Keivan Aghasi

Sheffield University Management School, University of Sheffield, Conduit Road, Sheffield, S10 1FL, UK. k.aghasi@sheffield.ac.uk2

Massimo G. Colombo

DIG-Politecnico di Milano, P.za L. da Vinci 32, Milano, 20133, Italy, massimo.colombo@polimi.it

Lucia Piscitello

DIG-Politecnico di Milano, P.za L. da Vinci 32, Milano, 20133, Italy, lucia.piscitello@polimi.it

Cristina Rossi Lamastra

DIG-Politecnico di Milano, P.za L. da Vinci 32, Milano, 20133, Italy, cristina1.rossi@polimi.it

Cultural distance and the permanence of acquired CEOs in cross-border high-tech acquisitions: combining the acquirer's and CEO's perspectives

Keivan Aghasi[1,*], Massimo G. Colombo[2], Lucia Piscitello[2] and Cristina Rossi Lamastra[2]

[1]Sheffield University Management School, University of Sheffield, Conduit Road, Sheffield, S10 1FL, UK. k.aghasi@sheffield.ac.uk
[2]DIG-Politecnico di Milano, P.za L. da Vinci 32, Milano, 20133, Italy, massimo.colombo@polimi.it, lucia.piscitello@polimi.it, cristina1.rossi@polimi.it

The cultural distance between the acquiring and acquired firms is a double-edged sword in cross-border high-tech acquisitions. It magnifies the 'combination potential' of the acquisition but also poses severe integration challenges. Scholars have highlighted that the retention of acquired CEOs in combined entities is an effective integration action to address these challenges but have generally considered it from the acquiring firms' perspective only. In this study, we also take into account the acquired CEOs' perspective and find that the permanence of acquired CEOs in the post-acquisition organization depends on the balance between the acquiring firms' incentives to retain the acquired CEOs and the acquired CEOs' opportunity costs to remain in the company. Specifically, we argue that both sides increase with the cultural distance between the acquiring and acquired firms and that the acquired CEOs' personal characteristics and context-specific conditions also influence this balance. We test our hypotheses using a sample of 447 cross-border acquisitions of small high-tech firms by large listed firms between 2001 and 2014. Our findings confirm our expectations and highlight the role of micro-foundational characteristics in shaping the effect of key macro-level factors on the integration of high-tech acquisitions in international contexts.

Keivan Aghasi, Massimo G. Colombo, Lucia Piscitello and Cristina Rossi Lamastra

1. Introduction

The global economy has witnessed large incumbent firms increasingly seek outside the boundary of their home countries to acquire small firms in high-tech sectors to access the valuable technology and knowledge assets residing within these firms (Birkinshaw et al., 2000; Chen et al., 2021; Chow et al., 2021; Irwin et al., 2022; McCarthy and Aalbers, 2016). Some notable examples are the acquisitions of Laboratories Phoenix by GSK in 2010 for $253 million, Anobit Technologies by Apple in 2012 for $500 million, Deepmind by Google in 2014 for $650 million, Mendix by Siemens in 2018 for $700 million, and Qualtrix by SAP for $8 billion in 2019. In these acquisitions, the acquiring firms aim to combine diverse knowledge assets to create learning opportunities and generate radical innovation when the acquired firm, which is considerably smaller in size, is located in a country with great national cultural distance (hereafter, cultural distance) from the acquiring firm's country (Berry, 2014; Chow et al., 2021). In fact, the 'combination potential' (Larsson and Finkelstein, 1999) of high-tech cross-border acquisitions (thereafter, CBAs) at a great cultural distance is very high (Chen et al., 2021). However, scholars concur that the integration of high-tech acquisitions is challenging (e.g., Graebner et al., 2010) and may destroy rather than create value as it negatively impacts acquired employees (Kapoor and Lim, 2007; Puranam and Srikanth, 2007; Arroyabe et al., 2020). In smaller acquired firms, the centrality of employees as repositories of valuable tacit knowledge is high (Ranft and Lord, 2002). Any disturbance during the integration process would result in greater losses for the acquiring firms. Greater cultural distance makes these challenges even more severe (Birkinshaw et al., 2000; Sarala and Vaara, 2010; Vaara et al., 2012; Chow et al., 2021). In sum, in small high-tech CBAs, cultural distance is a double-edged sword (Stahl and Voigt, 2008; Reus and Lamont, 2009). To reap the substantial benefits of small high-tech CBAs at great cultural distance, acquiring firms must implement suitable post-acquisition integration actions.

Accordingly, scholars have called for further research on the post-acquisition integration actions that acquiring firms can adopt to address the challenges generated by great cultural distance (Stahl and Voigt, 2008; Reus and Lamont, 2009; Chow et al., 2021). The retention of acquired CEOs (i.e., the CEOs of acquired firms) is an integration action that is especially helpful in small high-tech acquisitions as an important mechanism to salvage acquired technology and knowledge assets for acquiring firms (Ranft and Lord, 2002; Graebner, 2004). However, what determines whether acquiring firms retain acquired CEOs or whether these individuals leave post-acquisition organizations in small high-tech CBAs at great cultural distance remains under-researched.

Most previous studies investigating the antecedents of post-acquisition retention (or departure) of acquired CEOs adopt the acquiring firm's perspective, claiming that acquiring firms are more likely to retain acquired CEOs when they are deemed valuable for these firms (e.g., Buchholtz et al., 2003; Wulf and Singh, 2011; Fich et al., 2016). With a few exceptions, these studies generally neglect the acquired CEO's perspective (Buchholtz et al., 2003; Wulf and Singh, 2011). The CEO's perspective is particularly relevant in the context of small high-tech CBAs at great cultural distance, as acquired CEOs may decide to leave the post-acquisition organization if they are better off elsewhere, even if their retention creates considerable value for the acquiring firms (Graebner et al., 2010). This context is replete with founder CEOs who have directly contributed to the technology and knowledge assets of the acquired firms. Following an acquisition, these managerial talents are easily attracted by offers from competing firms or may decide to depart to found another venture (Kim, 2022; Sanguineti et al., 2022). In this respect, if these CEOs anticipate that the acquisition integration challenges due to great cultural distance dramatically reduce their well-being, they place a higher regard on their outside options. With opposing forces likely at work, investigating the factors determining the post-acquisition permanence of acquired CEOs at a great cultural distance is an interesting open issue in small high-tech CBAs.

In this study, we develop a conceptual model that juxtaposes the two perspectives (i.e., the acquiring firm *versus* the acquired CEO) to delineate how cultural distance influences the probability of acquired CEOs' post-acquisition retention. We argue that to observe the permanence of the acquired CEO, the acquiring firm must be willing to make an offer and the CEO must be willing to accept it. The offer depends on the value that the acquired CEO can create for the acquiring firm during integration. This value increases with cultural distance. Simultaneously, the CEO's acceptance of the offer depends on the opportunity cost of staying, which is higher at greater cultural distance. We further argue that both value and opportunity costs are driven by the personal characteristics of the acquired CEO, in combination with the characteristics of the acquired firm's local business and regulatory environment.

We test our hypotheses using a sample of 447 CBAs of small and medium-sized firms operating in high-tech manufacturing and service industries made by large listed firms between 2001 and 2014. The econometric estimates confirm our predictions.

This study contributes to the literature on CEO retention in CBAs in two ways. First, we focus on the permanence of acquired CEOs as an important integration action in small high-tech CBAs, and propose a conceptual model that considers both the acquiring firms' and acquired CEOs' perspectives. Second, our results delineate how the interplay of cultural distance between acquiring and acquired firms and a set of micro- and macro-level factors (i.e., the personal characteristics of acquired CEOs and the business environment of acquired firms, respectively) influence acquired CEOs' permanence. In doing so, this study adds to the strand of literature by emphasizing the importance of adopting a microfoundation lens.

2. Theory

2.1. Theoretical background

Over the last two decades, firms have increasingly resorted to CBAs to obtain resources and knowledge that are otherwise difficult to access locally (Berry, 2014; McCarthy and Aalbers, 2016; Chen et al., 2021; Chow et al., 2021; Irwin et al., 2022). Foreign firms may represent attractive targets, as they often embody unique resources and competencies that potentially boost the creativity, innovation, and productivity of acquiring firms (Berry, 2014). Small high-tech CBAs allow acquiring firms to access the unique knowledge and capabilities embedded in the diverse innovation environments of their acquired firms' countries and combine them with their internal knowledge, capabilities, and resources to generate synergies (Birkinshaw et al., 2000). The greater the cultural distance between the countries of the two firms is, the larger the 'combination potential' of the acquisition (Larsson and Finkelstein, 1999; Vaara et al., 2012).

