The Bounds of Boundaryless Careers:
The Contingent Value of Human Capital in Job Mobility

Sea-Jin Chang
NUS Business School
National University of Singapore
Singapore 119245
Tel: +65-6516-7854; Fax: +65-6779-5059
Email: schang@nus.edu.sg

Young-Choong Kim
NUS Business School
National University of Singapore
Singapore 119245
Tel: +65-6516-7950; Fax: +65-6779-5059
Email: bizky@nus.edu.sg

Sangchan Park
NUS Business School
National University of Singapore
Singapore 119245
Tel: +65-6516-3049; Fax: +65-6779-5059
Email: bizsp@nus.edu.sg

December 2011
The Bounds of Boundaryless Careers:
The Contingent Value of Human Capital in Job Mobility

Abstract

This study extends the concept of human capital from a concept focused on economic capital to include cultural and social capital in order to examine their respective impact on job mobility. In doing so, this study demonstrates that managers’ interorganizational mobility is not necessarily boundaryless. Rather, there are “bounds” in their career choices, coming from the utilization of their economic, social, and cultural capital, which have been developed through career trajectories and personal backgrounds. These different kinds of human capital are complementary in nature but differ in their respective impact on a person’s mobility beyond industry and business group boundaries. The data of Korean executives’ career trajectories confirm our conjectures.
The Bounds of Boundaryless Careers: 
The Contingent Value of Human Capital in Job Mobility

People change jobs. The median tenure of all waged and salaried workers in the U.S. is a mere 4.4 years, and management, professional, and related occupations average 5.2 years, the highest among all job categories, according to the U.S. Bureau of Labor Statistics (2010). As job shifts appear to be a dominant feature of careers (Wilensky, 1961; Rosenfeld, 1992), several researchers developed the concept of a ‘boundaryless career’ (Sullivan and Baruch, 2009; Tams and Arthur, 2010). In their 1996 book, The Boundaryless Career, Arthur and Rousseau defined this idea as “one of independence from, rather than dependence on, traditional organizational career arrangements” involving “opportunities that go beyond any single employer (p.6).” Taken as a whole, this line of research posits that firms no longer guarantee stable employment, while individual workers enjoy greater control and flexibility in a free labor market whereby the relationship between employers and workers is reduced to a virtually frictionless exchange between buyers and sellers of portable knowledge and skills (Bridges, 1994; Pink, 2001).

Yet this notion of frictionless labor market has been widely criticized. For instance, Hirsch and Shanley (1996) pointed out that much work about the boundaryless career euphorically predicted a better world for all despite the fact that not all workers benefit from such shift toward the frictionless labor market. Evans, Kunda, and Barley (2004: 6) similarly suggest that “the rhetoric of markets and free agency inflates the worker’s individual freedom and may therefore overestimate the temporal control that workers can achieve by leaving organizations for the market.” Mortensen, Pissarides, and Diamond, the 2010 Nobel laureates in economics, assert that labor markets cannot offer a frictionless exchange of skills since searching for new employers incurs cost in time and resources.\(^1\) Insofar as workers move freely between

\(^1\) See Mortensen and Pissarides (1999) and Wasmer (2006) for more analysis of job markets with frictions.
organizations without any constraint, interorganizational career developments may be viewed as random and without any pattern. As Tolbert (1996: 332) points out, however, “boundarylessness should not necessarily be interpreted to mean patternlessness.”

Despite the growing discussion, prior works on interorganizational mobility suggest a critical question without a known answer regarding which factors limit the realization of a boundaryless career, thereby shaping the “bounds” of boundaryless careers. In our view, prior works on the boundaryless career are limited in the following ways. First, the typical approach takes a ‘matching perspective’, whereby the degree of fit between human capital, or a worker’s knowledge and skills for production of goods and services (Becker, 1975), and job specification is the most important determinant of career choice (Heckman and Sedlacek 1985; Logan 1996; Jovanovic 1979; Bidwell and Briscoe, 2010). While this perspective has shed light on the dynamics of intra-organizational careers, it offers little insight on how a new match can arise as a result of the accumulation of human capital and how this in turn affects interorganizational career developments (Bidwell and Briscoe, 2010). Second, although social theorists have insightfully extended the idea of human capital by conceptualizing other forms of capital, such as social capital (e.g., Coleman, 1988) and cultural capital (e.g., Bourdieu, 1986), researchers have paid less attention to whether and how these multiple forms of human capital combine to affect interorganizational career developments. As a consequence, we know very little about how workers develop multiple types of human capital through past careers and subsequently use them for future career movements across organizations.

In this paper, we address these challenges by suggesting that career choices regarding job mobility are neither fixed nor constraint-free; rather, we propose that a worker’s mobility exhibits systematic patterns. We identify sources of such patterns by investigating how the
current stock of human capital, as accumulated from past career trajectories, serve as constraints to and facilitators of mobility across various boundaries of organizations and industries. Building upon prior work on the different forms of human capital (Becker, 1975; Coleman, 1988; Bourdieu, 1986), we extend the concept of human capital to include economic, social, and cultural capital for our comprehensive analysis of interorganizational career moves. In doing so, we explore the idea of fungibility between multidimensional types of human capital (Bourdieu, 1986; Coleman, 1988; Adler and Kwon, 2002)—while some kinds of human capital may be less relevant to new employers, other kinds do not lose their value and may in fact compensate, partially or fully, for the losses associated with interorganizational mobility.

This study has several implications for theoretical and empirical research on the dynamics of interorganizational careers. First, we contribute to research on boundaryless careers (Arthur and Rousseau, 1996) by highlighting patterns of interorganizational career developments. Specifically, we re-examine the validity of the underlying assumption of frictionless movements and then identify the dimensions of human capital that shape the bounds of boundaryless careers. Thus, our paper can answer some of the questions unresolved by prior work, such as why, given the same chance of mobility, some workers move far beyond the current employer, while others do not (Defillippi and Arthur, 1996).

Second, this study extends the ‘matching perspective’ (Heckman and Sedlacek 1985) by suggesting that a match can arise from multiple dimensions of human capital that workers accumulate over time. For instance, a worker in a particular firm can develop and accumulate function/industry specific skills and expertise, as well as cultural identity and values attached to a specific organization. Prior works typically lumped all of these elements into a single category of human capital (Becker, 1975), which may garner economic gains as the worker’s tenure
increases in the firm. These prior works did not need to differentiate between the multiple forms of human capital, as they were mainly interested in how career patterns unfold in a stable, long-term employment relationship. In the context of interorganizational career developments, however, each element of human capital has different values for a worker when he or she moves to another firm. Function/industry specific skills and expertise, which we view as economic human capital, can help the worker move to another firm, whereas cultural identity and values attached to a specific organization, which we conceptualize as cultural capital, may work as a hindrance.

This paper begins with a discussion about the popular notion of boundaryless—often frictionless—mobility to set the stage for the current investigation. We then provide a multidimensional model of human capital to provide a key theoretical framework for our main hypotheses on how professional managers can move across organizations given the benefits and constraints associated with the different types of human capital they have developed throughout their careers. We test our theory using a unique dataset of interorganizational mobility among executives in South Korea.

