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Synergistic Gains and National Cultural Distance

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ABSTRACT

Does national cultural distance create higher synergistic gains in cross-border mergers and acquisitions (CBMAs)? Existing research on the role of cultural distance suggests that cultural disparities destroy shareholders' wealth. Using an international sample of CBMAs over 19 years, we document that synergistic gains increase by 1.75 percentage points with one standard deviation increase in cultural distance. Drawing from the organizational learning theory, we suggest that learning diverse cultural practices in the post-acquisition stage is a source of higher synergy gains. The positive association between cultural distance and synergies is more pronounced if the acquirer pays in stock and already has takeover experience. This suggests that better awareness of the target country's culture and risk management through stock payment are boundary conditions for higher gains. Overall, our results lead to the counter-intuitive finding that CBMAs between firms from countries with dissimilar cultures are not always valued as destructive but depend on how merging firms learn the cultural practices of one another and manage integration challenges. We offer practical implications for regulators and policymakers about how the international takeover market can serve as a vehicle for learning new cultural practices and increasing combined firm value.

JEL Classification: G34, D40s

1 | Introduction

Takeover synergies are expected around the deal announcements in cross-border mergers and acquisitions (henceforth, CBMAs). From the lens of social identity theory and the cultural adversity hypothesis (Hoffman et al. 1996; Tajfel and Turner 2004), contemporary research on CBMAs delineates that national cultural differences between the acquirer and target home countries negatively affect synergies as an outcome of conflict, distrust, uncertainty, and post-integration challenges (Ahern et al. 2015; Aybar and Ficici 2009; Graebner et al. 2017; Wang et al. 2020). However, the organizational learning theory suggests such dissimilarities may be discerned as tempting (Brock 2005; Very et al. 1996; Reus and Lamont 2009) since they can be a provenance of learning opportunities and value-creation[1] (Stahl and Voigt 2008; Weber and Tarba 2012; Chikhouni et al. 2017). In a broader context, the asset of foreignness (AOF) concept suggests that apart from the losses from foreign operations, benefits can also be experienced depending on how effectively combining firms tackle post-integration challenges (Lee et al. 2022; Sethi and Judge 2009). Although synergy realization is an important motive behind CBMAs, it has not gained much attention in examining the association between the national culture distance and synergistic gains. Thus, understanding the national cultural disparity[2] is indispensable for generating synergies and ensuring the long-term success of CBMAs.

Considering the importance of cultural differences in CBMAs, we address an important research question of whether the national culture distance[3] affects synergistic gains[4]. This question is pivotal to investigating the sources of higher combined firms' returns, as firms vary significantly in terms of cultural practices

across the border (Arouri et al. 2019). The cultural practices, values, and norms that are rampant in one nation can affect the way organizations are operated, managed, and structured, and the learning of such practices is important in developing effective strategies to adopt diverse cultural practices for promoting ex-post integration in CBMAs. In contrast to existing CBMAs studies, we propose that the cultural distance is not necessarily associated with value destruction but creates an opportunity for sharing and adopting diverse cultural practices in the post-acquisition stage, where two types of cultures are exposed to each other and learning new cultural practices is a source of higher synergy gains.

To test our hypotheses, we used an international sample of CBMAs from 2003 to 2021 to examine the effect of the national cultural distance on synergistic gains. If the learning of cultural practices holds, we expect a positive association between the country-level cultural distance and the synergy gains. Our results show that the national cultural distance positively affects synergistic gains, corroborating organizational learning theory. Economically, a one–standard-deviation increase in the cultural distance[5] improves takeover synergies by 1.75 percentage points (pp). The individual returns to the acquirer and target shareholders also increase; hence, we propose that takeover value is shared between the merging firms. We further find that the distance–synergy relationship only holds if the payment is made in stock and the acquirer already has takeover experience. It is so because target shareholders become the investors of the combined firm in stock finance deals (Starks and Wei 2013), and the takeover experience of the acquirer enables them to better manage post-deal integration challenges (Chao 2018; Cuypers et al. 2017; Laamanen and Keil 2008). Our results hold after controlling for deal characteristics, country-level characteristics, and combining firm characteristics. We pass a battery of robustness tests, including alternative measures of national culture and synergistic gains, using subsamples, and controlling for sample selection bias.

This study makes three significant contributions to finance literature by examining the role of cultural differences in CBMAs (Kroon et al. 2015; Very et al. 1996; Wang et al. 2020). First, despite the extant work on the cultural adversity hypothesis and social identity theory (Bereskin et al. 2018; Hoffman et al. 1996; Tafjel and Turner 2004), we know little about whether national cultural practices can be learnt through CBMAs. Thus, we support studies on organizational learning theory (Brock 2005; Chikhouni et al. 2017) and the AOF (Lee et al. 2022; Mallon and Fainshmidt 2017) by presenting the evidence that countries differ considerably in cultural values worldwide, and this disparity affects how the returns from CBMAs accrue to shareholders of the combined firm. Therefore, this work offers a better understanding of national cultural dissimilarities for making value-enhancing deals in worldwide takeovers.

Second, we add to studies on how synergy gains are shared between shareholders of acquirers and targets (Martynova and Renneboog 2008; Hussain and Shams 2022; Wang and Xie 2009) by showing the symmetric distribution of returns and arguing that takeover value is shared between the acquirer and target shareholders in CBMAs. Importantly, our study supports the findings of Wang and Xie (2009) and suggests that apart from the difference in firm-level governance, the national cultural distance also explains the sharing of takeover benefits. This finding suggests that the national cultural distance not only increases synergistic gains but also the way these gains are distributed between the combining firms.

Third, we enhance the understanding of the role of takeover experience and payment method (Aktas et al. 2011; Graham et al. 2002; Jaffe et al. 2013; Renneboog and Vansteenkiste 2019; Starks and Wei 2013). We argue that the learning of diverse cultural practices is more relevant in stock-financed deals where target shareholders become the partners of the combined firm. Similarly, acquirers with takeover experience effectively manage integration problems (Cuypers et al. 2017; Laamanen and Keil 2008). Overall, our findings offer practical implications for regulators and policymakers about how the international takeover market can serve as a vehicle for learning new cultural practices and increasing combined firm value.

The remaining study is arranged as follows: Section 2 presents a literature review and develops hypotheses; Section 3 describes data and shows summary statistics; Section 4 describes methodology; Section 5 discusses results; Section 6 reports additional analysis; Section 7 shows robustness tests; Section 8 concludes the study.

2 | Literature Review and Hypotheses Development

2.1 | Synergy Motive and CBMAs

The synergy motive (Berkovitch and Narayanan 1993) presumes that managers of acquirers and targets maximize shareholder wealth by engaging in takeovers that have the potential for value creation. In simpler terms, synergy means when the value of the combined firm is higher than the individual values of the combining firms (Goold and Campbell 1998). Thus, it follows that returns to both sets of shareholders should be positive if the motive behind a deal is to gain synergies. However, existing studies rarely observe positive synergistic gains around the deal announcement, notable exceptions being Hussain and Shams (2022) and Wang and Xie (2009). These studies argue that higher differences in firm-level governance or corporate social responsibility increase combined returns to acquirers and targets. Most studies show that acquirers, on average, lose shareholder value while target shareholders get benefits mainly because acquirer managers either overpay or show hubristic behaviour (Alexandridis et al. 2010; Andrade et al. 2001; Boone and Mulherin 2007; Renneboog and Vansteenkiste 2019).

The takeover synergies are contingent on the interaction of combining firms' economic fundamentals of increasing revenues or decreasing costs. Since the takeover synergies depend on economic fundamentals, merging firms could favour cross-border deals, as the potential of synergies is higher in such deals despite the existence of higher frictions (Ahern et al. 2015; Martynova and Renneboog 2008). Acknowledging the popularity of CBMAs and their effect on reapportioning economic activity (Col 2017; Erel et al. 2012), it is essential to discern elements that influence a firm's decision to expand its operations across the border. It is highly debated that country characteristics might motivate

firms to enter into other markets through CBMAs. Earlier studies recommend that takeover value in CBMAs can be attributed to geographic proximity (Ahern et al. 2015), different tax systems and governance standards (Col 2017; Ellis et al. 2017; Martynova and Renneboog 2008), and acquirer's currency appreciation (Erel et al. 2012). Also, CBMAs could generate takeover synergies as they offer higher growth potential in foreign markets, have access to better distribution channels, and remove managerial deficiencies (Wang et al. 2020; Ahern et al. 2015), amongst others.

