Managers as skill-based and trust-based resources: Evidence from internal mobility in corporate groups

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Abstract

The ability to redeploy and recombine internal resources is an important source of competitive advantage for firms, and a key strategic resource is top management. This study proposes two ways in which managers can add value to their organizations: as skill-based and trust-based resources. We argue that, depending on which one of these two attributes is preponderant, patterns of internal mobility will differ. Skilled managers will tend to move to units where the benefits of controlling shareholders are higher. Trustworthy managers will tend to move to units where extending the control of shareholders is most important. Using a novel dataset on managerial mobility within corporate groups, we find evidence consistent with these arguments. Our results deepen our understanding of the factors affecting managerial mobility in multi-unit organizations, and have implications for the theory of the firm and the role of family management.

Keywords: Redeployment, management, ownership, corporate governance, family groups.

JEL Classification: D23, G32, L23.

1 Introduction

The rationale of the resource-based view for a multi-business organization is based on sharing strategic resources and capabilities among units to achieve economies of scale and scope (Penrose, 1959; Mahoney and Pandian, 1992; Peteraf, 1993). Thus, the ability to redeploy and recombine resources in a timely manner is key to competitive advantage (Teece et al., 1997; Eisenhardt and Martin 2000; Capron et al., 2001; Williams and Mitchell, 2004; Helfat et al., 2007). Among different strategic resources, managerial resources are especially vital (Penrose, 1959; Hambrick and Mason, 1984; Kogut and Zander, 1992; Coff,

†We would like to thank Ashish Arora, Tim Barmby, Tamer Berkovitz, Kira Fabrizio, Will Mitchell, Ramana Nanda, Francisco Perez-Gonzalez, Luis Rios, Raffaella Sadun, Mark Schankerman, John Van Reenen, Charles Williams, Yishay Yafeh and Bennett Zelner for helpful discussions. We thank Alon Evron and Hadar Gafni for excellent research assistance. Financial support from Duke University and the University of Aberdeen Business School is gratefully acknowledged. All remaining errors are ours.

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1997; Castanias and Helfat, 1991, 2001; Adner and Helfat, 2003). To date, however, little is known about how firms redeploy and share their managerial resources internally. In this paper, we conceptualize managers as repositories of both skills and trust and argue that patterns of internal managerial mobility vary systematically depending on which one of these two attributes is preponderant.

Traditionally, internal mobility has been studied as an upward progression within a hierarchy. In economics, tournaments within a firm determine who gets promoted (Lazear and Rosen, 1981). In sociology, career paths take individuals from one job to another in an upward progression within an organization (Doeringer and Piore, 1976; DiPrete, 1987). These literatures emphasize experience, ability and individual effort as determinants of career progression, and generally ignore that a significant proportion of mobility inside organizations is lateral (see, e.g., Gibbons and Waldman, 1999).

A distinct body of work in sociology and strategy stresses the importance of trust in economic exchange. This work notes that economic action is always embedded in social relationships (Granovetter, 1985; Uzzi, 1996, 1997) and conceptualizes trust as a ‘lubricant’ that allows economic exchange to take place (Arrow, 1974; Fukuyama, 1995; Putnam et al., 1993; Barney and Hansen, 1994; Bloom et al., 2012). Trust among the members of a social structure, in particular, is believed to facilitate coordination, cooperation and information exchange (Uzzi, 1996; Dirks and Ferrin, 2001; Dyer and Chu, 2003). However, this literature with some notable exceptions (e.g., Somaya et al., 2008) does not examine how trustworthy agents move within a social structure to facilitate cooperation.

Finally, strategy scholars have examined factors that facilitate or hinder the mobility of resources within and across organizational boundaries (Capron and Mitchell, 1998; Bresman et al., 1999; Pérez-González, 2005; Karim and Williams, 2012; Mahoney and Qian, 2013). But while managerial resources are believed to be particularly important, very little empirical work exists on how managers are redeployed inside organizations.

We bring these three strands of research together to develop a theory of internal mobility or redeployment of managers. We advance existing scholarship by highlighting different ways in which managers can contribute to firm value, showing that skilled and trustworthy managers are redeployed differently, and identifying contingencies that make trustworthiness more salient.

If managers create value for their firms primarily through skills and talent, then their redeployment patterns should resemble those of any other valuable resource. Building on agency and resource-based theories of the firm (Grossman and Hart, 1986; Mahoney and Qian, 2013), we argue that the redeployment
of ‘skill-based’ resources will be influenced by appropriability concerns. Managers who performed well in the past and therefore can be assumed to possess valuable skills will tend to be redeployed to units that are wholly-owned by the controlling shareholder. By contrast, managers that performed less well in the past will tend to be redeployed to units that are only partly-owned. Skills, however, are not the only valuable managerial trait. Often shareholders want to appoint managers who are trustworthy and loyal to them (Barney and Hansen, 1994; Bertrand and Schoar, 2006). Because managerial trustworthiness is likely to be particularly valuable in units that are ‘distant’ and more difficult to control, we expect trustworthy managers to be deployed especially to these types of units.

We test these hypotheses using a large and comprehensive dataset of top managerial mobility within corporate groups in Europe. We distinguish between family managers, who are related to the group’s controlling shareholders, and non-family or professional managers, who are not. We argue that, on average, family managers will rank higher on the trust dimension than non-family managers, and thus may be conceptualized as ‘trust-based’ resources. We track managerial mobility using top managers’ employment histories between 2002 and 2007. Internal mobility (or redeployment) is defined as a transfer of managers from one group affiliate to another. We document significant internal mobility in our data—almost 16% of the 209,436 top managers for which we have full employment history move internally over the sample period.

Consistent with our hypotheses, we find important differences in redeployment patterns between family and non-family managers. Non-family managers whose recent past performance was good tend to move to affiliates that are wholly-owned. Non-family managers whose performance was less than good tend to move to partly-owned affiliates. Thus, for non-family managers, appropriability concerns seem to be important. By contrast, family managers are often redeployed to partly-owned and peripheral (or non-core) affiliates regardless of their previous performance, especially in regions where societal trust is lower. In their case, a key reason for redeployment appears to be to extend family control over ‘distant’ units.

This paper makes several contributions. First, we argue that the value of managerial assets is not confined to skills and knowledge, but extends to attributes such as loyalty and trustworthiness. This is in line with research emphasizing both the human and social capital dimensions of managerial resources (Adner and Helfat, 2003; Somaya et al., 2008; Helfat and Martin, 2015). The economics literature, however, tends to downplay the benefits of family governance mechanisms. Family management, in particular, tends to be perceived as the outcome of privilege and nepotism. We find evidence consistent
with the idea that family ties facilitate organizational control. We also highlight three contingencies that make managerial trustworthiness more salient: (i) lack of control at the subsidiary level (as measured by the presence of minority shareholders), (ii) lack of information (as measured by subsidiary peripherality), and (iii) lack of societal trust. While we acknowledge that loyalty to family owners may not necessarily benefit all shareholders (for instance, if family managers expropriate minority shareholders), we hope that these findings will contribute to a more nuanced assessment of family governance mechanisms.

For non-family managers, where considerations of trust are arguably less salient, we find that agency and resource-based theories have greater purchase. The resource-based view holds that firms exist to a large extent because they are better than markets at recombining “soft” resources such as knowledge and know-how. One important source of market frictions is the agency cost that arises when resource owners negotiate transactions (Grossman and Hart, 1986; Mahoney and Qian, 2013). Consistent with the idea that agency costs hinder resource sharing, we find that in corporate groups the presence of minority shareholders tends to reduce the likelihood of managerial redeployment. Corporate groups with more concentrated ownership (“firms”) display more recombinant activity than corporate groups with more dispersed ownership (“markets”). However, under some conditions (for companies with family and low-performing managers), this result can be overturned. Thus, the paper identifies important boundary conditions for the applicability of resource-based logics.

2 Theory and hypotheses

2.1 Managers as strategic, redeployable resources

Several perspectives in strategy emphasize the importance of top managerial capabilities. The resource-based view argues that a key resource of the firm is the human capital that is embodied in its senior management (Penrose, 1959; Barney, 1991; Castanias and Helfat, 1991, 2001). The upper echelon perspective stresses the importance of top management teams for firm processes and performance (Hambrick and Mason, 1997; Carpenter et al., 2004). The dynamic managerial capabilities perspective focuses on the impact of managerial cognition, human capital and social capital on strategic change (Adner and Helfat, 2003; Helfat and Martin, 2015). Managerial capabilities, especially when tacit and firm-specific, are difficult to acquire externally and take significant time and investment to develop internally (Kogut and Zander, 1992; Wang and Barney 2006; Castanias and Helfat, 1991, 2001). Thus, growth opportunities may also be constrained by the availability of a sufficiently large managerial pool (Penrose, 1959; Leff,
Empirical work demonstrates that managers are a key determinant of firm performance. For instance, Bennedsen et al. (2010, 2011) show that when exogenous shocks hinder CEOs from attending to corporate matters, firms suffer significant declines in profitability, investment, and sales growth. CEO characteristics and previous experiences also strongly influence the strategic direction of the firm, including, for instance, the firm’s internationalization strategy and choice of partners (Sambharya, 1996; Reuber and Fischer, 1997; Geletkanycz and Hambrick, 1997). Bertrand and Schoar (2003) directly estimate individual managers’ impact on various firm policies and find significant relationships between individual effects and the strategic policies a manager pursues—each manager seems to have her own “style” of managing, which persists with mobility across firms.

To fully leverage their managerial assets, organizations sometimes transfer managers from one unit to another. Managerial mobility can be triggered by several factors: the need to spread knowledge and organizational practices, learning about managers’ abilities, managerial preferences, new investment opportunities, and so forth. However, redeploying managerial resources is neither easy or without cost. Suitable managers must be identified, training may be required, and conflicts between the units involved have to be managed.

Specifically in the context of corporate groups, the redeployment of high-level management across business lines has long been deemed an important source of competitive advantage. As Leff (1978: 670) notes, in groups: “Economies of scale to entrepreneurship can be appropriated as able individuals are utilized to their full potential in the group’s large and diversified activities. In addition [...], the groups increase entrepreneurial mobility, for they can deploy entrepreneurial resources to specific intragroup companies as opportunities arise”.

Khanna and Palepu’s (1999) study of corporate group evolution in Chile and India provides some support for Leff’s argument. Khanna and Palepu find that during periods of significant deregulation, corporate groups repositioned themselves to take advantage of new opportunities. Their evidence points to group advantages in the labor and product markets, rather than in financial markets, as the main factor behind group expansion. Resource-based scholars similarly view managerial slack and redeployment as an important precondition for corporate expansion and diversification (Penrose, 1959; Prahalad and Bettis, 1986). Further, evidence from the U.S. points to internal managerial mobility as a key driver of productivity differences across plants and firms. Using plant-level data, Schoar (2002) finds that
productivity increases following acquisition by a diversified conglomerate. This result appears to be driven by the fact that more capable management is reallocated to the new plants. Hortaçsu and Syverson (2009) find that the plants of vertically integrated U.S. firms have higher productivity levels than the plants of non-vertically integrated firms. These productivity differences are not related to intrafirm movements of goods, which are extremely small. Rather, in line with Chandler’s (1977) visible hand argument, integration appears to be a more efficient mechanism for the transfer of intangible inputs such as managerial oversight.

The current literature on managerial redeployment mainly focuses on the dissemination of knowledge, skills and organizational practices within organizational boundaries. Managerial mobility is believed to foster knowledge exchange and intra-organizational interactions (Farjoun, 1998; Gelatkanycz et al., 2001; Favre-Bonté and Thévenard-Puthod, 2013). Managers can bring with them their internal and external connections, thus extending social networks and propagating a shared organizational culture (Schein, 1990; Kostova, 1999). Recent work on managerial cognition also suggests that top management’s mental models can significantly affect the effectiveness and timeliness of firm response to environmental changes (Eisenhardt and Martin, 2000; Tripsas and Gavetti, 2000; Kaplan et al., 2003). Therefore, managerial rotation can infuse fresh cognitive models and focus attention on less path-dependent and “myopic” options (Levinthal and March, 1993), and result in introducing variation and innovation to managerial processes. As such, managerial mobility may constitute a “higher-order” routine designed to tackle novel challenges and arbitrary events and increase firm’s evolutionary fitness (Winter, 2003).

