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**Will We Ever Meet Again? The Relationship between Inter-Firm Managerial Migration
and the Circulation of Client Ties**

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ABSTRACT

A large body of research shows that the migration of managers from one professional service firm to another weakens the old employer's relationship with its clients, because migrating managers remove their relationship-specific knowledge and expertise—i.e., human and social capital—from their old employers, redeploying it to their new employers. This study extends this research by introducing a bi-directional perspective of social capital in which both firms *and* managers may exploit these relationship-specific resources. We use theory on social capital to build arguments about how one form of manager mobility, manager migration between two service providers in a single market, can both lead and lag the movement of client ties between those providers, and signaling theory to hypothesize the conditions under which this is likely to occur. Analyses using longitudinal data on New York City advertising agencies generally support our arguments. Our findings contribute to theory and research on manager migration, social capital, and signaling, and raise new questions for how the portability of relationship-specific social capital shapes markets.

Key Words: Client Relationships, Manager Migration, Professional Service Firms, Signaling Theory, Social Capital

Will We Ever Meet Again? The Relationship between Inter-Firm Managerial Migration and the Circulation of Client Ties

“I envy my friends who are doctors. They have so many patients that the defection of one cannot ruin them. Nor is the defection reported in the newspapers for all their other patients to read. I also envy lawyers. They can go on vacations, safe in the knowledge that other lawyers are not making love to their clients. Now that I have acquired a portfolio of nineteen splendid clients, I wish that a law could be passed making it illegal for agencies to solicit.” (David Ogilvy, 2004. Confessions of an Advertising Man)

There is a growing body of literature on how relationships between professional service firms (referred to subsequently as *providers*) and client firms (referred to subsequently as *clients*) become intertwined with the human and social capital of managers. We define managers as the individuals at multiple hierarchical levels of organizations who contribute to developing and maintaining provider-client relationships (Broschak and Block, 2014; Fichman and Goodman, 1996). Prior research has established that managers’ investments in human and social capital help provider-client relationships perform more smoothly and persist over time (Broschak, 2004; Seabright, Levinthal and Fichman, 1992; Uzzi, 1997), managers’ migration to other providers disrupts social capital and increases the likelihood provider-client relationships will end (Bermis and Greenbaum, 2016; Broschak, 2004; Broschak and Block, 2014; Raffiee, 2017; Rogan, 2014; Somaya, Williamson, and Lorinkova, 2008), and managers who migrate to other providers can appropriate relationship-specific social capital and facilitate the movement of clients to those same providers (Raffiee, 2017). In this line of research, the dominant perspective is that the career mobility of people affects market ties between firms (Mawdsley and Somaya, 2016). As a result, researchers emphasize what providers can do to retain relationships with clients in the face of managerial migration (Raffiee, 2017; Rogan, 2014).

We contend that research on managers' careers and provider-client relationships overlooks two important issues. First, it presumes that the relationship between managers' careers and provider-client relationships is unidirectional; specifically, that manager migration to other providers weakens existing provider-client relationships and draws clients to those providers due to managers' ability to access relationship-specific social capital. It has not considered the possibility of bi-directional effects; that firms can also access social capital, and as such client circulation to other providers can weaken provider-manager relationships and draw managers to other providers. Social capital is value that exists in relationships, and in theory, both firms and individuals in firms can appropriate that value (Koput and Broschak, 2010; Sorenson and Rogan, 2014). If true, then not only can client relationships become embedded in the careers of individuals who migrate from one provider to another, individuals' careers could also become embedded in client relationships. When providers lose clients, managers at those provider firms may seek employment elsewhere, or be recruited away, because the value of their client-specific human and social capital decreases for their present employer and increases for other potential providers. Research that examines how the movement of clients between providers affects careers is necessary to test this implication of social capital theory. One cannot simply infer how provider-client relationship dissolutions affect managers' careers by observing how managerial careers affect client relationships.

Second, existing research often examines how managerial migration and the dynamics of provider-client relationships are related but overlooks which managers migrate and where they go. This is an important omission because many of these studies are conducted in settings where a single role captures the entirety of provider-client relationships; roles such as lobbyist (Bermiss and Greenbaum, 2016; Raffiee, 2017) lawyer (Carnahan and Somaya, 2013; Coates et al., 2011)

and accountant (Wezel, Cattani, and Pennings, 2006). In other professional services, such as advertising and consulting, the service provided and relationships with client firms are more complex with responsibilities for delivering services and managing client relationships distributed among managers in different functional areas and at multiple hierarchical levels (Bermiss and Murmann, 2015; Fichman and Goodman, 1996; Mills and Margulies, 1980; von Nordenflycht, 2010). Research that examines the characteristics of managers who migrate between providers is necessary for determining what base of social capital influences client movement to new providers. Similarly, if we are correct that client movement spurs manager migration to new providers, understanding what characteristics of firms that receive client ties affect subsequent manager migration is important for identifying the boundary conditions under which appropriating social capital operates.

In this paper, we address these issues by investigating the relationship between manager migration and the dynamics of provider-client relationships in the New York City advertising industry using a 13-year longitudinal dataset of 153 advertising agencies headquartered in the greater New York City area. Following Broschak and Block (2014), we take a broad view of managers, and use the term to represent both executives, who are members of advertising agencies' top management teams, and exchange managers, who have varied functional and operational expertise and who conduct much of the day-to-day business with clients (see also Broschak, 2004). We focus on advertising because this is a professional service industry in which human and social capital is critically important to provider-client relationships.

However, our approach extends previous research in several important ways. First, we theorize about the bi-directional effects of relationship-specific social capital, arguing that both organizations *and* their employees may appropriate and benefit from this resource. We then

empirically examine the extent to which this occurs by studying whether manager migration between two providers in a single market can both lead and lag the movement of client ties between those providers.

Second, previous research has examined whether client firms follow managers to new providers while also maintaining relationships with their former providers (Raffie, 2017; Somaya et al., 2008). In contrast, we look at a particular type of client movement: client tie circulation, which Broschak and Niehans (2006: 375) defined as “clients form[ing] new client-service firm relationships in the wake of dissolving existing relationships.” Looking at circulated client ties provides a conservative test of the extent to which managers’ careers predict subsequent provider-client relationship formation, and allows for directly comparing how client movement affects managers’ careers, because managers cannot work for two providers simultaneously.

Third, we examine conditions under which these two mobility events, client tie circulation and manager migration events, are more likely to occur. Contextual differences are rarely discussed in the literature on career mobility in knowledge-based industries (Wright et al 2018), yet context likely shapes the impact of social and human capital on market dynamics. We use signaling theory to build arguments about how characteristics of managers and of providers to which client ties circulate are likely to amplify the effects between manager migration and client tie circulation.

This paper is organized as follows: first, we introduce the phenomenon of the circulation of client ties. Next, we review research on social capital and manager mobility and generate two main effect hypotheses about the temporal nature of the relationship between managerial migration and client tie circulation. We then integrate research on signaling theory and use it to generate hypotheses about the conditions under which the relationships between provider

manager migration and client tie circulation is more or less likely to occur. We then describe our setting and data, present our results, and explain the implications of our research for the study of market relationships and managerial migration, social capital theory, and signaling theory.

CIRCULATION OF CLIENT TIES

Clients and providers of professional services periodically make decisions to break existing provider-client relationships and form new ones. This occurs because provider-client relationships are subject to destabilizing forces, such as change in a client's resource needs (Seabright et al., 1992), client dissatisfaction with the performance of providers (Doyle, Corstjens, and Michell, 1980), and competitive pressures from rival providers who attempt to woo clients away from competitors (Baker, Faulkner, and Fisher, 1998). When provider-client relationships end, client firms face three choices: they may redistribute their business among their remaining provider ties (in markets where polygamous ties are permitted), insource the professional service (where market rules allow it), or form a tie with a new provider. Our interest is in this third choice, which Broschak and Niehans (2006) termed the *circulation of client ties*—when a provider-client relationship dissolves with one provider (i.e., the sending provider) but is later reconstituted with a new provider (i.e., the receiving provider). Regardless of why client ties dissolve, the circulation of client ties is a key activity in restructuring markets (Fligstein, 2001).

Client tie circulation creates information uncertainty for clients and providers around the search for new providers and the management of new client relationships, respectively. Clients face uncertainty trying to evaluate the capabilities of providers and infer the quality of a potential relationship with them, largely because professional service firms produce an intangible output, have expertise that is largely outside clients' technical expertise, and perform work that is difficult to evaluate (Mills and Marguiles, 1980; Sharma, 1997). Providers face uncertainty about

their new clients' needs and preferences, and which tools are needed because they have yet to make the relationship-specific investments that allow them to understand their clients' business, develop relationship-specific resources, and create joint operating routines that make these relationships effective (Levinthal and Fichman, 1988). Finally, individual managers who work for providers face uncertainty about their future careers because any relationship-specific expertise they developed loses value when clients cut ties with their employers.

Though close proximity in geographically constrained markets can increase the amount of information available to firms and managers, information uncertainty remains (Geertz, 1978). One way that firms and managers can mitigate this uncertainty is through the migration of managers between providers (Pfeffer and Leblebici, 1973). Below we develop theoretical arguments about how managerial migration alleviates information uncertainty around the circulation of client ties, and thus how managerial migration and client ties are related.

