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# The influence of cultural tightness-looseness on cross-border acquisition performance<sup>☆</sup>

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## ABSTRACT

A growing body of research in economics focuses on whether cultural differences in social norms affect economic outcomes. Here we examine how differences in the strength of social norms—or tightness-looseness (TL)—across countries can explain the financial performance of cross-border acquisitions (CBAs). We hypothesize that differences in TL hamper CBA performance, and further propose that the direction and absolute level of TL, industry relatedness, and membership in high-tech industries moderate the TL-CBA performance relationship in important ways. Using data for 4,717 CBAs in 30 countries between 1989 and 2013, we find that a one standard deviation increase in TL difference is associated with an average decrease in acquirer's return on assets equivalent to 245 million US dollars in its net income. We further find that this effect is particularly pronounced when the acquirer is tighter than the target, at greater levels of tightness, and in high-tech industries. Theoretical and practical implications of the strength of social norms for CBAs as well as the broader field of economics are discussed.

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## 1. Introduction

Globalization, the rapid diffusion of economic, political, and cultural practices across national borders, has a long past, with trade flourishing among people of different cultures as early as the 2nd century BC along the Silk Road that stretched from Rome to China (Elisseeff, 2000). While globalization is not a new phenomenon, it has increased in unprecedented proportions in recent decades (Bu et al., 2016; Steger, 2009), affording many new opportunities for multinational enterprises to expand and triggering an exponential growth of global cross-border acquisitions (CBAs) (Erel et al., 2012; Haleblan et al., 2009). CBAs are appealing to firms for several reasons, such as the possibility to gain access to foreign markets and unique resources (e.g., Bogan and Just, 2009; Makino et al., 2002; Miettinen and Stenbacka, 2018), yet they also pose significant challenges to the merging firms. Here we focus on how cultural differences in *social norms* as a critical determinant of economic success in CBAs.

Social norms refer to the informal rules that govern behavior in groups and societies (Bicchieri, 2006, 2016; Bicchieri and Dimant, 2019; Krupka and Croson, 2016), and they have received extensive scholarly attention in scientific disciplines such

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as anthropology (Geertz, 1973), economics (Nunn, 2021), philosophy (Bicchieri et al., 2018), psychology (Sherif, 1936), and sociology (Parsons, 1951), among others. A key insight is that social norms have helped cooperation and coordination to evolve, allowing human groups to flourish across the millennia (De et al., 2018; Henrich et al., 2004; Turchin, 2016). Yet while norms enabled us to become a remarkably cooperative species, norms can vary dramatically across cultures, causing conflict during intercultural interactions (Brett, 2014). To date, however, there have been few studies that have examined how cultural differences in social norms affect economic outcomes during large-scale interactions between countries, most notably, during cross-border acquisitions (CBAs), which was the purpose of this research.

A fundamental difference in social norms is how strictly groups adhere to them, also referred to as cultural tightness-looseness (TL) (Gelfand et al., 2006, 2011, 2021). Tight groups have strongly defined norms and little tolerance for deviance from them while loose groups have weakly defined norms and a high tolerance for deviance (Gelfand et al., 2011). As discussed below, differences in TL are not random: tightness tends to evolve in contexts where there is high ecological threat and social norms are critical for coordination. Neither tight nor loose is inherently better (Gelfand et al., 2021). Tight groups have a lot of order and discipline, while loose groups have a lot of creativity and openness. Yet, we expect that when organizations attempt to merge from societies have large differences in TL, their economic performance will suffer. We also theorize on precisely *when* TL will exert the most negative impact on CBA performance, including how the direction of TL differences, the level of TL of the acquirer and target countries, industry relatedness between acquiring and target firms, and the merging firms' membership in high-tech industries are critical moderators of the TL-CBA performance relationship. We test the hypotheses based on an extensive dataset that comprises 4717 CBAs in 30 countries between 1989 and 2013 and we find that differences in TL significantly affect the performance of CBAs and that this effect is moderated by the direction of TL differences, the level of tightness, and membership in high-tech industry.

Our study seeks to make a number of theoretical contributions. First, a growing body of research in economics has sought to test whether cultural differences affect economic outcomes, including corruption (Fisman and Miguel 2009), foreign trade (Guiso et al., 2009), economic development (Algan and Cahuc, 2010), and innovation (Gorodnichenko and Roland, 2011, 2017) (see Nunn, 2021, for a review). We extend this work to examine how cultural differences in norm strength can affect economic outcomes in intercultural contexts such as CBAs. By connecting social norms with M&A performance, our study also expands research in the field of international management, which has tended to ignore the role of social norms in CBAs (Leung and Morris, 2015). This work also builds upon research in psychology and organizational behavior that has focused on managerial phenomena such as CEO discretion (Crossland and Hambrick, 2011), negotiations (Brett, 2014), and leadership styles (Aktas et al., 2016; Jackson et al., 2020), but has yet to connect TL to economic outcomes in CBAs. In addition, drawing on Gelfand et al. (2013), we also move beyond just main effects of cultural differences for economic outcomes through the inclusion of a *culture by context* perspective, which seeks to identify precisely *when* cultural differences in TL are most pronounced in cross-border M&A performance. By focusing on cultural and context, rather than merely cultural main effects, our work can help organizations understand the contexts in which cultural differences will be most impactful, which is important for both theory and for practice.

