
Specialised hospital somatic activities	3.60
Inspection, control, permit & licensing activities of central & local gov't	3.16

Note: The table shows the top five for pharmacists in 2016 by share of employment. Pharmacists are identified by their educational level and specialization. Industries are defined by five-digit SNI codes.

Table C.4: Summary statistics (2004–2008) by change in labor market concentration

	Large decrease		Medium decrease		Small decrease	
	Mean	sd	Mean	sd	Mean	sd
Panel A: Characteristics of LLMs						
Pharmacy employment	395.81	(777.32)	144.29	(116.65)	48.81	(86.14)
Pharmacies	28.05	(43.73)	13.18	(8.70)	4.59	(5.23)
Population ('000)	314.64	(549.24)	108.04	(75.08)	33.32	(45.53)
$HHI_{m,2009}$	0.32	(0.05)	0.43	(0.02)	0.79	(0.23)
$HHI_{m,2009}$ (employment weighted)	0.32	(0.04)	0.42	(0.02)	0.58	(0.13)
LLMs × year	95		90		180	
Number of LLMs	19		18		36	
Panel B: Characteristics of employees						
Female	0.91	(0.29)	0.92	(0.28)	0.89	(0.32)
Age (years)	45.65	(13.17)	45.79	(13.24)	45.11	(13.24)
Age < 30	0.16	(0.36)	0.16	(0.36)	0.18	(0.38)
Age ≥ 50	0.47	(0.50)	0.48	(0.50)	0.46	(0.50)
Foreign born	0.15	(0.36)	0.08	(0.27)	0.06	(0.23)
College	0.67	(0.47)	0.61	(0.49)	0.59	(0.49)
Pharmacist	0.52	(0.50)	0.51	(0.50)	0.48	(0.50)
≤ 2 years tenure	0.35	(0.48)	0.35	(0.48)	0.36	(0.48)
≥ 10 years tenure	0.24	(0.43)	0.26	(0.44)	0.26	(0.44)
≤ 2 years experience	0.13	(0.33)	0.15	(0.35)	0.19	(0.39)
≥ 10 years experience	0.56	(0.50)	0.56	(0.50)	0.51	(0.50)
Monthly wage (2004 SEK)	24,722	(7,727)	23,680	(6,964)	23,099	(6,416)
Monthly earnings (2004 SEK)	22,522	(9,696)	21,634	(8,446)	20,972	(7,881)
Employees × year	37,602		12,986		8,785	
Employees (2008)	7,493		2,547		1,781	

Note: The table shows means across LLMs (panel A) or employees (panel B) for the pre-deregulation period, separately by whether the change in concentration due to the privatization is large, medium or small (see Section V for definitions). Foreign born are born in a country other than Sweden. Experience refers to industry experience in the pharmacy industry. $HHI_{m,2009}$ (employment weighted) is the mean value of HHI 2009, weighting by employment in 2008.

Table C.5: The effect of market concentration on ln(*earnings*)

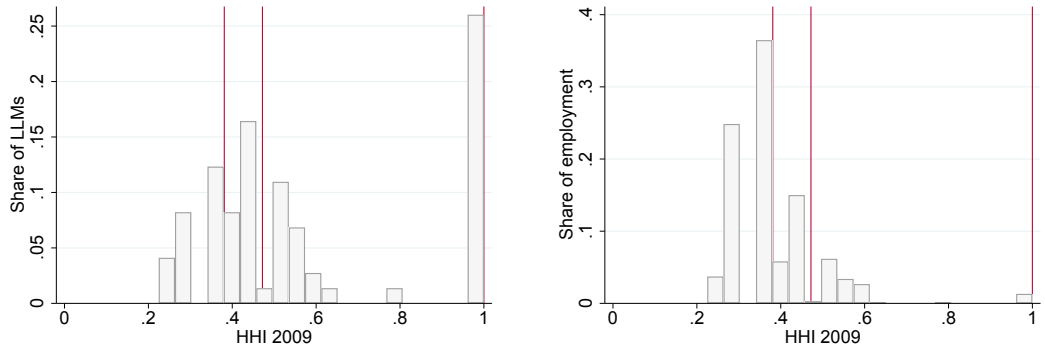
	(1)	(2)	(3)	(4)	(5)
	OLS			IV	
Panel A: OLS & IV					
$ln(HHI_{mt})$	-0.041	-0.051	-0.039	-0.031	-0.014
	(0.014)	(0.013)	(0.015)	(0.014)	(0.014)
R^2	0.086	0.293	0.726		
Panel B: First stage					
$ln(HHI_{m,2009}) \times Post_t$				1.139	1.163
				(0.129)	(0.117)
F-statistic				77.69	99.48
Panel C: Reduced form					
$ln(HHI_{m,2009}) \times Post_t$	-0.006	-0.035	-0.016		
	(0.016)	(0.018)	(0.017)		
R^2	0.085	0.293	0.726		
N	127,709	127,560	121,219	127,560	121,219
Year FE	Yes	Yes	Yes	Yes	Yes
LLM FE	Yes	Yes		Yes	
Person × LLM FE			Yes		Yes
Controls		Yes		Yes	

