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Essays in Applied Economics

Executive Summary

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Ph.D. in Business Administration

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2011

Abstract

The first chapter of this dissertation focuses on the role of institutions in the hiring process for small firms. Small firms often lack the ability to evaluate specialized workers, as the entrepreneurs who head small firms are often generalists. The analysis quantifies the role that intermediaries play in overcoming information frictions in online hiring markets where small firms are prevalent. The second chapter focuses on the internal organization of the firm after hiring has occurred. The specific question addressed is: how much variation exists in front-line managerial ability, and should the best workers be paired with the best bosses?

Category: Economics

Keywords: Hiring, Labor Market Intermediation, Outsourcing

The research in this dissertation was funded in part by the Ewing Marion Kauffman Foundation. The contents of this publication are solely the responsibility of Christopher Stanton.

The essays in this dissertation study information in the labor market and the employment relationship at the micro level. The initial portion focuses on the critical role of institutions in the hiring process for small firms. Small firms often lack the skills necessary to evaluate the abilities of specialized workers, as the entrepreneurs who head small firms are likely to be generalists. In many labor market settings where firms hire specialists, intermediaries have arisen to overcome information frictions, and these information frictions may be especially relevant for the smallest firms. The first chapter quantifies the role of intermediaries in online hiring markets where small firms are prevalent. The main conclusion is that intermediation reduces uncertainty about worker quality, reducing frictions in the market, and increasing the efficiency of transactions.

The second chapter focuses on the internal organization of the firm after hiring has occurred. The specific question addressed is: how much variation exists in front-line managerial ability, and should the best workers be paired with the best bosses? Using proprietary data from a large services company, the variation in managerial ability is determined to be large. That is, the best bosses are able to extract significantly more output from a similar set of workers than are the worst bosses. In addition, matching the best workers with the best bosses increases output compared to an allocation under which the best bosses are matched with the worst workers.

Chapter 1: Entrepreneurship Through Online Outsourcing

With the increasing ability to conduct commerce over the internet, online labor markets have sprung up, allowing individuals to sell their services to a global market for talent.

Firms are simultaneously increasing outsourcing, and job matching for temporary workers is burgeoning online. However, information asymmetry is a formidable problem for online job matching markets. Information problems are likely to be most severe when firms are looking to hire outside of their areas of specialization, and this has particularly important implications for entrepreneurship. The founders and initial employees of new firms must be jacks-of-all-trades---each employee must have a range of skills to meet the needs of a young entity (Lazear 2005). Thus, when more specialized tasks arise, startups and small firms may have difficulty verifying worker or contractor ability. These constraints are becoming especially noteworthy because startups increasingly utilize workers or contractors with specific skills on a short term or contract basis, making it difficult to capture the long-term payoffs from finding high quality providers. In the highly specialized information technology sector, 6% of all workers are currently in contract positions (Bidwell and Briscoe 2009), reflecting a growing tendency for firms to outsource (Autor 2003).

The internet has revolutionized how startups find highly skilled contractors. Silicon Valley firms now rely on oDesk.com, the largest online labor market, to find employees who can work on specialized tasks (San Francisco Chronicle 2010). The employers who use oDesk are disproportionately small firms and startups; over 80% of the firms posting jobs have fewer than 10 in house employees. While firms can hire workers directly after a simple interview, intermediaries have, surprisingly, arisen in this market. Over one

third of the workers employed on oDesk.com are affiliated with one of many small intermediaries called outsourcing agencies.

The chapter first develops a theory to explain the functioning of the outsourcing agencies in this market and then tests the theory using data collected from oDesk.com. The theory predicts that affiliation with an outsourcing agency allows employers to infer that a worker is relatively high-quality. If employers can ascertain something about worker ability due to intermediary affiliation, then they do not need to sink costly resources evaluating workers; employers can instead rely on the outsourcing agency signal. Outsourcing agency heads are specialists who can evaluate worker ability, and in equilibrium, only the best workers are offered membership. This separating behavior is due to the fact that agency heads are repeat players with a public reputation to preserve. The signal of intermediary affiliation preempts the need to invest in learning about affiliated workers' quality on the job.

However, outsourcing agencies are not able to screen all workers, as agency heads appear to know their affiliated workers offline, limiting their ability to screen all potential workers. Because not all good workers can be screened by an intermediary, employers may still take a risk on workers who supply their services independently because lack of affiliation does not immediately imply that a worker's quality is low. In exchange for taking this risk, however, employers expect to pay lower wages. The relevant empirical prediction is intuitive: workers affiliated with an outsourcing agency are predicted to be more productive and earn higher wages at the beginning of their careers than similar

independent workers without intermediary affiliation. Employers infer that outsourcing agencies value their own reputations and appropriately screen workers.

After the first hire on oDesk, workers receive a public feedback score, allowing the market to learn about worker ability. The second main prediction is that public feedback should matter less for the wages and employment probabilities of outsourcing agency affiliated workers compared to independent contractors. This is because employers have already determined that agency affiliates are relatively high quality, and the public feedback score just confirms this initial belief. In contrast, feedback is informative about worker quality for those workers without agency affiliation.

The theory is tested by comparing worker outcomes between the first and subsequent jobs for outsourcing agency affiliates and non-affiliates. The empirical evidence suggests there is an outsourcing agency wage and productivity premium on a workers' first job. Outsourcing agency affiliates earn significantly higher wages and receive better employer evaluations than similar non-affiliates.

Once the quality of workers has been revealed through experience, low-quality workers, most of whom are non-affiliates, are selected out of the market. This selection effect leads to a rapid reduction in the agency wage premium for experienced workers. While agencies appear to help form teams for large projects, the full set of findings cannot be explained by the presence of complementarity between worker productivity and agency affiliation.

Affiliates in the same agency share offline ties, suggesting that an agency has a pre-existing advantage in determining worker quality. By conveying this information and reducing employers' costs of quality verification, agency intermediaries increase total output in the market and increase efficiency.

Chapter 2: The Value of Bosses

This chapter studies workplace organization after hiring has occurred. As more productivity data become available, it is possible to examine the effects of people and practices on productivity. Arguably, the most important relationship in the firm is between worker and supervisor. The supervisor hires and fires, assigns work, instructs, monitors performance, and rewards workers. Models of incentives and productivity build at least some subset of these functions in explicitly, but because of lack of data, no work exists that demonstrates the importance of bosses and the channels through which the productivity enhancing effects operate. Using a unique company based data set, supervisor effects are estimated and found to be large - that is, some bosses significantly enhance their subordinates' productivity whereas others do not.

Three findings stand out. First, the choice of boss matters. There is substantial variation in boss quality as measured by the effect on worker productivity. Replacing a boss who is in the lower 10% of boss quality with one who is in the upper 10% of boss quality increases a team’s total output by about the same amount as would adding one worker to a nine member team. Using a normalization, this implies that the average boss is about 1.5 times as productive as the average worker. Second, efficient assignment

allocates the better bosses to the better workers because good bosses increase the productivity of high quality workers by more than that of low quality workers. Finally, the coaching mechanism, which transfers skills and knowledge, seems to be more important than the monitoring effect in making bosses effective.