## 2. Theory and hypotheses

### 2.1. Cultural tightness-looseness

Herodotus, who is generally considered the “father of history,” was one of the first to document tight-loose differences in his classic text, the *Histories*, where he differentiated the strictness of Egyptians from the permissiveness of the Persians. Centuries later, Peltó (1968) documented differences in the strength of norms across non-industrial societies, observing that the Hutterites, Hanno, and Lubara had strong norms, while the Kung Bushmen, Cubeo, and Skolt Lapps had weaker norms. Building upon this early work, Gelfand et al. (2011) showed that modern nations differ on TL. In a study of 33 countries, they found that Japan, Singapore, Turkey, and Austria tend to have strong norms and little tolerance for deviance from norms, while Brazil, the U.S., Spain, and New Zealand, have weaker norms and a high tolerance for deviance from norms. These differences were related to the degree to which cultures have had high degrees of threat, such as natural disasters, famines, and invasions (Gelfand et al., 2011), as having strict norms and punishments helps groups to coordinate to survive in times of crisis. When there is less threat, groups can generally afford to be more permissive (Roos et al., 2015).

Previous research has also found that differences in TL are reflected in differences in organizational practices, leadership, and people (Gelfand et al., 2006; Gerhart, 2009; Lee and Kramer, 2016). Organizations in tight cultures tend to emphasize rules and predictability that foster control and stability, while organizations in loose cultures tend to emphasize flexibility and experimentation that encourage innovation (Gelfand et al., 2006). As a result, organizations in tight cultures tend to have stronger and more intensive training practices that convey organizational standards and have more well-developed performance-monitoring systems (Gelfand et al., 2006). In contrast, organizations in loose cultures have weaker training practices and performance-monitoring systems that occur less frequently and are more lenient toward employees that violate organizational standards (Rabl et al., 2014).

Leadership also varies across tight and loose societies. For example, whereas individuals in tight cultures prefer autonomous/independent leaders, people in loose cultures favor charismatic leaders who challenge the status quo (Aktas et al. 2016). Further, individuals and employees treat norm violations of their leaders differently. While leaders who violate norms are tolerated in loose cultures, they are seen more negatively in tight ones (Stamkou et al., 2019). CEO dis-

cretion, i.e. the latitude of managerial action, also differs systematically between tight and loose cultures (Crossland and Hambrick, 2011). While CEOs in tight cultures have less managerial discretion, much more strategic leeway is available to CEOs in loose cultures (Crossland and Hambrick, 2011).

Finally, TL also affects the psychological attributes of its firms' individual members. Compared to individuals in loose cultures, individuals in tight cultures generally have *higher felt accountability* (Frink and Klimoski, 1998)—they expect greater monitoring, evaluation, and punishment for deviance from accepted standards. Accordingly, they develop a particular suite of characteristics that are adapted to high levels of normative stringency. In particular, individuals in tighter cultures have higher levels of prevention focus, impulse-control, self-monitoring, and need for structure as compared to individuals in looser cultures (Gelfand et al., 2011; Harrington and Gelfand, 2014).

Given these differences across tight and loose cultures, this naturally raises the question: What happens when organizations from societies that differ in TL merge?

## 2.2. Impact of cultural tightness-looseness differences on cross-border acquisition performance

Increased globalization over the past decades has provided many new opportunities for multinational enterprises (MNEs) to expand and has triggered an exponential growth of global cross-border acquisitions (CBAs) (Erel et al., 2012; Li et al., 2021). Yet CBAs often end in failure with devastating economic consequences for the stakeholders involved (Child et al., 2001; Seth et al., 2002). Prior work consistently shows that the combined firm's ability to interact smoothly, blend operations, and establish and agree on common goals, processes, and structures of two previously autonomous firms crucially influences the performance and success of acquisitions (e.g., Birkinshaw et al., 2000; Buono and Bowditch, 2003; Li et al., 2020). While many factors affect the ability of firms to cooperate with each other and blend their operations in the context of CBAs, national culture can play a significant role, as it determines the behaviors, practices, and routines of its organizational members, predicting inferior performance when firms operate in culturally distant locations that results from conflict and discord due to unfamiliarity with the foreign culture (Cartwright and Cooper, 1996; Datta and Paia, 1995; Li et al., 2017; Miller and Parkhe, 2002; Stahl and Voigt, 2008; Yoshino, 1976).

Here we focus on whether cultural variation in the strength of social norms is a critical determinant of success in CBAs. While there has been no research to date on how differences in TL affect economic performance in CBAs, it stands to reason that when firms from nations that differ in TL merge during CBAs, there is potential for conflict and inefficiency due to considerable differences in the people, practices, and leaders that comprise tight and loose organizations. Differences in organizational practices across tight and loose cultures can prove problematic in CBAs as they vary fundamentally on their emphasis on control and stability versus flexibility and experimentation. Firm leaders also differ in their approach of how to properly manage organizations, with leaders from tight cultures wanting to exert more top down control and leaders from loose cultures being more comfortable with shared leadership. Similarly, people's expectations toward the other firms' employees, i.e. their degree of felt accountability and associated levels of prevention versus promotion focus as well as emphasis on self-regulation, self-monitoring, and structure, are theorized to differ between the merging firms, generating increased friction due to different expectations of how to handle everyday situations (Shenkar et al., 2008).

In sum, compared to firms that merge from nations that are similar in TL, firms that merge from nations that differ in TL may encounter difficulty merging into one firm, given that they have different people, practices, and leaders that are associated with deeply engrained ecological and historical pressures (Gelfand et al., 2011). Conflicts and lack of cooperation prohibit the creation of synergies across different business units and functional areas, such as R&D and marketing, and result in lower CBA performance (Buono and Bowditch, 2003; Chua, 2013). In contrast, firms from cultures that are similar in TL may be better able to blend their operations successfully because they share the same worldviews regarding the importance of rules versus flexibility across multiple levels of their firms (Gelfand et al., 2006). This allows acquiring firms to increase profitability/performance (Birkinshaw et al., 2000). Hence, all else being equal, firms that merge from nations that are similar in TL will achieve superior CBA performance compared to CBAs involving firms from cultures that greatly differ in TL. We propose:

**Hypothesis 1:** Cross-country differences in cultural tightness-looseness (TL) negatively affect cross-border acquisition (CBA) post-deal economic performance.