2.2 Managers as skill-based and trust-based resources

The research above, as well as an extensive literature in labor economics on human capital and career paths (e.g., Becker, 1994; Gibbons and Waldman, 1999), mostly emphasizes the contributions that managers bring to their organizations in terms of experience, skills and knowledge. Building on the dynamic managerial capabilities perspective, particularly its focus on both managers’ human and social capital (Adner and Helfat, 2003; Helfat and Martin, 2015), we propose that managers can add value to their organizations for at least two conceptually distinct reasons.

First, in line with previous literature, we argue that individuals vary with respect to skills and abilities, and talented managers may be difficult to find and replace. Even though certain managerial skills are generic and interchangeable, the firm-specific knowledge managers possess makes them valuable to the firm (Coff, 1997; Wang and Barney, 2006). A manager’s skills and talents may be complementary to those...
of his or her colleagues, thus being part of a unique bundle that may be difficult for other firms to poach or replicate (Galunic and Rodan, 1998). Because of their talent and skills, therefore, managers can be important ‘skill-based’ resources to their organizations.

Second, managers can be a source of value because of their loyalty and trustworthiness (a ‘trust-based’ resource). The separation between ownership and control creates the potential for agency conflicts within organizations (Jensen and Meckling, 1976); however, if managers can be trusted, internal cohesion can be improved (Ghoshal and Bartlett, 1994). A firm believes its manager is trustworthy when it has confidence beyond formal contracts and controls that the manager will not exploit the firm’s weaknesses for personal gain (Barney and Hansen, 1994). Thus managerial trustworthiness can be expected to reduce direct opportunism costs such as managerial expropriation and misallocation of corporate resources. More importantly perhaps, organizations that trust their managers can afford less internal bureaucracy and red tape: decision rules can be simplified, control systems can be tuned down, and even the intensity of incentives, which often leads to unwanted behaviors, can be reduced. Trusted managers may also relay “soft” information more credibly (Burt, 1992; Somaya et al., 2008). Indeed, a growing literature emphasizes the advantages of informal and implicit agreements over formal contracts in situations where the link between effort and outcomes is difficult to establish (Williamson, 1975; Gibbons and Henderson, 2012). Without trust, large-scale cooperation and organizational growth beyond a minimum scale may not even be possible (Arrow, 1974; Fukuyama, 1995; Bloom et al., 2012). Thus, in some contexts, managers who are trustworthy may be more important than managers who possess superior skills (Barney and Hansen, 1994).

2.3 Redeployment of skill-based resources

If managers contribute value to their organizations differently, we would expect to see that they are redeployed and allocated in different ways. Managers who predominantly contribute value through their skills, knowledge and ability should present primarily appropriability concerns when redeployed. As such, we expect their redeployments to mirror in large part those of other valuable resources. Thus, we ground our predictions related to the redeployment of skill-based managerial resources on agency and resource-based theories of the firm. In particular, the property-rights theory of the firm examines how appropriability concerns affect incentives to invest resources in common ventures (Grossman and Hart, 1986; Mahoney and Qian, 2013). Property-rights theory predicts that shared ownership should inhibit unilateral resource transfers, because the cost of redeployment is borne solely by the owner of the asset
while the benefits are shared. Thus, to the extent that redeployment of resources is critical to sustained competitive advantage, these firms should be relatively disadvantaged due to the stunted internal mobility of resources. Consistent with this view, Pérez-González (2005) finds that the transition to full ownership by foreign affiliates after Mexico lifted foreign majority ownership restrictions not only resulted in greater investment in affiliates by the owners but also significantly improved productivity in those affiliates.

Extant theory also considers incentives to share resources as being dictated largely by alignment of objectives pursued across different units, appropriability concerns and social considerations, such as social ties, interpersonal conflict and politics (Williamson, 1975; Bourgeois III, 1980; Bourgeois III and Eisenhardt, 1988; Kaplan, 2008). Unique language and divergent cognitive models in specialized units can further increase the costs of identifying opportunities for sharing, executing exchanges and managing coordination (Prahalad and Bettis, 1986; Grant, 1996). In the case of human resources, a further complication arises because transfer requires the consent not only of the firm owners, but also of the workers or managers involved (Coff, 1997). Thus, while appropriability concerns are arguably important, they are not the only factors affecting managerial mobility in organizations.

We examine the redeployment of managers in corporate groups. We define corporate groups as collections of two or more legally independent firms that are controlled by the same ultimate shareholder (an individual, a family, or a widely-held corporation). Corporate groups are very common around the world. For instance, most large corporations in the U.S. and Europe have controlling stakes in many subsidiaries (domestic and foreign) and are therefore, according to our definition, part of a corporate group.1

Corporate groups provide an ideal setting for studying the effects of organizational structure on internal combinative capabilities. The group structure can be quite complex: some affiliates are more decentralized than others, and interrelatedness among affiliates can also vary (Nohria and Ghoshal, 1997). In particular, the degree of integration can vary, with controlling and minority shareholders holding different proportions of equity in different affiliates. The distinctive feature of corporate groups, as far as ownership structure is concerned, is not that they can have minority shareholders (many large corporations do as well), but that minority shareholders are not homogeneously distributed across affiliates. Some group affiliates can be wholly-owned by the group controlling shareholder, while others may only be partly-owned. Partly-

1For instance, General Electric owns 1,311 subsidiaries (21% domestic) and IBM 467 subsidiaries (22% domestic). The ten largest American industrial corporations own 5,113 subsidiaries of which 33% are domestic. Corporate groups are even more common in Western Europe. The ten largest industrial British corporations own 4,669 subsidiaries (27% are domestic), the ten largest French corporations own 7,821 subsidiaries (34% are domestic), and the largest ten industrial German corporations own 5,214 subsidiaries (29% domestic).
owned affiliates are much less integrated with the rest of the group than wholly-owned affiliates due to the regulatory protection of minority shareholders, which makes moving resources away and to partly-owned affiliates more difficult, and because incentives to share resources with minority shareholders are lower.

In the context of corporate groups, the property-rights theory suggests that the presence of minority shareholders in one unit should be negatively associated with the probability of internal managerial reallocation to that unit. This effect should be large especially for high-performing managers, because these are the ones for which appropriability concerns are most significant. The property-rights theory also suggests that the effect on minority shareholders should be larger when mobility originates from a wholly-owned affiliate, because the cost of redeployment (i.e., losing a valuable manager in the origin affiliate) is in that case borne entirely by the controlling shareholder.

**Hypothesis 1A.** The presence of minority shareholders in an affiliate is negatively related to the probability that high-performing managers will be redeployed to that affiliate. The effect is stronger when mobility originates from a wholly-owned affiliate than when mobility originates from a partly-owned affiliate.

Not all managers, however, are valuable assets. Some managers consistently underperform, perhaps because they lack the required leadership or cognitive skills. An obvious response in cases such as these would be to fire the underperforming managers. This solution, however, may not always be feasible. Contractual obligations and/or social norms may to some extent protect underperforming managers from termination. An alternative strategy may be to redeploy the managers to tasks that are less important or valuable to the controlling shareholder. In particular, a low-performing manager may be transferred to a subsidiary where the controlling shareholder holds only a small equity stake. This way, the controlling shareholder would effectively share the cost of the low-performing manager with minority shareholders. The incentive to do so is again stronger when mobility originates from a wholly-owned affiliate, because the benefit of redeployment (getting rid of the low-performing manager) accrues entirely to the controlling shareholder.

**Hypothesis 1B.** The presence of minority shareholders in an affiliate is positively related to the probability that low-performing managers will be redeployed to that affiliate. The effect is stronger when mobility originates from a wholly-owned affiliate than when mobility originates from a partly-owned affiliate.
2.4 Redeployment of trust-based resources

Managers can be a source of value to their organizations not only as repositories of skills and talent (a skill-based resource), but also as repositories of trust and social capital (a trust-based resource). In the spirit of the upper echelons perspective, we argue that observable managerial characteristics offer some indication of which of these two qualities—skills or fidelity—are preponderant in a given manager. Specifically, we argue that family managers—those that are related through family ties to the group’s controlling shareholders—will on average rank higher on the trust dimension than non-family, professional managers.

Family managers are common around the world. More than two thirds of all businesses worldwide are family-owned (Gersick et al., 1997) and because family owners often want to run their own businesses, family management is correspondingly widespread. Traditionally, scholars have questioned the efficiency of family-based governance mechanisms. Family management, in particular, has often been perceived as ineffectual, the result of privilege and nepotism. Consistent with this view, research has documented that family firms favor family members in succession decisions, and that these decisions often result in poor performance (Pérez-González, 2006; Bennedsen et al., 2007; Bloom and Van Reenen, 2007).

In recent years, however, a more balanced perspective has begun to emerge. Family capitalism has been credited with several potential advantages relative to public corporations, such as a longer-term perspective, a stronger emotional commitment to the firm, and reduced agency problems between managers and shareholders thanks to direct family involvement in management (Gersick et al., 1997; Gomez-Mejia et al., 2007). Family managers may act in the interests of their firm (or, more precisely, in the interest of the family shareholders) because they are intrinsically loyal to their family or because they have a large personal stake in their company’s success (Corbetta and Salvato, 2004; Chrisman et al., 2007; Belenzon et al., 2015). A relationship of trust between managers and owners may thus facilitate information exchange, cooperation and delegation of authority, and foster a sense of control (Arrow, 1974; Uzzi, 1996, 1997; Das and Teng, 1998; Dirks and Ferrin, 2001; Dyer and Chu, 2003; Bloom et al., 2012).

Burkart et al. (2003) develop a theory of family firms that incorporates some of these ideas. In their model, granting managerial responsibilities to family members has a detrimental effect on firm performance because family managers are on average less talented than professional managers. However, professional managers may exploit their position of authority in the firm to siphon resources away from it, to the detriment of family shareholders.
Building on these ideas, we suggest that professional (non-family) managers will often rank higher than family managers on skills and knowledge, while family managers will often rank higher than professional managers on trustworthiness. Because skills and trustworthiness are both valuable traits, we make no claims as to whether professional managers will be “better” or “worse” than family managers in some absolute sense. However, because trustworthiness is likely to be more valuable in some situations than in others, we do expect family managers to exhibit specific redeployment patterns. Specifically, we argue that, when a shock occurs in a unit (e.g., a manager leaves or retires), a family manager will be more likely to be deployed to that unit if the unit is more difficult to control, or ‘distant’.

Below, we highlight three factors that are likely to make managerial trustworthiness more valuable.

**Lack of control at the affiliate level.** The first factor is the presence of minority shareholders in an affiliate. In most jurisdictions, managers have a fiduciary duty to protect the interests of the shareholders of their company, not the interests of the controlling group. When the interests of the affiliate and those of the group are in conflict, professional managers may refuse to take actions that hurt their affiliates for the benefit of the group. By contrast, family managers may put greater weight on the welfare of the group and its controlling shareholders. Deploying family managers to partly-owned affiliates may thus be an effective strategy to strengthen control over these difficult-to-control affiliates.

**Lack of information.** Trust in a manager is especially important when his or her performance is difficult to evaluate. The performance of a manager in a peripheral unit—a unit not related to the group’s core business—is likely to be harder to benchmark and monitor. Family ties may mitigate concerns that the manager will use weaknesses in performance evaluation systems to his or her own advantage. Thus, family managers may be disproportionately redeployed to peripheral (non-core) units.

