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Female Entrepreneurship and Alternative Opportunities Inside an Established Firm

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Using unique data on mutual funds founded between 1979 and 2005, I assess gender differences in venturing rates. Findings indicate that women are less likely than men to leave current employment to become entrepreneurs. However, female employees are more likely to pursue alternative venturing routes available inside an established organization. The results further show that two main considerations account for higher rates of female-founded ventures inside organizations. First, by launching new ventures internally, women are able to take advantage of the family benefits associated with paid employment. Second, female employees perform better when launching internal rather than external ventures. Overall, the study implies that the rates of female-founded ventures tend to be higher than it has been generally assumed.

Introduction

A central question in the study of entrepreneurship asks who is likely to become an entrepreneur. Numerous studies have addressed this question by examining the impact of individual characteristics and traits on the founding of a new organization (Aldrich and Ruef, 2006; Reynolds, 1991; Thornton, 1999). Scholars have devoted much attention to gender and documented dramatic differences in entrepreneurship rates across women and men, with most studies showing that women tend to be less entrepreneurial (e.g., Aldrich, 2005; Dobrev and Barnett, 2005; Reynolds, Carter, Gartner and Greene, 2004; Ruef, Aldrich, and Carter, 2003; Sørensen, 2007). The gender gap is striking: Women are about half as likely to become entrepreneurs as men (Kim, Aldrich, and Keister, 2006).

Despite the voluminous research, there remains substantial ambiguity about the mechanisms behind gender inequality in the pursuit of new start-ups. Scholars have generally attributed lower rates of female entrepreneurship to structural, financial, and human-capital barriers, which put women at systematic disadvantage. For example, it has been suggested that women are less likely to launch new ventures because of cultural beliefs and gender stereotypes (e.g., Heilman and Chen, 2003; Rosa, Carter, and Hamilton, 1996; Thébaud, 2010), women's relatively small and homogenous social networks (Loscocco et al., 1991; Loscocco and Robinson, 1991; Renzulli, Aldrich, and Moody, 2000), or the lack of entrepreneurial skill (e.g., Lerner, Brush, and Hisrich, 1997). Yet the observed gender gap may reflect an alternative mechanism. A crucial factor that influences the decision to become an entrepreneur is the availability and attractiveness of venturing opportunities inside an organization (e.g., Anton and Yao, 1995; Hellman, 2007; Kacperczyk, 2012; Klepper, 2007). Because employees consider intrapreneurship, or the pursuit of internal ventures, as a viable alternative to entrepreneurship, or the pursuit of external ventures (Burgelman, 1983; Pinchot, 1985), it is plausible that lower rates of female entrepreneurship reflect women's choice to explore internal opportunities instead. Hence, making causal inferences about gender differences in entrepreneurship requires investigating whether there exist gender differences in intrapreneurship as well.

Most prior studies have not considered internal venturing rates and therefore neglected the possibility that female workers may be inclined to substitute the formation of external ventures with

intrapreneurship. This omission reflects a considerable identification challenge: Studies have rarely been able to observe the rates of internal and external ventures in conjunction, raising the concern of erroneous or incomplete causal inferences. But though most extant literature on female entrepreneurship focuses on opportunities outside the firm, I argue, in contrast, that the pursuit of internal options is an important driver of female entrepreneurship simply because women may become intrapreneurs in lieu of launching new ventures externally. To alleviate the limitations of prior research, I take advantage of a clean empirical setting to identify a range of venturing avenues available to employees.

I focus on the U.S. mutual fund industry, in which it is possible to convincingly isolate the rates of internal and external ventures. In this professional context, many traditional explanations are less likely to drive the choice of entrepreneurship, allowing one to isolate the role of internal opportunities more cleanly. In particular, in mutual funds, entrepreneurship is impacted to a lesser extent than in other industries by institutional barriers, such as intellectual property rights (IP) or non-compete clauses. Moreover, mutual funds are less likely than ventures in other industries to represent technologically disruptive threats to the existing competencies of an established firm (Christensen, 1997; Christensen and Raynor, 2003). Hence, in this setting, the locus of a new venture is largely shaped by an individual's choice of a career structure inside or outside the firm. With the current research design, I am thus able to cleanly isolate the following paths of new-venture formation: (1) an absence of venturing activity either internally or externally; (2) a departure from current employment to found a new firm (i.e., entrepreneurship); (3) internal venturing within a current firm (i.e., intrapreneurship); and (4) a departure from current employment to launch a new venture in another firm. In short, I focus on the U.S. mutual fund industry between 1979 and 2005 to examine whether there exist gender inequality in new-venture foundings inside and outside an established organization.

Women's Transition to Entrepreneurship

Past studies on entrepreneurship have provided consistent evidence that women are less likely than men to become entrepreneurs (e.g., Aldrich, 2005; Dobrev and Barnett, 2005; Reynolds, Carter, Gartner, and Greene, 2004; Ruef, Aldrich, and Carter, 2003; Sørensen 2007), or to be self-

employed (e.g., Elfenbein et al., 2010; Hout and Rosen, 2000). A great deal of research on entrepreneurship has focused on understanding the causal processes through which female employees become entrepreneurs. The extant accounts have generally attributed the lower rates of female entrepreneurship to systematic disadvantage associated with three distinct factors: gender discrimination, network disadvantage, and the lack of entrepreneurial skills.

First, studies have suggested that the observed gender gap reflects persistent stereotypes and deep cultural beliefs about women (e.g., Heilman and Chen, 2003; Thébaud, 2010). Although providing evidence for cultural barriers is challenging because of possible confounding factors, a common claim is that gender prevents women from accessing critical entrepreneurial resources. The general argument follows that since entrepreneurship is a male-typed activity (Gupta et al., 2009), women tend to be disadvantaged when trying to accumulate resources critical for entrepreneurial entry and new-venture survival (Gupta and Bhawe, 2007). For example, numerous scholars have found that women are generally perceived as less competent entrepreneurs (Buttner and Rosen, 1988; Thébaud, 2010), or as individuals lacking credibility when seeking entrepreneurial funding (Carter and Cannon, 1992; Moore and Buttner, 1997).

The second category of arguments has related lower rates of female-entrepreneurial entry to persistent network disadvantage that systematically hinders women's ability and willingness to found new ventures. These studies have related women's lack of entrepreneurial initiative to differential network structure and composition (Aldrich, 1989; Aldrich, Reese, Dubini, Rosen, and Woodward, 1989; Cromie and Birley, 1992; Katz and Williams, 1997). Scholars have concluded that gender differences in social networks of entrepreneurs reflect the patterns in the general population (Marsden, 1987; Moore, 1990). First, scholars have documented women's over-investment in strong ties, which tend to limit the access to instrumental support needed for entrepreneurship (Fischer and Oliner, 1983). Moreover, female entrepreneurs form relatively smaller and less heterogeneous networks than male entrepreneurs (e.g., Aldrich 1989; Aldrich, Elam, Reese, 1997; Aldrich, Reese, and Dubini, 1989; Cromie and Birley, 1992; Ruef, Aldrich, and Carter, 2003; Renzulli, 1998), shown to constrain

the flow of diverse information needed to identify venturing opportunities (Aldrich, 1989).

