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Shifts and Ladders: Comparing the Role of Internal and External Mobility in Managerial Careers

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Employees can build their careers either by moving into a new job within their current organization or else by moving to a different organization. We use matching perspectives on job mobility to develop predictions about the different roles that those internal and external moves will play within careers. Using data on the careers of master of business administration alumni, we show how internal and external mobility are associated with very different rewards: upward progression into a job with greater responsibilities is much more likely to happen through internal mobility than external mobility; yet despite this difference, external moves offer similar increases in pay to internal, as employers seek to attract external hires. Consistent with our arguments, we also show that the pay increases associated with external moves are lower when the moves take place for reasons other than career advancement, such as following a layoff or when moving into a different kind of work. Despite growing interest in boundaryless careers, our findings indicate that internal and external mobility play very different roles in executives' careers, with upward mobility still happening overwhelmingly within organizations.

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Introduction

Individual careers, the paths that take people from job to job over time, are critical to our experience of work. Each job differs in the rewards that it provides in terms of money, status, and responsibility, as well as its fit with our own goals and preferences. Often, it is by progressing across different jobs as our careers unfold that we are able to move into jobs that offer greater rewards and a better fit with what we want (e.g., Jovanovic 1979, Sørensen 1977). Early research on careers typically explored how people accrued rewards as they advanced within organizations (e.g., Gunz 1989, Stewman and Konda 1983, White 1970), but modern careers increasingly encompass moves across organizations (Arthur and Rousseau 1996, Bidwell and Briscoe 2010), raising new questions about how different kinds of job moves advance careers.

In particular, the way that most careers now involve both "external" cross-firm moves and "internal" moves within organizations raises the question of whether those moves are playing similar roles within careers, allowing people to achieve similar kinds of advances in tangible and intangible rewards, or whether instead different types of moves (internal versus external) are associated with a different set of career gains. On a practical level, understanding how people are advancing within the labor market is critical to our ability to assess how different public policies, organizational practices, and individual strategies will foster such advancement. Studying the effects associated with internal versus external moves is a critical step in building that understanding of how careers advance. On a theoretical level, understanding the differences between internal and external moves can clarify the way that the boundaries between organizations continue to enable and constrain careers (Inkson et al. 2012), as well as help us to understand the broader consequences of such well-studied mobility processes as turnover (e.g., Hom et al. 2012, Lee and Mitchell 1994) and promotion (e.g., DiPrete 1987, Phillips 2001).

Current research offers only an incomplete account of the comparison between these internal and external moves, though. Some studies have examined how the cumulative numbers of internal and external moves affect ultimate pay or job satisfaction (le Grand and Tahlin 2002, Valcour and Tolbert 2003), generally finding greater pay gains for internal moves than external. Although these studies provide important evidence on the long-run impact of job moves, they do not explore how each individual move contributes to career growth; nor, given their focus on pay, do they explore how internal and external moves affect such basic features of jobs as the kind of work being done or the level of responsibilities. Other studies have used data from within individual firms to compare the pay, performance, and experience of employees being hired versus promoted into jobs within those firms (Baker et al. 1994, Bidwell 2011, Chan 2006). However, because those studies lacked data on the jobs that the external hires are moving from, they were not able to address how the

changes in pay and responsibilities experienced by the hires compared to the internal movers.

We believe that this is the first study to make such a comparison. We apply models of labor market matching from sociology and economics to develop theory about how people moving internally versus externally experience different changes in three central outcomes: the responsibilities that they hold, the pay that they receive, and the job functions that they work in. We argue that internal mobility tends to take people into jobs with greater responsibilities and status, as employers' knowledge of their own employees reassures them that they will be able to do the job. Because external moves are less likely to take them into higher level jobs, we argue that individuals can only be persuaded to move firms if they receive substantial increases in pay or a substantial change in the nature of their work, or if they are forced to move by the disappearance of their old job. Examining data from a survey of master of business administration (MBA) alumni, we show that climbing up the job ladder into jobs with greater responsibilities overwhelmingly took place within organizations, while moving across firms allowed the alumni to shift to a different ladder, but at the same rung that they were on before, albeit with more pay.

Theory

Jobs, the basic units of our theory, represent bundles of tasks that both the organization and its employees recognize as falling within the responsibilities of a particular employee (Cohen 2013). Job mobility is then defined as a substantial, semipermanent (as opposed to project-based) change in the job that an employee is doing. A change in job can therefore involve a wholesale change in the nature of the tasks that someone performs (as might happen when they move functions); a substantial change in the level of status and responsibilities associated with the job (as happens on promotion); a change in the organizational context in which the work is carried out (as happens when an employee moves departments or organizations); or some combination of these. In each case, both the individual and the organization would recognize such changes as a move across jobs. Many studies demonstrate that moving jobs in this way allows people to increase their wages much more rapidly than they could if they remained within their jobs (Baker et al. 1994, McCue 1996, Topel and Ward 1992), making such mobility a particularly important topic of study.

To develop our theory, we use a matching approach to understanding job mobility (Heckman and Sedlacek 1985, Logan 1996), which emphasizes that two conditions must be met for any move across jobs to take place. First, mobility can only take place when an employer is prepared to employ the relevant individual in the new position (Logan 1996). The individual therefore needs to be able to persuade the employer that he or she has the skills necessary to do the job, based on demonstrated achievements, reputation, social networks, and/or political capital. The second condition for mobility is that the individual must be prepared to accept the new job. In some cases, people may move because their prior job has ceased to exist, as happens with involuntary turnover. More commonly, though, people move because they believe that the new job will be an improvement on their current position.

There are many reasons why people might prefer another job to their current one, reasons that can include a desire for career advancement, a dislike of the current manager or organizational setting, a wish to pursue different kinds of work, geographical relocations, and so on. Many of these reasons may underlie moves both across firms and within firms, but we do not assume that individuals always undertake internal and external moves for the same reasons. Indeed, we expect that the reasons that people move *internally* versus *externally* reflect (and thereby reinforce) the differences in the kinds of gains that they can achieve through those moves. Understanding the differences in those gains achieved through internal and external mobility, given that the moves happen, is the main focus of our paper.

Our theory development focuses on two kinds of career gains that people might receive from internal and external moves. First, people might achieve career progression through "vertical" increases in responsibilities and rewards. Many studies have demonstrated the important role that mobility into higher-level jobs plays in driving both short- and long-term pay growth (Baker et al. 1994, McCue 1996, Topel and Ward 1992). Attaining such upward mobility also represents a particularly important goal in the kinds of managerial and executive careers that we explore in our empirical analysis. Second, people also seek to increase the "horizontal" fit between the kinds of work they do and their own preferences and abilities. Such a search for fit plays a prominent role in economic theories of turnover (Jovanovic 1979) and is also consistent with psychological perspectives that emphasize dissatisfaction with the current job as a central driver of mobility (e.g., Griffeth et al. 2000, Lee and Mitchell 1994).

One way that people can achieve the twin goals of vertical mobility and horizontal fit is through moving jobs within organizations, either being promoted or moving laterally into a different position. Alternatively, they can also pursue these goals by external mobility, moving firms to get increased pay or responsibility, or because they think a new job would fit them better. We propose, though, that some of these goals might be more easily achieved via internal mobility than external mobility, and vice versa, so that internal moves tend to provide different rewards compared to external moves. We also suggest that those differences between internal and external mobility may vary with the reasons that people have for

Figure 1 (Color online) Summary of Theoretical Model

	Source of employers' willingness to offer job	Implications for individual's advantages from moving		
Internal moves	Observation of employee's prior performance	Increased responsibilities	ASSOCIATED WITH	• Increased pay • Similar type of work
External moves	Candidate has prior experience at a similar level	No increase in responsibilities	BUT	Some combination of: • Increased pay relative to prior job • Opportunity to engage in different kinds of work • Continued employment after loss of prior job

moving, such that firm boundaries have different effects when mobility primarily reflects a search for improved horizontal fit rather than vertical achievement.