MANAGER MIGRATION AS ACCESS TO SOCIAL CAPITAL

Reciprocity between managers' careers and provider-client relationships exists in any setting where employees' knowledge is portable (Mawdsley and Somaya, 2016; Rocha, Carneiro, and Varum, 2018; Wright et al., 2018) but particularly in professional services where key assets are embodied in human and social capital rather than in physical capital (Becker, 1975; Coleman, 1988; Sharma, 1997). When client firms enter into relationships with professional service providers, they largely purchase the knowledge, skills, abilities, and expertise of their managers. Over time, provider-client relationships become embedded in the social capital provider-side managers develop with client firms; in-depth understanding of, clients' needs (Bermiss and Greenbaum, 2016), relationship-specific expertise such as knowing

how best to communicate with clients (Uzzi, 1997), and personal relationships grounded in the close interaction that occurs in the co-production of professional services (Granovetter, 1985; Larsson and Bowen, 1989). These investments in relationship-specific human and social capital provide relational advantages such as trust (Raffiee, 2017), structural advantages such as access to information (Burt 1992), and cognitive advantages such as shared representations and systems of meaning (Cicourel, 1973; Conner and Prahalad, 1996). Greater amounts of social and human capital in provider-client relationships create greater certainty about and stronger performance of the relationship (Broschak, 2004; Seabright et al., 1992; Uzzi, 1997).

Relationship-specific human and social capital are only partially under a provider firm's control (Barley and Kunda, 2006; Coff, 1997; McLeod, O'Donohoe and Townley, 2011). In professional services where there is no partnership track, career advancement often lies in external labor markets (Kanter, 1989; Pfeffer and Baron, 1988). Yet, managers who migrate between providers retain access to the social capital they had developed in provider-client relationships (Bermiss and Greenbaum, 2016; Mawdsley and Somaya, 2016; Raffiee, 2017).

The ability of provider managers to access social capital from previous client relationships has implications for the circulation of client ties. Provider managers who migrate between firms may use the social capital to recruit clients of their previous employer. Client firms have strong preferences for working with known others (Granovetter, 1985). When faced with uncertainty about forming relationships with new providers, clients may choose providers who have hired managers with whom they are familiar or have shared history (Coates et al., 2011).

Clients may also follow managers from one provider to another without any solicitation from migrating managers. When managers migrate between providers, the receiving provider

acquires access to the managers' relationship-specific social capital (Raffiee, 2017; Somaya et al., 2008). Receiving providers may appropriate some of a newly-hired manager's technical expertise and in-depth knowledge of working with a particular client and combine it with other human and social capital in the firm to craft a strategy or create service offerings targeted for that specific client (Naphiet and Ghoshal, 1998), or to capitalize on problems with a client's existing provider relationship. The ability to reduce uncertainty makes the providers in question attractive candidates for receiving circulated client ties when client firms search for new providers.

Finally, the effects of managerial migration may have an indirect effect on the likelihood of client tie circulation. Clients who seek to establish new provider relationships may use the migration of managers from firms with whom they have prior experience as a means to assess and compare the quality of new potential exchange partners (Broschak and Niehans, 2006). Information about managerial migration in markets for professional services tends to be widely available to client firms. Client firms may interpret manager migration from a sending provider with whom they are familiar as evidence of the hiring firm's quality, even without the benefit of ever having worked with those specific managers.

Empirical research on professional services supports the claim that managerial migration between providers predicts the circulation of client ties. Wholey (1985) provided anecdotal evidence that the inter-firm migration of lawyers resulted from rival law firms' efforts to acquire new expertise and clients through recruitment. Phillips (2002) showed how lawyers who left existing Silicon Valley law firms to found new firms brought with them valuable resources, such as knowledge of customers and potential clients that bolstered the new ventures' life chances. And Somaya et al, (2008) demonstrated that hiring lawyers from other law firms increased the amount of business the hiring firm obtained from the competitors' clients. In a study of

engineering consulting, Bills (1987: 212) reported that “an employee changing firms is often able to take his or her business along.” Finally, Bermiss and Greenbaum (2016) and Raffiee (2017) showed that individual lobbyists who changed firms were able to retain relationships with previous clients. Although these studies imply that managers intentionally pull clients with them, client tie circulation may also follow managerial migration more passively.

Our arguments thus far follow prior research in presuming that manager migration precedes the circulation of client ties. Yet the opposite may also be true. When client firms change providers, individual managers may benefit from their prior investments in relationship-specific human and social capital. Providers receiving newly circulated client ties may actively seek to hire managers who have worked at the sending provider to access their knowledge, relationship-specific expertise and personal relationships (Broschak, 2004) to graft onto their own experience and routines (Huber, 1991; Somaya et al., 2008). Due to a lack of trust and established routines new provider-client relationships are fragile until providers develop routines and learn to work with clients (Levinthal and Fichman, 1988). One logical way to learn is by hiring sending provider managers with prior experience working with the client (Rosenkopf and Almeida, 2003).

Managers may also opportunistically follow clients from one provider to another. Since the value of managers’ relationship-specific investments declines when client relationships dissolve, the circulation of client ties may be a triggering event that lowers managers’ commitment to their current employers and provides an occasion to pursue outside job opportunities. Because managers’ relationship-specific human and social capital is most valuable to firms who have received clients from the manager’s previous employer, managers looking to

change firms in hopes of trading on the value of their human and social capital are likely to target providers that receive circulated client ties.

This set of theoretical arguments suggests that the migration of managers between professional service providers can both precede and succeed the circulation of client ties, though theorizing and empirical tests have largely focused on the former. Thus, we offer these hypotheses together; the first re-affirms the already empirically supported hypothesis and the second is a novel hypothesis.

Hypothesis 1: The migration of managers between two professional service providers has a positive effect on the likelihood of subsequent circulation of client ties between the two firms.

Hypothesis 2: The circulation of client ties between two professional service providers has a positive effect on the likelihood of subsequent migration of managers between the two firms.

Although these hypotheses appear to be competing, we do not see them as zero-sum. We argue that the bi-directional effects of social capital allow for both processes to occur simultaneously, and that they can be empirically separated. We also expect certain conditions will amplify the extent to which manager migration will lead or follow the circulation of client ties. In the next section, we consider how the characteristics of the managers and firms involved in migration or circulation events strengthen or attenuate their subsequent impact.

SIGNALING THEORY, MANAGERIAL MIGRATION, AND CLIENT TIE CIRCULATION

We draw on signaling theory to hypothesize how manager and provider characteristics moderate the strength of the relationship between client tie circulation and manager migration.

Signaling theory is “fundamentally concerned with reducing information asymmetry between two parties” (Connelly et al., 2011, p. 40). Spence’s (1973) seminal work described the ways job applicants may use signals, such as an elite education, to reduce uncertainty about their value to future employers. In the last 40 years, management scholars have used this perspective to demonstrate how signals reduce various types of information asymmetries in a wide variety of contexts (see Connelly et al., 2011 for a review). For example, firms use financial statements to signal firm quality (Zhang and Wiersema, 2009), diversity to signal social values (Miller and Triana, 2009) or founder involvement to signal stability of an entrepreneurial venture (Busenitz, Fiet, and Moesel, 2005). Signals are particularly valuable when information held by “insiders” is inaccessible to “outsiders,” and outsiders have an interest in acquiring that information.

In management, signaling theory has historically focused on the intentional and strategic deployment of signals by organizations in order to communicate with stakeholders (Connelly et al., 2008; Folta and Janney, 2004; Spence, 1973). Though there are two parties to any signaling event—the signaler and the receiver—most applications of this theory have centered on the generation of signals by the signaler and the characteristics of those signals such as cost and veracity (Durcikova and Gray, 2009; Ndofor and Levitas, 2004; Spence, 1973). However, for at least two reasons, increased attention to the signal receiver and the signal it receives is important. First, organizations are embedded in a variety of task and institutional environments with multiple sets of stakeholders who may receive signals (Fombrun and Shanley, 1990; Kraatz and Block, 2008). As a result, signals may be received and interpreted both by intended recipients and by unintended audiences. Second, targeted and unintended receivers may interpret signals in ways that differ from what signalers intend. The information environment in the years since the inception of signaling theory has changed. Compared to the more controlled information

environment that served as the background of Spence's theorizing, today's environment is incredibly information-rich. Signals are more public and more likely to be observable beyond their target. For both reasons, signals are likely to be interpreted beyond their intent.

Researchers have recently used signaling theory to explain how signals that are not intentionally or strategically sent shape outcomes, such as audience perceptions of organizational reputation (Mishina, Block, and Mannor, 2012). For example, Mannor and colleagues demonstrate that potential investors attend to the levels of experience of entrepreneurial founding teams, as it signals different messages depending on the level of uncertainty in the competitive environment (Mannor, Block, Matta, Steinbach and Davis, 2019). We extend this use of signaling theory and explore the conditions under which manager migration or the circulation of ties functions as an efficacious signal to external observers, facilitating, respectively, subsequent client tie circulation or manager migration.

According to signaling theory (Spence, 1973; Stiglitz, 2000) efficacious signals have two key characteristics: signal observability, defined as the extent to which outsiders are able to notice the signal, and signal costs, which reflect the signal receiver's ability to absorb the expense of engaging in activities that are being signaled. We suggest that characteristics of managers who migrate between firms and the characteristics of the sending providers will have a significant impact on the observability and interpretability of the signal. Manager migration signals to client firms what human and social capital has transferred from the sending to the receiving provider. Because human and social capital are critical to co-producing professional services and reducing uncertainty about choosing a new provider, we expect characteristics of the managers who migrated from the sending to the receiving provider enhance signal efficaciousness. In contrast, client tie circulation signals to managers in the sending provider

about the characteristics of the receiving provider. Because managers' career outcomes partially depend on the qualities of the providers to which they might migrate, characteristics of the providers to which client ties circulate are likely to enhance that signal's efficaciousness.

Manager Characteristics as Signals

Several characteristics of managers who migrate between providers may influence signal efficaciousness. First, we expect that tenure of the managers who move will amplify the effect of managerial migration on subsequent client tie circulation. Longer tenured managers tend to develop higher amounts of social and human capital over their years in the sending organization (Bermiss and Greenbaum, 2016; Seabright et al., 1992). The departure of longer-tenured managers signals not just the loss of managers, but managers with significant human and social capital for the sending provider.

