

ABSTRACT

Title of Dissertation: EMPLOYEE MOBILITY, EMPLOYEE ENTREPRENEURSHIP, AND EMPLOYEE VALUE CAPTURE: LABOR MARKET FRICTIONS AND THE IMPACT OF SOCIAL COMPARISON COSTS ON COMPENSATION

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Strategic human capital research explores heterogeneity in firm performance based on differences in firms' abilities to leverage human capital. Much of the discussion in this literature focuses on how firms can exploit isolating mechanisms that limit the mobility of employees. This dissertation studies two important facets of strategic human capital research related to the mobility of employees. The first essay explores how a labor market frictions lens can connect the strategic human capital literature to the employee entrepreneurship literature, two complementary but largely disparate literatures. The examination of the impact of various labor market frictions on employee mobility to competitor firms and employee transitions to entrepreneurship suggests that the outcomes of some frictions are divergent across the two literatures, the outcomes of some are aligned, and the outcomes of some are ambiguous. The complex interplay of labor market frictions provides opportunities for future research specifically exploring the intersection of the strategic human capital and employee entrepreneurship literatures.

The second essay of explores how multi-location firms facilitate the spread of compensation increases across labor markets. Prior research cites the threat of employee mobility as the primary mechanism for the spread of compensation increases across locations. Multi-location firms that straddle more than one labor market, however, must manage employees across labor markets. I propose that internal firm processes, including social comparison between employees of the firm in different locations, may lead firms to raise compensation for employees in other locations when addressing competitive pressure in a given location. In doing so, these multi-location firms put pressure on local labor market competitors to also raise compensation, leading to compensation increases across distinct labor markets without reference to mobility constraints that dominate the strategic human capital literature.

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EMPLOYEE VALUE CAPTURE: LABOR MARKET FRICTIONS AND THE
IMPACT OF SOCIAL COMPARISON COSTS ON COMPENSATION**

by

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This dissertation is dedicated to my wife, Amanda. Thanks for letting me do this even though it was your turn. We have moved nine times in the sixteen years since we were married. Perhaps that is why I am interested in figuring out what successfully constrains mobility! I love you and look forward to settling down next to you.

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INTRODUCTION

Strategic human capital research examines how firms leverage valuable human capital to gain and maintain a sustainable competitive advantage (Campbell, Coff, & Kryscynski, 2012; Hatch & Dyer, 2004). This literature has its roots in the resource-based view of the firm, which suggests that resources that are rare, difficult to imitate, nonsubstitutable, and valuable can be a source of competitive advantage (Barney, 1991; Barney & Wright, 1998; Castanias & Helfat, 1991). To the extent human capital fits these criteria, it can be a source of competitive advantage for the firm (Chadwick, 2017; Hatch & Dyer, 2004). But, this literature also recognizes that human capital is unique as a firm resource—human capital is contained in people with agency who can demand pay increases and quit their jobs if their demands are not met (Blyler & Coff, 2003; Coff, 1999). The ability of employees to leave firms makes it difficult for firms to create and sustain a human capital-based competitive advantage (Coff, 1997, 1999).

Because the threat of mobility can undermine a human capital-based competitive advantage, the strategic human capital literature generally views employee mobility as a negative consequence for firms. Therefore, a primary focus of the strategic human capital literature became identifying the isolating mechanisms that firms could exploit to constrain employee mobility (e.g., Agarwal, Ganco, & Ziedonis, 2009; Castanias & Helfat, 1991; Starr, Frake, & Agarwal, 2017). With mobility constraints in place, firms are able to retain human capital for less than its use value and generate economic rents. The strategic human capital literature, therefore, draws deeply on labor market frictions as a potential source of the isolating mechanisms (Castanias & Helfat, 1991; Chadwick, 2017).

A relatively new but growing stream of literature has examined the causes and consequences of employee mobility from existing firms to entrepreneurship (e.g., Agarwal,

Echambadi, Franco, & Sarkar, 2004; Franco & Filson, 2006; Hamilton, 2000; Hellmann, 2007; Klepper, 2009). This literature also relies on labor market friction logic. In this literature, however, mobility to entrepreneurship is not viewed negatively. For example, labor market frictions that constrain mobility of employees to existing firms may increase the likelihood of mobility to entrepreneurship (Rajshree Agarwal, Gambardella, & Olson, 2016; Buenstorf, Engel, Fischer, & Gueth, 2016; Campbell, Ganco, Franco, & Agarwal, 2012; Carnahan, 2017; Carnahan, Agarwal, & Campbell, 2012).

The strategic human capital literature and the employee entrepreneurship literature are complementary but have developed largely independently. The first essay of this dissertation attempts to bridge these two literatures using a market frictions lens. Although these literatures leverage labor market friction logic in different ways, from different perspectives, and with different objectives, bridging the two allows us to develop answers to research questions regarding the antecedents and consequences of human capital value capture. This study links these literatures through their shared focus on market frictions and suggests areas where researchers can contribute to the firm-level consequences of entrepreneurial mobility and how managers and policy makers shape the interaction of individuals and firms.

In the second essay of this dissertation, I move beyond labor market frictions and the focus on mobility constraints to explore how social processes that are internal to the firm, and not dependent on mobility constraints, impact the ability of employees to appropriate value by receiving increased compensation. Traditional explanations of the spread of wage increases across local labor markets focus on labor market competition and mobility as explanations (Moretti, 2011): As compensation increases in a given location, the threat of losing employees to that location causes firms located elsewhere to also increase compensation in order to retain

their employees. While this mechanism may certainly lead to compensation increases, other social processes that do not rely on mobility may also play a part. Specifically, multi-location firms must manage employees across locations and so must worry about more than just local labor market pressures. When facing local labor market pressures to raise compensation, they must consider how their employees located in other markets will react if some of the firm's employees receive compensation increases and others do not. Although office boundaries may lessen the possibility of social comparison, prior research shows that employees within firms, even if not co-located, may compare themselves to each other (Kacperczyk, Beckman, & Moliterno, 2013; Obloj & Zenger, 2017). These comparisons may give rise to social comparison costs (Nickerson & Zenger, 2008). In order to avoid potential social comparison costs, the firm may be compelled to raise wages for employees in locations that are not experiencing salary increases. If multi-location firms raise compensation for employees in their other locations, this will likely, in turn, put pressure on their local labor market competitors to also increase compensation for their employees. As a novel mechanism for the spread of compensation increases, I propose, therefore, that local labor market competition may interact with social comparison processes internal to multi-location firms and result in the spillover of compensation increases across otherwise distinct labor markets.

**BRIDGING STRATEGIC HUMAN CAPITAL AND EMPLOYEE
ENTREPRENEURSHIP RESEARCH:
A LABOR MARKET FRICTIONS APPROACH**

Co-Authored with Benjamin Campbell and David Kryscynski

Introduction

The strategic human capital literature is largely focused on explaining heterogeneity in performance based on differences in firms' abilities to leverage valuable human capital (Barney, 1991; Barney & Wright, 1998; Castanias & Helfat, 1991). Accordingly, the strategic human capital literature brings from its strategy roots a focus on firm performance heterogeneity and from its human capital roots a focus on employee mobility.¹ In this literature, mobility is viewed primarily as a threat to firms because it represents the loss of valuable human capital that might be important for firm capabilities and performance (Coff, 1997). Thus, the strategic human capital literature has emphasized the critical role of labor market frictions in constraining mobility of human capital and, therefore, facilitating sustained human capital-based competitive advantages (Campbell, Coff, et al., 2012; Chadwick, 2017).

In contrast, the employee entrepreneurship literature brings from its entrepreneurship roots a focus on understanding the formation of new ventures and the economic outcomes of innovation and from its roots on the agency of individual entrepreneurs a focus on mobility choices of potential founders. As such, the employee entrepreneurship literature is largely focused on understanding the conditions that cause employees to leave employment in order to found their own firms and the economic and personal consequences of those entrepreneurial

¹ For a recent review of the expansive literature on employee mobility, please see Mawdsley and Somaya (2016).

actions. In this literature, mobility is viewed primarily as a positive outcome because it is associated with greater economic returns for the individual entrepreneurs (Campbell, 2013; Hamilton, 2000; Hellmann, 2007), enhanced performance of newly created firms (Agarwal et al., 2004; Chatterji, 2009; Franco & Filson, 2006; Klepper, 2009; Sakakibara & Balasubramanian, 2017), and flows of knowledge and innovations that benefit markets and geographic regions as a whole (Agarwal, Audretsch, & Sarkar, 2010; Almeida & Kogut, 1999; Berchicci, King, & Tucci, 2011; Chatterji, Glaeser, & Kerr, 2013; Gambardella & Giarratana, 2010). From this perspective, employee entrepreneurship research has focused on how various labor market frictions may increase or decrease the propensity of potential entrepreneurs to leave their jobs and found new firms.

We visually depict the relationships among these literatures in Figure 1. Strategic human capital scholarship exists at the intersection of the strategy and employee mobility literatures, while employee entrepreneurship scholarship exists at the intersection of the entrepreneurship and employee mobility literatures. We highlight that strategic human capital scholarship and employee entrepreneurship scholarship both draw on the market friction logic embedded in the employee mobility literature, but focus on different objectives and outcomes of interest. Accordingly, we see an opportunity to link these two theoretical conversations through the language and logic of labor market frictions and, in so doing, to explore the intersection between strategic human capital and employee entrepreneurship research.

