HETEROGENEITY IN TURNOVER: THE EFFECT OF RELATIVE COMPENSATION DISPERSION OF FIRMS ON THE MOBILITY AND ENTREPRENEURSHIP OF EXTREME PERFORMERS[†]

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We explore the strategic implications of firm compensation dispersion on the heterogeneous turnover outcomes of employee mobility and entrepreneurship. We theorize that individuals' turnover decisions are affected by the interaction of individual performance with the firm's compensation dispersion relative to its competitors. We test our theory using linked employer-employee data from the legal services industry. We find that individuals with extreme high performance are less likely to leave firms that offer higher compensation dispersion than competitors, however, if they do leave these employers, they are more likely to create new ventures. In contrast, employees with extreme low performance are more likely to leave firms with more compensation dispersion than competitors, and these individuals are less likely to engage in new venture creation. Copyright © 2012 John Wiley & Sons, Ltd.

INTRODUCTION

Strategy researchers increasingly view managers as generators and appropriators of rent (Castanias and Helfat, 1991, 2001; Coff, 1999). Given the threat of employee exit, firms often allocate rents with a focus on permitting high performing employees to appropriate enough value to obtain the best returns to their talents (Campbell *et al.*, 2012b) and thus

stay with the firm instead of joining a competing organization (Adner and Helfat, 2003; Coff, 1997). Accordingly, this line of work implicitly envisions a competition among firms for the services of employees who differ in their individual performance (Gardner, 2005; Harris and Helfat, 1998). Surprisingly, however, little research examines how the allocation of rents by the firm's competitors influences the focal firm's ability to retain employees, particularly those employees who generate the most value. Additionally, entrepreneurial organizations, key competitors in the market for strategic human capital (Elfenbein, Hamilton, and Zenger, 2010; Groysberg, Nanda, and Prats, 2009), have been neglected in most examinations of rent appropriation and talent retention. For example, the

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literature on employee entrepreneurship (Agarwal *et al.*, 2004; Phillips, 2002) is silent on the effect that the firm's rent allocation may have on the like-lihood of heterogeneous employees creating new ventures that compete with their parent firms.

In this study, we address these gaps by examining how the firm's rent allocation-relative to its competitors—influences the turnover decisions of employees who vary in individual performance. We define turnover broadly as employee exit from an organization. We then separate turnover into mobility and entrepreneurship: mobility when the employee joins an existing organization and entrepreneurship when the employee creates or joins a new venture. These different destinations represent an important heterogeneity in turnover that remains underexplored in the existing literature. In examining rent allocation, we focus on the firm's compensation dispersion-the variation in monetary rewards provided to the firm's employees-which is a crucial organizational attribute studied by scholars from a variety of fields (Bloom and Michel, 2002; Gerhart and Rynes, 2003; Lambert, Larcker, and Weigelt, 1993; Pfeffer and Langton, 1988, 1993; Shaw and Gupta, 2007; Shaw, Gupta, and Delery, 2002; Trevor and Wazeter, 2006). In examining employee heterogeneity, we focus on extreme performers-employees who are compensated significantly above or below their coworkers in the firm with similar observable characteristics like education, seniority, age, gender, race, and so on. We link individual performance heterogeneity to compensation dispersion heterogeneity and determine the effect of their interactions on employees' turnover decisions regarding mobility to an existing firm or creating an entrepreneurial venture. Given our dual focus on individual- and firm-level characteristics, we draw upon work in labor economics, human resource (HR) management, and strategy for hypotheses development. We test our hypotheses using unique and comprehensive data drawn from the U.S. Census Bureau's Longitudinal Employer-Household Database (LEHD).

Our study hypothesizes and shows that high performing individuals are less likely to leave firms with greater compensation dispersion relative to competitors, and, conditional on turnover, high performers are more likely to form new firms than join existing ones. For low performing employees, the opposite is true: we hypothesize and show that low performing employees are more likely to leave firms with greater compensation dispersion relative to competitors, but conditional on turnover, they are less likely to form new firms. We also provide some evidence that high and low performers alike earn higher compensation after turnover, evidence that employees seek settings that provide them with greater rents, given their performance.

In undertaking this study of micro and macro determinants of employee turnover,¹ we integrate multiple research streams addressing strategic human capital. We contribute to the literature on the strategic management of knowledge by linking firm compensation dispersion, an important macrolevel firm characteristic, to the micro-level mobility and entrepreneurship behavior of employees. Previous studies linking firm-level contingencies to entrepreneurial decisions have mainly focused on how firms' technical and market knowledge (Agarwal et al., 2004; Franco and Filson, 2006) and cultures (Burton, Sørenson, and Beckman, 2002) determine the likelihood of their employees starting new ventures, without giving much attention to how such firm-level characteristics may influence heterogeneous employees differently. We not only provide the complementary insight that a firm's compensation dispersion affects employee entrepreneurship, we also highlight the differential effect of firm compensation dispersion on employees varying in performance. High performing employees may exit established firms for entrepreneurial ventures to capitalize on underexploited opportunities (Agarwal et al., 2004; Klepper and Thompson, 2010), but they may also stay at firms that allow them to maximize returns to their ability.

We also contribute to the strategic HR management literature on compensation dispersion and turnover. We highlight that not all turnover events are the same: destination matters in employee mobility, especially if we expand the conceptualization of turnover to include entrepreneurship. Although HR policies rewarding extreme performance help retain high performers, they may be less effective in curtailing entrepreneurship. This difference is important for HR managers because employee entrepreneurship may be more harmful to firm performance than mere turnover (Campbell

¹Of the many micro-macro divides present in the management literature (Molloy, Ployhart, and Wright, 2011), we focus on bridging the scholarship gap between individuals and organizations.

et al., 2012b; Wezel, Cattani, and Pennings, 2006). Also, we underscore the competitive dynamics of compensation systems by focusing on a firm's compensation dispersion *relative* to its competitors, building upon prior work documenting that individuals look outside of their firm to determine pay satisfaction (e.g., Trevor and Wazeter, 2006).

Finally, we integrate the literatures on managerial rents and entrepreneurship by systematically comparing the decision to form an entrepreneurial venture with the entire set of options that individuals have, including staying at a current organization or moving to an alternative established firm. By highlighting that founding a new organization is a rent appropriation mechanism potentially different from mobility to an established firm, our findings underscore the importance of nonpecuniary rents to entrepreneurs. Even though initial pay may be lower in an entrepreneurial venture (Campbell, 2012), high performing managers in firms with disperse compensation are likely to join new organizations, indicating that nonpecuniary rents matter in the calculus of high ability managers.

THEORY AND HYPOTHESES

Heterogeneity in individual performance

Firms are composed of heterogeneous individuals who achieve differing levels of performance. An important strategic human capital issue relates to how firms identify and then retain or discard extreme performers (Zenger, 1992). Assuming reasonably efficient labor markets, we define extreme high (low) performers as employees who are compensated significantly more (less) than coworkers in the same firm who have similar observable characteristics (e.g., education, seniority, age, gender, race). We use the terms compensation, rewards, and pay interchangeably in this paper. We define these terms both theoretically and empirically as the total taxable income received by an employee including wages, salary, and bonuses.