However, it is also well-established that cultural distance amplifies the challenges of integrating the acquired firm into the rest of the acquiring organization (Stahl and Voigt, 2008; Reus and Lamont, 2009; Sarala and Vaara, 2010), particularly in the context of small high-tech CBAs (Graebner et al., 2010; Chen et al., 2021). First, the information asymmetries and uncertainties that typically surround acquired technologies and knowledge assets (Coff, 2002; Arroyabe et al., 2020; Irwin

et al., 2022) become more imminent for acquiring firms as cultural distance increases. With a lack of insight into the local cultures and business environments in which the acquired firms' knowledge originates, acquiring firms can barely understand how to leverage these assets (Chow et al., 2021). Second, linguistic barriers and differences in communication styles create communication problems between the employees of the acquiring and acquired firms. These problems cause misunderstandings and conflicts, and ultimately prevent effective knowledge transfer (Arroyabe et al., 2020; Irwin et al., 2022). Third, when cultural distance is high, the routines, systems, and management practices that acquiring firms typically impose on acquired firms are likely to be far from those employees are accustomed to (Very, 2004). Acquired employees may experience the (foreign) 'conquering army syndrome' and perceive the acquisition as a threat to their status (Krug and Hegarty, 1997; Very et al., 1997), which may lower their motivation and ultimately induce them to leave the firm. In the context of small, high-tech CBAs, acquired employees are more prone to depart to pursue external options such as employee entrepreneurship (Kim, 2022). Hence, the challenges generated by a great cultural distance are critical.

The CBA literature suggests that carefully crafted integration actions can help acquiring firms overcome the aforementioned challenges and realize the high combination potential inherent in these acquisitions (e.g., Reus and Lamont, 2009; Vaara et al., 2012; Chen et al., 2021). Within small high-tech CBAs, acquired CEOs can help acquiring firms face these challenges (Very, 2004). Therefore, acquiring firms would value their retention as a potentially effective integration action (e.g., Ranft and Lord, 2002; Graebner, 2004). Acquired CEOs are ideal candidates for mobilizing and mitigating actions to support acquired employees. They are the primary contact points between the acquired employees and acquiring executives with whom they likely had frequent exchanges in the pre-acquisition phase. Hence, they can address employees' concerns about integration by collecting timely information on post-acquisition organizational changes from acquiring managers and sharing it with employees. Acquired CEOs can also set goals and timelines for acquired employees, coordinate their work in the combined entity, and stimulate motivation during the integration process (Graebner, 2004). In summary, acquired CEOs are resourceful, especially when the integration process is challenging, as in the case of great cultural distance.

However, previous studies have largely neglected (see Buchholtz et al., 2003 and Wulf and Singh, 2011 for exceptions) the wish of acquired CEOs to stay with the combined entities in the post-acquisition period. While the acquiring firm-centric approach seems reasonable in the general acquisition context, this might not be the case in the context of small high-tech CBAs. Many CEOs contribute significantly to the technology and knowledge assets developed in their firms and, in some instances, even founded firms around the technology. Due to these unique characteristics, the labor market places high value on these CEOs (Wenneberg et al., 2010; Kim, 2022). In small high-tech CBAs, cultural distance influences acquired CEOs' opportunity costs of staying with combined entities. Indeed, as documented in the literature on managerial exits after important liquidation events in high-tech SMEs, many CEOs choose to depart to pursue career options, such as being approached with a lucrative job offer by rival firms or founding a new venture (Wenneberg et al., 2010). Acquisition is a prevalent form of exit for CEOs of high-tech SMEs who weigh their outside options against staying with their firms (Graebner et al., 2010; Kim, 2022), particularly when a foreign acquiring firm is involved, bringing additional hurdles and complexities to the integration process (Stam et al., 2010; Sanguineti et al., 2022). Hence, modeling acquired CEOs' permanence with or exit from post-acquisition organizations in the context of small high-tech CBAs implies considering the perspectives of both the acquiring firm and the acquired CEOs.

2.2. A conceptual model of the permanence

Let V_A be the increase in value that the acquiring firm anticipates from retaining the acquired CEO during the integration process rather than replacing her with another manager. V_A is greater if she can make acquisition integration more effective and the acquiring firm finds it difficult to replace her. If $V_A > 0$, then the acquiring firm makes a job offer $S_{CEO} \leq V_A$, to the CEO.

Let us indicate with OC_{CEO} the opportunity cost of accepting this job offer for the acquired CEO. OC_{CEO} includes two components: (i) the anticipated value for the acquired CEO of the outside option, equal to the present value of the money she can earn in the best alternative occupation (e.g., the salary as CEO of another company or the revenues she can earn by starting her venture), and (ii) the (perceived) costs related to the personal effort required for the integration process and the psychological costs it will generate.

The acquired CEO accepts the acquiring firm's employment offer if $S_{CEO} > OC_{CEO}$. In this case, we can observe the CEO's permanence in the combined post-acquisition entity. Hence, the probability P_R of the post-acquisition permanence of the acquired CEO is $P_R = P\ [(V_A - OC_{CEO} + \varepsilon) > 0]$ where ε represents any unobservable exogenous shock that may influence either V_A or OC_{CEO} (or both). According to the model, any factor that positively influences V_A (without affecting OC_{CEO}) increases the odds of acquired CEO retention during the integration process, as it increases the likelihood that the acquiring firm makes an attractive job offer to the acquired CEO. The same holds for any factor that negatively influences OC_{CEO} (without affecting V_A). As the associated opportunity cost decreases for the acquired CEO to remain with the combined entity, the employment offer made by the acquiring firm becomes more attractive.

3. Hypotheses

3.1. The effect of cultural distance

In small high-tech CBAs, the value of retaining acquired CEOs for acquiring firms during the integration process is higher with greater cultural distance.

First, the mobilizing and mitigating actions that the acquired CEO can perform become more valuable to the acquiring firm as the cultural distance between the two firms increases. In this situation, the challenges are more severe, and these actions play a crucial role in successful acquisition integration. Given the central role of acquired human capital in small high-tech CBAs to preserve the knowledge assets and technologies for acquiring firms, mobilizing and mitigating actions are pivotal to ensure that acquired employees remain with the acquired organization (Graebner, 2004). This is because they can easily leave to pursue other career paths by formally founding a venture (Kim, 2022) or joining rival firms (Graebner et al., 2010). In this respect, as the combination potential of the knowledge assets is higher when the cultural distance between the two firms is greater, successful integration becomes even more critical (Reus and Lamont, 2009; Basuil and Datta, 2015; Chow et al., 2021; Irwin et al., 2022). Second, it is more difficult for the acquiring firm to replace the acquired CEO to manage the integration at a greater cultural distance. The acquiring firm likely lacks executives with sufficient knowledge of the local environment of the acquired operations (Hasija et al., 2020).

Therefore, acquiring firms are more inclined to offer generous employment conditions to acquired CEOs following acquisitions at a greater cultural distance.

However, for the acquired CEO to remain with the post-acquisition organization, she must be willing to accept this employment offer. We argue that when there is a greater cultural distance in small high-tech CBAs, the opportunity cost for the acquired CEO to remain is higher. The availability and attractiveness of outside options for acquired CEOs depend on local conditions and are not influenced by the cultural distance between the two firms (Stam et al., 2010; Sanguineti et al., 2022). However, as cultural distance increases, integration becomes increasingly challenging. Acquired CEOs may have a more negative perception of the amount of personal effort required by the integration process, the psychological costs generated by cultural clashes, and the associated conflicts between the personnel of the acquiring and acquired firms. These greater personal costs may make them more inclined to decline employment offers and leave (Sanguineti et al., 2022).

In sum, opposing forces may make the association between cultural distance and the probability of the acquired CEO's permanence with the post-acquisition organization positive or negative. Accordingly, we derived the following competing hypotheses:

> H1a In small high-tech CBAs, the probability of the acquired CEO's permanence with the post-acquisition organization increases as the cultural distance between the acquiring and acquired firms increases.

> H1b In small high-tech CBAs, the probability of the acquired CEO's permanence with the post-acquisition organization decreases as the cultural distance between the acquiring and acquired firms increases.

3.2. The combined role of acquired CEOs personal characteristics and the characteristics of acquired firms' environment

In this section, we argue that acquired CEOs' personal characteristics moderate the relationship between cultural distance and the probability of their permanence in a complex way.

Considering both the literature on the antecedents and performance outcomes of acquired CEOs' retention (Bergh, 2001; Buchholtz et al., 2003; Wulf

and Singh, 2011; Fich et al., 2016) and the small high-tech acquisition literature (Graebner, 2004; Graebner et al., 2010), we focus on two relevant characteristics of acquired CEOs: (i) their founder status and (ii) their international work experience. These characteristics influence the acquired CEOs' ability to perform mobilizing and mitigating actions to benefit acquiring firms during the integration process. Consequently, they prompt acquiring firms to make generous job offers to acquired CEOs. Concomitantly, as explained below, these characteristics, coupled with the attributes of acquired firms' business and regulatory environments, jointly influence acquired CEOs' opportunity costs of staying and their inclination to accept employment offers.

3.2.1. Acquired CEOs' founder status
Acquired founder CEOs excel at performing mobilizing and mitigating actions during the acquisition integration process more than acquired professional CEOs (Graebner, 2004). Founder CEOs originated the business idea and imprinted the firm culture (Nelson, 2003). Accordingly, they possess unique firm-specific knowledge, including knowledge of the abilities and attitudes of their employees (Wasserman, 2003), over and above that of their non-founder peers. Moreover, founder CEOs have forged strong bonds with employees, which often dates to firms' early times when founder CEOs' charismatic leadership (Ensley et al., 2006) induced employees to join the firm (Dobrev and Barnett, 2005). In addition, the CEO-centric structure that firms with founder CEOs often adopt (Nelson, 2003, p. 712) magnifies their accumulation of firm-specific knowledge regarding the developed technologies and strengthens their relationships with employees. Finally, the post-acquisition retention of the acquired founder CEOs is a mitigating action. The literature on venture capital (e.g., Pollock et al., 2009) and IPOs (e.g., Park et al., 2016) establish the symbolic value of founder CEOs for internal and external firm stakeholders. Analogously, in small high-tech CBAs, acquired founder CEO retention has strong symbolic value in reassuring acquired employees that they can count on their leaders during the integration process and in alleviating their concerns. In this regard, in small high-tech CBAs at a great cultural distance, acquired founder CEOs can generate more value for acquiring firms during the integration process than acquired professional CEOs. Therefore, acquiring firms are more inclined to offer generous employment to CEOs with founder status. Conversely, at a small distance, integration is less challenging, and

the founder status of acquired CEOs does not make them more valuable for acquiring firms.