[INSERT FIGURE 1 HERE]

In the sections that follow, we provide a short overview and summary of labor market friction logic and briefly review how each friction manifests in the strategic human capital and employee entrepreneurship literatures. Our review suggests that in some instances the outcomes

of these frictions diverge across literatures, in other instances they align across literatures, and in other instances the extent of alignment or divergence is unclear or ambiguous. We then identify opportunities for future research explicitly focused on the intersection of the strategic human capital and employee entrepreneurship literatures.

Labor Market Frictions

Market frictions are imperfections in product or factor markets that inhibit perfect competition (Mahoney & Qian, 2013). Economic theory suggests that in perfectly competitive markets, economic rents are unattainable. By preventing perfectly competitive market outcomes, market frictions can facilitate rent creation and rent capture by market participants. In both the strategic human capital and employee entrepreneurship literatures, understanding how market frictions in labor markets impact the mobility of employees into and out of firms is a key concern.

A common theme across strategic human capital theory is that labor market frictions that constrain voluntary employee mobility are necessary for firms to capture value from employees. Valuable human can be very difficult to obtain or imitate and yet may be particularly important for achieving a competitive advantage (Barney, 1991; Castanias & Helfat, 1991). Unlike other strategic resources and capabilities that the firm can build, borrow, and/or buy in the market, human capital is embedded in individuals with agency (Coff, 1997). These individuals can choose to leave their employers for any number of reasons and for any number of alternative destinations, and when they do, they take their valuable human capital and relationships with them (Carnahan & Somaya, 2013; Dokko & Rosenkopf, 2010; Raffiee, 2017; Somaya, Williamson, & Lorinkova, 2008). This threat of voluntary employee mobility, which is not

present in other strategic factor markets, is one source of the managerial dilemmas that firms face when dealing with this unique firm resource (Coff, 1997).

Similarly, employee entrepreneurship research explores how labor market frictions impact the decisions of employees to leave employment to start a new venture. The employee entrepreneurship literature generally views entrepreneurship as a career choice (Douglas & Shepherd, 2000): potential entrepreneurs consider their opportunities (Sorensen & Sharkey, 2014) and their opportunity costs (Amit, Muller, & Cockburn, 1995) and then choose to become an entrepreneur and stay an entrepreneur (Gimeno, Folta, Cooper, & Woo, 1997) as long as that choice enhances the entrepreneur's utility. Labor market frictions, therefore, that limit the utility of employees at their current employer, or constrain the ability of employees to gain utility from founding a new firm, fundamentally shape the career choices of potential employee entrepreneurs.

In their exploration of the role of market frictions in driving the dominant theoretical perspectives found in the strategy literature, Mahoney and Qian (2013) categorize market frictions and provide insights into how market frictions shape rent creation and appropriation. We adapt the logic and framing of Mahoney and Qian (2013) to explore how key labor market frictions impact outcomes in both strategic human capital and employee entrepreneurship research. Because employees are themselves strategic actors with agency, the market frictions that impact labor markets are often more nuanced and varied and the consequences more complicated than for market frictions in other strategic factor markets. We also emphasize that the outcomes in labor markets may differ from those in other strategic factor markets because employees can potentially start their own new firms, an outcome not available in other markets.

Table 1 contains our review of the strategic human capital and employee entrepreneurship research that explicitly or implicitly leverages labor market friction logic to explain constraints on employee mobility. The table provides a broad (but by no means complete) review of the labor market frictions common to the literatures on mobility and employee entrepreneurship. Each row describes a friction, provides references to research in both literatures, and provides a high-level assessment of the effect of that particular friction in the extant literature. The last column indicates the extent to which the employee mobility and employee entrepreneurship outcomes discussed in these literatures appear aligned or divergent, based on our review. In the sections below, we briefly discuss each row of Table 1. We group the frictions according to whether their impact on employee mobility and employee entrepreneurship is divergent, aligned, or ambiguous. Again, we stress that this is an incomplete list of labor market frictions designed to identify opportunities for future research.

[INSERT TABLE 1 ABOUT HERE]

Divergent Labor Market Frictions

Human Capital Specificity. A primary market friction explored in the employee mobility literature is co-specialized human capital. Two assets are co-specialized if they each create more value when combined with the other (Teece, 1986). In the context of human capital, co-specialized human capital arises when the worker invests in knowledge, skills, and abilities that are uniquely valuable in the context of the firm's idiosyncratic resources and capabilities (Becker, 1964; Molloy & Barney, 2015). Co-specialized human capital is useful for the firm because it underlies many of the firm's competitive capabilities (Mahoney & Kor, 2015), but also because it limits the employees' outside options. Other firms are less likely to benefit from the employees' highly co-specialized skills and, accordingly, may not compensate employees for

those skills (Becker, 1964; Wang & Barney, 2006), therefore reducing the likelihood of employees moving to other firms (e.g., Coff and Raffiee, 2015; Marx, Strumsky, and Fleming, 2009; Morris *et al.*, 2017; Wang, He, and Mahoney, 2009). The limited external market for specific human capital constrains the mobility of employees with firm-specific human capital. This reduces employee mobility to established firms limiting the ability of employees to leverage external offers to bid up their compensation. In turn, this potentially supports firms' capture of human capital rents by allowing the employer to retain a valuable employee at a discount.

In contrast, the employee entrepreneurship literature largely suggests that asset specificity of human capital may increase, rather than decrease, the likelihood of employee entrepreneurship. While other established firms may not be willing to compensate outside employees for their highly firm-specific human capital, employees can potentially leave their focal firms, start new firms, and re-create the relevant co-specialized assets at the new ventures. This mechanism is consistent with the findings of Franco and Filson (2006), Campbell *et al.* (2012), and Carnahan (2017), which demonstrate that while investments in firm-specific human capital may limit the likelihood of turnover overall, employees with high levels of firm-specific human capital are more likely to pursue entrepreneurship when they do choose to leave their current employer.

Social Complexity. Coff (1997) highlights that firm-specific human capital is often manifest in the tacit knowledge embedded in social relationships and social culture. In other words, when employees are entrenched in a specific social structure they are able to create more value than in alternative social structures. While the tacit knowledge of socially complex relationships is relationship-specific and not necessarily firm-specific, being embedded in a socially complex team makes it harder for alternate employers to transfer the value created by

that team into their organization (Groysberg & Lee, 2009; Groysberg, Lee, & Nanda, 2008). The team members would all need to move together and adapt their shared routines to the new context (Marx & Timmermans, 2014; Selby & Mayer, 2013), which is potentially costly because the new employees' routines may disrupt existing routines (Campbell, Saxton, & Bannerjee, 2014) and incumbent firms may resist adopting new routines (Madsen, Mosakowski, & Zaheer, 2003). As a consequence, production that occurs in socially complex teams reduces the threat of mobility, allowing firms to retain knowledge embedded in team members at a discount (Grant, 1996).

This constraint, however, may be less important when starting a *de novo* organization. First, employee entrepreneurs are typically higher performing employees (Campbell, Ganco, et al., 2012; Klepper & Thompson, 2010) and are thus better able to rally teammates to move with them (R Agarwal, Campbell, Franco, & Ganco, 2016; Dahl & Sorenson, 2012) and take advantage of the collectively held knowledge of the team (Phillips, 2002; Wezel, Cattani, & Pennings, 2006). Second, entrepreneurs start from a blank slate when designing social structure and organizational culture (Burton, Sørensen, & Beckman, 2002), thus the risk of conflicting routines between the moving team and incumbent employees, which devalues the socially-embedded knowledge, is mitigated (Campbell et al., 2014). Therefore, relative to a team-embedded employee moving to an established firm, employee entrepreneurs may be better able to move with a team and transfer their socially-complex knowledge and they are better able to create value from that knowledge in a new organization.

Information Asymmetry/Causal Ambiguity. Asymmetric information may make it difficult for outside employers to observe and discern the quality of embedded employees, leading to causal ambiguity problems (Blyler & Coff, 2003; Polanyi, 1962; Reed & DeFillippi,

1990) and lemons problems (Salop & Salop, 1976). In other words, it may be very difficult for external firms to know whether they are hiring an employee who will be valuable in their firm. This is particularly relevant when knowledge is complex and hard to assess externally (Ganco, 2013) and when there is uncertainty on the efficacy and coverage of legal market constraints (Starr, Frake, et al., 2017). When there are high levels of information asymmetries, hiring firms are less likely to poach employees and those who are actually high quality may face a lemons discount when they consider other options in the labor market, thus constraining employee mobility. When information about the value of an employee becomes less ambiguous, for example through voluntary disclosures about value creation and value appropriation strategies of the firm, the likelihood that employees will be poached increases (Stern & James, 2016).

However, information asymmetry problems in labor markets may encourage employee entrepreneurship. While external employers may not be able to observe outside employees' human capital, individuals do see and appreciate their own human capital. Thus, when external firms will not pay for outside employees' skills, these undervalued employees can potentially form a new firm and fully reap the benefits of their abilities. When entrepreneurs have private expectations about their own skills and quality that exceed the expectations of the market, they are likely to pursue entrepreneurship (Hayward, Shepherd, & Griffin, 2006; Lowe & Ziedonis, 2006). Similarly, while the complexity of knowledge possessed by employees (which is very hard for outside employers to see) reduces employee mobility, it is associated with an increase in employee entrepreneurship (Ganco, 2013).