Second, we expect that a manager's functional and hierarchical position in the sending firm will enhance signal efficaciousness to external observers and moderate the effect of managerial migration on the subsequent circulation of client ties. Functional position refers to the role managers occupy in the organization; boundary-spanning roles interact primarily with external stakeholders while back-office roles primarily interact with internal stakeholders (Bermiss and Murmann, 2015). While all provider managers likely invest in client relationships to some extent, managers in boundary-spanning roles are on the frontlines of client relationships, working closely, day-to-day, in the co-production of professional services. As a result, boundary-spanning managers have the opportunity to make greater relationship-specific investments and develop client-specific social and human capital (Broschak, 2004; Raffiee, 2017). Thus, compared to managers who occupy roles more removed from client contact, the departure of

boundary-spanning managers is likely to be more observable and meaningful to external observers.

Managers at different levels of the organizational hierarchy play different roles in the continuity of provider-client relationships (Fichman and Goodman, 1996; Broschak and Block, 2014). Compared to managers lower in the organizational hierarchy, who tend to interact with their counterparts in client firms on a daily basis, executives are less likely to develop the client-specific expertise that contributes to the continuity of client ties. Interactions between executives in both firms are relatively infrequent and likely to occur at only two points during a provider-client relationship: when the market tie is formed and when there is a need to approve deliverables, clarify firm strategy, or mediate conflicts (Broschak and Block, 2014). Thus, managers at lower levels of the organizational hierarchy may be more likely to accrue relationship-specific social capital. Although the departure of executives from a professional service provider may be a meaningful signal to the broader community, it may be a less efficacious signal to clients as it is less likely to shape day-to-day work. Taken together, these arguments about tenure and position suggest the following hypotheses:

Hypothesis 3a: The effect of managerial migration on the likelihood of client ties circulating between two professional service providers will be stronger for managers with longer tenure in the sending provider.

Hypothesis 3b: The effect of managerial migration on the likelihood of client ties circulating between two professional service providers will be stronger for managers in boundary-spanning roles in the sending provider than for managers in functional roles removed from client contact.

Hypothesis 3c: The effect of managerial migration on the likelihood of client ties circulating between two professional service providers will be stronger for managers at lower hierarchical levels in the sending provider.

Organizational Characteristics as Signals

We expect three organizational characteristics will influence the efficaciousness of the signal sent by client tie circulation: the relative reputation and relative performance of receiving providers compared to sending providers, and the number of clients that move between two given providers. Receiving providers will not all be equally successful at drawing managers from sending providers to serve newly acquired clients just as not all managers will be willing to pursue employment with receiving providers. When evaluating external employment opportunities, managers are likely to consider where their human and social capital are valued, but also the attractiveness of receiving firms as potential employers compared to their prospects in their current firm.¹ Organizational characteristics of receiving providers are signals managers rely on to reduce information asymmetry around these career opportunities.

Organizational reputation is the collective assessment of a stakeholder group and reflects the perception that an organization can create value (e.g., Rindova, Petkova, and Kotha, 2007; Rindova et al., 2005). Reputations facilitate inferences about an organization's other characteristics or about the expected outcomes of interaction when more specific information is difficult or costly to obtain (Deephouse and Suchman, 2008). Clients circulating to higher-reputation providers is likely to be an efficacious signal to managers at the sending provider about employment opportunities. Compared with client circulation to providers of equivalent or lower reputation than the sending firm, it likely carries information about potentially better opportunities for career advancement. A parallel argument can be made regarding the relative performance of receiving providers compared to sending providers; managers may be more inclined to follow circulating clients to receiving providers experiencing better short-run performance than their current employers because it signals better career opportunities.

Finally, the number of clients that move between two providers is likely to shape whether client tie circulation is an efficacious signal. A greater number of clients moving between providers increases the likelihood that managers in sending firms will notice. In addition, more circulated clients suggests more opportunities for managers in the sending firm to utilize their relationship-specific skills and knowledge, making the receiving provider a more attractive career destination. These factors increase the likelihood of managerial migration occurring after the circulation of client ties, thus, we hypothesize,

Hypothesis 4a: The effect of client tie circulation on the likelihood of managerial migration between two professional service providers will be stronger when the receiving provider has a higher reputation compared to the sending provider.

Hypothesis 4b: The effect of client tie circulation on the likelihood of managerial migration between two professional service providers will be stronger when the receiving provider is experiencing superior short-run performance compared to the sending provider.

Hypothesis 4c: The effect of client tie circulation on the likelihood of managerial migration between two professional service providers will be stronger when more than one client relationship circulates to the receiving provider from a sending provider in a given year.

DATA AND METHODS

We test the relationship between managerial migration and the circulation of client ties using longitudinal data on a sample of advertising agencies headquartered in the greater New York City area. Advertising is an ideal setting for this study because advertising agencies are professional service firms whose production is heavily dependent on human and social capital (e.g., knowledge about marketing, creativity, and client relationships) rather than physical assets (e.g., factories and equipment). Further, in the advertising industry, managers careers tend to lie between firms rather than within firms, and inter-firm competition for resources is high (von

Nordenflycht 2010). Thus, advertising agencies tend to experience high rates of manager migration and client tie circulation.

Yet advertising differs from other professional services researchers have studied in two ways. First, advertising is a “task-interactive” service, where client-agency interaction is frequent and complex, requiring the technical expertise of multiple professionals in different functional areas to solve problems without clear solutions, and clients find it difficult to evaluate the service (Mills and Margulies, 1980: 260-261). Compared to auditing where technical expertise is applied to more discrete problems, and where clients are better able to evaluate the service, there is greater uncertainty over selecting a new advertising agency. Second, advertising is an example of a professional service with a weakly professionalized workforce, much like management consulting, engineering design, and public relations (Nordenflycht, 2010). As a result, advertising agencies likely experience more manager migration, particularly at the upper levels of the firm, compared to “classic” professional service firms, such as law and accounting firms, with their partnership systems. While we expect our arguments to generalize to professional services firms with both weakly and strongly professionalized workforces, we suspect managers following clients and clients following managers occurs more frequently in settings with a weakly professionalized workforce.

We used detailed data on advertising agencies, their managers, and their client relationships for the period 1986-1998 from *The Standard Directory of Advertising Agencies* (hereafter, the “Agency Red Book”). The Agency Red Book provides extensive information about advertising agencies in the United States that are agencies of record for at least one national or multi-state account spending \$200,000 or more on media per year. It includes financial and organizational information, the full names and job titles of agency executives and

exchange managers, and rosters of clients. These client rosters enable systematic tracking of client tie circulation.

These data are part of a larger dataset previously used to study managerial mobility and client tie dissolution (Broschak, 2004; Broschak and Block, 2014; Broschak and Niehans, 2006). However, the data used in this article are unique in that we derived instances where client firms disappeared from the client roster of one agency in our sample and later appeared on the client roster of another agency in our sample (e.g., the circulation of client ties). We also captured cases where managers left the employee roster of one agency in our sample but later appeared on the employee roster of another agency in our sample (e.g., managerial migration). It is beyond the scope of our data to identify the destination of every client that left an agency in our sample, or trace the destination of every manager who exited an agency in our sample. We are, however, able to control for the overall amount of client and manager exits in the agencies in our sample.

As previously reported in Broschak (2004), we selected a random sample of advertising agencies with headquarters in the greater New York City area from the 1986 Agency Red Book, the first year of the sample. We chose the greater New York City area because it contains the highest concentration of advertising agencies in the United States, and a labor market large enough to observe managerial migration. Our sampling frame included all agencies with minimum gross billings of \$3,500,000 for which the names of managers and clients were available in 1986. Below this threshold, agencies tended not to report the names of managers or clients. A minimum of three years of data were necessary to observe both manager migration and the circulation of client ties, and to test causal hypotheses. Thus, we restricted our sampling frame to agencies that appeared in the directory for a minimum of three consecutive years beginning in 1986. We also excluded from the sampling frame agencies that did not list the

names and job titles of managers or their roster of clients, and “house” agencies, which are proprietary firms established by clients solely to handle their own advertising needs (Dunn et al., 1990), and subject to unique market forces. From the final sampling frame of 261 firms, we selected a random sample of 153 advertising agencies. A one-sample t-test confirmed that our sample of agencies compared to the sampling frame was not significantly different on either mean agency billings in 1986 (\$103,136,907 vs \$113,398,486, $p = 0.37$) or mean agency age in 1986 (21.4 years vs. 20.2 years, $p=0.24$).

To avoid sample selection bias due to high agency mortality, we split the sampling frame into two subsets; firms that failed prior to 1998 and firms that survived. We purposively sampled agencies from both subsets to insure we included both agencies that failed during the observation period and agencies that survived throughout. Of the 153 agencies in our sample, 74 failed during the observation period and 79 survived. Some large agencies headquartered in New York City reported the names of managers and the roster of client firms separately for branch offices in other cities, so we included these branch offices, treating them as separate agencies, bringing the total number of agencies in the sample to 176. For each year of the observation period, or until the agency failed, we recorded the names of every client, and the names and job titles of all managers, as reported by the agency. As described in detail below, we used these observations to identify, for our sample of advertising agencies, every instance of client tie formation and tie dissolution, and every instance of managers’ entry into and exit from agencies. We use these events, in turn, to determine our key dependent and independent variables: client tie circulation and managerial migration.

Dependent Variables

Client tie circulation and managerial migration are both dependent variables in our study. Client tie circulation is defined as the dissolution of a relationship between a client and an agency (A_i) in year t , and the formation of a new tie between that client and a new agency (A_j) in the sample in any year $t + n$, where $n \geq 1$. Managerial migration is defined as the exit of a manager who worked in agency (A_i) in year t , and the entry of that manager into a new agency (A_j) in our sample, in year $t + n$, where $n \geq 1$. While our theory relates client tie circulation to managerial migration, they are independent events: client tie circulation was determined independent of the occurrence of managerial migration and managerial migration was determined without regard to the occurrence of client tie circulation.