Nonetheless, in combination with the local business environment attributes of acquired firms, founder status influences acquired CEOs' opportunity costs of staying with combined entities (Wenneberg et al., 2010). Acquired founder CEOs tend to pursue an entrepreneurial career path to keep their autonomy intact (e.g., 'being their own boss') rather than joining an established organization, such as the acquiring firm (Kim, 2022). However, the attractiveness of entrepreneurial options for acquired founder CEOs depends on the local availability of necessary resources, particularly venture capital (Stam et al., 2010; Sanguineti et al., 2022). Previous studies have highlighted the strong local bias of venture capital investments (Chen et al., 2010; Colombo et al., 2019). Therefore, the extent of the venture capital activity in the areas where acquired firms are located positively influences the decision of acquired founder CEOs to pursue an entrepreneurial career, establishing a new venture instead of accepting employment offers. In this regard, if there is an abundant supply of venture capital in the acquired firms' regions, the opportunity cost of staying may outweigh the value that founder CEOs can create for acquiring firms during the integration process. Under these circumstances, CEOs are inclined to reject the employment offered by acquiring firms. Conversely, if the regional supply of venture capital is low, the entrepreneurial opportunity for acquired founder CEOs is not as attractive as the option of staying with post-acquisition organizations offered by acquiring firms. Hypothesis H2 follows.

> H2a In small high-tech CBAs, if acquired firms are in regions with a limited supply of venture capital, the acquired CEOs' founder status has a positive moderating effect on the relationship between cultural distance and the probability of their permanence with the post-acquisition organization.

> H2b In small high-tech CBAs, the moderating effect of the acquired CEOs' founder status on the relationship between cultural distance and the probability of their permanence with the post-acquisition organization is less positive if acquired firms are located in regions with a more abundant supply of venture capital.

3.2.2. *Acquired CEO's prior international work experience*

Top executives' international work experience gives them knowledge, skills, and personal attributes that make them rare, valuable, and inimitable resources for their firms (Carpenter et al., 2001). These individuals possess cross-cultural competencies, defined as the ability to operate effectively in culturally distant contexts (Johnson et al., 2006) that foster their firms' internationalization (Tihanyi et al., 2000). The acquired CEOs' cross-cultural competencies generated by their international work experience make them more valuable assets for acquiring firms during the integration process of small high-tech CBAs at a great cultural distance.

Acquired CEOs with experience working in foreign countries have been exposed to diverse values, languages, managerial styles, socio-political systems, and institutional environments (Jeannet, 2000). Because of this exposure, these CEOs have likely developed open-mindedness, tolerance, flexibility, and, more generally, a cosmopolitan attitude through which they can abstract aspects of many diverse cultures into general principles (Takeuchi, 2010). Indeed, these acquired CEOs have developed cross-cultural competencies that can be leveraged in any cultural context (Levy et al., 2007) and allow them to anticipate the problems that arise in international contexts and cope with them by viewing events and people from multiple perspectives (Johnson et al., 2006; Takeuchi, 2010). These competencies enable acquired CEOs to mediate tensions, balance the competing concerns of diverse cultural groups, and effectively integrate individuals from diverse cultures (Jeannet, 2000). In sum, these competencies assist acquired CEOs in effectively taking mobilizing and mitigating actions during the integration of CBAs at a great cultural distance. Hence, the acquiring firms are more inclined to offer attractive jobs.

However, the international work experience of the acquired CEOs crucially influences the opportunity cost of staying. First, the arguments above suggest that acquired CEOs with considerable international work experience are more valuable in the managerial labor market (Jeannet, 2000; Carpenter et al., 2001; Irwin et al., 2022) and may have attractive outside options (Stam et al., 2010). More importantly, CEOs with greater international work experience can better anticipate the problems that may arise during the integration process in more culturally distant contexts. Additionally, they are aware of the high personal costs regarding the amount of personal effort required and the negative feelings generated by acquisition implementation. Hence, if the cultural distance is large, acquired CEOs with extensive prior international assignments will be more inclined than other acquired CEOs to decline the employment offered by the acquiring firms (Johnson et al., 2006). Based on this argument, we predict that the international

work experience of acquired CEOs moderates negatively rather than positively the relationship between cultural distance and the likelihood of their permanence in post-acquisition organizations.

We claim that the extent of the personal costs for acquired CEOs involved in the acquisition integration process at a great cultural distance depends on the differences between the national corporate governance institutions of the acquiring and acquired firms. Previous studies have shown that corporate governance institutions differ widely across countries (e.g., Hasija et al., 2020; Irwin et al., 2022). In some countries (e.g., the US), shareholders' rights are highly protected compared with employees'. In other countries (e.g., Germany), their rights are restricted, thus rebalancing their power vis à vis firms' employees. In these latter countries, corporate governance institutions likely enable acquired employees to be more resilient to organizational changes and restructure the acquiring firms that want to implement following the acquisition (Capron and Guillen, 2009).

In small high-tech CBAs, acquiring firms typically do not lay off the acquired workforce, whose skills and technical capabilities are often the key motive of the acquisition (Park et al., 2018; Chow et al., 2021). Nevertheless, in the aftermath of an acquisition, acquired employees must confront changes in their work environment and conditions, such as reorganizing R&D teams and relocating employees (Ranft and Lord, 2002; Graebner, 2004; Arroyabe et al., 2020; Kim, 2022). In countries where shareholders have fewer rights than the acquiring firms, acquired employees are less accustomed to the changes proposed by the acquiring firms. Thus, acquired employees are more likely to resist these changes if they perceive them as misaligned with their home country's expected institutional norms (Hemmert, 2004). Likewise, acquiring firms from countries with extensive shareholder rights are accustomed to fewer restrictions when imposing organizational restructuring and adjustments (Capron and Guillen, 2009). This situation likely leads to a severe clash between the acquiring and acquired employees. Under these conditions, acquired CEOs demand a much higher level of personal effort and psychological stress during the acquisition integration process. Acquired CEOs with considerable international work experience correctly anticipate these costs and encourage them to leave voluntarily. Therefore, we derive Hypothesis H3 as follows:

> H3a In small high-tech CBAs, if the acquired firms are in countries where shareholders' rights are less protected than in the countries of the acquiring firms, the acquired CEOs' international work

experience has a negative moderating effect on the relationship between cultural distance and the probability of their permanence with the post-acquisition organization.

> H3b In small high-tech CBAs, the moderating effect of acquired CEOs' international work experience on the relationship between cultural distance and the probability of their permanence with the post-acquisition organization is less negative the smaller the difference in the protection of shareholders' rights between the countries of the acquiring and acquired firms.

4. Method

We tested our hypotheses using a sample of 447 CBAs of small high-tech firms by large listed firms between 2001 and 2014. All acquiring and acquired firms were headquartered in either the US or the EU. We included acquired firms operating in the following high-tech industries: drugs (*SIC* code 283); computer and office equipment (*SIC* code 357); electronic and other electrical equipment and components, except for computer equipment (*SIC* code 36); instruments (*SIC* code 38); and software and computer programming (*SIC* code 737). Following prior studies on small high-tech acquisitions (e.g., Puranam and Srikanth, 2007; Puranam et al., 2009), we selected deals in which the acquired firms had fewer than 500 employees and the acquiring firms had at least 1000 employees at the time of acquisition. Based on these criteria, we gathered 842 acquisitions from the SDC Platinum (Thomson Reuters) and Zephyr (Bureau van Dijk) databases.

The data were collected from various sources. Data on acquisitions originated from the previously mentioned databases. We gleaned the acquired CEOs' names from interviews and public statements available on LexisNexis and other Internet sources, such as company websites. These names were the starting point for building their biographies by cross-searching their names on LinkedIn, the Bloomberg Business Week Company Executive Profile and Biography, and company websites. The use of several sources allowed for detailed data crosschecking and triangulation when constructing the variables. Partial availability of information in some biographies reduced the sample size to 447 acquisitions. Table 1 presents the distribution of the sample.