THEORETICAL DEVELOPMENT

Human Capital and Job Mobility

The importance of human capital has long been acknowledged in the literature. Adam Smith (1776[1963]) noted the importance of individuals’ acquired and useful abilities as a driver for economic prosperity. Becker (1964, 1975) formally presented the idea of human capital, leading scholars to turn their attention from physical resources to less tangible resources, such as the knowledge and skills that workers accumulate. By definition, human capital implies that workers can develop a stock of skills, knowledge, and experiences that can be leveraged for
career advancement, leading to higher wages. Researchers further developed the idea of human
capital to study individual decisions pertaining to investments in knowledge and skills, like
education and training (Becker and Stigler, 1974; Parsons, 1986; Topel, 1991; Farber, 1994). An
underlying rationale of this line of research is economic logic, i.e., a worker’s choice for
employment, depends on maximization of the present value of economic benefits, which rise
with investments in specialized productivity-enhancing knowledge and skills coming from a
particular employment relationship.

Thus, from a worker’s perspective, it is important to accumulate specific human capital
whose value would increase over a long-term relationship with a particular employer. For
example, wages are found to rise with job tenure, consistent with Becker’s (1964) model of
investment in specific human capital. Similarly, deferred compensation in the form of rising
wages can improve productivity and performance through long-term employment relations that
can in turn foster specialization (Lazear 1981; Rosen, 1986). Thus prior work tends to emphasize
the fact that workers are dependent on organizations in increasing the value of his/her human
capital via long-term employment. As such, the literature focuses on internal career ladders—
specific sequences of jobs through which workers progress as they gain skills and experience
within organizations (Doeringer and Piore 1971; DiPrete, 1987; Villemez and Bridges, 1988).

More recently, however, scholars have shifted attention away from predisposition of
identifying dynamics of careers with long-term employment within a single organization. For
instance, a new stream of economic research has noted inter-firm mobility as an outstanding
characteristic of the labor market, extending the idea of human capital to include career choices
across organizations and occupations (Sicherman and Galor, 1990; Topel, 1991; Farber, 1994;
Munasinghe, 2000). For instance, Sicherman and Galor (1990) demonstrate that the returns to
education take the form of occupational upgrading across, as well as within, firms. Likewise, sociological studies of job turnover and mobility also emphasize temporal and dynamic dimensions of career history, which often span multiple organizations (Pfeffer and Baron, 1988; Haveman and Cohen, 1994; Burton and Beckman, 2007; Bidwell and Briscoe, 2010). For example, Haveman and Cohen (1994) show in their study on the movement of managers in the California savings and loan industry that evolutionary dynamics of employing firms, such as birth, merger, and dissolution, significantly affect interorganizational mobility of individual employees. Management research has similarly noted increases in interorganizational mobility and further examined how such mobility enhances firm-level outcomes like inter-firm knowledge flows and learning (Boeker, 1997; Almeida and Kogut, 1999; Rosenlopf and Almeida, 2003; Dokko and Rosenkopf, 2010). In a study of the mobility of inventors across semiconductor firms, Rosenkopf and Almeida (2003) suggest that interorganizational movements of workers can help firms to overcome the constraints of localized search.

Some scholars even suggested a boundaryless career model (Arthur and Rousseau, 1996; Sullivan and Baruch, 2009). Advocates of this view suggest that job requirements have changed from context-specific to context-generic which may have a wide scope of applicability and thus a high level of marketability (Jones, 1996; Kanter, 1995). According to this view, unlike an internal labor market, where stable, lengthy employment fosters context-specific skills and social identification with unique organizational culture (Osterman 1987; DiPrete and Krecker 1991), job requirements increasingly entail more context-generic skills and experiences as interorganizational careers are increasingly dominant (Groysberg and Lee 2009). For instance, functional expertise (e.g., finance and accounting) is generic and thereby relevant across firms.

This contrast between generic and idiosyncratic human capital has important
implications for the scope of job mobility. Depending on the idiosyncrasy (and therefore marketability) of human capital, interorganizational mobility can be supported or constrained. The current status of this generic vs. idiosyncratic typology is limited in two ways. First, this divide suggests a simple, negative association between idiosyncratic human capital and interorganizational mobility such that a worker’s human capital loses its relevance across boundaries of firms. Yet a worker’s human capital consists of a complex collection of knowledge, skills, and experiences accumulated throughout his/her career history, and thus its specificity cannot be easily captured with a single dimension. For example, a manager may have developed managerial knowledge about a specific function, such as finance, as well as industry-specific knowledge and know-how. If this manager moves to another firm in a different industry but continues to take a finance-related job, the value of industry-specific knowledge may decrease while that of specialized functional knowledge remains steady. We therefore need to depart from a unidimensional conception of the relationship between human capital specificity and the scope of mobility and instead examine conditions under which different dimensions of human capital influence a worker’s career mobility. Our position is consistent with Sachs and Warner’s (1997: 185) observation that we “lack good models of multidimensional human capital accumulation.”

Second, a worker can develop other forms of human capital beyond skills or knowledge. A worker’s career choice will be affected by diverse forms of human capital that are not only developed by one’s narrow job experience, but also by personal background, or social and cultural capital. The explicit inclusion of multiple forms of human capital is important as they are interdependent with each other. For instance, Adler and Kwon (2002: 21) suggest: “actors can sometimes compensate for a lack of financial or human capital by superior connections…social capital complements other forms of capital. For example, social capital can improve the
efficiency of economic capital by reducing transaction costs (Lazerson, 1995).” Yet, existing research does not offer a clear explanation regarding whether and how various dimensions of human capital shape dynamics of interorganizational careers. In the next section, we clarify the different dimensions of human capital and develop corresponding hypotheses.

A Multidimensional Model of Human Capital

The critical limitation of the concept of human capital found in the economics literature is that it is confined to narrowly-defined, intangible assets generating positive economic benefits. Yet there are other types of human capital, proposed and elaborated by diverse disciplines, which may have great potential to extend our understanding of the dynamics of interorganizational careers. For instance, while a person develops some functional skills in an organization like finance or marketing, he or she also develops social capital by forming relationships with his/her coworkers and develops cultural fit with their organization. Hence, it is critical to consider a worker’s multidimensional stock of human capital accumulated in past career trajectories when seeking to understand how the worker uses the stock of human capital to build his or her future career path across boundaries of organizations and industries. In this section, we systematically discuss a broad range of human capital—economic, social, and cultural—which serves as a conceptual basis for our hypotheses. Table 1 highlights how the three dimensions compose a worker’s career-related human capital.