**Lack of generalized trust.** Finally, the trustworthiness of a particular individual may be related to the general level of trust in a given society. Two types of trust can be distinguished: particularized trust and generalized trust (Banfield, 1958; Fukuyama, 1995; Uslaner 2000). Particularized trust is observed when people place more trust in those within their close networks and relations. Thus, this type of trust typically contributes to efficient coordination within closely-related groups or communities, but not outside these groups. On the other hand, generalized trust is the belief that most people, including strangers, are generally trustworthy. When generalized trust is high, coordination between groups and units is easier. La Porta et al. (1997) find that higher levels of generalized trust encourage cooperation and performance
in large organizations (see also Bloom et al., 2012). Similarly, Knack and Keefer (1997) find that higher levels of trust and lower levels of corruption in the country have a positive effect on economic performance by lowering transaction costs.

Generalized and particularized trust are likely to be substitutes. In regions where people are taught to trust their close family networks, they are also often taught to distrust non-family members (Banfield, 1958; Fukuyama, 1995). In regions with low generalized trust, appointing a family member to a managerial position may be the most effective way to foster a sense of control, because non-family candidates may be perceived with greater distrust.

We summarize the arguments above as follows.

**Hypothesis 2.** Family managers are more likely to be redeployed to affiliates (i) with minority shareholders, (ii) that are peripheral or non-core, and (iii) that operate in regions where levels of generalized trust are low.

### 3 Data

To test our predictions, we develop a new dataset on managerial mobility. We use Bureau van Dijk’s (BvDEP) Amadeus database to extract information on top management, ownership and accounting information for both private and public firms in 15 Western European countries.\(^2\) BvDEP standardizes financial and management information across different filing requirements for each country and provides comprehensive data on firms of different sizes. Management and ownership information is available only cross-sectionally for each Amadeus publication. Thus, we use several Amadeus publications to construct our dataset for the period from 2002 to 2007. Our final sample consists of 209,436 managers in 94,295 firms belonging to 46,306 corporate groups.

**Ownership structure.** We focus on managers from firms belonging to *corporate groups*. Corporate groups are a common organizational structure in Europe. Corporate groups are organizations composed of at least two legally independent firms controlled by the same ultimate shareholder (Almeida and Wolfenzon, 2006; Belenzon and Berkovitz, 2010). The legal definition of corporate groups in Europe relies on the concept of control, obtained by ownership or a majority of voting rights and power to appoint and

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\(^2\)The countries include Austria, Belgium, Denmark, Germany, Finland, France, Great Britain, Greece, Ireland, Italy, Netherlands, Norway, Spain, Sweden and Switzerland.
remove the majority of administrative, management and supervisory bodies (Seventh Council Directive 83/349/EEC). Corporate groups play an integral role in the European economy. Affiliates of corporate groups can take advantage of internal capital and labor markets (Belenzon et al., 2012; Belenzon and Tsolmon, 2016). While strict employment protection regulations impose significant labor adjustment costs on employers in some European countries, under European Union law, corporate groups can transfer their employees within the group without being subject to dismissal regulations (European Union Directive 96/71/EC). Thus, the corporate group structure benefits group affiliates who can adjust their labor without penalty by tapping into the group’s internal labor markets. This exception, afforded to European corporate group affiliates, allows us to examine internal managerial mobility within groups and make comparisons to internal mobility in multi-business firms where employment dismissal regulations also do not apply.

We use the 2007 ownership information from Amadeus to infer group structure, and supplement this information with historical data to capture ownership changes (divestitures and acquisitions). For each affiliate in 2007, the dataset provides information about the share of equity which is held, directly or indirectly, by the group’s controlling shareholder. For each affiliate we also have information on its historical ownership structure as inferred from Amadeus’s historical publications. An affiliate is classified as having minority shareholders if minority shareholders own some equity in the affiliate. These affiliates are considered to be partly-owned due to the presence of minority shareholders. Wholly-owned affiliates are those that do not have minority shareholders.

Managerial mobility. Amadeus data on top management includes consolidated and standardized information from nearly 70 sources on companies’ CEOs and other top managers. While countries in our sample differ in corporate governance reporting requirements, BvDEP collects information on firms’ key officers and shareholders from both public and private sources, which include country regulatory bodies and private credit information agencies. Common titles for the managers in our sample include Chief Executive Officer, Manager, Managing Director and General Manager. On average there are 2.1 managers per corporate group affiliate in our sample. We look at the mobility of all of those managers. Results are

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3 We infer group structure from dyadic control relationships. We say that a shareholder controls a private firm if the shareholder owns more than 50% of the firm’s voting rights (excluding non-voting shares). Following La Porta et al. (1999) and Faccio and Lang (2002), we set this threshold at 20% for public firms since these firms usually have a more dispersed ownership (all our results are robust to different plausible specifications of these thresholds). An algorithm then builds control chains and creates group structures by merging together all the chains controlled by the same ultimate shareholder (a firm, a family or an individual). Details on the algorithm are provided in Belenzon and Berkovitz (2010).
robust when we restrict attention to the affiliates where only information on the CEO is provided.

For each manager observed in the 2002 Amadeus publication, we track the manager’s subsequent employment history until 2007 using annual Amadeus publications. The main challenge in developing this data is to assign unique identification codes to managers across publication years. That is, our analysis hinges on our ability to determine whether two observations at different companies and in different years are actually the same manager. We employ a direct name matching algorithm which uses a secondary phonetic matching routine to handle misspellings.\(^4\) The final data includes a unique identification code for each manager, year of employment (the year of the relevant Amadeus publication), and an identification code for the manager’s firm(s).

To capture mobility, we restrict the manager sample to include only managers who are employed in group affiliates and for which we have complete employment history from 2002 to 2007. For each manager in 2002, we ask whether he or she was managing a different affiliate of the same group during the 2003-2007 period. If the manager was managing a different affiliate, then the manager is classified as redeployed or moved internally. If the manager was managing the same affiliate during the entire sample period, then the manager is classified as non-moving or staying. If the manager in 2002 is observed in a firm not belonging to the same group in the subsequent years, then the manager is classified as exited or moved externally.\(^5\)

Because the sample comprises managers with complete employment history for the period 2002-2007, two potentially important types of transitions are excluded. First, a manager can join a group from an outside firm (entry). If a transition occurs from an outside firm to a group affiliate, this transition is not

\(^4\)Information on the name matching algorithm is available upon request.

\(^5\)A number of issues can arise when examining mobility. In some cases, multiple firms are associated with the same manager in a single year. In such cases we have multiple employment histories. For example, suppose that manager \(i\) manages company \(A\) in 2005-2007. In 2002-2004, however, there are three observations to which we assign the same identification code as manager \(i\). Suppose these observation refer to three affiliates of the same group: firms \(A\), \(B\), and \(C\). Has manager \(i\) been redeployed in 2004? A 2002-2004 employment history that included only firms \(B\) and \(C\) would led us to conclude that manager \(i\) has been redeployed, while a history that included only firm \(A\) would led us to conclude that manager \(i\) has not been redeployed. We adopt the following convention. We say that a manager was redeployed if and only if the firm he or she manages in 2007 is not part of his or her employment history in one or more years between 2002 and 2006. In the above example, manager \(i\) is classified as a staying manager because firm \(A\) is part of manager \(i\)’s employment history in every year between 2002 and 2006.

A second issue is how to deal with external mobility. In the example above, suppose the 2002-2004 employment history includes only firms \(B\) and \(C\). Suppose further that firm \(B\) is an affiliate of the same group as firm \(A\) (the 2007 affiliate), whereas firm \(C\) belongs to a different group. Clearly manager \(i\) moves in 2004, but is this an example of internal or external mobility? We classify mobility as internal (and hence manager \(i\) as redeployed) if at least one firm in manager \(i\)’s 2002-2004 employment history belongs to the same group as firm \(A\). Thus, in this example manager \(i\) is classified as redeployed because firm \(B\) belongs to the same group as \(A\). However, if neither \(B\) and \(C\) had been part of firm \(A\)’s group, then this transition would have been classified as external.

Finally, we use historical ownership information to identify instances of redeployment involving firms that either join or leave the group during the 2002-2007 period, or are no longer active in 2007.
included in our main analysis. Second, we exclude the observation if a manager disappears from the data: a manager may leave the group to join a firm outside the scope of the data coverage, or leave the labor force by retiring or passing away. Thus our analysis restricts attention to managers who either stay in the same group affiliate, are redeployed within the group, or join a firm in a different group during the 2002-2007 period.6 7

**Manager types.** We classify managers according to (i) whether they have family ties with large shareholders in their group and (ii) their recent past performance. Specifically, a manager is classified as a *family manager* if his or her last name is the same as the group ultimate owner or any shareholder that holds at least 5 percent of the group’s equity (all our results are robust to alternative thresholds of 10 and 20 percent). Managers who do not share the same last name with a large shareholder are classified as *non-family (or professional) managers*. As for the second distinction, we examine the performance of the firm a manager was managing in the three years (1999-2001) proceeding the period during which mobility is tracked (2002-2007). Managers that managed high-performing firms (in the first tertile of the sales growth distribution), relative to other firms in the same industry, are classified as *high-performing managers*. Managers that managed low-performing firms (in the third tertile of the sales growth distribution), relative to other firms in the same industry, are classified as *low-performing managers*.8

**Core versus peripheral affiliates.** We distinguish between core and peripheral affiliates based on whether a sizable fraction of the group’s sales are generated in the same industry as the focal affiliate. An affiliate is classified as *core* if the share of group sales in the same three-digit SIC as the affiliate (excluding the focal affiliate’s sales) lies in the fourth quartile of the group sales share distribution for that industry. An affiliate is classified as *peripheral* if the same share is in the first quartile of the group’s sales share distribution for that industry (again excluding the focal affiliate’s sales).9

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6 We combine disappearances with identified exits for robustness checks, and our results hold.
7 Although promotions within an affiliate could be construed as an internal move, we do not track changes in titles within the same affiliate due to data limitations—while the identity of managers is quite comprehensive, information on titles, age and other details is not uniformly available across different edition of Amadeus publications.
8 In unreported regressions, we check the robustness of our results to using firms’ absolute sales growth figures instead of relative sales growth figures. The results are qualitatively similar.
9 More details on how ability measures are constructed are provided in the Econometric specifications section below.
Regional trust. While family managers may represent trust-based resources (of a particularized nature), we also develop a measure of generalized trust, based on the perceptions of general trust by the people in the region where the group affiliate is located. We use two surveys which cover a wide range of social variables, and focus on trust-related questions. The European Social Survey (ESS) covers almost 30 countries and is funded by the European Commission, the European Science Foundation and participating countries. The second survey, the European Values Study (EVS), is a cross-national and longitudinal study updated every nine years since 1981 by the University of Tilburg and GESIS, Leibniz Institute for Social Science. The ESS measures trust by asking respondents to rate on a scale of 0 to 10 the question: “Generally speaking, would you say that most people can be trusted, or that you cannot be too careful in dealing with people?” The survey responses are aggregated to one- or two-digit NUTS levels, and we match them to the locations of affiliates in our sample by their corresponding NUTS codes. A score of 0 means that one cannot be too careful and 10 means that most people can be trusted. The EVS asks the same question as the ESS for trust, but respondents are asked to answer with either “most people can be trusted” or “cannot be too careful.” We transform each survey score to a trust index ranging from 0 to 1, with the value of 1 indicating the greatest level of generalized trust. The two survey measures are highly correlated (0.88). We use the index based on ESS survey scores as our primary trust measure and check for robustness using the EVS scores. The regions located in Denmark, Sweden and Finland are perceived by the respondents as most trustworthy, while in some regions of Spain and France, people do not seem to put a lot of trust in others.

3.1 Descriptive statistics

Table 1 presents descriptive statistics for our sample managers. Our sample includes 209,436 top managers for which we have complete employment history for the period 2002-2007. 32,393 (15.5%) of these managers have moved at least once internally: from an affiliate to a different affiliate of the same group. In 2007, the average group generates $208 billion in annual sales (but the distribution is highly skewed, with median group sales of $119 million), and has 89 affiliates (a median of 7). The average affiliate is quite large with $137 million in annual sales (a median of $7 million).