4.1. Dependent variable

CEO permanence is a binary variable that assumes a value of one when the acquired CEO remains with

Keivan Aghasi, Massimo G. Colombo, Lucia Piscitello and Cristina Rossi Lamastra

Table 1. Geographical and industrial distribution of the acquired and acquiring firms

		AT	BE	CH	DE	DK	ES	FI	FR	GB	IE	IT	NL	NO	PL	SE	US	Total
										Acquiring country								
Panel A																		
Acquired country	AT (Austria)								1				1			1	1	3
	BE (Belgium)			2					5				3				6	16
	CH (Switzerland)				1				3						1	1	11	17
	DE (Germany)	1	1	9				4	3	7	2		1			3	24	55
	DK (Denmark)			1				1					2	1		2	3	10
	ES (Spain)		1	1					3	2		1				1	4	13
	FI (Finland)			3						1						4	2	10
	FR (France)		2	4	5		1			3	1		1			2	31	50
	GB (United Kingdom)		3	3	6	1		3	4		2	1	1			2	76	102
	HU (Hungry)																1	1
	IE (Ireland)									2							10	12
	IT (Italy)			1	2				2	1	1		1				4	12
	NL (Netherlands)			3				1	2	1		1				1	14	23
	NO (Norway)			1	3	1		2		2	1						6	16
	PL (Poland)								1									1
	PT (Portugal)					1			1							1		3
	SE (Sweden)		1	3	1			4		2							22	33
	SK (Slovakia)														1			1
	US (USA)		1	6	6	3	1	2	7	27	4		7			5		69
	Total	1	9	37	24	4	4	17	32	48	10	3	17	1	2	23	215	447

Industry	Acquired firm	Acquiring firm
Panel B		
Drugs (US *SIC* 283)	49	41
Computer and office equipment (US *SIC* code 357)	13	16
Electronic and other electrical equipment (US *SIC* code 36)	69	77
Instruments (US *SIC* code 38)	73	57
Software and computer programming (US *SIC* code 737)	243	126
Others		130

This sample is representative of the initial population of CBAs in terms of the following dimensions: the industry of acquired firms ($\chi^2(4) = 2.71$, $p = 0.61$); the age and size (employee) of acquiring and acquired firms (acquiring firm age $|t| = 0.03$, $p = 0.97$; acquiring firm size $|t| = 0.06$, $p = 0.95$; acquired firm age $|t| = 0.53$, $p = 0.60$; acquired firm size $|t| = 0.37$, $p = 0.71$), their geographical location (acquiring firm country $\chi^2(16) = 10.80$, $p = 0.82$; acquired firm country $\chi^2(24) = 17.31$, $p = 0.84$), and the year of the acquisition ($\chi^2(4) = 1.09$, $p = 0.90$).

the combined entity for at least 2 years after the acquisition, and zero otherwise. This definition is in accordance with previous studies (e.g., Bergh, 2001; Buchholtz et al., 2003; Wulf and Singh, 2011). We retrieved this information from the CEOs' biographies and later examined it with news related to the focal acquisition available from LexisNexis.

4.2. Explanatory variables

In accordance with prior studies (e.g., Stahl and Voigt, 2008; Huang et al., 2017) to measure cultural distance between acquiring and acquired firms, we relied on Hofstede's six dimensions (uncertainty avoidance, power distance, individualism, masculinity, long-term orientation, and indulgence; see Hofstede et al. (2010)). Following the literature, we used the composite measure of the dimensions developed by Kogut and Singh (1988) to construct CD, an index of the cultural distance between the acquiring and acquired firms' countries. We used GLOBE as an alternative index of cultural distance to check the sensitivity of our findings. As GLOBE covers only 62 countries (House et al., 2004), we reran the analysis on the subsample of observations for countries where the index is available, and our results remain qualitatively the same (See Table A2 in Appendix). Given the partial availability of the GLOBE index for

our sample, the Hofstede measure was more suitable for constructing *CD*.

Founder is a binary variable that equals one if the acquired CEO founded the acquired firm. We conformed to Carpenter et al. (2001) and construct *International exp CEO* as a log transformation of the years in which the acquired CEO has international assignments. We took the following steps to construct the venture capital investment activities in the acquired firm's area (Regional VC). First, following recent works (e.g., Colombo et al., 2019; Tavassoli et al., 2021), we defined the regions for European acquired firms based on the second-level Nomenclature of Territorial Units for Statistics (NUTS) developed by Euromonitor, and for US-acquired firms based on Metropolitan Statistical Areas (MSAs). In the second step, we counted the number of venture capital investments in the region of the acquired firms divided by the total number of venture capital investments at the country level for European firms and the state level for the United States in the year preceding the acquisition announcement year. For US-acquired firms, we collected information on venture capital firms from Thomson One. We leveraged the VICO 4.0 database for European acquired firms, which is the most comprehensive data source available on venture capital in Europe.[1] We defined *Antidirector rights index diff* as the difference between the shareholder protection indices of the acquiring and acquired countries. Positive (negative) values suggest a higher (lower) level of protection for the acquiring country than the acquired country. We relied on the index initially developed by La Porta et al. (1998) and later revised by Djankov et al. (2008) and Spamann (2010).

Our model included numerous controls following the extant literature. Table 2 provides a summary of all the variables.

4.3. Model specification

Given the dependent variable's binary nature, we used a logit specification. We used clustered standard errors of the acquired and acquiring countries in the models to acknowledge country-specific effects on integration choices. Following recent suggestions (Lam et al., 2019), we applied three-way interactions to capture the moderating effects of the variables on the independent variable. To test the hypotheses and interpret the interactive effects of the variables on the probability of CEO permanence, we calculated the average marginal effect (AME) through the delta method (Hoetker, 2007). To test the hypotheses, we calculated the marginal effects of the independent variable *CD* at low (20%) and high (80%) values of

the moderating variables of their distribution across the sample. We graphically demonstrated the effect of *CD* at different moderator values (low and high) on the predicted probability of *CEO permanence*.

5. Results

Table 3 presents the descriptive statistics and correlation matrices of the variables. Table 4 reports the results of the econometric estimates. Model 1, as the base model, includes only the control variables. In Model 2, we insert *CD* in the model specification. Its AME is negative, but not significant at conventional confidence levels ($p = 0.165$). Therefore, our results do not support either H1a or H1b. In Model 3, we add the interaction between *CD* and *Founder* to the model specification. Model 4 includes a three-way interaction between *CD*, *Founder*, and *Regional VC*. For ease of interpretation, in Panel A of Figure 1, we illustrate the predicted probability of the acquired CEO's permanence as a function of *CD*, when *Founder* equals 1 and 0, respectively, and the acquired firm is located in a region poor in venture capital. Panel B shows a similar graph for a region with an abundant VC supply of venture capital. The figures clearly show that the probability of acquired founder CEOs staying with post-acquisition organizations increases with cultural distance only if the acquired firm is located in a region with a limited supply of venture capital. Indeed, in this situation, the AME of *CD* is positive (0.060) and (weakly) significant (p-value $= 0.054$) when *Founder* equals 1, whereas it is negative (-0.131, p-value $= 0.000$) when *Founder* equals 0. These results support H2a. Conversely, per the prediction of hypothesis H2b, when the acquired firm is located in a region with an abundant supply of venture capital, things turn otherwise. In this case, the AME of *CD* is not significant when *Founder* equals zero, whereas it is negative (-0.145, p-value $= 0.020$) when *Founder* equals one.

Model 5 includes the interaction between *International exp CEO* and *CD*. Model 6 has the three-way interaction among *CD*, *International exp CEO*, and *Antidirector rights index diff*. In Panels C and D in Figure 1, we subsequently plot the probability of the acquired CEO's permanence as a function of *CD* when *International exp CEO* is set at high and low values, respectively. Panel C refers to a situation where *Antidirector rights index diff* is set at a high value, whereas it is set at a low value in Panel D. Panel C clearly shows that, as predicted by hypothesis H3a, at high values of *Antidirector rights index diff*, *International exp CEO* negatively moderates the relationship between *CD*

Table 2. Variables descriptions

Variables	Description/motivation	Source
CEO permanence	A binary variable that assumes a value of one when the acquired CEO remains with the combined entity for at least 2 years after the acquisition, and zero otherwise	CEO Bio
CD	A measure of cultural distance between acquiring and acquired firms based on Hofstede's six dimensions (uncertainty avoidance, power distance, individualism, masculinity, long-term orientation, and indulgence)	Hofstede et al. (2010)
Founder	A binary variable that equals one if the acquired CEO founded the acquired firm	CEO Bio
International exp CEO	The natural logarithm transformation of the years in which the acquired CEO has international assignments	CEO Bio
Regional VC	A counted the number of venture capital investments in the region of the acquired firms divided by the total number of venture capital investments at the country level for European firms and the state level for the US in the year preceding the acquisition announcement year	Thompson One, VICO
Antidirector rights index diff	The difference between the shareholder protection indices of the acquiring and acquired countries	Djankov et al. (2008), La Porta et al. (1998), Spamann (2010)
Tenure CEO	The number of years appointed at the helm of the acquired firms until the acquisition announcement	CEO Bio
Target Listed	A binary variable that assumes a value of one when the acquired firm was listed before the acquisition, and zero otherwise	SDC Platinum, Zephyr
Target age	The natural logarithm transformation of the age of the acquired firm at the time of acquisition	SDC Platinum, Zephyr
VC backed	A binary variable that equals one if the acquired firm received a VC investment, and zero otherwise	Thompson One, VICO
Target Hassle factor	An index developed to capture how troublesome it is for acquiring managers to live in or travel to the acquired country. We expected acquiring firms to rely more on the acquired CEO to manage the integration process in inconvenient locations	Schotter and Beamish (2013)
Acquirer age	The natural logarithm transformation of the age of the acquiring firm at the time of acquisition	SDC Platinum, Zephyr
Minority stake	A binary variable that equals one if the acquiring firm holds a stake before the focal acquisition	SDC Platinum, Zephyr
Acquirer exp	The total number of acquisitions made by the acquiring firm in the window of 5 years before the focal acquisition (Puranam and Srikanth, 2007; Capron and Guillen, 2009). We expected more experienced acquiring firms to be less dependent on the acquired CEO to manage the acquisition integration process	SDC Platinum, Zephyr
Relative size	Adopted the headcount as a proxy for the size of the acquired and acquiring firms to measure the relative size (Puranam et al., 2009)	SDC Platinum, Zephyr
Relatedness	The total number of common 3-digit *SIC* codes of the acquiring and acquired firms divided by the total number of codes of the acquired firm (Basuil and Datta, 2015). The industry overlaps between the acquiring and acquired firms increase the possibility of acquired CEO replacement because of redundancies	SDC Platinum, Zephyr
Geographical distance	The distance between the capitals of the two firms' countries. Distance may positively affect the probability of acquired CEO permanence, because acquiring firms depend more on these CEOs when acquiring geographically distant firms	CEPII distance database
Predicted probability CBA	Calculated the predicted relative number of acquisitions of firms located in the acquired country by firms located in the country of the acquiring firm divided by all international acquisitions from the country of the acquiring firm from an OLS estimation. In the estimation, we put *CD* and other macroeconomic characteristics of the two countries, including consumer expenditure as a percentage of GDP, the natural logarithmic transformation of total factor productivity, R&D expenditure as a percentage of GDP, and population. With this approach, we checked for the possibility that cultural distance influences not only the permanence of acquired CEOs but also the occurrence of acquisitions at the outset (Irwin et al., 2022). To correct for this potential selection bias, similar to Capron and Guillen (2009) we included the prediction result in our main model. Table A1 in the Appendix illustrates the OLS estimation results	Passport Database (EuroMonitor International)
Time and Industry factors	Binary variables to control for the fixed effects of the year of acquisition and the industries of the acquiring and acquired firms	SDC Platinum, Zephyr