Figure 1 outlines our main argument. We argue that the employers' side of the matching process looks very different when considering internal and external mobility, as employers use different information to assess whether an individual will fit a given job. We then explain how these changes in the employers' side of the matching process have knock-on effects on the kinds of rewards that jobs must offer individuals, leading to differences in what those individuals can achieve through internal versus external mobility. We also develop our logic to explain how the pursuit of vertical gains and horizontal fit interact with one another, so that the kinds of vertical rewards that people achieve in moving internally and externally depend on whether those moves also take them across different functions.

Mobility and Vertical Rewards

Information Asymmetries and Effects on Responsibilities. Information asymmetries are a fundamental driver in our theory. A number of scholars have noted that employers have much more information about their own employees than they do about external candidates (e.g., Doeringer and Piore 1971, Gibbons and Katz 1991), and these information asymmetries feature heavily in transaction-cost approaches to employment (Bidwell and Keller 2014, Williamson et al. 1975). Because they can observe how their employees performed in prior roles, employers have an advantage in evaluating those individuals' ability. Those advantages will shape how employers evaluate internal versus external candidates for a job.

Specifically, we propose that these information asymmetries will make it more difficult for people to increase their responsibilities when moving across firms rather than within them. Anybody seeking to advance into a job with more responsibility faces the challenge of persuading an employer that they have the requisite skills for the job (O'Mahony and Bechky 2006). Within the firm, people can demonstrate through their day-to-day performance that they are capable of taking on more responsibilities. External employers, though, lack access to such performance information and will instead demand easily observed credentials to qualify the individual for the job. Bidwell (2011) draws on this argument to suggest that people hired into jobs should have stronger formal credentials, such as education and experience, than those being promoted from inside. His argument also has undeveloped implications for careers.

In particular, a critical credential that employers consider in assessing potential recruits is the track record of jobs that they have held (Bills 1990). A prospective employer can look at whether a hiring candidate has previously held a similar job at a similar level to the job being filled. That prior experience is even more valuable if the candidate is able to demonstrate a track record of achievement in that job, or even just an ability to avoid dismissal from the position. Hence, the less information that an employer has on a candidate's skills and abilities, the more they will emphasize prior experience with a similar level of responsibilities to the job that they are filling.

The central implication of this argument is that many people will have opportunities to move into jobs with more responsibilities within their current firms; if they are performing well, they can expect their employer to move them into a job with greater responsibilities. Indeed, such internal promotions may sometimes be triggered as much by a desire to retain such a high performer as by a need to fill a higher-level job (Bidwell and Keller 2014). By contrast, everyone is likely to find it very difficult to persuade external employers to hire them into a job with increased responsibilities: those external employers don't know whether the

person involved is currently performing well or not. Instead, those external employers will focus on hiring people who have already held a similar level of responsibility. From the perspective of the individual, this means that moves into jobs with greater responsibility are more likely to occur through internal mobility than external moves. We predict the following:

HYPOTHESIS 1 (H1). *Internal job moves are associated with greater increases in responsibilities than external job moves* (*both voluntary and involuntary*).

Compensation: Paying People to Move. If internal mobility is associated with greater increases in responsibilities than external mobility, then it should also be associated with greater increases in pay. Substantial amounts of theoretical and empirical work show that pay usually increases with responsibility. Doeringer and Piore (1971), for example, argue that firms need to offer higher pay for higher-level jobs in order both to motivate people to climb the career ladder and to maintain the status of employees with more responsibility. The signal of ability that promotion provides and the more valuable work that promoted employees perform also encourages firms to match increases in responsibility with increases in pay (Waldman 1984). Empirical studies demonstrate a strong relationship between promotions in responsibility and increases in pay (e.g., McCue 1996), with Baker et al. (1994) finding that 70% of the variation in wages within a large corporation can be explained by job levels. If external moves lead to lower increases in responsibility than internal moves, a clear corollary is that those moves should also lead to lower increases in pay:

HYPOTHESIS 2A (H2A). *Internal job moves are associated with greater increases in pay than are external moves* (*both voluntary and involuntary*).

A detailed application of our matching logic suggests that these differences in how internal and external moves are compensated may be limited, however. If, as we proposed in H1, external employers are reluctant to hire people for jobs at higher levels of responsibility, then career progression in external moves should be limited. Yet our matching approach emphasizes that mobility will only occur when individuals also see a benefit to moving. If external employers offer candidates jobs that are similar to the ones that they already hold, why would those candidates accept them? One possibility is that external mobility could be very rare, as few people are prepared to move and firms are suspicious of those that are (Greenwald 1986 formalizes this argument). Yet the literature is full of studies that document extensive mobility between similar jobs within the same industry (e.g., Campbell et al. 2012, Dokko and Rosenkopf 2010, Groysberg 2010, Mollick 2012). Although firms might prefer to fill jobs internally, they often lack a suitable internal candidate. As a consequence employers frequently look to hire from outside.

External employers therefore face the challenge of persuading people to move jobs despite being unwilling to offer them more responsibilities than they already hold. We propose that one way that employers will do so is by offering increased pay. Although this increases the employers' costs, it may still be preferable to the alternative, which is to risk hiring an external candidate with lower-level experience who is untested and may therefore prove unable to do the job.

These arguments have important implications for our central focus in this paper: understanding differences between internal and external moves. Specifically, although increases in pay and responsibility tend to move together in careers, our arguments suggest that they respond very differently to internal versus external moves: although external moves may involve much smaller increases in responsibility than internal moves, they may be associated with comparable increases in pay nonetheless. We predict the following:

HYPOTHESIS 2B (H2B). *Compared to internal moves, external voluntary moves increase pay more than they increase responsibility.*

Although we argue that employers induce external candidates to move firms by increasing their pay, some people may have little choice but to move firms, having been forced to leave their prior organization, either because of downsizing or because of poor performance. Prior research has associated such involuntary turnover with substantial declines in pay (Gibbons and Katz 1991, von Wachter and Bender 2006). Our arguments highlight one reason why involuntary turnover may be associated with lower pay increases: where those people need less inducement to move into a new job, employers will not need to offer them pay increases to take the job. Hence, we should not see the same decoupling between rewards and responsibilities for involuntary external moves that we see for voluntary moves:

HYPOTHESIS 2C (H2C). *The pay difference between external and internal moves will be greater when external moves are involuntary.*

Mobility and Horizontal Fit: And Now for Something Completely Different

In addition to the vertical rewards outlined above, a further way in which internal and external moves may differ is in their ability to improve people's horizontal fit with the work that they are doing. We focus in particular on how mobility allows people to change their job function, which, similar to occupation (e.g., Tolbert 1996, Weeden 2002), defines the kinds of tasks that individuals carry out day to day. Functional changes therefore represent the most substantial way in which people can change their horizontal fit with their job.