Finally, scholars have argued that women lack the kinds of predispositions, skills, and knowledge conducive to entrepreneurship. Because an individual's skills are difficult to observe directly, studies have generally inferred women's lack of entrepreneurial skills from two types of empirical patterns. First, female employees tend to be concentrated in low-profitability industries and occupations unlikely to facilitate the acquisition of entrepreneurial skills (Loscocco et al., 1991; Loscocco and Robinson, 1991; Kalleberg and Leicht, 1991). Put differently, structural inequalities in occupation status, observed in the overall population, carry over to entrepreneurship and hinder women's exposure to knowledge and training conducive to new-venture founding (Belcourt et al., 1991; Hisrich and Brush, 1984; Loscocco et al., 1991). Second, researchers have inferred women's lack of entrepreneurial skills and experience from relatively poor performance and small size of women-owned ventures (Hisrich and Brush, 1986, 1987; Hisrich 1989; Loscocco and Robinson, 1991). For example, past studies have consistently shown that women exhibit lower rates of success at generating credit histories attractive to formal lenders, or developing the types of ventures that successfully engage the interest of venture capitalists (e.g., Carter and Kolvereid, 1997). Combined, past research has suggested that women are significantly disadvantaged when accruing social, human, and financial capital conducive to new-venture formation.

But despite the rich empirical evidence, the mechanisms behind the lower rates of female entrepreneurship remain relatively unclear. Past studies have generally neglected the crucial factor that influences the decision to become an entrepreneur: the availability of venturing opportunities inside an established firm. Yet numerous studies have documented that employees are often exposed to venturing opportunities not only outside but also inside the firm (e.g., Burgelman, 1983; 1984; Pinchot, 1985). It has been further established that the attractiveness and availability of internal options has a considerable influence on whether an employee becomes an entrepreneur at all (e.g., Anton and Yao, 1995; Hellman, 2007; Kacperczyk, 2012; Klepper, 2007). For example, Kacperczyk (2012) found that employees with entrepreneurial bents were less likely to become entrepreneurs

when they were exposed to more attractive venturing opportunities in their current employment. Moreover, Klepper (2007) documented that employees transitioned to entrepreneurship at higher rates when internal options were unattractive, as reflected by an employee's strategic disagreement with the employer. Finally, there is evidence that employees consider entrepreneurship and intrapreneurship as close substitutes (e.g., Burgelman, 1983; Covin and Slevin, 1990; Kirzner, 1973; Lumpkin and Dess, 1996; Shane, 2003; Stevenson and Jarillo, 1996). Both career structures enter into an individual's choice model and are taken into consideration by employees with entrepreneurial bents. From an employee's perspective, internal venturing offers an attractive career venue (Burgelman, 1983; 1984; Kacperczyk, 2012; Pinchot, 1985). By becoming intrapreneurs, employees are able to act entrepreneurially within the structure of an established organization, exploiting a new opportunity that leads to the founding of a new venture, or a new division within an existing organization (Antoncic and Hisrich, 2003; Burgelman, 1983; 1984; Hellman, 2007). Combined, these studies imply that employees reveal lower odds of launching new start-ups externally when internal opportunities are attractive.

Because the availability of internal venturing options impacts whether an individual becomes an entrepreneur, considering internal opportunities is crucial for making reliable inferences about the gender gap in entrepreneurship and the causal mechanisms behind it. To investigate these processes, I take advantage of a unique research design that allows me to account for the rates of female-founded and male-founded ventures both inside and outside an established firm.

Empirical Context: Intrapreneurship and Entrepreneurship in Mutual Funds

Most prior studies have not considered the rates of intrapreneurship because internal venturing is rarely visible to researchers. This study offers a unique advantage over past research by identifying an exceptionally clean setting in which it is possible to observe a range of venturing routes available to male and female employees. In particular, with the current research design, I am able to convincingly measure the following avenues of new-venture formation: (1) an absence of

venturing activity either internally or externally; (2) a departure from current employment to found a new firm (i.e., entrepreneurship); (3) internal venturing within the current firm (i.e., intrapreneurship); and (4) a departure from current employment to launch a new venture in another firm. By choosing a context in which the pursuit of these different career structures can easily be observed, it is possible to isolate with precision the mechanisms responsible for the gender gap in an employee's transition to entrepreneurship.

I take advantage of the U.S. asset-management industry between 1979 and 2005 to examine whether there exist gender differences in the rates of new-venture foundings inside and outside an established firm. In this period, the industry has experienced unprecedented growth, as the population of new funds has expanded exponentially over the past three decades. A mutual fund is a financial company that pools money from multiple investors to make investments in securities such as stocks or bonds. Each fund is supervised by a manager responsible for buying and selling securities based upon investment judgment and extensive financial research (Chevalier and Ellison, 1999). A collection of funds bound together by a brand name, shared distribution channels, research managers, and traditions—such as Fidelity, Vanguard, American Funds, T. Rowe Price, and Janus—constitutes an organization called an asset-management firm. The number of mutual funds grew from 564 in 1980 to over 8,000 in 2010. By 2010, there were more mutual funds in the U. S. than companies listed on the U.S. stock exchanges, and mutual funds have become the most significant corporate owners in the U. S., holding 25% of the outstanding shares of all publicly traded U.S. companies. At the end of 2009, mutual funds managed more than \$12 trillion in assets for nearly 90 million U.S. investors (Investment Company Institute, 2010).

Methods and Data

I obtained data on mutual funds from the Center for Research in Security Prices (CRSP) Survivorship-Bias-Free U.S. Mutual Fund Database on all live and defunct funds in the U.S. between 1979 and 2005. The main advantage of this database is that it provides rich monthly data on all types of mutual funds, including equity, bond, money market, and international funds. The main fund

characteristics include information on fund returns, age, and investment objectives. The complete database includes the entire population of 8,013 mutual funds. In addition to information on funds and asset-management firms, I compiled data on fund managers. Using the Morningstar Mutual Funds OnDisc databases, I constructed each manager's monthly career history in the industry; that is, I identified each manager's name, mutual fund employers, dates when their tenures began and ended in any asset-management firm, and the particular funds they supervised during the period of the study. The total sample includes 7,447 fund managers with complete career history data between 1979 and 2005. I used manager-month as the unit of analysis to facilitate the assessment of the focal manager's pursuits of different venturing paths. To that end, I aggregated observations across funds for any manager who supervises more than one fund in a mutual fund company. For robustness, I conducted the analyses on non-aggregated data and obtained the same results.

Dependent Variables

I used a categorical variable as the main dependent variable in my analyses. The variable specifies four distinct opportunity structures and varies monthly between the years of 1979 and 2005.

Absence of venturing activity. I coded the variable as "0" if an employee did not engage in any form of a venturing activity inside or outside at time t and $t + 1$. This category encompasses managers who continue supervising their current fund at time t and $t + 1$, as well as managers who are appointed to supervise an already existing internal fund at $t + 1$.

Entrepreneurship. The dependent variable equals 1 if an employee acts as an entrepreneur at time $t + 1$. Entrepreneurship indicates an event whereby a fund manager exits the parent company to launch an independent fund. For mutual fund managers, entrepreneurship typically involves either launching another mutual fund or a hedge fund.¹ Hence, I considered both types of transitions as the instances of entrepreneurship. To identify hedge fund foundings, I used the Lipper TASS Hedge Fund

¹ Although the two types of organizations have different regulatory constraints, mutual funds and hedge funds are essentially similar in that they represent professionally managed collective investments that pool money from multiple investors and typically invest in investment securities, such as stocks or bonds. However, for robustness, I focused on the creation of mutual funds only and obtained quantitatively and qualitatively similar results.