2.2 | AOF

In a broader economic theory, existing CBMA literature posits foreignness as a liability (Taussig 2017; Wu and Salomon 2017) or asset (Lee et al. 2022; Mallon and Fainshmidt 2017). The concept of AOF has been studied using the lens of several theories, including portability theory, resource-based view (RBV), transaction cost theory, and organizational learning theory. To comprehend AOF, each theory underscores the foreign firms' strategies to tackle obstacles associated with the host country's market. The advocates of portability theory and RBV argue that firms can transfer valuable resources from one firm to another through M&As (Cuervo-Cazurra et al. 2007; Hussain et al. 2024; Ellis et al. 2017), whereas others (Ahammad et al. 2017; Boeh 2011) use transaction cost theory and argue that firms operate in other countries considering the cost-benefit analysis of foreign business. The organizational learning theory suggests that pre-deal dissimilarities between the bidder and target provide learning opportunities (Brock 2005; Chikhouni et al. 2017; Reus and Lamont 2009) which can generate synergistic gains.

2.3 | National Cultural Differences and CBMAs Performance

In the past, CBMAs research has emphasized the cultural differences between the acquirers' and targets' home countries and has examined how this gap negatively influences takeover outcomes. A commonly held view is that cultural distance would create information asymmetries (López-Duarte and Vidal-Suárez 2010; Petersen et al. 2008) and complications in the transfer of capabilities, resources, practices, and skills (Björkman et al. 2007; Park and Ungson 1997). Due to a poor understanding of the target's country culture—social beliefs, assumptions, values, and norms—firms have to bear higher costs for acquiring and learning information, undertaking cross-cultural communications, and adopting a diligence process (Konara and Mohr 2023) to comply with the new cultural environment. This stream of literature uses theories of self-categorization and social identity to support the negative association between cultural disparities and takeover performance and argues that such differences result in conflict, distrust, limited collaboration, and resistance.

Despite most of the CBMAs literature finding the negative consequences of cultural disparity, contemporary research has started to highlight the positive impacts of cultural distance (Björkman et al. 2007; Stahl et al. 2016; Stahl and Tung 2015). This strand of literature contends that cultural distance does not necessarily lead to poor takeover performance but creates room for knowledge sharing and learning. Distance in culture dispenses a foundation for differentiation, and the higher the cultural distance between the home countries of the acquirers and targets, the larger the gaps in terms of repertoires and routines (Morosini et al. 1998), management styles, strategic orientations, organization structures, business practices, and firm values (Dhanaraj and Beamish 2004; Hitt et al. 1997; Lubatkin et al. 1998). These studies use a cross-cultural learning perspective to highlight the positive effect of cultural distance and takeover outcomes and recommend that CBMAs may allow combining firms to get additional benefits due to differences in their national cultural practices.

2.4 | Hypotheses Development

National culture plays an important role in shaping the practices of communities and refers to a wide range of traditions, beliefs, and customs, amongst others, that are distinctive to a particular society (Wang et al. 2020; Ahern et al. 2015). Yet, in the contemporary globalized world, growth through CBMAs permits firms to benefit from one another to realize takeover synergies (Ellis et al. 2017; Martynova and Renneboog 2008). An important source of synergistic gains in CBMAs may be induced by the learning of diverse cultural practices in the combined firm. Drawing from organizational learning theory (see, among others, Curado 2006; Drejer 2000), we propose that cultural values can be shared and learnt in the combined firm and that a higher distance between the national culture of combining firms is associated with higher synergistic gains. Also, we assume that firms from countries with different cultures have the potential to learn cultural practices so that the combined firm does not face intense integration challenges. As diverse culture is anticipated to create additional value, the synergistic gains must reflect such value creation.

The theoretical economic logic suggesting that cultural distance can increase synergistic gains revolves around the role of diverse routines, repertoires, norms, and other managerial aspects (Morosini et al. 1998; Reus and Lamont 2009) in CBMAs. Although, an important strand of literature on cultural distance (Aybar and Ficici 2009; Graebner et al. 2017; Wang et al. 2020) shows that the differences in certain routines destroy post-acquisition performance, another body of literature (Brock 2005; Chikhouni et al. 2017; Slangen 2006) suggests that cultural distance is not always harmful to the performance of multinational firms. In a broader context, repertoires and routines are ways of managing business activities, and integrating or learning diverse routines may result in improved problem-solving, innovative abilities, and a better understanding of the host country's market dynamics and consumer preferences. Also, multinationals need to hold diverse repertoires and routines to compete in the multicultural world (Morosini et al. 1998), and thus learning new cultural practices can ensure the long-term growth of the new entity. Aftermath benefits of takeovers are contingent on the combining firms' ability to manage cultural clashes between them, whereby better management of clashes can improve post-acquisition performance (i.e., synergistic gains).

Slangen and Hennart (2008) argue that takeover benefits can be enjoyed if the cultural distance between the acquirer and target is higher, underscoring the importance of host market knowledge. Several others suggest that established routines are portable

across different countries (Björkman et al. 2007; Ellis et al. 2017; Gupta and Govindarajan 2000) and that satisfying customers with different cultural norms is value-enhancing (Shi et al. 2017; Tan and Mahoney 2003). Thus, cross-border M&As provide a platform to learn new practices and access valuable resources immersed in other cultures without developing gradually over time (Jemison and Sitkin 1986; Kroon et al. 2015; Wang et al. 2020). Based on the learning argument, we present our first hypothesis as follows:

Hypothesis 1. ***(H1)****: National cultural distance is positively associated with synergistic gains, ceteris paribus.*

M&A literature shows that one of the critical strategic choices is the selection of stock payment, as it incentivizes the target through a risk-sharing mechanism not to hide any bad news that may affect post-deal performance (Boone et al. 2014; Dang et al. 2022; Kanungo 2021). This is especially so in cross-border deals where the levels of information asymmetries are higher (Boeh 2011; Reddy and Fabian 2020); several scholars suggest that the selection of payment method (stock, cash, or a combination of both) depends on the level of information asymmetry (Cuypers et al. 2017; Luypaert and Caneghem 2017), with the acquirer showing a preference for stock where the target is from another country to manage the risk of asymmetric information. If the acquirer cannot collect accurate information about the target, the former will overpay due to an inaccurate valuation of the target's resources (Chari and Chang 2009; Dang et al. 2022), which may result in higher transaction costs and will lead to poor takeover performance.

Notably, Mukherji et al. (2013) suggest that asymmetric information is a key source of overpayment that destroys acquirer wealth. Specifically, the overpayment risk of the acquirer is mitigated with stock financing, as the target would share the risk post-acquisition, and therefore, stock payment is a tool for risk-sharing in the presence of higher information asymmetry (Alexandridis et al. 2012; Shleifer and Vishny 2003). As noted above, shareholders in a target firm may have little interest in promoting the sharing of bad news on a target firm if they hope to get rid of a lemon. However, their grasp of information on the acquiring firm may be limited. Hence, they may encourage mutual information sharing to avoid being saddled with an even riskier consolidated firm. In any event, the risks of overpayment will be shared between both parties (Huang et al. 2016).

Moreover, the higher risk of non-completion in M&As paid with stock would suggest that such deals will only go through if each side is satisfied with the information at their disposal (Huang et al. 2016). Accordingly, we propose that the combined effect of cultural distance and stock payment on synergistic gains should be higher, as the stock payments enable acquirers to share the foreignness risk with targets, avoid overpayment, and better align the interests of the acquirer and the target. Based on this, we propose the following hypothesis:

Hypothesis 2. ***(H2)****: Positive association between national cultural distance and synergistic gains should be higher for stock-financed deals, ceteris paribus.*

A growing body of literature on takeover experience (proxied by serial acquirers) states that experienced acquirers can derive higher takeover (Chao 2018; Cuypers et al. 2017; Laamanen and Keil 2008). These studies suggest that experience improves acquirers integrating capabilities with every successful takeover, and they do not face the same integration challenges as non-experienced acquirers. Also, such acquirers are well-acquainted with other takeover processes, including target selection and deal negotiation (Aktas et al. 2011; Jaffe et al. 2013; Renneboog and Vansteenkiste 2019). Being repeatedly engaged in takeovers, experienced acquirers have more potential for value creation, and therefore, we can expect that the cultural distance–synergy relationship should be more pronounced if the acquirer has takeover experience. This discussion leads to our second hypothesis:

Hypothesis 3. ***(H3)****: Positive association between national cultural distance and synergistic gains should be higher for acquirers having takeover experience, ceteris paribus.*

3 | Data and Summary Statistics

The M&A data come from Refinitiv (Thomson Reuters) Securities Data Corporation (SDC) and cover 19 years from 2003 to 2021. We take completed CBMAs deals where acquirers and targets are publicly traded firms whose daily stock price data is available from the DataStream (Hussain and Kumar 2025). The countries with fewer than five deals are eliminated to avoid noise in the analysis. We further exclude deals where acquirers or targets are from the financial and utilities industries, as these industries have different regulations. We ended up with 1917 CBMAs with available data on all variables used in the regression analyses.