## 2.3. A culture by context perspective of tightness-looseness and cross-border acquisitions

Research on culture and organizational phenomena generally examines the main effect of culture, yet this approach presents an overly simplified view of cultural differences that are inherently affected by situational contingencies (Gelfand et al., 2017b). Thus, in addition to the main effect of TL discussed above, we take a *culture by context* perspective (Gelfand et al., 2013), which seeks to understand the conditions under which differences in culture are most pronounced. This is particularly relevant for TL, as different TL levels facilitate effectiveness in different circumstances (Gelfand et al., 2021). Since the processes that underlie CBA performance are deeply embedded in cultural and industry contexts (Shenkar, 2001; Tung and Verbeke, 2010), we examine a set of critical contingencies that can affect the relation between TL differences and CBA performance. First, prior work finds that cultural differences do not exert a symmetric influence on international business outcomes (Huang et al., 2017; Shenkar, 2001). Accordingly, we examine how a number of *cultural contingencies*,

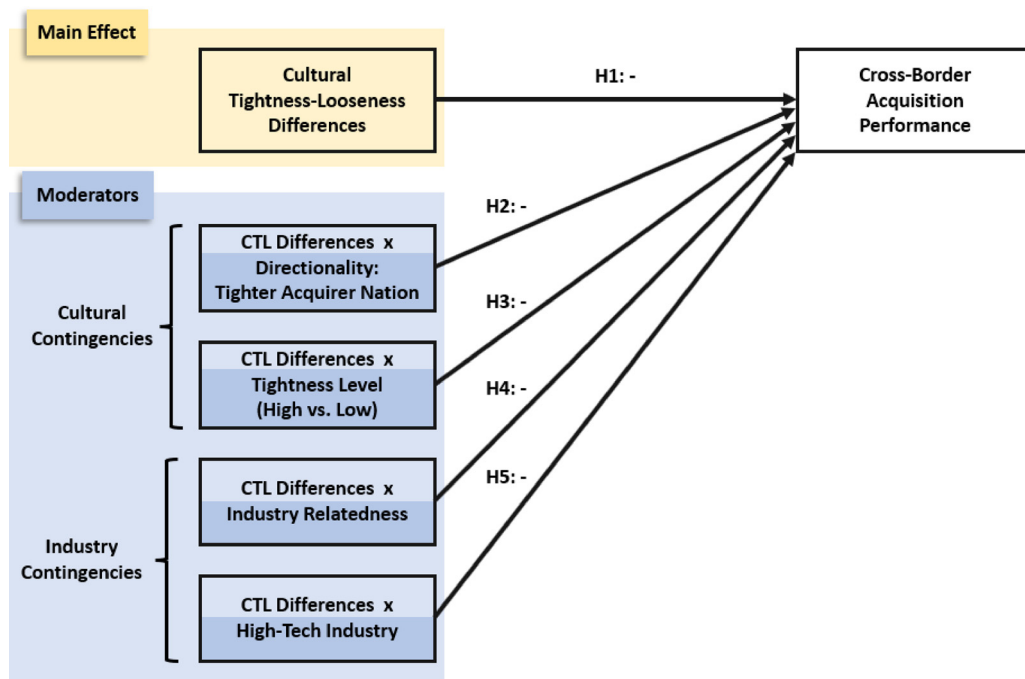


Fig. 1. Research model.

including the directionality of TL and level of tightness, moderate TL–CBA outcomes. Second, CBAs are embedded in different industry characteristics which can, in turn, amplify or attenuate cultural differences. We thus examine how a number of *industry contingencies*, including industry relatedness and whether CBAs are from a high-tech versus low-tech industry, moderate TL–CBA outcomes (Fig. 1). Each are discussed in turn below.

## 2.4. Cultural contingencies

### 2.4.1. Directional effect of cultural tightness-looseness differences

We expect that the strength of TL differences' impact on CBA performance depends on the direction of TL, i.e., whether the acquirer nation is tighter than the target nation (or vice versa), because M&As are an inherently asymmetric transaction unlike strategic alliances or 50–50 equity joint ventures (Gong et al., 2001; Shenkar et al., 2008). In the context of M&As, the acquirer obtains ownership and control of the target and assumes a leader role while the target becomes a follower (Shen et al., 2014). When the acquirer nation is tighter than the target nation, the acquirer will be much less comfortable with the cultural unfamiliarity between the two companies and insist on implementing strict processes and practices. However, the target, used to greater flexibility and tolerance, has different expectations about the need to adhere to strict rules. Consequently, the acquirer will likely perceive the target as unpredictable and insubordinate while the target will view the acquirer as over-controlling and exploiting its superior position to enforce unnecessary strict rules, causing negative tensions. By contrast, when the acquirer nation is looser than the target nation, the acquirer will less strongly adhere to societal norms while the target will be very careful to not to depart from them. Misunderstandings may still occur, as targets prefer precise instructions from the acquirer while the acquirer is not used to formulating them. However, misunderstandings are likely to be less frequent/severe, as the target appear overly obedient while the acquirer will be viewed as more benevolent. Hence, we hypothesize:

**Hypothesis 2:** The negative relation between TL differences and CBA post-deal economic performance is stronger when the acquirer nation is tighter than the target nation.