Prior research has linked observable individual performance differences to unobservable differences in innate ability/talent or motivation to work (Castanias and Helfat, 1991, 2001; Elfenbein *et al.*, 2010; Zenger, 1992). Firms try to retain high performers not only because these individuals drive firm success (Mindruta, 2012; Nyberg, 2010; Zucker, Darby, and Armstrong, 2002) but also because they may leave and use their talents to create new ventures that compete directly with their former employers (Campbell *et al.*, 2012b; Groysberg *et al.*, 2009). Conversely, low performers adversely affect firm profitability (Krackhardt and Porter, 1986; Williams and Livingstone, 1994).²

Compensation dispersion and value appropriation by heterogeneous employees

A firm's compensation dispersion, defined as the variation in employee pay within the firm (Gerhart and Rynes, 2003), is an important factor in that it has the ability to attract, identify, and retain or discard extreme performers. A firm with greater compensation dispersion typically provides higher rewards to the employees perceived to create more value (Bloom and Michel, 2002; Blyler and Coff, 2003). Consequently, compensation dispersion has an impact on employees' ability to earn extreme rewards and appropriate the rent generated in their firm (Castanias and Helfat, 1991; Coff, 1999).

High compensation dispersion increases the satisfaction of high performers. Their superior ability is recognized and rewarded as they either earn greater within-job-group rewards or more quickly climb the promotion ladder (Bloom and Michel, 2002; Frank, 1985; Shaw and Gupta, 2007). Low performers, on the other hand, appropriate less firm value and suffer negative social comparisons to the firm's higher performers (Festinger, 1954). The situation is different in organizations where high and low performers are likely to earn similar compensation. This lack of differentiation may result when individual contributions to firm performance are difficult to measure (Alchian and Demsetz, 1972), and it may engender cooperation (Frank, 1984; Harder, 1992) and limit influence costs (Prendergast, 1999), jealousy (Lazear, 1989), and costly comparison behavior (Nickerson and Zenger, 2008). Lack of compensation dispersion may, however, also result in an implicit cross-subsidization of low performers by high performers. Lower compensation dispersion thus

² Note that prior studies have identified extreme performers by defining the reference group at the industry- (e.g., Audretsch and Stephan, 1996; Zucker, Darby and Brewer, 1998) or firm- (e.g., Pfeffer and Davis-Blake, 1992; Shaw and Gupta, 2007; Zenger, 1992) levels of analysis. Given our interest in the interaction of individual heterogeneity with firm-level differences in compensation dispersion, we adopted the firm-level of analysis and identified extreme performers by comparing individuals within firms.

may decrease satisfaction for high performers but increase it for low performers (e.g., Pfeffer and Langton, 1993).

Compensation dispersion relative to competitors and the turnover of extreme performers

HR management studies examining turnover have studied the relationship between a firm's compensation dispersion and an employee's position in the firm's performance distribution. These studies find that the dispersion in the firm's compensation is inversely (positively) related to exit by higher (lower) performing employees, (e.g., Lazear, 2000; Pfeffer and Davis-Blake, 1992; Shaw and Gupta, 2007), which is consistent with value appropriation arguments and with theories of social comparison (Festinger, 1954) and equity (Adams, 1963).³ Missing from these studies, however, is the consideration of how the compensation dispersion of the firm compares with that of its competitors. This gap is important because other compensation studies show that employees often determine their pay satisfaction by comparing themselves with referent individuals outside of the organization (e.g., Brown, 2001; Hills, 1980; Law and Wong, 1998; Trevor and Wazeter, 2006). Thus, in a similar vein, employees are likely to determine their satisfaction with their employer's pay dispersion by comparing it to competing organizations' pay dispersion, especially given interfirm competition for talent (Cappelli, 2000; Gardner, 2005) and increasingly fluid labor markets (Topel and Ward, 1992). In short, if competitors offer compensation practices that are more in-line with an employee's abilities and preferences, the employee may exit the current employer to join these competing firms.

High performing individuals may prefer to work in a firm with greater compensation dispersion relative to its competitors. Competitors with lower compensation dispersion will be less able to poach the firm's high performers by promising more extreme rewards (Zenger, 1992) or better social comparisons (Festinger, 1954), each of which typically prevail for high performers in firms with greater compensation dispersion (Gerhart and Rynes, 2003). Even if high performing employees are dissatisfied with perceived lack of compensation dispersion that prevents them from appropriating rents commensurate with their contributions (Castanias and Helfat, 1991), exiting the firm will not alleviate this dissatisfaction if competitors offer even *less* pay dispersion than their current employer. Due to their ability to deliver incentives that are superior to other possible employment destinations, firms that offer greater pay dispersion than competitors should be better positioned to retain their high performing employees. Accordingly, we hypothesize:

Hypothesis 1: The probability that high performers will exit is lower for firms with higher compensation dispersion relative to competing organizations.

In contrast, low performers are more likely to exit organizations that offer greater compensation dispersion relative to competitors because they suffer negative social comparisons and generally perceive pay inequity (Pfeffer and Davis-Blake, 1992; Pfeffer and Langton, 1993; Trevor and Wazeter, 2006). This relationship should particularly hold true for low performing employees at a firm with high compensation dispersion relative to its competitors because this relative difference suggests that other employment destinations may provide a larger individual return to a lower level of individual performance or have less acute social comparisons. Low performers may thus exit firms with higher compensation dispersion to join an organization that less tightly links compensation to relative performance to increase job satisfaction (Miyazaki, 1977; Pfeffer and Davis-Blake, 1992). Further, firms with greater compensation dispersion may be more willing to terminate employees who are underperforming relative to expectations to make room for better performers' hierarchical ascent (Rosenbaum, 1979). Regardless of whether due to voluntary or involuntary exit, we hypothesize:

Hypothesis 2: The probability that low performers will exit is greater for firms with higher compensation dispersion relative to competing organizations.

³ The relationship is bolstered further by studies showing that higher pay dispersion leads to greater pay satisfaction for those located higher in the firm's pay distribution and lesser pay satisfaction for those located lower in the firm's pay distribution (Pfeffer and Langton 1993; Trevor and Wazeter, 2006). Connecting these results to the turnover literature, Griffeth, Hom, and Gaertner (2000) show that employees with higher pay satisfaction are less likely to exit.

Relative compensation dispersion and entrepreneurship by extreme performers

We next focus on the question of whether, upon exit, employees are more likely to engage in entrepreneurial new venture creation as compared with joining an established competitor, given both individual-level performance heterogeneity and firm-level compensation dispersion heterogeneity.

The literature on employee entrepreneurship (spin-outs) provides valuable insights regarding the effect of either firm-level characteristics or individual attributes, but has not addressed the two factors in tandem. In the context of parent firm characteristics, scholars have examined how a firm's performance (Klepper and Sleeper, 2005), size (Elfenbein et al., 2010; Sørenson, 2007), and configuration of knowledge assets (Agarwal et al., 2004; Franco and Filson, 2006) affect the likelihood of spin-out generation. They generally find that smaller firms (Boden, 1996; Sørenson, 2007) and firms with underexploited knowledge (Agarwal et al., 2004) or entrepreneurial cultures (Burton et al., 2002; Gompers, Lerner, and Scharfstein, 2005) produce more spin-outs. However, the role of differences in firms' compensation practices has been unaddressed. In the context of individual characteristics, scholars have noted that high performing (Groysberg et al., 2009) or high earning (Campbell et al., 2012b; Elfenbein et al., 2010) individuals are more likely to start spin-outs than low performers and low earners. Researchers have primarily attributed these differences to the maximization of performance-contingent rewards for entrepreneurial founders (Braguinsky, Klepper, and Ohyama, 2012) and to the ability of high performers and high earners to transfer the complementary assets needed to start new ventures (Campbell et al., 2012b). An unanswered question in this research stream is the contingent effect of parent firm compensation dispersion on entrepreneurial decisions among employees who differ in performance.