Table 1 reports the distributions by the year of deal announcement, acquirer's industry (classified using Fama–French 48-industry), and acquirer's country including the number of deals and percentage of deals. Panel A of Table 1 shows that the most active years in the CBMAS are 2014 (168 deals), 2015 (166 deals), and 2008 and 2011 (both having 161 deals). Panel B shows that 16.95% of acquirers are from the business services industry,[6] 8.09% from electronic equipment, and 6.05% from the chemical industry. Panel C documents that the United State, France, and Germany are leading acquirer countries in our sample of CBMAs with 772, 290, and 243 deals, respectively. We also present sample distribution by target country in Appendix B, showing that 21.80% of target firms in our sample are from the United States, followed by the United Kingdom (11.48%) and Canada (7.77%).

Table 2 shows summary statistics of all variables used in this paper. The average synergistic gains are 4% with a substantial standard deviation of 14%, as shown in Panel A of Table 2. Panel B documents that the average national cultural score difference between firms from different countries is 15.52. Panel C manifests deal-related characteristics, and we find that mostly acquirers pay in stock (15%) and engage in different industries (65%). The average values of the acquirers' (targets') leverage, liquidity, and Tobin's Q are 0.18 (0.02), 0.09 (0.80), and 0.99 (0.04), respectively, as reported in Panel D. We define all involved variables in Appendix A. We also find a positive and statistically significant correlation between synergistic gains and national

TABLE 1 | Sample distributions.

Year	*N*	%	Acquirer's industry (top 10)	N	%	Acquirer country	*N*	%
2003	38	1.98	Business services	325	16.95	Austria	13	0.68
2004	59	3.08	Electronic equipment	155	8.09	Belgium	18	0.94
2005	95	4.96	Chemicals	116	6.05	Brazil	15	0.78
2006	133	6.94	Communication	94	4.90	Canada	101	5.27
2007	143	7.46	Machinery	94	4.90	Denmark	21	1.10
2008	161	8.40	Measuring and control equipment	93	4.85	Finland	61	3.18
2009	103	5.37	Medical equipment	92	4.80	France	290	15.13
2010	135	7.04	Business supplies	83	4.33	Germany	243	12.68
2011	161	8.40	Automobiles and trucks	67	3.50	Italy	18	0.94
2012	134	6.99	Computers	59	3.08	Mexico	10	0.52
2013	109	5.69				Norway	50	2.61
2014	168	8.76				Spain	17	0.89
2015	166	8.66				Sweden	33	1.72
2016	149	7.77				Switzerland	153	7.98
2017	45	2.35				United Kingdom	102	5.32
2018	36	1.88				United States	772	40.27
2019	48	2.50						
2021	34	1.77						
Total	1917	100		1178	61.45		1917	100

Note: This table shows sample distributions by year of the deal announcement, acquirer's industry, and country, including the total number of announced deals (*N*) and percentage of deals (%) as a proportion of the total announced deals. Our sample consists of CBMAs of listed acquirers and targets reported in Securities Data Corporation (SDC) over the period of 19 years (2003–2021). We consider completed deals, utilize the Fama–French 48 industries, and exclude deals where the acquirer or target firms are from the financial sector (SIC codes 6000–6999) and the utilities sector (SIC codes 4900–4949).

TABLE 2 | Descriptive statistics.

	N	Mean	Median	SD	p5	p95
Panel A: Takeover gains						
Synergistic gains	1917	0.04	0.01	0.14	−0.07	0.17
Panel B: Pre-deal differences						
National cultural distance	1917	15.52	7.08	17.56	0.37	49.53
Firm culture gap	1917	58.43	65.00	18.1	17.6	79.19
National governance gap	1917	59.18	60.00	14.94	28.6	87.18
Panel C: Deal characteristics						
Related industry dummy	1917	0.35	0.00	0.48	0.00	1.00
Payment method dummy	1917	0.15	0.00	0.36	0.00	1.00
Number of competing acquirers	1917	1.01	1.00	0.11	1.00	1.00
Panel D: Acquirers and target characteristics						
Run-up	1917	0.01	0.00	0.13	−0.16	0.19
Acquirer leverage	1917	0.18	0.16	0.12	0.01	0.39
Target leverage	1917	0.02	0.00	0.08	0.00	0.17
Acquirer liquidity	1917	0.09	0.07	0.09	0.01	0.26
Target liquidity	1917	0.80	0.80	0.02	0.77	0.83
Acquirer Tobin *Q*	1917	0.99	0.81	0.55	0.48	1.91
Target Tobin *Q*	1917	0.03	0.02	0.07	0.01	0.04
Panel E: Acquirer country characteristics						
GDP growth	1917	1.68	1.95	1.88	−2.54	3.93
GDP per capita	1917	10.75	10.76	0.30	10.38	11.33

Note: The table presents summary statistics for the variables involved in the study. Our sample covers all reported in Securities Data Corporation (SDC) over 19 years, where combining firms are publicly listed. The synergistic gains are calculated using the value-weighted portfolio of the acquirer and target gains. The gains are 3-day cumulative abnormal returns around the deal announcement, computed using the market model over 255 to 25 days before the deal announcement. The national cultural distance is the difference between the acquirers' and targets' national cultural scores provided by Hofstede (2011). All variables are defined in Appendix A.

cultural distance and report the Pearson correlation matrix in Appendix C.

4 | Methodology

4.1 | Cumulative Abnormal Returns

The takeover value should be reflected in synergy gains if acquiring a public target is unanticipated. We hypothesize that national cultural disparity should positively affect synergy gains and estimate expected returns using the following market model:

$$R_{bcm} = \alpha_{bc} + \beta_{bc} R_{cm} + \varepsilon_{bcm}, \quad m = -255, \ldots, -25 \tag{1}$$

where R_{bcm} is the acquirer or target daily return m from DataStream in country c; R_{cm} shows the daily market index return m for country c; ε_{bcm} denotes the excess return. Following Fama et al.'s (1969) event study methodology, we compute cumulative abnormal returns for a 3-day period $(t-1, t+1)$ around the deal announcement using an estimation window of 255 to 25 days before the deal announcement. The difference between expected and actual daily returns is the cumulative abnormal return. To examine the effect of cultural difference on synergistic gains, the following cross-sectional regression model is used:

$$\begin{aligned} Synergistic\ gain\ (-1,+1)_{d,t} = & +\beta_1 Culture\ distance_{\ d,t-1} \\ & + \sum \beta_2 Deal\ \ controls_{d,t} \\ & + \sum \beta_3 Firm\ controls_{b,t-1} \\ & + \sum \beta_4 Country\ controls_{b,t-1} \\ & + \lambda_y + \eta_i + \gamma_n + \varepsilon_{i,t} \end{aligned} \tag{2}$$

where $Synergistic\ gain\ (-1,+1)_{d,t}$ is the value-weighted portfolio of the acquirer and target returns over 3-day[7] event window where weights are allocated based on the equity's market value 6 days before the deal d; α shows the intercept; $Cultural\ distance_{\ d,t-1}$ is the pre-deal difference between the acquirer's country culture index and target's country culture index for deal d. $Deal\ \ controls_{d,t}$ shows a vector of deal-related characteristics for deal d at time t, and it includes: payment method, a dummy variable with a value of one if the deal is purely paid in cash and zero otherwise; number of acquirers, the logarithm of the number of competing acquirers in a deal; same industry deal, a dummy variable having a value of one

if the acquirer and target are from the same Fama–French 48 industry and zero otherwise; relative deal size, value of the deal scaled by the acquirer's market value of equity. $Firm\ controls_{b,t-1}$ denotes a vector of firm-related characteristics for the acquirer and target a year before the deal and includes leverage, Tobin's Q, size, and stock price run-up. $Country\ controls_{b,t-1}$ indicates a vector of country-related characteristics (i.e., country governance gap, GDP growth, and GDP per capita) 1 year before the deal announcement. To control for omitted variables that may affect synergistic gains, we used year, λ_y, industry, η_i, and country, γ_n fixed effects. Finally, to mitigate the impact of outliers, we winsorize synergistic gains and accounting variables by 1% of their distribution tails.

4.2 | National Cultural Distance

The key variable of interest of the study is the national cultural distance between the home countries of acquirers and targets. To calculate the cultural distance, we followed existing studies (Chand et al. 2021; Kashefi-Pour et al. 2020) and used scores (1 to 100) on Hofstede's (2011) six cultural dimensions described below:

i. Power Distance Index (PDI): Measures the extent to which people accept that power among individuals, organizations, and institutions is unequally distributed (Campagnolo and Vincenti 2022; Hofstede 1980; Morosini et al. 1998).
ii. Individualism Versus Collectivism (IVC): Refers to the degree of preference where people only take care of themselves and their immediate family (Hofstede 1980, 2011).
iii. Masculinity Versus Femininity (MVF): Measures the degree to which a society prioritizes masculinity-related qualities over femininity-related qualities (Ahmad et al. 2022; Hofstede 1980).
iv. Uncertainty Avoidance (UAI): Measures the degree to which people in a national culture feel threatened by ambiguity and uncertainty in their life and take measures to avoid them (Hofstede 1980, 2011).
v. Indulgence Versus Restraint (IVR): Measures the degree to which a national culture allows its people to fulfil their human needs and desires versus the degree to which people in a culture control their natural desires and impulses (Hofstede 2011; Minkov and Hofstede 2011).
vi. Long-Term Orientation Versus Short-Term (LVS): Measures the degree to which people of a country focus on long-term orientation and connect the past with future actions (Chand et al. 2021; Hofstede 2001).