Database that tracks information on live and the defunct hedge funds and the managers in charge of them. The database is considered highly suitable for academic research because it provides the most complete and accurate information on hedge funds (Liang 2000). Because the data report the name of each fund manager, they allow for identification of individuals who left the mutual fund industry to found a hedge fund.

Entrepreneurship is coded as “1” if the manager’s appearance in the company coincides with the company’s founding year and month. Unfortunately, the database does not report with precision the founder of a new fund. However, it is reasonable to assume that a manager who joins a new fund at the time this fund has been founded is likely to be either the fund’s founder or one of the fund’s co-founders. To further improve identification, I only focused on cases in which a manager’s appearance in the newly founded venture is followed by that manager’s disappearance from the previous company.

Intrapreneurship. The variable is coded as “2” if an employee enters intrapreneurship at time $t + 1$. Operationally, intrapreneurship is distinct from other changes in tasks and functions inside the firm: it indicates an event whereby a fund manager is associated with launching a new mutual fund that did not exist inside the current firm before (e.g., Burgelman, 1983a; Lumpkin and Dess, 1996). In particular, the variable equals 2 if the fund manager’s starting date of a new fund’s supervision coincides with that fund’s inception date inside the firm, and 0 otherwise. By contrast, I coded as “0” other internal job changes, which include the instances in which a manager joins an already existing fund inside the parent firm. Moreover, I limited the set of fund managers at risk to enter intrapreneurship in the current firm to individuals employed in the firm for at least six months prior to the new fund’s inception in order to mitigate the possibility that my measure of intrapreneurship is confounded with the firm’s decision to hire external talent in order to supervise a new but already-existing venture.²

² The results are robust to alternative interval specifications, such as 10 months or 1 year.

Lateral Moves. The variable is coded as “3” if an employee makes a lateral move to launch a new venture in another existing firm at time $t + 1$. A well-established line of research has documented that employees often leave to join competing firms in order to exploit innovative ideas (2010; Groysberg and Lee, 2009; Rao and Drazin, 2002) and introduced their own strategic initiatives (Boeker, 1989). I considered those instances as a conceptually distinct category because lateral moves combine features of both intrapreneurship and entrepreneurship. On the one hand, lateral moves are similar to intrapreneurship in that they occur inside an established firm and rely on complementary assets provided by that firm. On the other hand, lateral moves are similar to entrepreneurship in that they involve an employee’s exit from the current firm in pursuit of an external venture. To measure lateral moves, I coded dependent variable as “3” if an employee’s joining of the outside organization at time $t + 1$ coincides with (a) the formation of a new fund inside that organization; and (b) an employee’s appointment to supervise the new fund.

All New Ventures. Finally, I constructed a measure that combines all types of venturing paths into a single outcome. The measure is coded 1 if an employee engages in any type of venturing activity, including the pursuit of intrapreneurship, entrepreneurship, or a lateral move at time $t + 1$. The measure is coded 0 if an employee does not pursue any venturing activity at time $t + 1$.

Explanatory and Control Variables

Gender. The main explanatory variable is gender. I constructed a dummy variable coded as 1 if an individual is a male and 0 otherwise. Unfortunately, the CRSP dataset does not provide information regarding fund manager’s gender. However, as CRSP reports managers’ first, middle, and last names, I extracted these data to identify a fund manager’s gender. To construct the gender variable, I used the U. S. Social Security Administration (SSA) name list. This publicly available list contains the most popular first names by gender for the last ten decades, accounting for differences in spelling. To identify managers’ gender based on their name, I merged the SSA list with the names of mutual fund managers. For names that are difficult to classify according to gender, I used the middle name, if available. For international names, I conducted an additional search using on-line resources,

fund prospectuses, and press releases. Finally, I collected the missing data for gender by using fund managers' photographs available on-line.

Social Ties. I further accounted for social capital by constructing a time-varying measure of an individual's network size. Prior research has suggested that professional networks play an important role in influencing transition into entrepreneurship (e.g., Ding, Murray, and Stuart, 2006; Stuart and Ding, 2006). In particular, I focused on an individual's co-worker network, consistent with past literature (e.g., Stuart and Ding, 2006). Two managers were coded as having shared a co-worker tie when they co-managed a fund in the same firm. Finally, I constructed a time-varying measure, *Employee's Network Size*, which represents a cumulative count of all co-workers for any given manager over time.

Human Capital, Experience, and Skills. I further controlled for managers' skills and human capital. I proxied for an employee's human capital with educational attainment, coded as "1" if the focal individual received a graduate degree (MBA, MA/MS, JD, or PhD), and 0 if they received a bachelor degree (BBA, or BA/BS). Moreover, I controlled for an employee's performance, measured as monthly fund return available via CRSP. For managers who supervise multiple funds, I calculated an average monthly total fund return. Finally, I controlled for fund manager's industry experience, by including a measure of firm and job tenure. Prior research has used job and firm tenure to proxy for accumulation of job-specific or firm-specific experience. I constructed two variables: (a) tenure in the current firm as dating from the first month an individual was recorded as having worked in the firm; and (b) tenure in the job as dating from the first month an individual was recorded as having worked as a portfolio manager. These variables are measured in years. Because both measures are highly skewed, I winsorised them at a 5% level to reduce the effect of outliers (Dixon, 1960). For robustness, I took a natural logarithm of job and firm tenure and found the same results.

Opportunity Cost. An important determinant of entrepreneurial transition constitutes the opportunity cost of leaving current employment. Higher opportunity cost should reduce the probability that an employee launches a new venture outside. Fund managers are likely to face higher

opportunity costs of leaving current employment when present returns to funds they supervise are greater relative to returns that they could earn outside. To proxy for one's opportunity cost of leaving current employment, I constructed a measure that calculates a fund's return for the focal manager at time t relative to return of funds supervised by other managers in the industry. To this end, I subtracted the focal manager's monthly fund return from the average monthly fund return of other managers in the industry. For managers who supervised multiple funds, I calculated the average monthly fund return. To facilitate the results' interpretation, I took the inverse of the measure to indicate that the opportunity cost of leaving current employment increases with higher values of my measure.

Organizational Attributes. I additionally controlled for firm size, age, and performance. To measure size, I used a natural logarithm of the total assets under management. This variable is observed monthly. Age is the number of years since the firm's inception. I used the CRSP data to extract the date of incorporation for each mutual fund company. Firm performance is calculated as the average fund return for the focal firm using a value-weighted approach that involves multiplying each fund's return by its relative size in the investment firm and taking the sum across all weighted fund returns in the firm. I excluded performance of the focal fund manager. Moreover, I included a control for the extent to which a firm is diversified. On the one hand, diversified firms may be more open to implementing new ventures and enhancing an employee's initiative to launch a new venture internally. On the other hand, diversified firms may be less likely to assimilate new ventures because of a higher probability of cannibalization of existing ventures by any new venture. To measure the extent of firm diversification, I counted the number of funds with different investment objectives within any given firm. In addition, I controlled for firm cash flow because firms with greater cash flow proxy for slack resources in the firm and the firm's ability to better promote internal ventures. I proxied for cash flow using outside fund flows measured as firm total assets at time t minus firm total assets at time $t-1$ multiplied by return on the firm from period $t-1$ to t . For ease of comparison, I

divide cash flow by firm total as sets at time t-1. Hence, this variable measures monthly changes to proxy for how much new money flows into funds period by period.