A firm's compensation dispersion interacts with heterogeneity in employee performance to determine the likelihood of employee entrepreneurship as compared to employee mobility to established firms. We posit that high performers leaving firms with more disperse compensation relative to competitors will be more likely to form spin-outs. First, if a current firm already provides a high degree of compensation dispersion compared with competing organizations, a high performer would appear to have little reason to move to a different established firm. More importantly, such a well rewarded high performer will have few options among established competitors to increase appropriation of firm value. An entrepreneurial venture may be attractive because a firm's founders are residual claimants who can appropriate maximum performance-based rewards, in a manner similar to working entirely on commission (Harrison, Virick, and William, 1996).

Second, to the extent that compensation dispersion may reflect the extent to which firms offer rewards for making firm-specific investments (Becker, 1962; Lazear and Rosen, 1981), high performers under a dispersed compensation scheme may be discouraged from moving to established competitors because the value of their firm-specific human capital investments may significantly diminish. If a high performer could move to an established competitor that offers more compensation dispersion and thus the opportunity to earn more extreme rewards, sacrificing the value of prior firm-specific human capital investments might be worthwhile. However, if a high performer's current firm offers greater compensation dispersion than competitors, there will likely be few established employment destinations providing enough incentive to sacrifice the firm-specific component of the high performer's human capital, even if these rival firms value some portion of the high performer's firm-specific investments (Campbell, Coff, and Kryscynski, 2012a). In contrast, creating a new venture permits a high performer to replicate parental routines and transfer complementary assets (Campbell et al., 2012b; Wezel et al., 2006), thus allowing the firm-specific component of human capital to retain a greater share of its value than if the employee moved to an established competitor (Ganco, 2012). Consequently, exiting to start a new venture rather than to join another firm may yield higher performancecontingent rewards (Bragusinksy et al., 2012) for a high performer who is already earning extreme rewards at an existing organization.

Additionally, nonpecuniary factors such as autonomy and job satisfaction may influence high performers' decisions to be entrepreneurial (Shane, Locke, and Collins, 2003). High performers in firms that offer disperse compensation relative to competitors have likely earned many of the pecuniary spoils available from established firms in their industry. Consequently, at firms that offer greater compensation dispersion than competitors, high performers may face diminishing marginal pecuniary returns, and thus value nonpecuniary factors more highly than high performers at firms with less dispersed compensation (Blanchflower and Oswald, 1998; Gompers *et al.*, 2005; Hamilton, 2000; Puri and Robinson, 2007; Teece, 2003). Thus, high performers at firms with disperse compensation have both pecuniary and nonpecuniary incentives to form new ventures rather than to join established firms.

Hypothesis 3: Conditional on turnover, the probability that high performers form new ventures is greater for firms with higher compensation dispersion relative to competing organizations.

We next consider the likelihood of entrepreneurship by low performers leaving firms with differing levels of compensation dispersion. As noted above, low performers in firms with greater compensation dispersion relative to competitors may envy their colleagues, suffer negative social comparisons (Lambert *et al.*, 1993), or be averse to the high marginal costs of the effort level necessary to earn rewards. However, starting a new venture is not likely to be the value-maximizing decision for these individuals from either a pecuniary or a nonpecuniary perspective.

On the pecuniary side, while higher compensation dispersion is intended to extract more effort from employees (Bloom and Michel, 2002), successful entrepreneurship likely requires an even higher level of effort (Zenger, 1994). This is particularly true for lower performers who may lack the human and social capital (Bragusinksy and Ohyama, 2009; Sorenson and Stuart, 2001) needed to attract resources (Shane and Cable, 2002) and complementary assets (Agarwal et al., 2012; Campbell et al., 2012b) necessary for entrepreneurial success. Thus, the expected pecuniary gains from entrepreneurship may be lower than the compensation available to low performers from established firms, including the current employer or alternative options at firms with less dispersed compensation. On the nonpecuniary side, while forming a new firm may alleviate negative social comparisons, so too will the less risky option of joining an established firm that offers less disperse compensation. If the low performer's current employer provides compensation that is particularly disperse relative to its competitors, non-entrepreneurial employment options that are more desirable from a social comparison perspective are likely to abound. Consequently, joining a different established firm is likely to be preferable to creating an entrepreneurial venture for low performers in firms with disperse compensation. Thus:

Hypothesis 4: Conditional on turnover, the probability that low performers form new ventures is lower for firms with higher compensation dispersion relative to competing organizations.

METHODS

Empirical setting

The U.S. legal services industry is an appropriate empirical setting for our study for several reasons. It is representative of professional services, a large and growing sector of the U.S. economy that constituted 46.5 percent of the gross domestic product (GDP) in 2007.⁴ Further, the structure of the industry facilitates studies of employee turnover and new firm generation. Professional services industries are human capital intensive (Sherer, 1994), and critical complementary assets are more likely to be embodied in mobile people than in physical plants or firm-owned intellectual property (Teece, 2003). Also, employment contracts in legal services exclude noncompete clauses. Hence, the costs/barriers associated with mobility within the borders of a state⁵ are relatively low for employees, and new firm creation rates are high. Importantly, the heterogeneity in legal services firms' compensation dispersion facilitates the study of structural effects on employee turnover, concomitant with variation in personnel hiring/retention strategies (Malos and Campion, 1995; Parkin and Baker, 2006). In addition, the level of status competition is very high (Lazega, 2001), which strengthens the role of social comparison in employees' turnover decisions. One common personnel strategy is the

⁴ Statistics on GDP by industry are from the Industry Economic Accounts Program at the Bureau of Economic Analysis. (http://www.bea.gov/industry/xls/GDPbyInd_VA_NAICS_1998– 2008.xls).

⁵ Lawyers' credentials are state-specific and easily transferrable within but not across state borders. Consequently, mobility costs are low within states and high between states.

well-known tournament model, wherein a firm employs many associates and a few highly paid partners. The firm pays associates lower salaries, holds out prospects of future partnership (Malos and Campion, 1995), and practices 'up-or-out,' whereby associates who do not make partner generally leave (Parkin and Baker, 2006). However, Sherer and Lee (2002) demonstrate that a number of firms are moving away from the up-or-out model in favor of recruiting partners from both inside and outside the firm, which may have the effect of lowering the firm's compensation dispersion as firms increase associate salaries to compensate for poorer partnership prospects (Malos and Campion, 1995). In summary, the legal services industry is an ideal context for our study: it is economically important, has rich variation in individual performance and firm compensation dispersion, and a high incidence of both types of employee turnover, namely mobility to existing firms and entrepreneurship.