To measure the national culture distance between the home countries of acquirers and targets, we follow the Kogut and Singh (1988) index that is widely used in the international business literature. We calculate this index using Hofstede's six cultural dimensions: masculinity, power distance, individualism, uncertainty avoidance, long-term, and indulgence:

$$CG_{bt} = \sqrt{\sum_{a=1}^{6} \frac{(B_{ab} - T_{at})^2}{V_a}}$$

where CG_{bt} is the cultural distance between the acquirers country b and target country t. B_{ab} and T_{at} are the values of national cultural dimension a ($a = 1$ to 6) for acquirer country b and target country t, respectively, and V_a shows the variance of each cultural dimension.

4.3 | Control Variables

We control for three groups of variables associated with synergistic gains: deal characteristics, acquirer/target firm characteristics,[8] and country characteristics.

Based on the M&A literature, we first consider deal-level characteristics, including method of payment, number of acquirers, and same-industry deal. The literature shows that the method of payment affects returns—cash-financed deals increase returns, while stock-financed deals reduce returns due to the adverse selection problem (Graham et al. 2002; Hussain and Loureiro 2023; Myers and Majluf 1984). Diversified deals are value-destructive and face integration problems (Morck et al. 1990), whereas same-industry deals generate positive returns because of economies of scale (Masulis et al. 2007). The returns decrease with an increase in the number of competitors (Bradley et al. 1988; Schwert 1996; Alexandridis et al. 2010) as acquirers pay hefty premiums to win the bid auction.

Second, we control for some acquirer and target characteristics such as leverage, Tobin's Q (Lang et al. 1991), liquidity (Cornett et al. 2011), and stock price run-up (Golubov et al. 2012; Brigida et al. 2014). The underlying reasons for the inclusion of these firm characteristics are as follows: Managerial discretion decreases with a higher level of leverage (Lang et al. 1991), motivates managers to increase firm performance (Gilson 1990; Tunyi et al. 2025), and positively affects returns (Wang and Xie 2009). The overvalued firms proxied by higher Tobin's Q may buy less overvalued targets using their stock (Danbolt et al. 2016). Managers of firms with higher liquidity over-invest unproductively and generate lower returns (Chatterjee et al. 2021; Hussain et al. 2022). The stock price reaction before the deal announcement is negatively associated with the stock price reaction post-acquisition (Golubov et al. 2012).

Finally, we add country characteristics as controls, such as country governance gap, GDP growth, and GDP per capita. We control for the country governance gap (Ellis et al. 2017; Hussain and Tunyi 2025) between the acquirer and target home countries using World Governance Indicators (WGI), which can positively affect returns. The macro-economic variables—GDP growth and log of GDP per capita—show the level of a country's economic development and can affect returns to firm shareholders (Fauver et al. 2017).

5 | Results

5.1 | Synergistic Gains and Cultural Distance

To test our first hypothesis (**H1**), we estimate cross-sectional regressions of synergistic gains on the national cultural distance along with a set of control variables. If the national cultural distance creates room for learning diverse cultural values, the synergistic gains should be higher, *ceteris paribus*. We estimate Equation (2) and report results in Table 3. In Model (1) of Table 3, we only include national culture distance as an explanatory variable to make sure that the association between cultural distance and takeover synergies is not derived by the presence of a control variable. We find that cultural distance positively affects synergy at the 1% level, showing that with the increase in cultural distance, combined returns increase, and we attribute this increase to the learning of new cultural practices. Economically, a one standard deviation increase in cultural distance increases synergistic gains by 1.75 pp.[9] In Model (2), we examine the impact of the cultural distance on synergy gains after controlling for deal characteristics, firm characteristics, and country characteristics. The estimated coefficient on the national culture distance is positive and statistically significant. From Models (3) to (8), we used individual dimensions of Hofstede's culture to examine whether differences in some dimensions are more important than others. We find that distances in all dimensions are significantly important for value creation; however, economic magnitudes vary a bit. The results support our first hypothesis (**H1**) and suggest that a higher national cultural distance is associated with higher synergistic gains, and this association appears due to the learning of cultural values after the acquisition.

Among the controls, we realize that the corporate governance gap positively affects synergy gains, supporting previous studies (Ellis et al. 2017; Martynova and Renneboog 2008; Wang and Xie 2009). Acquirers' payment in stock increases synergistic gains, and it promotes the role of payment method in M&As (among others, see Graham et al. 2002). Other control variables show qualitatively similar effects on gains to what others find (see, among others, Wang and Xie 2009; Starks and Wei 2013).

Our results on national cultural distance demonstrate that differences in national cultural norms across countries are relevant to illustrate the takeover synergies and that cultural values are learnt in CBMAs. We provide counter-intuitive findings to existing studies on CBMAs (for instance, Kroon et al. 2015; Krug and Nigh 2001; Very et al. 1996) and suggest that cultural disparity is not always a hurdle for CBMAs to derive takeover value but creates room for sharing and learning new cultural practices between combining firms.

Additionally, we test whether the national cultural distance affects acquirer or target returns. We re-estimate Equation (2) by replacing synergistic gains with acquirer or target returns, in separate regressions. We find that cultural distance positively affects both acquirer and target returns (Table 4), implying that synergistic gains emerging from learning of national cultural values are equally shared between merging firms. These results provide further insights into the role of national cultural distance, showing that, apart from synergistic gains, individual gains to merging firms' shareholders are also explained by the cultural distance.

5.2 | Boundary Conditions: Stock-Financed Deals and Takeover Experience

Under our second and third hypotheses, we test whether the stock-financed deal and takeover experience moderate the association between the national cultural distance and synergistic gains. The underlying reason is that takeover experience allows one to tackle integration challenges in a better way (Cuypers et al. 2017; Laamanen and Keil 2008), and the target firm shareholders become the owners of the newly merged firm if the deal payment is made in stock. Therefore, we estimate the following cross-sectional regression model:

$$\begin{aligned} Synergy(-1,+1)_{d,t} = {} & \alpha + \beta_1 Cultural\ distance_{d,t-1} + \beta_2 Stock\ payment_{d,t} \\ & + \beta_3 Cultural\ distance_{d,t-1}\ Stock\ payment_{d,t} \\ & + \sum \beta_4 Deal\ controls_{d,t} + \sum \beta_5 Firm\ controls_{b,t-1} \\ & + \sum \beta_6 Country\ controls_{b,t-1} + \lambda_y \\ & + \eta_i + \gamma_n + \varepsilon_{i,t} \end{aligned} \tag{3}$$

where $Stock\ payment_{d,t}$ is a dummy variable that equals one if the acquirer pays in stock and zero otherwise. The variable of interest here is the interaction term between the national culture distance and stock payment [$Cultural\ distance_{d,t-1} \times Stock\ payment_{d,t}$] that should show a positive and significant coefficient if stock-financing is beneficial. We again estimate Equation (3) by replacing $Stock\ payment_{d,t}$ with $Takeover\ experience_{d,t-1}$ with the same set of controls. We further dichotomize our sample into subsamples of CBMAs: stock-financed versus cash or mixed financed and experienced acquirers versus non-experienced acquirers. We expect that results should be more pronounced in the subsample of stock-financed deals and experienced acquirers.

In Models (1) and (2) of Table 5, the estimated coefficients on the interaction terms are significantly positive, confirming our hypotheses (**H2** and **H3**). We find that the average effect of the cultural distance on synergies is higher by 0.13 pp for stock-financed deals (Model 1) and by 0.10 pp for experienced acquirers (Model 2). Also, the results are more pronounced for subsamples of stock-financed deals and experienced acquirers.

Our findings are aligned with the existing work highlighting positive consequences of stock-financed deals (Rhodes-Kropf and Viswanathan 2004; Starks and Wei 2013), especially in CBMAs where information asymmetries are very high and targets conceal the true value of their firms. However, our findings do not align with or support studies arguing that foreign targets are reluctant to accept acquirer stock as payment (Gaughan 2002; Moeller and Schlingemann 2005). We also support studies emphasizing the benefits of takeover experience and suggesting that acquirers learn from deal to deal and perform better in the latter deals (Chao 2018; Cuypers et al. 2017; Laamanen and Keil 2008) rather than those suggesting losses emerging from serially engaging in M&As

TABLE 3 | Synergistic gains and national cultural distance.