Minority shareholders hold, on average, 18.4% of the affiliates’ equity (minority shareholders are all industries can procure inputs jointly or share marketing and distribution networks). These additional measures are used to check for robustness. Our results hold when using these alternative measures.\footnote{The NUTS classification (Nomenclature of Territorial Units for Statistics) is a hierarchical system for dividing up the geographic territory of the EU by major socio-economic regions. The classification is similar to the Metropolitan Statistical Area (MSA) system in the U.S.}
the shareholders different from the group’s controlling shareholder). Shared ownership is less common in affiliates that are run by redeployed managers: 14.0% of the equity of affiliates run by redeployed managers is held by minority shareholders, as compared to 21.6% for non-moving managers. Mobility also appears to be more prevalent in larger groups. For a redeployed manager, average group sales are $360 billion (a median of $601 million). For non-moving managers, the same figure is $176 billion (a median of $87 million).

We distinguish between family and non-family managers. 23,573 (11.3%) managers are classified as family managers. While there is no difference in average mobility between family and non-family managers, there are substantial differences in the types of firms they run and the groups to which they belong. In particular, family managers tend to work in affiliates and for groups that are much smaller than those for which non-family managers work. Groups with family managers have much smaller sales ($3.7 billion on average and a median of $25 million), than groups without family managers (average $234 billion and median of $162 million). For groups with family managers, minority shareholders own, on average, 16% of affiliate’s equity. For affiliates with non-family managers this figure is 18.7%. Managers’ age is available for a subsample of 49,964 individuals in which family managers and non-family managers are on average about the same age of 55.

The share of affiliates with minority shareholders is distributed very evenly across core and peripheral affiliates: among peripheral affiliates, 47% have minority shareholders, and among core affiliates, 50% are partly-owned. Mobility is much higher in peripheral affiliates than in core affiliates: 20.3% of managers in peripheral affiliates move compared to 7.4% of managers in core affiliates. Core affiliates on average generate slightly more sales than peripheral affiliates.

Insert Table 1 here

Table 2 reports the percentage of redeployed managers by affiliate type. Young and acquired affiliates are much more likely to experience internal mobility than mature or internally generated affiliates. In young affiliates (first quartile of affiliate age distribution), 26.1% of managers are redeployed, as compared to 14.9% in mature affiliates (fourth quartile of affiliate age distribution). In acquired affiliates, 31.4% of managers are redeployed, as compared to only 14.5% of managers in internally generated affiliates.\footnote{We also make distinctions (not reported in the table) between top-down, bottom-up and horizontal mobility within a group. Mobility is classified as top-down if the manager moves from a company to one of its direct or indirect subsidiaries. Bottom-up mobility refers to situations when a manager moves from a subsidiary to a firm that, directly or indirectly, controls it. Mobility is classified as horizontal if the manager moves from a group affiliate to another affiliate of the same group, and}
In Table 3, we distinguish between internal and external mobility by group and manager characteristics. Overall, there is a significant amount of movement; 30.1% of all managers move either externally or internally. 50,752 managers (14.6%) move externally by leaving for a different firm that does not belong to the focal group. Large (by sales and number of affiliates), diversified (group sales are below the median level of industry HHI) and multinational groups (with at least one foreign affiliate) have higher mobility, with managers moving especially at a higher rate internally. Additionally, mobility is generally higher in affiliates that are wholly-owned than in affiliates with minority shareholders. More managers move in peripheral affiliates than in core affiliates (20.3% versus 7.4%, respectively). Interestingly, there is no difference in internal and external mobility between family managers and non-family managers, although in the empirical analysis, we find striking differences in their mobility patterns by group structure and levels of regional trust. We further investigate how often the same managers move internally (not reported in the tables). Of the 32,393 managers who moved internally at least once in five years, 52.5% moved once, 28.4% moved twice, 9.7% moved three times, 8.0% moved four times, and 1.5% moved every year within the group. Our results remain robust with the exclusion of very frequent movers—potentially “turnaround experts”—whose jobs entail frequent mobility.

Insert Tables 2 and 3 here

4 Econometric specifications

Our analysis focuses on the internal redeployment of managers and examines the relationship between manager type, the group’s ownership structure, and redeployment propensity. We compare the probability of a manager being redeployed internally to the probability of a manager staying with the same affiliate during the sample period. Because we focus on how structure moderates internal mobility, we exclude from the main regression analysis managers that exit the corporate group during the sample period. The results presented below are not sensitive to including exiting managers.\(^\text{12}\)

Our first model distinguishes between high- and low-performing managers and focuses on the presence of minority shareholders in the destination affiliate (the affiliate to which a manager is redeployed). The neither holds a direct or indirect equity stake in the other. Horizontal mobility is the most common form of mobility in our sample with 65% of total mobility. 30% of mobility is top-down, and the remaining 5% is bottom-up. \(^\text{12}\)The online Appendix presents complementary analyses for the determinants of external mobility.
baseline specification for the linear probability model is:

\[
\Pr(InternalMobility_{i(j)} = 1) = F(\beta_1 MinorityShare_j + \beta_2 DummyforPerformance_i + \beta_3 MinorityShare_j \times DummyforPerformance_i + X_j^i \beta_4 + Z_g \beta_5)
\]

where \(i\) denotes a manager, \(j\) denotes the affiliate manager \(i\) manages in the most recent sample year (2007), and \(g\) denotes the corporate group. \(InternalMobility_{i(j)}\) is a dummy variable that receives the value of one if manager \(i\) is redeployed to affiliate \(j\) from another group affiliate in the period 2002-2007, and zero if manager \(i\) manages the same affiliate \(j\) for the entire sample period. \(MinorityShare_j\) is the share of equity in affiliate \(j\) which is held by shareholders that are different from the group controlling shareholder. The share of equity by minority shareholders includes both direct and indirect equity ownership. We construct two dummies to capture past managerial performance (\(DummyforPerformance_i\)). We denote by \(\text{Performance}_i\) the average pre-mobility (1999-2001) relative sales growth of the affiliate that manager \(i\) manages before the period 2002-2007. We use relative sales growth figures because, arguably, they are a better proxy for how the manager was performing.\(^{13}\) However, in unreported regressions, we also check the robustness of our results to using absolute sales growth figures. The dummy for high performance of manager \(i\) takes the value of 1 if \(\text{Performance}_i\) is in the first tertile of the sales growth distribution, and 0 otherwise. The dummy for low performance of manager \(i\) takes the value of 1 if \(\text{Performance}_i\) is in the third tertile of the sales growth distribution, and 0 otherwise. \(X_j^i\) is a set of affiliate controls (year of incorporation, sales, share of group sales in the three-digit SIC of the affiliate,\(^{14}\) and a complete set of two-digit SIC code dummies) and \(Z_g\) is a set of group controls (group sales, number of affiliates, and ultimate owner country dummies). The estimation data is cross-sectional for 2007. We compute standard errors clustered at the group level, which allows the error term to be correlated across affiliates and managers of the same group.

We expect managers from high-performing affiliates to be less likely to move to partly-owned affiliates (Hypothesis 1A) and managers from low-performing affiliates to be more likely to move to partly-owned affiliates (Hypothesis 1B). These hypotheses imply \(\beta_3 < 0\) when the dummy for high performance is used, and \(\beta_3 > 0\) when the dummy for low performance is used. Both effects should be larger when mobility originates from a wholly-owned affiliate. When we do not control for past managerial performance, we

\(^{13}\)For each affiliate, relative sales growth is obtained by subtracting the average industry sales from absolute (reported) values of \(\text{Performance}_i\).

\(^{14}\)We find no difference in the relationship between core and periphery status of an affiliate and the presence of minority shareholders in that affiliate: the share of equity held by minority ownership in core affiliates is 0.201, while in peripheral affiliates it is 0.209. Nevertheless, we control for the share of group sales in affiliate industry in all specifications.
expect partly-owned affiliates to experience lower levels of managerial redeployment than wholly-owned affiliates ($\beta_1 < 0$), because on average managers are likely to be valuable resources.

Next, we consider how the probability of redeployment is affected by trustworthiness considerations. We argue that family managers are best conceptualized as a “trust-based” resource. We expect “trust-based” resources to be more likely to be redeployed to affiliates where informal control methods like trust are more strongly needed.

Our second baseline empirical specification is as follows:

$$\Pr(\text{InternalMobility}_{i(j)} = 1) = F(\beta_1 \text{FamilyManager}_i + \beta_2 \text{InformalControl}_j + \beta_3 \text{FamilyManager}_i \times \text{InformalControl}_j + X'_j \beta_4 + Z'_g \beta_5)$$

where $i$ denotes a manager, $j$ denotes the affiliate this manager manages in the most recent sample year (2007), and $g$ denotes the corporate group. $\text{InternalMobility}_{i(j)}$ is a dummy variable that receives the value of one if manager $i$ is redeployed to affiliate $j$ from another group affiliate in the period 2002-2007, and zero if manager $i$ manages the same affiliate $j$ for the entire sample period. $\text{FamilyManager}_i$ is the indicator variable for whether manager $i$ is family or non-family. $\text{InformalControl}_{(j)}$ is a set of affiliate and region-level variables that proxy for greater need for informal control or loyalty: (i) presence of minority shareholders in an affiliate $j$, (ii) whether affiliate $j$ is a peripheral or core affiliate, and (iii) whether affiliate $j$ is located in a region of low or high levels of societal trust. $X'_j$ is a set of affiliate controls (year of incorporation, sales, share of group sales in the three-digit SIC of the affiliate, and a complete set of two-digit SIC code dummies) and $Z'_g$ is a set of group controls (group sales, number of affiliates, and ultimate owner country dummies).

We expect family managers to be more likely to be redeployed than non-family managers to affiliates that are partly-owned, peripheral, and located regions with low levels of societal trust: $\beta_3 > 0$ (Hypothesis 2). The estimation data is cross-sectional for 2007. The standard errors are clustered at the group level to allow the error term to be correlated across affiliates and managers of the same group.

## 5 Estimation Results

### 5.1 Managerial ability and ownership structure

Table 4 presents the estimation results for the relationship between internal mobility, the presence of minority shareholders, and managerial ability (measured by pre-move financial performance of the source
affiliate). Our first specification (Column 1) includes a dummy variable that receives the value of one for partly-owned affiliates and the value of zero for wholly-owned affiliates. The coefficient estimate on this dummy is negative and significant (-0.025 with a standard error of 0.002). This estimate indicates that the presence of minority shareholders in the destination affiliate is negatively related to the probability of managerial mobility. Column 2 uses a continuous measure of the share of equity held by minority shareholders. The coefficient estimate is also negative and highly significant. A two standard deviation increase in the share of equity held by minority shareholders in a destination affiliate (0.684) is associated with a decrease of about 25% in the likelihood of managerial mobility to that affiliate ($-0.052 \times 0.684 / 0.14$).

Columns 3 and 4 distinguish between mobility from wholly-owned affiliates and mobility from partly-owned affiliates. The property-rights view suggests that assets that are wholly-owned are less likely to be shared with minority shareholders. Consistent with this argument, we find that the presence of minority shareholders has a stronger effect on mobility when the source affiliate is wholly-owned. A two standard deviation increase in the share of equity held by minority shareholders is associated with a decrease of 35% in the likelihood of mobility from wholly-owned affiliates. By contrast, we find a positive and insignificant coefficient estimate on minority shareholders when the source affiliate is partly-owned.

We proceed by distinguishing between high and low performing managers, as indicated by the pre-mobility sales growth of managers’ source affiliates. To examine how managerial performance moderates the relationship between mobility and ownership structure, we include dummies indicating managerial performance (high or low) and interact those dummies with the share of equity held by minority shareholders. Dummy for high managerial performance receives the value of one for manages with a pre-mobility sales growth in the top tertile of the sample’s sales growth distribution, and zero for all other managers. Dummy for low managerial performance receives the value of one for managers in the bottom tertile of the sales growth distribution, and zero for all other managers.