Data

We analyzed data from the LEHD, which links employer-employee data from state-level unemployment insurance (UI) records and other data products from the U.S. Census Bureau.⁶ The data contain quarterly records of all employee-employer dyads covered by the UI system and include data collected by many government agencies on employee characteristics, firm characteristics, and employee earnings. Our data extract included all individuals and firms in legal services in 10 large states between 1990 and 2004. The universality allowed the construction of employees' careers and firms' histories over time, and the tracking of employee mobility and identification of spinout events. We restricted our sample to individuals with strong labor market ties (individuals making at least \$25,000 a year) and to firms large enough to yield a meaningful measure of compensation dispersion (more than five people making at least \$25,000). Additionally, only 'healthy' firms that survived for at least two more years after a focal year were included. This last restriction was imposed because employees who leave dying firms are making a fundamentally different decision than

those leaving healthy firms. The final data contained over 1.8M individual-year observations and over 87,000 firms.

Estimation strategy

We tested our hypotheses for employee turnover or entrepreneurship in a given year using linear probability models. Inclusion of firm-year fixed effects absorbed any variation attributable to constant characteristics within firm years, including unobserved heterogeneity along with average pay, firm size, area of practice, and so on, and allowed us to focus our hypotheses testing on the differences among employees working for the same firm in the same year. We included robust standard errors (clustered by firm year) to account for heteroskedasticity. Computing constraints restricted our ability to use a conditional logit model, since confidentiality concerns required all analyses to be performed on-site at a Census Research Data Center, using its computing resources. However, out-of-sample predictions of the linear probability model were very rare, providing evidence that the models were performing acceptably. Further, estimates from conditional logit specifications on a random subsample of our data yielded similar results.

Variables

Employee turnover

In the tests of Hypotheses 1 and 2, the dependent variable is *employee turnover*, coded 1 if an individual had changed employment since the previous year and 0 otherwise. For individuals who worked at multiple firms in a given year, we focused on the dominant employer, defined as the firm at which the employee earned the most during the year.

Our data did not permit us to identify if employees' exits were voluntary or involuntary. We expect that, given exceptional performance, on average, high performers would not be involuntarily terminated. We are agnostic as to whether low performers were likely to experience voluntary or involuntary termination. However, since one of the objectives of a dispersed compensation distribution is to allow incentives to sort higher performing from lower performing employees with relatively little managerial intervention (Lazear and Rosen, 1981; Rasmusen and Zenger, 1990), low performers should be spurred to seek different employment

⁶ See http://lehd.did.census.gov/led/library/tech_user_guides/ overview_master_zero_obs_103008.pdf.

options when they do not obtain the performancebased incentives or promotions necessary to earn rents in a dispersed compensation distribution. Thus, involuntary turnover on the part of low performers should occur more often in firms with more equitable compensation distributions. As a result, involuntary turnover in our data would bias results away from the confirmation of our hypotheses and provide conservative tests.

Employee exit to spin-out

In the tests of Hypotheses 3 and 4, we focus on only the turnover events and distinguish between mobility and entrepreneurship. Accordingly, the dependent variable is a dummy variable that takes the value 1 if the change in an employee's dominant employer since the previous year was to a new firm in the data (employee entrepreneurship), and takes the value 0 if the change in dominant employer since the previous year was to an existing firm (employee mobility). We note that this measure of exit to spin-out includes not just firm founders but also non-founding employees in the first year.

Firm's compensation dispersion relative to competitors (relative Gini coefficient)

Following other studies of compensation dispersion and in labor economics (Bloom, 1999; Bloom and Michel, 2002; Donaldson and Weymark, 1980; Shaw *et al.*, 2002) we use the Gini coefficient to measure compensation dispersion. The Gini ranges between 0 (absolute equality) and 1 (absolute inequality), measures half the relative mean difference of the pay of any two employees selected at random from a firm's compensation distribution, and is calculated as:

$$G = \frac{2\sum_{i=1}^{n} iy_i}{n\sum_{i=1}^{n} y_i} - \frac{n+1}{n}$$
(1)

where y_i is the salary of the *i*th ranked individual in a firm and is indexed in nondecreasing order—that is, i = 1 indicates the lowest paid person, and *n* is the number of people in the firm. To compute our measure of a firm's Gini coefficient *relative* to its competitors, we divided each firm's Gini coefficient by the average Gini coefficient of other firms in the same state. The measure works particularly well for legal services since state-specific bar examination requirements typically limit the competition of firms and the mobility of lawyers to within state lines (Gilson and Mnookin, 1985). For reference, it is worthwhile to note that American firms have relatively high compensation dispersion compared to overall dispersion in many OECD countries (Lazear and Shaw, 2008). While the literature has not systematically documented cross-industry variations in compensation dispersion, we note that our firmlevel sample mean of the Gini coefficient (0.30) is somewhat greater than the average Gini of 0.25 noted by Bloom and Michel's (2002) study of managers in firms from a variety of industries and substantially lower than the Gini of 0.60 reported in Bloom's (1999) study of professional baseball teams. Other studies measuring firm-level dispersion either use the coefficient of variation (e.g., Pfeffer and Davis-Blake, 1992) or an incomplete version of the Gini coefficient (e.g., Shaw et al., 2002; Shaw and Gupta, 2007).

High and low performers

Following prior work documenting a high correlation of earnings with individual performance (cf. Parsons, 1977) we relied on objective compensation data to identify high and low performers. In keeping with our theoretical framework and prior research (Pfeffer and Davis-Blake, 1992; Shaw and Gupta, 2007; Zenger, 1992), we identified high and low performers using employees in their own firms as referents. Elfenbein et al. (2010) accounted for individual characteristics (e.g., educational levels) and then defined high and low performers as individuals in the top and bottom deciles of the compensation distribution. Extending their framework to our context, we employed a compensation residual approach in identifying extreme performers. We developed our measure using two steps. First, we estimated the following ordinary least squares compensation equation for each person year in our untrimmed sample:

$$Log \ w_{it} = \beta_0 + \beta_1 X_{it} + \gamma Z_{jt} + \delta_{STATE} + \lambda_{MSA} + \eta_t + u_{it},$$
(2)

where w_{it} is *i*'s total taxable compensation in year *t* (including salary, bonuses and other reported

taxable income), X_{it} is a vector of individual characteristics, including control variables described in detail below. Z_{jt} is a vector of firm-level characteristics including an indicator for location in a metropolitan statistical area (MSA), the interaction of the indicator with a continuous measure of the number of firms in the MSA, and a continuous term measuring the number of in-state competitors. We also included dummy variables (δ_{STATE} , λ_{MSA} , η_t) capturing the 10 states, the 150 MSAs, and the 15 years of our sample for each observation. The error term is captured by u_{it} .

In the second step, we used the distribution of the residual u_{it} from the estimated equation to identify high and low performers as those individuals in the top 10 percent and the bottom 10 percent, respectively, of a focal individual's current firm. We then created two dummy variables. The first takes a value of 1 if individual *i* was identified as a high performer at time *t*. The second takes a value of 1 if *i* was identified as a low performer at time *t*. Note that this methodology does not result in a few firms containing all of the extreme performers—each firm in the data contains both high and low performers.