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Synergistic gains (−1, +1)	Kogut and Singh (1988) index	Kogut and Singh (1988) index	PDI	IVC	MVF	UAI	IVR	LVS
National cultural distance	0.0010***	0.0009***	0.0004***	0.0005***	0.0008***	0.0007***	0.0013***	0.0009***
	(3.172)	(3.299)	(2.637)	(2.722)	(3.533)	(3.908)	(3.908)	(3.943)
Firm culture gap		−0.0000	−0.0000	−0.0000	−0.0001	0.0000	0.0000	0.0000
		(−0.194)	(−0.050)	(−0.158)	(−0.332)	(0.057)	(0.057)	(0.122)
National governance gap		0.0005*	0.0005*	0.0005*	0.0005*	0.0005*	0.0005*	0.0005*
		(1.688)	(1.812)	(1.700)	(1.838)	(1.665)	(1.665)	(1.869)
Related industry dummy		−0.0202***	−0.0186***	−0.0210***	−0.0200***	−0.0179***	−0.0179***	−0.0175**
		(−2.942)	(−2.736)	(−3.021)	(−2.905)	(−2.649)	(−2.649)	(−2.562)
Payment method dummy		0.0252**	0.0270**	0.0271**	0.0255**	0.0257**	0.0257**	0.0286**
		(2.080)	(2.178)	(2.199)	(2.101)	(2.080)	(2.080)	(2.249)
Number of competing acquirers		−0.0248	−0.0238	−0.0269	−0.0245	−0.0226	−0.0226	−0.0330**
		(−1.515)	(−1.493)	(−1.639)	(−1.534)	(−1.396)	(−1.396)	(−2.013)
Run-up		−0.0747***	−0.0718***	−0.0732***	−0.0762***	−0.0711***	−0.0711***	−0.0637**
		(−2.901)	(−2.803)	(−2.858)	(−2.966)	(−2.774)	(−2.774)	(−2.495)
Acquirer leverage		0.0428	0.0384	0.0402	0.0395	0.0454*	0.0454*	0.0367
		(1.568)	(1.405)	(1.473)	(1.449)	(1.651)	(1.651)	(1.344)
Target leverage		0.1114***	0.1157***	0.1085***	0.1145***	0.1148***	0.1148***	0.1090***
		(2.880)	(3.026)	(2.862)	(2.969)	(2.997)	(2.997)	(2.838)
Acquirer liquidity		−0.0303	−0.0314	−0.0294	−0.0326	−0.0324	−0.0324	−0.0221
		(−0.720)	(−0.743)	(−0.703)	(−0.763)	(−0.766)	(−0.766)	(−0.515)
Target liquidity		−2.4064**	−2.4379**	−2.3963**	−2.2995**	−2.3387**	−2.3387**	−2.3080**
		(−2.131)	(−2.163)	(−2.122)	(−2.042)	(−2.069)	(−2.069)	(−2.066)
Acquirer Tobin *Q*		0.0079	0.0083	0.0076	0.0067	0.0082	0.0082	0.0068
		(0.999)	(1.065)	(0.971)	(0.863)	(1.052)	(1.052)	(0.877)
Target Tobin *Q*		−0.0790	−0.0814	−0.0797	−0.0731	−0.0793	−0.0793	−0.0684
		(−1.049)	(−1.070)	(−1.051)	(−0.980)	(−1.050)	(−1.050)	(−0.898)
GDP growth		0.0022	0.0025	0.0023	0.0025	0.0024	0.0024	0.0020
		(0.705)	(0.791)	(0.737)	(0.784)	(0.766)	(0.766)	(0.625)
GDP per capita		−0.1076**	−0.1111***	−0.1087***	−0.1016**	−0.1053**	−0.1053**	−0.1177***
		(−2.549)	(−2.620)	(−2.582)	(−2.414)	(−2.490)	(−2.490)	(−2.771)
Constant	0.0249	3.0046***	3.0469***	3.0100***	2.8390***	2.9135***	2.9135***	3.0300***
	(0.673)	(2.850)	(2.897)	(2.863)	(2.703)	(2.764)	(2.764)	(2.924)
Year, industry, and country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(Continues)

TABLE 3 | (Continued)

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Synergistic gains (−1, +1)	Kogut and Singh (1988) index	Kogut and Singh (1988) index	PDI	IVC	MVF	UAI	IVR	LVS
N	1917	1917	1917	1917	1917	1917	1917	1917
R^2	0.0947	0.1161	0.1076	0.1117	0.1170	0.1146	0.1146	0.1140

Note: The sample comprises 1917 completed CBMAs reported in Securities Data Corporation (SDC) between 2003 and 2021. The combining firms are publicly listed, and we consider only completed deals. The synergistic gain is the value-weighted portfolio of the acquirer and target gains over a 3-day event window. Our key variable of interest ('National cultural distance') is calculated using Kogut and Singh's (1988) index, which captures the difference between cultural scores of merging firms' home countries. Models (1) and (2) show results for the effect of the national cultural distance and synergistic gains, while Models (3)–(8) show the effect of all individual culture dimensions on synergistic gains. All variables are defined in Appendix A; standard errors are corrected for heteroscedasticity (White 1980), and *t*-statistics are reported in parentheses. We control for year, industry, and country fixed effects in all models, whose coefficients are not reported for brevity.

*, **, and *** show statistical significance levels at 10%, 5%, and 1%, respectively.

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

or diversifying operations in already targeted foreign markets (Billett and Qian 2008; Fuller et al. 2002).

5.3 | Addressing Endogeneity

Our findings may suffer from the sample selection bias, as firms may only engage in CBMAs when the potential of takeover synergies is higher. To tackle this issue, we generate two comparable samples of deals with high (treatment group) and low national cultural distance (control group) employing the propensity score matching (PSM). Using the sample median as a cutoff, we split our sample into two groups of high and low cultural distance and apply one-to-one matching with 0.01 calliper distance to identify pairs of comparable CBMAs.

Several studies (Jiang et al. 2018; Shahab et al. 2024) recommend that entropy-balanced matching (EBM) consider an 'equal percent bias reducing' methodology and assign weights based on a repetitive process in a way that the descriptive statistics of treated and control groups are well-aligned (Hainmueller 2013). Specifically, we use the maximum-entropy re-weighting scheme and divide our M&A sample into treated and control) groups. Also, we matched control and treated groups based on the first moment of all covariates used in Table 3.

We acknowledge that engaging in a cross-border M&A deal can be an endogenous choice the acquirer makes, which may affect our inferences. For instance, Rossi and Volpin (2004) show that acquirers from countries with better shareholder protection rights are likely to prefer domestic deals over cross-border deals. Thus, a cross-border takeover will appear only if acquisition gains are high enough to cover additional costs associated with foreign business. This may lead to a positive association between cultural distance and synergistic gains. Accordingly, we use Heckman's (1979) procedure to help control for endogeneity. First, we used the sample of all domestic and cross-border takeovers announced during the sample period and estimated the probability that an acquirer will engage in the cross-border deal rather than the domestic one. Second, we calculate Heckman's λ (Mill's ratio) using the Probit model's resulting parameters for each sample acquirer. Eventually, we add Heckman's λ as an additional control in our baseline model. After addressing the endogeneity-related issues, our results in Table 6 are consistent with what we reported in baseline models, suggesting that cultural distance increases synergistic gains.

6 | Additional Analyses—Similarities in National Culture

So far, we only provide empirical evidence on the benefits of cultural distance, and in this section, we examine whether the similarity in Hofstede's cultural scores across CBMAs has the predictive power for synergistic gains. We expect that if similar national cultures of merging firms reduce integration issues, then we should observe a positive relationship between cultural similarity and takeover gains. To calculate national cultural similarity, we use Jaffe's (1986) measure for merging firms:

$$Cultural\ similarity_{i,j,t} = \frac{X_{i,t}X'_{i,j}}{(X_{i,t}X'_{i,t})^{0.5}(X_{j,t}X'_{j,t})^{0.5\prime}}$$

where $X_{i,t}$ is a vector of six individual cultural dimensions proposed by Hofstede for acquirer i and $X'_{i,j}$ identifies a vector of the same dimensions for target j. We investigate if there is any impact of cultural similarity on takeover gains, and therefore, we estimate Equation (2) using cultural similarity instead of cultural differences as a key variable of interest. Based on the findings shown in Table 7, high similarity negatively affects synergistic, acquirer, and target gains. These results suggest that similarity destroys takeover value and the distribution of this value between shareholders of merging firms. Importantly, these findings further support our learning argument and highlight that room for learning new cultural values only exists when firms come from countries with different cultures. Furthermore, our results contradict studies on firm-level cultural similarities that explain 'cultural fit' to illustrate better takeover outcomes and lower integration challenges (Ahammad and Glaister 2013; Bereskin et al. 2018; Doukas and Zhang 2021), arguing that national cultural similarities may not matter more in CBMAs.