The concept of social capital was introduced and developed by sociologists (e.g., Coleman, 1988; Bourdieu, 1986), as well as economists (e.g., Loury, 1977, 1981). Social capital

--- Table 1 about here -----

Our conceptual classification is consistent with some career research that has examined the general categories of career competencies. For example, Defillippi and Arthur (1994) provided a conceptual framework that distinguishes three career competencies: work-related skills and knowledge (know-how), cultural awareness and identity (know-why), and social relations (know-whom) (see also Hall, 1992 for a similar approach). However, they did not empirically examine how the multiple forms of knowledge constrain or facilitate the development of interorganizational careers.
is often broadly understood to be “the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action” (Adler and Kwon, 2002). This concept has gained currency in a wide range of social science disciplines, including sociology, economics, anthropology, and political science. There exists strong evidence for the positive impact of social capital on a variety of employment-related choices and outcomes, such as job search (Granovetter, 1973, 1995; Lin & Dumin, 1996), career success (Burt, 1992; Podolny and Baron, 1997), CEO and executive compensation (Burt, 1997; Carpenter and Wade, 2002), and turnover (Krackhardt and Hanson, 1993). Consistent with these studies, we view social capital as a worker’s network of social relations that can be mobilized to gain information and facilitate action (Coleman, 1988; Burt, 1997; Adler and Kwon, 2002). We include both work-related ties, e.g., co-worker contacts, and non-work-related network ties, e.g. former high school classmates.

Also relevant to the current study is the concept of cultural capital. Originally advanced by a French sociologist Pierre Bourdieu (1986), cultural capital consists of the “instruments for the appropriation of symbolic wealth socially designated as worthy of being sought and possessed (Bourdieu, 1977, 1986).” It includes social identities and cultural awareness acquired in a socialization process and provides the capacity to define symbolic values and styles of action. While this concept emphasizes the importance of socialization through educational institution (DiMaggio, 1982; Anheier, Gerhards, and Romo, 1995; Robinson and Garnier, 1985; Cookson and Persell, 1985), cultural capital in the narrow context of a corporate setting is mainly accumulated through organizational socialization. As extensive work on organizational culture

---

4 Bourdieu (1986) provided what is arguably the most comprehensive and theoretically refined discussion of capital in which he distinguishes between three general types of capital: economic, social, and cultural. Economic capital broadly refers to tangible materials such as financial resources and assets. Thus his conceptualization is different from Becker’s human capital (1975), which more inclusively refers to knowledge and skills developed and accumulated by a worker. The concept of social capital is similar to a conventional definition—i.e., relational resources that can be mobilized through membership in social networks of actors and organizations (Bourdieu and Wacquant, 1992: 119).
indicates (Weick, 1987; Schein, 2010; Barney, 1986), workers learn to perform their jobs in culturally acceptable ways and, in the process, internalize organization-specific values, norms, and belief systems (Gouldner, 1979). Consistent with prior work, we view a worker’s cultural capital as organization-specific cultural orientation and stock of knowledge about norms and values of a particular organization required to perform tasks in normatively acceptable ways. As such, cultural capital is inherently organization-specific, with no value to other firms.

Distinguishing multiple dimensions of human capital into its economic, cultural, and social capital dimensions helps to overcome the economics-centric conception of Becker’s human capital. In fact, increasing the economic benefits from an individual’s tenure in an organization may come from two separate elements of a worker’s stock of human capital—organization-specific cultural capital, e.g. internal knowhow of making things done in a particular firm, and organization-generic economic capital, e.g. specialized functional and industry-related knowledge and skills. If we were interested only in intra-organizational career developments like internal promotion, this distinction would be less meaningful, as cultural capital would be shared by all individuals in the same organization. The distinction becomes essential when considering cultural capital in the context of boundaryless career, as in the present study. Since cultural capital is essentially organization-specific knowledge, values, norms, and identities that cannot be transferred to other organizations, the relevance and value of this capital is not maintained when moving between organizations. In contrast, function-specific and industry specific knowledge and skills may hold their values across organizational boundaries if a worker takes a job with the same function or in the same industry.

Our multidimensional model of capital has a number of important implications for the research on dynamics of interorganizational careers. First, it enables us to capture heterogeneity
of the collection of human capital that individual workers possess. That is, workers develop not only economic capital, but also social and cultural capital simultaneously. Even economic capital is a diverse concept, as a worker’s investment profile differs in terms of degree of functional and industry knowledge and expertise. Insofar as workers have idiosyncratic individual characteristics like preferences, experiences, and other personal attributes, their investment decisions in different dimensions of capital are likely to vary. Accordingly, the human capital profiles vary greatly among workers.

Second, each dimension of the human capital model has varying degrees of specificity, that is, how it is unique to a current employer and not readily available in external labor markets (Williamson, 1981). We suggest that the degree of human capital specificity serves as a critical determinant of whether or not a worker can move beyond the boundaries of the current employing organization or the current industry. For instance, managers typically develop their knowledge and expertise over a long period of time, thereby acquiring an employment-based career identity (e.g., “I am a Google engineer”). This firm-specific identity, i.e., cultural capital as we conceive it, makes the worker’s career more bounded, as opposed to boundaryless. On the other hand, managers also develop and acquire knowledge and skills, i.e., economic capital, that are useful across a wide range of organizational alternatives (Becker, 1975). For example, a career identity that is employer-independent (e.g., “I am a software engineer”) and function-specific expertise (e.g., finance and accounting) are generic and thereby relevant across firms. As such, industry-specific expertise, such as knowledge of market opportunities and competitors, is applicable to all the firms in a given industry. In other words, different forms of knowledge and expertise have different degrees of marketability compared to other firms (Becker, 1975, Williamson, 1981).
Third, the different types of human capital are complementary with one another. While interorganizational mobility makes one or more dimensions of capital with high specificity less relevant to new employers, new industries, or new functions, other types of capital may not lose their relevance, thereby compensating for the types of capital that lose values. As such, our model of multidimensional capital calls for a critical restatement of the notion of a match between workers’ human capital and different kinds of jobs, thus departing from the underlying idea assumed by research on careers. Matching theories typically suggest that a good match may arise from the interface between particular demands of the job and a worker’s human capital for improving job performance (Heckman and Sedlacek 1985; Logan 1996; Jovanovic 1979; Bidwell and Briscoe, 2010). However, if a worker can develop a diverse set of capital that can contribute to different kinds of job, it is less likely that a good match arises only from one dimension of capital. Rather, the worker’s career decision, such as moving to another firm, will reflect a fit between the economic, social and cultural requirements of a new job and the collection of human, social, and cultural capital of the job candidate.

Hypotheses

Our main thesis is that a worker’s multiple dimensions of human capital may yield distinctly different impacts as he/she moves across different boundaries. We analyze two types of mobility boundaries that correspond directly to the specificity of human capital.\(^5\) We first examine whether a manager can move beyond the industry boundary of his/her prior employment via job changes. Industry boundary, as a demarcated space for the specific economic activities in production and employment, captures the commonality in managerial

\[^5\] Potentially, we can also examine the changing of functional specialization with job change. However, it is very rare for a person with specific functional specialization, i.e., finance, to move to a position that requires a completely different set of skills such as marketing. In addition, switching from a specific functional specialization, e.g., finance, to general management often takes place as a person moves to higher level executive position, which may not necessarily be considered changing functional specialization.
knowledge or skill sets required of all managers. The firms that operate in the same industry are likely to require a similar set of managerial knowledge compared to those in different industries. By examining the industry boundary, we explore how job mobility within the same industry, or, conversely, cross-industry mobility, can be contingent upon diverse sets of human capital possessed by the manager in a mobility decision. For instance, a move to a new job within the same industry allows us to examine whether a worker’s organization-specific cultural capital loses its value, but it does not enable us to examine how the relevance of industry-specific economic capital can be maintained. Cases of cross-industry make it possible for us to determine whether social or cultural capital may compensate for the lost relevance of economic capital.