Using the compensation residual approach allowed us to identify individuals who are paid more than others in the same firm with the same age, tenure, education, gender, and race. Conditioning on these observable characteristics allowed us to create very granular comparison groups, and we posit that compensation differences within the comparison groups are driven by differences in individual performance. While this approach requires the reasonable assumption that firms recognize varying levels of performance and compensate employees accordingly, defining high and low performers based on their compensation residual had three important advantages. First, identification via comparison with colleagues with similar observable characteristics was important for our hypotheses, which highlight the role of firm-level social comparisons on employee exit. Second, this method allowed us to identify 'rising stars,' which include young employees who are currently paid a moderate amount absolutely, but are outperforming their peer group. Third, Hypotheses 3 and 4 focus on individual performance differences as impacting moves to entrepreneurial ventures or established firms. Using the compensation residual instead of raw compensation to identify high and low performers allowed us to avoid confounding variables such as age and tenure that may drive both earnings and propensity toward entrepreneurship.

Control variables

To control for individual characteristics, we included quadratic term controls for age and firm tenure. Additionally, we included gender and race dummy variables, coded 1 for male and white, respectively. Since education may have a discontinuous effect on turnover, we included dummies for educational attainment (12 years, between 12 and 15 years, 16 years, and greater than 16 years), with the baseline group consisting of individuals with less than 12 years of education. To control for individuals with weak employer ties, we included a dummy for individuals with less than one year of tenure at their firm. We also included a dummy that indicated if individuals' observed tenures were potentially left-censored, an important control given that our data began in the middle of the careers of some employees. Firm-level observed and unobserved characteristics are controlled for by a firm-year fixed effect—our empirical methodology implies that all firm-level variables that are constant for the firm in a particular year (such as average pay level, firm size, law firm specialty, client mix, etc.) are absorbed by the firmvear fixed effect.7

Tables 1 and 2 provide descriptive statistics on sample means and correlations for all the variables included in our study. Notably, approximately eight percent of individuals changed employers in any given year, and 18 percent of these resulted in spin-out creation. On average, employees who changed employment earned less, were younger, and had less tenure than employees who stayed with their current employers. Other demographic variables also revealed strong similarities among individuals who chose to stay rather than exit.

RESULTS

Table 3 presents results of the tests of our hypotheses. The reference (baseline) group of employees

⁷ In other unreported robustness tests to the primary analysis, we included interactions of the extreme performer dummies with other firm-level characteristics such as total employees, total revenue, and annual firm growth in these two variables. The results remain robustly supported.

Table 1.	Descriptive	statistics
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	Full	sample	Turnover of	only sample
	Mean	SD	Mean	SD
Turnover?	0.08	0.27	1.00	0.00
Mobility to startup?	0.01	0.12	0.18	0.38
Annual earnings	80373.43	387849.00	62004.18	86642.53
Age	40.90	10.48	38.39	9.52
Education = 12 years?	0.13	0.34	0.14	0.35
Education $> 12, < 16$	0.26	0.44	0.28	0.45
Education $= 16$ years	0.30	0.46	0.30	0.46
Education > 16 years	0.26	0.44	0.25	0.43
Tenure	3.29	2.72	2.41	2.09
Tenure < 1 year?	0.28	0.45	0.40	0.49
Tenure is censored?	0.19	0.40	0.11	0.31
Male?	0.38	0.49	0.33	0.47
High performer? (Top 10% firm wage residual)	0.09	0.29	0.06	0.24
Low performer? (Bottom 10% firm wage residual)	0.07	0.26	0.08	0.28
Relative Gini (Firm Gini/Avg Gini in State)	1.06	0.35	1.07	0.35

Note: n = 1,869,633 in the full sample and n = 149,392 in the turnover only sample.

is in the middle of the compensation residual distribution at the firm level (employees in the 20-90 percent range). Model 1 is the estimate of the impact of the interaction between employee performance and firm compensation dispersion on employee turnover (Hypotheses 1 and 2). The relationship of the control variables to the mobility of employees observed is broadly consistent with extant turnover literature (Griffeth, Hom, and Gaertner, 2000): older and male employees are less likely to leave, and employee tenure at the firm has a U-shaped relationship with turnover. Education has a discontinuous effect on turnover, with only employees possessing some college education being more likely to be mobile relative to the reference group. Note that the main effect of the Gini coefficient of firm pay dispersion is not reported in the tables because it was calculated at the firmyear level and, as a result, was absorbed by the firm-year fixed effects in the models. Given that our hypothesized relationships focus on the interactions of the Gini coefficient with high and low performance, hypotheses testing focused on these interaction terms.

Hypothesis 1 posits that the likelihood of turnover decreases for high performers who are employed at firms with higher compensation dispersion relative to competitors. The negative and significant interaction with the relative Gini coefficient supports this hypothesis: high performers are less likely to exit if they are employed at firms with Gini coefficients that are high relative to competitors. A one standard deviation increase (decrease) in the relative Gini coefficient decreases (increases) the probability that high performers will exit their current employer by 16 percent. Hypothesis 2, in contrast, posits that the likelihood of turnover increases for low performers who are employed at firms with higher relative pay dispersion. The coefficients for the interaction effects support this relationship too: low performers are more likely to exit when working for firms with high values of the relative Gini coefficient (i.e., the interaction term is positive and significant). A one standard deviation increase (decrease) in an employer's relative Gini coefficient from mean levels leads to a 5.5 percent increase (decrease) in the probability that a low performer exits a current employer.

Model 2 of Table 3, provides the results of the tests for Hypotheses 3 and 4, which examine the likelihood, conditional on turnover, of an employee founding or joining a new firm rather than becoming employed at a different existing firm. Among the control variables, age, education, and being male are positively related to entrepreneurship. Firm tenure has an inverted U-shaped relationship with it. As for our main variables of interest, in Hypothesis 3, we predict that high performers are more likely to be entrepreneurs if they are employed in firms with high compensation dispersion relative to competitors. The interaction

						Corre	elations	for full	sample						
	v1	v2	v3	v4	v5	9v	٧٦	v8	6v	v10	v11	v12	v13	v14	v15
v1 Turnover?	1.00														
v2 Mobility to startup?	0.41	1.00													
v3 Annual earnings	-0.01	0.00	1.00												
v4 Age	-0.07	-0.01	0.04	1.00											
v5 Education = 12 years?	0.00	-0.01	-0.02	-0.07	1.00										
v6 Education $> 12, < 16$	0.01	0.00	-0.02	0.01	-0.24	1.00									
v7 Education = 16 years	0.00	0.00	0.00	0.05	-0.26	-0.39	1.00								
v8 Education > 16 years	-0.01	0.00	0.03	0.03	-0.24	-0.36	-0.39	1.00							
v9 Tenure	-0.10	-0.02	0.03	0.26	-0.04	-0.02	0.02	0.05	1.00						
v10 Tenure < 1 year?	0.08	0.00	-0.02	-0.14	0.03	0.02	-0.01	-0.04	-0.58	1.00					
v11 Tenure is censored?	-0.07	-0.03	0.01	0.08	-0.07	-0.05	0.03	0.10	0.34	-0.31	1.00				
v12 Male?	-0.03	-0.01	0.09	0.01	0.02	-0.05	-0.05	0.07	-0.01	0.01	-0.02	1.00			
v13 High performer? (Top 10% firm wage residual)	-0.03	-0.01	0.12	0.04	0.01	0.01	0.00	-0.02	0.01	0.00	0.00	0.09	1.00		
v14 Low performer? (Bottom 10% firm wage residual)	0.01	0.00	-0.03	0.05	-0.04	-0.04	0.00	0.08	0.06	-0.05	0.02	0.06 -	-0.09	1.00	
v15 Relative Gini	0.01	0.02	0.09	0.03	-0.04	-0.02	0.01	0.05	0.03	-0.02	-0.05	0.04	0.02	0.00	1.00

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between high performance and the relative Gini coefficient is positive and significant, supporting Hypothesis 3. High performers at firms with high pay dispersion are more likely to found/join new firms than high performers at firms that do not offer extreme rewards. Performing similar calculations as described above for economic significance, we found that a one standard deviation increase (decrease) in relative employer pay dispersion resulted in a 6.1 percent increase (decrease) in the probability of joining a start-up. Hypothesis 4 predicts a decrease in that probability for low performers at firms with higher pay dispersion. This hypothesis was also supported, as the interaction term between low performance and the relative Gini coefficient is negative and significant. With regard to economic significance, a one standard deviation increase (decrease) in relative employer pay dispersion resulted in a 3.5 percent decrease (increase) in the probability of joining a start-up.