Thin Markets/Collusion. Employee mobility is negatively related to the number of independent employers in the labor market. The fewer the number of external employers, the fewer options employees have on the external market and employee mobility is constrained. For

example, increased geographic dispersion of firms within an industry limits the mobility of employees (Almeida & Kogut, 1999; Whittington, Owen-Smith, & Powell, 2009). Similarly, the dissolution of competitor firms in an industry is also associated with a reduction in employee mobility (Carnahan, 2017). In contrast, although dissolution of competitor firms may limit the mobility of employees to existing firms, it spurs entrepreneurship by employees of the surviving firms (Carnahan, 2017). So, similar to the frictions identified above, this demand-side constraint likely limits movement from firm-to-firm, but by constraining the ability of employees to threaten mobility to bid up their compensation, thin markets may actually enhance the likelihood that employees will depart to start their own firms because entrepreneurship allows these individuals to circumvent this source of demand-side constraints.

Aligned Labor Market Frictions

Intellectual Property and Non-Competes. Legal structures that prevent employees from taking knowledge from a firm reduce employee mobility. For example, when firms implement non-compete agreements to constrain the ability of an employee to leave the firm and compete with the employer (Buenstorf et al., 2016; Starr, 2016) or threaten intellectual property enforcement to prevent an employee from using the firm's knowledge in a different context (Ganco, Ziedonis, & Agarwal, 2015), they not only inhibit the willingness of employees to move to an existing firm (Agarwal et al., 2009; Fallick, Fleischman, & Rebitzer, 2006; Ganco et al., 2015; Marx, 2011; Marx et al., 2009; Samila & Sorenson, 2011; Yeganegi, Laplume, Dass, & Huynh, 2016; Younge & Marx, 2015), they also inhibit employees from forming their own firms by preventing employee entrepreneurs from imitating important aspects of their parent firm (Anton & Yao, 1995; Yeganegi et al., 2016). Intellectual property protection thus reduces the entrepreneurial aspirations of employees (Autio & Acs, 2010) and constrains the ability of

employees to become entrepreneurs (Hellmann, 2007), especially if the parent firm values the intellectual property highly (Gambardella, Ganco, & Honoré, 2014). Similarly, if they are enforceable, non-compete agreements increase the risks facing employee entrepreneurs and limit the value of the knowledge they can take with them to their new firm (Starr, Balasubramanian, & Sakakibara, 2017; Starr, Frake, et al., 2017). Research suggests that non-competes may be effective even if they are not enforceable because they create an implicit contract for the employee that is psychically costly to break (Kryscynski & Starr, 2017). This class of frictions ultimately has aligned effects in reducing mobility to both established firms and new ventures.

Future Opportunities with Employer. In contrast to the assumption that in competitive labor markets there are many homogeneous employers, in actual labor markets, employers vary with respect to the opportunities available within the firm. As individual productivity and opportunities for career advancement increase within a firm, both mobility (Hoisl, 2007) and entrepreneurship (Cassiman & Ueda, 2006; Kacperczyk, 2013; Sorensen & Sharkey, 2014) are limited. Career opportunities within firms lead to higher rates of internal promotion, which are associated with increased responsibility for employees (Bidwell & Mollick, 2015) and increased utility for the employees. As employers increase the potential for promotion and increased authority within the firm, they decrease the likelihood of both mobility to established firms and to new ventures. Similarly, as opportunities for advancement within a focal firm become more limited, employees will look to advance their careers by pursuing opportunities in other firms or by starting their own firms.

Ambiguous Labor Market Frictions

Mobility Costs. Mobility costs can include both the costs of job search, bargaining, and switching as well as the opportunity cost associated with leaving the original job. The negative

effect of mobility costs on employee mobility to established firms is clear: as mobility costs increase, the likelihood of changing jobs decreases (Kuhn & Skuterud, 2004; Stevenson, 2008). Similarly, as the opportunity cost of leaving a job increases the mobility rate decreases (Agarwal et al., 2009; Campbell, Ganco, et al., 2012; Sorensen & Sharkey, 2014; Whittington et al., 2009). However, the impact of mobility costs on employee entrepreneurship is less clear. While, actual start-up costs of starting a new venture have a negative impact on entrepreneurship (Evans & Jovanovic, 1989), the impact of opportunity costs on new venture creation are less clear. Opportunity costs may negatively impact employee entrepreneurship because employees with high opportunity costs face more risk in starting a new venture (Agarwal, Campbell, Carnahan, & Choi, 2017; Agarwal et al., 2009), or they may positively impact employee entrepreneurship because employees with high opportunity costs may seek extreme rewards through entrepreneurship (Carnahan et al., 2012; Sorensen & Sharkey, 2014) or pursue hybrid entrepreneurship (Raffiee & Feng, 2014).

Heterogeneous Employee Ability. Just as differences between firms present frictions that impact employee mobility and entrepreneurship, employees themselves are not fungible, and differences between the employees create frictions in labor markets. For example, employees differ according to their ability. Studies examining the relationship between employee ability and employee mobility find mixed results. In some cases, higher ability workers are found to be more likely to join competitor firms (Chatterji, de Figueiredo, & Rawley, 2016; Di Lorenzo & Almeida, 2017; Gambardella et al., 2014; Palomeras & Melero, 2010). Other studies find that higher ability workers are less likely to leave for competitors (Campbell, Ganco, et al., 2012; Carnahan, 2017). Employee ability, however, is consistently associated with higher rates of employee entrepreneurship (Campbell, Ganco, et al., 2012; Carnahan et al., 2012; Chatterji et al.,

2016; Dahl & Sorenson, 2012; Elfenbein, Hamilton, & Zenger, 2010; Sorensen & Sharkey, 2014).

A Pathway to Greater Convergence

Our summary of labor market frictions in both the strategic human capital and employee entrepreneurship literatures demonstrates how labor market frictions may provide a pathway for connecting and integrating these two streams of research. We offer two messages in conclusion: First, we suggest a potential explanation for why in some cases we observe divergence between the strategic human capital and employee entrepreneurship literature. Second, we identify avenues for future research that can more fully bring the insights from these literatures together.

Why Might These Literatures Diverge?

Scholars in the strategic human capital domain are generally interested in exploring the conditions under which firms are able to capture rents from human capital and gain a competitive advantage over their competitors. Thus, while many strategic human capital studies leverage individual-level data and invoke individual-level theories, their primary research motivation is to explain firm-level differences across established firms. This focus on established firms as the actors of interest may engender an implicit bias towards theoretical and empirical studies that examine mobility to established firms. This perspective treats employee mobility as a negative outcome that should be constrained and leads scholars to systematically ignore the implications of entrepreneurship as an employment outcome. In contrast, the employee entrepreneurship literature explores employees' decisions to found their own firms and is implicitly built on the assumption that entrepreneurship is a career choice. Thus, individuals are the actors of interest in this research and employee mobility is seen a positive outcome that enhances the utility of individuals, facilitates new venture performance, and drives knowledge flows and innovation.

Our review of these two literatures suggests an important boundary condition on research in the strategic human capital tradition. Specifically, theories of how labor market frictions restrict mobility and enhance human capital-based competitive advantages may need to be limited to contexts in which entrepreneurship is not an attractive option for employees who are the source of human capital rents. If entrepreneurship is a viable and potentially attractive options for firms' employees, then strategic human capital theories need to address how entrepreneurship as a mobility destination alters assumptions about the relationship between labor market frictions, mobility, and human capital rents.

Moving Towards Convergence

We identify three key research areas that will leverage the market friction logic and deepen our understanding of the interaction between employee entrepreneurship and strategic human capital. Specifically, we call for (1) a deeper analysis of how specific labor market frictions impact the ability of firms to capture human capital rents when employee entrepreneurship is a threat, (2) an exploration of the set of firm strategies that may constrain employee entrepreneurship, and (3) an analysis of how the matching of entrepreneurially-inclined employees and employers is endogenous to the set of frictions present in a context.

Human Capital Rents and Employee Entrepreneurship. The omitted choice of employee entrepreneurship is important to a market friction logic because entrepreneurship provides a pathway for employees to navigate around labor market frictions that might otherwise limit their mobility. Even if employees cannot threaten mobility to an *existing* firm in order to bargain for higher wages, they can threaten to start a *new* firm. In some cases, the stronger the labor market frictions that reduce firm-to-firm mobility, the greater the attractiveness of entrepreneurship as a career choice. Thus, a potential consequence of leveraging labor market frictions in pursuit of

human capital rents is that firms may inadvertently increase the incentives for their employees to become entrepreneurs, particularly if the affected employees are already inclined towards the rewards available through entrepreneurship. The divergent effects associated with some labor market frictions in preventing employee mobility to established firms versus preventing employee entrepreneurship, therefore, presents an upper bound on how aggressively firms can leverage labor market frictions to appropriate value from their employees.

There are also opportunities to study specific labor market frictions and examine how they shape employee mobility and employee entrepreneurship and the resulting impact on value capture by firms. Our presentation of common labor market frictions is only at a high level and these discussions are cursory and incomplete and designed primarily to illustrate the potential underlying relationships. More comprehensive research is necessary to explore the specific mechanisms underpinning the role of labor market frictions in providing a competitive advantage to firms while still constraining employee entrepreneurship.