Note: This provides the results of estimating equations (7), (9) and (10) for log earnings. Controls are included for age (in five categories), gender, foreign born, and level of education (in five categories). Standard errors are clustered by LLM and reported in parentheses. The F-statistic is the Kleibergen-Paap Wald rk F-statistic.

Table C.6: Effect of labor market concentration on wages – 2008 sample

	(1)	(2)
$ln(HHI_{m,2009}) \times Post_t$	-0.057	-0.032
	(0.014)	(0.008)
R^2	0.553	0.917
N	88,107	86,738
Year FE	Yes	Yes
LLM FE	Yes	
Person × LLM FE		Yes
Controls	Yes	

Note: This provides the results for estimating equation (7) for the sample of workers employed in the pharmacy industry in 2008. Controls are included for age (in five categories), gender, foreign born, and level of education (in five categories). Standard errors are clustered by LLM and reported in parentheses.



(a) LLMs (b) Employment

Figure C.1: Distribution of $HHI_{m,2009}$

Note: This shows the distribution of $HHI_{m,2009}$ across LLMs (Panel A) and employees (Panel B). The three lines mark the 25th, 50th and 75th percentiles of the distribution of $HHI_{m,2009}$ across LLMs (0.38, 0.47 and 1 respectively).

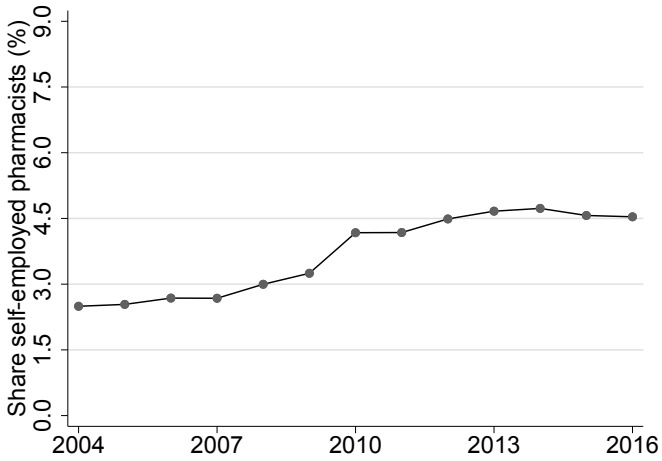


Figure C.2: Self-employment among all pharmacists

Note: Based on the data described in Section III for the full labor market.

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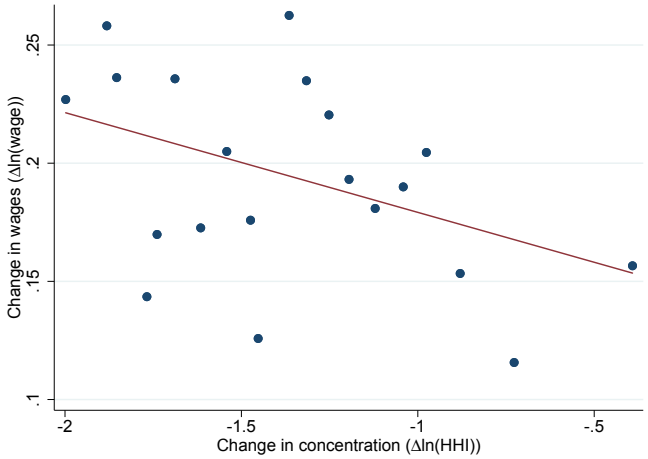