Robustness checks

We performed several robustness checks to examine the sensitivity of our results to alternative measures of our key explanatory variables and sample trimming.

Alternative definitions of high and low performers

While we identify extreme performers as those in the top and bottom 10 percent of their narrowly defined comparison group, our results are unchanged when we define extreme performers using cutoffs of 20 percent and 30 percent. However, the Bayesian Information Criterion suggested that the models using the 10 percent cutoff provided the best fit to the data. Because Zenger (1992) suggests that 'second-best' performers may be more likely to exit, we also estimated models with separate dummies for employees in each decile of the firm's compensation residual distribution. Results show that hypothesized effects are statistically equivalent for employees in the 90-99 percentiles and 80-89 percentiles of the firm's compensation residual distribution, suggesting that the effect of compensation dispersion on 'second-best' performers is the same as that on top performers.

It may also be a concern that our high performer group is dominated by highly paid partners. While our data do not explicitly identify partners and

 Table 2.
 Correlation matrix

Table 3.	Turnover and	entrepreneurship	o for high and lo	w performers

	Model	1	Moo	Model 2	
	DV: turn	lover	DV: mobility turn	to spin-out lover	
High performer? (Top 10% firm wage residuals)	-0.004†	0.002	-0.012	0.015	
Low performer? (Bottom 10% firm wage residuals)	0.007***	0.003	-0.011	0.011	
High performer [*] Relative Gini	-0.017^{***}	0.002	0.044^{***}	0.015	
Low performer* Relative Gini	0.012***	0.002	-0.019^{+}	0.010	
Age	-0.001^{***}	0.000	0.002***	0.001	
Age ² (in 1,000s)	-0.001	0.001	-0.016**	0.008	
Years of education $= 12$	0.001	0.001	-0.004	0.004	
Years of education > 12 and < 15	0.003***	0.001	0.002	0.004	
Years of education $= 16$	0.002	0.001	0.006	0.004	
Years of education > 16	0.000	0.001	0.012***	0.004	
Tenure	-0.021***	0.001	0.018***	0.002	
Tenure [^] 2	0.001***	0.000	-0.001^{***}	0.000	
Tenure is less than one year?	0.000	0.001	0.005	0.004	
Tenure is censored?	-0.014^{***}	0.001	0.006	0.005	
Male	-0.015^{***}	0.000	0.024***	0.002	
Constant	0.183***	0.003	0.073***	0.014	
Firm-year fixed effect induded?	YES		YES		
N observations	1,869,633		149,392		
N groups	87,273		41,306		
R^2	0.015		0.022		

Note: Models control for race and include firm-year fixed effects. Models use robust standard errors (clustered by firm year). *** Significant at the 0.1% level; ** Significant at the 1% level; * Significant at the 5% level; † Significant at the 10% level.

associates, we can rely on legal industry statistics to proxy for partnership status. Parkin and Baker (2006), analyzing a nationally representative sample from the Martindale-Hubbell database, show that the average law school graduate is 26 years old, that the average time to partnership is nine years, and that most firms employ one associate per partner. Thus, we impute a dummy for partner status that takes a value of 1 for all individuals aged 35 or greater who lie in the top half of the firm's raw compensation distribution. We include this dummy in both Equation 2 and our turnover regressions. Results, shown in Table 4, Panel 1, maintain support for Hypotheses 1-4. These results are robust to changes in the age cutoff to 34 or 36 and in the pay distribution cutoff to the top 33 percent or 25 percent.

Since our hypotheses examine both low and high performing individuals in the context of interfirm mobility and new firm creation, it was potentially relevant to measure individual performance at the industry rather than firm level. When we defined high and low performers as individuals in the top and bottom deciles of the compensation residual distribution of all individuals in an MSA or state, we affirmed Hypotheses 1-4 (see Table 4, Panel 2 for the MSA results; state-level results not reported for brevity). Although use of compensation residuals allowed us to control for observable characteristics, there is a potential alternative definition of high and low performers: those individuals in the top and bottom deciles of their firms' raw compensation distributions. In Table 4, Panel 3, Hypotheses 1-4 are again supported with this specification.

Alternative measures of compensation dispersion

To check the consistency of our results with findings based on other measures of compensation dispersion from prior research, we tested our hypotheses using the basic Gini coefficient (e.g., Bloom and Michel, 2002) and the ratio of the seventy-fifth to twenty-fifth percentile of a firm's pay distribution (e.g., Donaldson and Weymark, 1980). These specifications support Hypotheses 1-3 (Table 5, Panels 1-2). To truly measure performance-based incentives, dispersion in compensation may need to account for observable differences in employee characteristics such as seniority and tenure. To address this concern, we

	Mode	11	Moo	del 2
	DV: tur	nover	DV: mobility turn	to spin-out lover
Panel 1: Include imputed partner dummy				
Partner? (Imputed: Age>34, Top 50% of firm's wage dist.)	-0.006**	0.002	0.000	0.009
Partner* Relative Gini	-0.015^{**}	0.001	0.032**	0.008
High performer? (Top 10% MSA wage residual)	-0.006**	0.002	-0.001	0.013
Low performer? (Bottom 10% MSA wage residual)	-0.003	0.002	0.000	0.011
High performer [*] Relative Gini	-0.012^{**}	0.002	0.022†	0.012
Low performer* Relative Gini	0.018**	0.002	-0.024^{**}	0.010
Panel 2: Wage residual at MSA level				
High performer? (Top 10% MSA wage residual)	0.012***	0.003	-0.027^{*}	0.014
Low performer? (Bottom 10% MSA wage residual)	0.013***	0.002	0.009	0.009
High performer [*] Relative Gini	-0.085^{***}	0.008	0.110***	0.041
Low performer* Relative Gini	0.032***	0.007	-0.089^{***}	0.025
Panel 3: Raw wages at the firm level				
High performer? (Top 10% firm raw wages)	0.011***	0.002	-0.011	0.016
Low performer? (Bottom 10% firm raw wages)	0.006**	0.003	0.001	0.010
High performer [*] Relative Gini	-0.081^{***}	0.007	0.148***	0.051
Low performer* Relative Gini	0.074***	0.008	-0.088^{***}	0.029

Table 4. Robustness checks: alternative measures of high and low performers

Note: Models include all controls (including race and firm-year fixed effects) as in Table 3 Models use robust standard errors (clustered by firm year) **** Significant at the 0.1% level; ** Significant at the 1% level; * Significant at the 5% level; † Significant at the 10% level.