Furthermore, it remains an open question whether the potential loss of employee entrepreneurs outweighs the benefits of leveraging labor market frictions to retain non-entrepreneurially-inclined employees. If these frictions allow the firm to hold on to non-entrepreneurially-inclined employees at a discount but actually encourage entrepreneurially-inclined employees to start their own firms, what does that mean for the overall human capital-based competitive advantage for the firm? While the mobility outcomes may diverge, it is not as clear, *ex ante*, whether the implications for competitive advantage also diverge. There seems a fruitful path for future research exploring entrepreneurial mobility and the human capital rents of established firms simultaneously to help us more fully understand when and how these literatures align and diverge.

Connecting Employee Entrepreneurship to Firms' Human Capital Approaches. In a world where employee entrepreneurship is a threat to firms' ability to capture human capital rents, firms may have to adapt new human capital management approaches to constrain the mobility of entrepreneurially-inclined employees. If firms' use of labor market frictions to constrain mobility to established firms may enhance the threat of employee entrepreneurship, the next step in the logic is to ask how can firms counteract the ability and willingness of entrepreneurially-inclined employees to leave to form a new venture? The strategic human capital lens highlights that firms could respond to entrepreneurship threats by leveraging supply-side frictions that decrease an employee's willingness to leave and become an entrepreneur. For example, firms may offer spin-off or intrapreneurship opportunities to employees whose mobility options with existing firms are limited, but who might otherwise become employee entrepreneurs. These opportunities create supply-side constraints, incenting employees to remain with the existing employer rather than create new competitor firms. In the sections that follow we briefly discuss several potential ways through which firms can reduce the entrepreneurship threats of employees, though there may be many more to explore in future research.

Spin-off firms. In a spin-off, a parent firm creates a new venture in which they maintain substantial equity. Thus, the parent firm gives an entrepreneurially-inclined employee the greenlight to pursue an entrepreneurial opportunity, and further, makes an initial investment in exchange for equity in the new venture. From the parent firm's perspective, they do not completely lose the valuable employee because they retain some of the financial benefits from the human capital of the founder. Additionally, they can "harvest" innovations from these ventures (Dushnitsky & Lenox, 2005) and learn about new technologies (Dushnitsky & Lenox, 2006). Firms benefit because they did not lose these employees to a competing venture or to a

rival (Burrows, 2012); the founders benefit because they reap the financial rewards (Hamilton, 2000), meaning and purpose (Carnahan, Kryscynski, & Olson, 2017), autonomy (Roach & Sauermann, 2015), flexibility (Sørensen, 2007), responsibility (Elfenbein et al., 2010), and human capital development (Campbell, 2013) that can accompany entrepreneurship.

Intrapreneurship. Firms can also offer intrapreneurship opportunities to entrepreneurially-inclined employees. In intrapreneurship, employees are given autonomy over and rewards from an innovative activity within the boundaries of the firm (Hellmann, 2007; Kacperczyk, 2013). Intrapreneurs typically work closely with other units of the firm and have access to the complementary assets of the parent. Again, the employer benefits by stimulating innovation and then owning the rights to those innovations. Employees with entrepreneurial inclinations benefit because they receive at least some of the benefits associated with being an entrepreneur.

Through both spin-offs and intrapreneurship, firms leverage supply-side frictions to counteract the adverse effects that demand-side frictions impose on entrepreneurially-inclined employees. By receiving many of the benefits associated with entrepreneurship while remaining associated with their current employer, entrepreneurially-inclined employees are less likely to seek out external entrepreneurial opportunities. While these are just two examples of how understanding the antecedents and consequences of employee entrepreneurship can shape firms' approaches to capturing human capital rents, there are rich avenues of future research exploring how firms can seek to neutralize the dilemmas associated with managing human capital that is free to leave and start a new venture.

Labor Market Frictions and Employer-Employee Matches. Much of the extant strategic human capital literature implicitly assumes that individuals are randomly assigned to firms.

However, it is likely that employees sort into firms based on the intensity of the frictions they anticipate experiencing at the firm. For example, an employee with very low expected utility from entrepreneurship may be less willing to sort into a firm with high demand-side constraints than an employee with high expected utility from entrepreneurship. The entrepreneurially-inclined employee may be less sensitive to demand-side frictions because they always possess a credible exit threat. As such, the intensity of demand-side frictions at a firm might shape the composition of the firm's workforce. This highlights a path through which strategic human capital researchers can more deeply examine how frictions shape the process by which employees select into firms and how employees are motivated within firms.

This logic is particularly salient at the regional-level and, therefore, for policy makers. As an example, consider Silicon Valley and Route 128. Saxenian's (1996) arguments suggest that demand-side constraints in the Route 128 area are on average more intense than demand-side constraints in Silicon Valley, which leads to relatively greater mobility in Silicon Valley. However, if we compare employees in each region that are identical on all dimensions except for the demand-side constraints they face in their region, our logic above suggests that, *ceteris paribus*, employees in Route 128 may be more likely to become entrepreneurs because they face more intense demand-side constraints. However, it is difficult to make a *ceteris paribus* argument here because the higher average demand-side constraints in Route 128 reduce the ability of entrepreneurs to recruit other team members. This in turn reduces the average expected utility from entrepreneurship in Route 128 relative to Silicon Valley, which leads to sorting of more entrepreneurially-inclined employees into Silicon Valley. So, when aggregating to the regional level, demand-side constraints and expected utility from entrepreneurship may co-vary in predictable ways. This suggests an opportunity to explore how policy makers can shape the

labor market frictions within a region in order to stimulate employee entrepreneurship and attract entrepreneurially-inclined individuals into the region.

Conclusion

The extant strategic human capital literature is built on a theoretical foundation that draws deeply on labor market friction logic. So, also, is the extant literature on employee entrepreneurship. However, these literatures leverage labor market friction logic in distinctly different ways, from distinctly different perspectives, and with distinctly different objectives. Nevertheless, bridging these literatures can provide a foundation for developing richer answers to a variety of research questions regarding the antecedents and consequences of human capital value capture when employee entrepreneurship is a threat. By linking these literatures through their shared focus on market frictions, researchers can contribute to the understanding of how entrepreneurial mobility has firm-level consequences, how firms' quests for human capital rents can enable or constrain employee entrepreneurship, and how managers and policy makers can shape the interaction of individuals and firms.

Figure 1: Visualizing Intersections in Extant Literature

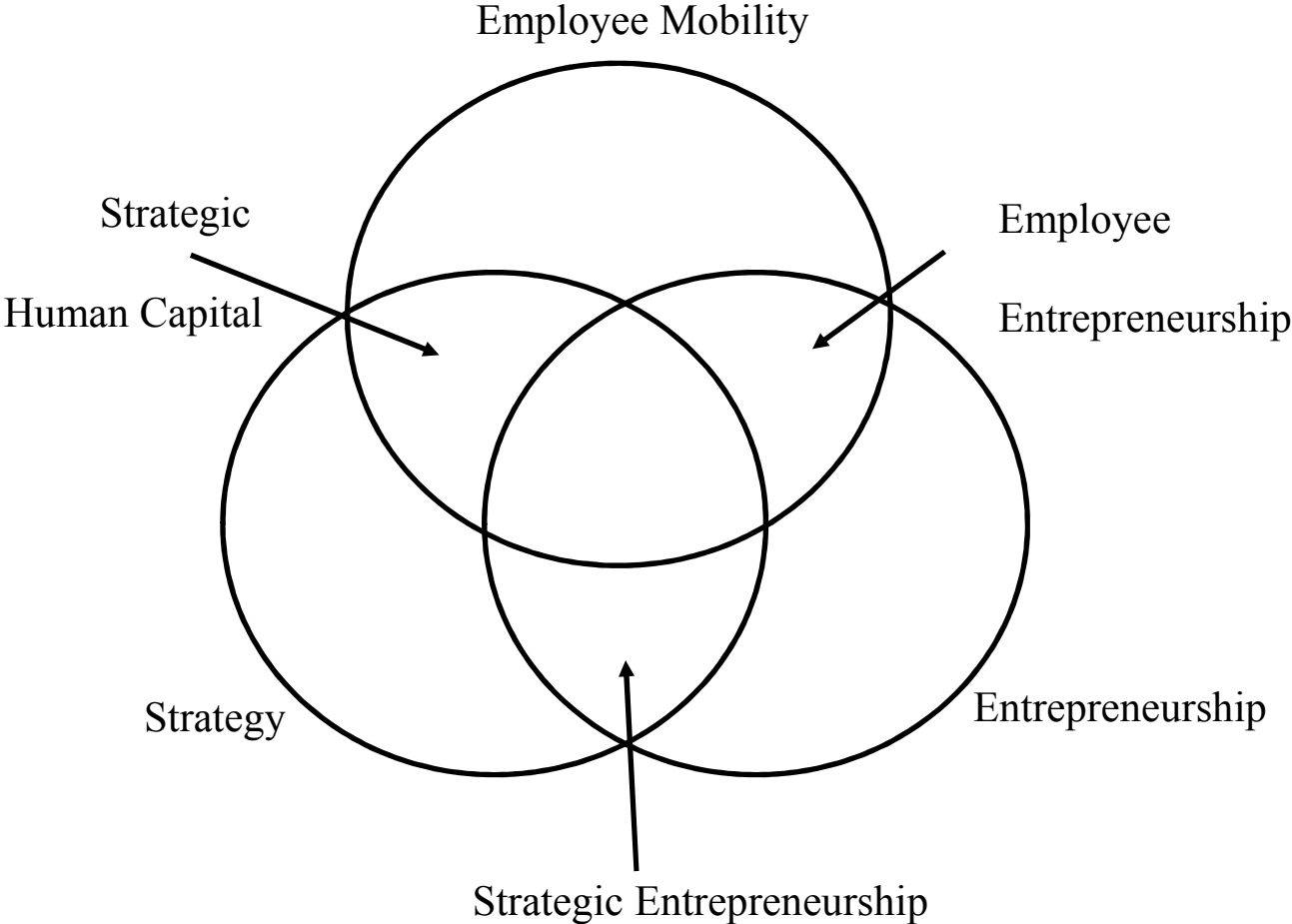


Table 1: Common Labor Market Frictions and Their Impact on Employee Mobility and Employee Entrepreneurship