We then examine whether a manager can move beyond the *boundary of business group* as defined by his or her prior employer. Business groups, or the collections of legally independent firms that have formal and informal linkages, are quite prevalent world-wide, especially thriving in underdeveloped market institutions (Granovetter, 2005; Chang 2003). In view of job mobility, a business group boundary is an intermediary labor market in the sense that it is located in the outskirts of firm-centric internal markets, while remaining far more internally-arranged than outside of the group boundary. Job mobility within or across the group boundary is contingent upon the extent to which human capital is specific to the particular group or generically applicable beyond the boundary. For instance, group-affiliated firms that share the same corporate identity, common values and norms help us examine whether a worker’s organization-specific cultural capital continues to hold its value even after the worker moves to another firm in the same group. In analyzing those two types of boundaries of industry and business group in job mobility, we seek to investigate how diverse dimensions of human capital can constrain or facilitate boundary-crossing.
Economic capital and career mobility. While Becker’s (1964) notion of economic human capital emphasizes employer-specific capacities of managers in a long-term relationship with a particular employer, managers’ capacities include valuable industry-specific, as well as function-specific, knowledge and skills that are generic as opposed to firm-specific. According to the matching perspective (Heckman and Sedlacek 1985; Logan 1996; Jovanovic 1979; Bidwell and Briscoe, 2010), a good match arises from the interface between particular demands of the job and a worker’s human capital for improving job performance. Insofar as industry-specific and function-specific knowledge and skills are valuable to other firms, they provide greater opportunities for job alternatives to the manager who can seek a better match with other potential employers. Therefore, economic human capital is marketable to and portable among other firms. Industry-specific knowledge and function-specific knowledge, however, have different levels of marketability. Industry-specific experience of a manager loses its value when he or she moves to a firm in a different industry, while function-specific experience holds its relevance across industries. In contrast, both industry-specific and function-specific expertise can keep their relevance when moving across a business group boundary, which mainly involves group-specific cultural capital, like corporate identity and culture. Therefore, we predict that:

Hypothesis 1a (H1a): Industry-specific economic capital decreases the likelihood of cross-industry mobility.

Hypothesis 1b (H1b): Industry-specific economic capital increases the likelihood of cross-group mobility.

Hypothesis 2a (H2a): Functional-specific economic capital increases the likelihood of cross-industry mobility.

Hypothesis 2b (H2b): Function-specific economic capital increases the likelihood of cross-group mobility.

Cultural capital and career mobility. Unlike economic human capital, cultural capital is of limited value to interorganizational careers. Cultural capital involves firm- or group-specific
knowledge, values, norms, and identities which have no value to other firms or outside the group. Thus, according to the matching perspective, a good match cannot occur when a manager’s cultural capital falls outside his/her firm or group. In other words, cultural capital cannot provide opportunities for occupational alternatives; rather, it acts as a constraint on cross-group and cross-industry mobility. Considering only cultural capital, then, moving outside a firm or group is an inferior option compared to staying with the incumbent firm or business group. Furthermore, if a person spends his/her entire career within a single firm and therefore has developed strong cultural capital with respect to that specific firm, he/she may be less adaptable to other firms with different sets of cultural norms and expectations, thereby lowering marketability. In this sense, strong cultural capital can be a liability when considering interorganizational mobility. Thus, we predict that:

*Hypothesis 3a (H3a): Cultural capital decreases the likelihood of cross-industry mobility.*

*Hypothesis 3b (H3b): Cultural capital decreases the likelihood of cross-group mobility.*

**Social capital and career mobility.** A manager’s social capital is a valuable relationship-based resource available to firms that can benefit their performance (Adler and Kwon, 2002; Leana and Pil, 2006). Dokko and Rosenkopf (2010) suggest that workers who shift jobs positively affect the performance of newly joined firms by bringing their own social capital. For instance, workers in professional service firms often bring client relationships with them when they join firms, thereby providing new business opportunities (Wezel, Cattani, and Pennings, 2006; Broschak, 2004). Social ties have been regarded as useful conduits for information acquisition and learning beyond organizational boundaries (e.g., Adler and Kwon, 2002; Rosenkopf and Almeida, 2003). This information benefit of social capital has been widely acknowledged and supported in the context of career developments, such as job search (Granovetter, 1973, 1995; Lin & Dumin, 1996) and career success (Burt, 1992; Podolny and Baron, 1997). In particular, if managers have
network ties that span the industry and group boundaries, they are likely to enjoy greater information benefits than those without such network ties. Thus, unlike cultural capital, the value of social capital is less likely to depend on industry and group boundaries, making it more likely to promote cross-industry and cross-group mobility. We predict that:

*Hypothesis 4a (H4a): Social capital increases the likelihood of cross-industry mobility.*

*Hypothesis 4b (H4b): Social capital increases the likelihood of cross-group mobility.*

**EMPIRICAL RESEARCH DESIGN**

**Data**

This study empirically examines the job mobility patterns of executives in Korean firms from 1994 to 2006. We believe the South Korean context provides an excellent setting for our study. Korean firms traditionally relied on a domestic market for hiring and promoting managers. Conventional sources of managerial talents included homegrown managers who joined firms as college graduates, participated in extensive on-the-job training, and gradually advanced through the corporate ladder. Many Korean firms are also affiliated with business groups, termed *chaebols*, that create an internal labor market in which employees can move freely among group affiliates. Chaebols served as an important source of sharing experiences and knowhow among themselves (Chang, 2003). Since early 1990s, however, this long-standing reliance on internal labor market lost its stronghold as Korea begins to embrace market competition and face tighter capital market control (Chang, Kim, & Park, 2010). With surging environmental pressures from competition and capital markets, Korean firms expanded the talent recruiting pools from the very entry-level of fresh graduates to higher levels of experienced managers. Accordingly, the inter-firm movement of senior managers became increasingly popular in many Korean firms. From the viewpoint of a manager, this shift opened new job market opportunities that allow his/her human
capital to be extended to other potential employers searching for varying demands of managerial talents. Our data, presented in Figure 1, reflect such patterns. The number of executives who moved their jobs to another firm continued to increase between 1994 and 2006, with a rapid surge around the year 2000 in the aftermath of the Asian economic crisis.