TABLE 4 | Acquirer and target gains.

Panel A: Acquirer gains							
Dependent variable:	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Acquirer gains (−1, +1)	**Kogut and Singh (1988) index**	**PDI**	**IVC**	**MVF**	**UAI**	**IVR**	**LVS**
National cultural distance	0.0006***	0.0002**	0.0002**	0.0004***	0.0004***	0.0009***	0.0008***
	(3.021)	(2.257)	(2.412)	(3.008)	(3.525)	(3.525)	(4.798)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1917	1917	1917	1917	1917	1917	1917
R^2	0.1121	0.1038	0.1063	0.1110	0.1119	0.1119	0.1173
Panel B: Target gains							
Dependent variable:	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Target gains (−1, +1)	**Kogut and Singh (1988) index**	**PDI**	**IVC**	**MVF**	**UAI**	**IVR**	**LVS**
National cultural distance	0.0018***	0.0008***	0.0008***	0.0014***	0.0012***	0.0025***	0.0015***
	(4.044)	(3.006)	(3.029)	(4.290)	(4.988)	(4.988)	(4.430)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1917	1917	1917	1917	1917	1917	1917
R^2	0.1623	0.1506	0.1560	0.1645	0.1601	0.1601	0.1566

Note: The CBMA's sample of 1917 completed deals spans 19 years (2003–2021), encompassing both acquirers and targets that are public firms. The acquirer and target gains are calculated as cumulative abnormal returns (CARs) over a 3-day event window surrounding the deal announcement. CARs are calculated using the market model for the period of 255 to 25 days (estimation window) before the announcement day. The variable of interest (national cultural distance) is calculated using Kogut and Singh's (1988) index in Model (1), and from Models (2) to (7), we use six individual dimensions of Hofstede (2011). All models use the same control variables, which are reported in Table 3. *t*-statistics are shown in parentheses, and standard errors are corrected for heteroscedasticity (White 1980). We control for year, industry, and country fixed effects in each model and do not report their coefficients for brevity.

*, **, and *** show statistical significance levels at 10%, 5%, and 1%, respectively.

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE 5 | Boundary conditions—Stock payment and experienced acquirers.

	Moderating effect		Subsamples			
Dependent variable:	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Synergistic gains (−1, +1)	**Full sample**	**Full sample**	**Stock payment**	**Cash or mixed payment**	**Experienced acquirers**	**Non-experienced acquirers**
National cultural distance (NCD)	0.0007***	0.0002	0.0025**	0.0002	0.0011***	0.0007
	(2.690)	(0.678)	(2.167)	(1.203)	(3.220)	(0.669)
Stock payment (SP)	0.0011					
	(0.131)					
NCD × SP	0.0013*					
	(1.678)					
Experienced acquirer (EA)		−0.0078				
		(−0.935)				
NCD × EA		0.0010*				
		(1.897)				
Control variables	Yes		Yes	Yes	Yes	Yes
Year, industry, and country FE	Yes		Yes	Yes	Yes	Yes
N	1917	1917	290	1627	253	1664
R^2	0.0935	0.0885	0.2764	0.1192	0.2905	0.1170

Note: This table presents regression results for the effect of national cultural distance on synergistic gains when the payment is made by issuing stock or when the acquirer is experienced (i.e., acquirers with more than three deals during the sample period). In Models (1) and (2), the variables of interest are interaction terms (NCD × SP and NCD × EA). From Models (3) to (6), we report the effect of the national culture distance on synergistic gains for subsamples of deals of stock payments and experienced acquirers. We report *t*-statistics in parentheses and correct standard errors for heteroscedasticity (White 1980). All models control for year, industry, and country fixed effects, whose coefficients are not reported for brevity.

*, ** and *** show statistical significance at 10%, 5%, and 1%, respectively.

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE 6 | Addressing endogeneity.

Panel A: PSM		
Dependent variable:	**(1)**	**(2)**
Synergistic gains (−1, +1)	**Matched sample**	**Matched sample**
National cultural distance	0.0260***	0.0010***
	(3.084)	(3.463)
Control variables	Yes	Yes
Year, industry, and country FE	Yes	Yes
N	1442	1917
R^2	0.1243	0.1126

Panel B: Heckman test	
Dependent variable:	**(1)**
Synergistic gains (−1, +1)	**Kogut and Singh (1988) index**
National cultural distance	0.0017***
	(4.619)
Heckman λ (Mill's ratio)	−0.1208***
	(−2.499)
Control variables	Yes
Year, industry, and country FE	Yes
N	3547
R^2	0.2594

Note: This table shows results for the impact of cultural distance on synergistic gains after addressing endogeneity-related issues using PSM (Model 1 of Panel A), EBM (Model 2 of Panel A), and the Heckman test (Panel B). The synergistic gain is the value-weighted portfolio of the acquirer and target gains over a 3-day event window. Our key variable of interest ('National cultural distance') is calculated using Kogut and Singh's (1988) index, which captures the difference between cultural scores of merging firms' home countries. All variables are defined in Appendix A; standard errors are corrected for heteroscedasticity (White 1980), and *t*-statistics are reported in parentheses. We control for year, industry, and country fixed effects in all models, whose coefficients are not reported for brevity.
*, **, and *** show statistical significance levels at 10%, 5% and 1%, respectively.
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

TABLE 7 | Similarity in national culture and takeover gains.

Dependent variables:	**(1)** **Synergistic gains**	**(2)** **Acquirer gains**	**(3)** **Target gains**
National cultural similarity	−0.0819***	−0.0462***	−0.1501***
	(−3.023)	(−2.777)	(−3.537)
Control variables	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes
N	1917	1917	1917
R^2	0.1118	0.1083	0.1546

Note: The table reports regression results for the impact of national cultural similarity on synergistic gains, acquirer gains, and target gains using the sample of CBMAs. The combining firms are publicly listed, and we consider only completed deals. Our key variable of interest (national culture similarity) is calculated using Kogut and Singh's (1988) index. Synergistic gain is a value-weighted portfolio of the acquirer and target cumulative abnormal returns (CARs) over a 3-day event window. The CARs for combining firms are calculated using the market model for the period of 255 to 25 days before the deal announcement. Involved variables are defined in Appendix A; *t*-statistics are reported in parentheses, and standard errors are corrected for heteroscedasticity (White 1980). All models control for year, industry, and country fixed effects, whose coefficients are not reported for brevity.
*, **, and *** show statistical significance levels at 10%, 5%, and 1%, respectively.
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

7 | Robustness Tests

In this section, we investigate the robustness of the impact of the national cultural distance on synergistic gains documented above and show all findings in Table 8.

First, we employed an alternative index of the national culture distance using nine cultural dimensions provided by GLOBE[10] (Ahmad et al. 2022; House et al. 2004; Kashefi-Pour et al. 2020). These dimensions include gender egalitarianism, uncertainty avoidance, human orientation, performance orientation, assertiveness, power distance, institutional collectivism, in-group collectivism, and future orientation. As reported in Panel A of Table 8, our findings are in alignment with the prior analyses and show that synergistic gains are higher when the national cultural distance is higher (either using the index or individual dimensions).[11]

Second, we used alternative windows for calculating returns (i.e., 5-, 7-, 9-, 11-, 21-, and 51-day) and developing value-weighted portfolios to make sure that the inferences drawn are not based on the shorter event window of 3 days. The results are qualitatively similar as reported in Panel B of Table 8.

Third, the year 2014, the business services industry, and the United States are dominant in our sample of CBMAs, and we present the evidence that our results are not driven by such dominance. After dropping deals from the dominant year, industry, and country, we still find a positive association between the national cultural distance and synergistic gains (see Panel C of Table 8).

Fourth, we follow existing studies[12] (Erel et al. 2012; Guiso et al. 2009) and control for additional control variables, including home and host countries' same language, level of trust, majority control deals, and deals where the acquirer is from a developed country and the target is from an emerging economy. The data on language and trust is from the World Value Survey, which is widely used in the literature (Ahern et al. 2015; Maung 2022). The majority control deal is a dummy variable that is equal to one if the acquirer has less than 50% stake in the target before the deal announcement and has more than 50% stake in the target[13] after the successful deal, and zero otherwise. Also, the developed-to-emerging economy deal is a dummy variable with the value of one if the acquirer is from the developed economy and the target is from an emerging economy, and zero otherwise. Our results are qualitatively similar to what we found previously, namely that cultural distance increases synergistic gains (see Model 1 of Panel D). Additionally, we use acquirer and target country-pair fixed effects and report results in Model (2) of Table 8.