Labor Market Friction	Description	Impact on		Alignment?
		Employee Mobility	Employee Entrepreneurship	
Firm Specificity and Complementary Assets	Demand-side friction arising when the worker invests in knowledge, skills and abilities that are uniquely valuable in the context of the firm's idiosyncratic resource and capability bundles.	<i>Negative</i> (Becker, 1964; Coff & Raffiee, 2015; Mahoney & Kor, 2015; Marx et al., 2009; Morris et al., 2017; Wang & Barney, 2006; Wang et al., 2009)	<i>Positive</i> (Campbell, Ganco, et al., 2012; Carnahan, 2017; Franco & Filson, 2006)	Divergent
Social Complexity	Demand-side friction caused when employee value stems from shared routines among socially complex teams.	<i>Negative</i> (Campbell et al., 2014; Groysberg & Lee, 2009; Groysberg et al., 2008; Madsen et al., 2003)	<i>Positive</i> (R Agarwal et al., 2016; Dahl & Sorenson, 2012; Phillips, 2002; Wezel et al., 2006)	Divergent
Information Asymmetry/Causal Ambiguity	Demand-side friction arising when it is difficult for outside observers to observe and discern the quality of employees, leading to causal ambiguity and a lemons problem.	<i>Negative</i> (Blyler & Coff, 2003; Ganco, 2013; Starr, Frake, et al., 2017; Stern & James, 2016)	<i>Positive</i> (Ganco, 2013; Hayward et al., 2006; Lowe & Ziedonis, 2006)	Divergent
Thin Markets/Collusion	Demand-side frictions because there are a limited number of alternative employers in a market.	<i>Negative</i> (Almeida & Kogut, 1999; Carnahan, 2017; Whittington et al., 2009)	<i>Positive</i> (Carnahan, 2017; Sorensen & Sharkey, 2014)	Divergent

Table 1 Continued

Labor Market Friction	Description	Impact on		Alignment?
		Employee Mobility	Employee Entrepreneurship	
Intellectual Property and Non-competes	Demand- and supply-side frictions based on legal protections of a firm's knowledge and intellectual property.	<i>Negative</i> (Agarwal et al., 2009; Fallick et al., 2006; Ganco et al., 2015; Marx, 2011; Marx et al., 2009; Samila & Sorenson, 2011; Yeganegi et al., 2016; Younge & Marx, 2015)	<i>Negative</i> (Agarwal et al., 2009; Anton & Yao, 1995; Buenstorf et al., 2016; Hellmann, 2007; Starr, Balasubramanian, et al., 2017; Starr, Frake, et al., 2017)	Aligned
Future Opportunities with Employer	Supply-side friction arising from credible future opportunities available at employer.	<i>Negative</i> (Bidwell & Mollick, 2015; Carnahan et al., 2012; Hoisl, 2007)	<i>Negative</i> (Carnahan et al., 2012; Cassiman & Ueda, 2006; Kacperczyk, 2013; Sorensen & Sharkey, 2014)	Aligned
Mobility Costs	Supply-side friction reflecting the costs to an employee of employee mobility and employee entrepreneurship.	<i>Negative</i> (Agarwal et al., 2009; Campbell, Ganco, et al., 2012; Kuhn & Skuterud, 2004; Sorensen & Sharkey, 2014; Whittington et al., 2009)	<i>Negative</i> (Agarwal et al., 2009) <i>Positive</i> (Campbell, Ganco, et al., 2012; Raffiee & Feng, 2014; Sorensen & Sharkey, 2014)	Possibly Divergent
Heterogeneous Employee Ability	Demand-side friction arising from thinner markets for low- and high-ability employees.	<i>Negative</i> (Campbell, Ganco, et al., 2012; Carnahan et al., 2012) <i>Positive</i> (Chatterji et al., 2016; Di Lorenzo & Almeida, 2017; Ganco et al., 2015; Palomeras & Melero, 2010)	<i>Positive</i> (Campbell, Ganco, et al., 2012; Carnahan et al., 2012; Chatterji et al., 2016; Dahl & Sorensen, 2012; Elfenbein et al., 2010; Sorensen & Sharkey, 2014)	Possibly Divergent

THE EFFECT OF SOCIAL COMPARISON ON COMPENSATION IN MULTI- LOCATION FIRMS

“Twin Cities law firms with offices in other cities . . . face internal strife if they raise salaries there but not here.” – *From an article in a business periodical discussing law firm compensation increases in Minneapolis, MN (Jean, 2000).*

Introduction

Firm choices regarding employee compensation can have a substantial impact on firm performance. Compensation is the primary determinant of a firm’s ability to attract and hire desired employees (Bidwell, 2011; Kampkötter & Sliwka, 2014) and an important means for incentivizing and retaining them (Bartel, Cardiff-Hicks, & Shaw, 2013; Campbell, Ganco, et al., 2012; Carnahan et al., 2012; Shaw, Gupta, & Delery, 2002; Stiglitz, 1976). Employee compensation, however, also represents a substantial cost for most firms (Gerhart & Rynes, 2003) and is the primary way in which employees appropriate value from the firm (Coff, 1999). Prior literature suggests that firms have an opportunity to generate a human capital-based competitive advantage when they can successfully limit compensation without a commensurate reduction in the value employees create (Campbell, Coff, et al., 2012; Chadwick & Dabu, 2009; Coff, 1997).

Competition for employees, particularly within local labor markets, constrains firm choices regarding employee compensation: The threat of employee mobility to competitors limits the firm’s ability to pay less than market wages (Lazear & Oyer, 2004). Consequently, the strategic human capital literature has primarily focused on how firms can exploit circumstances or phenomena that constrain employee mobility in order to generate economic rents (Hatch & Dyer, 2004). But, these studies generally do not consider the impact of factors internal to firms that also influence employee

compensation. For example, social processes, including social comparison and envy among employees (Nickerson & Zenger, 2008), may significantly affect compensation decisions within firms even when the risk of employee mobility to competitors is low.

In this paper, I extend our understanding of the drivers and consequences of firm decisions on employee compensation by exploring the interaction between labor market competition external to the firm and processes internal to the firm that impact compensation. Prior research suggests that compensation dispersion among comparable employees within an establishment of a firm may lead to negative outcomes for firms (Kacperczyk & Balachandran, 2018; Obloj & Zenger, 2017). I extend this logic and suggest that multi-location firms, when responding to local market pressures to raise compensation for employees in one location, may also face internal pressures to raise compensation for employees in their other locations even when there is no corresponding market pressure on compensation in the other locations. Internal pressures that drive this effect may include social processes like employee equity and fairness considerations that could arise if some employees receive compensation increases and others do not (Akerlof & Yellen, 1988; Baker, Gibbs, & Holmstrom, 1994; Folger & Konovsky, 1989; Nickerson & Zenger, 2008; O'Reilly, III, Main, & Crystal, 1988) or may be a result of firm-specific compensation and human resources policies that standardize pay across a firm's locations (e.g., Baker *et al.*, 1994), although policies that standardize pay are also likely an attempt to mitigate potential social comparisons and reduce comparison costs. If multi-location firms raise compensation for employees in their other locations, this will likely, in turn, put pressure on their local labor market competitors to also increase compensation for their employees. As a novel mechanism for the spread of

compensation increases across otherwise distinct labor markets, I propose, therefore, that local labor market competition may interact with social comparison processes internal to multi-location firms to result in the spillover of wage increases across the locations.

This research suggests that simply reducing the threat of employee mobility may not be sufficient for firms to develop a human capital-based competitive advantage. Multi-location firms, in particular, may need to consider how internal firm processes, including equity considerations and social comparison among their employees, could drive compensation decisions across the firm. Additionally, firms competing in the same labor market as multi-location firms must be aware of how labor market competition in other locations might, through processes internal to multi-location firms, create competitive pressure on compensation for their own employees.