--- Figure 1 about here ---

To obtain the information on inter-firm mobility of senior managers, we rely on the databases collected by the Korea Information Service (KIS). The KIS is a leading credit rating agency in Korea, equivalent to Moody’s in the United States, and provides comprehensive corporate and financial information to the international business community. Its company profiles and financial information data are provided by the Korea Securities Supervisory Board, equivalent to the SEC in the US. It includes all companies listed in Korean stock exchanges, as well as unlisted companies with assets of more than 6 billion won, (about 6 million USD, using the 2006 exchange rate). As the most comprehensive and reliable database available in Korea, KIS has been extensively used in previous research on Korean firms (e.g., Siegel 2007; Chang & Hong 2000; Chang, Kim, & Park, 2010). The primary source for data on job mobility is the list of corporate executives that the KIS collected from each firm’s annual report. We construct each executive’s employment trajectory from entry-level executives up to CEOs and track their movement across firms. The KIS database also provides basic demographics and education information of individual executives, including names of high schools and universities attended. From this database, we identify 8,925 executives who were employed by 1,670 firms between 1994 and 2006. Because we are interested in examining job mobility across boundaries of business groups and industries, we excluded 710 executives who were employed by independent firms with no business group affiliation, instead using the 8,215 executive employed by 1,399
business group-affiliated firms. Between 1994 and 2006, the number of group-affiliated firms in the dataset ranges from 1,238 to 1,627 each year, with the number of executives employed by these firms ranging from 3,463 to 4,811. After tracking the career histories of these 8,215 executives, we identified 2,606 cases of job mobility that took place between 1994 and 2006.

We examine job mobility as a matching process between executives and hiring firms, assuming that managers who are about to move would consider all potential employment opportunities. Thus, our modeling strategy is to estimate the probability of a particular manager moving to a particular firm among all possible manager-firm combinations. One popular modeling technique is to analyze every possible dyad using a binary choice maximum likelihood regression model like logistic regression, as commonly utilized in network formation studies (e.g., Podolny, 1994; Stuart, 1998; Wang and Zajac, 2007). This method can be problematic, however, as it does not account for non-independence across observations that belong to the same individuals, which may in turn lead to underestimation of standard errors (Sorensen & Stuart, 2001). Furthermore, it poses a computational burden for the present study, which would include more than hundred million possible manager-firm dyads. The case-control method offers a possible solution for such cases (Sorensen and Stuart 2008), as this method matches every case of realized manager-firm dyad with 100 control sets of unrealized dyad. Using this method, we include all 2,606 cases of realized job mobility in the analysis, and then match 100 randomly-selected potential firms for every realized case that managers can consider moving. The 100 firms matched for each case of actual moving could have been a potential job destination, but were not actually realized.\(^6\) Based on the 1:100 ratio, our dyads consist of 2,606 realized cases

---

\(^6\) There is no strict criterion in determining the ratio of cases to controls. We performed sensitivity tests, starting with the sample of the 1:10 ratio to higher ratios. We found that the produced results were quite consistent, but some coefficients were unstable with large standard errors when the number of control cases was small. We find that the 1:100 sampling provides robust estimates.
and 260,600 unrealized controls. We then modeled the probability of manager-firm matching as a conditional choice for each manager who faces job mobility decision. By grouping cases and controls of each manager-firm dyad, the fixed effects account for an individual manager’s characteristics, originating firm characteristics, and observation year that are common to specific set of case-control. The probability of a manager-firm matching in the conditional logit, $y_{ij}$, is specified as:

$$\Pr(y_{ij} | \sum_j y_{ij} = 1) = \frac{\exp(\sum_j y_{ij} x_{ij} \beta)}{\sum_{d_i \in S_i} \exp(\sum_j d_{ij} x_{ij} \beta)}$$

where $i$ denotes each of 2,606 groups, $j$ denotes the case-control dyad for each $i$th group, $d_{ij}$ is an indicator that is 1 for case and 0 for control, and $S_i$ is the set of all possible combinations of case-control set.

**Variables**

The unit of analysis of our empirical model is the unique manager-potential employer combination for each year. In order to reflect a baseline rate of cross-boundary mobility, we include two indicators of whether or not a particular manager-potential employer combination occurs across the boundaries of industry and business group. The variable *cross-industry* is coded 1 if a particular manager-employer combination is beyond the 2-digit SIC industry of the current job, and 0 otherwise. Similarly, the variable *cross-group* is coded 1 if a particular manager-employer combination denotes another firm in the same business group of the current job, and 0 otherwise. We expect a baseline likelihood of moving beyond boundaries to be negative given that a manager’s current level of economic and cultural capital is best utilized within the same industry and business group boundaries. In other words, the likelihood of moving to a potential firm in a different industry or affiliated with a different business group is lower than that of
moving to a potential firm within the same industry or business group.

In this study, we test our hypotheses by including a set of interaction terms between the two cross-boundary variables, i.e., cross-industry and cross-group, and various dimensions of human capital. As our model controls for the fixed effects conditional on each manager to be considered for moving, the main effects of each manager’s human capital variables cannot be identified in the model. Yet the interaction effects of cross-boundary variables and human capital variables are identifiable, suggesting that cross-boundary mobility can be contingent on a respective manager’s human capital. We use these interaction effects to test our hypotheses.

We capture multiple types of executives’ human capital using their career trajectories and personal information. Experience-based measures have direct relevance to a manager’s human capital because his or her human capital is primarily shaped by experiential learning through managerial career. Human capital accumulated through prior career experience is directly relevant to job mobility. We measure executives’ industry-specific experience as the proportion of their executive careers in the industry of the current employments. This measure indicates the degree to which a manager’s career as an executive has been concentrated on the specific industries of their incumbent positions. To identify executives’ functional specialization, we track every executive’s job titles and job descriptions in the KIS database. While 75% of executives identify themselves as general management or do not have any specific functional titles in their job descriptions, 25% have developed their careers around functional specialty and their functional specialization. We further classify those executives’ functional specialty into three major categories: 1) finance, which includes financial and accounting areas, 2) engineering, which includes technology, production, operation, and engineering, and 3) marketing, which includes marketing, distribution, and sales. In the analysis, we use a binary variable of functional
specialization where identification of any functional specialization is coded as 1 and no indication of any functional specialty is coded as 0. In addition, in order to examine specific areas of functional specialization, we separately use the three major categories of functional specialization, i.e., finance, engineering, and marketing with the general management as an omitted category.

To capture cultural capital that is specific to a business group, we measure executives’ business group-specific experience as the proportion of their career in the business group of their current employment. This measure represents the degree to which an executive has adapted to the corporate culture and philosophy of a specific business group.

We also measure a manager’s amount of social capital with three variables. Social capital can come from a variety of interpersonal linkages. In this study, we focus on the three most visible and dominant sources of social capital most relevant to executive hiring. While personalized networks or in-mak (similar to Chinese guanxi) are undoubtedly prominent in Korean business, two school ties, i.e., high school and university, are the critical basis of social networks for managers. High school alumni relations in Korea, derived from attending the same elite high school, have long-enduring and far-reaching determinants of social networks beyond immediate alumni relations, often tightly-linked with primordial ties to regional areas where the high school is located. As empirically demonstrated in Siegel (2007), the same high school alumni in Korea typically have access to numerous region-based clubs, informal organizations, and cyberspaces in Korean firms, which create the information flows of job and business opportunities. For example, based on the merit-based admission policy for high school entrance, numerous regional elite schools, including Kyunggi, Kyungbok, Busan, and Kyungbook, became the major outlet of managers and leaders, resulting in school-based social networks. Universities
serve as a similarly influential basis of social capital. Because prestigious colleges like Seoul National, Yonsei and Korea are the dominant sources of social and business talents, college ties, along with high school networks, provide frequent information exchanges through regularized gatherings and densely-connected networks. These school networks are likely to function as the most likely social space through which the information on job opportunities travels.