Consistent with Hypothesis 1A, we find that high performing managers are less likely to move to affiliates with minority shareholders (Column 5), especially when the mobility originates from a wholly-owned affiliate (Column 6), but managerial performance does not moderate the relationship between minority owners and mobility when the source affiliate is partly-owned (Column 7). Based on the estimates from Column 6, the negative relationship between mobility and minority shareholders doubles in size when the manager comes from a high growth unit (the estimate on minority shareholders rises in absolute value from -0.042 to -0.082). A two-standard deviation increase in the shares owned by minority owners in a
destination affiliate lowers the likelihood of mobility for high performing managers by 30%, but only by 15% for all other managers.

On the contrary, the coefficient estimate on the interaction between minority owners with the low performance dummy is positive and statistically significant (Column 8; 0.026 with a standard error of 0.008), with the results driven by mobility originating from wholly-owned affiliates (Column 9). The estimates indicate that the presence of low performance managers cuts the negative relationship between mobility and minority owners by almost half (from -0.066 to -0.035). Column 9 shows that for managers coming from wholly-owned affiliates, low performing managers are 16% less likely to move to wholly-owned affiliates as compared to all other managers (0.016/0.098). But, the results flip when the destination affiliate is partly-owned. For partly-owned affiliates, a low-performing manager is 15% more likely to move to those affiliates as compared to all other managers ((0.031 – 0.016)/0.098). Our findings from Columns 8-10 support Hypothesis 1B, which states that low performing managers are more likely to move to affiliates with minority shareholders, especially when mobility originates from wholly-owned affiliates.

Insert Table 4 here

### 5.2 Family managers

Table 5 examines the relationship between the mobility of family managers and the need for informal control in the destination affiliate. Our hypothesis (H2) is that family managers are more likely to be deployed to units where the need for informal control or loyalty is higher.

In Columns 1-3, we use the presence of minority shareholders as a proxy for the need for informal control. Column 1 introduces a dummy for family managers and a variable for the shares held by minority shareholders. The coefficient estimate on the family manager dummy is 0.038 (a standard error of 0.003) indicating that family managers are 27% more likely to move than non-family managers (0.038/0.14). The coefficient estimate on shares held by minority shareholders remains negative and statistically significant.

Column 2 adds an interaction term between minority shareholders and the family manager dummy to examine whether family managers are more likely to move to partly-owned affiliates than to wholly-owned affiliates. The coefficient estimate on this interaction is positive and statistically significant (0.083 with a standard error of 0.014). This estimate implies that family managers are more likely to move to affiliates with minority shareholders, where control by dominant owners is more difficult to achieve (consistent with Hypothesis 2(i)). A two standard deviation increase in shares by minority owners more than doubles the
mobility likelihood of a family manager \((0.083 \times 0.686/0.024)\) into the partly-owned affiliate relative to a non-family manager. To mitigate concerns that our results are driven by unobserved group heterogeneity, Column 3 checks the robustness of the results by using corporate group fixed effects exploiting variation in mobility patterns of managers within the same group. The results continue to hold. The moderating effect of minority shareholders drops to 0.061 from 0.083, but the estimate remains statistically significant.\(^{15}\)

Columns 4-6 distinguish between core and peripheral affiliates. Our assumption is that the need for informal control is higher in peripheral affiliates. In Column 4, the coefficient estimate on the interaction between the family dummy and the core affiliate dummy is negative and statistically significant \((-0.046\) with a standard error of 0.01). The estimates indicate that family managers are 4 times less likely to move to core affiliates than to non-core affiliates \((0.015/0.061)\)\(^{16}\). Columns 5-6 split the sample into core and peripheral affiliates, and the coefficient on family manager dummy is positive and larger in magnitude for peripheral affiliates (Column 6). These results are consistent with the prediction in Hypothesis 2(ii).\(^{17}\)

Next, we test whether the mobility of family managers differs in regions of lower trust. Columns 7-8 present results from the model that estimates the likelihood of family manager moving to an affiliate located in regions with higher or lower generalized trust. The negative coefficient of \(-0.189\) (a standard error of 0.019; Column 7) on the interaction between the dummy for family managers and regional trust indicates that a two-standard deviation \((0.597)\) decrease in the regional trust index doubles the likelihood of mobility of family managers (relative to non-family managers) by 11 percentage points \((0.189 \times 0.597)\), or almost 80% of the sample average likelihood of mobility \((0.11/0.14)\). Columns 8-9 split the sample by partly- and wholly-owned destination affiliates. As expected, the moderating role of regional trust is stronger for partly-owned affiliates, consistent with the view that in those affiliates the need for informal control is greater. The results provide support for Hypothesis 2(iii).

An important concern with the results presented above is that we are confounding the effect of trustworthiness of family managers with their ability. For instance, if family managers perform systematically worse than non-family managers they may be sent to partly-owned and distant affiliates simply because they may do less damage there, not because they are more trustworthy. Table A1 (available in the online

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\(^{15}\) We conduct several robustness checks to examine the sensitivity of our results to the absence of shareholder names, in which case we cannot determine whether a manager is family-related or not. On average, we cannot identify shareholders for 5% of affiliates’ equity. We estimate the specification in Column 2 only for managers for which we have information on the identity of all the group shareholders. Results are robust.

\(^{16}\) The difference in the likelihood of mobility between family and non-family managers when the destination affiliate is non-core is 0.061 as compared to 0.015 \((0.061-0.046)\) when the destination affiliate is core.

\(^{17}\) In unreported regressions, we repeat the analyses using alternative measures of core and periphery—the Robins-Wiersema (1995) index of relatedness and the Fan-Lang (2000) forward and backward vertical relatedness indices—with similar results.
appendix) explores this concern by restricting the sample to family managers and estimating the moderating role of past performance on redeployment. If family managers move to partly-owned affiliates because controlling shareholders wish to externalize the costs of their underperformance on outside owners, we expect that within a sample of family managers, managers that perform more poorly would be more likely to move to partly-owned affiliates. The results are not consistent with this conjecture. We find that the past performance of family managers does not moderate the relationship between ownership structure and their mobility—family managers are likely to be deployed to partly-owned affiliates regardless of their ability.\footnote{For instance, the coefficient estimate on the interaction between minority owners and dummy for high performance is 0.031 with a standard error of 0.031, while the coefficient estimate on the interaction of minority shareholders with dummy for low performance is -0.023 with a standard error of 0.022. These estimates are statistically not different from zero.}

The results also indicate that the decreased likelihood of mobility for high-performing managers to affiliates with minority shareholders that we present in Table 4 is driven by non-family managers.\footnote{To further explore differences between family and non-family managers, we present evidence from LinkedIn on differences in educational and professional attainment between family and non-family managers. To do so, we collected information on a random subset of managers in firms located in the UK, France and Italy from LinkedIn. We searched for managers’ employment and demographic information by matching manually their names and firm names with LinkedIn profiles. Information for almost 2,000 managers was collected. We obtained their education and employment histories and determined whether they have a degree in management and business-related fields, and used both Amadeus and LinkedIn information to determine whether the managers were promoted at least once in the current company. In Table A2 (available in the online appendix), we report the difference in means test. The results indicate that a larger share of non-family managers have business education and that non-family managers are more likely to be promoted into their current position. This difference provides additional evidence that family managers may create value through means other than education, skill and experience. Of course, the results could be interpreted as evidence of nepotism. Under nepotism, we would expect affiliates managed by family managers to underperform. However, comparing pre-sample growth rates (growth rates over the period 1999-2002) for family managed and non-family managed affiliates, we find that family-managed affiliates grow at 0.8 percentage point faster (difference is significant at 5% level), inconsistent with the pure nepotism view of family management.}

Insert Table 5 here

5.3 Robustness checks and additional results

In this section we briefly discuss a number of additional findings and robustness tests to our main results. The full set of results is available in the online appendix.

Quality of affiliates. A key identification problem we face is that the presence of minority shareholders may be correlated with opportunities for redeployment. For instance, if partly-owned affiliates are systematically of low quality, and low-quality affiliates are unlikely to benefit from redeployment opportunities, then a negative relationship between minority shareholders and redeployment may emerge.

To address this concern, we check for differences in quality between partly- and wholly-owned affiliates. Partly- and wholly-owned affiliates are quite similar in terms of average profitability: the differences in
average returns on assets (EBITDA over total assets) and average profit margins (EBITDA over sales) over the period of 1997-2007 are very small and statistically insignificant. These results (not reported in the tables) provide some assurance that partly-owned affiliates are not systematically of lower relative quality. However, because wholly-owned affiliates are substantially bigger than partly-owned affiliates (average total assets are $94 million for wholly-owned affiliates, and only $47 million for partly-owned affiliates), we always control for affiliate size (as measured by sales). Since partly- and wholly-owned affiliates may still differ in some other characteristics unobservable in the data, we examine different subsamples to rule out alternative explanations based on unobserved characteristics for the destination affiliate alone: destination affiliate’s pre-mobility average sales volume (below and above the median of $8.5 million average annual sales), pre-mobility sales growth (below and above the median), and age (below and above the median firm age). Results reported in Table A3 remain robust in these specifications.

**Types of minority shareholders.** Another concern is that the nature of the relationship (hostile or amicable) between the group’s controlling shareholders and an affiliate’s minority shareholders may affect managerial redeployment patterns. To explore this issue, we identified affiliates with minority shareholders that were acquired by our groups between 1999 and 2007 using Amadeus’ Zephyr M&A database. We constructed a sample of over 1,000 acquisitions and manually traced whether acquisition conditions were friendly or hostile by carefully reviewing details on each deal description, cross-checking with Factiva, SDC Platinum and Capital IQ databases and searching news clippings on each deal announcement on Lexis-Nexis. We find that less than 1% of transactions in our sample are classified as hostile, and thus almost all acquisitions are completed on friendly terms. Thus, differences in the nature of the relationship (hostile versus amicable) between the group’s controlling shareholders and an affiliate’s minority shareholders are unlikely to explain our results.

**Other tests.** To check the robustness of our baseline results on managerial mobility and minority shareholders, we conduct a number of further robustness tests. We more finely distinguish between different types of mobility (top-down, horizontal, and bottom-up) (Table A4 in the online appendix). We use a different estimation method, the Cox hazard model (Table A5). We control for manager experience (as proxied by manager age) and measures of organizational similarity (common apex directors, common parent name, and same SIC as parent).\(^{20}\) Most of the estimated coefficients (unreported) for the new

\(^{20}\) *Common apex directors* is a dummy variable that receives the value of one for affiliates that share at least one director with the apex firm in their group, and zero otherwise. *Common parent name* is dummy variable that receives the value of
controls have the expected signs and statistically significant coefficients. Overall, we find that the results on mobility and minority shareholders are robust.\footnote{Also, although this study focuses on internal labor markets, external mobility can be an important factor in the dynamics of internal mobility. We examine how the relationship between internal and external mobility is mediated by the presence of minority shareholders. We find no difference between external and internal moves due to the presence of minority shareholders. External hires also seem to be constrained by the presence of minority shareholders. A full set of analyses simultaneously comparing internal mobility, external mobility, and non-movers by managerial performance is in Appendix I.}

6 Concluding remarks

In his seminal 1937 article, Ronald Coase set out to investigate what determines where firm boundaries are drawn. While this question has been the subject of a large amount of empirical work, a perhaps even more fundamental question—do firm boundaries matter at all in allocating resources?—has been much less systematically explored. We exploit variation in corporate group structure to examine how organizational factors and managerial characteristics affect internal managerial mobility. We are particularly interested in differences in mobility between professional managers as repositories of skills and knowledge, and family managers as repositories of trust. Thus, we hope not only that our study may shed light on some of the “mechanisms through which organizational boundaries affect knowledge transfer” (Argote et al., 2003), but may also help clarify how trust-based resources are internally redeployed.