Table 3. Descriptive statistics and pairwise correlation matrix

Variables	1	2	3	4	5	6	7	8	9
1. CEO permanence	1								
2. CD (Hofstede)	0.108	1							
3. Founder	0.169	0.098	1						
4. International exp CEO (log)	−0.06	0	−0.217	1					
5. Regional VC	−0.043	−0.089	−0.033	0.007	1				
6. Antidirector rights index diff	−0.014	0.163	0.063	−0.098	0.18	1			
7. Tenure CEO	−0.059	−0.04	−0.007	−0.043	−0.024	0.02	1		
8. Target listed	−0.171	−0.079	−0.075	−0.017	−0.014	0.198	0.1	1	
9. Target age (log)	−0.019	−0.033	−0.278	−0.112	−0.051	0.084	0.04	0.053	1
10. Target VC Backed	−0.086	−0.09	−0.073	0.1	0.075	0.028	0.035	0.067	−0.063
11. Target Hassle factor	0.066	0.169	0.019	−0.019	0.268	0.497	0.034	0.114	−0.025
12. Acquirer age (log)	−0.021	0.052	−0.07	−0.06	−0.058	0.054	−0.013	−0.037	0.197
13. Minority stake	−0.007	0.018	−0.015	0.066	0.062	0.054	−0.014	0.233	−0.089
14. Acquirer exp	0.062	0.047	0.038	−0.03	0.054	−0.011	−0.033	−0.011	−0.102
15. Relative size	0.019	−0.045	−0.039	0.007	−0.045	0.078	0.048	0.278	0.071
16. Relatedness	0.011	−0.027	0.028	0.114	−0.098	0	−0.014	0.061	−0.174
17. Distance (log)	−0.079	0.11	0.003	−0.046	0.005	−0.036	0.028	0.039	−0.016
18. Predicted probability CBA	−0.195	−0.597	−0.057	−0.124	−0.086	0.087	0.074	0.258	0.058
Mean	0.655	1.454	0.421	0.548	0.137	−0.615	11.794	0.166	2.687
SD	0.476	0.941	0.494	0.993	0.193	1.93	85.268	0.372	0.742

Variables	10	11	12	13	14	15	16	17	18
10. Target VC backed	1								
11. Target Hassle factor	−0.08	1							
12. Acquirer age (log)	−0.012	0.01	1						
13. Minority stake	−0.058	0.033	0.001	1					
14. Acquirer exp	0.025	0.008	0.019	−0.044	1				
15. Relative size	−0.028	0.01	−0.119	0.139	−0.23	1			
16. Relatedness	−0.044	0.02	−0.185	0.086	−0.026	0.096	1		
17. Distance (log)	0.128	0.042	−0.067	−0.114	0.108	−0.064	0.053	1	
18. Predicted probability CBA	0.077	−0.073	0.003	−0.038	−0.048	0.139	0.076	0.135	1
Mean	0.506	1.065	3.334	0.063	16.01	0.027	0.525	7.964	0.1
SD	0.501	0.243	0.985	0.243	16.6	0.051	0.408	1.076	0.071

and the probability of acquired CEO permanence. In fact, with *Antidirector rights index diff* set at a high value, the AME of *CD* is negative, equal to 23.1 percentage points (*p*-value = 0.035) when *International exp CEO* is set at a high value. The AME is not significant for CEOs with no international experience. In addition, in line with H3b, the moderating effect of *International exp CEO* is less negative when *Antidirector rights index diff* takes lower values, as shown in Panel D. Indeed, with *Antidirector rights index diff* set at a low value, the AME of *CD* is not significant when *International exp CEO* is set at a high value, while it is negative (−0.102) and significant (*p*-value = 0.005) when acquired CEOs have no international experience.

6. Discussion and conclusion

Our study advances the existing knowledge in several aspects. First, it contributes to the literature on small high-tech CBAs. Prior studies suggest that the challenges of integrating acquired technology and knowledge assets due to cultural distances (or, more recently, other institutional distances) jeopardize the acquisition outcomes for acquiring firms (Birkinshaw et al., 2000; Stahl and Voigt, 2008; Reus and Lamont, 2009; McCarthy and Aalbers, 2016; Chen et al., 2021; Chow et al., 2021; Irwin et al., 2022). This study examines the integration process by considering a less distal outcome – the retention of the acquired CEO – to examine the

Keivan Aghasi, Massimo G. Colombo, Lucia Piscitello and Cristina Rossi Lamastra

Table 4. Dependent variable is *CEO permanence; logit model*

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
CD (Hofstede)		−0.187	−0.350**	−0.672***	−0.0970	0.0946
		(0.135)	(0.166)	(0.169)	(0.150)	(0.215)
Founder	0.913***	0.910***	0.212	−0.616	0.894***	0.975***
	(0.247)	(0.253)	(0.356)	(0.417)	(0.248)	(0.258)
CD×Founder			0.503**	1.093***		
			(0.210)	(0.276)		
Regional VC	−0.474	−0.641	−0.552	−3.912***	−0.703	−0.564
	(0.507)	(0.533)	(0.533)	(1.214)	(0.520)	(0.521)
CD×Regional VC				2.258***		
				(0.747)		
Founder×Regional VC				7.001***		
				(2.052)		
CD×Founder×Regional VC				−5.120***		
				(1.332)		
International exp CEO	−0.144	−0.145	−0.141	−0.120	0.0763	0.350
	(0.0942)	(0.0958)	(0.0977)	(0.106)	(0.122)	(0.255)
CD×International exp CEO					−0.157*	−0.342**
					(0.0886)	(0.163)
Antidirector rights index diff	−0.0839	−0.0618	−0.0657	−0.0581	−0.0496	−0.245**
	(0.0587)	(0.0568)	(0.0569)	(0.0596)	(0.0560)	(0.102)
CD×Antidirector rights index diff						0.211**
						(0.0819)
International exp CEO×Antidirector rights index diff						0.174
						(0.109)
CD×International exp CEO×Antidirector rights index diff						−0.175**
						(0.0808)
Tenure CEO	−0.0042	−0.0030	−0.0055	−0.0087	−0.0032	−0.0040
	(0.0160)	(0.0076)	(0.0179)	(0.0179)	(0.0102)	(0.0156)
Target listed	−1.015***	−1.006***	−0.940***	−1.073***	−0.985***	−0.899***
	(0.293)	(0.295)	(0.308)	(0.316)	(0.293)	(0.288)
Target age	0.366**	0.354**	0.350**	0.368**	0.342**	0.354**
	(0.158)	(0.162)	(0.161)	(0.167)	(0.161)	(0.166)
Target VC backed	0.154	0.142	0.140	0.176	0.145	0.0749
	(0.237)	(0.238)	(0.244)	(0.241)	(0.241)	(0.242)
Target Hassle factor	1.083***	1.068**	1.168***	1.221**	0.979**	0.895**
	(0.418)	(0.435)	(0.439)	(0.480)	(0.433)	(0.435)
Acquirer age	−0.0121	0.00180	−0.0021	0.0377	0.0048	−0.0082
	(0.132)	(0.131)	(0.133)	(0.137)	(0.134)	(0.136)
Minority stake	−0.310	−0.309	−0.349	−0.177	−0.258	−0.238
	(0.435)	(0.443)	(0.449)	(0.457)	(0.461)	(0.495)
Acquirer exp	0.0137	0.0144	0.0134	0.0140	0.0154	0.0146
	(0.0095)	(0.0096)	(0.0095)	(0.0096)	(0.0099)	(0.0099)