Finally, following Madura and Ngo (2008), we use the takeover premium as an alternative proxy[14] of takeover synergies and examine whether our baseline results still hold. The SDC database provides three proxies for the takeover premium and defines them as the ratio of the acquirer's offer price to the target's stock price 1 day (1-day premium), 1 week (1-week premium), and 4 weeks (4-week premium) before the deal announcement. Using all these proxies, we find that national cultural distance improves takeover synergies (Panel E of Table 8). Overall, our key findings pass all robustness tests and suggest that the association between cultural distance and synergistic gains is causal.

8 | Discussion and Conclusions

8.1 | Summary

In this study, we fill an important research gap and test our hypotheses on how cultural distance can create higher synergistic gains. If CBMAs promote cultural diversity in the combined firm, we expect a positive association between the national cultural distance and synergistic gains. The results show that synergistic gains increase with the national cultural distance (**H1**), and this association becomes more pronounced for stock-financed deals and takeover experience (**H2**). Our results pass several robustness tests, including alternative measures of national culture and synergistic gains, subsamples, and controlling for selection bias. In all of our regression analyses, we control for the organizational cultural gap to make sure that our inferences are not caused by it.

The empirical evidence supports organizational learning theory—diverse cultural practices can be learnt—and the AOF concept, showing that acquirers can create takeover value by acquiring firms from countries with dissimilar cultural practices. The disparity in national cultural practices appears to be an important determinant of takeover synergies for CBMAs rather than a hindrance to synergies. We believe that organizational learning theory caters to new cognizance for the intersections of international business and finance research, as the relevant theory and empirical findings repudiate the established view that national cultural dissimilarities destroy takeover value.

8.2 | Implications for Managers and Policymakers

Our results provide insights for managers and policymakers on how the takeover market can serve as a vehicle to promote learning of diverse cultural practices between merging firms. As the disparity in national cultures creates takeover value, the managers of acquirer and target firms should make informed decisions regarding CBMAs. Combining firm managers needs a proper evaluation of cultural norms in the takeover process—from the deal initiation to finalization—for promoting cross-cultural understanding to minimize post-integration challenges, fostering effective management styles, promoting conflict resolution, and developing effective integration strategies. Our study can also help managers foster innovation in the combined firm because managers from different cultures may offer unique ideas.

Policymakers can use this study as a stepping stone for investigating how CBMAs can contribute to shareholder wealth. For firms involved in CBMAs, they must promote cultural training programmes, provide subsidies and tax incentives, encourage firms to establish diverse cultural boards and establish common standards for cultural harmonization. Considering these implications, policymakers can contribute to the success of CBMAs and foster international trade.

TABLE 8 | Robustness tests.

Panel A: Alternative measures of national culture										
Dependent variable:	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
Synergistic gains (−1, +1)	**Globe index**	**Globe 1**	**Globe 2**	**Globe 3**	**Globe 4**	**Globe 5**	**Globe 6**	**Globe 7**	**Globe 8**	**Globe 9**
National cultural distance	0.0054***	0.0038**	0.0056***	0.0043***	0.0059***	0.0064***	0.0049***	0.0047***	0.0053**	0.0047***
	(3.389)	(2.271)	(3.023)	(3.005)	(3.581)	(3.283)	(2.913)	(2.637)	(2.385)	(2.605)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1732	1732	1732	1732	1732	1732	1732	1732	1732	1732
R^2	0.0412	0.0397	0.0410	0.0407	0.0414	0.0414	0.0407	0.0404	0.0399	0.0405

Panel B: Alternative windows of synergistic gains					
Dependent variable:	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Synergistic gains	**5-day gains (−2, +2)**	**7-day gains (−3, +3)**	**11-day gains (−5, +5)**	**21-day gains (−10, +10)**	**51-day gains (−25, +25)**
National cultural distance	0.0012***	0.0010***	0.0010***	0.0009***	0.0009***
Control variables	Yes	Yes	Yes		
Year, industry, and country FE	Yes	Yes	Yes	(3.510)	(3.496)
N	1917	1917	1917	1917	1917
R^2	0.1466	0.1576	0.1721	0.1743	0.1738

Panel C: Excluding dominant year, industry, and country			
Dependent variable:	**(1)**	**(2)**	**(3)**
Synergistic gains (−1, +1)	**Excluding 2014**	**Excluding Business Services industry**	**Excluding United States**
National cultural distance	0.0010***	0.0013***	0.0013***
	(3.415)	(3.451)	(4.231)
Control variables	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes
N	1749	1592	1145
R^2	0.1243	0.1207	0.1691

(Continues)

TABLE 8 | (Continued)

Panel D: Additional controls and country-pair fixed effects		
Dependent variable:	**(1)**	**(2)**
Synergistic gains (−1, +1)	**Kogut and Singh (1988) index**	**Kogut and Singh (1988) index**
National cultural distance	0.0010***	0.0120***
	(3.287)	(3.011)
Trust	0.0061	
	(0.869)	
Same language	0.0281	
	(1.158)	
Majority control	0.0189***	
	(2.594)	
Developed to emerging market	0.0091	
	(1.145)	
Year, industry, and country FE	Yes	Yes
Acquirer and target country-pair FE	No	Yes
N	1917	1917
R^2	0.1181	0.2106

Panel E: Alternative measures of takeover			
Dependent variable:	**(1)**	**(2)**	**(3)**
Takeover premium	**1-day premium**	**1-week premium**	**4-week premium**
National cultural distance	0.0007***	0.0005***	0.0006***
	(2.969)	(3.303)	(3.144)
Control variables	Yes	Yes	Yes
Year, industry, and country FE	Yes	Yes	Yes
N	1917	1917	1917
R^2	0.2273	0.2062	0.2234

Note: The table documents regression results for the impact of the national cultural distance on synergistic gains using alternative measures of national culture (Panel A), alternative windows of synergistic gains (Panel B), for different subsamples (Panel C), using additional control variables and country-pair fixed effects (Panel D), and using alternative measures of takeover synergies (Panel E). Our dependent variable is synergistic gains, and the key variable of interest is the national cultural distance. In Panel A, we utilized the GLOBE database to obtain scores (1 to 7) on nine cultural dimensions identified by House et al. (2004) as a proxy for national culture, rather than Hofstede's cultural dimensions. Panel B, in separate regressions, illustrates synergistic gains across 5-, 7-, 11-, 21-, and 51-day event windows surrounding the deal announcement. Panel C reports the results for the impact of national culture distance on synergistic gains using different subsamples, excluding deals from the top year, industry, and country. Panel D illustrates the impact of cultural distance on synergistic gains, after controlling for additional variables and using country-pair fixed effects. *t*-statistics are in parentheses, and robust standard errors are used to account for heteroscedasticity (White 1980). All models control for year, industry, and country fixed effects, whose coefficients are not reported for brevity. We define all variables in Appendix A.
*, **, and *** denote the statistical significance levels at 10%, 5%, and 1%, respectively.
*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

8.3 | Limitations

This study is limited in fewer ways that open avenues for future research on cultural dissimilarities in CBMAs. Although our work covers an international sample of CBMAs, caution is needed in generalizing our findings to other restructuring activities such as joint ventures, strategic alliances, and spin-offs. Further work must explore the impacts of the national cultural distance on the outcomes of other restructuring activities.

Considering our empirical research design, we focus on CBMAs of publicly listed acquirers and targets with available data on all variables used in our study, and therefore our final sample is subject to debate when we want to expand its findings to the bigger CBMAs sample that includes private acquirers and targets. If the stock price data is available for private firms engaging in CBMAs, our established relationships can be tested using a bigger CBMAs sample.

We do not investigate how the association between the national cultural distance and synergistic gains is affected by the competitiveness of the takeover market. Future work should investigate how the takeover competition in the acquirer or target country affects the relationship between synergistic gains and cultural distance in CBMAs.

Conflicts of Interest

The authors declare no conflicts of interest.

Endnotes

[1] Empirical affirmation endures indecisively, with findings ranging from no impact to U-shaped, negative, and positive impacts (Brock 2005; Rottig 2017; Stahl et al. 2013) of the cultural distance on takeover performance.

[2] Firms vary more in terms of national culture than organizational culture in mergers and acquisitions (see, among others, Bereskin et al. 2018). However, we control for organizational culture in all of our regression analyses to make sure that any inferences are not caused by organizational culture.

[3] To capture cultural distance, we used the cultural difference index proposed by Kogut and Singh (1988) based on Hofstede's (2011) six cultural dimensions.

[4] Synergy motive in mergers and acquisitions (M&As) suggests that the value of the combined firm is higher than the individual values of the combining firms (Berkovitch and Narayanan 1993). Following Bradley et al. (1988), we calculate synergistic gains by developing the value-weighted portfolio of combining firms where weights are allocated based on the equity's market value 6 days prior to the announcement day. Also, similar to Wang and Xie (2009), we adjust target weighted returns for the toehold.