### 2.4.2. Acquirer and target nations' level of tightness

The level of TL is also theorized to play a role in determining the importance of TL differences in affecting CBA performance. In particular, firms from tight nations may be less comfortable with increased cultural dissimilarity, i.e. greater TL differences, compared to those from loose nations. We expect TL differences to cause greater discord and inefficiency in tighter nations than in looser ones, because acquirers from tight nations will likely insist on implementing their own practices in the target firm, while targets from tight nations will be less accepting of changes and deviations from their own society's norms (Shin et al., 2017). This constellation can cause conflict and inefficiency between the merging firms and their organizational members and amplify the negative impact of TL differences. By contrast, acquirers from loose nations

tend to be more open to deviating behaviors and may allow the target to keep its own practices, while targets from loose nations may be more willing to try alternative and creative ways to conduct business (Shin et al., 2017). This may mitigate the negative impact of TL differences. Thus, TL differences are expected to cause greater conflict, inefficiencies, and have a more severe effect on CBA post-deal performance in tighter nations than in looser ones. As a result, we expect the level of TL to affect the magnitude of TL differences' impact. We propose:

**Hypothesis 3:** The negative relation between TL differences and CBA post-deal economic performance is stronger at higher tightness levels than at lower tightness levels.

## 2.5. Industry contingencies

### 2.5.1. Industry relatedness between acquirer and target firms

We expect the relation between TL differences and CBA performance to be further moderated by the industry relatedness between the acquiring and target firms, as industry characteristics can amplify or attenuate cultural differences. For example, industry relatedness affects the ability and desire of acquirers to intervene with the processes, practices, and routines of the target firms (Harrison et al., 1991; Homburg and Bucerius, 2005). Related acquisitions involve acquirers and targets in similar industries (Fan and Lang, 2000; Maquieira et al., 1998) and can improve cost efficiencies, decrease agency costs, and reduce synergies (Hoberg and Phillips, 2010). However, acquirers from similar industries are also more likely to interfere with the target firms' activities, as the former have an understanding of the operations of the latter (Conyon et al., 2002; Huang et al., 2017; Krishnan et al., 2007). As a result, in CBAs in related industries, acquirers may be more likely try to enforce their own cultural norms and practices in the acquired targets and, in so doing, increase friction between cross-border acquirer and target firms (Shenkar et al., 2008). This can lead to greater conflicts, inefficiency, and, ultimately, inferior post-deal CBA performance. By contrast, unrelated acquisitions involve firms from different industries. Motivations for unrelated M&As include financial synergies, governance efficiency, and coinsurance (Mulherin et al., 2017; Seth, 1990). As unrelated firms share fewer overlapping assets, expertise, and technologies (Datta et al., 2010), acquirers are less knowledgeable of their targets and less able to interfere with their cultural operations, thereby mitigating the negative impact of TL differences. Therefore, we predict:

**Hypothesis 4:** The negative relation between TL differences and CBA post-deal economic performance is stronger for deals in related than in unrelated industries.

### 2.5.2. Cross-Border acquisitions in high-tech versus low-tech industries

High-tech industries inherently differ from low-tech industries in two main ways that may affect the relation between TL differences and CBA performance. First, human capital is more important in high-tech than in low-tech industries, as it helps firms develop new knowledge and skills that allow them to compete with better and novel technological solutions (Colombo and Grilli, 2010; Eisenhardt and Martin, 2000). Second, organizational members need to interact more frequently and intensely to coordinate and generate responses to environmental changes in high-tech industries (Aggarwal et al., 2020; Unger et al., 2011), as high-tech industries are characterized by dynamic and uncertain environments (Khandwalla, 1976; Utterback, 1996). Consequently, the negative impact of TL differences will be particularly salient in high-tech industries, as differences in constraint versus latitude of the organizational members become increasingly evident through frequent and intense interactions that can lead to conflict and inefficiency (Shenkar et al., 2008). By contrast, in low-tech industries, the merging firms do not need to interact as intensely, as they work with more basic and established technologies that require less coordination (Sáenz et al., 2009). Firm members do not need to interact as frequently, because significant environmental changes occur less often (Unger et al., 2011). Thus, differences in TL will less likely hamper interaction in low-tech than high-tech industries, as interaction occurs less often/intensely in the former than in the latter.

**Hypothesis 5:** The negative relation between TL differences and CBA post-deal economic performance is stronger for high-tech firms.

## 3. Methods

### 3.1. Data

To test the hypotheses, we extracted a CBA sample from the SDC Platinum database. We identified 4717 CBAs from 28 acquirer countries and 30 target countries between January 1, 1989 and December 31, 2013 that met the following criteria (Cai et al., 2011; Fu et al., 2013):

- (1) The acquisition is completed.
- (2) The acquiring firm owns less than 50 percent of the target firm's shares before the announcement and 100 percent of the target's shares afterwards.
- (3) The transaction value equals or exceeds 10 million US dollars.
- (4) Datastream provides annual financial statement data for the acquirer.
- (5) We are able to obtain TL data for the acquirer country and target country.

We removed all observations that did not meet any of the above criteria or for whom we were not able to find data for the dependent, independent, or control variables.

### 3.2. Dependent variable

#### 3.2.1. CBA post-deal economic performance

In line with prior work, we use ROA *change* to measure the long-term impact of CBAs (e.g., Ellis et al., 2011; Zollo and Singh 2004). ROA is frequently used to assess the success of strategic actions (Van Dyck et al., 2005) and is less sensitive to estimation bias due to changes in leverage of bargaining power (Krishnan et al., 1997). We calculate ROA change as the difference in the acquiring firm's ROA three years after the acquisition in relation to one year before the acquisition (Ellis et al., 2011).

