



Firm market power and the earnings distribution[☆]



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HIGHLIGHTS

- Use linked employer–employee data to estimate dynamic labor supply model
- First to estimate firm-level labor supply elasticities
- Average firm is fairly monopsonistic, but there is a wide distribution.
- First to demonstrate link between firm labor supply elasticity and worker earnings

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ABSTRACT

Using the Longitudinal Employer Household Dynamics (LEHD) data from the United States Census Bureau, I compute firm-level measures of labor market (monopsony) power. To generate these measures, I extend the empirical strategy of Manning (2003) and estimate the labor supply elasticity facing each private non-farm firm in the U.S. While a link between monopsony power and earnings has traditionally been assumed, I provide the first direct evidence of the positive relationship between a firm's labor supply elasticity and the earnings of its workers. I also contrast the dynamic model strategy with the more traditional use of concentration ratios to measure a firm's labor market power. In addition, I provide several alternative measures of labor market power which account for potential threats to identification such as endogenous mobility. Finally, I construct a counterfactual earnings distribution which allows the effects of firm market power to vary across the earnings distribution. I estimate the average labor supply elasticity to the firm to be 1.08, however my findings suggest that there is significant variability in the distribution of firm market power across U.S. firms, and that dynamic monopsony models are superior to the use of concentration ratios in evaluating a firm's labor market power. I find that a one-unit increase in the labor supply elasticity to the firm is associated with earnings gains of between 5 and 16%. While nontrivial, these estimates imply that firms do not fully exercise their labor market power over their workers. Furthermore, I find that the negative earnings impact of a firm's market power is strongest in the lower half of the earnings distribution, and that a one standard deviation increase in the labor supply elasticity to the firm reduces the variance of the earnings distribution by 9%.

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1. Introduction

There is good reason to believe that some firms have non-trivial power in the labor market, that not all firms act as price takers and pay their employees the prevailing market wage. Intuitively, most would not switch jobs following a wage cut of one cent, and we would not expect a firm which raises wages by a small amount to suddenly have an infinite stream of workers. So it becomes an empirical question of whether the departure from perfect competition is meaningful; whether perfect competition is a good approximation for our economy, or whether a model with substantial frictions fits better.

Estimating the degree of wage competition in the labor market is important for both theoretical research and policy analysis. Evidence of significant distortions in the labor market would suggest that labor economists should focus their attention on models which incorporate these

imperfections (many of which come from the search and matching literatures). From a policy perspective, the degree of imperfect competition can drastically change the effects of institutions such as the minimum wage (Card and Krueger, 1995) or unions (Feldman and Scheffler, 1982).

Utilizing data from the U.S. Census Bureau's Longitudinal Employer Household Dynamics (LEHD) program, I estimate the market-level average labor supply elasticity faced by firms in the U.S. economy, similar to the previous literature. I then estimate a more flexible version of the empirical model proposed by Manning (2003), which allows me to produce a distribution of labor supply elasticities facing firms, rather than a single average. This method allows me to examine the effects of monopsonistic competition (defined in this context as any departure from perfect competition) on the earnings distribution in great detail, and contributes to the existing literature in a number of ways. First, it is the first examination of monopsony power using comprehensive administrative data from the U.S. Second, my particular empirical strategy allows me to examine the distribution of monopsony power which exists in the U.S., and to provide the first direct evidence on the negative impact of a firm's market power on earnings. I compare the performance of the market power measures derived in this study to that of the more traditional concentration ratio to illustrate the significant contribution of the new monopsony models. Finally, I construct a counterfactual earnings distribution in which firms' market power is reduced in order to demonstrate the impact of imperfect competition on the shape of the earnings distribution.

I estimate the average labor supply elasticity to the firm to be approximately 1.08. Estimates in this range are robust to various modeling assumptions and corrections for endogenous mobility. Furthermore, I find evidence of substantial heterogeneity in the market power possessed by firms, ranging from negligible to highly monopsonistic. While a link between monopsony power and wages has traditionally been assumed (Pigou, 1924), I provide the first direct evidence of a positive relationship between the labor supply elasticity faced by the firm and the earnings of its workers, estimating that a one-unit increase is associated with a decrease of between .05 and .15 in log earnings. I demonstrate that the effect of monopsony power is not constant across workers: unconditional quantile regressions imply that impacts are largest among low paid and negligible among high paid workers. Finally, implications in the inequality literature are addressed through the construction of a counterfactual earnings distribution, which implies that a one standard deviation increase of the labor supply elasticity facing each firm would decrease the variance of earnings distribution by 9%.