Table 4. (Continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Relative size	4.163***	4.281***	4.139***	4.543***	4.219***	3.974**
	(1.613)	(1.623)	(1.593)	(1.608)	(1.620)	(1.746)
Relatedness	−0.0480	−0.0397	−0.0829	−0.159	−0.0198	0.0140
	(0.335)	(0.331)	(0.342)	(0.348)	(0.334)	(0.352)
Distance	−0.114	−0.0776	−0.0948	−0.0791	−0.0692	−0.0757
	(0.0987)	(0.103)	(0.101)	(0.103)	(0.101)	(0.100)
Predicted probability CBA	−6.817***	−8.600***	−8.330***	−9.610***	−8.735***	−8.102***
	(1.585)	(2.054)	(2.043)	(2.150)	(1.942)	(2.014)
Time and Industry factors	Included	Included	Included	Included	Included	Included
Constant	1.076	1.263	1.554	1.971	1.212	1.049
	(1.375)	(1.384)	(1.348)	(1.353)	(1.392)	(1.445)
Cluster target & acquirer country factors	Yes	Yes	Yes	Yes	Yes	Yes
N	447	447	447	447	447	447
Log likelihood	−242.8	−242.3	−240.5	−235.1	−241.4	−237.4
R^2	0.155	0.160	0.165	0.183	0.161	0.175

Robust standard errors in parentheses.
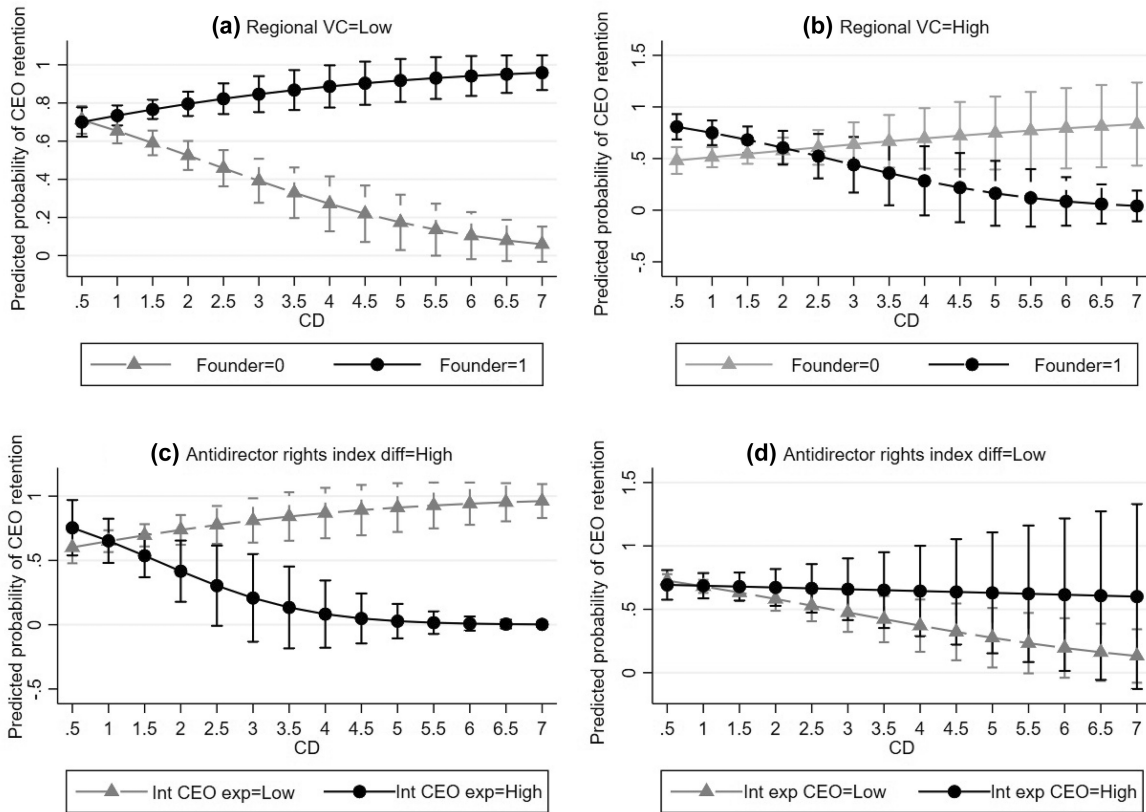***$p<0.01$; **$p<0.05$; *$p<0.1$.

Figure 1. Predicted probability of *CEO permanence*. For continuous variables, the low and high regimes of the moderators are based on the 20th and 80th percentile values according to their distributions, respectively. The predictive margins are at $p<0.05$.

ambiguous effect of cultural distance. This is an important contribution to understanding the integration process of small high-tech CBAs. The second contribution of this study to the literature is that it presents a more comprehensive picture of acquired CEO permanence. The acquisition literature has generally taken the acquiring firm's perspective to determine the retention of the acquired CEO in the post-acquisition period (for exceptions, see Buchholtz et al., 2003; Wulf and Singh, 2011). We theoretically and empirically demonstrate that this approach does not sufficiently explain the permanence of acquired CEOs in the context of small high-tech CBAs. Similarly, an adjacent yet disconnected entrepreneurial exit literature on high-tech startups (Wenneberg et al., 2010), particularly studies exploring CBAs as a mode of exit for founder CEOs (Stam et al., 2010; Sanguineti et al., 2022), only considers the CEO perspective and overlooks the acquisition condition. Our study bridges these two streams to highlight the conditions under which the founder CEO of a small high-tech firm, which is the target of a foreign acquisition, may weigh outside options against a potential offer made by the acquiring firm. Starting a new firm is easy for founder CEOs in regions with an abundant VC supply of venture capital. In this situation, the opportunity costs of staying with post-acquisition organizations are high at a great cultural distance, making them reluctant to accept employment offers made by acquiring firms. These two streams place an unbalanced emphasis on one side of permanence. To the best of our knowledge, this is the first study that offers a balanced view of the post-acquisition permanence of acquired CEOs.

Another important contribution of this study is to more recent endeavors in the IB literature, acknowledging and incorporating microfoundations when theorizing about various internationalization strategies (Foss and Pedersen, 2019) in general, and small high-tech CBAs in particular (McCarthy and Aalbers, 2016; Irwin et al., 2022). Our findings highlight the interplay between micro- and macro-level factors and how their interactions should be considered in CBA contexts. The international work experience of acquired CEOs negatively affects the relationship between cultural distance and permanence, especially if acquired firms are located in countries where institutions provide limited protection of shareholder rights compared with acquiring firms. Our results suggest that CEOs with considerable international experience are more aware of the impact of institutional differences on corporate governance, and the challenges they face during the acquisition integration process. Hence, integration requires significant personal effort and incurs

greater psychological costs. This condition makes internationally seasoned CEOs inclined to reject the offer of staying with post-acquisition organizations. This study gives credence to the micro-foundational lens by demonstrating theoretically and empirically that the effect of cultural distance, a macro-level construct, cannot adequately explain the permanence or departure of acquired CEOs in the post-acquisition period – a micro-level event. Only when considering the individual characteristics of acquired CEOs as micro-level factors and their interactions with other macro-level characteristics related to acquired firms' environments can we sensibly predict the effect of cultural distance on the permanence of acquired CEOs. Our results resonate with the recent emphasis on acknowledging the role of contextual (macro-level) factors when studying the influence of individual characteristics and behaviors, as their interactions shape the opportunity for and define the motivation of individuals within the context (Foss and Pedersen, 2019, p. 1597). Indeed, overlooking this interaction leads to underspecification and loss of valuable information, as highlighted by more recent studies (Krug et al., 2014; Sanguineti et al., 2022).

This study has some limitations, which open avenues for future research. First, we test our conceptual model by exploring the effects of acquired CEOs' characteristics on their permanence in small high-tech CBAs. Future studies could investigate the extent to which our model and its predictions hold in more general acquisition contexts. Similarly, we consider the selected individual characteristics of acquired CEOs that positively influence their roles during the acquisition implementation process and the opportunity costs of staying with combined entities. Other characteristics of CEOs (e.g., cross-cultural training) are potentially pertinent in this context. Third, other acquiring and acquired managers are usually involved in the acquisition implementation (Park et al., 2018). Therefore, we encourage future studies to expand our CEO-centric perspective and examine the retention of other executives. Finally, we apply only national and institutional proxies to measure the distance between the acquired and acquiring firms. We acknowledge that there are alternative measures closer to idiosyncratic differences between firms, such as those resulting from differences in organizational structures or corporate cultures. A natural extension of our work would be to validate our conceptual model when applying these alternative distance measures to predict future permanence.

Our study has several practical implications. The key message for acquiring firm executives is that,

in the context of small high-tech CBAs, acquired CEOs can play a pivotal role in the acquisition integration process. However, these executives must be cognizant of the acquired CEOs' outside options. Indeed, the characteristics that make acquired CEOs resourceful during the integration process, such as founder status and international experience, may also favor their voluntary departure. Local labor market conditions provide more outside options, and the presence of national institutional differences between the two countries encourages CEOs to turn down the offers made by acquiring firms. Acquiring executives must develop a 'second-best' acquisition integration strategy that they can adopt in case of the voluntary departure of acquired CEOs.

Acknowledgments

Data availability statement

The data that support the findings of this study are available from third party. Restrictions apply to the availability of these data, which were used under license for this study. Data are strictly available via the third party.

References

Arroyabe, M., Hussinger, K., and Hagedoorn, J. (2020) Hiring new key inventors to improve firms' post-M&A inventive output. *R&D Management*, **50**, 4, 494–509.