### 3.3. Independent variable

#### 3.3.1. Cultural tightness-looseness (TL) differences

Tightness-looseness differences were calculated through the absolute difference between the acquirer nation's tightness score and the target nation's tightness score. We obtain tightness scores from Gelfand et al. (2011). Data were obtained from 6823 participants in 33 nations, including students and adults, with country sample sizes ranging from 111 to 312 participants. The researchers used a six-item Likert scale to assess the degree to which social norms are clear, pervasive, and reliably imposed in a society. Sample items include "There are many social norms that people are supposed to abide by in this country", "People agree upon what behaviors are appropriate versus inappropriate in most situations in this country", and "People in this country almost always comply with social norms." A higher score indicates a tighter culture. Pakistan (12.3), Malaysia (11.8), India (11.0), and Singapore (10.4) have the highest scores while Ukraine (1.6), Estonia (2.6), Hungary (2.9), and Israel (3.1) have the lowest scores.

The TL measures show high within-nation agreement ( $r_{\text{within-group}} = 0.85$ ), high between-nation variability (intraclass correlation (ICC) = 0.13), and high reliability of the TL scale means (ICC = 0.97). The scale also has high convergent validity with expert ratings, unobtrusive measures, and survey data from representative samples, and is distinct from other cultural dimensions including those from Hofstede (2001), GLOBE (House et al., 2004), Schwartz (1994), and the World Values Survey (Inglehart, 2004), among others (see Gelfand et al., (2011) for a full discussion). We matched the 33 societies' TL scores to the merging firms' home countries in our sample. We dropped home countries from our dataset for whom Gelfand et al. (2011) do not provide TL scores, and treated them as missing data. In all, we were able to match 30 of our sample's home countries with the 33 TL scores provided.

### 3.4. Moderators

#### 3.4.1. Directional effect

We construct a dummy variable that takes the value 1 if the acquirer nation is tighter than the target nation and 0 if the acquirer nation is looser than the target nation.

#### 3.4.2. Level of tightness

We calculate the acquirer and target nations' level of tightness through the average of the two nations' tightness scores. That is, level of tightness = (tightness of acquirer nation + tightness of target nation)/2.

#### 3.4.3. Industry relatedness

We construct a dummy that compares the two-digit SIC (Standard Industry Classification) codes of acquirer and target in line with prior work (Louis and Sun, 2010). The dummy takes the value 1 if the firms' two-digit SIC codes are equal and 0 if they are different. We gather two-digit SIC codes from SDC Platinum.

#### 3.4.4. High-tech industry

We created a binary variable that equals 1 if a deal is between two firms in high-tech industries as defined by Loughran and Ritter (2004) and 0 otherwise (Masulis et al., 2007). High-tech industries are those in the computer hardware, communications equipment, electronics, navigation equipment, measuring and controlling devices, medical instruments, telephone equipment, communications services, and software.

### 3.5. Control variables

To provide a conservative test of our hypotheses, we include a number of theoretically-derived control variables to account for other factors that can affect CBA outcomes and to ensure that any effects due to TL are found above and beyond them. First, we account for other cultural dimensions by including the *distances* of the individual cultural values of *power distance*, *uncertainty avoidance*, *individualism*, and *masculinity* between the acquirer and target nations, since differences in cultural values between merging firms may lead to misunderstanding and inefficiency (Huang et al., 2017; Siegel et al., 2013). This enables us to examine whether TL differences predict CBA performance above and beyond differences in other cultural values. We obtain data from Hofstede (2001), and as a conceptual replication, we also examine the Kogut and Singh's (1988) composite cultural distance index (Shaheer and Li, 2020), and we obtained very similar results.

Second, we control for the *geographic and linguistic distance* between target and acquirer nations, as distance can increase information asymmetry and travel/coordination costs (Li et al., 2017). Relatedly, we include two dummy variables that indicate whether acquirer and target nation share a *common language* and have *colonial ties*, since shared language and colonial ties can facilitate communication (Chakrabarti et al., 2009; Henisz 2000; Schwens et al., 2011). We collected language/colony data from CIA's World Factbook. We also add *acquirer and target nation's language diversity*, respectively, since firms from diverse countries tend to be more able to deal with complexities (Dow et al., 2016).

Third, we control for a number of *economic and political factors* that can affect CBA performance, including the *GDP per capita difference* and *political constraint difference* between the two nations, because firms from countries with different economic and political systems may not be aware of customer demands and government constraints. We collected GDP per capita data from the World Bank's World Development Indicators (WDI) and political constraints from Henisz (2000).

Finally, we control for a number of *deal characteristics* that can affect CBA performance. We enter the *percentage acquired*, as it captures the control the acquirer obtains of the target (Aybar and Ficici, 2009; Connelly et al., 2010), and *acquirer's sales*, which is a measure of the size of the firm and its available resources (Bu and Wagner, 2016; Masulis et al., 2007). We obtained the variables from SDC Platinum and Datastream, respectively. We also enter the *acquirer's domestic (/international) acquisition experience* measured as the total number of domestic (/international) takeovers the acquirer completed during the five years before the focal acquisition, as firms can learn from prior experiences (Li et al., 2017). Moreover, we control for the *transaction value*, since larger transactions are often more complex and difficult to manage, and two dummies for *hostility of the deal* and whether the payment was made in cash (*cash payment*), because acquirers may face greater resistance from the target firm in hostile deals and have different risks expectations for cash deals, respectively (Cuyppers et al., 2017). Year fixed effects and industry fixed effects are included to control for year- and industry-specific effects (Li et al., 2017).