Figure C.3: Change in $\ln(wage_{it})$ vs. change in $\ln(HHI_{mt})$

Note: This shows a binscatter plot of the change in $\ln(wage_{it})$ against the change in $\ln(HHI_{mt})$ for the years 2010 to 2016. The change in log wages is measured relative to 2008 (with wages deflated to 2004 prices). The change in concentration is measured as $\ln(HHI_{mt}) - \ln(1) = \ln(HHI_{mt})$. The slope is -0.042.

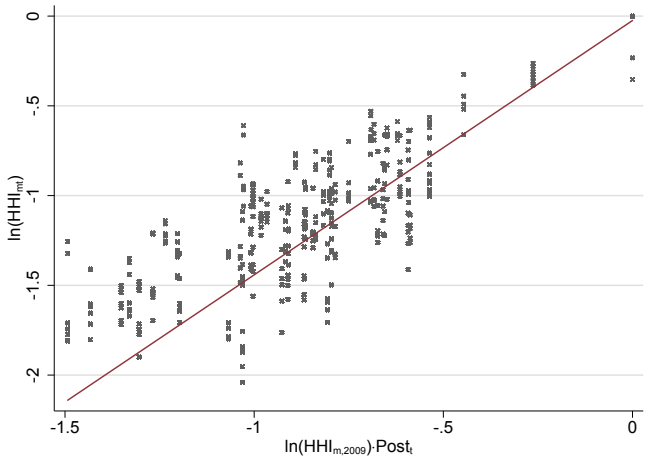


Figure C.4: $\ln(HHI_{mt})$ vs. $\ln(HHI_{m,2009}) \times Post_t$

Note: This shows a scatter plot of $\ln(HHI_{mt})$ vs. $\ln(HHI_{m,2009}) \times Post_t$ in the pharmacy industry, with a linear prediction.

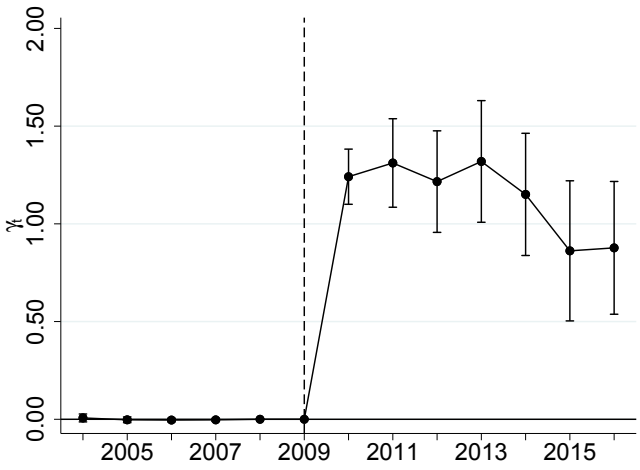
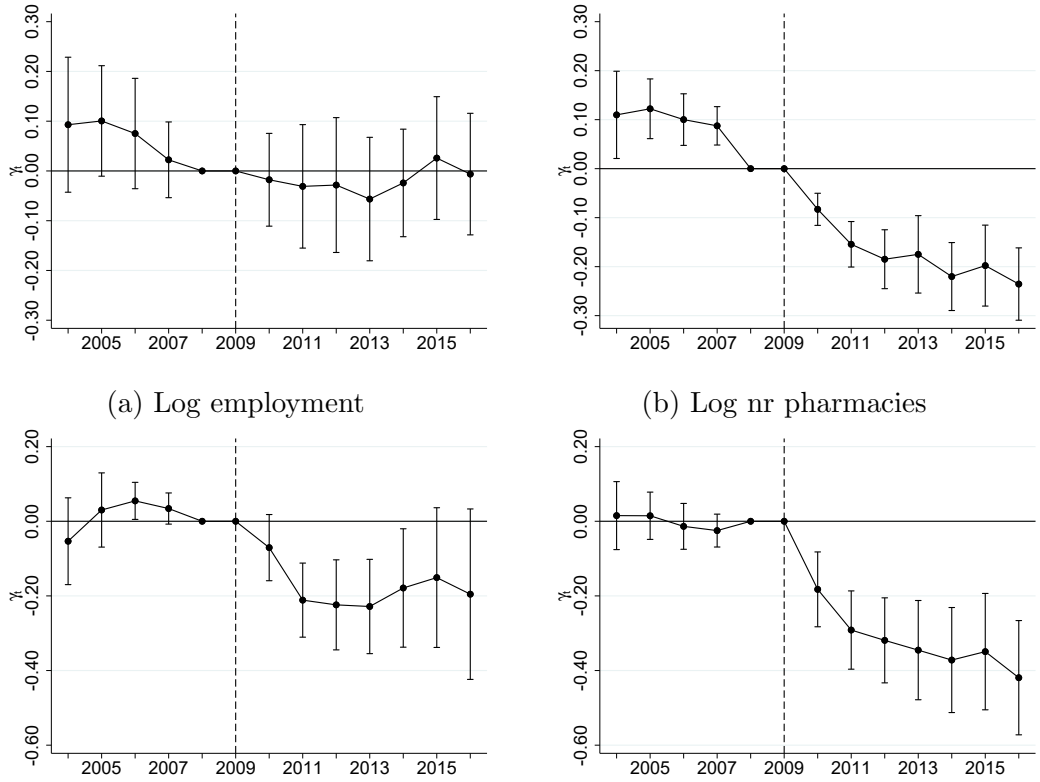