People may find opportunities to improve horizontal fit both within and across organizations. Within the organization, moves into a different function are likely to be helped by the employers' observation of their employee's performance, which can help to persuade the employer that the employee could perform well in a different function. At the same time, though, an individual's ability to improve their horizontal fit by internal moves is constrained by the breadth of opportunities available within their current firm. One thing that defines organizations is their pursuit of a specific set of goals (Scott 2003), and performance of a defined set of activities. Although most organizations will contain the same basic functions, such as sales, marketing, or accounting, other, more specialized, functions such as research, banking, consulting, teaching, or editing are found in only a small subset of organizations. Moving into or out of those specialized functions usually therefore requires moving into a different organization, carrying out very different kinds of work, usually in a different industry.[1] Hence, for example, a consultant or a banker that seeks to work in consumer marketing is likely to need to move firms to pursue such a functional shift: such jobs would not be present within his or her current firm, or even within the industry. The way that different kinds of organizations contain very different kinds of jobs therefore makes external moves an important way by which people can move into different kinds of job functions—at least when those moves take place into a different industry:

Hypothesis 3 (H3). *External job moves* (*voluntary and involuntary*) *that span industry sectors are more likely to involve a change in function than are internal job moves.*

Vertical Attainment vs. Horizontal Fit: Managing the Trade-offs

In addition to being an important consequence of moving jobs, the search for horizontal fit also affects the vertical rewards that people can expect from internal and external mobility. Our matching model emphasizes that mobility requires people to perceive a benefit from moving jobs. Vertical achievement and horizontal fit represent alternative benefits from mobility: where one is present, the other need not be. Applying such logic allows us to add further nuance to our understanding of the differences between internal and external moves.

We turn first to the effects of changing function on internal moves. We have proposed that internal moves are more likely to increase responsibilities. Yet, those increases should be smaller where internal moves involve a shift in function. Where moves involve a substantial change in the work done, employers may be less confident in the employee's ability to handle higher-level responsibilities. The employee will not have done such work before. In addition, moves across functions often involve moving to a different part of the organization, and information flows about employees are poor in many organizations, further reducing the advantages of internal moves over external. Furthermore, employees who are increasing their horizontal fit with the work will be comfortable moving even in the absence of increased responsibilities.

These arguments suggest that the increases in responsibilities received in internal moves are less when those moves involve changes in function. Such arguments also have clear implications for the difference between internal and external moves. We have argued that external moves tend not to involve increases in responsibility. Where moves cross functions, the differences between internal and external moves should therefore be muted. We propose the following:

Hypothesis 4A (H4A). *The differences between the changes in responsibilities achieved through internal versus external moves* (*voluntary and involuntary*) *are smaller when moves involve a change in function.*

Now consider the effects of changing function on external moves. We argued that external moves offer people increases in pay to induce them to move jobs. When people are changing function, however, the prospect of increased horizontal fit should play a major role in inducing a move; the lure of increased pay is no longer as necessary, reducing the pay increases that we expect to be associated with such moves. We therefore also predict the following:

Hypothesis 4B (H4B). *Pay increases for external voluntary moves are lower relative to internal moves when moves also involve a change in function.*

Methods

We studied internal and external mobility using a survey of MBA alumni from a leading U.S. business school. Methodologically, this approach allowed us to gather longitudinal data on the careers of a largely homogeneous sample of people entering reasonably similar jobs during their prime working years. The sample is not representative of the U.S. workforce, being much better educated and rewarded than the average worker, and predominantly taking jobs in a narrow set of occupations based around finance, consulting, and general management. The sample, therefore, gives us particular insight into the careers of people with very high human capital, who are well-placed to take advantage of the opportunities presented by interfirm mobility (Marler et al. 2002). It also documents careers in occupations where employees are expected to progress into jobs of increasing levels of responsibility, making careers of vertical achievement the norm. More generally, this sample provides insight into the paths that take people into some of the very highest paid jobs in society. MBA alumni surveys have therefore been used in several other studies of careers (e.g., Dobrev 2012, Dreher and Cox 2000).

The Survey

We conducted the survey using a web-based platform during the summer of 2011. Respondents were contacted in advance by mail to alert them to the survey and received repeated reminders by email. Those without recorded email addresses received paper copies of the survey. As an inducement to participate, respondents were offered a salary report that compared pay in different industries and cohorts. We also made telephone calls to a randomly selected subsample of 200 alumni who graduated in each of the years between 1990 and 2005 to encourage them to participate (we control for year in all analyses).

Because the survey response rate was lower for alumni who had graduated longer ago, we restrict the sample for our analyses to those who graduated since 1990, ensuring that we track a sample with comparable and adequate response rates. Specifically, we received responses from 32% of the alumni whom we could contact that graduated on or after 1990, and largely completed surveys from 23%. This response rate is within the normal range for surveys of employees in demanding roles (Bertrand et al. 2010, Cycyota and Harrison 2006), and studies show that response rates are a very poor predictor of nonresponse bias (Groves and Peytcheva 2008). We assessed nonresponse bias by comparing the LinkedIn profiles of respondents and nonrespondents from a subsample of 3,000 alumni. As noted, response rates fell with time since graduation, and we control for graduation year in all of our analyses. We found no significant differences in the response rate of individuals by industry or by gender. Among the most common titles, we found that response rate was significantly higher than the mean sample response rate among those with the title of manager (8% higher) or principal (15% higher), but not for other common titles, including both the senior titles of president, C-level titles, directors, and the more junior titles of associate or vice president. These figures give us some confidence that our respondents were broadly representative of the sample. We do not restrict our analyses to respondents with full career information. Instead, our analyses use all responses with sufficient data to estimate the effects of individual moves. Robustness checks provided similar results when we restricted the data to those respondents who provided full career histories.

We asked the respondents to provide details of each job that they had held within each employer that they had worked for after graduating from the MBA. We told respondents: "You should consider a job as having changed if you had a significant promotion to a new title or rank in the organization that involved significant changes to your job tasks, number of people managed, or compensation. A job change is also a substantial change in the nature of the work that you performed, usually accompanied by a change in title or a move to a different organizational unit." This rubric fits our theoretical definition that moving jobs involves a change in level of responsibility, function, or organizational context. It also emphasizes the mutual, formal recognition of a change in responsibilities that occurs on moving jobs, through changes in title and rank. We dropped job moves with incomplete data and those into or out of spells of unemployment that lasted for more than six months. We also dropped moves into and out of 484 spells in entrepreneurship and 358 in self-employment, independent consulting, or contracting. Our theory is based on the evolving match between individuals and employers. In the case of entrepreneurship and self-employment, individuals are their own employers, leading to a substantially different set of dynamics that lie beyond the scope of our theory. We end up with information on 5,548 moves across jobs made by 2,113 different respondents.

Defining Mobility

Our key independent variables relate to how respondents moved jobs. We separated out *involuntary external moves* based on a question that asked respondents why they left each employer. They were given 13 possible options, and allowed to select more than one. The 25% of external moves for which respondents answered that they moved because of "position eliminated," "company, office, workplace or plant closed," "discharged or fired," or "left by mutual agreement" were coded as *external involuntary* moves. All other moves between different organizations were coded as *external voluntary moves*, including the 8% of moves where the reason for the move was missing. Our results were similar when those moves were excluded from the analysis. It is important to acknowledge that some respondents may have classified moves as voluntary even when they moved in advance of expected dismissals. Such effects should narrow the observed differences between voluntary and involuntary external mobility.[2]

Job Characteristics

Change in Log Subordinates. Our main measure of responsibility is the total number of subordinates that worked in units managed by the respondent in each job. Although some technical specialists can progress through their careers without managing anyone, we believe that size of units managed provides the most general measure of responsibilities for executives: the more individuals that someone manages in any field, the greater the span of activities that they can affect. The average numbers of subordinates may vary widely across industries, but within almost every industry, a higher number of subordinates represents an increase in responsibility. Accordingly, we found that 73% of the jobs in our data involved managing subordinates; among those

job spells that began more than 10 years after graduation, more than 85% reported subordinates. For each job, we asked "what was the total number of people who worked in units that you managed when you first started this job?" We took the log of this value because it was highly skewed (because the log of zero subordinates is undefined, we first add one to each observation) and calculated the difference between consecutive jobs.