We find that both structural features of the organization and the nature of managerial assets affect the likelihood of redeployment. A baseline result that a lower degree of subsidiary integration—as measured by the presence of minority shareholders in a group affiliate—is on average associated with a lower probability of managerial redeployment toward that unit. This is consistent with a key tenet of the resource-based view, which holds that multi-unit firms exist largely because they are able to recombine “soft” assets such as knowledge and know-how more effectively and securely than markets. We show that managerial redeployment is greater when group subsidiaries are wholly-owned than when group subsidiaries are partly-owned. Thus, internal managerial mobility appears to be enhanced when affiliates more closely resemble divisions of a Chandlerian, multi-divisional firm.

This result complements previous findings by Darr et al. (1995) and Baum and Ingram (1998). These authors have shown that knowledge and best practices spread faster across establishments that are owned by the same parent company or that are affiliated through the same chain or franchise than across independent organizations. The present study suggests that managerial mobility is an important vehicle for affiliates that share a common name with their direct parent company. \textit{Same SIC as parent} refers to affiliates that operate in the same two-digit SIC code as their direct parent company.
of knowledge transfer in large organizations such as corporate groups.

Importantly, however, the present paper also shows that the relationship between mobility and ownership structure is mediated by the nature of managerial assets. We consider managerial heterogeneity along two dimensions: whether a manager is high- or low-performing, and whether a manager is family or non-family. The first distinction captures managerial value heterogeneity. High-performing managers are assumed to be more valuable than low-performing managers. The second distinction captures trustworthiness heterogeneity. The predominant trait of family managers is assumed to be their loyalty to family shareholders, not their skills or knowledge.

Focusing on the value dimension, we show that appropriability concerns influence managerial redeployment patterns. While high-performing managers are more likely to be moved to units that are wholly-owned, low-performing managers are more likely to be moved to units that are only partly-owned. Both relationships are more pronounced when the source affiliate is wholly-owned than when it is partly-owned. Together, these findings lend some support to agency and property-rights theories of the firm. These theories suggest that headquarters have limited incentives to redeploy valuable assets (high-performing managers) to partly-owned affiliates, because the benefits would in part accrue to minority shareholders. Incentives are especially weak when the asset is initially wholly-owned, because the cost of a good manager leaving falls entirely on headquarters. Conversely, headquarters benefit from redeploying ‘bad’ assets (low-performing managers) to partly-owned affiliates, especially when the bad asset is initially wholly-owned. We find especially the second result to be quite surprising. Indeed, we focus on West European countries with highly-developed institutions and financial markets. And yet, even in these countries, we find evidence consistent with minority shareholders’ expropriation through opportunistic managerial redeployment.

The redeployment patterns of family managers, just as those of low-performing managers, do not conform to the hypothesis of a negative relationship between mobility and minority shareholders. Family managers are more likely to be deployed to units with a greater share of minority shareholders, regardless of their past performance. Thus, the mobility of family managers appears to follow a different logic than the mobility of professional managers. To understand this, we suggest that professional managers are predominantly repositories of knowledge and skills, whereas family managers are mostly repositories of trust. The redeployment of family managers can therefore be of value to owners because it helps extend control over ‘distant’ units. We test this idea by using two additional proxies for ‘distant’ units, peripheral
units only loosely related to the group’s core business and units located in low-trust regions, and find support for it. In sum, the present contribution highlights a hitherto unappreciated way through which managerial mobility can create value—by extending owners’ control.

We are, of course, not the first ones to argue that trust and social capital are key managerial attributes (Burt, 1992; Adner and Helfat, 2003; Bloom et al., 2012). Consistent with the idea that managers’ social capital is important, Shaw et al. (2005) find that the departure of employees from a firm is associated with a disruption of internal relationships and routines and lower performance. Acquaah (2007) shows that the social capital of top executives developed through relationships with external stakeholders is associated with improvements in performance and faster growth. Somaya et al. (2008) demonstrate that the movement from and to clients enhances firm performance, arguably by promoting information flows and strengthening social ties. Like Somaya et al. (2008), we suggest that mobility can be helpful because it allows employees to leverage their social capital more fully. In addition, however, we also highlight business unit characteristics that make the redeployment of trust-based assets more important: lack of control, lack of information, and lack of generalized trust.

Our work has several limitations. First, managerial mobility is just one particular type of resource redeployment. It would be interesting to test the robustness of our results for other types of redeployment, such as the transfer of marketing or R&D resources. Second, the choice of ownership structure is endogenous and may be correlated with redeployment. We attempted to address this concern by examining specific causal mechanisms, for instance by focusing on characteristics of managers (high- and low-performing) and of source affiliates (wholly- versus partly-owned). However, concerns still remain. Examining managerial redeployment in a natural experimental setting where ownership restrictions exogenously change, as in Perez-Gonzales (2005), would certainly be highly desirable. A third issue is that managerial redeployment is not just driven by shareholders’ incentives, but also by managers’ preferences. For instance, if managers were reluctant to deal with minority shareholders, then our key observation—that managers tend to move from wholly-owned affiliates to other wholly-owned affiliates—could be rationalized. The disaggregated redeployment patterns, however, cast doubt on this interpretation. The managers that are most likely to have a ‘cozy’ relationship with controlling shareholders are the family managers. And yet the wholly-owned-to-wholly-owned mobility pattern is strong especially for non-family managers. This indicates that controlling shareholder approval is likely to be a key determinant of top managerial redeployment in corporate groups.
We believe the findings of this paper have value not just for researchers, but for practitioners as well. Ownership structure is shown to affect patterns of internal redeployment. To the extent that the recombination of internal resources is an important source of competitive advantage, owners must take this effect into account when selecting among alternative ownership structures. The results may also be of interest to managers contemplating working for corporate groups. Prospective employees are not only interested in the characteristics of their next new job, but also want to know how their career within the organization may progress. Weber (1958) goes so far as to suggest that organizations should develop rules based on a combination of merit and seniority to eliminate elements of randomness from the promotion process. Chandler (1956) notes that a key advantage of the multidivisional firm is that it can provide better opportunities for professional development to middle management. Our work suggests that redeployment opportunities may be limited in corporate groups with fragmented ownership structures. This can potentially constrain the future career paths of new managers.

References


### Table 1. Summary Statistics

#### Panel A: Managers By Move Type

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Internal movers</th>
<th>Non-moving managers</th>
<th>External movers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Median</td>
<td>Average</td>
<td>Median</td>
</tr>
<tr>
<td>Number of managers</td>
<td>209,436</td>
<td>209,436</td>
<td>32,393</td>
<td>32,393</td>
</tr>
<tr>
<td>Number of affiliates</td>
<td>94,295</td>
<td>196,958</td>
<td>25,478</td>
<td>25,478</td>
</tr>
<tr>
<td>% Internal Move</td>
<td>15.5</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dummy for Minority Shareholders</td>
<td>0.47</td>
<td>0</td>
<td>0.36</td>
<td>0</td>
</tr>
<tr>
<td>% Minority shareholders</td>
<td>18.4</td>
<td>0</td>
<td>14.0</td>
<td>0</td>
</tr>
<tr>
<td>Group sales ($, mm)</td>
<td>208,062</td>
<td>119</td>
<td>359,932</td>
<td>601</td>
</tr>
<tr>
<td>Number of affiliates</td>
<td>89</td>
<td>7</td>
<td>130</td>
<td>20</td>
</tr>
<tr>
<td>Affiliate sales ($, '000)</td>
<td>136,723</td>
<td>7,356</td>
<td>198,750</td>
<td>9,999</td>
</tr>
<tr>
<td>Manager's age</td>
<td>55</td>
<td>55</td>
<td>53</td>
<td>53</td>
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</table>

#### Panel B: Managers by Family Ties and Affiliate Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Family managers</th>
<th>Non-family managers</th>
<th>Core affiliate managers</th>
<th>Peripheral affiliate managers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Median</td>
<td>Average</td>
<td>Median</td>
</tr>
<tr>
<td>Number of managers</td>
<td>23,573</td>
<td>23,573</td>
<td>185,863</td>
<td>185,863</td>
</tr>
<tr>
<td>Number of affiliates</td>
<td>17,328</td>
<td>17,328</td>
<td>83,810</td>
<td>83,810</td>
</tr>
<tr>
<td>% Internal Move</td>
<td>15.3</td>
<td>0</td>
<td>15.5</td>
<td>0</td>
</tr>
<tr>
<td>Dummy for Minority Shareholders</td>
<td>0.45</td>
<td>0</td>
<td>0.47</td>
<td>0</td>
</tr>
<tr>
<td>% Minority shareholders</td>
<td>16.0</td>
<td>0</td>
<td>18.7</td>
<td>0</td>
</tr>
<tr>
<td>Group sales ($, mm)</td>
<td>3,689</td>
<td>25</td>
<td>233,983</td>
<td>162</td>
</tr>
<tr>
<td>Number of affiliates</td>
<td>10</td>
<td>4</td>
<td>98</td>
<td>8</td>
</tr>
<tr>
<td>Affiliate sales ($, '000)</td>
<td>58,407</td>
<td>4,305</td>
<td>146,429</td>
<td>7,869</td>
</tr>
<tr>
<td>Manager's age</td>
<td>54</td>
<td>54</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>

**Notes:** This table provides summary statistics for managers, affiliates and corporate groups in our sample. Information on affiliates is for 2007 (destination affiliates). Internal movers are re-deployed managers that moved at least once from one group affiliate to another affiliate of the same group during the sample period of 2002-2007. Non-movers are managers who stayed with the same affiliate for all five years. External movers are managers who left the group during the sample period. % Minority shareholders refers to the total holdings, direct and indirect, that minority shareholders have in an affiliate. A manager is classified as a family manager if her last name is the same as the last name of a shareholder that holds at least 5% of the group’s equity. An affiliate is classified as core if total group sales in its three-digit SIC (excluding the focal affiliate's sales) is in the top industry sales quartile of the group. An affiliate is classified as peripheral if total group sales in its three-digit SIC (excluding the focal affiliate's sales) is in the bottom industry sales quartile of the group. Information on Manager's age is available for a subsample of 49,964 managers.
### Table 2. Summary Statistics for Redeployed Managers

<table>
<thead>
<tr>
<th></th>
<th>All affiliates</th>
<th>Young affiliates</th>
<th>Mature affiliates</th>
<th>Acquired affiliates</th>
<th>New internal affiliates</th>
<th>Wholly-owned affiliates</th>
<th>Partly-owned affiliates</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Managers</td>
<td>15.5</td>
<td>26.1</td>
<td>14.9</td>
<td>31.4</td>
<td>14.5</td>
<td>18.8</td>
<td>11.8</td>
</tr>
<tr>
<td>Family-Related Managers</td>
<td>15.3</td>
<td>16.5</td>
<td>14.5</td>
<td>40.5</td>
<td>15.0</td>
<td>17.3</td>
<td>12.9</td>
</tr>
<tr>
<td>Non-Family Managers</td>
<td>15.5</td>
<td>28.6</td>
<td>15.0</td>
<td>31.0</td>
<td>14.5</td>
<td>18.9</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Notes: This table presents the percentage of redeployed managers of all managers in our sample by affiliate characteristics. Young affiliates are affiliates that fall in the bottom quartile of the affiliate age distribution and mature affiliates are affiliates that fall in the top quartile of the affiliate age distribution. A manager is classified as a family manager if her last name is the same as the last name of a shareholder that holds at least 5% of the group’s equity. Remaining managers are classified as non-family manager.
Table 3. Patterns of Managerial Mobility

<table>
<thead>
<tr>
<th>Group size, by sales</th>
<th>Group size, by number of affiliates</th>
<th>Group characteristics</th>
<th>Ownership structure</th>
<th>Group structure</th>
<th>Manager type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total managers</td>
<td>All</td>
<td>Small</td>
<td>Medium</td>
<td>Large</td>
<td>Small</td>
</tr>
<tr>
<td>Total managers</td>
<td>209,436</td>
<td>69,815</td>
<td>69,820</td>
<td>69,801</td>
<td>79,116</td>
</tr>
<tr>
<td>Move internally (%)</td>
<td>15.5</td>
<td>8.8</td>
<td>15.2</td>
<td>22.4</td>
<td>7.1</td>
</tr>
<tr>
<td>Move externally (%)</td>
<td>14.6</td>
<td>14.5</td>
<td>15.0</td>
<td>14.4</td>
<td>13.0</td>
</tr>
<tr>
<td>Stay (%)</td>
<td>69.9</td>
<td>76.7</td>
<td>69.8</td>
<td>63.3</td>
<td>79.9</td>
</tr>
</tbody>
</table>

Notes: This table presents mobility patterns by group and manager characteristics. Internal moves are moves from one affiliate to another affiliate of the same group. External moves are outgoing moves to firms that do not belong to the focal group. Staying managers are those that work for the same affiliate for the entire 5-year period. Diversified (specialized) group’s sales are below (above) the sample median value HHI of group sales concentration by three-digit SIC codes. A corporate group is classified as a multinational if its affiliates operate in at least two different countries.
Table 4. Minority Shareholders and Managerial Mobility

Dependent variable: Dummy for Internal Managerial Mobility. Linear Probability Model.