Figure C.5: The effect of concentration due to privatization on actual concentration over time

Note: This plots estimates of γ_t with 95% confidence intervals from the regression $\ln(HHI_{m,t}) = \sum_{t \neq 2008} \gamma_t \ln(HHI_{m,2009}) \mathbb{1}[year = t] + \lambda_m + \lambda_t + \varepsilon_{imt}$. Data for 2009 is excluded.



(a) Log employment

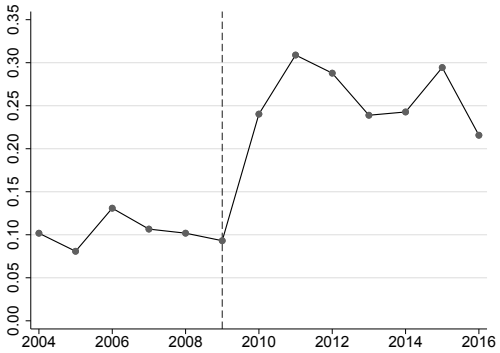
(b) Log nr pharmacies

(c) Log employment (weighted)

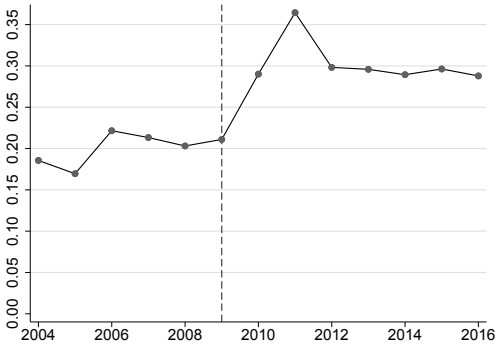
(d) Log nr pharmacies (weighted)

Figure C.6: Effect of concentration on employment and nr pharmacies

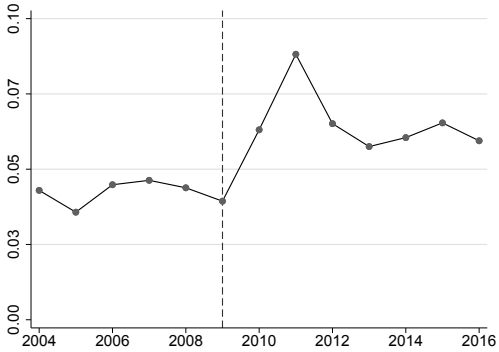
Note: This plots estimates of γ_t with 95% confidence intervals from the regression $\ln(Y_{m,t}) = \sum_{t \neq 2008} \gamma_t \ln(HHI_{m,2009}) \mathbb{1}[year = t] + \lambda_m + \lambda_t + \varepsilon_{mt}$ for two outcomes: log pharmacy employment and log number of pharmacies. Data is collapsed to the local labor market-year level, and data for 2009 is excluded. The weighted regressions weight by the local labor market pharmacy employment in 2004.