Basuil, D. and Datta, D. (2015) Effects of industry- and region-specific acquisition experience on value creation in cross-border acquisitions: the moderating role of cultural similarity. *Journal of Management Studies*, **52**, 6, 766–795.

Bergh, D. (2001) Executive retention and acquisition outcomes: a test of opposing views on the influence of organizational tenure. *Journal of Management*, **27**, 5, 603–622.

Berry, H. (2014) Global integration and innovation: multi-country knowledge generation within MNCs. *Strategic Management Journal*, **35**, 6, 869–890.

Birkinshaw, J., Bresman, H., and Hakanson, L. (2000) Managing the post-acquisition integration process: how the human integration and task integration processes interact to foster value creation. *Journal of Management Studies*, **37**, 3, 395–425.

Buchholtz, A., Ribbens, B., and Honle, I. (2003) The role of human capital in post-acquisition CEO departure. *Academy of Management Journal*, **46**, 4, 506–514.

Capron, L. and Guillen, M. (2009) National corporate governance institutions and post-acquisition target reorganization. *Strategic Management Journal*, **30**, 8, 803–833.

Carpenter, M., Sanders, W., and Gregersen, H. (2001) Bundling human capital with organizational context: the impact of international assignment experience on multinational firm performance and CEO pay. *Academy of Management Journal*, **44**, 493–511.

Chen, F., Liu, H., and Ge, Y. (2021) How does integration affect industrial innovation through networks in technology-sourcing overseas M&A? A comparison between China and the US. *Journal of Business Research*, **122**, 281–292.

Chen, H., Gompers, P., Kovner, A., and Lerner, J. (2010) Buy local? The geography of venture capital. *Journal of Urban Economics*, **67**, 1, 90–102.

Chow, D., Chan, X., and Micelotta, E. (2021) Cross-border M&As: theorizing the negative effect of political ideology mismatch with host country labor institutional context on employee outcomes. *Journal of Business Research*, **128**, 164–173.

Coff, R. (2002) Human capital, shared expertise, and the likelihood of impasse in corporate acquisitions. *Journal of Management*, **28**, 1, 107–128.

Colombo, M., D'Adda, D., and Quas, A. (2019) The geography of venture capital and entrepreneurial ventures' demand for external equity. *Research Policy*, **48**, 5, 1150–1170.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. (2008) The law and economics of self-dealing. *Journal of Financial Economics*, **88**, 3, 430–465.

Dobrev, S. and Barnett, W. (2005) Organizational roles and transition to entrepreneurship. *Academy of Management Journal*, **48**, 3, 433–449.

Ensley, M., Hmieleski, K., and Pearce, C. (2006) The importance of vertical and shared leadership within new venture top management teams: implications for the performance of startups. *Leadership Quarterly*, **17**, 3, 217–231.

Fich, E., Rice, E., and Tran, A. (2016) Contractual revisions in compensation: evidence from merger bonuses to target CEOs. *Journal of Accounting and Economics*, **61**, 2–3, 338–368.

Foss, N. and Pedersen, T. (2019) Microfoundations in international management research: the case of knowledge sharing in multinational corporations. *Journal of International Business Studies*, **50**, 9, 1594–1621.

Graebner, M. (2004) Momentum and serendipity: how acquired leaders create value in the integration of technology firms. *Strategic Management Journal*, **25**, 9, 751–777.

Graebner, M., Eisenhardt, K., and Roundy, P. (2010) Success and failure in technology acquisitions lessons for buyers and sellers. *Academy of Management Perspectives*, **24**, 3, 73–92.

Hasija, D., Liou, R., and Ellstrand, A. (2020) Navigating the new normal: political affinity and multinationals' post-acquisition performance. *Journal of Management Studies*, **57**, 3, 569–596.

Hemmert, M. (2004) The influence of institutional factors on the technology acquisition performance of high-tech firms: survey results from Germany and Japan. *Research Policy*, **33**, 6, 1019–1039.

Hoetker, G. (2007) The use of logit and probit models in strategic management research: critical issues. *Strategic Management Journal*, **28**, 4, 331–343.

Hofstede, G., Hofstede, G., and Minkov, M. (2010) *Cultures and Organizations: Software of the Mind*, 3rd edn. New York: McGraw-Hill.

House, R., Hanges, P., Javidan, M., Dorfman, P., and Gupta, V. (2004) *Culture, Leadership, and Organizations*. Thousand Oaks, CA: Sage Publications.

Huang, Z., Zhu, H., and Brass, D. (2017) Cross-border acquisitions and the asymmetric effect of power distance value difference on long-term post-acquisition performance. *Strategic Management Journal*, **38**, 4, 972–991.

Irwin, K., Gilstrap, C., McDowell, W., Drnevich, P., and Gorbett, A. (2022) How knowledge and uncertainty affect strategic international business investment decisions: implications for cross-border mergers and acquisitions. *Journal of Business Research*, **139**, 831–842.

Jeannet, J. (2000) *Managing with a Global Mindset*. London: Financial Times/Prentice Hall.

Johnson, J., Lenartowicz, T., and Apud, S. (2006) Cross-cultural competence in international business: toward a definition and a model. *Journal of International Business Studies*, **37**, 4, 525–543.

Kapoor, R. and Lim, K. (2007) The impact of acquisitions on the productivity of inventors at semiconductor firms: a synthesis of knowledge-based and incentive-based perspectives. *Academy of Management Journal*, **50**, 5, 1133–1155.

Kim, J. (2022) Startup acquisitions, relocation, and employee entrepreneurship. *Strategic Management Journal*, **43**, 11, 2189–2216.

Kogut, B. and Singh, H. (1988) The effect of national culture on the choice of entry mode. *Journal of International Business Studies*, **3**, 411–432.

Krug, J. and Hegarty, W. (1997) Postacquisition turnover among US top management teams: an analysis of the effects of foreign vs. domestic acquisitions of US targets. *Strategic Management Journal*, **18**, 8, 667–675.

Krug, J., Wright, P., and Kroll, M. (2014) Top management turnover following mergers and acquisitions: solid research to date but still much to be learned. *Academy of Management Perspective*, **28**, 2, 147–163.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. (1998) Law and finance. *Journal of Political Economy*, **106**, 6, 1113–1155.

Lam, L., Chuang, A., Wong, C., and Zhu, J. (2019) A typology of three-way interaction models: applications and suggestions for Asian management research. *Asia Pacific Journal of Management*, **36**, 1, 1–16.

Larsson, R. and Finkelstein, S. (1999) Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: a case survey of synergy realization. *Organization Science*, **10**, 1, 1–26.

Levy, O., Beechler, S., Taylor, S., and Boyacigiller, N. (2007) What we talk about when we talk about 'global mindset': managerial cognition in multinational corporations. *Journal of International Business Studies*, **38**, 2, 231–258.

McCarthy, K. and Aalbers, H. (2016) Technological acquisitions: the impact of geography on post-acquisition innovative performance. *Research Policy*, **45**, 9, 1818–1832.

Nelson, T. (2003) The persistence of founder influence: management, ownership and performance effect at initial public offering. *Strategic Management Journal*, **24**, 707–724.

Park, D., Borah, A., and Kotha, S. (2016) Signaling revisited: the use of signals in the market for IPOs. *Strategic Management Journal*, **37**, 11, 2362–2377.

Park, H., Howard, M., and Gomulya, D. (2018) The impact of knowledge worker mobility though an acquisition on breakthrough knowledge. *Journal of Management Studies*, **55**, 1, 85–107.

Pollock, T., Fund, B., and Baker, T. (2009) Dance with the one that brought you? Venture capital firms and the retention of founder-CEOs. *Strategic Entrepreneurship Journal*, **3**, 3, 199–217.

Puranam, P., Singh, H., and Chaudhuri, S. (2009) Integrating acquired capabilities: when structural integration is (un)necessary? *Organization Science*, **20**, 2, 313–328.

Puranam, P. and Srikanth, K. (2007) What they know vs. what they do: how acquirers leverage technology acquisitions. *Strategic Management Journal*, **28**, 8, 805–825.

Ranft, A. and Lord, M. (2002) Acquiring new technologies and capabilities: a grounded model of acquisition implementation. *Organization Science*, **13**, 4, 420–442.

Reus, T. and Lamont, B. (2009) The double-edged sword of cultural distance in international acquisitions. *Journal of International Business Studies*, **40**, 8, 1298–1316.

Sanguineti, F., Majocchi, A., and Cavusgil, S. (2022) Founding entrepreneur's dilemma: stay or exit the firm following an acquisition? An international comparison. *International Business Review*, **31**, 1, 101904.

Sarala, R. and Vaara, E. (2010) Cultural differences, convergence, and crossvergence as explanations of knowledge transfer in international acquisitions. *Journal of International Business Studies*, **41**, 8, 1365–1390.

Schotter, A. and Beamish, P. (2013) The hassle factor: an explanation for managerial location shunning. *Journal of International Business Studies*, **44**, 5, 521–544.

Spamann, H. (2010) The "Antidirector Rights Index" revisited. *Review of Finance*, **23**, 2, 467–486.

Stahl, G. and Voigt, A. (2008) Do cultural differences matter in mergers and acquisitions? A tentative model and examination. *Organization Science*, **19**, 1, 160–176.

Stam, E., Thurik, R., and van der Zwany, P. (2010) Entrepreneurial exit in real and imagined markets. *Industry and Corporate Change*, **19**, 4, 1109–1139.