I further accounted for the degree of bureaucratization that may influence the employee's propensity to leave as opposed to stay to launch a new venture. While previous studies have inferred bureaucratic stultification based on firm size and age, I instead used direct measures of bureaucratization. Task discretion and breadth were used to reflect the extent of bureaucratization in the firm. To measure task discretion, I focused on managers' decision-making power over the supervised funds. Relative to individually managed funds, team-managed funds impose greater constraints on managers' discretion to select stocks to buy and sell. Consistent with this claim, past research suggested that managers supervising funds with others experience reduced discretion (Bar, Ciccotello, and Ruenzi, 2008). Hence, for each manager, I counted the number of co-managers with whom the focal manager supervises any given fund. Since a higher number of co-managers indicates lower discretion, I took the inverse of this measure to facilitate interpretation. Finally, I calculated the average discretion for any manager who supervises more than one fund. To proxy for task breadth, I counted the number of distinct investment objectives associated with funds currently under the focal manager's supervision. The greater the variety of funds' objectives, the greater the probability that a manager holds a variety of skills necessary to satisfy different customer segments. To identify a fund's investment objectives, I used the Standard & Poor's Classification System that distinguishes 176 unique fund categories. I divided the number of distinct funds supervised by the focal manager by the total number of distinct funds in the firm in order to adjust for firm-level attributes.

Model Specification

I employed continuous-time, event-history techniques as the primary empirical method to assess the potential gender differences in venturing rates. An important advantage of the event-history analyses is that they take into consideration the possibility of temporal variations in the probability of transition to available states. Though event-history techniques have been implemented as the main specification, I was able to replicate all findings using multinomial logit and multinomial probit

models (McFadden, 1973). The dependent variables in my analyses are instantaneous rates of transition to a venturing activity, defined as,

$$r_m(t) = \lim_{dt \downarrow 0} \text{prob} \left(\frac{t \leq T < t+dt | T \geq t}{dt} \right),$$

where $r_m(t)$ is the hazard rate of movement from one state to another, $\text{prob}(\cdot)$ is the probability of movement between times t and $t+dt$, given that an individual is in the sample at time t . The main analyses were performed at an individual level and modeled as competing risk: each individual is at risk of transitioning to one of the four events (i.e., entrepreneurship, intrapreneurship, a lateral move, or any venturing activity). Duration was defined as time (in months) elapsed since an individual enters the sample or the time since the last transition. Since virtually all individuals are represented more than once, this may lead to inflated t-statistics of the effects of individual-level characteristics. I therefore adjusted for clustering standard errors at the individual level to provide robust-variance estimates (Lin and Wei, 1989).

The main analysis produces four sets of parameter estimates, one corresponding to each of three types of transitions. I modeled the hazard rate using semiparametric Cox models (Cox, 1972), a common approach used to model competing risk-survival data (e.g., Box-Steffensmeier and Jones, 2004). This technique involves conducting analysis for each event type separately, while treating other competing events as censored categories. The Cox model takes the form,

$$h(t) = q(t) \exp\{\alpha'X(t)\},$$

where $h(t)$ is the hazard rate of transitioning to a venturing destination at time t , $q(t)$ is a (possibly time-dependent) unspecified baseline rate, $X(t)$ is a vector of covariates, some of which may vary over time, and α' is the vector of coefficients corresponding to covariates. An important advantage of the Cox model is that this analysis technique does not make any particular assumptions about the effect of time on the hazard rate. Instead, the coefficient estimates α' measure changes in the baseline rate due to the covariates in X , assuming that $q(t)$ does not depend on the covariates and that all such changes are proportional. This model was particularly appropriate for my analyses

because the initial non-parametric results fit no simple parametric formulation and reveal no clear pattern regarding the effect of time on the hazard rate. Moreover, a notable feature of this technique is that the Cox model provides high-quality estimates even when many observations are right-censored (Tuma and Hannan, 1984). By contrast, discrete-time analyses discard information on censored events, leading potentially to biased estimates (Blossfeld and Rohwer, 1995).

Analysis and Results

The final sample contains 518,250 manager-month observations, of which 465,485 have a male managers and 52,765 have a female manager. There are 922 women and 6,591 men in the sample. Moreover, there are 3,682 transitions to intrapreneurship, 658 transitions to entrepreneurship, and 979 cases of lateral moves to launch a new fund in another firm. Women represent 12% of all fund managers. The data further reveal that female managers are on average younger (46.6 years old) than male managers (47.1 years old) ($p < 0.1$). Female managers have an average firm tenure of 51.6 months, while male managers have an average firm tenure of 58.6 months ($p < 0.01$). Moreover, women in the sample are more likely to hold an MBA degree ($p < 0.1$), while men are more likely to hold a PhD degree ($p < 0.1$). As these characteristics might influence fund-managers' behavior, I controlled for them in the following analyses. Table 1 reports descriptive statistics and correlations for the main variables.

Insert Table 1 about here

Table 2 presents results from continuous-time, event-history analyses, estimated using competing-risk Cox models at the individual level. Employees who stay put and do not launch new ventures are treated as a base category. First, I estimated the Cox regression model to explore whether the rates of entrepreneurship differ by gender (Model 1). Results reported in Model 1 are consistent with the findings documented in prior existing studies (e.g., Aldrich, 2005; Dobrev and Barnett, 2005; Reynolds et al., 2004; Ruef, Aldrich and Carter, 2003; Sørensen, 2007): Women exhibit lower odds

of becoming entrepreneurs. Without any further analyses, this finding could be easily attributed to gender disadvantage alone.

To further explore the mechanisms behind gender inequality in entrepreneurship rates, I estimated the competing-risk Cox models, called Model 2, Model 3, and Model 4. In these analyses, I estimated the hazard of intrapreneurship (Model 2), the hazard of moving to another organization to start a new venture (Model 3), and the hazard of starting any type of a new venture internally or externally (Model 4). My findings offer two important conclusions. First, they provide clear support for the hypothesis that women tend to take advantage of internal opportunities: Model 2 shows a negative and statistically significant coefficient of Gender, indicating that women have a higher propensity than men to become intrapreneurs. Model 3 further reveals that relative to men, women are not more or less likely to leave for another firm to launch a new venture. Finally, the results presented in Model 4 reveal a non-significant coefficient of Gender to predict the hazard of any venturing activity. This finding is striking because it puts the conclusions of prior studies in a novel light: Once different venturing routes have been combined into a single outcome, the gender gap disappears. Overall, the analyses provide compelling evidence that, though women are less likely to pursue entrepreneurship as a labor-market strategy, they nonetheless reveal higher odds of exploring venturing opportunities inside.