<table>
<thead>
<tr>
<th>All managers</th>
<th>By Manager Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source is wholly-owned</td>
<td>Source is partly-owned</td>
</tr>
<tr>
<td>Shares by minority shareholders</td>
<td>-0.052</td>
</tr>
<tr>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
</tbody>
</table>

Dummy for minority shareholders
-0.025
(0.002)

Dummy for core industry
-0.030
-0.030
-0.015
-0.022
(0.003) | (0.003) | (0.003) | (0.002) |

Shares by minority shareholders × Dummy for high managerial performance
-0.052
-0.030
-0.031
-0.052
(0.004) | (0.004) | (0.003) | (0.004) | (0.004) | (0.003) |

Shares by minority shareholders × Dummy for low managerial performance
-0.040
-0.040
-0.010
(0.011) | (0.010) | (0.007) |

Dummy for high managerial performance
0.003
0.003
-0.005
(0.004) | (0.003) | (0.002) |

Dummy for low managerial performance
-0.017
-0.016
-0.002
(0.003) | (0.003) | (0.002) |

ln(Year of incorporation)
2.576
2.592
2.194
0.755
1.882
1.507
0.607
1.803
1.439
0.571
(0.086) | (0.086) | (0.080) | (0.049) | (0.103) | (0.092) | (0.064) | (0.103) | (0.092) | (0.064) |

ln(Affiliate sales)
-0.001
0.001
0.001
-0.001
-0.050
-0.042
-0.025
-0.050
-0.042
-0.024
(0.001) | (0.001) | (0.001) | (0.000) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |

ln(Group sales)
-0.006
-0.006
-0.004
-0.003
0.017
0.016
0.006
0.016
0.016
0.006
(0.001) | (0.001) | (0.001) | (0.000) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |

ln(Number of affiliates)
0.037
0.037
0.029
0.012
-0.004
-0.008
-0.002
-0.004
-0.007
-0.002
(0.001) | (0.001) | (0.001) | (0.001) | (0.002) | (0.002) | (0.001) | (0.002) | (0.002) | (0.001) |

Two-digit SIC dummies
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes

Ultimate-owner country dummies
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes
Yes

R²
0.123
0.123
0.124
0.047
0.183
0.172
0.082
0.184
0.173
0.082

Observations
181,447
181,447
175,603
159,112
90,606
87,329
82,049
90,606
87,329
82,049

% of movers
14.0
14.0
11.5
3.3
12.8
9.8
3.7
12.8
9.8
3.7

Notes: This table presents the estimation results of linear probability regressions that examine the relationship between managerial mobility and the presence of minority shareholders in origin and destination affiliates. Column 3 excludes movements where source affiliates have minority shareholders. Column 4 excludes movements where source affiliates are wholly-owned. High (low) performing managers are managers in origin affiliates with pre-mobility sales growth levels in the top (bottom) tertile of the sample sales growth distribution. Standard errors (in brackets) are robust to arbitrary heteroscedasticity through clustering by corporate groups.
Table 5. Mobility of Family Managers

Dependent variable: Dummy for Internal Managerial Mobility. Linear Probability Model.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Partly-Owned family managers are more likely to be redeployed to affiliates with minority shareholders</th>
<th>Hypothesis 2(ii), core vs. Periphery: family managers are more likely to be redeployed to non-core affiliates</th>
<th>Hypothesis 2(iii), core vs. Periphery: family managers are more likely to be redeployed to low-trust regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core vs. Periphery</td>
<td>High vs. Low Trust</td>
<td>Core vs. Periphery</td>
<td>High vs. Low Trust</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family manager dummy</th>
<th>0.038</th>
<th>0.024</th>
<th>0.026</th>
<th>0.061</th>
<th>0.014</th>
<th>0.056</th>
<th>0.101</th>
<th>0.072</th>
<th>0.141</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.006)</td>
<td>(0.009)</td>
<td>(0.004)</td>
<td>(0.009)</td>
<td>(0.007)</td>
<td>(0.010)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>Family manager dummy x Shares by minority shareholders</td>
<td>0.083</td>
<td>0.061</td>
<td>0.014</td>
<td>0.018</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family manager dummy x Dummy for core industry</td>
<td>-0.046</td>
<td>(0.010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shares by minority shareholders</th>
<th>-0.046</th>
<th>-0.054</th>
<th>-0.049</th>
<th>-0.045</th>
<th>-0.044</th>
<th>-0.042</th>
<th>-0.045</th>
<th>-0.019</th>
<th>-0.019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.007)</td>
<td>(0.011)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.009)</td>
<td>(0.009)</td>
</tr>
<tr>
<td>Dummy for core industry</td>
<td>-0.028</td>
<td>-0.027</td>
<td>-0.022</td>
<td>-0.035</td>
<td>-0.027</td>
<td>-0.031</td>
<td>-0.023</td>
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<tr>
<td></td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.007)</td>
<td>(0.006)</td>
<td>(0.004)</td>
<td>(0.006)</td>
<td>(0.005)</td>
<td>(0.005)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Trust</th>
<th>0.109</th>
<th>0.063</th>
<th>0.202</th>
<th>0.109</th>
<th>0.063</th>
<th>0.202</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional GDP</td>
<td>-0.061</td>
<td>-0.055</td>
<td>-0.051</td>
<td>(0.015)</td>
<td>(0.020)</td>
<td>(0.017)</td>
</tr>
<tr>
<td>Regional Size</td>
<td>-0.022</td>
<td>-0.019</td>
<td>-0.019</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.004)</td>
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<tr>
<td>Regional Population</td>
<td>0.036</td>
<td>0.044</td>
<td>0.015</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.004)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>ln(Year of incorporation)</th>
<th>2.487</th>
<th>2.439</th>
<th>2.279</th>
<th>2.575</th>
<th>1.272</th>
<th>3.778</th>
<th>2.398</th>
<th>2.753</th>
<th>1.999</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(0.118)</td>
<td>(0.120)</td>
<td>(0.188)</td>
<td>(0.173)</td>
<td>(0.169)</td>
<td>(0.281)</td>
<td>(0.125)</td>
<td>(0.186)</td>
<td>(0.162)</td>
</tr>
<tr>
<td>ln(Affiliate sales)</td>
<td>0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.014</td>
<td>0.003</td>
<td>-0.001</td>
<td>-0.002</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>ln(Group sales)</td>
<td>-0.006</td>
<td>-0.005</td>
<td>-0.007</td>
<td>0.006</td>
<td>-0.009</td>
<td>-0.007</td>
<td>-0.010</td>
<td>-0.003</td>
<td>-0.003</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.002)</td>
<td>(0.002)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>ln(Number of affiliates)</td>
<td>0.038</td>
<td>0.038</td>
<td>0.036</td>
<td>0.061</td>
<td>0.036</td>
<td>0.042</td>
<td>0.051</td>
<td>0.031</td>
<td>0.031</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.003)</td>
<td>(0.004)</td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two-digit SIC dummies</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultimate-owner country dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Group dummies</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$R^2$</th>
<th>0.098</th>
<th>0.098</th>
<th>0.443</th>
<th>0.109</th>
<th>0.16</th>
<th>0.084</th>
<th>0.100</th>
<th>0.111</th>
<th>0.082</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations</td>
<td>181,447</td>
<td>181,447</td>
<td>181,447</td>
<td>91,583</td>
<td>45,042</td>
<td>46,541</td>
<td>175,680</td>
<td>90,857</td>
<td>84,823</td>
</tr>
<tr>
<td>% of movers</td>
<td>14.0</td>
<td>14.0</td>
<td>14.0</td>
<td>13.9</td>
<td>7.4</td>
<td>20.3</td>
<td>13.8</td>
<td>25.2</td>
<td>5.2</td>
</tr>
</tbody>
</table>

Notes: This table explores how mobility patterns vary by family vs. professional (non-family) managers. An affiliate is classified as core if total group sales in its three-digit SIC (excluding the focal affiliate's sales) is in the top industry sales quartile of the group. An affiliate is classified as peripheral if total group sales in its three-digit SIC (excluding the focal affiliate's sales) is in the bottom industry sales quartile of the group. Regional trust index ranges from 0 to 1, with 0 indicating the lowest level of generalized trust and 1 indicating the highest level. Standard errors (in brackets) are robust to arbitrary heteroscedasticity through clustering by corporate groups.
## Table A1. The Moderating Role of Managerial Performance on the Relationship Between Mobility and Ownership Structure for Family Managers

<table>
<thead>
<tr>
<th>Dependent variable: Dummy for Internal Managerial Mobility. Linear Probability Model.</th>
<th>(1) Source wholly-owned</th>
<th>(2) Source partly-owned</th>
<th>(3)</th>
<th>(4) Source wholly-owned</th>
<th>(5) Source partly-owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares by minority shareholders × Dummy for high managerial performance</td>
<td>0.031</td>
<td>0.027</td>
<td>0.001</td>
<td>-0.040</td>
<td>-0.023</td>
</tr>
<tr>
<td>Shares by minority shareholders × Dummy for low managerial performance</td>
<td>0.017</td>
<td>0.008</td>
<td>0.012</td>
<td>-0.057</td>
<td>-0.044</td>
</tr>
<tr>
<td>Dummy for high managerial performance</td>
<td>0.014</td>
<td>0.012</td>
<td>0.010</td>
<td>0.044</td>
<td>0.026</td>
</tr>
<tr>
<td>Dummy for low managerial performance</td>
<td>0.013</td>
<td>0.012</td>
<td>0.009</td>
<td>-0.016</td>
<td>-0.012</td>
</tr>
<tr>
<td>Shares by minority shareholders</td>
<td>0.004</td>
<td>0.004</td>
<td>0.003</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>Core industry</td>
<td>0.004</td>
<td>0.004</td>
<td>0.003</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>ln(Year of incorporation)</td>
<td>0.004</td>
<td>0.005</td>
<td>0.004</td>
<td>0.006</td>
<td>0.005</td>
</tr>
<tr>
<td>ln(Affiliate sales)</td>
<td>0.044</td>
<td>0.029</td>
<td>0.034</td>
<td>0.044</td>
<td>0.028</td>
</tr>
<tr>
<td>ln(Group sales)</td>
<td>0.016</td>
<td>0.012</td>
<td>0.017</td>
<td>0.014</td>
<td>0.011</td>
</tr>
<tr>
<td>ln(Number of affiliates)</td>
<td>0.315</td>
<td>0.328</td>
<td>0.156</td>
<td>0.313</td>
<td>0.327</td>
</tr>
<tr>
<td>Two-digit SIC dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ultimate-owner country dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.315</td>
<td>0.328</td>
<td>0.156</td>
<td>0.313</td>
<td>0.327</td>
</tr>
<tr>
<td>Observations</td>
<td>9,190</td>
<td>8,831</td>
<td>8,399</td>
<td>9,190</td>
<td>8,831</td>
</tr>
<tr>
<td>% of movers</td>
<td>11.6</td>
<td>8.6</td>
<td>3.5</td>
<td>11.6</td>
<td>8.6</td>
</tr>
</tbody>
</table>