### 3.5. Empirical model

We employ clustered (within each nation-dyad) OLS regression with robust standard errors and industry and year fixed effects (Chakrabarti et al., 2009; Li et al., 2017). We use robust standard errors in order to obtain unbiased standard errors of OLS coefficients under heteroscedasticity. We also experimented with alternative clusters, e.g., by using clusters within each acquirer nation, and we obtained similar results. Moreover, we account for selection issues through a two-stage model that we discuss in the robustness tests, as firms may account for the potentially detrimental impact of TL differences and in their entry mode decision.

## 4. Results

Table 1 reports the descriptive statistics and correlation matrix, respectively. VIFs are less than 5.0 for all variables. The correlation matrix and VIF scores suggest low levels of multicollinearity.

Table 2 reports the regression results. Model 1 includes only the control variables. We hypothesize that cross-country differences in TL negatively affect CBA post-deal performance and add the TL variable to the controls in Model 2. We find that differences in TL have a negative and significant influence on acquirer's ROA at the 0.011 p-level. Acquirers will see their ROA (three years after the acquisition) decrease by 0.8 percentage points on average (equivalent to 245 million US dollars in net income, if assets remained constant, for the average firm's revenue of 8.9 billion US dollars) for a one standard deviation increase in TL differences, everything else being equal. Thus, Hypothesis 1 was supported. Notably, the explained variance is 0.13 and falls within the range reported by other studies that use the same/a similar dependent variable. Zollo and Singh (2004) report adjusted R-squares between 0.06 and 0.16 while Ellis et al. (2011) report values between 0.08 and 0.30 based on data collected through surveys for more homogeneous samples that are restricted to single countries/specific industries, among other differences.

The remaining models 3 through 7 test our moderating hypotheses. We first examine culture-level moderators. We propose in Hypothesis 2 that directionality negatively moderates the TL-performance relationship, such that the negative relationship between TL differences and CBA post-deal performance is stronger when the acquirer nation is tighter than the target nation, and we test this in Model 3. The results suggest that the interaction's coefficient for directionality is negative and significant at the 0.023 p-level. Thus, when the acquirer nation is tighter than the target nation, a one standard deviation increase of TL differences is associated with an additional 1.2 percentage points decrease in ROA (equivalent to 378 million US dollars in acquirer's net income, if assets remained constant) than when the target nation is tighter than the acquirer's.

We also predicted that the tightness level negatively moderates the relationship between TL differences and CBA performance and test it in Model 4. The results show that the interaction term's coefficient for tightness level is negative and significant at the 0.026 p-level. For a one standard deviation increase in the nations' tightness level, a one standard deviation increase in TL differences leads to an additional 0.5 percentage points drop in ROA or 154 million US dollar in net income (given constant asset levels) following CBAs.

Next, we examined industry-level hypotheses. Hypothesis 4, namely that industry relatedness moderates the negative relationship between TL differences and CBA post-deal performance. Model 5 shows that the interaction term's coefficient for industry relatedness is insignificant, and thus Hypothesis 4 is not supported. It is possible that industry relatedness did not moderate the TL-CBA performance relationship, because there is still a lot of variation within industries, making