Table 5. Robustness checks: alternative measures of the firm's compensation dispersion

	Mode	11	Model 2	
	DV: turr	nover	DV: mobility turn	to spin-out over
Panel 1: Gini coefficient				
High performer? (Top 10% firm wage residuals)	-0.007^{***}	0.002	-0.009	0.014
Low performer? (Bottom 10% firm wage residuals)	0.009***	0.003	-0.015	0.011
High performer* Gini	-0.046^{***}	0.007	0.130***	0.046
Low performer* Gini	0.035***	0.008	-0.047	0.031
Panel 2: 75th percentile/25th percentile				
High performer? (Top 10% firm wage residuals)	-0.016^{***}	0.002	0.012	0.011
Low performer? (Bottom 10% firm wage residuals)	0.011***	0.002	-0.026***	0.008
High performer* 75/25 of firm's wage dist	-0.003^{***}	0.001	0.009**	0.005
Low performer* 75/25 of firm's wage dist	0.004***	0.001	-0.002	0.003
Panel 3: Standard deviation of employees' wage residuals				
High performer? (Top 10% firm wage residuals)	-0.010^{***}	0.002	-0.011	0.016
Low performer? (Bottom 10% firm wage residuals)	0.012***	0.003	-0.018	0.012
High performer* SD of firm's wage residuals	-0.025^{***}	0.005	0.093***	0.036
Low performer* SD of firm's wage residuals	0.018***	0.006	-0.029	0.026

Note: Models include all controls (including race and firm-year fixed effects) as in Table 3. Models use robust standard errors (clustered by firm year).

*** Significant at the 0.1% level; ** Significant at the 1% level.

follow Powell, Montgomery, and Cosgrove (1994) and measure compensation dispersion using the standard deviation of a firm's employees' pay residuals (calculated via Equation 3).⁸ This specification also supports Hypotheses 1-3 (Table 5, Panel 3).

Redefining the sample

We repeated the analysis while restricting the sample to only those with at least 16 years of education to ensure that inclusion of employees with lower human capital (such as secretaries and paralegals) did not drive our results for low performers. The results (not reported because of subsampling and subsequent disclosure considerations) supported all four hypotheses. In sum, we tested our hypotheses with eight different models. Support for Hypotheses 1-3 is robust across all specifications, and Hypothesis 4 is supported in five of the eight models.

DISCUSSION AND CONCLUSION

A firm's compensation dispersion helps determine the ability of its employees to appropriate rent, and thus has an indelible impact on the firm's attraction and retention of human capital. However, scholars have not examined the strategic consequences of this variable on the mobility of talent and on the likelihood of engaging in new venture creation. In this study, we bring strategy surrounding the firm's rent allocation to the fore by examining how its compensation dispersion-relative to that of its competitors-affects the turnover decisions of the firm's high and low performers. A broad scholarly community has interest in compensation dispersion, and we have integrated work in HR management, labor economics, strategy, and entrepreneurship to contribute new insights regarding employee mobility and entrepreneurship. We found that individuals who perform better than their peers are less likely to leave firms with more compensation dispersion relative to the firms' competitors (Hypothesis 1). However, high performers who exit firms with more dispersed compensation

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are more likely to create start-ups than to join established firms (Hypothesis 3). As expected, our results differ for individuals on the other end of the performance spectrum. Those who perform less well than their peers are more likely to exit firms with more dispersed compensation (Hypothesis 2), but less likely to create start-ups if they do exit (Hypothesis 4).

Our results thus suggest that extreme performers (high or low) will migrate toward firms that provide them with the best rewards, underscoring the importance of firm-level competition for talent in determining individual-level rent appropriation (Castanias and Helfat, 1991, 2001; Coff, 1999). While not formally hypothesized, we further investigate whether turnover results in increased rent appropriation by individuals by examining their pre- and post-mobility earnings. Figure 1 shows the pre- and post-turnover compensation of high and low performers in our sample, categorized by the compensation dispersion of the firms they left. Compensation is adjusted for inflation to 2004 levels. Panel 1 depicts the absolute compensation levels, and Panel 2 provides the percent change in compensation from two years before a turnover event.



Figure 1. Compensation patterns for extreme performers pre- and post-turnover

⁸ We used the standard deviation of compensation residuals instead of the Gini because approximately half of the residuals had negative values, and computation of the Gini or coefficient of variation using these values is not feasible (Chen, Tsaur, and Rhai, 1982).

These graphs show several notable patterns. First, regardless of firm compensation dispersion, the average earnings of each group significantly differ. Variation in the compensation of low performers across different compensation dispersion groups is low, but the compensation of high performers in the most dispersed firms is almost five times higher than those of high performers in the least dispersed firms, consistent with the notion that more dispersed firms permit greater value appropriation by high performers (cf. Bloom and Michel, 2002; Coff, 1999). Second, turnover appears to enhance the compensation of high performers by 20-25 percent when they leave firms with low or average dispersion. Notably, this is not the case for high performers exiting the most dispersed firms. The rise in earnings just prior to turnover is consistent with a rise in individual prestige that permits these high performers to 'cash out' of their current firms (Salamin and Hom, 2005). Connecting to our robust support for Hypothesis 3, the post-mobility dip in earnings is consistent with a 'hockey stick' decline in compensation occurring with new venture creation as a result of reconfiguring or transferring human capital, routines, and complementary assets (Campbell, 2012). Since high performers from more dispersed firms are already receiving extreme rewards, the slight decline in their earnings two years after turnover may also indicate that for this group, nonpecuniary considerations trump pecuniary. Finally, low performers experience an almost 20 percent decline in earnings in the year of their turnover but recover quickly, gaining a 10 percent increase two years after the event, regardless of their source firm's compensation dispersion. While not reported, regressions of earnings preand post-mobility support the graphical analysis and indicate that earnings increase after turnover for both high and low performers.

Limitations and future research

This study has several limitations that open avenues for future research. The first is the generalizability of our results. Although empirical work (Malos and Campion, 1995; Sherer and Lee, 2002) has shown that legal services firms are not exclusively tournament based, the legal services setting likely contains more of these types of firms than other industries. In addition, the mechanisms for employee entrepreneurship are likely to be different in professional services than they are in manufacturing (Teece, 2003) because of the lower overhead and greater ease of taking complementary assets from parents to spin-outs (Campbell *et al.*, 2012b). Most importantly, law firms (like any partnership) are different from publicly traded corporations in that the same individuals who have residual claimancy also have residual rights of control. Thus, in law firms, the same people who will benefit from compensation dispersion also implement it. This is different from a public company, where at least one independent director must be on the compensation committee. Thus, further research is necessary to see if our results apply in other industry settings.

Data limitations also affect our analyses. We are unable to differentiate between vertical and horizontal pay dispersion (Gerhart and Rynes, 2003) due to lack of data on the job titles of employees. Although a firm can implement differential rewards using either type of pay dispersion, interesting questions for future work are whether vertical or horizontal pay variance more strongly influences the exit decisions of extreme performers and how the different types of pay dispersion affect decisions to join entrepreneurial firms. Additionally, because employees are not exogenously distributed across firms with different compensation dispersion, our theoretical discussion and empirical results do not attribute or establish a causal relationship between compensation dispersion and turnover. However, our paper does provide evidence of strong correlations, which is important inasmuch as matching, sorting, and selection mechanisms may go a long way in explaining productivity differentials (Jovanovic, 1979; Mindruta, 2012; Agarwal and Ohyama, 2012).