Additional results in Table 2 show the impact of various individual and organizational attributes on an individual's choice between entrepreneurship and intrapreneurship. An increase in bureaucratization, as indicated by narrower task breadth, reduces the hazard of intrapreneurship but increases the hazard of entrepreneurship. Similarly, employees equipped with lower-task discretion are more likely to pursue intrapreneurship than employees equipped with higher-task discretion. The hazard of any venturing activity, as presented in Model 4, is also positively correlated with task discretion. By contrast, there is no effect of task discretion on the transition to entrepreneurship. The results further indicate a positive correlation between an employee's performance and intrapreneurship. Similarly, Model 4 shows that better performing employees are more likely to

undertake any type of venturing activity, whether inside or outside the firm. Additionally, the findings indicate that an employee's age is an important predictor of transition to both entrepreneurship and intrapreneurship. The effect of an employee's age on the pursuit of intrapreneurship and entrepreneurship is non-linear, as indicated by the negative coefficient of age squared. I interpret this finding as indicating that younger employees are more likely to take risks associated with intrapreneurship and entrepreneurship, but that this negative effect of age tends to decrease as an employee's age increases. The results further show that the opportunity cost of leaving current employment is negatively correlated with the hazard that an employee will launch a new venture, either internally or externally: Employees are less likely to start new ventures when present returns to funds they supervise are greater relative to returns that they could earn externally. This suggests that the opportunity cost strongly shapes the motivation and willingness to explore novel opportunities. Finally, the results show that firm tenure and job tenure are important predictors of venturing. I found that an increase in firm tenure leads to an increase in the hazard of intrapreneurship. Conversely, the results indicate a negative relationship between job tenure and venturing inside as well as outside the firm. This finding is consistent with prior research that documents the negative influence of job tenure on inter-organizational mobility (e.g., Tuma, 1976; Haveman and Cohen, 1994).

Insert Table 2 about here

Internal Venturing: Mechanisms

The analyses so far have provided evidence for the main proposition that men and women are differentially distributed across intrapreneurship and entrepreneurship. In the following section, I probed deeper for the causal processes behind these empirical patterns. In particular, I investigated two principal explanations: (1) work-family demands, and (2) new-venture performance.

Are Gender Differences Driven by Work-Family Demands?

It is well established that men and women reveal different lifestyle preferences and constraints that have a significant impact on their career aspirations (e.g., Correll, 2004; Fernandez-Mateo and King, 2011). Gender differences in preferences and beliefs about career paths will likely affect the choice between intrapreneurship and entrepreneurship. In particular, past studies have provided evidence that women face considerable work-family conflicts, as they carry major responsibility for childrearing and household chores (Aryee, 1992). Given the acute work-family demands, finding time and resources to launch an independent venture may be more challenging for women than for men (Aldrich and Cliff, 2003). In fact, it has been suggested that childrearing and household obligations partially drive lower rates of female-founded ventures (Carter, 1994). These findings imply that intrapreneurship may appear more attractive to female than to male employees. This is because by becoming intrapreneurs, women will be better positioned to take advantage of the ample family-related amenities, typically provided to employees by established firms. In sum, then, women with entrepreneurial bents will be more attracted to internal-venturing paths than to external venturing-paths because of valuable family-friendly policies available via paid employment.

To investigate whether gender distribution across intrapreneurship and entrepreneurship reflects differential work-family demands, I estimated the influence of maternity-leave legislation on an individual's choice of a venturing route. Maternity-leave legislation acts as a useful identification tool because it represents an exogenous source of variation in work-family demands. Maternity-leave statutes mitigate work-family conflict, by mandating that employers provide unpaid maternity leave and that a position is guaranteed at the end of the maternity leave (Baum, 2003; Han and Waldfogel, 2003). Importantly, the legislation generally applied to established employers with fifty or more employees rather than to small start-ups (Baum II, 2003), making these benefits available to intrapreneurs but not entrepreneurs. If women value family-related amenities offered by established firms, intrapreneurship rates should increase more for women than for men, following the passage of maternity-leave legislation. To test this claim, I focused on the effects of state-level statutes that mandated job-protected maternity leaves for women between 1979 and 2006, consistent with prior

studies (Baum II, 2003).³ To identify the state location for each mutual fund in the sample, I extracted data on funds' geographic location from the CRSP database. After merging the information, geographic location is available for 84% of all observations in my sample. One important concern is that the missing geographic data may introduce a selection bias into my analyses, if firms with missing records are systematically different from firms with non-missing records in a way that correlates with intrapreneurship rates. However, if such selection bias is present, it would be attenuated to the extent that only a small fraction of firms have missing records for geographic location. Nonetheless, to assuage this concern, I examined whether firms and employees with missing and non-missing data exhibited any significant differences in their main characteristics. The results (available upon request) showed non-significant differences between observations with missing and non-missing location records.

To examine whether maternity-leave legislation had a different effect on men and women, I implemented the difference-in-difference-in-differences (DDD), a highly conservative approach to estimate the impact of the maternity-leave statutes on women's propensity to pursue intrapreneurship. A simplified analysis would compare female intrapreneurship rates before and after the passage of legislation to isolate the effect of the laws on intrapreneurship. Yet one concern is that the observed correlation between the legislation and female intrapreneurship rates may be driven by an unobserved time trend, making it difficult to rule out the possibility that female intrapreneurship increased due to non-legislation-induced events. The DDD method alleviates this concern by allowing one to choose a control sample of individuals not directly affected by the legislation. Therefore, for each state, I included a "treatment" group comprised of women and a "control" group comprised of men. Importantly, because the passage of the maternity legislation is staggered over time, the control group is not restricted to firms incorporated in states that never passed the legislation, but also contains the firms incorporated in states that have not passed a maternity-leave legislation by time t . Operationally,

³ The statutes were passed in the following states: California, Connecticut, DC, Maine, Minnesota, Massachusetts, New Jersey, Oregon, Rhode Island, Tennessee, Vermont, Washington, Wisconsin.

I captured the effect of intrapreneurship due to the maternity-leave legislation by estimating the following model:

$$C_i = \alpha_i + \beta_1 \text{Maternity Leave Legislation}_{kt} + \beta_2 \text{Gender}_i + \beta_3 (\text{Maternity Leave Legislation}_{kt} \times \text{Gender}_i) + \beta_4 \text{Controls} + \varepsilon_i$$

where C is the characteristic that may be subject to maternity-leave legislation; Maternity Leave Legislation is an indicator variable, equal to 1 if a maternity-leave law has been passed in state k by time t and 0 otherwise. Controls is a vector of fund-specific covariates affecting intrapreneurship. In this specification, the coefficient of primary interest is β_3 , which captures the differential effect of the maternity-leave legislation on men and women and is based on the coefficient of the interaction term between two variables, Maternity Leave Legislation \times Gender. In all regressions, I clustered standard errors at the state level to account for arbitrary correlations of the error terms across different individuals in a given state over time.⁴

Table 3 presents competing-risk Cox models to estimate the hazard to transition to entrepreneurship and intrapreneurship. These analyses lead to two important conclusions. First, the results reported in Model 1 Table 3 show a positive coefficient of Maternity-Leave Legislation, indicating that the individual rates of intrapreneurship generally increase, following the legislation passage. The interaction Maternity Leave Legislation \times Gender further examines whether an increase in intrapreneurship is different for men and women. The negative coefficient indicates that an increase in internal venturing rates is greater for women than for men. Model 2 reports the results for the impact of maternity-leave legislation on transition into entrepreneurship. Strikingly, the coefficient is not statistically significant, indicating that the influence of maternity-leave legislation on entrepreneurship is not different across men and women. These analyses provide clear evidence that higher rates of female intrapreneurship are driven in part by work-family demands, which enhance women's preferences for paid employment. Models 3-5 further present numerous robustness checks to account for alternative explanations. An important concern may be that the correlation

⁴ For robustness, I clustered standard error terms at the individual level and obtained similar results.