Hierarchical Rank. Respondents also provided job titles for each job. We used these job titles to develop a hierarchical rank code that we use to compare titles of consecutive jobs. This code approximates to the following: 1 = specialist, 2 = senior specialist, 3 = manager, 4 = senior manager, 5 = VP/director, 6 = senior VP/director, 7 = C-level officer, 8 = CEO. We refined this code to apply to different industries in slightly different ways (for example, vice presidents tend to be a fairly junior position in investment banking, but not in corporate jobs). We also surveyed current students about the hierarchy at their prior employers to fine-tune our understanding of ranks in consulting and investment banking.

There are important limitations to this measure because of the way that job titles vary across organizations and across industries. A high rank in a small organization might also entail fewer responsibilities than a lower rank in a larger organization. Despite these problems, there is enough systematic information in these titles to provide a useful complement to our subordinate-based measure of responsibilities. We tested the validity of the rank variable by regressing log subordinates and log earnings on rank, year that the job began, industry, function, and log of organization size. Number of subordinates increased monotonically with rank, and including rank in the subordinate regression increased the variance explained from 21% to 34%. Log earnings also increased monotonically with rank except for rank 8, whose effect was slightly (and insignificantly, $p < 0.89$) lower than rank 7. Adding rank to the regression increased the variance explained from 36% to 49%. These analyses demonstrate the substantial information found in our measure of rank.

Change in Log Earnings. Respondents reported their total earnings in their first year in each job. We took the log of this value because of its high skew, and calculated the difference in log earnings between the first year of one job and the first year of the next, for consecutive jobs.

Function Change. For each job, we asked respondents what function the job was in, offering 34 different responses in a drop down menu. We based our list of functions on those that students were likely to go into, as well as reviews of occupational categories in standardized surveys such as the Current Population Survey. We further revised the list after pilot testing the survey, and again after the survey to combine some of the smallest and most similar functions, giving us 27 different functions. We code a move as involving a change in function when respondents report a different function in their current job to the one that they worked in in their prior job.[3]

Control Variables

We include a number of control variables. We controlled for current and prior function and industry because pay and responsibility often vary across kinds of jobs. Respondents were asked to choose the industry of each employer from a list of options. We devised our industry categories based on the distribution of industry affiliations in the school's alumni directory, providing more detailed categories in those areas in which students were more likely to work (mainly in the finance area). For some of our analyses, we collapsed these industries into five sectors that have similar work, career paths and rewards. These were: investment banking (13%); investment management (12%); consulting and accounting (14%); other private businesses (58%); and nonprofit and government (3%). Moves across these sectors should involve a substantially greater change in the nature of work than moves within the sectors.

We also control for current and past organizational size. These variables have been associated with pay in prior work (e.g., Brown and Medoff 1989), and the responsibilities associated with different titles may differ substantially across different sized organizations. For each employer, we asked "Counting all locations where this employer operated, what was the total number of persons who worked for this employer at the time that you took the job?" and asked them to choose from the set of: less than 10; 10 – 49; 50 – 99; 100 – 499; 500 – 999; 1,000 – 4,999; 5,000 – 9,999; 10,000 – 49,999; 50,000 – 100,000; 100,000+.[4] For our analyses, we then converted this to a single log scale, taking the midpoint of each range and choosing a value of 150,000 for firms with more than 100,000 employees.

We also control for additional variables. First, we measured respondents' post-MBA experience at the start of each job. Because the MBA represents a well-defined career stage, experience prior to the MBA has little effect on the level of jobs that students enter following the degree, at least for high status schools (Bonet 2008). Opportunities should therefore reflect post-MBA experience. Because the effects of that experience may be nonlinear, we also included experience squared in our analyses (adding additional orders of experience did not affect our results). We also control for the length of time between the beginning of the current and prior job, because the difference between the pay and responsibilities of the current job and the prior one may depend in part on how much experience the respondent obtained

in that prior job.[5] Additionally, we controlled for gender (around 30% of respondents in our sample were women) and whether the respondent is an alumnus/a of the executive MBA program, which offers equivalent classroom training to the regular MBA but also admits more experienced students. We also include controls for change in hours between the current and prior jobs, to account for whether moves might have been seeking a reduction in work pressures. Finally, we control for prior rank, using dummy variables for each rank to account for nonlinearities.

Results

Table 1 provides means, standard deviations, and correlations for all of our variables. The mean values show that 65% of the moves within our data take place within an organization, 26% take place voluntarily across organizations, and 9% take place involuntarily across organizations. We also looked in detail at the careers of respondents who had graduated between 1990 and 1995, and therefore had between 15 and 20 years of work experience. Among this group, only 13% reported having worked for only one employer, and only 13% of respondents reported having only one job per employer. The vast majority of respondents had instead engaged in both internal and external mobility as their careers unfolded. We also examined the duration of job spells ending in internal versus external voluntary mobility, and found very similar means (792 days versus 739) and medians (548 days versus 565), suggesting that these shifts occur at similar times.

Table 2 provides further descriptive data, comparing our four main dependent variables across the different kinds of moves. As well as the logged values, we also include actual values for subordinates and earnings to aid interpretations. As well as showing the mean changes in each of these variables, we also provide the 10th, 25th, 50th, 75th, and 90th percentiles. Indeed, the very high skew of pay and subordinates suggests that differences in the means for those variables should be largely ignored.

These descriptive data provide strong support for our argument that internal and external moves play different roles in careers. Although internal moves provide substantial increases in log subordinates and rank, the average external move, either voluntary or involuntary, does not increase log subordinates and involves much smaller increases in rank. Increases in log pay, though, are similar between internal and external moves, particularly when those moves take place within the same function. These statistics also highlight the importance of mobility to increases in log pay. We estimate that respondents' log pay in our sample increased by around 4%–6% per year when they stayed within their jobs.[6] Table 2 demonstrates that the pay of respondents who moved internally

Table 1 Summary Statistics

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 *Change in log subs*	0.43	1.33	1														
2 *Change in rank*	0.83	1.59	0.23	1													
3 *Change in log earnings*	0.25	0.41	0.17	0.14	1												
4 *Ext voluntary move*	0.26	0.44	−0.17	−0.04	−0.06	1											
5 *Ext involuntary move*	0.09	0.28	−0.13	−0.08	−0.16	−0.18	1										
6 *Log firm size*	8.39	2.96	0.06	−0.06	0.03	−0.17	−0.14	1									
7 *Prior log firm size*	8.62	2.81	−0.01	−0.03	−0.04	−0.06	−0.14	0.72	1								
8 *Experience*	5.39	3.84	−0.06	−0.17	0.02	−0.02	0.05	−0.02	−0.02	1							
9 *Experience squared*	43.79	62.40	−0.05	−0.15	0.01	−0.03	0.04	−0.03	−0.02	0.95	1						
10 *Time since last job began*	2.13	1.51	0.04	0.06	0.25	−0.03	−0.01	0.01	0.02	0.44	0.41	1					
11 *Female*	0.28	0.45	−0.04	−0.02	−0.09	−0.02	−0.04	0.09	0.08	−0.05	−0.05	−0.03	1				
12 *EMBA*	0.05	0.21	0.02	−0.05	−0.01	−0.02	0.01	−0.01	−0.02	0	0	0.03	−0.06	1			
13 *Year*	20.04	4.93	−0.06	−0.06	−0.04	−0.01	0.01	0.01	0.02	0.3	0.29	0.12	0.08	0.07	1		
14 *Last rank*	3.14	1.69	−0.1	−0.54	−0.05	0.02	0.07	−0.06	−0.08	0.52	0.1	0.44	−0.07	0.12	0.20	1	
15 *Change in hours*	−1.19	10.06	0.17	−0.06	0.13	−0.1	−0.09	0.01	0.01	0.01	0.02	−0.07	−0.03	0.04	−0.04	0.06	1
16 *Change in function*	0.40	0.49	−0.08	−0.07	−0.17	0.21	0.11	−0.03	0.02	0	−0.01	−0.07	0	0	−0.01	0.07	−0.08