(a) Share new hires to firm



(b) Share new hires to pharmacy



(c) Firm hires from non-pharmacy firms

Figure C.7: Mobility in pharmacy industry

Note: Panel A (B) shows the share of employees that join a new firm (pharmacy). A new hire works at a firm (pharmacy) in t but not $t-1$. It is not a new hire if over 50% of employees in t come from the same firm (pharmacy) in $t-1$. In Panel (C) the fraction of firm hires from outside the pharmacy industry is plotted.

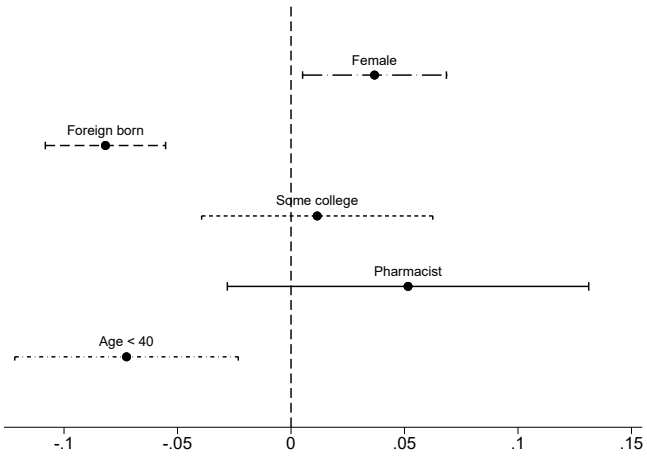


Figure C.8: Compositional changes

Note: The figure plots estimated γ-coefficients with 95% confidence intervals from the following model for five indicator outcomes, as specified by the labels: $Y_{imt} = \gamma[\ln(HHI_{m,2009}) \times Post_t] + \lambda_m + \lambda_t + \varepsilon_{imt}$. Data for 2009 is excluded.

Appendix D: Robustness checks

Table D.1: Robustness – Effect of labor market concentration on ln($wage$)

	(1)	(2)
Panel A: Baseline		
$ln(HHI_{m,2009}) \times Post_t$	-0.069	-0.029
	(0.013)	(0.009)
R^2	0.537	0.925
N	105,868	100,130
Panel B: CZ controls		
$ln(HHI_{m,2009}) \times Post_t$	-0.046	-0.017
	(0.014)	(0.009)
R^2	0.538	0.925
N	105,868	100,130
Panel C: Control for nr employees		
$ln(HHI_{m,2009}) \times Post_t$	-0.069	-0.028
	(0.013)	(0.010)
R^2	0.537	0.925
N	105,868	100,130
Panel D: Control for nr pharmacies		
$ln(HHI_{m,2009}) \times Post_t$	-0.046	-0.019
	(0.013)	(0.010)
R^2	0.538	0.925
N	105,868	100,130
Panel E: Control for value added		
$ln(HHI_{m,2009}) \times Post_t$	-0.062	-0.026
	(0.014)	(0.009)
R^2	0.531	0.927
N	95,208	89,754
Panel F: Public sector only		
$ln(HHI_{m,2009}) \times Post_t$	-0.090	-0.017
	(0.027)	(0.008)
R^2	0.534	0.950
N	77,377	73,285

Continued on next page

Table D.1 – continued from previous page

	(1)	(2)
Panel G: Control for share public sector		
$ln(HHI_{m,2009}) \times Post_t$	-0.044	-0.022
	(0.009)	(0.010)
R^2	0.538	0.925
N	105,868	100,130
Panel H: Omit urban areas		
$ln(HHI_{m,2009}) \times Post_t$	-0.055	-0.021
	(0.013)	(0.011)
R^2	0.576	0.920
N	55,512	52,593
Panel I: No managers		
$ln(HHI_{m,2009}) \times Post_t$	-0.070	-0.028
	(0.011)	(0.008)
R^2	0.555	0.914
N	96,413	91,216