**Table 1**  
Correlation matrix for cross-border acquisitions (CBAs), 1989–2013.

	Mean	St. Dev.	1	2	3	4	5	6	7	8	9	10	11
1 ROA change	-5.04	13.23	1										
2 Cultural tightness-looseness (CTL) differences	1.94	1.29	-0.053	1									
3 Directional effect	0.54	0.5	-0.039	0.093	1								
4 Level of tightness	6.04	1.08	-0.008	0.286	0.029	1							
5 Industry relatedness	0.53	0.5	-0.004	0.007	0.025	-0.028	1						
6 High-tech industry	0.1	0.31	0.044	0.011	-0.013	-0.022	0.146	1					
7 Power distance distance	14.04	12.92	-0.027	0.217	0.011	0.242	0.048	0.022	1				
8 Uncertainty avoidance distance	22.21	15.82	0.042	-0.021	0.054	0.252	-0.001	0.009	0.492	1			
9 Individualism distance	18.29	18.54	0.007	0.389	-0.01	0.287	0.038	0.009	0.606	0.504	1		
10 Masculinity distance	14.7	15.56	0.008	0.34	0.05	-0.005	0.005	-0.021	0.141	0.241	0.206	1	
11 Geographic distance	8.42	1.08	0.006	0.231	0.015	-0.121	0.01	0.056	-0.106	-0.213	0.136	-0.278	1
12 GDP per capita difference	10,250.15	10,237.61	-0.059	0.366	-0.019	0.221	0.05	0.04	0.395	-0.005	0.444	-0.016	0.22
13 Common language	0.44	0.5	-0.044	0.017	0.039	-0.115	-0.012	0.046	-0.3	-0.523	-0.44	-0.525	0.332
14 Colonial ties	0.38	0.49	-0.013	-0.1	0.037	-0.048	-0.029	0.043	-0.261	-0.266	-0.457	-0.371	0.275
15 Acquirer country's language diversity	0.28	0.19	-0.047	0.207	-0.217	0.096	0.06	0.073	0.295	-0.052	0.15	0.029	-0.022
16 Target country's language diversity	0.3	0.18	-0.029	0.155	0.12	0.156	-0.008	0.042	0.194	0.091	0.12	0.182	-0.053
17 Percentage acquired	99.05	5.9	-0.01	-0.027	-0.003	-0.022	-0.009	0.015	-0.066	-0.05	-0.075	-0.005	-0.008
18 Acquirer's sales	8.86	22	0.015	0.03	0.019	0.021	-0.057	-0.048	0.004	0.026	0.065	0.082	-0.029
19 Acquirer's domestic M&A experience	1.3	2.4	-0.022	-0.051	-0.071	-0.095	-0.063	0.095	-0.107	-0.091	-0.108	-0.121	0.092
20 Acquirer's international M&A experience	0.99	1.73	-0.023	-0.016	0.025	0.015	-0.036	0.023	-0.009	0.027	-0.027	-0.018	-0.072
21 Acquirer's host-country M&A experience	0.47	1.17	-0.029	-0.059	0.139	-0.078	-0.041	0.055	-0.155	-0.144	-0.188	-0.126	0.071
22 Deal value	431.23	2079.21	-0.015	-0.001	0.02	-0.026	0.056	-0.02	-0.019	0.01	-0.005	0.03	-0.03
23 Hostility of deal	0	0.06	-0.003	-0.022	0.01	-0.013	-0.004	-0.02	-0.021	-0.02	-0.016	-0.036	0.011
24 Cash payment	0.45	0.5	-0.056	-0.02	0.059	0.029	0.006	0.086	-0.064	-0.009	-0.067	-0.071	0.032
12 GDP per capita difference	1	13	14	15	16	17	18	19	20	21	22	23	
13 Common language	-0.025	1											
14 Colonial ties	-0.177	0.567	1										
15 Acquirer country's language diversity	0.317	0.019	-0.15	1									
16 Target country's language diversity	0.132	-0.064	-0.155	-0.069	1								
17 Percentage acquired	-0.047	0.053	0.029	0.024	0.031	1							
18 Acquirer's sales	0.054	-0.127	-0.082	-0.037	0.023	-0.022	1						
19 Acquirer's domestic M&A experience	-0.019	0.161	0.123	-0.038	-0.007	0.019	0.004	1					
20 Acquirer's international M&A experience	0.009	-0.041	-0.02	-0.048	0.057	0.02	0.102	0.203	1				
21 Acquirer's host-country M&A experience	-0.082	0.21	0.227	-0.129	0.048	0.043	-0.022	0.13	0.2076	1			
22 Deal value	-0.02	-0.024	0	-0.001	-0.014	-0.006	0.219	-0.033	0.003	0	1		
23 Hostility of deal	-0.015	0.022	0.014	-0.003	-0.038	-0.006	-0.002	-0.006	-0.027	-0.005	0.023	1	
24 Cash payment	-0.012	0.089	0.141	-0.037	0.009	-0.009	-0.019	0.054	0.039	0.096	-0.009	0.028	1

Notes: 4717 observations (CBAs). Correlations  $\geq 0.029$  or  $\leq -0.029$  are significant at the 0.05 level.

Notes: 4717 observations (CBAs).



**Table 2**  
Regression results for acquirers' change in ROA, 1989–2013.

Variable		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Cultural tightness-looseness (CTL) differences	(H1)		-0.772*	-0.071	-0.538†	-0.706†	-0.523†	0.33
			-0.302	-0.392	-0.289	-0.368	-0.289	-0.415
CTL differences X directional effect	(H2)			-1.191*				-1.232*
				-0.522				-0.482
CTL differences X level of tightness	(H3)				-0.487*			-0.420*
					-0.218			-0.194
CTL differences X industry relatedness	(H4)					-0.12		0.14
						-0.394		-0.373
CTL differences X high-tech industry	(H5)						-2.953***	-2.992***
							-0.771	-0.745
Directional effect		-1.104*	-0.989*	-0.971*	-0.966*	-0.991*	-0.992*	-0.951*
		-0.487	-0.482	-0.444	-0.465	-0.481	-0.477	-0.424
Level of tightness		-0.049	0.162	0.185	0.263	0.165	0.215	0.323
		-0.296	-0.264	-0.257	-0.258	-0.264	-0.26	-0.252
Industry relatedness		0.35	0.317	0.265	0.332	0.315	0.333	0.296
		(0.500)	-0.505	-0.511	-0.501	-0.501	-0.494	-0.499
High-tech industry		1.728	1.745†	1.715	1.705	1.749†	1.895†	1.828†
		-1.051	-1.059	-1.068	-1.056	-1.06	-0.969	-0.97
Power distancedistance		-0.251	-0.266	-0.271	-0.116	-0.269	-0.262	-0.135
		-0.276	-0.281	-0.273	-0.261	-0.281	-0.274	-0.251
Uncertainty avoidance distance		0.595*	0.455†	0.484†	0.367	0.454†	0.413	0.368
		-0.269	-0.257	-0.264	-0.251	-0.256	-0.252	-0.256
Individualism distance		-0.009	0.262	0.245	0.277	0.26	0.354	0.353
		-0.313	-0.335	-0.33	-0.329	-0.336	-0.324	-0.315
Masculinity distance		-0.047	0.344	0.331	0.298	0.344	0.365	0.312
		-0.259	-0.317	-0.307	-0.307	-0.317	-0.311	-0.293
Geographic distance		0.245	0.404	0.426	0.613*	0.403	0.393	0.597*
		-0.264	-0.269	-0.271	-0.271	-0.268	-0.264	-0.275
GDP per capita difference		-0.968**	-0.881**	-0.939**	-0.881**	-0.874**	-0.877**	-0.945**
		-0.326	-0.323	-0.314	-0.318	-0.324	-0.317	-0.303
Common language		-0.743	-0.285	-0.3	-0.187	-0.285	-0.11	-0.038
		-0.763	-0.759	-0.736	-0.725	-0.759	-0.745	-0.692
Colonial ties		-0.074	0.009	-0.128	-0.216	0.009	-0.091	-0.427
		-0.735	-0.75	-0.676	-0.682	-0.748	-0.724	-0.611
Political hazard difference		-0.175	-0.113	-0.11	-0.16	-0.112	-0.139	-0.038
		-0.288	-0.287	-0.296	-0.278	-0.287	-0.279	-0.692
Acquirer country's language diversity		-3.829*	-3.483*	-3.03*	-2.988*	-3.473*	-3.522*	-2.639*
		-1.64	-1.508	-1.324	-1.385	-1.505	-1.47	-1.206
Target country's language diversity		-1.077	-1.087	-1.788	-0.796	-1.082	-0.978	-1.455
		-1.567	-1.571	-1.597	-1.539	-1.569	-1.564	-1.533
Percentage acquired		0.023	0.013	-3.030*	-2.988*	-3.473*	-3.522*	0.052
		-0.144	-0.142	-1.324	-1.385	-1.505	-1.47	-0.143
Acquirer's sales		-0.15	-1.087	-0.193	-0.158	-0.158	-0.155	-0.19
		-0.187	-1.571	-0.179	-0.185	-0.185	-0.186	-0.179
Acquirer's domestic M&A experience		0.023	-0.178	-0.198	-0.184	-0.179	-0.167	-0.191
		-0.144	-0.254	-0.25	-0.256	-0.254	-0.255	-0.253
Acquirer's international M&A experience		-0.304	-0.281	-0.307	-0.299	-0.281	-0.298	-0.34
		-0.253	-0.255	-0.253	-0.254	-0.255	-0.247	-0.246
Acquirer's host-country M&A experience		-0.069	-0.079	-0.052	-0.067	-0.079	-0.086	-0.049
		-0.15	-0.154	-0.143	-0.147	-0.154	-0.151	-0.133
Deal value		-0.411**	-0.394*	-0.397**	-0.399**	-0.394*	-0.372*	-0.378*
		-0.15	-0.155	-0.151	-0.153	-0.155	-0.156	-0.149
Hostility of deal		1.439	1.346	1.191	1.363	1.351	1.381	1.23
		-1.666	-1.673	-1.694	-1.655	-1.674	-1.668	-1.683
Cash payment		-1.670**	-1.666**	-1.639**	-1.674**	-1.667**	-1.678**	-1.656**
		-0.57	-0.57	-0.572	-0.569	-0.571	-0.566	-0.567
Industry fixed effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		4717	4717	4717	4717	4717	4717	4717
Country-dyads		318	318	318	318	318	318	318
R-squared		12.72%	12.85%	12.99%	12.93%	12.85%	13.23%	13.44%