Client Tie Circulation. We determined client tie circulation in three steps. First, we identified all instances of tie dissolution occurring in calendar year t ; where a client name appeared on agency A_i 's client roster in year t , but failed to appear in year $t+1$. We next identified all instances of tie formation in calendar year t where a client name appeared on agency A_j 's client roster in year $t+1$, but had not appeared in year t . Finally, we recorded tie circulation events as occurring when the same client name was involved in a tie dissolution event in year t with agency A_i (the sending agency), and a tie formation event with a different agency A_j (the receiving agency) in any subsequent year.

To account for variations across agencies in the reporting of client names, we used the name of the corporate entity, rather than a brand or product account, as the basis for identifying client ties. Thus, our coding captures relationships between agencies and corporate entities, rather than between agencies and specific advertising accounts. We recorded 7,528 client ties dissolving for our 176 agencies over the 13-year observation period, while 7,567 client ties

formed. Of the client relationship dissolutions we observed, 792 client ties (10.5%) circulated between agencies in our sample representing 780 different tie circulation eventsⁱⁱ.

Given that all agencies in the sample were theoretically at risk of receiving a client tie from any other agency in the sample in any year they appear in the dataset, we created a matrix of $176 \times 175 \times n$, where n represents the number of years each agency appeared in our sample during the observation period. Tie circulation events were coded as 1 for the receiving agency (A_j) in the year they received one or more ties from each sending agency (A_i). In all other instances, tie circulation was coded as 0.

Manager Migration. We followed a similar three-step procedure to determine manager migration. Using each agency's roster of managers, as reported by all the agencies in our sample, we first identified all instances of managerial exit in calendar year t , where a manager's name appeared on the roster of employees for agency A_i in year t but not in year $t+1$. Next, we identified all instances of managerial hiring in calendar year t , where a manager's name appeared on the roster of employees for agency A_j in year $t+1$, but had not been listed as employed by the agency in year t . Finally, we recorded managerial migration as occurring when there was a match between the first and last names of a manager exiting agency A_i (the sending agency) and being hired by agency A_j (the receiving agency) in any subsequent year, and where the job titles suggested the manager held roles in the same functional area in the two agencies. We recorded 8,148 manager exits for our 176 agencies over the 13-year observation period, while there were 8,375 occurrences of managers entering one of the agencies in our sample. Of the manager exits we observed, 463 (5.7%) managers subsequently migrated to another agency in our sample, representing 404 different managerial migration eventsⁱⁱⁱ.

Given that all agencies in the sample are theoretically at risk of receiving managers from any other agency in the sample in any year they appear in the dataset, we created a matrix of $176 \times 175 \times n$, where n represents the number of years each agency appeared in our sample during the observation period. Manager migration events were coded as 1 for the receiving agency (A_j) in the year they hired one or more managers who had worked in each sending agency (A_i). In all other instances, manager migration was coded as 0.

Independent Variables

To test hypothesis 1, for how *Manager Migration* affects subsequent *Client Tie Circulation* in year t , we created the independent variable *Past Manager Migrated* from our manager migration data. For each receiving agency (A_j) we coded *Past Manager Migrated* = 1 beginning in year t , and in all subsequent years over our observation window, when manager migration occurred from agency A_i to agency A_j in year $t-1$. Thus, in any year t , *Past Manager Migrated* captures whether agency A_j had previously hired, in year $t-1$ or earlier, a manager who had worked in Agency A_i . Similarly, to test hypothesis 2, for how *Client Tie Circulation* affects subsequent *Managerial Migration* in year t , we created the independent variable *Past Client Tie Circulated* from our client tie circulation data. For each receiving agency (A_j) we coded *Past Client Tie Circulated* = 1 beginning in year t , and in all subsequent years over our observation window, when client tie circulation occurred from agency A_i to agency A_j in year $t-1$. Thus, in any year t , *Past Client Tie Circulated* captures whether agency A_j had previously acquired, in year $t-1$ or earlier, a client firm who had been on the client roster of Agency A_i . Coding the independent variables as a change in state, rather than a one-year event, allows us to test for the ongoing effects of Agency A_j having received a manager or client tie from Agency A_i in any year prior to the focal year. This way, we make no *a priori* assumptions of the duration of any lag

between *Past Manager Migrated* and subsequent *Client Tie Circulation*, or between *Past Client Tie Circulated* and subsequent *Managerial Migration*.

Moderating Variables

Managerial characteristics. To test Hypotheses 3a-3c, we measured three characteristics of migrating managers. We measured *tenure* as the number of years migrating managers were employees of the sending agency. Because our sample begins in 1986, left-censoring was a problem for managers already employed in 1986. To account for that, we determined tenure by following each manager's career with that employer back in time for a maximum of 10 years. Careers that began prior to 1976 were left-censored and a manager's tenure was assumed to start in 1975. In cases where two or more managers migrated between the same two agencies in a given year, we used the tenure of the longest employed manager as our measure of tenure.

We also coded each migrating manager's job title by functional area and hierarchical level. We classified each job title into one of four functional areas identified from previous research (Broschak, 2004). *Boundary Spanning Managers* were the primary points of contact with client firms (e.g., Account Services), or responsible for interacting with external third parties on behalf of clients (e.g., Public Relations, New Business Development). *Creative Managers* were responsible for conceiving and developing advertising content (job titles such as Creative Director, Art Director, Copy Supervisor, and Copywriter). *Administrative Managers* were responsible for internal operations (jobs titles like Chairman, Chief Executive Officer, President, Chief Financial Officer) or any job in accounting, finance, or human resources. *Other Managers* were managers who held functional roles that did not require direct interaction with clients, such as Media, Research, and Production. For hierarchical level, we categorized migrating managers as either managers or executives (Broschak and Block, 2014). We coded the

variable *Managers* as 1 when managers held job titles below the level of Senior Vice President and 0 if they held job titles at or above Senior Vice President.

Agency Characteristics. To test Hypotheses 4a-4c, we measured three characteristics of receiving agencies. We assessed *Receiving Agency Reputation Relative to the Sending Agency* using receiving and sending agency positions in the *Advertising Age*'s annual ranking of U.S. advertising agencies in each year t . *Advertising Age* is the most prominent industry trade publication and annually publishes a ranking of the top 200 advertising agencies headquartered in the United States. We created an indicator variable coded 1 if the sending agency (A_i) was ranked outside of the top 100 U.S. advertising agencies and the receiving agency (A_j) was ranked in the top 10, and 0 otherwise. This measure captures relatively large differences between the reputations of agencies that send and receive client ties, which is what we suspect enhances subsequent managerial migration. We experimented with different categorical differences between the sending and receiving agency reputations (e.g., from outside the top 10 to inside top 10, from outside the top 50 to inside the top 10, from outside the top 100 to inside the top 50) and our results remained consistent.

To test Hypothesis 4b we measured a *Receiving Agency's Short-run Performance Relative to the Sending Agency*, as the difference between the receiving agency's (A_j) change in annual gross billings in the three years prior to the focal year and the sending agency's (A_i) change in annual gross billings over the three years prior to the focal year. Finally, to test Hypothesis 4c we coded a dichotomous measure, *Multiple Client Ties*, as 1 in the year the receiving agency (A_j) acquired more than one client firm from the same sending agency (A_i) in the same year, and zero otherwise.

Control Variables

We controlled for a number of features of agencies that may have affected the client tie circulation and managerial migration. We created two dichotomous variables coded “1” if a sending or receiving agency was a branch office of a larger firm and thus not located in the greater New York City area, as we expect these offices to exchange fewer clients and managers with New York City agencies. We controlled for long-term firm performance through dichotomous indicators coded “1” if the sending or receiving agencies failed before the end of the observation period. We also controlled for the age of the sending and receiving agencies since age may correlate with prestige and therefore the capacity to attract new clients and managers. Because there is a possibility that multi-location agencies may be better able to service client needs, or better able to attract managers due to operating in multiple labor markets, we included dichotomous control variables for whether the sending and receiving agencies had multiple office locations. We controlled for agency size using the log of annual gross billings. We used this measure instead of number of employees because the two measures were highly correlated ($r > .9$) and many more agencies reported annual gross billings than reported their number of employees. We controlled for whether an agency’s market strategy was more relational or transactional with a count of the number of market ties an agency maintained in any given year. Finally, we controlled for whether the receiving agency was larger than the sending agency with a dichotomous variable coded 1 in year t if the receiving agency had higher annual gross billings than the sending agency.

Estimation Procedure

We estimated models using pooled time-series regression data to test our hypotheses. Our estimated models take the generalized form defined below where we estimated the probability of *Client Tie Circulation* as a function of *Past Manager Migration* while

conditioning on the features of both the receiving and sending agencies (**ControlsRec**, **ControlsSend**), and vice versa when evaluating the probability of Manager Migration.

Estimated Model (Generalized)

$$Pr(\text{Client Tie Circulation}_{ijt+1}) = f(\text{Past Manager Migration}_{ijt}, | \mathbf{ControlsRec}_{it+1}, \mathbf{ControlsSend}_{jt+1}, \mu_{ijt+1})$$

$$Pr(\text{Manager Migration}_{ijt+1}) = f(\text{Past Client Tie Circulation}_{ijt}, | \mathbf{ControlsRec}_{it+1}, \mathbf{ControlsSend}_{jt+1}, \mu_{ijt+1})$$

We estimate several extensions of this generalized model to evaluate our subsequent hypotheses by introducing interactions with our main predictors and evaluating lagged effects.