Note: This provides robustness checks for estimating equation (7). Column (1) includes year FE and LLM FE, and column (2) includes year FE and person by LLM FE. Column (1) also includes individual-level controls. Both columns control for log population, mean log annual earnings and fraction population above 65 per CZ (Panel B), log number of employees per LLM (Panel C), log number of pharmacies per LLM (Panel D), log value added per employee (Panel E), and the share of pharmacy employees in the LLM that are employed in the public sector (Panel G). Standard errors are clustered by LLM and reported in parentheses.

Table D.2: Robustness: Geographic market definition

	(1) CZ	(2) CZ	(3) County	(4) County	(5) Municipality	(6) Municipality	(7) FA	(8) FA
$ln(HHI_{m,2009}) \times Post_t$	-0.069	-0.029						
	(0.013)	(0.009)						
$ln(HHI_{county,2009}) \times Post_t$			-0.048	-0.025				
			(0.026)	(0.013)				
$ln(HHI_{municipality,2009}) \times Post_t$					-0.028	-0.033		
					(0.015)	(0.005)		
$ln(HHI_{fa,2009}) \times Post_t$							-0.068	-0.026
							(0.014)	(0.009)
R^2	0.537	0.925	0.539	0.923	0.551	0.936	0.536	0.924
N	105,868	100,130	105,868	100,409	105,832	97,172	105,868	100,214
Nr markets	73	73	21	21	290	290	60	60
Geography FE	Yes		Yes		Yes		Yes	
Person × geography FE		Yes		Yes		Yes		Yes
Controls	Yes		Yes		Yes		Yes	

Note: This table provides the results of estimating equation (7) for alternative geographic market definitions, given in the column headings. Standard errors are clustered by geographic market and reported in parentheses. Controls are age (in five categories), gender, foreign born and level of education (in five categories). Year fixed effects are included in all regressions.

Table D.3: Effect of labor market concentration on ln($wage$) – Pharmacists

	(1)	(2)	(3)	(4)	(5)
	OLS			IV	
Panel A: OLS & IV					
$ln(HHI_{mt}^{pharmacist})$	-0.038	-0.022	-0.018	-0.042	-0.011
	(0.009)	(0.012)	(0.006)	(0.013)	(0.009)
R^2	0.224	0.381	0.926		
Panel B: First stage					
$ln(HHI_{m,2009}^{pharmacy}) \times Post_t$				1.087	1.119
				(0.127)	(0.126)
F-statistic				73.01	79.06
Panel C: Reduced form					
$ln(HHI_{m,2009}^{pharmacy}) \times Post_t$	-0.052	-0.046	-0.012		
	(0.011)	(0.013)	(0.011)		
R^2	0.223	0.381	0.926		
N	73,874	73,873	71,501	73,873	71,501
Year FE	Yes	Yes	Yes	Yes	Yes
LLM FE	Yes	Yes		Yes	
Person × LLM FE			Yes		Yes
Controls		Yes		Yes	

Note: This provides the results of estimating equations (7), (9) and (10) for log wages using the sample of all educated pharmacists. Controls are included for age (in five categories), gender, foreign born, and level of education (in five categories). Standard errors are clustered by LLM and reported in parentheses. The F-statistic is the Kleibergen-Paap Wald rk F-statistic. See Section V.A in the main manuscript for definitions of $\ln(HHI_{mt}^{pharmacist})$ and $\ln(HHI_{m,2009}^{pharmacy})$.