Theoretical Framework

Heterogeneity in Compensation

Labor is a basic input of economic productivity. Neoclassical economic theory suggests that in labor markets, as in markets for other goods or services, the law of one price—that in competitive markets, identical workers performing the same work will be paid the same—should hold. But, even the most cursory examination of employee compensation, and a large body of academic research, suggests that this is generally not the case. Both across as well as within firms, similar workers performing similar functions often get paid very differently (Akerlof & Yellen, 1988; Cohn, Fehr, Herrmann, & Schneider, 2011; Falk, Fehr, & Zehnder, 2006).

A variety of theories have been proposed to explain the heterogeneity in pay. Some point to frictions in labor markets that might explain the differences. For example,

literature building on Becker's (1964) theory of specific human capital suggests that differences in pay arise because workers' knowledge and skills are not equally valuable across employers. To the extent that the employee's human capital is firm specific and therefore particularly valuable for a given firm, the value of the employee's human capital in the market will be less than the value to that firm. The firm will be willing to pay the employee marginally more than other potential employers, and the employee will choose to take the marginally higher compensation and remain with the firm. The firm will earn economic rents on the difference between the employee's compensation and the value to the firm of the employee's human capital. Strategic human capital literature has largely focused on how constraints on mobility of employees such as firm-specificity of human capital, can serve as the basis for a sustainable competitive advantage (Campbell, Coff, et al., 2012; Campbell, Ganco, et al., 2012; Chadwick & Dabu, 2009; Hatch & Dyer, 2004; Wang et al., 2009). Other firm-specific factors unrelated to the human capital of a given employee may also drive the differences in employee compensation both within and across firms. For example, firm-specific wage policies in which firms tie compensation to a particular job or job title rather than to an individual employee may also explain some of the heterogeneity in compensation (Baker et al., 1994).

Social scientists, including management scholars, economists, psychologists, and sociologists have also suggested that social comparisons within firms, which are related to notions of what is fair and equitable, also influence employee compensation. Building on Adam's (1963) equity theory, organizational behavior and psychology scholars have developed theories, including the concept of distributive justice, that look at the negative individual- and firm-level consequences of employee perceptions of inequitable

distribution of resources, particularly pay, among employees (e.g., Alexander & Ruderman, 1987; Folger & Konovsky, 1989; Scott, Garza, Conlon, & Kim, 2014). Similarly, scholars have found that the tendency of individuals to compare themselves to others, particularly on pay, is pervasive both inside and outside the firm (e.g., Baron and Pfeffer, 1994; Festinger, 1954; McGinn and Milkman, 2012). To the extent they perceive differences, employees may increase their level of effort and productivity if doing so helps them obtain a payout that the employee deems appropriate when compared to what others are receiving (Kacperczyk, Beckman, & Moliterno, 2014; Shaw et al., 2002; Stark & Hyll, 2012). Alternatively, and more commonly, employee comparisons to others lead to feelings of envy and inequity and they perceive that they are being unfairly compensated (Nickerson & Zenger, 2008). Research suggests that these envious employees will take actions to reduce the inequity (Adams, 1963). They may reduce their level of effort (until they feel that their level of effort corresponds to their level of pay), engage in theft or workplace sabotage, or simply quit their jobs (Alexander & Ruderman, 1987; Card, Mas, Moretti, & Saez, 2012; Gächter & Thöni, 2010; Greenberg, 1990; Wade, O'Reilly, III, & Pollock, 2006). Each of these actions imposes costs on employers—following Nickerson and Zenger (2008), I refer to these costs as “social comparison costs.”

A common firm response to these internal social processes is to compress compensation, often both within and across positions within the firm (Akerlof & Yellen, 1990; Zenger, 1992). Changes in compensation may be initiated by an employer's desire to treat employees fairly and equitably or arise from the potential threat that employees will impose social comparison costs on their employers if they do not feel fairly treated.

By compressing salaries, firms decouple pay and performance and reduce differences in compensation that could be perceived as inequitable.

Local Labor Markets and Multi-Location Firms

Because labor markets are generally local in nature (Moretti, 2011), firms with multiple locations have to manage employees across these locations and may face different labor market conditions in each location where they operate. If labor market competition results in a substantial increase in compensation for employees in one market, the threat of employee mobility within that labor market will put pressures on firms to also increase the pay of their employees in those locations. Without isolating mechanisms that would otherwise impede the mobility of employees, employers must either increase compensation to meet that of other firms or risk losing their employees.

The decision of an employer to respond to labor market competition is not taken in isolation. Employers must consider how raising compensation for some employees, but not for others, will impact their employees—they must balance external labor market competition with internal firm processes in developing their compensation strategies. Moreover, even though labor market competition is generally local, potential for social comparison costs may extend across geographic locations (boundaries of the firm, even across multiple locations, provide a salient basis for comparison on wages (Kacperczyk et al., 2014; Obloj & Zenger, 2017)). Therefore, if employees in one location of the firm receive higher pay, the firm may also raise compensation for comparable employees in other locations, either in keeping with firm policies or to ensure fair and equitable treatment of employees and avoid potential social comparison costs. I refer to the locations of the firm that do not experience increased compensation due to local labor

market competition themselves, but are exposed to it directly as another establishment of the same firm, as “directly exposed establishments.”

Proposition 1: Following increases in compensation due to competition in a local labor market, firms in the market that also have employees in other locations (their directly exposed establishments) will increase compensation for employees in their directly exposed establishments even if there is no wage pressure from the local labor market competition in those other locations.

Social Comparisons, Salient Referents, and the Likelihood of Compensation Increases

In making social comparisons, not everyone is a salient referent. Aristotle recognized this when he stated: “We envy those who are near us in time, place, age, or reputation” (Rhetoric, 1388, quoted in Nickerson & Zenger, 2008). Research on social comparisons suggests that Aristotle was correct—employees are particularly likely to select as salient referents others who are demographically similar, who are physically proximate, with whom they interact regularly, and about whom they have information (e.g., Festinger, 1954; Kulik & Ambrose, 1992). When the compensation of salient referents changes, employees are more likely to perceive inequity and to impose social comparison costs on their employer (Kacperczyk & Balachandran, 2018; Nickerson & Zenger, 2008). Therefore, the likelihood that compensation changes in one establishment of a firm may increase the risk of social comparison costs imposed by employees in other establishments, and therefore cause changes in wages for those employees in other establishments, will increase as the employees see those that have received compensation increases as salient referents.

Demographic Similarity. Research suggests that people tend to separate groups into social categories and are more likely to compare themselves to others with whom they share a category (Blanton, Crocker, & Miller, 2000). Demographic characteristics are commonly used as the bases for these social categories and employees who are demographically similar are more likely to select others within their category as salient referents (Cobb & Stevens, 2017; Festinger, 1954). People tend to assume that those with whom they share demographic characteristics are also similar on other dimensions related to achievement (Gibson & Lawrence, 2010). Therefore, I predict that the likelihood that compensation increases for employees in one establishment will lead to invidious social comparisons by employees in other establishments will increase as the employees across establishments are increasingly similar.

*Proposition 2a: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments are more likely to increase compensation for the employees in their **demographically similar** directly exposed establishments than for those in more demographically dissimilar establishments.*

Geographic proximity. In addition to demographic similarity, geographic proximity may also increase the likelihood that employees see others as salient referents (Luttmer, 2005). In a study examining performance in the banking industry, for example, Obloj and Zenger (2017) find that increased propinquity between branches of a bank where employees in some branches are eligible for prizes that employees in others are not leads to decreased productivity by employees in the disadvantaged branches. They suggest that the geographical proximity increases the salience of employees in other

branches as referents. Similarly, I predict that the likelihood that compensation increases for employees in one establishment will lead to invidious social comparisons by employees in other establishments will increase as the establishments are increasingly geographically proximate.

*Proposition 2b: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments are more likely to increase compensation for the employees in their **geographically proximate** directly exposed establishments than for those in less geographically distant establishments.*

Degree of Interaction. Prior research suggests that interaction across geographically dispersed establishments will lead to productivity benefits for multi-location firms (Alcácer & Zhao, 2012; Singh, 2008). Firms use explicit information and communication technologies, including simple technologies like email or telephone communications or more sophisticated technologies like the banking industry's electronic data interchange protocols used to process checks (Srikanth & Puranam, 2011). They also use tacit communication technologies, including technologies that allow for employees to observe the work progress or work context of employees in other locations (Srikanth & Puranam, 2011). While these technologies may increase productivity by facilitating interactions, the increased interactions will also increase the likelihood that employees in separate locations view each other as salient referents.

Similarly, as the interdependence of work across establishments of a firm increases, productivity decreases unless the firm can increase the level of communication and coordination between employees. For example, Singh (2008) finds that when

research and development is distributed across establishments of the firm, innovative output decreases unless communication between employees engaged in these tasks increases. With increased interaction between employees engaged in these interdependent tasks, firms can leverage the diverse knowledge, skills, and capabilities of employees in different locations to improve outputs (Alcácer & Zhao, 2012). Nevertheless, the increased interactions that arise from interdependent tasks across locations will also increase the likelihood that employees in separate locations view each other as salient referents.

Therefore, I predict that the likelihood that compensation increases for employees in one establishment will lead to invidious social comparisons by employees in other establishments will increase as the interactions between employees across the establishments increase.