In addition to educational sources, we consider social capital that can be accumulated through career. Specifically, co-worker ties, which develop in working relationships, convey information that is directly relevant to the matching between the job seeker’s competency and the hiring firm’s job opportunities. In this study, we define an executive’s co-workers as the executives with whom they previously, but no longer, worked. We measure the three types of social capital by counting the number of an executive’s high school alumni, college alumni, and coworkers, and then divide them by the total number of executives for the year.

We also control for basic characteristics of potential employers. We include a binary variable that indicates whether a potential employer has a business group membership and whether it is listed in the stock market. We control for firm size, measured by the natural logarithm of total assets, and firm age, calculated as the number of years since its founding. To account for a firm’s current performance, we calculate firm-level financial performance as a firm’s return on invested capital (ROIC), which is defined as the sum of net income before tax plus interest payments, deflated by total assets, to provide a return metric comparable across firms. This measure should capture operating efficiency without being biased by the relatively high debt-to-asset ratios that typify Korean firms (Chang and Hong 2000). To control for industry variation of performance, we use the industry-adjusted measure by subtracting the average performance of the rest of the firms in the same two-digit industry code. We also control
for the destination firm’s prior executive hiring practices to gauge the extent to which a firm relies on internal promotion of executives or recruits from outside the firm. We measure *internal promotion* by the proportion of current managers in the firm who are internally promoted rather than hired from other firms.

**RESULTS**

Table 2 presents the summary statistics and correlations among the variables in the analysis. Table 3 displays the estimates of conditional logistic regression. Models 1 to 7 present estimates for the industry boundary and Models 8 to 14 for the business group boundary. Models 1 and 8 provide baseline models for boundary-crossing mobility with a set of controls of destination firm characteristics. In terms of the destination firm characteristics, job matching is more likely to occur when the potential hiring firm is listed, large-sized, younger, poorly performing, and not characterized by internal promotion practices (more open to external hiring practices). The two cross-boundary variables are negatively signed and significant in Models 1 and 8, respectively, suggesting that the baseline likelihood of moving to different industries and to different business groups are lower than within industry and within business group mobility. Yet, the negative coefficient of inter-group mobility is much bigger than that of inter-industry mobility, suggesting that an individual finds it relatively easier to move to a different industry than to a different business group. The predicted probability of an executive moving to a different industry is 8.4% when compared within the same industry, while the same probability of moving to a different business group is only 0.3% when compared to a potential firm in the same business group.⁷

---

⁷ We calculate the predicted probability with the Stata command of ‘asprvalue’ that is designed to compute predicted probabilities for conditional logit model that combines case- and control-specific variables (Long & Freese, 2005). We calculate the predicted probability of cross-boundary mobility with the rest of the independent variables.
Using the remaining models, we test our hypotheses by interacting two cross-boundary variables with various human capital variables. The interaction effects reflect how different forms of human capital constrain or facilitate cross-boundary job match. In Models 2 and 9, we test Hypotheses 1a and 1b regarding the effect of industry-specific experience. The interaction effect in model 2 is negatively significant, which suggests that executives are less likely to move to a different industry if they possess a higher degree of industry-specific economic capital. On the other hand, in Model 9, the interaction effect is positive and significant, which suggests that executives are more likely to move to a different business group if they possess a higher degree of industry-specific human capital. When we calculate the predicted probability, a 100% increase in industry-specific human capital decreases the predicted probability of cross-industry mobility from 45% to 7%, but the same increase raises cross-group mobility from 0.1% to 0.4%. Thus, H1a and H1b are supported, demonstrating that industry-specific economic capital has a differentiating impact on the chance of moving to a different industry or business group.

Models 3 and 10 include the interaction effects between function-specific economic capital and two cross-boundary variables to test H2a and H2b. The interaction term with cross-industry mobility in Model 3 is not significant, but the interaction term with cross-group mobility is positive and significant in Model 10, suggesting that functional specialization increases the predicted probability cross-group mobility by 0.2% (from 0.3% to 0.5%). These results suggest that the functional skills of an individual executive are not necessarily transferable to a firm in another industry, though they may be transferable to a firm in another business group. In Models 4 and 11, we decompose functional specialization into three categories i.e., finance, engineering,

---Table 2 and 3 about here ---

set at their mean values.

^8 Note that the probability change in cross-group mobility is very small because the main effect of cross-group mobility itself is very minimal, i.e. only 0.3%.
and marketing, to examine their separate impact on cross-boundary mobility. The results show an interesting contrast. In Model 4, functional specialization in finance increases, but the same functional specialization in marketing decreases the likelihood of moving to a different industry. This suggests that some functional knowledge, e.g. finance, is generic and therefore more applicable across industries, while other knowledge, e.g. marketing, may be more industry-specific. As compared to non-specialization or general management backgrounds, finance specialization increases the predicted probability of cross-industry mobility by 8%, while marketing specialization reduces it by 3%. In Model 11, the functional specialization in engineering, but not other fields, is positive and significant, suggesting that the portability of engineering-related human capital drives the cross-group mobility. If someone has a specialized engineering skill, he or she is more likely find a new job in another business group. Engineering specialization increases the predicted probability of cross-group mobility by 0.5%.

In Models 5 and 12, we test H3a and H3b, which examine the effect of business group-specific human capital on the likelihood of moving to a different industry or different business group. The interaction with cross-industry mobility in Model 5 is negatively signed with 10% significance (which becomes insignificant in models 7 where we include all interaction effects), while the interaction with cross-group mobility in Model 12 is negatively signed and strongly significant. A 100% increase in the value of group-specific human capital reduces the predicted probability of cross-industry mobility by 3% and cross-group mobility by 0.8%. This provides support for our hypotheses that business group-specific cultural human capital decreases the likelihood of moving to a different business group, as strong cultural capital with a business group will lose its value once he or she leaves that business group.

Models 6 and 13 examine the effect of social capital as in H4a and H4b. In Model 6, high
school alumni and coworker relationships increase the likelihood of moving to a different industry. When we calculate the predicted probability, a 100% increase in each social capital raises the likelihood of cross-industry by 7% and 21% respectively. In Model 13, university alumni and coworker networks help an individual to move to a different business group. The predicted probability of cross-group mobility goes up by 0.2% and 3.6% with a 100% increase in the college alumni and coworker measures. Our results remain largely consistent when we estimate interaction terms jointly in Models 7 and 14, which suggest that the interaction effects are not redundant.

Figure 2 summarizes specific human capital’s impact on the change in the predicted probability of boundary-crossing mobility we discussed above. Each bar in the figure shows the increase or decrease of the predicted probability of job mobility in cross-industry (the figure on the top) as well as cross-group (the figure in the bottom) cases. The co-existence of above- and below-zero bars clearly evidences diverging ramifications on boundary-crossing from multiple forms of human capital, and their varying heights suggest the differences in magnitude. These patterns assert the value of decomposing human capital as determinants of the ‘bounds’ of interorganizational mobility.