[5] In robustness tests, we use alternative measures of national cultural distance and synergistic gains and find qualitatively similar results.

[6] Although the business services industry dominates our sample, the results for national cultural distance are persistent after excluding deals from this industry (see Panel C of Table 8).

[7] In robustness tests, we used 5-, 7-, 11-, 21-, and 51-day event windows to calculate the value-weighted portfolio of the acquirer and target.

[8] To review the determinants of M&As and their wealth effects, see Martynova and Renneboog (2008) and Jensen and Ruback (1983).

[9] In Model (1) of Table 3, the coefficient on national cultural distance is 0.0010 (t-statistic of 3.172) with 17.56 standard deviation. So, an increase of one standard deviation in national cultural distance increases synergistic gains by 1.75 percentage points (standard deviation $\times$ β coefficient $\times$ $100 = 17.56 \times 0.0010 \times 100 = 1.75$).

[10] GLOBE culture dimensions are based on surveys from 62 nations around the world.

[11] We dropped 2 acquirer countries and 20 target countries because GLOBE does not cover these countries. They are Belarus, Bulgaria, Croatia, Estonia, Ethiopia, Iceland, Latvia, Lithuania, Luxembourg, Malta, Moldova, Norway, Belgium, Panama, Peru, Puerto Rico, Romania, Saudi Arabia, Serbia, the Slovak Republic, Ukraine, and Vietnam.

[12] We are thankful to the anonymous reviewer for drawing our attention to other determinants of takeover performance.

[13] This is a standard definition of majority control deals in the finance literature (see, among others, Hussain and Shams 2022).

[14] We are grateful to the anonymous reviewer for highlighting alternative measures of takeover synergies.

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Appendix A

Variable Definitions

Synergistic, acquirer, and target gains:	(1) The weighted average portfolio of the acquirer and target gains over 3-, 5-, 7-, 11-, 21-, and 51-day event windows around the day of the deal announcement. The weights are allocated based on the equity's market value 6 days before the deal announcement. Considering the toehold effect, we also adjust target weighted gains. Sources: Securities Data Corporation (SDC) and DataStream.
(1) Synergistic gains	
(2) Acquirer and target gains	
Pre-deal differences:	(2) 3-, 5-, 7-, 11-, 21-, and 5-day cumulative abnormal returns (CARs) around the day of announcement using the market model for the estimation window of 255 to 25 days before the deal. Source: DataStream.
(3) National cultural distance	(3) The difference in country-level culture (proxied by Hofstede's cultural dimensions) between the acquirer and target home countries. Source: https://geerthofstede.com/research-and-vsm/dimension-data-matrix/
(4) Firm culture gap	(4) The difference in the firm-level culture (proxied by corporate social responsibility) scores between the acquirer and target firms. Source: ASSET4 ESG.
(5) National governance gap	(5) The difference in the country-level governance indices between the home countries of acquirers and targets. These indices are based on the average of six World Governance Indicators. Source: World Bank.
Deal characteristics:	
(6) Related industry	(6) Dummy variable: 1 for related industry deal and 0 otherwise. Source: SDC.
(7) Payment method	(7) Dummy variable: 1 for the purely stock-financed deal and 0 otherwise. Source: SDC.
(8) Number of competing acquirers	(8) Natural logarithm of the total number of acquirers involved in a cross-border deal. Source: SDC.
Acquirer and target characteristics:	(9) For synergistic gains regressions, we used a weighted average of the acquirer and target stock price run-up, where weights are allocated based on equity's market value. For acquirer and target gains regressions, we calculate their stock price run-up as the sum of abnormal returns over the 90 to 20 days preceding the deal announcement. Source: DataStream.
(9) Run-up	
(10) Leverage	(10) Long-term debt scaled by total assets. Source: WorldScope.
(11) Liquidity	(11) Cash and short-term investments scaled by total assets. Source: WorldScope.
(12) Tobin Q	(12) (Total assets minus book value of equity plus market value of equity) divided by total assets. Source: WorldScope.
Acquirer country characteristics: (13) GDP growth	(13) Annual growth in the real gross domestic product (GDP). Source: World Development Indicators.
(14) Log GDP per capita	(14) Logarithm of real GDP (current US dollars divided by average population). Source: World Development Indicators.

Appendix B

Sample Distribution by the Target Country

Target country	*N*	%
Argentina	11	0.57
Australia	80	4.17
Austria	12	0.63
Bangladesh	3	0.16
Belarus	2	0.10
Belgium	33	1.72
Brazil	91	4.75
Bulgaria	8	0.42
Canada	149	7.77
Colombia	12	0.63

(Continues)

Target country	*N*	%
Costa Rica	1	0.05
Croatia	1	0.05
Denmark	24	1.25
Ecuador	2	0.10
Egypt	5	0.26
El Salvador	1	0.05
Estonia	1	0.05
Ethiopia	1	0.05
Finland	19	0.99
France	98	5.11
Georgia	2	0.10
Germany	114	5.95
Hong Kong	6	0.31
Hungary	4	0.21
Iceland	1	0.05
India	63	3.29
Indonesia	2	0.10
Israel	43	2.24
Italy	58	3.03
Japan	14	0.73
Latvia	2	0.10
Lithuania	5	0.26
Luxembourg	4	0.21
Malaysia	6	0.31
Malta	1	0.05
Mexico	9	0.47
Moldova	1	0.05
Morocco	7	0.37
Netherlands	72	3.76
New Zealand	12	0.63
Nigeria	3	0.16
Norway	36	1.88
Panama	1	0.05
Peru	7	0.37
Poland	19	0.99
Portugal	7	0.37
Puerto Rico	2	0.10
Romania	5	0.26
Saudi Arabia	4	0.21
Serbia	2	0.10
Singapore	15	0.78
Slovak Rep	3	0.16

(Continues)

Target country	*N*	%
Slovenia	1	0.05
South Africa	22	1.15
Spain	48	2.50
Sweden	57	2.97
Switzerland	57	2.97
Thailand	3	0.16
Ukraine	1	0.05
United Kingdom	220	11.48
United States	418	21.80
Venezuela	1	0.05
Vietnam	5	0.26
Total	1917	100.00

Note: The table reports the sample distribution by the target firms' country, including the total number of deals (*N*) and the percentage (%) of deals over the 19-year sample period.

Appendix C

Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	1.00															
(2)	0.11*	1.00														
(3)	−0.01	0.07*	1.00													
(4)	0.04	0.10*	0.44*	1.00												
(5)	−0.04	0.07*	0.05	0.05	1.00											
(6)	0.06*	0.07*	−0.11*	−0.03	0.01	1.00										
(7)	−0.01	−0.02	−0.05	−0.02	−0.04	0.13*	1.00									
(8)	−0.04	0.03	0.03	0.05	0.05	0.00	0.05	1.00								
(9)	0.00	−0.06	−0.02	−0.09*	0.03	−0.01	0.01	0.02	1.00							
(10)	0.06*	−0.04	−0.27*	−0.21*	0.03	0.04	0.14*	0.10*	0.11*	1.00						
(11)	−0.04	−0.01	0.02	0.01	0.04	−0.02	−0.02	0.00	−0.02	−0.06	1.00					
(12)	−0.04	0.15*	0.08*	−0.03	0.00	−0.01	−0.01	−0.05	−0.02	−0.08*	0.09*	1.00				
(13)	0.03	0.02	0.00	0.11*	0.06	−0.03	0.03	0.06	−0.03	−0.03	0.28*	−0.13*	1.00			
(14)	−0.05	−0.01	−0.05	−0.05	−0.02	0.02	−0.01	−0.03	0.04	0.02	−0.04	0.04	−0.14*	1.00		
(15)	0.03	−0.01	−0.06*	−0.03	−0.06*	−0.03	0.01	−0.01	−0.04	0.00	0.06*	−0.01	−0.06	−0.04	1.00	
(16)	−0.02	−0.09*	0.08*	0.03	−0.01	−0.03	−0.03	−0.04	0.09*	−0.11*	0.32*	0.32*	0.23*	−0.03	−0.07*	1.00

Note: The sample comprises 1,917 completed CBMAs reported in Securities Data Corporation (SDC) over 19 years (2003–2021), where the combining firms are publicly listed. The table reports correlation (along with level of significance) among all variables used in our regression analyses. (1) Synergistic gain. (2) National cultural distance. (3) Firm culture gap. (4) National governance gap. (5) Related industry dummy. (6) Payment method dummy. (7) Number of competing acquirers. (8) Run-up. (9) Acquirer leverage. (10) Target leverage. (11) Acquirer liquidity. (12) Target liquidity. (13) Acquirer Tobin *Q*. (14) Target Tobin *Q*. (15) GDP growth. (16) GDP per capita.

*, **, and *** show statistical significance at 10%, 5%, and 1%, respectively. All variables are defined in Appendix A.