Relying on prior literature, we assumed that entrepreneurship offers high performers higher rewards than working for established firms (Braguinsky *et al.*, 2012; Gort and Lee, 2007; Gimeno *et al.*, 1997). An interesting topic for future research would be to examine the type of compensation dispersion implemented by start-ups to further refine understanding of the relationship between start-up rewards and established firm rewards. For example, do start-ups create compensation dispersion that is radically different from that of their parent firms? How does the presence of a high performer affect the compensation dispersion of a start-up? Answering these questions would further illuminate employees' motivations for starting new firms.

The finding that high performers are less likely to leave firms with more dispersed compensation suggests several puzzles worthy of further attention. If more dispersed firms are more likely to retain high performers, why don't all firms adopt more dispersed compensation? Alternatively, do turnover events cause 'birds of a feather to flock together,' so that firms ultimately have low compensation dispersion around lower and higher average earning levels? These questions underscore the need for future research on the effects of recruitment/retention factors on heterogeneity in compensation dispersion.

Given our interest in examining how turnover decisions are affected by the ability of employees to appropriate value, we focused only on those components of employees' human capital that have exchange value in labor markets. However, the transferability of human capital across organizations may be constrained by a variety of labor market imperfections including firm-specificity of human capital (Becker, 1962), idiosyncratic individual preferences, thin labor markets and mobility constraints (e.g., immigration status; Agarwal, Gaonkar, and Ganco, 2012; and noncompete agreements; Marx, Strumsky, and Fleming, 2009), and imperfect information on employees and firms (Campbell et al., 2012a). If human capital is not easily transferrable to other organizations, high value creating employees may be unable to threaten turnover in order to appropriate the rents they generate for their organization. As a result, their market value does not represent the value they generate for their employer. In our context, this implies that employees who generate extreme value but face labor market imperfections do not have extreme earnings relative to their comparison group and thus are not classified as extreme performers. This distinction has important implications for employees' turnover decisions and for firm competitive advantage and the distribution of rents. Our focus on the aspects of human capital that have high exchange value is an important boundary condition on the interpretation of our results. Expanding the focus to include all aspects of human capital (including those with limited transferability to other organizations) opens up a fruitful avenue of research examining how labor market frictions affect turnover decisions related to mobility and

entrepreneurship, and thus the ability of individuals to match their skills and motivation to different employment contexts.

Contributions

Our study integrates and contributes to several literature streams concerned with the strategic management of human capital. To scholars interested in the strategic management of knowledge, our evidence suggests that the firm's allocation of rent (Castanias and Helfat, 1991, 2001; Coff, 1999) has important consequences for the diffusion and transfer of knowledge to competing organizations. High performers possess disproportionate amounts of a firm's knowledge (Zucker et al., 2002), and providing them greater compensation dispersion relative to competing firms helps limit exits of these individuals, keeping their knowledge inside firm boundaries. However, providing extreme compensation dispersion does not entirely mitigate risks of knowledge leakage through employee exit. High performers are more likely to be entrepreneurial when leaving parents with greater compensation dispersion. These spin-outs-competitive doppelgangers in which the parents' best former employees capitalize on the transfer of knowledge (Agarwal et al., 2004), routines (Wezel et al., 2006), and complementary assets (Campbell et al., 2012b)-have worse consequences for parent firm performance than the exits of high performers to established competitors, particularly in industries like legal services (Campbell et al., 2012b; Phillips, 2002; Wezel et al., 2006).

Further, while scholars have generally examined the different turnover events of mobility and entrepreneurship in isolation, we contribute to the growing literature on the interrelation of the two (Campbell et al., 2012b; Phillips, 2002) by identifying the availability of extreme rewards in a firm as a key contingency to an employee's decision to move to an established competitor or form a new firm. Our insight that compensation dispersion affects the exit decisions of employees differently depending on their performance is particularly important because it helps illuminate why high performers are more likely to found or join start-ups-they may have already maximized their ability to appropriate pecuniary and nonpecuniary rewards within the existing labor market (Castanias and Helfat, 1991).

We contribute to the literature on compensation dispersion by highlighting the comparative and competitive aspects of this construct. Just as employees compare their pay with internal and external individual-level referents (Trevor and Wazeter, 2006), so do they compare the structure of rewards provided across competitors when deciding whether to exit the firm. In this paper, we have highlighted the implications of this comparison for an employee's motivation to appropriate value, but there are likely important implications for social comparison that can be explored as well.

For the organizational literature on turnover, we highlight that not all mobility events are created equal-the destination of a departing employee is an important consideration when studying turnover. Turnover research often does not distinguish between exits to established versus new firms, but the motives for and competitive outcomes of these two types of mobility vary considerably (Campbell et al., 2012b; Klepper and Thompson, 2010). Managers need to design HR practices while being cognizant that they are competing with both new and established firms for the services of high performing employees. Our results suggest that firms need to complement compensation dispersion with other HR practices that encourage the retention of potential entrepreneurs.

We make several contributions to the strategic entrepreneurship literature. In parallel, scholars have examined the correlation of either individual-(Campbell et al., 2012b; Lazear, 2005; Nicolau et al., 2008; Robinson and Sexton, 1994) or firmlevel (Agarwal et al., 2004; Franco and Filson, 2006) characteristics and the decision to create a startup. In combination, these studies suggest that good parents make good progeny (Agarwal et al., 2004), partly because good employees are more likely to be progenitors (Campbell et al., 2012b; Groysberg et al., 2009). We integrate these research streams to show how a parent firm's compensation dispersion does not uniformly affect entrepreneurial exit decisions because employees vary in their aspirations and ability to create new ventures. Our study highlights the importance of parent firms' compensation practices, and suggests that future work should address HR and knowledge management systems when examining spin-outs.

We also provide some preliminary links between research on employee capabilities (Adner and Helfat, 2003; Campbell *et al.*, 2012b; Groysberg et al., 2009; Phillips, 2002) and research on incentives for entrepreneurship (Hamilton, 2000). Our results suggest that while firms can structure compensation to retain high performers, sometimes compensation policies are not enough. High performers in a firm with high compensation dispersion can likely already earn compensation closely commensurate with the value of their talents. Our finding that high performers who leave firms with highly dispersed compensation are more likely to go to new ventures, sometimes forsaking pecuniary rewards in the short term, suggests that perhaps these individuals were not satisfied with the nonpecuniary returns at their old firms. Consequently, our results suggest that a firm's highest performers-the employees most capable of transferring routines and complementary assets-may also have the strongest nonpecuniary incentives for entrepreneurship.

In summary, analyzing extreme performers' exit decisions and firms' compensation dispersion vielded strong support for the idea that high performers are less likely to leave firms that offer more extreme rewards than competitors, but if they do leave, they are more likely to create or join new ventures. Our results also strongly indicate that low performers are more likely to leave firms with extreme rewards and that these low performers are less likely to create or join new ventures upon exit. Thus, our study illuminates the relationship between individual decisions and firm strategy in determining a firm's stocks and flows of human capital. Scholars of employee turnover have understudied how this relationship relates differently to mobility and entrepreneurship decisions. We hope this study stimulates further discussion and examination of how individuals' decisions and firm strategy operate in concert and influence each other.

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