--- Figure 2 about here ---

**DISCUSSION AND CONCLUSIONS**

The main findings of this study suggest that, contrary to the popular notion of ‘boundaryless career”, there are “bounds” in managers’ inter-organization career choices based on their collection of various forms of human capital accumulated through their career trajectories and personal backgrounds. We find that industry-specific economic capital increases job mobility beyond the business group boundary, but decreases it beyond the industry boundary.
Function-specific economic capital’s impact seems to be contingent upon its type such that finance function-specific skills helps managers find a job in a different industry while engineering-specific skills help them move to other business groups. Business group-specific cultural capital that entails idiosyncratic corporate culture reduces the chance of crossing either industry or business group boundaries. In contrast, social capital, represented by high school, university, and coworker ties, help managers find jobs in different industries or business groups, playing a complementary role to other types of human capital.

Although three forms of human capital have their own separate effects on cross-boundary mobility, they are complementary to each other, compensating (or complementing) the absence (or presence) of the other forms of capital. It is worth noting, however, that there are striking differences in the size of these complementary effects. The implication is that interesting diversity in the career development processes can be captured by closer attentiveness to the varying forms of human capital as sources of interorganizational mobility and the complementary relationship between the different forms of human capital. Acknowledging these distinctions, researchers can advance beyond a simple, unidimensional conception of human capital to address the complexity and trade-offs faced by workers in developing careers.

Our multidimensional model of human capital makes a number of theoretical contributions. First, this study advances our theoretical understanding by delineating the bounds of boundaryless careers. While insightful, the notion of boundaryless careers often invites criticisms for the validity of its assumption of a frictionless labor market (e.g., Evans et al., 2004; Hirsch and Shanley, 1996). In this paper, we have identified multiple dimensions of human capital that constrain or facilitate interorganizational mobility. Thus, this study responds to the much-needed calls to investigate sources that influence the realization of boundaryless careers.
(Defillippi and Arthur, 1996: 320), as well as to identify patterns of interorganizational careers (Bidwell and Briscoe, 2010; Tolbert, 1996).

Second, this study also contributes to work on the matching perspective (Heckman and Sedlacek, 1985; Logan, 1996; Jovanovic, 1979), by considering the multidimensional nature of human capital that determines the matching process. Previous work on careers did not distinguish between different types of human capital without separately examining the role of skills, knowledge, relations, identity, and norms (Becker, 1975). This might due to the fact that conventional research on matching was focused on the issue of how career patterns would unfold in a stable, long-term employment relation where it did not need to differentiate the multiple forms of human capital. However, as job shifts increasingly become the norm, as opposed to exception, of the labor market, different forms of human capital have meaningfully different values for a worker developing his/her career across organizations. This paper demonstrates that by incorporating a multidimensional conception of human capital, the matching perspective can be extended to explain patterns of interorganizational career development.

Third, this study also holds implications for research on the knowledge-based theory of the firm. The knowledge-based approach views knowledge as the most significant strategic resource (Penrose, 1959; Wernerfelt, 1984; Barney, 1991). The ultimate repositories of knowledge are the people comprising a firm: “People are important assets of the firm, but they are important because much of the invisible assets of the firm are embedded in people” (Itami, 1987: 14). However, as presently developed, this view does not clearly provide a microfoundation that can explain how people become valuable resources that are aligned to firm-level competitive advantages. In this paper, we have examined how managers become human repositories consisting of multiple types of human capital. Hence, managers’ career patterns can
be a useful way to capture, at the micro-level, how multiple forms of human capital are developed, which in turn become bases for their valuable resources and competitive advantage.

This study has several limitations. It is likely that dynamics of boundaryless careers may unfold along the boundary of a worker’s specialized function, yet our analysis did not include this boundary. In our dataset, it is very uncommon for an executive to change his/her functional specialty (e.g., engineering to accounting), although occupational upgrading, such as promotion to CEO, may require the executive to engage in general management rather than function-specific work. Nevertheless it would be valuable to include cross-function mobility and examine how a worker moves across multiple boundaries of organizations, industries, and functions in a more complex manner. Future studies may also explore the impact of different institutional environments. Compared to developed economies where inter-firm mobility is more widely accepted, many developing countries like South Korea have begun to turn to external labor markets to recruit talents. The relative importance of economic, social and cultural capital may vary greatly across countries with different institutional environments.
REFERENCES


Smith, A. 1776[1963]. *An inquiry into the nature and causes of the wealth of nations.* Homewood, IL: Richard D. Irwin, Inc.


<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Working Definitions</th>
<th>Elements</th>
<th>Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Capital</td>
<td>A worker’s stock of work-related knowledge, skills, and expertise to perform labor so as to produce economic value</td>
<td>- Managerial knowledge about specific functions, such as finance, accounting, marketing, engineering and so forth &lt;br&gt;- Industry-specific knowledge and know-how</td>
<td>Becker 1964, 1975; Topel, 1991; Farber, 1994</td>
</tr>
<tr>
<td>Social Capital</td>
<td>A worker’s fabric of social relations that can be mobilized to gain information and facilitate action</td>
<td>- Friendship network, such as high school alumni network &lt;br&gt;- Work-related network, such as social contacts consisting of co-workers in one’s past careers</td>
<td>Coleman, 1988; Bourdieu, 1986; Portes, 1998; Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002</td>
</tr>
<tr>
<td>Cultural Capital</td>
<td>A worker’s cultural orientation and stock of organization-specific knowledge about cultural norms and values to perform tasks in normatively acceptable ways</td>
<td>- Cultural identity and awareness about corporate values and belief systems commonly shared by other workers</td>
<td>Bourdieu, 1986; DiMaggio, 1982; Anheier, Gerhards, and Romo, 1995; Gouldner, 1979</td>
</tr>
</tbody>
</table>
Table 2. Descriptive Statistics and Bivariate Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Manager-firm matching</td>
<td>0.01</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Business group membership</td>
<td>0.71</td>
<td>0.46</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Listed</td>
<td>0.40</td>
<td>0.49</td>
<td>0.04</td>
<td>0.30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Firm size</td>
<td>17.84</td>
<td>1.61</td>
<td>0.09</td>
<td>0.32</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Firm age</td>
<td>21.57</td>
<td>13.37</td>
<td>0.02</td>
<td>0.21</td>
<td>0.40</td>
<td>0.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Firm performance</td>
<td>-0.01</td>
<td>0.22</td>
<td>-0.03</td>
<td>-0.05</td>
<td>0.06</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Internal promotion</td>
<td>0.89</td>
<td>0.28</td>
<td>-0.06</td>
<td>-0.09</td>
<td>0.21</td>
<td>0.06</td>
<td>0.18</td>
<td>-0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Cross-Industry mobility</td>
<td>0.95</td>
<td>0.22</td>
<td>-0.13</td>
<td>0.00</td>
<td>-0.03</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Cross-Group mobility</td>
<td>0.99</td>
<td>0.10</td>
<td>-0.57</td>
<td>-0.06</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.04</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Industry-specific experience</td>
<td>0.86</td>
<td>0.29</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.01</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Functional specialization</td>
<td>0.25</td>
<td>0.43</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Finance</td>
<td>0.11</td>
<td>0.31</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.05</td>
<td>0.61</td>
<td></td>
</tr>
<tr>
<td>13 Engineering</td>
<td>0.08</td>
<td>0.27</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.07</td>
<td>0.52</td>
<td>-0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Marketing</td>
<td>0.06</td>
<td>0.23</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
<td>0.42</td>
<td>-0.08</td>
<td>-0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 Group-specific experience</td>
<td>0.76</td>
<td>0.23</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.33</td>
<td>-0.03</td>
<td>-0.03</td>
<td>0.00</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>16 High school</td>
<td>2.04</td>
<td>1.89</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.05</td>
<td>-0.02</td>
<td>0.07</td>
<td>-0.07</td>
<td>-0.05</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 College</td>
<td>11.88</td>
<td>9.18</td>
<td>0.00</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.00</td>
<td>-0.04</td>
<td>0.05</td>
<td>0.10</td>
<td>-0.01</td>
<td>-0.03</td>
<td>-0.05</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>18 Cowork</td>
<td>0.10</td>
<td>0.38</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.01</td>
<td>-0.30</td>
<td>0.01</td>
<td>0.06</td>
<td>-0.02</td>
<td>-0.04</td>
<td>-0.06</td>
<td>-0.01</td>
</tr>
</tbody>
</table>