Table 2 Changes in Responsibilities and Rewards

Dependent variable	Type of move	Mean	S.D.	10th pctile	25th pctile	Median	75th pctile	90th pctile	Count
Change in subordinates	Internal	41.35	1,464.36	−1	0	2	5	25	3,641
	Internal same function	33.13	1,693.52	0	0	2	5	16	2,534
	External vol	−7.37	471.14	−9	−2	0	2	12	1,428
	External vol same function	−6.96	647.38	−10	−1	0	2	13	615
	External invol	21.72	498.52	−13	−2	0	1	7	479
	External invol same function	61.1	757.47	−11	−2	0	1	10	204
Change in log subordinates	Internal	0.65	1.24	−0.31	0	0.51	1.25	1.97	3,641
	Internal same function	0.67	0.99	0	0	0.59	1.10	1.79	2,534
	External vol	0.04***	1.40	−1.61	−0.61	0	0.69	1.61	1,428
	External vol same function	0.06***	1.21	−1.39	−0.29	0	0.66	1.26	615
	External invol	−0.12***	1.37	−1.79	−0.69	0	0.51	1.39	479
	External invol same function	−0.04***	1.29	−1.79	−0.51	0	0.51	1.09	204
Change in rank	Internal	0.93	1.41	0	0	1	2	2	3,641
	Internal same function	1.07***	1.34	0	0	1	2	3	2,534
	External vol	0.72***	1.88	−2	0	0	2	3	1,428
	External vol same function	0.52***	1.55	−1	0	0	1	2	615
	External invol	0.40***	1.81	−2	−1	0	2	3	479
	External invol same function	0.17***	1.54	−2	0	0	1	2	204
Change in earnings	Internal	92,793	565,760	4,000	15,000	30,000	80,000	200,000	3,641
	Internal same function	106,350	613,663	5,000	15,000	40,000	100,000	230,000	2,534
	External vol	66,695†	290,267	−30,000	0	25,000	70,000	180,000	1,428
	External vol same function	112,380	379,058	−50,000	10,000	36,250	100,000	275,000	615
	External invol	−21,910***	695,985	−75,000	−20,000	8,000	40,000	102,000	479
	External invol same function	7,509*	181,269	−90,000	−15,000	10,000	50,000	105,000	204
Change in log earnings	Internal	0.30	0.35	0.03	0.11	0.22	0.41	0.69	3,641
	Internal same function	0.33***	0.36	0.06	0.13	0.24	0.41	0.69	2,534
	External vol	0.21***	0.47	−0.24	0.00	0.19	0.41	0.69	1,428
	External vol same function	0.31	0.45	−0.04	0.09	0.26	0.47	0.77	615
	External invol	0.04***	0.49	−0.41	−0.14	0.06	0.29	0.53	479
	External invol same function	0.08***	0.40	−0.34	−0.09	0.08	0.31	0.51	204
Change in function	Internal	0.30	0.46	0	0	0	1	1	3,641
	External vol	0.57***	0.50	0	0	1	1	1	1,428
	External invol	0.57***	0.49	0	0	1	1	1	479

Notes. Comparison of different types of moves. Vol, voluntary; invol, involuntary.
†$p < 0.1$; *$p < 0.05$; ***$p < 0.001$ (tests for difference versus all internal moves).

increased an average of 34% over the 2.2 years that it took them to get promoted (based on the log values); the pay of those who moved externally within the same function also increased by around 35% over a period of 2.2 years. These forms of mobility therefore increased pay much more than did staying within the same job, at least over the short run.

Multivariate Analyses

Table 3 presents multivariate analyses of the determinants of changes in responsibilities, earnings, and functions. The unit of analysis is a move between two jobs, and the dependent variables are the changes in subordinates, rank, earnings, and function that took place on each change. Hypothesis 2B compares the impact of different kinds of moves on responsibilities versus rewards, reflecting our arguments about how external moves lead to decoupling in these outcomes. Testing this hypothesis requires us to find a way to put these different outcomes on a comparable scale. We do this by normalizing these outcomes relative to their overall levels of variation; specifically, we standardize each dependent variable (log subordinates, rank, log earnings) by subtracting it from its global mean and dividing by its global standard deviation.

The structure of our data means that we can have more than one observation per individual leading to nonindependence of errors. We address this problem by implementing robust standard errors, clustered by respondent. Using differences in attributes of consecutive jobs as a dependent variable can also induce autocorrelation in errors. We therefore ran Prais–Winsten models which correct for these effects (Greene 2003), but found almost no effect on the results. An alternative approach to analyzing such nested data structures is to use hierarchical linear modeling, which includes a random effect for each respondent (Rabe-Hesketh and Skrondal 2008). We reran our analyses using such models, and again received almost identical results to those presented here. The use of such hierarchical methods also had limitations for our purposes: some of our hypotheses require cross-equation tests of coefficients that cannot be implemented in Stata using hierarchical linear models. We therefore present

Table 3 Multivariate Comparison of Effects of Internal and External Mobility

	1	2	3	4	5	6	7	8
Dependent variable	Standardized change in log subordinates	Standardized change in rank	Standardized change in log earnings	Change in function	Change in function	Standardized change in log subordinates	Standardized change in rank	Standardized change in log earnings
Experience	−0.0117 [0.0105]	0.0750*** [0.00970]	0.0112 [0.00950]	−0.0317 [0.0334]	−0.0143 [0.0343]	−0.0114 [0.0105]	0.0753*** [0.00970]	0.0106 [0.00947]
Experience squared	−0.000037 [0.000621]	−0.00293*** [0.000544]	−0.00180*** [0.000538]	0.0015 [0.00191]	0.000797 [0.00194]	−0.00006 [0.000621]	−0.00293*** [0.000545]	−0.00176** [0.000536]
Time since last job began	0.0440*** [0.00910]	0.0384*** [0.00810]	0.151*** [0.0118]	−0.0560* [0.0257]	−0.0506+ [0.0275]	0.0441*** [0.00909]	0.0383*** [0.00810]	0.150*** [0.0118]
Female	−0.0544** [0.0204]	−0.0756*** [0.0225]	−0.101*** [0.0205]	−0.0167 [0.0836]	−0.0296 [0.0890]	−0.0542** [0.0204]	−0.0758*** [0.0224]	−0.101*** [0.0204]
EMBA	0.0606 [0.0646]	0.101+ [0.0527]	−0.0718 [0.0479]	−0.320+ [0.188]	−0.322+ [0.195]	0.0617 [0.0646]	0.100+ [0.0530]	−0.0738 [0.0478]
Change in hours	0.0137*** [0.00161]	0.00144 [0.00130]	0.00876*** [0.00144]	−0.00725* [0.00319]	−0.00701* [0.00347]	0.0137*** [0.00161]	0.00141 [0.00130]	0.00870*** [0.00145]
Log firm size	0.0149* [0.00706]	−0.0512*** [0.00666]	0.0357*** [0.00737]	−0.0490** [0.0178]	−0.0548** [0.0197]	0.0152* [0.00704]	−0.0503*** [0.00665]	0.0357*** [0.00742]
Prior log firm size	−0.0162* [0.00703]	0.0215** [0.00669]	−0.0353*** [0.00747]	0.0415* [0.0190]	0.0471* [0.0215]	−0.0165* [0.00702]	0.0209** [0.00668]	−0.0350*** [0.00749]
Change in function	−0.0990*** [0.0273]	−0.0852*** [0.0247]	−0.154*** [0.0229]			−0.118*** [0.0346]	−0.131*** [0.0293]	−0.136*** [0.0267]
External voluntary move	−0.351*** [0.0299]	−0.178*** [0.0292]	−0.100** [0.0315]	0.912*** [0.0911]	0.00737 [0.0961]	−0.387*** [0.0357]	−0.220*** [0.0377]	−0.0453 [0.0406]
External involuntary move	−0.425*** [0.0459]	−0.291*** [0.0446]	−0.372*** [0.0478]	1.070*** [0.129]	0.176 [0.143]	−0.403*** [0.0680]	−0.370*** [0.0610]	−0.448*** [0.0636]
Change in sectors					2.946*** [0.164]			
External voluntary × Function change						0.079 [0.0592]	0.104+ [0.0554]	−0.112* [0.0565]
External involuntary × Function change						−0.0266 [0.0885]	0.164* [0.0825]	0.121 [0.0925]
Observations	5,548	5,548	5,548	5,548	5,548	5,548	5,548	5,548
R-squared	0.228	0.419	0.259			0.228	0.42	0.261
p-value for difference in external voluntary move vs. external involuntary move	0.12	0.019	0.0000	0.22	0.23	0.84	0.03	0.0000
p-value for difference between external voluntary move coefficient in this model vs. in pay change model	0.0000	0.052				0.0000	0.0007	