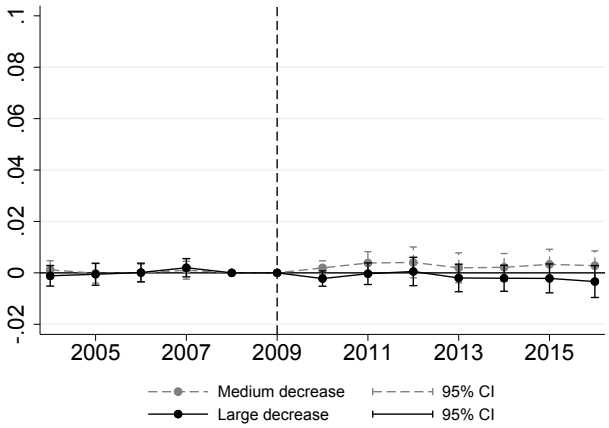


Figure D.1: Treatment effects for the full labor market

Note: The figure plots γ_t from Equation (11) with 95% confidence intervals for the full labor market (omitting the pharmacy industry). Data for 2009 is excluded from the regression.

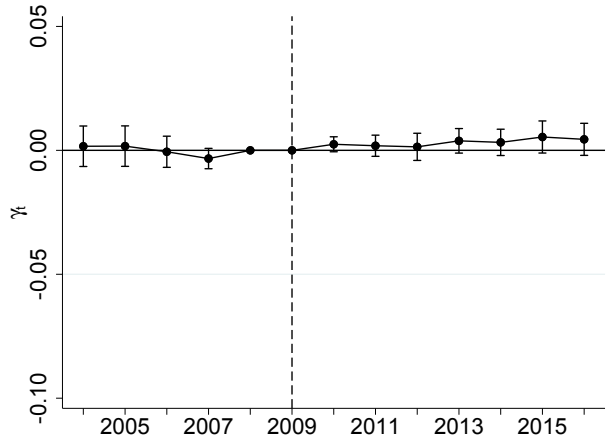
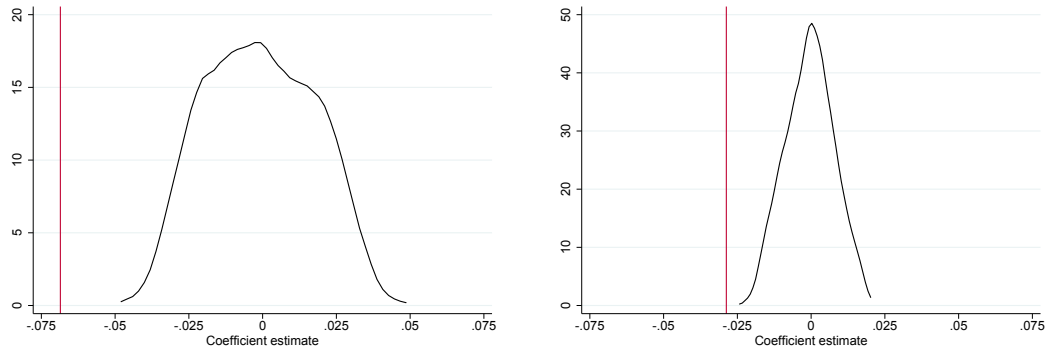


Figure D.2: Full labor market estimations of Equation (8)

Note: The figure plots γ_t from Equation (8) with 95% confidence intervals for the full labor market (omitting the pharmacy industry). Data for 2009 is excluded from the regression.



(a) LLM FE (b) Individual × LLM FE

Figure D.3: Randomization inference

Note: The figure plots the kernel density of estimates of γ from Equation (7) where the treatment intensity, $\ln(HHI_{m,2009})$, has been randomized across LLMs in 500 permutations. Panel (a) uses local labor market fixed effects, and Panel (b) uses individual by local labor market fixed effects. The red lines mark the result from the main estimation of (7) using actual $\ln(HHI_{m,2009})$. A statistically significant and positive (negative) estimate is found in 10.4% (13.2%) of the permutations at the 5%-level when LLM FEs are used, and in 7.6% (10.4%) with individual by LLM FEs.

Appendix E: Stata commands

The following user-written Stata commands have been used for the analysis: `reghdfe` (Correia 2017), `ivreghdfe` (Correia 2017 and Baum, Schaffer, and Stillman 2010), `coefplot` (Jann 2014), `binscatter` (Stepner 2013), `heatplot` (Jann 2019b) (including `palettes` (Jann 2018) and `colrspace` (Jann 2019a)), `estout` (Jann 2004), and `spmap` (Pisati 2007) (including `shp2dta` (Crow 2006)).

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