Because our dependent variables are dichotomous and our data are in discrete time—we only know whether managerial migration and client tie circulation events occurred during a given year not when they occurred—we use logistic regression techniques to estimate the likelihood of client tie circulation and managerial migration, respectively. To adjust for the multiple observations within agencies, we use the “cluster” subcommand to obtain robust (i.e., Huber-White) standard errors, using the receiving agency as the clustering variable. An additional robustness check was performed to address the issue of non-independent *dyadic* observations. We ran our models estimating robust standard errors for both the sending and receiving agency involved in each tie circulation event, using an approach proposed by Cameron, Gelbach, and Miller (2011) and implemented in Stata by Kleinbaum, Stuart and Tushman (2013). This approach is functionally similar to the bootstrap approach employed by the quadratic assignment procedure (Simpson 2001) but better suited to large data sets like ours (Cameron et al. 2011). The results presented in this paper were robust to the use of this more conservative estimation technique.

RESULTS

INSERT TABLE 1 ABOUT HERE

INSERT TABLE 2 ABOUT HERE

Table 1 contains descriptive statistics and Table 2 bivariate correlations for all the variables. As a check for multicollinearity, we estimated variance inflation factors (VIF) for the variables used. All were below 4.24, indicating no excessive multicollinearity. Of the 173 agencies in our final sample, 129 agencies (75%) received client ties from other agencies in our sample while 133 agencies (77%) sent client ties to a competitor in our sample. For managerial migration, there were 97 agencies who lost a manager to another agency in the sample and 94 agencies that received a manager from another agency in the sample. The greatest proportion of migrating managers held boundary-spanning job titles (170 or 39%), followed by creative (136 or 31%), other functional categories (101 or 23%), and administrative (64 or 15%). A total of 206 migrating managers (47%) were executives with the remainder being lower-level managers.

INSERT TABLE 3 ABOUT HERE

Table 3 contains the results for models predicting the likelihood of client tie circulation. Model 1 is a base model with only control variables. Model 2 adds the main effects of whether a manager previously migrated between sending agency A_i and receiving agency A_j . Models 3-5 present results for our moderating managerial characteristics, tenure of migrating managers, functional category, and hierarchical level, respectively.^{iv}

In all models, the likelihood of receiving client ties varies with the characteristics of the sending and receiving agencies. Large, young, multi-location agencies with many client ties are more likely to send client ties to, and receive client ties from, other agencies in our sample, while branch agencies are less likely to receive client ties, likely due to the geographical distance between branch offices and New York City agencies. Agencies with relatively poor long-term performance (i.e., agencies that failed during the observation period) are less likely to receive client ties from other agencies in our sample, but long-term agency performance is unrelated to the likelihood of clients leaving one agency for another in our sample.

In Table 3, Model 2, as predicted in Hypothesis 1, past managerial migration increases the likelihood of subsequent client tie circulation. Hiring managers from another agency in our sample makes receiving agencies twice as likely ($e^{0.761}=2.14$) to subsequently acquire clients that had previously worked with that same sending agency. Model 3 shows support for Hypothesis 3a: the greater the tenure of migrating managers at their previous agency, the greater the chance of subsequent client tie circulation to the receiving agency. The significant improvement in model fit between Models 2 and 3 indicates that the migration of managers with greater organizational experience substantially increases the likelihood of client tie circulation. The results in Model 4 support Hypothesis 3b—compared to managers in functional roles that do not require direct interaction with clients—only the migration of boundary-spanning managers increases the likelihood of subsequent client tie circulation. Finally, in Model 5, the migration of lower-level managers has a greater positive effect on the subsequent circulation of client ties than the migration of executives, supporting Hypothesis 3c. In supplemental analyses (available from the authors), we found these effects are robust to the inclusion of a control variable for the number of times sending and receiving agencies previously exchanged managers and clients.

INSERT TABLE 4 ABOUT HERE

Table 4 contains the results for models of the effect of past client tie circulation on the likelihood of managerial migration testing Hypothesis 2 and Hypotheses 4a, 4b, and 4c. Model 1 contains results with only control variables. Branch offices are less likely, and large agencies more likely, to send and receive managers from other agencies, while managers are more likely to migrate from multi-location firms. In support of Hypothesis 2, Model 2 shows that client tie circulation is associated with an increase in subsequent managerial migration. Agencies that previously had a client tie circulate from a given sending agency are twice ($e^{.697}=2.007$) as likely to subsequently receive managers from that same agency.

We find strong support for Hypothesis 4a. The positive coefficient for the interaction between Past Client Tie Circulated and receiving agencies having a higher reputation than sending agencies indicates that client tie circulation from lower- to higher-reputation agencies increases the likelihood of managerial migration between the same two agencies.^v The significant improvement in model fit indicates that the high reputation of agencies that receive client ties plays a strong role in receiving agencies' ability to also attract managers from the same sending agency. In results not shown here, our results are robust to different categorizations of the reputation of sending and receiving agencies. We do not find support for Hypotheses 4b: in Model 4 the interaction between client tie circulation and the relative performance trends of sending and receiving agencies is not significant. However, we do find support for Hypothesis 4c. As shown in Model 5, receiving multiple clients from another agency in a single year increases the likelihood of subsequent managerial migration. Model 6 shows estimates from the

full model for Hypotheses 4a-c. In supplemental models not shown, these effects are robust to the inclusion of a control variable for the number of prior exchanges of managers and clients between the sending and receiving agencies.

Robustness checks

We ran several robustness checks to test the validity of our results. To conserve space, these results are not displayed here but are available from the first author on request.

Simultaneity. The two equations we are estimating are not independent. To capture this simultaneity, we used two different approaches. First, we ran both equations simultaneously using a seemingly unrelated bivariate probit model (SUBP), which allowed for the estimation of two separate probit models with correlated error terms. Both past managerial migration and past client tie circulation remained positive and highly statistically significant using this procedure.

Second, we addressed simultaneity using 2SLS. To meet the exclusion requirement, we used measures of similarity between the two agencies in a dyad as excluded variables in the first stage. For managerial migration, we wanted a variable that directly affects managers' choice to move from one agency to another but does not directly impact clients' choice to move. We used the size difference between the two agencies in our dyad as the excluded variable because managers are more likely to move to another agency when employed in smaller agencies to have more opportunities for career advancement in larger organizations (Dalton and Kesner, 1983). At the same time, it is unlikely agency size difference directly affects client tie circulation. We find that size difference was predictive of employee migration ($Z=-6.52$) in the first stage. For client tie circulation, we used the difference between sending and receiving agency's total number of client ties to model the propensity for clients to move between agencies, but not directly affect managers' choice to move. Number of client ties reflects an agency's strategy for managing

market relationships and previous research shows that clients who form new agency relationships tend to seek out providers that use a strategy similar to their previous providers (Broschak and Niehans, 2006). At the same time, we have no reason to believe agencies with more clients experience more managerial migration or that an agency's strategy for managing client relationships is salient in managerial migration decisions. We find the difference in number of client ties is negatively predictive of client tie circulation ($Z = -2.90$). We then used the predicted values from the first stage models in place of the original predictors, along with the remaining control variables. The results of these supplemental analyses align with our original results, showing significant positive effects of both managerial migration and client tie circulation.

Estimation Bias: Because both a manager's choice to change agencies and acquisition of a client tie from a competitor are not random events, this exposes our estimates to endogeneity concerns and potential bias if heterogeneity between the companies that managers migrate to, or to which clients circulate, is either unobservable or omitted from our estimation (e.g., agency quality). While the direction of the effect of any potential bias on our results is ambiguous, we focus on the potential bias that could result in the overestimation of our central results.

The controls in our model, such as billing intensity and number of market ties, partially address these concerns, but do not completely rule them out. We took several additional steps to reduce these concerns. First, we estimated an alternate specification of our model where we included dyad and time fixed effects to account for any time-invariant factors that differ between any two agencies in the sample, and any time trends in our data, respectively^{vi}. In contrast to our main estimation, we estimate our fixed effects model using a linear probability model in lieu of our logit estimation because non-linear models with fixed effects, which only leverage variation across time, preclude a significant portion of our data from being included in the analysis.

However, we also ran logit fixed effects models with similar results. These models confirm our prior results with significant and positive estimates on both manager migration and the acquisition of client ties on their respective outcome variables.

We also considered a more intuitive “sniff test” for our results by proposing a falsification test in our context. Specifically, if unobserved quality of agencies or related unobserved factors is driving our results, these factors may be least pronounced for agencies that failed as opposed to those that did not, and as a result, these effects would not emerge in the subsample of agencies in our data that failed in the time period of our analysis. To test this, we re-estimated our model restricting our analysis to only receiving agencies that failed during our observation period. We again find coefficient estimates consistent with our main estimation, but these estimates are insignificant for managerial migration ($p=.298$) and significant at the 10% level for client tie circulation ($p=.078$). The lower precision on these coefficients is unsurprising given that we reduced our sample by more than 70 percent.

While we take a number of steps to consider and evaluate bias in our estimation of the effect of manager migration and the circulation of client ties, we acknowledge that these concerns may persist to some degree, as they often do with empirical work of this nature.

Rare Events: We conducted two additional robustness checks to address concerns about the relatively small number of event occurrences. First, we used the ‘firthlogit’ command in Stata to run the Firth Penalized Likelihood procedure for rare events, designed to address small-sample bias in the maximum likelihood estimation of the logistic model (Coveney, 2008; Firth, 1993). Compared to the estimates generated by ordinary logistic regression, there were no significant differences in our key variables, suggesting that our results do not suffer from small-sample bias. Second, we re-estimated our models using zero-inflated Poisson regression^{vii} because of

concerns our dependent variables suffer from excessive zeros. We used count versions of our dependent variables in these models: *how many* managers migrated or client ties circulated, rather than whether or not they did. To predict zero-values for client tie circulation (i.e., the absence of client tie circulation), we used the size and number of market ties of both sending and receiving agencies. To predict zero-values for managerial migration, we used the size of the sending and receiving agencies. The magnitude and significance of coefficients generally stayed the same or increased using this estimation procedure.