between legislation passage and intrapreneurship is spurious, if state-level characteristics drive both the rates of intrapreneurship and the maternity-leave legislation. For example, wealthier states may be more likely to pass the legislation and have higher rates of female intrapreneurship. Similarly, states with a higher concentration of mutual funds (i.e, states located in the Northeast) may be more prone to pass maternity-leave legislation. An effective way to mitigate this concern is to control for state-level attributes, such as time-varying economic conditions and funds' geographic concentration. I accounted for economic conditions by controlling for Gross Domestic Product (GDP) at the state level.⁵ I obtained the data on state-level GDP from the U.S. Department of Commerce Bureau of Economic Analysis. Moreover, I controlled for mutual funds' concentration across geographic space. Because mutual funds are concentrated in the Northeast, I constructed an indicator variable, Northeast, equal to 1 if a firm is located in the Northeast, and 0 otherwise.⁶ I re-estimated the hazard of intrapreneurship (Model 3) and entrepreneurship (Model 4), controlling for time-varying state-level GDP and the Northeast concentration. The results presented in Models 3-4 are robust to the inclusion of these additional control variables. Although these models strengthen confidence in the findings, the results may still be subject to a spurious correlation if unobserved state-level characteristics drive both the passage of the legislation as well as the rates of intrapreneurship. To mitigate this concern, I re-estimated the models with a state-fixed-effect estimator to control for the time-invariant state-level characteristics that may spuriously drive the rates of intrapreneurship and the passage of maternity-leave legislation. The results, reported in Models 5-6 are robust to this alternative specification: the coefficient of Maternity Leave Legislation \times Gender is negative and statistically significant, as reported in Model 5, and positive but not statistically significant, as reported in Model 6. These results indicate that the observed empirical patterns do not arise due to unobserved heterogeneity at the state level.

⁵ Current dollar GDP by state is measured in millions of current dollars.

⁶ The Northeast comprises New York, Connecticut, Rhode Island, Vermont, Maine, Pennsylvania, New Hampshire, Massachusetts, and New Jersey.

Insert Table 3 about here

Are Gender Differences Driven by Differential Performance of New Ventures?

A differential gender distribution across venturing paths may further arise from the fact that men and women differ in their performance as entrepreneurs versus intrapreneurs. That is, gender sorting across venturing routes may reflect differences in potential returns men and women are able to derive when choosing any given venturing option. Perhaps women are less likely to leave current employment to launch a new start-up because they tend to underperform as future entrepreneurs. This further implies that female workers would likely lack the motivation and willingness to form an external start-up, based on the expectation of low future returns from entrepreneurship. By contrast, if women derive higher returns from launching internal ventures, they will likely exhibit a greater tendency to self-sort into intrapreneurship. Consistently, the supply-side explanations suggest that women may become intrapreneurs in anticipation of the future returns from founding and managing a new venture inside the firm. Parallel to the supply-side perspective, the demand-side explanations suggest that employers may hold implicit or explicit preferences for female intrapreneurs. If women outperform when launching internal ventures, employers will tend to favor female intrapreneurship, based on the expectation that women's differential capabilities represent an optimal match for intrapreneurial jobs and tasks (Jovanovic 1979; March and March 1978).

To test those arguments, my empirical approach involved investigating gender differences in performance of intrapreneurs and entrepreneurs. I first constructed a subsample of intrapreneurs, or fund managers who started new funds internally, to examine whether female intrapreneurs outperformed relative to male intrapreneurs. This subsample was further limited to equity funds because performance of equity funds is directly quantifiable and easily attributed to managers' expertise and skills (Golec, 1996). I then constructed a subsample of entrepreneurs, or fund managers who started new funds externally, to assess whether female entrepreneurs underperformed relative to male entrepreneurs. Again, I limited the subsample to equity funds to facilitate performance

comparisons across funds. The unit of analysis was manager-fund-month, which allowed me to directly assess the association between fund performance and fund manager's gender. I used the linear regression analysis to estimate two separate models, with performance of intrapreneurs and performance of entrepreneurs as the dependent variables. I used fund's monthly risk-adjusted return as a measure of performance to account for the possibility that returns may reflect the overall market volatility (e.g., Carhart, 1997; Daniel, Grinblatt, Titman and Wermers, 2012). Risk-adjusted return is measured as the difference between a fund's return and a market's return, as represented by the passive benchmark. I focused on the S&P 500 because this benchmark has been commonly used to assess performance of equity funds (Simons, 1998). The dependent variables were lagged by one month to account for simultaneity concerns. For robustness, I used quarterly lags and obtained the same results. Moreover, both models included time-fixed effects to control for potential economy-wide shocks. Finally, standard errors were clustered at the fund-manager-level to account for correlations of the error terms across different individuals over time.

The results reported in Table 4 provide clear support for my hypotheses. As reported in Model 1, there are striking gender differences in performance of intrapreneurs. Female intrapreneurs tend to outperform relative to male intrapreneurs, as shown by the negative and statistically significant coefficient of Gender in Model 1. I interpret this result as indicating that women are more likely to undertake intrapreneurial tasks based on the expectation of higher future returns. It is also plausible that employers favor female intrapreneurs based on women's ability to derive superior returns when launching and managing internal ventures. Model 2 further estimates gender differences in performance of entrepreneurs. Strikingly, these results document the opposite pattern: Female entrepreneurs underperform relative to male entrepreneurs, as shown by the positive and statistically significant coefficient of Gender. This finding is consistent with the notion that women tend to launch new ventures internally rather than externally because they achieve higher levels of performance as intrapreneurs.

Moreover, several additional controls in both models are worth mentioning. I controlled for

fund characteristics that may exert an influence on fund performance. In particular, I accounted for a fund's age, size, turnover, load, and inflows. Fund Age was measured monthly as a natural logarithm of the number of months since the fund's inception. Fund Size was measured monthly as a natural logarithm of assets under fund management. Fund Turnover represents the percentage of a fund's holdings that have changed over the past year, bought and sold by the manager. Turnover rate is reported annually and derived from the CRSP database. Fund Load represents one of the primary fund expenses and indicates one-time fees paid directly by investors. Load is derived from the CRSP database. Finally, Fund Inflows are measured as the net of the fund's cash inflows and outflows on a monthly basis. Net inflows generate excess cash for managers to invest, which may affect fund performance. Overall, these analyses document that the striking differences in performance across men and women are likely to play an important role in driving the persistent gender gaps in intrapreneurship and entrepreneurship rates alike.

Insert Table 4 about here

DISCUSSION

Past studies have shown that women are less likely than men to transition into entrepreneurship (e.g., Aldrich, 2005; Dobrev and Barnett, 2005; Reynolds et al., 2004; Ruef, Aldrich and Carter, 2003; Sørensen, 2007). Although scholars have commonly attributed this significant gender gap to numerous structural, financial, and human-capital barriers, the extant accounts have overlooked the possibility that women may choose to pursue internal opportunities instead. This study advances the understanding of the drivers behind female entrepreneurship, by highlighting internal options and their impact on women's choice of a venturing path. Consistent with conventional wisdom, I found that women are generally less likely to leave paid employment in order to launch an external venture. A key insight of this study, however, is that women are more likely to

pursue new ventures inside an established organization. My results further demonstrate that gender differences in venturing rates disappear once both internal and external ventures are treated as a single outcome. Overall, these analyses underscore the importance of examining internal venturing rates because the availability and attractiveness of internal opportunities considerably affects the hazard of leaving an organization to become an entrepreneur.