*Proposition 2c: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments are more likely to increase compensation for the employees in their directly exposed establishments that have **more interactions with employees in the focal establishment** than for those in establishments with fewer interactions with employees in the focal establishment.*

Availability of Information. As people gain information about others, even absent direct interactions with them, they are increasingly likely to choose others as salient referents (Kulik & Ambrose, 1992). Across multi-location firms, employees in one establishment may learn information about employees in other establishments

through two primary pathways: interactions and information sharing internal to the firm and news outlets or other information intermediaries external to the firm.

Similar to increased interactions among employees, information sharing across locations, particularly when there is a higher degree of interdependence of tasks across the locations, increase productivity. Therefore, firms are incentivized to implement practices and processes to encourage information flows across establishments. These include enterprise resource planning and knowledge management systems, which allow facilitate information flows (Newell, Huang, Galliers, & Pan, 2003). Research also suggests that firms benefit from creating a unified firm culture (Barney, 1986; Gordon & DiTomaso, 1992; Kotter & Heskett, 1992). Often, they do so by disseminating information about the firm internally (Widén-Wulff & Ginman, 2004), including about performance across establishments, highlighting individual and team successes. These policies and systems increase information sharing within the firm and across establishments, but also increase the likelihood that employees in one location view employees in other locations as salient referents.

Employees of the firm may also discover information about employees in other locations from sources external to the firm. Media outlets may deem news about the firm in particular location as newsworthy and investigate and publish information about the firm and its employees in that location. Industry analysts and associations, including career services organizations (such as Vault.com, Inc.) or industry associations (such as the National Association of Legal Placement, Inc.) do independent research on firms within an industry and publish information about performance and careers in those firms.

Employees themselves may publish information about the firm, including about compensation, on websites or blogs like GlassDoor.com.

As employees in one establishment of the firm gain more information about employees in other establishments of the firm, they are more likely to see the other employees as salient referents. Therefore, I predict that the likelihood that compensation increases for employees in one establishment will lead to invidious social comparisons by employees in other establishments will increase as information about employees in the focal establishment increases.

*Proposition 2d: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments are more likely to increase compensation for the employees in their directly exposed establishments that have **more information about employees in the focal establishment** than for those in establishments with less information about employees in the focal establishment.*

Social Comparison Costs and the Extent of Compensation Increases

The prior propositions assume that when employees feel unfairly treated, the risk that the employees will impose social comparison costs on the firm increases. The firm will then choose to mitigate the risk by increasing the compensation of employees in other offices even though local labor market forces are not pressuring the firm to do so. Thus, the prior propositions suggest that if employees in other establishments view employees who receive market-based compensation increases as salient referents, they are more likely to feel envious and more likely to impose social comparison costs on the firm. The prior propositions, however, do not address the magnitude of the potential

social comparison costs that employees can impose and, correspondingly, the magnitude of the compensation increases the firm will be willing to provide in order to avoid those costs.

Adams' (1963) equity theory posits that when people perceive inequity, they will make efforts to restore equity. As discussed above, within a firm, the actions that employees take to restore inequity, to the extent those actions are detrimental to the firm, constitute the social comparison costs that employees can impose on the firm (Nickerson & Zenger, 2008). It is important to note that the actions that employees take are proportional to the level of perceived inequity, and therefore the social comparison costs the firm risks incurring from an employee are also proportional to the employee's perceived inequity. Firms, therefore, should only need to raise compensation enough to overcome perceptions of inequity. If the cost of the compensation increases exceeds any threatened social comparison costs, the firm should not raise compensation. This suggests that the amount of the compensation increase firms will be willing to grant employees in order to restore equity is limited by the amount of social comparison costs they expect to incur if they do not raise compensation.

Perceptions of Fairness—Inequality versus Inequity. Pay *inequality* does not always equate with pay *inequity*, even when comparing to salient referents (Trevor, Reilly, & Gerhart, 2012). When differences in pay are ascribed to differences in levels of the organizational hierarchy, for example, the differences in pay may be motivational (e.g., Kacperczyk & Balachandran, 2018). This is a key insight of tournament theory, for example, which proposes that wage premiums at higher levels of the organizational hierarchy will incentivize workers to expend greater efforts to win the tournament and

receive the increased compensation as a prize (O'Reilly, III et al., 1988). Even for employees who may otherwise feel envious of the higher compensation of others, the inequality in compensation may not be perceived as inequitable. If firms follow fair procedures in allocating additional compensation to some employees but not others, for example, the firm's procedural justice can satisfy the demands for equity of the employees (Alexander & Ruderman, 1987).

To the extent differences in compensation are clearly connected to differences in the employee or job characteristics, the work environment, or the location, such differences also may not be perceived as inequitable. For example, differences in the level of required effort, the level of required skills and education, or the level of productivity of employees in one location may be sufficient for employees in other locations to view differences in compensation as equitable. Differences in the level of workplace hazards, of job complexity, or of the demands of a job may also be sufficient. Additionally, differences in cost of living, quality of life, and personal danger related to that particular location may be sufficient.

When differences in pay based on other observed differences may not lead to perceptions of inequity, market-based compensation increases for the employees that do not also stem from or cause commensurate changes in the inputs required by employees may still lead to feelings of inequity by employees in other locations. The employee perception may be, for example, that those employees are doing the same thing today that they did yesterday but receiving higher compensation. The extent of the compensation increases the envious employees demand in order to overcome the perceived inequities, however, may not be identical to the compensation increases received by employees

elsewhere. For example, if compensation is increased by a given amount for employees in a metropolitan location with a high cost of living, the marginal increase in compensation that employees in a location with a low cost of living require in order to feel that equity has been restored will likely be somewhat less. Therefore, I predict that the compensation increases for employees in directly exposed establishments will vary depending on the perception of inequity perceived by those employees and those perceptions of inequity will be influenced by observable differences in individual characteristics, work environment, and location.

*Proposition 3a: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments will increase compensation more for the employees in their directly exposed establishments that have **similar individual characteristics, work environments, and locations** to the focal environment than for those in other establishments of the firm.*

Perceptions of Social Comparison Costs—External Referents. While the boundaries of a firm provide a particularly important basis for choosing salient referents (Cobb & Stevens, 2017), employees also compare themselves to similar employees in other comparable firms (Belliveau, O'Reilly, & Wade, 1996; O'Reilly, III et al., 1988). I refer to employees of a firm whose compensation compares favorably to their salient referents in other local firms as “advantaged employees.” While advantaged employees may still perceive that they have been inequitably treated when employees in other offices receive a market-based compensation increase, the marginal increase in compensation the advantaged employees need to receive in order to feel that equity has been restored will likely be less than employees who are not so advantaged. Therefore, I

predict that if employees are already advantaged when compared to salient referents in other firms in their market, this will negatively moderate the compensation increases that advantage employees receive.

*Proposition 3b: Following increases in compensation due to competition in a local labor market, firms that have employees in directly exposed establishments will increase compensation less for the **advantaged employees** in their directly exposed establishments than their employees that are not advantaged with respect to comparable employees in other firms in the local labor market.*

Extent of Social Comparison Costs. While all employees can impose social comparison costs on their firm—through shirking, theft, sabotage, or exiting the firm—the extent of the costs that employees can impose may differ. The risk associated with shirking, theft, sabotage, or turnover by some employees is extremely small, while for others it is high. Following compensation increases for employees in one location, firms should increase compensation more for the employees in other locations who may impose greater social comparison costs on the firm.

Replacement Costs. In some circumstances, the total social comparison costs an employee can impose are capped at the replacement cost of the employee. In circumstances where the firm can effectively monitor employees, the firm can identify when employees are engaged in these detrimental activities and terminate the employee. These circumstances include those in which the actions of employees are independent of other employees, effort is easily identified, and outputs are easily measured (Nickerson & Zenger, 2008). Additionally, when employees react to perceived inequities by choosing to voluntarily leave the firm, the social comparison costs are capped at the replacement

costs for the departing employees. Therefore, I predict that the compensation increases for employees in directly exposed establishments will vary depending on the replacement costs of the employees in those establishments.

*Proposition 3b: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments will increase compensation more for the employees in their directly exposed establishments that have **higher replacement costs** than for those with lower replacement costs.*

Opportunity for Shirking, Theft, or Sabotage. In other circumstances, firms risk social comparison costs that are uncertain and may go beyond the replacement costs for their employees. When monitoring employees is difficult, for example because tasks are highly interdependent and outcomes are only measurable at the team level (Nickerson & Zenger, 2008), employees have opportunities to impose costs by shirking, stealing, or sabotaging and the firm may have difficulty identifying the cause. Therefore, I predict that the compensation increases for employees in directly exposed establishments will vary depending on the interdependence of the tasks in which the employees are engaged.

Proposition 3c: Following increases in compensation due to competition in a local labor market, firms in the market that have employees in directly exposed establishments will increase compensation more for the employees in their directly exposed establishments whose tasks are more interdependent than for those whose tasks are less interdependent.

Wage Ratchets and the Asymmetric Effects of Social Comparison

The prior propositions suggest that *increases* in compensation for employees in one location, due to local labor market conditions, may lead to *increases* in compensation for employees in other establishments. The directionality of this relationship is intentional. Because of the nature of social comparisons, as well as the stylized fact that wages for employees within firms rarely decrease (e.g., Blanchflower, 1991), I expect that decreases in compensation in one location of a firm due to changes in local labor market conditions there will not spillover to other establishments of a firm. The spillover effect within a firm due to compensation decreases, therefore, will not be symmetrical with the effect due to compensation increases.