Lagged Effects: Our estimated approach focused on evaluating the change in the probability of manager migration and client tie circulation after a manager or client (respectively) has switched agencies. However, our results do not address the manner in which this effect emerges over time. We evaluated these dynamics in an extended model, using one, two, and three year lags of the circulation event for both manager migration and client tie circulation. We found evidence that the effect of manager migration and client tie circulation differ in their emergence over time. The impact of manager migration on client tie circulation seems delayed, with the probability of client ties circulating to the same provider managers migrate increasing over time. The impact of client tie circulation on manager migration appears to operate differently; the effect of client tie circulation on manager migration were immediate, emerging primarily in the first year and then diminishing over time.

Additional Controls: Our hypotheses focus on the salience of managers and clients migrating *to* receiving agencies as positive signals of quality, but it is also true that managers and clients migrating *from* receiving agencies could serve as negative signals of quality. To address this, we used our controls for the number client ties and agency size for receiving agency (A_j) to construct measures of the change in the receiving agency's (A_j) number of client ties and number

of employees in the year prior to the focal year and tested whether the results reported above remain with this inclusion. Our results remained strong and statistically significant with the inclusion of these controls while the controls themselves were not significant.

Additionally, previous research shows that greater client tie duration with an agency reduces the probability of client tie dissolution when managers exit (Broschak and Block, 2014). Because this is directly related to Hypothesis 1, we reran our model with a measure of the *average client tie duration* (in years) of the sending agency (A_i), which we calculated as the mean of the number of continuous years each advertiser-agency dyad existed for sending agency (A_i). We coded client ties as starting the year before a client first appeared in the Redbook as an agency's provider. For relationships that existed in 1986, we followed each advertiser-agency dyads backward in time for up to 10 years to determine tie duration. In line with previous research, the control has a significant negative effect on client tie circulation ($p < 0.01$), but the effect of past managerial migration on subsequent client tie circulation remained positive and significant.

Finally, Rogan's (2013) study of advertising provider-client relationship dissolution suggests two additional control variables related to Hypothesis 1: relational embeddedness, i.e., the quality of client-agency relationships, and competitive overlap, i.e., the extent to which a providers' portfolio includes clients who are competitors. Greater relational embeddedness may increase the likelihood of client tie circulation because more relationally embedded ties are more valuable to clients. Because relational embeddedness increases with the number of interactions (Rogan, 2013), we measure relational embeddedness as the number of managers who migrated between a particular sending agency (A_i) and receiving agency (A_j) in a given year. When we

include this control, which has the expected positive and significant effect on client tie circulation ($p < 0.05$), past managerial migration remains significant and positive.

Competitive overlap between sending and receiving advertising agencies is likely to have a negative effect on client ties circulating due to industry norms over advertising agencies having competing clients (Rogan, 2013). To control for this, we constructed a measure of competitive overlap by first identifying the 2-digit U.S. SIC codes associated with the unique names of the all the clients for all the agencies in our dataset. We then constructed a dichotomous variable coded “1” in cases where the focal client who circulated from a sending agency (A_i) in our sample had the same SIC code as any of the clients in the portfolios of any of the receiving agencies (A_j) in our sample. We recorded this variable for every year starting the year before the focal client left its sending agency and ending with the year before the client circulated to a receiving agency. Past managerial migration remained positive and significant with the inclusion of this control, though competitive overlap surprisingly had a positive and significant effect on client tie circulation ($p=0.009$). We suspect this is attributable to consolidation and diversification in the advertising industry in the mid-1980s, which spurred agencies to adopt policies that allowed them to serve competing accounts through quasi-independent units (Silk, 2012).

DISCUSSION

In this paper, we theorize that social capital created in provider-client relationships is a resource that is appropriable by both firms *and* managers party to the relationship, and can influence the relationship between future manager migration and the circulation of client ties. Using data on the New York City advertising industry, we show that not only do clients follow managers who migrate between professional service providers, as has often been theorized in the

past, but provider managers also tend to follow clients who circulate between providers. We also show that the characteristics of both managers who migrate and providers who receive circulated client ties act as signals that moderate these effects. These findings contribute to the study of managerial migration, theory on social capital, and signaling theory.

First, we extend research on managerial migration by demonstrating the existence of a reciprocal relationship between managerial migration and client tie circulation. Consistent with previous empirical research on lobbyists and lawyers (Bermiss and Greenbaum, 2016; Carnahan and Somaya, 2013; Raffiee, 2017), we find that the migration of managers between two providers at one point in time increases the likelihood of client tie circulation between them at some future time. Clients that reconstitute a completely terminated tie with another provider are twice as likely to select providers who have hired managers with whom they are familiar, reducing uncertainty over the decision. This provides additional support for Raffiee's (2017) argument that the social capital that develops between clients and provider managers over the course of working together is portable when managers change firms. At the same time, we extend prior research by showing that managerial migration also follows the circulation of client ties. Managers who leave one provider in our sample for another are twice as likely to migrate between sending and receiving providers where clients from their former employer have previously circulated. This effect holds even after controlling for the history of exchange between the two providers and important characteristics of both providers.

The reciprocal relationship between managerial migration and client tie circulation has two important implications for theory on social capital. First, it demonstrates that the effects of social capital are *bi-directional*. Social capital is a resource that develops over time in provider-client relationships. Our findings show that the ability to capitalize on social capital is not one-

sided in favor of organizations, as theorists have often presumed (Granovetter, 1985). Rather, managers who contribute to their employers' relationships with clients can also trade on those investments just as organizations do (Sorenson and Rogan, 2014). Our data prevent us from determining if managers who migrate to providers that have received client ties from their previous employers are ultimately better off. We are only able to conclude that just as provider-client relationships are enmeshed in the careers of individual managers (Broschak, 2004; Raffiee, 2017), managers' career paths are also intertwined with the fates of provider-client relationships.

Second, our findings illustrate the *durability* of social capital. Most social capital research takes a short-term perspective that there are contemporaneous benefits or drawbacks due to the structure of ongoing relations, or immediate consequences when social capital is lost due to managers or clients exiting providers. In contrast, our findings suggest that social capital is a sticky and enduring asset for managers and clients. While some theorists argue that relationship-specific investments simply lose their value outside of the relationship (Dwyer, Schurr, and Oh, 1987; Uzzi, 1997), we find that relationship-specific social capital retains some of its value and is accessible outside of the original provider-client relationship, and can even serve to bring prior exchange partners together in new provider-client relationships. The extent to which transported social capital serves this purpose is a topic worthy of future study.

Our study also extends research on the dynamics of provider-client relationships by demonstrating that the reciprocal effects between managerial migration and the circulation of client ties depend on characteristics of providers and the managers who move between them. This stands in contrast to most prior research which has largely taken a firm-level, egocentric perspective, examining how managerial exit from specific clients or providers affects provider-client relationships (Baker et al., 1998; Broschak, 2004; Broschak and Block, 2014; Rogan,

2014), or influences providers' subsequent portfolio of clients (Somaya et al., 2008; Carnahan and Somaya, 2013). Our focus on where clients and provider managers go shifts the conversation toward a contingent view of social capital. For instance, our findings suggest that managerial migration is more likely to follow client tie circulation between two providers when clients circulate to providers with better reputations and more clients circulate between the two providers. Client tie circulation is more likely to follow managerial migration when managers with longer tenure, in boundary-spanning roles, or in lower hierarchical positions move between providers. These findings make clear that the migration of managers whose roles allow for developing greater amounts of human and social capital are visible and important signals in the reconstitution of provider-client relationships. Evidently, the migration of other managers, such as executives, who have important roles in developing provider-client relationships but are less involved in the day-to-day operation of these relationships, does not induce clients who leave the former provider to establish a new tie with the managers' new employer.

Finally, our research extends signaling theory by adding to the recent body of research that focuses on the impact of unintended signals (Mishina et al., 2012), such as losing a client to another provider. We find that market dynamics can send signals about the presence and value of human and social capital without intent and lead to the material redistribution of that capital. Further, our results about lagged effects extend signaling theory by illuminating the temporal duration of signals. Connelly and colleagues (2011) argue that temporal aspects of signaling mechanisms are undertheorized because the time between the signal being sent and the signal being received is relatively short. We find that managerial migration is a sticky signal that seems to increase in salience over time, but client tie circulation has its most significant signaling impact in the first year and then diminishes over time. The temporal nature of signals suggests

two potential avenues for future research. One would be to consider the conditions under which some signals stand the test of time. Another would be to take a flow perspective and consider how signals accumulate over time, or how the pattern of signals influence managerial migration and client tie circulation, respectively (Caner, Bruyaka, and Prescott, 2018). For instance, in this study we treat each signal as a change in state for receiving agencies that activates the use of social capital by clients and provider managers. Future research might examine whether a flow of reinforcing signals enhances the reciprocal relationship between managerial migration and client tie circulation, or whether a flow of contradictory signals negates the effects of accessing social capital on that reciprocal relationship.

Not all of our hypotheses about signaling were supported. The relative performance of receiving agencies did not have the hypothesized effect, which is surprising given we expected strong, relative performance would be a clear, unambiguous, and highly observable signal. We have two possible explanations for this result. First, relative differences in performance between advertising agencies in our sample may not vary enough to make a strong signal to managers, or advertising agency managers may be more attuned to agency reputation than to changes in agency billings. Second, there may be a difference between signals representing the quality of other agencies and signals representing the decline of a manager's current employer. Perhaps the loss of multiple provider-client relationships signals underlying organizational difficulties at the sending provider and triggers managers' pursuit of outside job opportunities at providers with familiar clients. Similarly, agencies may be more willing and able to seek out employees from another provider only after acquiring multiple clients from that provider, when there is a greater demand for those managers' relationship-specific capital. These findings highlight an

opportunity to explore the relative salience of different unintended signals and their interpretation by various audiences.