Notes. Models 4 and 5 logit; all other models are OLS. Robust standard errors clustered by respondent. Unit of analysis is move between jobs. All models control for year dummies, prior rank dummies, industry dummies, prior industry dummies, function dummies and (with exception of Models 7 and 8) prior function dummies. Changes in log subordinates, log pay and rank are standardized (mean centered and divided by the standard deviation of variables). Last row report tests of equality of the external voluntary move coefficient across models.

$^{+}p < 0.1$; $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

the simpler ordinary least squares (OLS) models here (Models 4 and 5 are logit models).

Changes in Responsibilities (H1). We first test H1 by comparing changes in responsibility for internal and external moves (Model 1 of Table 3). The key independent variables are the "external voluntary" and "external involuntary" variables—the excluded category is internal moves. Model 1 finds strong, negative, and significant coefficients of similar magnitudes for both voluntary and involuntary external moves, consistent with H1. Calculating the effect size indicates that internal moves are associated with around a 59% greater increase in subordinates than voluntary external moves.[7]

One concern with this analysis is that firms may simply be reluctant to hire from outside into jobs that involve managing more people, if, for example, those jobs required more firm specific skills. We therefore reran the analysis controlling for current log subordinates. Such a specification effectively compares how many fewer subordinates the prior job had for internal versus external moves. We again found highly significant effects, although the coefficient for external voluntary moves was somewhat attenuated ($b = -0.259$, $z = -8.27$). Given that this control is as much a consequence of the move as a confounding variable, we leave it out of our main analysis.

We then examine changes in rank in Model 2. We again find significant, negative coefficients for both voluntary and involuntary external moves, providing further support for H1. The coefficient for voluntary external moves indicates that those external moves are associated with an increase in rank that is 0.29 steps smaller than internal moves, on average. In additional analysis, we explored whether external mobility is associated with more rapid subsequent promotions, but we found no evidence of such effects.

Effects on Pay (H2). Hypothesis 2A argued that external moves would be associated with smaller increases in pay than internal moves. Model 3 provides support for this hypothesis, demonstrating that both voluntary and involuntary external moves are associated with lower pay increases. The magnitude of the coefficient indicates that external voluntary moves are associated with an increase in pay that is 4% (of absolute pay) smaller than for internal moves. Pay raises for involuntary moves are 15% smaller.

Hypothesis 2B suggested that the pay difference between internal and external voluntary moves should be less than the difference in responsibilities, as firms paid outsiders to move even though they wouldn't promote them. We test this hypothesis in the bottom row of Table 3, which reports significance levels for the difference between the coefficient for external voluntary moves on pay versus our measures of responsibility (subordinates and rank). These cross-equation tests indicate that the coefficient for external voluntary moves is significantly smaller for pay than it is for subordinates (at the $p < 0.0000$ level), and marginally so for rank (at the $p < 0.052$ level), largely supporting H2B. Hence, although external voluntary moves are associated with much smaller increases in responsibility than internal moves, they receive much more similar increases in pay.

Hypothesis 2C then argued that the pay differences between internal and external moves would be greater when external moves were involuntary. We test this hypothesis by comparing the coefficients on voluntary and involuntary external moves (second to last row of Table 3). We find that involuntary moves do indeed receive much lower pay increases than voluntary moves ($p < 0.0000$). We further find that the difference between voluntary and involuntary moves is much greater for pay than for log subordinates, where there is no significant difference, and for rank, where the difference is significant but smaller in magnitude.

Changes in Job Function for External and Internal Moves (H3). Models 4 and 5 of Table 3 report the results of logit models estimating the odds that a move involves a change in functions. Consistent with H3, Model 4 demonstrates positive coefficients for external voluntary and involuntary moves, indicating that respondents were more likely to change their function when they move externally. When we include a control for moves across sectors in Model 5, though, the coefficients for both kinds of external moves lose significance. These results indicate that external moves are more likely to involve a change in function, but only when those moves take people into a substantially different industry. External moves within the same sector are no more or less likely to involve a change in function than are internal moves.

Interaction of Horizontal Shifts and Vertical Achievement (H4A *and* H4B). Finally, Models 6–8 test how the effects of internal and external moves change when moves also involve changes across function.

Models 6 and 7 test H4A, that the differences in changes in responsibilities between internal and external moves will be smaller when those moves also involve a shift across functions. We find limited support for the hypothesis. The only fully significant result is the interaction between involuntary external mobility and function change in Model 7.

Model 8 tests H4B, that external voluntary moves receive lower pay increases when they also involve a move across functions. Consistent with our arguments, the difference in pay increases for external voluntary versus internal moves is significantly less when those moves also involve a shift across functions (Model 8).[8] Indeed, the main effect of external voluntary moves becomes insignificant in Model 8: there is no difference between the pay received for internal and external voluntary moves when the external moves take place within the same function—even though such moves see very different changes in respondents' responsibilities. We therefore lack support for H2A among this subset. We also see that the main effect of external voluntary moves on pay is significantly smaller than its main effect on rank and responsibilities, providing strong support for H2B when moves take place within a function.

Supplementary Analyses

Robustness Checks. In supplementary analyses (available from the authors), we explored how our results

might vary across different subsamples of the data. We ran the analyses separately for each of the five industry sectors of investment banking, consulting, investment management, other private business, and government and nonprofit, finding substantively similar results for all sectors except government and nonprofit (representing around 4% of our sample). In each case, internal shifts had significantly higher increases in responsibility than external shifts, and the change in pay was smaller than the change in responsibilities (although the difference was not always significant, reflecting smaller sample sizes. Interaction effects were often not significant either). We also split the sample by gender, and found a similar pattern of results for men and women. We also tried restricting our sample to moves made between 2008 and 2011, to test whether the severe recession affected the relationships in our results. We found, though, that the results in this subsample were qualitatively very similar to those in the overall analysis. Our results were also similar when we restricted external moves first to those that remained within the same sector and then to moves that went across sectors. We did find, though, that the interaction between external moves and functional changes did not significantly affect pay when moves took place within sector. This may be because moves within sector could also have taken place within the prior organization, even when they involve a functional shift.

We also reran the analyses in Table 3 using individual fixed effects, which generated very similar results to those found in the pooled cross-sectional analysis in Table 3.[9] Our main results, are not, therefore driven by differences in underlying proclivities to move jobs within versus across firms, or by fixed differences in loyalty to employers.