**Notes:** This table explores whether past performance of family managers moderate the relationship between mobility and ownership structure. Specifically, this table examines whether high performing family managers are more likely to move to wholly-owned affiliates and whether low performing managers are more likely to move to partly-owned affiliates. Standard errors (in brackets) are robust to arbitrary heteroscedasticity through clustering by corporate groups.
Table A2. Family-Related vs. Non-Family Managers: Evidence From LinkedIn

<table>
<thead>
<tr>
<th></th>
<th>N (% family)</th>
<th>Family managers</th>
<th>Non-family managers</th>
<th>Difference**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business education %</td>
<td>1,391 (15.9%)</td>
<td>9.95</td>
<td>15.13</td>
<td>-5.18*</td>
</tr>
<tr>
<td>Internal promotions %</td>
<td>1,924 (15.1%)</td>
<td>8.97</td>
<td>14.38</td>
<td>-5.41**</td>
</tr>
</tbody>
</table>

Notes: This table compares the differences in education and internal promotion between family and non-family managers for a random subsample of managers from the data using LinkedIn profile information. Business education equals one if a manager attended a business school. Internal promotion equals one if a manager was promoted at the current company at least once. * implies significance at 5% and ** at 1%
Table A3. Robustness Checks: Destination Firm Characteristics

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Affiliate sales</td>
<td>Affiliate sales growth</td>
<td>Affiliate age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shares by minority shareholders</td>
<td>-0.032 (0.008)</td>
<td>-0.061 (0.007)</td>
<td>-0.210 (0.005)</td>
<td>-0.105 (0.005)</td>
<td>-0.018 (0.005)</td>
<td>-0.105 (0.005)</td>
</tr>
<tr>
<td>ln(Year of incorporation)</td>
<td>-0.023 (0.005)</td>
<td>-0.061 (0.007)</td>
<td>-0.210 (0.005)</td>
<td>-0.105 (0.005)</td>
<td>-0.018 (0.005)</td>
<td>-0.105 (0.005)</td>
</tr>
<tr>
<td>ln(Affiliate sales)</td>
<td>-0.519 (0.204)</td>
<td>2.102 (0.180)</td>
<td>1.346 (0.169)</td>
<td>0.890 (0.192)</td>
<td>-24.167 (0.575)</td>
<td>4.059 (0.202)</td>
</tr>
<tr>
<td>ln(Group sales)</td>
<td>-0.026 (0.002)</td>
<td>0.001 (0.002)</td>
<td>-0.001 (0.001)</td>
<td>-0.006 (0.001)</td>
<td>0.007 (0.001)</td>
<td>0.007 (0.001)</td>
</tr>
<tr>
<td>ln(Number of affiliates)</td>
<td>0.004 (0.002)</td>
<td>-0.009 (0.002)</td>
<td>-0.002 (0.002)</td>
<td>0.001 (0.002)</td>
<td>-0.002 (0.002)</td>
<td>-0.003 (0.002)</td>
</tr>
<tr>
<td>Two-digit SIC dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ultimate-owner country dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R²</td>
<td>0.130</td>
<td>0.112</td>
<td>0.073</td>
<td>0.122</td>
<td>0.221</td>
<td>0.096</td>
</tr>
<tr>
<td>Observations</td>
<td>85,454</td>
<td>73,724</td>
<td>74,411</td>
<td>77,991</td>
<td>81,572</td>
<td>74,778</td>
</tr>
</tbody>
</table>

Notes: This table checks the robustness of the relationship between ownership structure and managerial mobility for redeployment opportunities at the destination affiliate measured by affiliate sales, sales growth and age. Standard errors (in brackets) are robust to arbitrary heteroscedasticity through clustering by corporate groups.
### Table A4. Robustness Checks: Managerial Mobility Direction

<table>
<thead>
<tr>
<th>Mobility type:</th>
<th>Top-Down</th>
<th>Horizontal</th>
<th>Bottom-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample:</td>
<td>All</td>
<td>Non-family managers</td>
<td>Family managers</td>
</tr>
<tr>
<td>Shares by minority shareholders</td>
<td>-0.015</td>
<td>-0.017</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.009)</td>
</tr>
<tr>
<td>Family manager dummy</td>
<td>0.024</td>
<td>0.016</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Dummy for core industry</td>
<td>-0.014</td>
<td>-0.013</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>ln(Year of incorporation)</td>
<td>0.913</td>
<td>0.866</td>
<td>1.320</td>
</tr>
<tr>
<td></td>
<td>(0.070)</td>
<td>(0.071)</td>
<td>(0.210)</td>
</tr>
<tr>
<td>ln(Affiliate sales)</td>
<td>-0.005</td>
<td>-0.005</td>
<td>-0.006</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>ln(Group sales)</td>
<td>-0.001</td>
<td>-0.001</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>ln(Number of affiliates)</td>
<td>-0.003</td>
<td>-0.003</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Two-Digit SIC dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ultimate-owner country dummies</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R²</td>
<td>0.062</td>
<td>0.058</td>
<td>0.136</td>
</tr>
<tr>
<td>Observations</td>
<td>161,415</td>
<td>140,934</td>
<td>20,481</td>
</tr>
</tbody>
</table>

% of movers | 5.0 | 4.7 | 7.5 | 10.4 | 10.6 | 8.3 | 8.3 | 2.4 | 1.8 | 1.9 | 1.3 |

Notes: This table reports the results of linear probability regressions that examine the relationship between the presence of minority shareholders in an affiliated firm and managerial mobility by mobility direction. Top-down mobility refers to mobility from a parent firm to its direct or indirect subsidiaries. Bottom-up mobility refers to mobility from a subsidiary to its direct or indirect parent companies. Horizontal mobility is mobility between affiliates of the same group that do not hold any direct or indirect equity stakes in one another. Standard errors (in brackets) are robust to arbitrary heteroscedasticity through clustering by corporate groups.
Table A5. Robustness Checks: Cox Hazard Model

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable:</strong></td>
<td>Dummy for Internal Managerial Mobility</td>
<td>Dummy for Internal Managerial Mobility</td>
<td>Dummy for Internal Managerial Mobility</td>
<td>Dummy for Internal Managerial Mobility</td>
<td>Dummy for Internal Managerial Mobility</td>
<td>Dummy for Internal Managerial Mobility</td>
</tr>
<tr>
<td><strong>Shares by minority shareholders</strong></td>
<td>-0.707 (0.064)</td>
<td>-0.426 (0.057)</td>
<td>0.085 (0.113)</td>
<td>-0.463 (0.061)</td>
<td>-0.446 (0.125)</td>
<td>-0.451 (0.083)</td>
</tr>
<tr>
<td><strong>Dummy for core industry</strong></td>
<td>-0.376 (0.036)</td>
<td>-0.294 (0.075)</td>
<td>-0.365 (0.039)</td>
<td>28.043 (1.719)</td>
<td>30.256 (4.392)</td>
<td>27.457 (1.810)</td>
</tr>
<tr>
<td><strong>ln(Year of incorporation)</strong></td>
<td>0.010 (0.007)</td>
<td>-0.017 (0.015)</td>
<td>0.013 (0.007)</td>
<td>25.772 (4.689)</td>
<td>33.204 (2.837)</td>
<td>0.019 (0.009)</td>
</tr>
<tr>
<td><strong>ln(Affiliate sales)</strong></td>
<td>-0.049 (0.010)</td>
<td>-0.033 (0.021)</td>
<td>-0.043 (0.010)</td>
<td>0.028 (0.025)</td>
<td>0.028 (0.025)</td>
<td>-0.043 (0.014)</td>
</tr>
<tr>
<td><strong>ln(Year of incorporation)</strong></td>
<td>0.276 (0.021)</td>
<td>0.440 (0.044)</td>
<td>0.279 (0.022)</td>
<td>0.4950 (0.062)</td>
<td>0.179 (0.029)</td>
<td></td>
</tr>
<tr>
<td><strong>Two-digit SIC dummies</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Ultimate-owner country dummies</strong></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>770,792</td>
<td>748,013</td>
<td>85,455</td>
<td>662,558</td>
<td>193,671</td>
<td>180,578</td>
</tr>
<tr>
<td><strong>Hazard rate</strong></td>
<td>-3.5%</td>
<td>-2.1%</td>
<td>0.4%</td>
<td>-2.3%</td>
<td>-2.2%</td>
<td>-2.2%</td>
</tr>
</tbody>
</table>

Notes: This table reports the results of semiparametric Cox hazard model regressions that examine the relationship between managerial mobility and minority shareholders. Columns 2-6 cluster standard errors at the group level. Hazard rates indicate the effect of a 5 percent increase in shares held by minority shareholders on the probability of internal moves.
# Table A6. Probability of Managerial Mobility Type and Managerial Performance

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firm Absolute Sales Growth</td>
<td></td>
<td></td>
<td>Firm Relative Sales Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal vs. External</td>
<td>Internal vs. Stay</td>
<td>External vs. Stay</td>
<td>Internal vs. External</td>
<td>Internal vs. Stay</td>
<td>External vs. Stay</td>
</tr>
<tr>
<td>Firm sales growth</td>
<td>0.147</td>
<td>-0.005</td>
<td>-0.151</td>
<td>0.220</td>
<td>0.139</td>
<td>-0.080</td>
</tr>
<tr>
<td>2nd tertile</td>
<td>(0.026)</td>
<td>(0.021)</td>
<td>(0.019)</td>
<td>(0.035)</td>
<td>(0.026)</td>
<td>(0.026)</td>
</tr>
<tr>
<td>3rd tertile</td>
<td>0.322</td>
<td>0.509</td>
<td>0.187</td>
<td>0.153</td>
<td>0.493</td>
<td>0.341</td>
</tr>
<tr>
<td>(0.025)</td>
<td>(0.020)</td>
<td>(0.019)</td>
<td>(0.033)</td>
<td>(0.0256)</td>
<td>(0.0256)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>Dummy for core industry</td>
<td>-1.106</td>
<td>-1.187</td>
<td>-0.082</td>
<td>-1.563</td>
<td>-1.555</td>
<td>0.008</td>
</tr>
<tr>
<td>(0.027)</td>
<td>(0.021)</td>
<td>(0.019)</td>
<td>(0.037)</td>
<td>(0.029)</td>
<td>(0.027)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>ln(Year of incorporation)</td>
<td>0.005</td>
<td>0.004</td>
<td>-0.001</td>
<td>0.006</td>
<td>0.005</td>
<td>-0.001</td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.020</td>
<td>0.020</td>
<td>0.020</td>
<td>0.030</td>
<td>0.030</td>
<td>0.030</td>
</tr>
<tr>
<td>Observations</td>
<td>154,750</td>
<td>154,750</td>
<td>154,750</td>
<td>88,950</td>
<td>88,950</td>
<td>88,950</td>
</tr>
</tbody>
</table>

Notes. This table reports the results of multinomial logistic regressions that examine the relationship between the propensity of different categories of managerial mobility and firm-level growth. In columns 1-3, firm absolute sales growth is average growth in sales in 1999-2002 period for the affiliates from which internal moves originate from or the last affiliate a manager is observed in for external movers and non-movers. In columns 4-6, firm relative sales growth is average growth in sales in 1999-2002 period after subtracting average industry sales for the affiliates from which internal moves originate from or the last affiliate a manager is observed in for external movers and non-movers. The results are robust to using destination firm sales growth for the internal moves instead. All models include controls for core and peripheral affiliates as indicated by the group sales share in the three-digit SIC of the affiliate and for affiliate age. Change in the predicted probabilities of each type of mobility is for an increase from the minimum to the maximum value of each independent variable, while holding all other independent variables constant at their means. Standard errors (in brackets) are clustered at the group level.