Managerial Implications

Our research has important implications for practitioners deciding if professional service firms are better off spending resources courting clients or employees. Our findings suggest that providers that hire longer tenured, boundary-spanning, lower-level managers from another providers may also realize the benefit of attracting that provider's former clients. Providers that acquire clients from another provider may also be able to add managers from that same provider, particularly when multiple clients have circulated. Whether one strategy is superior to the other is beyond the scope of our study. Our findings also have implications for professional service providers' strategies for retaining clients. Lower-level, boundary-spanning managers appear to be key to avoiding the loss of clients to other providers (see also Broschak, 2004). This suggests advertising agencies may be better able to protect client relationships by targeting incentive and retention strategies at these managers (Coff, 1997). This stands in contrast to an upper echelons view of human resources, which views the acquisition, and retention, of higher level managers as being necessary for attracting and keeping clients (Hambrick and Mason, 1984; House, 1991).

Future Research

As with all research, there are boundary conditions to our study. First, because we limited our sample to advertising agencies with gross billings of \$3.5 million or more in 1986, we hesitate to generalize our results to smaller agencies where the processes of managerial migration and client circulation may behave differently, or to industries beyond professional services. However, we would speculate that the bidirectional effects of accessing social capital and the role of signals generalize to settings where relationships between individuals and organizations

are important, such as industrial sales, government-private sector relations, and technological communities (Mawdsley and Somaya, 2016; Weiss and Kurland, 1997).

Second, our data are bounded by time (1986-98) and geography (greater New York City area), which may affect the generalizability of our results. Our setting has a high density of firms, which creates abundant migration opportunities for employees and clients. The reciprocal relationship between managerial migration and client tie circulation may be weaker in settings where the concentration of firms is lower, and employees and clients have fewer firms to which to turn. Similarly, norms about employee and client loyalty vary with time. Our data come from an era during which client relationships became increasingly transactional (Baker et al., 1998). A continuation of that trend, or a substitution of technology for personal relationships, might weaken how managerial migration and client tie circulation are related.

Third, we are limited in our ability to assess how certain aspects of provider-client relationships moderate the reciprocal relationship between managerial migration and client tie circulation. For instance, our archival data do not allow us to link managers to specific provider-client relationships, which is necessary to see the extent to which personal relations matter to managerial migration and client tie circulation. We were not able to directly measure the efficaciousness of the various signals. Though we explored different time lags for the effect of managerial migration (e.g., one-year lags, two-year lags), we lack the statistical power to test all the possible time lags in this way, which is important to determining how the value of acquired human and social capital decays over time. Finally, we cannot speak to the strategic implications of tie circulation for client firms. Managers migrating to new providers may not be able to reproduce the same level of performance that clients received with their previous employer (Groysberg, Lee, and Nanda, 2008). These are all productive directions for future research.

We are also unable to determine if any of the managers in our sample had signed non-compete agreements with New York City advertising agencies. Non-compete agreements typically prevent former employees from working for a direct competitor for a period (usually 6 months to a year or more) after leaving an employer over fear of divulging trade secrets, or from soliciting the employees or clients of the former employer. Though non-compete agreements can lower the frequency of managerial migration, we expect this to have a minimal impact for two reasons. First, in the U.S., non-compete agreements have limited scope and duration, and are unevenly enforced, so while they may slow migration they would not prevent it. Plus, our use of annual observations over a thirteen-year time period allows us to detect managerial migration even if non-compete agreements had been in effect. Second, our theory does not rest on the assumption that migrating managers actively solicit clients from their former employers. Studying New York City advertising agencies, where non-compete agreements may have been enforced provides a conservative test of the bidirectional nature of social capital. The relationship between managerial migration and the circulation of ties may be even stronger in states like California or Washington where non-competes are not enforced.

In this study, we investigate an important question about social capital in a market for professional services where individual-level, relationship-specific investments tend to be high. We focused on a specific type of inter-firm relationship dynamic, the circulation of clients between two established professional service firms. In doing so, we show that not only are economic relationships between firms embedded in the social relationships of individual managers (Granovetter, 1985) but the careers of individual managers are also embedded in the dynamics of economic relationships between firms.

Table 1. Descriptive Statistics	Mean	S.D.	N
Client Tie Circulation from Agency _i (1 = Yes)	0.30	5.50	282,275
Past Client Tie Circulated from Agency _i (1 = Yes)	1.29	11.30	251,300
Managerial Migration from Agency _i (1=Yes)	0.17	4.01	282,275
Past Managerial Migrated from Agency _i (1 = Yes)	0.70	8.33	251,300
Tenure of Manager Migrated from Agency _i (1-17)	4.34	3.51	52,150
Past Administrative Manager Migrated from Agency _i	0.81	28.41	251,300
Past Boundary-spanning Manager Migrated from Agency _i	0.32	5.67	251,300
Past Creative Manager Migrated from Agency _i (1=Yes)	0.23	4.79	251,300
Past Other Manager Migrated from Agency _i (1=Yes)	0.20	4.43	251,300
Past Executive Migrated from Agency _i (1=Yes)	0.33	5.77	251,300
Past Lower-level Manager Migrated from Agency _i (1 = Yes)	0.41	6.38	251,300
Reputation Agency _i Relative to Agency _j	0.10	0.30	251,300
Short-run (3-year) Performance Agency _i Relative to Agency _j	0.15	0.42	210,350
Multiple Client Ties Circulated from Agency _i to Agency _j	0.10	0.30	282,275
Branch Agency _j (1 = Yes)	0.15	0.36	282,275
Branch Agency _i (1 = Yes)	0.13	0.34	282,275
Fails during Observation Period Agency _j	0.29	0.44	282,100
Fails during Observation Period Agency _i (1 = Yes)	0.45	0.50	282,275
Age Agency _j	38.53	32.95	282,100
Age Agency _i	35.65	30.55	282,275
Multi-Location Agency _j (1 = Yes)	0.42	0.49	281,750
Multi-Location Agency _i (1 = Yes)	0.52	0.50	282,275
Log (Billings) Agency _j	17.88	2.21	275,100
Log (Billings) Agency _i	17.67	2.06	282,275
Number of Client Ties Agency _j	20.88	19.22	281,925
Number of Client Ties Agency _i	19.93	16.52	282,275
Log (Billings) Agency _j Larger than Agency _i (1 = Yes)	0.51	0.50	275,100

Table 2. Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1 Client Tie Circulation from Agency _i (1 = Yes)	1.00																										
2 Past Client Tie Circulated from Agency _i (1 = Yes)	0.44	1.00																									
3 Managerial Migration from Agency _i (1=Yes)	0.02	0.03	1.00																								
4 Past Managerial Migrated from Agency _i (1 = Yes)	0.03	0.09	0.08	1.00																							
5 Tenure of Manager Migrated from Agency _i (1-17)	0.05	0.11	0.11	0.79	1.00																						
6 Past Administrative Manager Migrated from Agency _i	0.00	0.04	0.02	0.31	0.23	1.00																					
7 Past Boundary-spanning Manager Migrated from Agency _i	0.02	0.07	0.05	0.66	0.53	0.12	1.00																				
8 Past Creative Manager Migrated from Agency _i (1=Yes)	0.01	0.05	0.07	0.55	0.46	0.11	0.11	1.00																			
9 Past Other Manager Migrated from Agency _i (1=Yes)	0.02	0.05	0.22	0.47	0.33	0.07	0.06	0.04	1.00																		
10 Past Executive Migrated from Agency _i (1=Yes)	0.02	0.07	0.05	0.69	0.57	0.41	0.37	0.44	0.33	1.00																	
11 Past Lower-level Manager Migrated from Agency _i (1 = Yes)	0.03	0.07	0.07	0.76	0.59	0.16	0.57	0.41	0.40	0.12	1.00																
12 Reputation Agency _i Relative to Agency _j	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	0.00	0.00	-0.01	-0.01	1.00															
13 Short-run (3-year) Performance Agency _i Relative to Agency _j	-0.01	-0.01	-0.01	-0.01	0.00	0.00	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	1.00														
14 Multiple Client Ties Circulated from Agency _i to Agency _j	0.11	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.01	-0.08	0.00	1.00													
15 Branch Agency _j (1 = Yes)	0.00	-0.01	0.00	0.00	-0.02	0.00	0.00	-0.01	0.00	0.00	0.00	0.55	-0.03	-0.02	1.00												
16 Branch Agency _i (1 = Yes)	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.00	-0.01	-0.12	0.00	0.00	-0.01	1.00											
17 Fails during Observation Period Agency _j	-0.02	-0.04	-0.01	-0.03	-0.02	-0.01	-0.02	-0.01	-0.02	-0.03	-0.02	-0.12	0.06	0.10	-0.12	0.00	1.00										
18 Fails during Observation Period Agency _i (1 = Yes)	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	0.01	-0.02	-0.02	-0.01	0.05	0.00	0.00	0.00	-0.18	-0.01	1.00									
19 Age Agency _j	0.01	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.04	0.02	0.58	0.07	-0.03	0.65	0.00	-0.16	0.00	1.00								
20 Age Agency _i	0.02	0.04	0.02	0.04	0.06	0.02	0.02	0.01	0.04	0.06	0.02	-0.11	0.00	0.00	0.66	0.00	-0.23	-0.01	1.00								
21 Multi-Location Agency _j (1 = Yes)	0.02	0.05	0.02	0.05	0.03	0.02	0.04	0.02	0.03	0.04	0.03	0.39	-0.13	-0.01	0.50	0.00	-0.13	0.00	0.56	0.00	1.00						
22 Multi-Location Agency _i (1 = Yes)	0.03	0.06	0.02	0.05	0.06	0.02	0.03	0.03	0.03	0.04	0.03	-0.09	0.00	0.00	0.00	0.37	0.00	-0.24	0.00	0.40	0.00	1.00					
23 Log (Billings) Agency _j	0.02	0.06	0.03	0.06	0.06	0.03	0.04	0.03	0.04	0.06	0.04	0.59	-0.25	-0.03	0.65	0.00	-0.21	0.00	0.71	0.00	0.67	0.00	1.00				
24 Log (Billings) Agency _i	0.03	0.07	0.04	0.07	0.10	0.03	0.05	0.04	0.05	0.08	0.04	-0.16	0.00	0.00	0.65	0.00	-0.28	0.00	0.70	0.00	0.58	-0.01	1.00				
25 Number of Client Ties Agency _j	0.02	0.05	0.01	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.01	-0.06	0.02	-0.05	-0.10	0.00	-0.07	0.00	0.20	0.00	0.18	0.00	0.06	0.00	1.00		
26 Number of Client Ties Agency _i	0.04	0.09	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.01	-0.01	0.00	0.00	-0.10	0.00	-0.09	0.00	0.21	0.00	0.13	0.00	0.06	-0.01	1.00		
27 Log (Billings) Agency _j Larger than Agency _i (1 = Yes)	0.00	0.00	0.00	0.00	-0.02	0.00	0.00	0.00	0.00	-0.01	0.01	0.30	-0.18	-0.03	0.31	-0.30	-0.11	0.15	0.35	-0.31	0.37	-0.33	0.57	-0.52	0.05	-0.04	1.00