Longer-Term Career Outcomes. Although our theory focuses on the immediate effect of mobility, we also explored how those effects might cumulate by examining how respondents' earnings in 2010 and career satisfaction at the time of the survey were related to the number of internal and external moves they had made previously. These analyses are presented in Table 4. There are many ways to measure career success, and people may opt for less rewarding jobs at some points of their careers. These data also provide just a single snapshot at one point in time. These measures nonetheless provide data on the longer run consequences of mobility. We restricted the

Table 4 Determinants of Pay and Career Satisfaction in 2010

	1	2	3	4
	Log earnings		Career satisfaction	
Experience	0.0225 [0.0158]	0.0329* [0.0162]	0.139 [0.173]	0.144 [0.175]
Experience squared	−0.00034 [0.000595]	−0.0008 [0.000609]	−0.00249 [0.00650]	−0.00265 [0.00657]
Start date of current job	−3.59e−05** [1.31e−05]	−3.19e−05* [1.34e−05]	−1.87E−05 [0.000142]	−1.91E−05 [0.000143]
EMBA	0.150*** [0.0444]	0.142** [0.0453]	0.642 [0.489]	0.648 [0.492]
Female	−0.151*** [0.0253]	−0.157*** [0.0258]	−0.514+ [0.279]	−0.604* [0.281]
Log firm size	0.00298 [0.00388]	0.00288 [0.00395]	−0.174*** [0.0426]	−0.168*** [0.0428]
Unemp spells to date	−0.0514 [0.0405]	−0.0664 [0.0462]	−0.737 [0.451]	−0.852+ [0.506]
Family break spells to date	−0.264*** [0.0743]	−0.269*** [0.0764]	−1.071 [0.825]	−1.005 [0.836]
External involuntary moves to date	−0.115*** [0.0172]	−0.124*** [0.0179]	−1.318*** [0.191]	−1.432*** [0.196]
Internal moves to date	0.0269** [0.00838]	0.0407*** [0.00948]	0.274** [0.0929]	0.387*** [0.104]
External voluntary moves to date	−0.0022 [0.0119]	0.00409 [0.0133]	−0.12 [0.132]	−0.143 [0.145]
Function changes to date		−0.0325** [0.0109]		−0.356** [0.119]
Sector changes to date		0.0182 [0.0206]		0.746** [0.226]
Observations	984	935	1,004	951
R-squared	0.356	0.359	0.171	0.189

Note. All models control for initial job function and initial industry.
$^{+}p < 0.1$; $^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$.

data to respondents who graduated between 1990 and 2005 to allow time for meaningful movement across jobs, and to those who gave us details of every job move that they had made as well as their current earnings. We also dropped respondents who were outside the United States at the time (around 20% of the sample) whose responses may not have been given in dollars.[10] Our main variables are the total numbers of moves of each type that respondents have made. We control for experience and experience squared to take account of the fact that respondents who graduated at different times have had different opportunities to move, and will be at different stages in their careers. We also control for when the current job started, as pay tends to rise within jobs, and for the number of spells spent in unemployment or out of the workforce for family reasons. We also control for initial industry and function, on the basis that different career tracks have very different pay, but current industry and function may be endogenous to the moves respondents have made.

The table indicates that the number of internal moves to date made by a respondent is positively and significantly associated with higher pay (around 3% more pay per move). The number of involuntary external moves is negatively and significantly associated with pay. The number of voluntary external moves, though, has no significant association with pay.

We find similar results for career satisfaction, which we measured using a five item scale devised by Greenhaus et al. (1990) containing items such as "I am satisfied with the progress I have made towards meeting my overall career goals" ($\alpha = 0.90$). Again, larger numbers of internal moves are associated with higher career satisfaction, involuntary external moves have negative effects, and there is no effect of voluntary external moves.

Although internal and external moves play different roles in careers, these results suggest that internal moves have greater advantages. Although external voluntary moves provide immediate pay increases, it may be that those increases are not sustainable without an accompanying increase in responsibilities. By providing both increased responsibilities and increased pay, internal moves appear to advantage individuals more over the long term.

Predicting Internal and External Moves. Although the central focus of this paper is on the different consequences associated with internal and external moves, we also analyzed when respondents were more likely to engage in one kind of move over another (see the online appendix, available at http://dx.doi.org/10.1287/orsc.2015.1003).

Our theory suggests that that internal mobility is more likely to be associated with vertical advancement than external mobility. A plausible implication is that internal mobility is generally a preferred option for employees, so that external mobility is more likely under those conditions when employees find it more difficult to move internally. The results of our supplementary analyses supported these implications: the same factors that increased the probability of internal mobility versus staying in the job (e.g., firm size, lower levels of responsibility as measured by rank and number of subordinates, increased length of time in the job) also increased the probability of internal mobility versus external mobility. We also found that external voluntary moves are more likely out of low paid jobs, underscoring that people are more likely to move externally if jobs in the current organization are not attractive.

Our analyses failed to find strong evidence of the "Peter principle," which would suggest that people would first move internally until their responsibilities matched the ceiling of their ability, before making subsequent moves across firms. In particular, the probability of external moves relative to internal peaked after only five years. Voluntary external moves therefore happen throughout the careers in our sample, and not just during the later stages.

Discussion

Today's careers increasingly combine job moves both within firms and across firms. This study applies matching theory to develop new predictions about the different career consequences of those internal and external job moves. We test those predictions in a sample of MBA alumni. Most of our respondents moved jobs both within and across firms as their careers unfolded. Yet those internal and external moves played substantially different roles within their careers.

The internal moves that we studied were strongly associated with upward progression into jobs with more responsibility. Of the internal moves in our data, 62% involved an increase in numbers of subordinates managed. By contrast, only 36% of voluntary external moves and 31% of involuntary moves involved similar increases in responsibility. Put another way, 77% of the moves in our sample that increased the number of subordinates managed took place within organizations. These differences support our arguments that employers are prepared to promote their own employees if they are performing well, but are reluctant to hire an external candidate, whom they know much less about, into a job with more responsibilities than they currently hold. Although we argued that these advantages of internal mobility would be muted during functional moves, we found little evidence for such an effect. Although people have become more likely to move across firms in recent decades (Bidwell 2013, Hollister 2011) and scholars have become increasingly interested in the "boundaryless" nature of careers (Arthur and Rousseau 1996),

for the population that we studied, it was the traditional career moves within organizations that were more likely to lead to advancement.

Although external moves did not allow our respondents to increase their responsibilities in the same way that internal moves did, they were associated with other benefits. Voluntary external moves were often accompanied by substantial pay increases, similar to those found in internal moves, despite involving much less advancement in responsibilities. We were able to conduct formal tests of significance across these different outcomes by standardizing the variables by their standard deviations, allowing us to put pay and responsibilities onto comparable scales. Those significance tests showed that the internal-external difference was significantly greater for the measures of responsibilities compared to pay. These cross-variable comparisons are supported by the strong qualitative differences in the results on pay versus responsibilities: when it came to changes in responsibility, respondents moved up internally but sideways externally; when it came to changes in pay, internal and external moves were not significantly different within function. External moves into substantially different industries were also more likely to take our respondents into different job functions, potentially allowing them to find jobs that better fit their preferences. These cross-function voluntary external moves were not accompanied by the same kinds of pay raises as within-function moves; nor were involuntary external moves. Instead, change in pay, changes in horizontal fit, and need to find a new job seemed to be substitutes in inducing external moves.

