Summary:
Is There Monopsony in the Labor Market? Evidence from a Natural Experiment

Staiger, Spetz & Phibbs (2010)

`https://github.com/s-saisw/readingSummary`

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1 Introduction

- Monopsony power was thought to exist only in isolated labor market. However, recent theoretical development suggests monopsonistic power may also exist when individual firms face upward-sloping labor supply curve.
- Direct estimation of the elasticity of labor supply yields mixed results in the literature. Studies find little market power over nurses and coal miners but some market power over teachers.
- Registered nurses (RNs)
  - wage variation across regions and hospitals ⇒ monopsony
  - labor shortage ⇒ monopsony
  - emplolyment mobility ⇒ competitive market
- This paper utilizes the natural experiment around the Nurse Pay Act 1990. This creates an *exogenous wage change* at veteran (VA) hospitals.
  - Prior to 1990, wage at VA hosipitals is set nationally. However, the Nurse Pay Act 1990 allows wage to be based on the local wage.
- Wage increase at VA hospital should increase the labor supply in the RN market that is geographically close to the hospital. ⇒ Non-VA hospitals closer to the VA hospitals are affected by more.
  - This is based on a theoretical model in which firms face a labor supply curve that is *upward* sloping in their own wage, and *downward* sloping in the wage of competitors.
- Data is restricted to only entry-level wages.
  - This reduces aggregation bias.
  - Unlike usual approach that uses average wage, this may overstate wage changes. (Given that wage above entry level does not change much after the reform.)

2 Data

- Data sets
  - Nursing Personnel Surveys (NPS)
  - American Hospital Association (AHA)
- Unit of observation is a hospital. Final sample is limited to hospitals that are within 60 miles of a VA hospital.

3 Empirical Analysis

$$\Delta(\ln w_i) = \alpha_0 + \alpha_1 \Delta(\ln w_i^{VA}) + \alpha_2 D15_i \Delta(\ln w_i^{VA}) + \alpha_3 D30_i \Delta(\ln w_i^{VA}) + \epsilon_i \quad (1)$$

w_i^{VA}: is the wage at the nearest VA hospital to hospital i.
$D15_i, D30_i$: dummy variables that equal 1 if hospital i is more than 15or 30 miles from a VA hospital

Table 2
Reduced-Form Estimates of the Impact of VA Wage Changes on the Wage Changes in Non-VA Hospitals, 1990–92

Independent Variable	(1)	(2)	(3)	(4)
Change in log wage of RNs at the nearest VA (1990–92)	.128	.178	.137	.190
	(.033)	(.043)	(.077)	(.106)
Change in log wage of RNs at the nearest VA (1990–92) × dummy if > 15 miles to VA		−.078	−.105	−.139
		(.040)	(.042)	(.082)
Change in log wage of RNs at the nearest VA (1990–92) × dummy if > 30 miles to VA		−.049	−.035	−.100
		(.037)	(.056)	(.098)
Dummy if > 15 miles to VA				.008
				(.012)
Dummy if > 30 miles to VA				.013
				(.014)
MSA dummies?	No	No	Yes	Yes
R^2	.029	.044	.274	.276
No. of observations	1,179	1,179	1,179	1,179

NOTE.—Standard errors are in parentheses, clustered at the Metropolitan Statistical Area (MSA) level. Sample includes all non-VA hospitals within 60 miles of a VA hospital. Based on data from the American Hospital Association's Annual Survey of Hospitals and the Nursing Personnel Survey, 1990 and 1992, augmented with wage and employment information for VA hospitals from VA administrative data. All wages refer to starting (lowest) wages of RNs. Dependent variable = ln(wage92) − ln(wage90).

$$\Delta(\ln L_i) = \theta_0 + \theta_1 \Delta(\ln w_i - \ln w_j) + \mu_i \quad (2)$$

L_i: number of RN FTEs employed at hospital i.
w_j: average at hospital i's two nearest competitors

(2) needs to be estimated using 2SLS since w_i is set according to L_i. w_i is instrumented by using distance and whether i is a VA hospital.

$$\Delta \ln w_i = \pi_0 + DVA_i(\pi_1 + \pi_2 \Delta \ln w_i^{VA}) + (1 - DVA_i) \times (\pi_3 \Delta \ln w_i^{VA} + \pi_4 D15 + \pi_5 D30 + \pi_6 D15 \ln w_i^{VA} + \pi_7 D30 \ln w_i^{VA})$$

Table 5
Two-Stage Least Squares Estimates of RN Labor Supply Elasticities

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
Change in the log wage gap between hospital and its two nearest competitors	.076	.080	.016	.185	.185	.127
	(.137)	(.133)	(.177)	(.138)	(.135)	(.185)
Dummy if VA hospital			.023			.019
			(.014)			(.014)
MSA dummies?	No	No	Yes	No	No	Yes
"FAR" instruments included?	No	Yes	Yes	No	Yes	Yes
"GAP" instruments used?	No	No	No	Yes	Yes	Yes
p-value for test of the over-identifying restrictions	.71	.45	.31	.20	.20	.12
No. of observations	1,334	1,334	1,334	1,334	1,334	1,334

NOTE.—Standard errors are in parentheses, clustered at the Metropolitan Statistical Area (MSA) level. Sample includes all non-VA hospitals within 60 miles of a VA hospital. All regressions are weighted by the number of hospital beds in 1990. All wages refer to starting (lowest) wages of RNs. Change in the log wage gap between a hospital and its two nearest competitors is defined as [ln(wage92) − ln(wage90)] − [ln(compwage92) − ln(compwage90)], where compwage90 and compwage 92 are as defined in table A1. Specifications with "FAR" instruments use first-stage regressions given in cols. 2, 3, 5, and 6 of table A1. Specifications using "GAP" instruments use first-stage regressions given in cols. 4–6 of table A1. Dependent variable = ln(RN FTEs, 1992) − ln(RN FTEs, 1990).