Correlations coefficients over .01 is significant at 1% level
<table>
<thead>
<tr>
<th>Boundary-Crossing</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M5</th>
<th>M6</th>
<th>M7</th>
<th>M8</th>
<th>M9</th>
<th>M10</th>
<th>M11</th>
<th>M12</th>
<th>M13</th>
<th>M14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0.049)</td>
<td>(0.282)</td>
<td>(0.056)</td>
<td>(0.056)</td>
<td>(0.171)</td>
<td>(0.087)</td>
<td>(0.341)</td>
<td>(0.078)</td>
<td>(0.307)</td>
<td>(0.092)</td>
<td>(0.092)</td>
<td>(0.246)</td>
<td>(0.140)</td>
<td>(0.357)</td>
</tr>
<tr>
<td>H1: Economic Capital (Industry-specific)</td>
<td>-2.531***</td>
<td>(0.292)</td>
<td>-2.584***</td>
<td>(0.297)</td>
<td>1.071***</td>
<td>1.810***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.185)</td>
<td>(0.194)</td>
<td>(0.234)</td>
<td>(0.238)</td>
<td>(0.235)</td>
<td>(0.242)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H2: Economic Capital (Function-specific)</td>
<td>0.084</td>
<td>(0.116)</td>
<td>0.440***</td>
<td>(0.165)</td>
<td>0.166</td>
<td>0.109</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.105)</td>
<td>(0.105)</td>
<td>(0.105)</td>
<td>(0.105)</td>
<td>(0.105)</td>
<td>(0.105)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3: Cultural Capital (Group-Specific)</td>
<td>-3.95+</td>
<td>(0.215)</td>
<td>0.352</td>
<td>(0.248)</td>
<td>-1.548***</td>
<td>-2.071***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.030)</td>
<td>(0.039)</td>
<td>(0.040)</td>
<td>(0.058)</td>
<td>(0.068)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4: Social Capital</td>
<td>0.282***</td>
<td>(0.063)</td>
<td>0.287***</td>
<td>(0.063)</td>
<td>0.283***</td>
<td>(0.063)</td>
<td>0.282***</td>
<td>(0.063)</td>
<td>0.282***</td>
<td>(0.063)</td>
<td>0.282***</td>
<td>(0.063)</td>
<td>0.282***</td>
<td>(0.063)</td>
</tr>
<tr>
<td>Business group membership</td>
<td>0.722***</td>
<td>(0.055)</td>
<td>0.722***</td>
<td>(0.055)</td>
<td>0.722***</td>
<td>(0.055)</td>
<td>0.722***</td>
<td>(0.055)</td>
<td>0.722***</td>
<td>(0.055)</td>
<td>1.140***</td>
<td>1.142***</td>
<td>1.140***</td>
<td>1.144***</td>
</tr>
<tr>
<td>Listed</td>
<td>0.466***</td>
<td>(0.012)</td>
<td>0.466***</td>
<td>(0.012)</td>
<td>0.466***</td>
<td>(0.012)</td>
<td>0.466***</td>
<td>(0.012)</td>
<td>0.466***</td>
<td>(0.012)</td>
<td>0.293***</td>
<td>0.294***</td>
<td>0.294***</td>
<td>0.295***</td>
</tr>
<tr>
<td>Firm size</td>
<td>-0.007***</td>
<td>(0.002)</td>
<td>-0.008***</td>
<td>(0.002)</td>
<td>-0.007***</td>
<td>(0.002)</td>
<td>-0.007***</td>
<td>(0.002)</td>
<td>-0.008***</td>
<td>(0.002)</td>
<td>-0.009***</td>
<td>-0.009***</td>
<td>-0.009***</td>
<td>-0.009***</td>
</tr>
<tr>
<td>Firm age</td>
<td>-0.222*</td>
<td>(0.100)</td>
<td>-0.222*</td>
<td>(0.100)</td>
<td>-0.217*</td>
<td>(0.100)</td>
<td>-0.223*</td>
<td>(0.100)</td>
<td>-0.227*</td>
<td>(0.101)</td>
<td>-0.442***</td>
<td>-0.441***</td>
<td>-0.442***</td>
<td>-0.443***</td>
</tr>
<tr>
<td>Firm performance</td>
<td>-2.295***</td>
<td>(0.058)</td>
<td>-2.295***</td>
<td>(0.058)</td>
<td>-2.295***</td>
<td>(0.058)</td>
<td>-2.295***</td>
<td>(0.058)</td>
<td>-2.296***</td>
<td>(0.058)</td>
<td>-2.355***</td>
<td>-2.366***</td>
<td>-2.365***</td>
<td>-2.365***</td>
</tr>
<tr>
<td>Observations</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
<td>263206</td>
</tr>
<tr>
<td>Log-likelihood</td>
<td>-9348.25</td>
<td>-9320.21</td>
<td>-9347.96</td>
<td>-9333.04</td>
<td>-9346.38</td>
<td>-9333.28</td>
<td>-9297.77</td>
<td>-5806.93</td>
<td>-5799.48</td>
<td>-5802.76</td>
<td>-5798.38</td>
<td>-5791.80</td>
<td>-5796.98</td>
<td>-5754.42</td>
</tr>
<tr>
<td>Degree of freedom</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses
* p<.10  ** p<.05  *** p<.01  **** p<.001
Figure 1. Trends of Executive Mobility

Number of Executives Moved

Year

Figure 2. Human Capital’s Impact on the Change in Predicted Probability of Cross-Boundary Mobility