Our supplementary results suggest that these differences in the immediate effects of moves have lasting consequences. People who had engaged in more internal moves ended up earning higher salaries and expressing greater career satisfaction at the time of our survey, whereas the number of voluntary external moves had no effect (involuntary moves had a substantial negative effect). Although both internal and voluntary external moves lead to immediate pay gains, it appears that only the gains experienced in internal moves, accompanied as they are by increases in responsibilities, are sustainable in the long term.

Our results therefore suggest the image of careers as a series of ladders within organizations, linked by lateral shifts across organizations. Most people engage in both internal and external mobility, but those moves play different roles in their careers. Internal mobility is the dominant means by which individuals climb the career ladder, moving into jobs with increased responsibilities. External mobility is less likely to lead up the ladder of responsibility, but leads instead to sideways shifts from one ladder to the next, arriving at a similar rung, albeit in different work or for more pay.

This study has a number of limitations. First, it is unclear how our results would generalize beyond managerial jobs and the elite workers that we study here. Most importantly, our theoretical analysis focuses on careers where vertical advancement is a common occurrence, facilitated by the nature of the work, and highly sought after by people in the labor market. It is likely that the effects of internal and external mobility play out differently in settings where this is not the case. It is also likely that careers look very different among workers with less human capital than MBA alumni. Another challenge was accurately measuring internal mobility. Although we provided survey respondents with a clear definition of mobility that encompassed the major elements of changes in jobs, it is possible that they were more likely to code promotions as job changes compared to lateral moves. The fact that both internal and external mobility occurred after very similar amounts of time in the job gives us some reassurance that they represented similarly substantial shifts in respondents' careers, and the balance between vertical and lateral moves in our data is consistent with research using investment banking personnel data (Bidwell 2011), an industry similar to many of those in our sample. Even were our study to undercount levels of lateral mobility within organizations, it would remain the case that the overwhelming majority of upward mobility in this population took place during internal moves. Our measures of voluntary versus involuntary mobility may also misclassify some moves, such as those made voluntarily but in the face of a likely dismissal. Nonetheless, the sharp differences in pay increases received during voluntary and involuntary moves suggest that our measure is able to meaningfully differentiate between moves.

Our study also has implications for future work. For example, future studies could examine the effect of internal and external mobility on subjective outcomes. Another interesting topic for future studies would be to examine not just jobs taken, but also the offers received, both internally and externally. Such studies would allow us to better separate out employer and employee actions (Fernandez and Sosa 2005) and allow us to explore whether internal promotions are ever a response to external offers. Relatedly, it would also be valuable to explore which moves are taken at the initiative of the individual versus employer, both within and between firms.

Although we demonstrate the different roles that internal and external mobility play within careers, we do not place a causal interpretation on those effects. We are interested in whether people are finding the same kinds of opportunities for advancement through external mobility and internal mobility. We find that they are not. Indeed, we expect that the anticipated gains that people will receive from internal versus external mobility will partly affect when they engage in each. Our main analyses suggest advantages to internal mobility, in that it

is more likely to allow people to move into higher-level jobs. Our supplementary analyses of when respondents engaged in external and internal mobility are consistent with internal mobility often being preferred by individuals, with respondents more likely to move externally when possibilities for internal mobility are more limited. Such effects make the decoupling of responsibilities and pay on moving externally all the more surprising: if external employers expected that only those employees who lacked internal opportunities would be prepared to move, they might feel less need to offer them such large pay raises.

We believe that this analysis contributes substantially to our understanding of modern careers. We show for the first time how internal versus external mobility are associated with very different changes in responsibility, but often have similar effects on pay. We believe that these findings are particularly important for the literature on boundaryless careers (Arthur and Rousseau 1996, Inkson et al. 2012), showing that although careers regularly cross firm boundaries, those boundaries matter: moves that take place within them are very different from the moves that take place across them. A particular consequence is that moves across firm boundaries rarely advance careers by increasing responsibilities.

This research also contributes to our broader understanding of external worker mobility. Although turnover is well studied (e.g., Hom and Kinicki 2001, Hom et al. 2012), very little research has explored the kinds of jobs that people move to and from (but see Hamori's 2010 comparison of the titles of executives moving across firms, using a headhunter database). To our knowledge, this is the first study to explicitly compare the responsibilities of the jobs that people move between as they move firms, using a systematic sample and drawing on data on both job titles and people managed. In doing so, we are able to demonstrate some key features of that external mobility. In part, we show that mobility is overwhelmingly lateral, with moves into jobs with more responsibilities being rare among external moves. This suggests that direct career advancement may rarely be a motivator for turnover. In part, we highlight the substantial heterogeneity in external mobility, showing that the consequences of external moves are different depending on whether they take people into different functions. These findings raise the question of whether turnover associated with moving functions has different antecedents than turnover that takes people into jobs within the same function but a different organization.

Our study also contributes to our understanding of involuntary mobility. Much work has documented the declines in pay that accompany involuntary separation (e.g., Gibbons and Katz 1991, von Wachter and Bender 2006). Although we echo those findings, we generally find smaller results for changes in responsibilities. This pattern of results highlights how the inability to wait for an attractive offer and bargain effectively can be an important source of disadvantage for laid off individuals.

Finally, our results also lend themselves to some clear career advice. We show how upward mobility is easier within organizations than across them. Individuals looking to build a career of upward mobility, moving into jobs with increased responsibility and the associated power and prestige, are more likely to be able to do so through internal advancement. Those people would therefore be well advised to choose jobs that offer better opportunities for subsequent advancement within the organization, rather than those from which the main scope for advancement requires a move to another firm. Work on vacancy chains suggests that such internal opportunities are more likely to be found in large organizations, growing organizations, and organizations with an aging workforce where retirements are likely. Individuals may be well advised to seek jobs in such settings, particularly early in their careers when upward mobility is particularly highly prized.

Supplemental Material

Supplemental material to this paper is available at http://dx.doi.org/10.1287/orsc.2015.1003

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Endnotes

[1]A similar effect of opportunities can also affect vertical mobility, particularly within small organizations—where no higher-level vacancies exist within a firm, people must move firms to achieve further career growth. Our arguments suggest, though, that such moves are very hard to accomplish. Moreover, although an employee may face a limited number of higher-level positions that they can be promoted into within a given firm, if they seek a very different kind of work they can find that there are no suitable positions at all.

[2]We dropped the 16 moves that were coded as taking place because of a temporary job ending, and 2 where the respondent left their job to return to school because we didn't view these as comparable with other kinds of moves.

[3]Respondents were only allowed to select a single function in our data; where some jobs already spanned multiple functions, changes in function reported may reflect shifts in emphasis between jobs as the most important function within jobs changed, rather than discrete shifts.

[4]Pretests of the survey indicated that respondents had a great deal of difficulty giving an exact number of workers for their employers, but were much more able to pick within a range.

[5]Although this variable usually measures time in prior job, it may also include any gap between the end of the prior job and the beginning of the current one.

[6]These estimates were calculated by examining the difference between the pay that respondents received in 2010 or the pay that they received in the last year with their employer on the one hand, and their pay in the year that they began that job on the other.

[7]Because the dependent variables have been standardized, the coefficients must first be multiplied by the standard deviation of the dependent variable and then exponentiated in order to calculate the effects size.

[8]An alternative explanation for the reduced pay that people receive on moving functions and firms simultaneously is that those moves are likely to be across industries, and the movers' skills are less applicable in new industries (Sturman et al. 2008). The fact that the change in pay falls substantially more than the change in responsibilities on those cross-function moves suggests that the effect is not simply due to a lack of applicable skills, which would also show up in an inability to obtain a high level of responsibilities.

[9]The interaction between function change and external voluntary moves was not significant in the pay regression however.

[10]As a robustness check, we replicated our main analyses dropping external moves across countries in case currency differences might affect our results. This exclusion did not substantially affect our results.

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