Social comparisons generally operate upward—salient referents are generally those at the same or higher social level (Zenger, 1994). Envy arises when an individual perceives that the returns they receive for a level of effort are not proportional to the returns that others receive for their level of effort (Adams, 1963). The possibility of this feeling of envy leads to the threat of social comparison costs (Nickerson & Zenger, 2008). When a referent's compensation decreases without a corresponding reduction in level of effort, the possibility for a feeling of envy is reduced and the risk of social comparison costs decreases. Therefore, social comparison costs, as well as incentives for the firm to compress wages downward for employees in other locations, are absent in this scenario. If firms do decrease wages for the employees in other locations, it is likely a result of firm performance concerns rather than social comparison processes. In this case, employees with other employment options are likely to voluntarily turnover rather than accept a wage decrease, which will keep competitive pressure on the firm to maintain compensation at a market levels, if possible.

In addition to the asymmetries inherent in social comparisons, I do not expect to find many instances of multi-location firms reducing compensation for employees in any location. Robust empirical evidence suggests that there is a wage ratchet: wages are more likely to increase over time but tend not to decrease (Blanchflower, 1991; Qualls, 1981). There are a number of theoretical justifications for this stylized fact, but all support the idea that wages are sticky downward.

Both because social comparisons operate upward but not downward, and because wages tend not to decrease, I do not expect wage decreases in one establishment due to local labor market conditions to lead to wage decreases in other establishments absent other issues related to establishment or firm performance.

Proposition 4: Following any decreases in compensation due to competition in a local labor market, firms in the market that also have employees in directly exposed establishments will not decrease compensation for employees in their directly exposed establishments unless the firm or that establishment face other performance-related issues.

Local Labor Market Competition and the Diffusion of Compensation

Increases

The diffusion of compensation increases within the firm to directly exposed establishments, although not driven by labor market competition in the local market, will likely put pressure on the local labor market competitors to also raise wages. I refer to the labor market competitors of directly exposed establishments as “indirectly exposed establishments.”

If the local labor market competitors do indeed raise wages, the result is a spillover of pay increases from one labor market to another. The traditional mechanism theorized to drive the diffusion of compensation across geographic locations is the threat of employee mobility across the locations (Moretti, 2011). Nevertheless, studies suggest that workers are reluctant to relocate even when doing so may result in increased compensation (Dahl & Sorenson, 2010). The mechanism that I am proposing—diffusion of compensation increases through the interaction of local labor market competition and processes internal to multi-location firms—operates even when the threat of mobility across geographies is constrained and constitutes a novel explanation for compensation spillovers between regions.

Proposition 5: Following compensation shocks in a local labor market, firms in other locations that are labor market competitors of directly exposed establishments (the indirectly exposed establishments) will increase compensation for their employees in the local market more than other firms.

Methodological Considerations

There are a number of empirical challenges in establishing the interaction of local labor market competition and social comparison processes as a mechanism driving the diffusion of compensation increases within firms across locations. Firm decisions on compensation are not random and are potentially impacted by a number of unobservable, idiosyncratic employee and firm characteristics. It is also extremely difficult to differentiate compensation increases due to social comparison from those caused by *threat* of worker mobility—the threat of worker mobility, particularly in the absence of actual worker mobility, is very difficult to observe or measure.

The ideal setting for an empirical examination of my propositions would require that at least some firms have employees in multiple locations. In the ideal setting, the researcher would be able to eliminate or control for mobility across geographic locations in order to rule out the primary alternative explanation that the threat of employee mobility is driving observed compensation changes across labor markets. Similarly, the researcher would be able to control for idiosyncratic individual-level and firm-level characteristics, such as firm-specific human capital, in order to rule those out as potential explanations for observed compensation changes.²

² An example of research setting that has features that approximate the ideal in important ways is the market for associate (non-partner) attorneys in law firms. 1) Although the majority of law firms have only a single office, there are many law firms with offices in multiple locations and the number of multi-office firms is increasing (Baker & Parkin, 2006). 2) Employee mobility across state lines is generally limited in the legal services industry. State-specific laws and state bar registration requirements, in addition to the relationship-based nature of the legal services industry, substantially increases the cost of mobility across markets. Although there may be additional opportunities for mobility for lawyers when graduating from law school, the factors that constrain geographic mobility in the industry also generally lead law students to target specific geographic locations in their job searches. Thus, the competition for new lawyers is fiercest among firms within a geographic location rather than across locations. 3) Despite limited mobility, lawyers across states are generally comparable, and law firm associates are extremely fungible across firms. American Bar Association accreditation criteria for law schools and standard bar examination requirements across states result in substantial homogeneity in legal education and skills. Additionally, most newly minted lawyers have limited experience working in the legal services or any other industry so lack prior experience that may drive their compensation. The general demands of a legal practice are substantially similar both within and across geographic locations. 4) Also, compensation, particularly for new lawyers, is widely known and easily accessible across locations. Services like *The American Lawyer* magazine and Vault.com provide survey results of associate compensation for various offices of many law firms and law firms themselves often publish compensation information for new lawyers as a marketing technique.

Discussion

My goal has been to develop a more complete theory of employee value appropriation by emphasizing the impact of social processes within multi-location firms on compensation across the firms' establishments. In responding to local labor market forces, managers must balance labor market competition in one location with the risk of social comparison costs from employees in other locations. Doing so may lead them to raise wages for employees in locations where the local labor market conditions would not otherwise demand it. This discussion underscores the uniqueness of the labor market among resource markets for firms. Because of the potential inimitability and unique value of human capital, prior strategic human capital research has identified a firm's employees as a potential source of sustainable competitive advantage. In particular, prior literature suggests that in situations where the mobility of employees is constrained, they firm may be able to enjoy economic rents. Nevertheless, this study suggests that social processes within firms, and within multi-location firms in particular, may enable employees to appropriate value above that otherwise available to them on the local labor market even in the face of mobility constraints.

Prior research has suggested that management can respond to potential social comparison costs primarily in three ways: compressing wages, designing the process of the firm to limit social comparisons, and altering the boundaries of the firm to limit social comparisons (Nickerson & Zenger, 2008). This study assumes that when faced with local labor market competition, in the short run, multi-location firms will choose to compress wages of employees in order to limit social comparison costs rather than recraft the firm's social architecture or restructure the boundaries of the firm. In the long run,

however, firms may choose to limit the interdependence of tasks across employees or outsource aspects of the firms' operations in order to limit social comparisons.

Predictions regarding when firms will use these other levers available to them rather than compress wages are beyond the scope of this paper but would be worthwhile to pursue in future research.

This study also has implications for income inequality. Cobb and Stevens (2017) explore the implications of social comparisons and social comparison costs, particularly in large firms, on overall income inequality in States in the United States. Their analysis suggests that large firms are more likely to compress wages, which leads to lower levels of income inequality in States with a larger proportion of large firms. Similarly, this study has implications for levels of income inequality both within firms and within markets. It seems reasonable that higher skilled workers in one establishment of the firm will see comparable workers in other establishments as salient referents. Additionally, they will be more likely to interact with those others, more likely to have information about those others, and more likely to work on interdependent tasks with those others. If these assumptions are true, then there is a greater risk that high skilled workers will impose social comparison costs on the firm if it raises compensation for comparable employees in other locations but not them, and therefore more likely that they will receive corresponding compensation increases. Even if the low skilled workers receive compensation increases, high skilled workers are likely to be able to impose greater social comparison costs on the firm, which suggests that they are likely to receive greater even compensation increases than the low skilled workers. These processes suggest that compensation spillovers from changes in market conditions in another establishment are

likely to benefit high skilled workers more than low skilled workers and lead to increased income inequality within the firm. As labor market competitors of firms in these other locations face competitive pressure to also increase wages, the pressure will likely be greatest for their own comparable high-skilled workers. If so, this would result in increased income inequality in the broader labor market as well.

Finally, this study reinforces the importance of examining how social processes between employees within firms interact with labor market competition external to firms to produce outcomes we observe in the real world. Similar to Nickerson and Zenger (2008), this study attempts to bring together different perspectives of human nature. On the one hand, I assume that people are emotional and react to perceived inequities. On the other hand, I assume that decisions makers within firms will act in rational ways to reduce the overall costs to the firm. The conjunction of these two seems appropriate when examining organizations from both the individual- and firm-level perspectives simultaneously. It seems realistic to assume that both emotional and rational processes intersect and interact for employees working within organizations, although a full exploration of the implication models is beyond the scope of this analysis.

Conclusion

Prior research on strategic human capital has focused on isolating mechanisms that constrain employee mobility, restricting the ability of employees to bid up their compensation and limiting the extent to which they can appropriate value. This study, however, suggests that for multi-location firms with establishments in different locations, social comparison processes within firms that lead employees to impose social comparison costs on the firm provide a mechanism for employees to receive increased

wages. If local labor market forces pressure these firms to raise compensation in one location, employees who feel envious may successfully demand increased compensation in other locations, even if the local market conditions do not require the increases. This theoretical mechanism operates regardless of the presence or lack of mobility constraints and suggests the importance of exploring the intersection and interaction of social processes between employees within firms and labor market forces external to firms when attempting to understand the ability of employees to appropriate value from firms through their compensation.

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