Additional analyses presented in the study provide further insight into the causal processes behind these findings. The results can be interpreted as indicating that work-family demands act as an important mechanism behind higher rates of female intrapreneurship, enhancing women's motivation and willingness to explore novel ideas internally. Because established firms are generally better positioned to offer family perks than are small entrepreneurial firms, it is reasonable to expect that women with entrepreneurial bents prefer engaging in venturing activities inside rather than outside. In support of this claim, I found that the propensity to self-sort into intrapreneurship increased for women more than for men, following the passage of maternity-leave legislation, which mandated significant maternity benefits for employees in established firms. Strikingly, the passage of maternity-leave statutes had no effect on female transition into entrepreneurship presumably because small entrepreneurial firms are less likely to provide family-related perks. More generally, these findings reinforce the conclusion that work-family demands act as an important factor in shaping women's choice between intrapreneurship and entrepreneurship.

Relatedly, a series of findings presented in the study indicate that lower rates of female entrepreneurship are also attributable to gender differences in new-venture performance. First, the study documents that female entrepreneurs underperform relative to male entrepreneurs. Interestingly, I find the opposite gender pattern for intrapreneurship: The results indicate that female intrapreneurs achieve higher performance relative to male intrapreneurs. These findings are consistent with the notion that future returns from internal and external ventures explain the observed gender distribution across different venturing paths.

Overall, this study contributes to the line of work on social processes behind new-venture formation (e.g., Aldrich and Ruef, 2006; Thornton, 1999), by offering a novel account of the gender effect on the transition into entrepreneurship. Although female employees are indeed less likely to become entrepreneurs, they tend to substitute forgone external opportunities with the pursuit of attractive internal options. Together, these findings suggest that a more precise assessment of causal processes behind entrepreneurship must move beyond the consideration of external ventures alone. Instead, considering the dynamics behind venturing paths inside and outside the firm is an important step toward understanding when individuals become entrepreneurs.

Table 1. Descriptive Statistics and Correlations for the Main Covariates

| Variable | Mean | Std. Dev. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|-------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| 1 Firm Size | 8.10 | 2.75 | 1.00 | | | | | | | | | | | | | |
| 2 Firm Age | 33.4 | 23.6 | 0.54 | 1.00 | | | | | | | | | | | | |
| 3 Employee's Performance | 0.01 | 0.04 | -0.01 | -0.01 | 1.00 | | | | | | | | | | | |
| 4 Employee's Age | 44.4 | 7.94 | 0.01 | -0.03 | -0.02 | 1.00 | | | | | | | | | | |
| 5 Employee's Gender | 0.89 | 0.30 | -0.06 | -0.03 | 0.00 | 0.03 | 1.00 | | | | | | | | | |
| 6 Employee's Network Size | 2.26 | 3.22 | 0.18 | 0.09 | -0.01 | 0.09 | 0.01 | 1.00 | | | | | | | | |
| 7 Employee Holds Grad. Degree | 0.80 | 0.40 | 0.08 | 0.05 | 0.00 | 0.03 | -0.01 | -0.06 | 1.00 | | | | | | | |
| 8 Task Discretion | 0.67 | 0.29 | -0.08 | 0.01 | 0.01 | -0.06 | 0.00 | -0.47 | 0.05 | 1.00 | | | | | | |
| 9 Task Breadth | 0.31 | 0.33 | -0.75 | -0.40 | 0.02 | 0.03 | 0.07 | -0.06 | -0.08 | -0.01 | 1.00 | | | | | |
| 10 Firm Performance | 0.01 | 0.05 | 0.00 | -0.01 | 0.76 | -0.01 | 0.00 | -0.01 | 0.00 | 0.00 | 0.01 | 1.00 | | | | |
| 11 Firm Cash Flow | 4.62 | 1975 | -0.05 | -0.03 | 0.00 | 0.00 | 0.01 | -0.01 | 0.00 | 0.01 | 0.05 | 0.00 | 1.00 | | | |
| 12 Firm Diversification | 13.33 | 14.20 | 0.70 | 0.52 | -0.02 | 0.05 | -0.05 | 0.11 | 0.09 | 0.02 | -0.57 | -0.01 | -0.03 | 1.00 | | |
| 13 Employee's Opportunity Cost | 0.00 | 0.04 | -0.01 | 0.00 | -0.30 | -0.01 | 0.00 | -0.01 | 0.01 | 0.01 | 0.00 | -0.74 | 0.00 | 0.00 | 1.00 | |
| 14 Employee's Firm Tenure (year) | 3.29 | 1.20 | 0.05 | 0.09 | 0.00 | 0.22 | 0.03 | 0.10 | -0.03 | 0.03 | 0.13 | 0.00 | -0.01 | 0.03 | 0.00 | 1.00 |
| 15 Employee's Job Tenure (year) | 3.68 | 1.36 | 0.07 | 0.04 | -0.01 | 0.30 | 0.04 | 0.30 | -0.04 | 0.00 | 0.03 | 0.00 | -0.01 | 0.02 | 0.00 | 0.70 |

Table 2. Competing-risk Cox Model Regressions of Transition to Entrepreneurship, Intrapreneurship, Lateral Moves, and All New Ventures

| | Entrepreneurship | Intrapreneurship | Lateral Moves | All New Ventures |
|------------------------------|-------------------------|-------------------------|-----------------------|-------------------------|
| Variables | (1) | (2) | (3) | (4) |
| Firm Size | -0.082*** (0.026) | 0.181*** (0.017) | -0.100*** (0.018) | 0.093*** (0.013) |
| Firm Age | -0.005** (0.002) | 0.003*** (0.001) | -0.017*** (0.002) | -0.002* (0.001) |
| Employee's Performance | 1.083 (1.749) | 1.543** (0.720) | 0.007 (1.196) | 1.137* (0.624) |
| Employee's Age | -0.313*** (0.033) | -0.133*** (0.024) | -0.144*** (0.047) | -0.168*** (0.022) |
| Employee's Age Squared | 0.003*** (0.000) | 0.001*** (0.000) | 0.001 (0.001) | 0.001*** (0.000) |
| Gender (1 if male) | 0.753*** (0.204) | -0.187*** (0.068) | -0.076 (0.112) | -0.086 (0.060) |
| Employee's Network Size | -0.031 (0.023) | -0.052*** (0.017) | -0.001 (0.017) | -0.038*** (0.013) |
| Employee Has Graduate Degree | 0.123 (0.118) | 0.189*** (0.073) | 0.110 (0.105) | 0.170*** (0.061) |
| Task Discretion | -0.137 (0.176) | 0.480*** (0.125) | -0.360** (0.150) | 0.402*** (0.095) |
| Task Breadth | -0.238 (0.188) | 1.692*** (0.109) | -0.573*** (0.153) | 0.988*** (0.090) |
| Firm Performance | 2.813 (2.547) | 0.035 (0.847) | 15.283*** (1.815) | 3.156*** (0.763) |
| Firm Cash Flow | -0.021 (0.028) | -0.033** (0.016) | 0.003*** (0.001) | 0.001 (0.001) |
| Firm Diversification | -0.009*** (0.003) | -0.010*** (0.001) | -0.003 (0.003) | -0.008*** (0.001) |
| Employee's Opportunity Cost | -2.610 (2.406) | -2.197*** (0.808) | -14.843*** (1.799) | -4.289*** (0.706) |
| Employee's Firm Tenure | -0.005*** (0.002) | 0.005*** (0.001) | 0.002** (0.001) | 0.004*** (0.001) |
| Employee's Job Tenure | -0.003** (0.001) | -0.005*** (0.001) | -0.008*** (0.001) | -0.005*** (0.001) |
| Spells | 516808 | 516808 | 516808 | 516808 |
| Log-Likelihood | -7753 | -44029 | -11428 | -63617 |