The paper is organized as follows, Section 2 describes the definition of market power utilized in this study and previous research relating on imperfect competition in the labor market. Section 3 lays out the theoretical foundation for this study. The data and methods are described in Section 4. Section 5 presents the results and sensitivity analyses, and Section 6 concludes.

2. Previous research and discussion of monopsony power

The concept of “monopsony” was first defined and explored as a model by Robinson (1933). In her seminal work, Robinson formulated the analysis which is still taught in undergraduate labor economics courses. Monopsony literally means “one buyer”, and although the term is most often used in a labor market context, it can also refer to a firm which is the only buyer of an input.

It should be pointed out that in the “new monopsony” framework, the word monopsony is synonymous with the following phrases: monopsonistic competition, imperfect competition, finite labor supply elasticity, or upward sloping labor supply curve to the firm. While the classic monopsony model is based on the idea of a single firm as the only outlet for which workers can supply labor, the new framework defines monopsony as any departure from the assumptions of perfect competition. Additionally, the degree of monopsonistic competition may vary significantly across labor markets, and even across firms within a given labor market.

In order to think about what determines a firm's monopsony power, we must consider why we do not observe the predicted behavior from a perfectly competitive model. What gives a firm flexibility in offering a wage rather than being forced to offer the market wage? Put another way, why do we not observe workers jumping from job to job whenever they observe a higher paying opportunity for which they are qualified?

One of the most prominent reasons is that the typical worker does not have a continuous stream of job offers (this point will be discussed further in the theoretical model section). This source of monopsony power has roots in the classic monopsony framework in that, all else held constant, workers in labor markets with more firms are likely to have a greater number of offers. However, this idea takes an overly simplistic view of the boundaries of a given labor market. Most employers are likely operating in many labor markets at any given time. A prestigious university may be competing in a national or international labor market for professors, a regional labor market for its high-level administrators and technical staff, and a local labor market for the low-level service workers. Even if the arrival rate of job offers were the only source of monopsony power, it seems that geographic modeling alone would do a poor job of measuring that power. It is often very difficult to model a firm's “local” labor market, firms which are in very close proximity to each other may be competing for labor across drastically different markets, and thus standard geographic modeling (usually involving concentration ratios) may fall short of capturing these nuances.

Another source of monopsony power is imperfect information about job openings (McCall, 1970; Stigler, 1962), which is not completely distinct from the arrival rate of job offers since a decrease in information can cause a reduction in job offers. This is a particularly compelling example since studies such as Hoffer and Murphy (1992) and Polachek and Robst (1998) estimate that imperfect information about job prospects depresses wages by approximately 10%.

The costs (both monetary and psychic) associated with changing jobs can also be thought of as giving market power to the firm. Moving costs are typically thought of as a short run cost, particularly when a worker is young. However these costs can grow significantly when a worker has a family and roots in a community. Consider the scenario of a dual-career family. Two job offers will be needed to induce either of the partners to move, a fact which gives significant bargaining power to the employers of each partner, particularly the one who is paid less. Additionally, changing jobs means that workers must adjust to a new system which will require at least a small degree of learning on the job.

Firm specific human capital also can be thought of as giving market power to the firm, since there is in effect a barrier to leaving a firm when an individual's firm specific capital is large relative to their general human capital. In fact, Wasmer (2006) concludes that markets with substantial search frictions induce workers to overinvest in firm specific human capital.

Reputation costs likely also play a large role in the mobility of workers. Potential employers would be very suspicious of hiring a worker who changes jobs the moment he is offered any wage increase. For all of these reasons, and likely many more, workers must be selective with the wage offers they choose to accept, thus leading to a labor market with substantial frictions.

As discussed in Manning (2011), another way to think about imperfect competition in the labor market is in terms of the rents received by the employee and the employer. On the worker's side, the rents to a given job match would be the difference between the current wage (utility) and the worker's opportunity cost, either a wage (utility) from a different firm or unemployment benefits. Studies such as Jacobson et al. (1993) implicitly estimate these rents by exploring the impacts of exogenous job destruction. This literature estimates wage losses of 20–30%, implying significant rents to employees from a given job match. From the employer's perspective, the rents from the i th job match are the difference between $(MP_i - w_i)$ and $(MP_j - w_j)$, where j is the next worker who would be hired if worker i leaves the firm, MP represents marginal product, and w the wage. This is a harder quantity

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