Takeuchi, R. (2010) A critical review of expatriate adjustment research through a multiple stakeholder view: progress, emerging trends, and prospects. *Journal of Management*, **36**, 4, 1040–1064.

Tavassoli, S., Obschonka, M., and Audretsch, D. (2021) Entrepreneurship in cities. *Research Policy*, **50**, 7, 1–21.

Tihanyi, L., Ellstrand, A., Daily, C., and Dalton, D. (2000) Composition of the top management team and firm international diversification. *Journal of Management*, **26**, 6, 1157–1177.

Vaara, E., Sarala, R., Stahl, G., and Bjorkman, I. (2012) The impact of organizational and national cultural differences on social conflict and knowledge transfer in international acquisitions. *Journal of Management Studies*, **49**, 1, 1–27.

Very, P. (2004) *The Management of Mergers and Acquisitions*. Chichester: John Wiley & Sons, Ltd.

Very, P., Lubatkin, M., Calori, R., and Viega, J. (1997) Relative standing and the performance of recently acquired European firms. *Strategic Management Journal*, **18**, 8, 593–614.

Wasserman, N. (2003) Founder-CEO succession and the paradox of entrepreneurial success. *Organization Science*, **14**, 2, 149–172.

Wenneberg, K., Wiklund, J., De Tienne, D., and Cardon, M. (2010) Reconceptualizing entreprenruial exit: divergent exit routes and their drivers. *Journal of Business Venturing*, **25**, 4, 361–375.

Wulf, J. and Singh, H. (2011) How do acquirers retain successful target CEO? The role of governance. *Management Science*, **57**, 12, 2101–2114.

Note

1 More information on the VICO database is available at http://datasets.risis.eu/metadata/vico.

Keivan Aghasi is a Lecturer in Entrepreneurship at the Sheffield University Management School. His areas of research primarily revolve around unraveling and alleviating the challenges of the growth of startups, their transformation into viable businesses, and their exit through M&As.

Massimo G. Colombo is a Full Professor of Entrepreneurship and Entrepreneurial Finance at Politecnico di Milano, Italy. He also is the President of the Bureau of Entrepreneurial Finance (BEF), a joint initiative of Politecnico di Milano and Politecnico di Torino. His current research interests are venture capital, alternative financial channels, and innovation, growth, and exit of high-tech startups.

Lucia Piscitello is a Professor of International Business and Economics at Politecnico di Milano. Her research interests cover the economics and management of MNEs, the international aspects of technological change, the geography of innovation, and the impact of MNEs and FDI on host and home economies. Her recent studies focus on agglomeration and MNEs' location strategies, globalization of R&D and technology development in the global network of MNEs, digital technologies, global sourcing, and reshoring.

Cristina Rossi Lamastra is a Professor of Business and Industrial Economics at Politecnico di Milano School of Management (SoM), doing research in areas of Entrepreneurship, Innovation, and Organizational Economics. Recently, she has become interested in gender issues in business contexts.

Keivan Aghasi, Massimo G. Colombo, Lucia Piscitello and Cristina Rossi Lamastra

APPENDIX

We check the sensitivity of our findings to our choice of the Hofstede index to measure national cultural distance. Following prior works (e.g., Reus and Lamont, 2009; Basuil and Datta, 2015), we use GLOBE as an alternative index of national cultural distance. The GLOBE index, developed by House et al. (2004), includes nine dimensions: Power distance, uncertainty avoidance, humane orientation, institutional collectivism, in-group collectivism, assertiveness, gender egalitarianism, future orientation, and performance orientation. As done with the composite measure of Hofstede, we constructed it following Kogut and Singh (1988). Although certain studies, including Basuil and Datta (2015), highlight the advantages of the GLOBE measure (such as its fine-grained dimensions for capturing cultural distance), the disadvantage of this measure is that it is available only for 62 countries. The lack of data on GLOBE forced us to exclude some of the observations with Belgium and Norway as the acquiring or acquired countries. Since GLOBE covers only 62 countries, our sample is limited to 404 observations. The correlation between the GLOBE and Hofstede measures in this subsample is 0.69 ($p = 0.000$). Substituting the Hofstede measure of CD with the GLOBE measure, we find similar results to that of the main estimations (see the table below).

Table A1. Auxiliary estimation to capture the fitted value of the percentage of cross-border acquisition of the acquirer country in the acquired country (*Predicted probability CBA*)

Variables	Model A1
CD	−0.0466***
	(0.00205)
Acquirer consumer expenditure (%GDP)	−0.000615
	(0.000815)
Target consumer expenditure (%GDP)	0.00135***
	(0.000334)
Acquirer productivity (log)	−0.00895
	(0.0115)
Target productivity (log)	−0.0675***
	(0.0104)
Acquirer R&D expenditure (%GDP)	−0.00338
	(0.00653)
Target R&D expenditure (%GDP)	0.0195***
	(0.00413)
Acquirer population ($\times 10^{-3}$)	0.0001**
	(0.00005)
Target population ($\times 10^{-3}$)	0.0001***
	(0.00003)
Year factors	Included
Constant	0.928***
	(0.188)
Robust clustered target country	Yes
N	842
R^2	0.703

Robust standard errors in parentheses.
***$p < 0.01$; **$p < 0.05$; *$p < 0.1$.

Table A2. Robustness test (adopting Globe Index as a proxy for cultural distance)

Variables	Model A2	Model A3	Model A4	Model A5	Model A6
CD (Globe)	−0.00783	−0.108	−0.156	0.0666	0.103
	(0.112)	(0.145)	(0.176)	(0.118)	(0.121)
Founder	1.180***	0.436	−0.399	1.205***	1.190***
	(0.293)	(0.419)	(0.423)	(0.307)	(0.312)
CD×Founder		0.385**	0.809***		
		(0.184)	(0.185)		
Regional VC	−0.501	−0.340	−1.241	−0.666	−0.587
	(0.514)	(0.520)	(1.421)	(0.527)	(0.605)
CD×Regional VC			0.413		
			(0.556)		
Founder×Regional VC			5.490**		
			(2.708)		
CD×Founder×Regional VC			−2.805***		
			(0.883)		
International exp CEO	−0.154	−0.167	−0.164	0.156	0.265
	(0.103)	(0.105)	(0.113)	(0.167)	(0.314)
CD×International exp CEO				−0.164**	−0.248**
				(0.0811)	(0.122)
Antidirector rights index diff	−0.122**	−0.131**	−0.131**	−0.114**	−0.259**
	(0.0549)	(0.0554)	(0.0586)	(0.0551)	(0.110)
CD×Antidirector rights index diff					0.123**
					(0.0529)
International exp CEO×Antidirector×rights index diff					0.118
					(0.115)
CD×International exp CEO×Antidirector rights index diff					−0.104*
					(0.0538)
Tenure CEO	−0.00426	−0.00907	−0.00891	−0.00566	−0.0215
	(0.0164)	(0.0188)	(0.0194)	(0.0184)	(0.0187)
Target listed	−1.022***	−1.003***	−1.054***	−1.004***	−1.017***
	(0.288)	(0.293)	(0.302)	(0.299)	(0.315)
Target age	0.450***	0.435**	0.462***	0.450***	0.419**
	(0.173)	(0.171)	(0.167)	(0.174)	(0.186)
Target VC backed	0.301	0.273	0.283	0.292	0.177
	(0.250)	(0.259)	(0.244)	(0.249)	(0.250)
Target Hassle factor	1.367***	1.360***	1.198***	1.359***	0.969*
	(0.482)	(0.480)	(0.456)	(0.476)	(0.583)
Acquirer age	0.00380	−0.0107	0.0460	0.00917	−0.000946
	(0.140)	(0.145)	(0.149)	(0.146)	(0.171)
Minority stake	−0.0444	−0.0699	−0.105	0.0387	0.121
	(0.527)	(0.539)	(0.539)	(0.558)	(0.626)
Acquirer exp	0.0123	0.0116	0.0124	0.0140	0.0146
	(0.00935)	(0.00921)	(0.00888)	(0.00975)	(0.00946)
Relative size	3.803**	3.755**	3.998**	3.991**	5.052***
	(1.582)	(1.520)	(1.599)	(1.576)	(1.945)
Relatedness	0.00900	−0.0124	−0.0739	0.0551	0.00344
	(0.358)	(0.365)	(0.368)	(0.365)	(0.381)
Distance	−0.0732	−0.0780	−0.116	−0.0554	−0.00870

(Continues)

Table A2. (Continued)

Variables	Model A2	Model A3	Model A4	Model A5	Model A6
	(0.0987)	(0.101)	(0.102)	(0.100)	(0.121)
Predicted probability CBA	−6.031***	−5.537**	−5.218**	−6.436***	−7.811***
	(2.290)	(2.271)	(2.509)	(2.190)	(2.507)
Time and Industry factors	Included	Included	Included	Included	Included
Constant	0.240	0.545	0.884	0.0288	0.413
	(1.455)	(1.512)	(1.511)	(1.451)	(1.972)
Cluster target & acquirer country factors	Yes	Yes	Yes	Yes	Yes
N	404	404	404	404	404
Log likelihood	−218.3	−216.6	−212.2	−216.9	−203.2
R^2	0.171	0.177	0.194	0.176	0.187

Robust standard errors in parentheses.
***$p<0.01$; **$p<0.05$; *$p<0.1$.