*robust standard errors in parentheses;

*significant at 10%; ** significant at 5%; *** significant at 1%

Table 3. Competing-risk Cox Model Regressions of Transition to Entrepreneurship and Intrapreneurship: The impact of Maternity-Leave Legislation

| | Intrap. | Entrep. | Intrap. | Entrep. | Intrap. | Entrep. |
|--------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Variables | (1) | (2) | (3) | (4) | (5) | (6) |
| Maternity-leave legislation | 0.356*** (0.133) | -0.404 (0.249) | 0.358*** (0.131) | -0.404 (0.274) | 0.074 (0.356) | -0.857** (0.416) |
| Maternity-leave legislation * Gender | -0.150** (0.070) | 0.380 (0.262) | -0.165** (0.069) | 0.362 (0.260) | -0.158** (0.067) | 0.353 (0.264) |
| State GDP | - - | - - | -0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) | -0.000 (0.000) |
| Northeast | - - | - - | 0.127 (0.099) | 0.216** (0.105) | -0.095 (0.432) | 1.121** (0.492) |
| Firm Size | 0.181*** (0.025) | -0.079* (0.045) | 0.186*** (0.023) | -0.072 (0.045) | 0.193*** (0.021) | -0.066 (0.046) |
| Firm Age | 0.003 (0.002) | -0.005*** (0.002) | 0.003 (0.002) | -0.006*** (0.001) | 0.002 (0.002) | -0.007*** (0.001) |
| Employee's Performance | 2.071 (1.285) | 1.771 (2.933) | 2.076 (1.298) | 1.774 (2.965) | 2.134* (1.245) | 1.824 (2.975) |
| Employee's Age | -0.147*** (0.023) | -0.301*** (0.032) | -0.149*** (0.024) | -0.302*** (0.032) | -0.147*** (0.025) | -0.305*** (0.033) |
| Employee's Age Squared | 0.001*** (0.000) | 0.003*** (0.000) | 0.001*** (0.000) | 0.003*** (0.000) | 0.001*** (0.000) | 0.003*** (0.000) |
| Gender | -0.081 (0.065) | 0.691*** (0.222) | -0.067 (0.063) | 0.707*** (0.219) | -0.058 (0.063) | 0.723*** (0.220) |
| Employee's Network Size | -0.064*** (0.016) | -0.036** (0.017) | -0.064*** (0.016) | -0.037** (0.017) | -0.070*** (0.015) | -0.038** (0.017) |
| Employee Has Grad. Deg | 0.232** (0.096) | 0.099 (0.110) | 0.228** (0.095) | 0.099 (0.107) | 0.229** (0.094) | 0.116 (0.108) |
| Task Discretion | 0.287* (0.173) | -0.054 (0.188) | 0.283 (0.177) | -0.056 (0.187) | 0.296* (0.180) | -0.038 (0.195) |
| Task Breadth | 1.843*** (0.200) | -0.198 (0.303) | 1.876*** (0.191) | -0.139 (0.303) | 1.913*** (0.190) | -0.103 (0.295) |
| Firm Performance | -0.613 (1.362) | 2.434 (3.341) | -0.628 (1.372) | 2.421 (3.351) | -0.685 (1.314) | 2.363 (3.371) |
| Firm Cash Flow | -0.055** (0.026) | -0.029 (0.034) | -0.055** (0.026) | -0.030 (0.033) | -0.060** (0.026) | -0.029 (0.034) |
| Firm Diversification | -0.010*** (0.004) | -0.007 (0.005) | -0.011*** (0.003) | -0.008* (0.004) | -0.011*** (0.003) | -0.009** (0.004) |
| Employee's Opportunity Cost | -1.398 (1.355) | -2.330 (3.169) | -1.380 (1.364) | -2.304 (3.184) | -1.336 (1.315) | -2.240 (3.190) |
| Employee's Firm Tenure | 0.005*** (0.001) | -0.004** (0.002) | 0.005*** (0.001) | -0.004** (0.002) | 0.005*** (0.001) | -0.004** (0.002) |
| Employee's Job Tenure | -0.004*** | -0.003* | -0.004*** | -0.003* | -0.004*** | -0.003* |

Table 3. Competing-risk Cox Model Regressions of Transition to Entrepreneurship and Intrapreneurship: The impact of Maternity-Leave Legislation (Continued)

| | Intrap. | Entrep. | Intrap. | Entrep. | Intrap. | Entrep. |
|-----------------------|----------------------|--------------------|----------------------|--------------------|----------------------|--------------------|
| Variables | (1) | (2) | (3) | (4) | (5) | (6) |
| Employee's Job Tenure | -0.004*** (0.001) | -0.003* (0.002) | -0.004*** (0.001) | -0.003* (0.002) | -0.004*** (0.001) | -0.003* (0.002) |
| State-Fixed Effects | No | No | No | No | Yes | Yes |
| Spells | 436483 | 436483 | 436483 | 436483 | 436483 | 436483 |
| Log Likelihood | -38580 | -6689 | -38574 | -6686 | -38527 | -6680 |

*Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. The OLS Regressions of Gender and Performance

| Variables | Performance Intrapreneurship | Performance Entrepreneurship |
|------------------------------|---|---|
| | (1) | (2) |
| Firm Size | -0.000 (0.000) | -0.002 (0.002) |
| Firm Age | 0.000*** (0.000) | 0.000 (0.000) |
| Employee's Age | -0.000 (0.000) | 0.001 (0.001) |
| Employee's Age Squared | 0.000 (0.000) | -0.000 (0.000) |
| Gender (1 if male) | -0.001** (0.001) | 0.013*** (0.005) |
| Employee's Network Size | 0.000 (0.000) | 0.001 (0.001) |
| Employee Has Graduate Degree | 0.000 (0.000) | 0.004 (0.003) |
| Task Discretion | 0.001* (0.001) | 0.000 (0.004) |
| Task Breadth | -0.001 (0.001) | -0.009** (0.004) |
| Firm Performance | 0.448*** (0.023) | 0.632*** (0.101) |
| Firm Cash Flow | 0.000*** (0.000) | -0.000** (0.000) |
| Firm Diversification | -0.000** (0.000) | -0.001** (0.001) |
| Employee's Opportunity Cost | -0.156*** (0.019) | -0.497*** (0.117) |
| Employee's Firm Tenure | -0.000 (0.000) | -0.000 (0.000) |
| Employee's Job Tenure | -0.000 (0.000) | -0.000 (0.000) |
| Fund Inflows | 0.000 (0.001) | 0.011 (0.014) |
| Fund Load | -0.030*** (0.007) | -0.131* (0.073) |
| Fund Size | 0.000 (0.000) | 0.002 (0.002) |
| Fund Turnover | -0.000 (0.000) | 0.001 (0.001) |
| Fund Age | 0.000 | -0.005* |

Table 4. OLS Regression of Gender and Performance (Continued)

| | Performance Intrapreneurship | Performance Entrepreneurship |
|------------------|---|---|
| Variables | (1) | (2) |
| | (0.000) | (0.003) |
| Observations | 45118 | 1589 |
| R-squared | 0.82 | 0.86 |

*Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

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