Table 3. Logistic Regression Model of Likelihood of Client Tie Circulation from Agency_i to Agency_j

	Model 1	Model 2	Model 3	Model 4	Model 5
Past Manager Migrated from Agency _i (1 = Yes)		0.761***			
		0.203			
Tenure of Manager Migrated from Agency _i			0.112***		
			0.03		
Past Administrative Manager Migrated from Agency _i (1 = Yes)				-1.271	
				0.827	
Past Boundary-spanning Manager Migrated from Agency _i (1=Yes)				1.024***	
				0.249	
Past Creative Manager Migrated from Agency _i (1=Yes)				0.447	
				0.295	
Past Lower-level Manager Migrated from Agency _i (1 = Yes)					1.141***
					0.2
Receiving Agency_j Variables					
Branch (1 = Yes)	-0.959***	-0.913***	-0.906***	-0.866	-0.920***
	0.265	0.267	0.256	0.581	0.256
Fails during Observation Period (1 = Yes)	-0.558***	-0.547***	-0.524***	-0.575**	-0.522***
	0.151	0.151	0.152	0.256	0.153
Age	-0.007*	-0.007*	-0.007*	-0.011***	-0.007*
	0.004	0.004	0.004	0.003	0.004
Multi-Location Agency (1 = Yes)	0.475***	0.472***	0.414**	0.192	0.409**
	0.161	0.163	0.167	0.243	0.168
Log (Billings)	0.292***	0.281***	0.282***	0.266***	0.285***
	0.059	0.06	0.06	0.085	0.06
Number of Market Ties	0.006***	0.006***	0.006***	0.004*	0.006***
	0.001	0.001	0.001	0.002	0.001
Sending Agency_i Variables					
Branch (1 = Yes)	-1.164***	-1.094***	-1.079***	-0.996***	-1.108***
	0.161	0.168	0.165	0.216	0.165
Fails during Observation Period (1 = Yes)	0.09	0.078	0.109	0.046	0.103
	0.088	0.087	0.088	0.164	0.087
Age	-0.004**	-0.004**	-0.004**	-0.006*	-0.004**
	0.002	0.002	0.002	0.003	0.002
Multi-Location Agency (1 = Yes)	0.634***	0.634***	0.630***	0.816***	0.631***
	0.079	0.078	0.082	0.166	0.083
Log (Billings)	0.301***	0.289***	0.291***	0.297***	0.289***
	0.044	0.044	0.044	0.074	0.045
Number of Client Ties	0.014***	0.014***	0.014***	0.011***	0.014***
	0.001	0.001	0.001	0.002	0.001
Agency_{i,j} Difference Variables					
Larger Receiving Agency (1 = Yes)	-0.177	-0.18	-0.152	-0.707***	-0.16
	0.159	0.155	0.162	0.266	0.162
Intercept	-39.047***	-39.360***	-39.860***	-47.972***	-38.781***
	9.141	9.157	9.321	10.487	9.378
N	282,275	282,275	282,275	282,275	282,275
Agencies	153	153	153	153	153
Log Pseudolikelihood	-4,825.86	-4,818.23	-4,594.36	-1,307.02	-4,596.92

Note: Values are unstandardized regression coefficients. Standard errors below coefficients. There were 743 tie circulation events. Reference category function (Model 4) is "other." Significance levels are two-tailed. * p<0.1; ** p<0.05; *** p<0.01

Table 4. Logistic Regression Models of Likelihood of Managerial Migration from Agency_i to Agency_j

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Past Client Tie Circulated from Agency _i (1 = Yes)		0.697***	0.568***	0.633***	0.654***	.442**
		0.212	0.217	0.229	0.209	0.229
Reputation Agency _i Relative to Agency _j			-1.441***			-1.289***
			0.320			0.352
Past Client Tie Circulated to Higher Reputation Agency _j			1.494**			1.461**
			0.703			0.702
Short-run (3-year) Performance Agency _i Relative to Agency _j				-0.058		-0.025
				0.145		0.146
Past Client Tie Circulated to Lower-Performing Agency _j				-0.082		-0.147
				0.340		0.339
Multiple Client Ties Circulated from Agency _i to Agency _j					3.688***	1.887***
					1.054	0.403
Receiving Agency_j Variables						
Branch (1 = Yes)	-1.918***	-1.857***	-1.851***	-1.991***	-1.864***	-1.988***
	0.284	0.288	0.291	0.327	0.286	0.325
Fails during Observation Period (1 = Yes)	0.023	0.042	0.039	0.097	0.041	0.097
	0.227	0.229	0.226	0.272	0.228	0.272
Age	0.000	0.000	0.003	0.002	0.000	0.005
	0.004	0.004	0.004	0.004	0.004	0.004
Multi-Location Agency (1 = Yes)	0.006	0.005	-0.026	0.044	-0.004	0.002
	0.274	0.278	0.272	0.304	0.278	0.297
Log (Billings)	0.505***	0.486***	0.541***	0.463***	0.487***	0.523***
	0.082	0.083	0.082	0.087	0.083	0.087
Number of Market Ties	0.001	0.001	-0.001	-0.001	0.001	-0.002
	0.003	0.003	0.003	0.005	0.003	0.005
Sending Agency_i Variables						
Branch (1 = Yes)	-2.211***	-2.160***	-2.192***	-2.068***	-2.176***	-2.117***
	0.219	0.219	0.222	0.239	0.215	0.235
Fails during Observation Period (1 = Yes)	0.222*	0.215*	0.241*	0.113	0.212	0.147
	0.131	0.130	0.130	0.131	0.130	0.133
Age	0.000	0.000	0.001	-0.002	0.000	-0.002
	0.002	0.002	0.002	0.002	0.002	0.002
Multi-Location Agency (1 = Yes)	0.414**	0.409**	0.383**	0.373*	0.410**	0.344*
	0.171	0.170	0.178	0.196	0.171	0.207
Log (Billings)	0.520***	0.503***	0.430***	0.516***	0.506***	0.449***
	0.068	0.068	0.066	0.077	0.068	0.074
Number of Client Ties	-0.002	-0.003	-0.003	-0.002	-0.004	-0.002
	0.003	0.003	0.003	0.003	0.003	0.003
Agency_{i,j} Difference Variables						
Larger Receiving Agency (1 = Yes)	-0.148	-0.149	-0.297	-0.217	-0.137	-0.362
	0.267	0.264	0.239	0.296	0.263	0.266
Intercept	-25.803***	-23.968***	-16.296*	-24.879***	-23.844**	-18.205**
	9.166	9.204	9.036	9.210	9.270	9.101
N	282275	282275	282275	282275	282275	282275
Agencies	153	153	153	153	153	153
Log Pseudolikelihood	-2701.74	-2694.35	-2673.7	-2003.3	-2689.46	-1983.9378

Note: Values are unstandardized regression coefficients. Standard errors below coefficients. There were 422 manager mobility events.

Sample size reduced in Model 4 due to trend variable. Significance levels are two-tailed. * p<0.1; ** p<0.05; *** p<0.01

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ⁱ Although we are unable to directly measure the motivations and calculations of each individual in our sample of firms, signaling theory provides us with a theoretical rationale for why managers would migrate to firms whose roster of clients include those that had been clients of their sending firm.

ⁱⁱ Because multiple client ties can circulate between a sending and receiving agency in a given year the number of tie circulation events is less than the number of client ties that circulated.

ⁱⁱⁱ Because multiple managers may migrate between two agencies in a given year the number of managers migrating is greater than the number of manager migration events.

^{iv} We did not include main effects for managerial tenure, functional category, or hierarchal position in Table 3, Model 3-5 because they do not have meaningful interpretations. For example, all the firms in our sample have lower-level managers *and* executives, so estimating the effect of an executive on client circulation is not meaningful. Furthermore, it was not feasible to collect managerial-level data for all managers in all of the companies in all the years studied. Even though these main effects were omitted, the resulting models are valid, although we cannot interpret the effect of any of these effects in the absence of managerial migration. See Pasta (2011) for a detailed explanation.

^v Due to issues associated with interpreting interaction coefficients in non-linear models, we also ran this in OLS as a robustness check without any significant differences.

^{vi} These fixed effects capture more general agency fixed effects in our model as well, since a given dyad is always contained within a single agency (i.e., general agency fixed effects are collinear with all the individual dyad fixed effects for that agency).

^{vii} We use zero-inflated Poisson rather than zero-inflated negative binomial because when we ran the negative binomial model, the chi-square value for the likelihood ratio test that alpha equals zero—i.e., that compares the Poisson and negative binominal models—strongly suggested that alpha was zero ($\alpha = 4.96 \times 10^{-15}$) and thus the Poisson model was appropriate.