Std. errors in parentheses. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

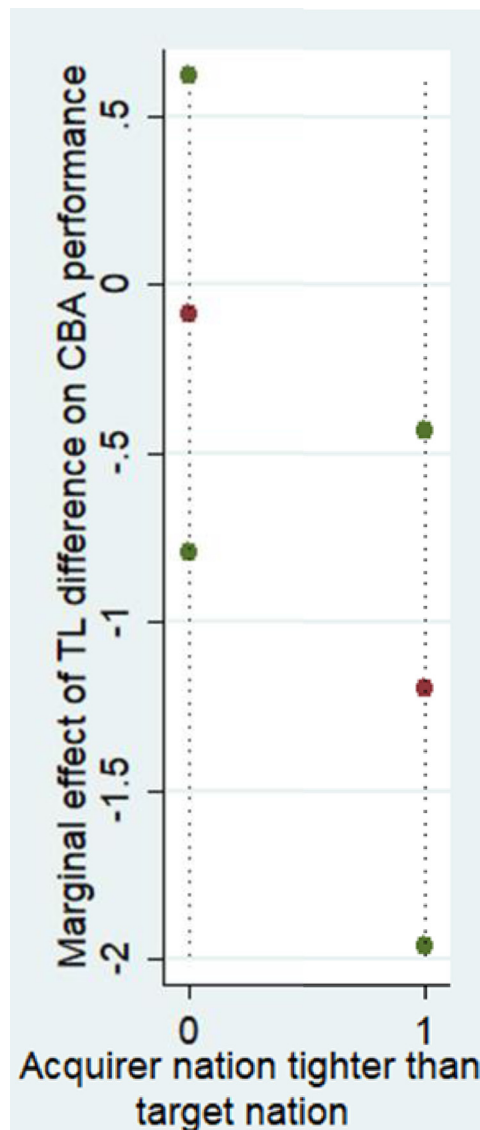


Fig. 2. Moderating effect of directionality on the relationship between TL differences and CBA performance.

industry relatedness less strong of a moderator. Finally, Hypothesis 5 predicted that the negative impact of TL differences on CBA post-deal performance would be amplified in high-tech industries. Model 6 shows that the coefficient for high-tech industry is negative and significant at the 0.001 p-level. A one standard deviation increase in TL differences is associated with an additional ROA decrease of 3.0 percentage point, equivalent to over 900 million US dollars in net income (if assets remained the same), for CBAs in high-tech compared to CBAs in low-tech industries. Model 7 reports the full model. The interaction terms remain significant.

Figs. 2–4 show the marginal effects plots with 95% confidence intervals (Meyer et al., 2017) for the moderators of directionality, tightness level, and high-tech industry. Fig. 2 shows that the negative effect of TL difference on CBA performance is significant when the acquirer nation is tighter than the target nation and insignificant when the target nation is tighter than the acquirer nation. Fig. 3 reveals that TL difference exerts a significant and negative influence for medium-low and higher average tightness levels, but does not exert a significant influence on CBA performance for low average tightness levels. Fig. 4 documents that TL difference significantly affects performance in high-tech industries, but not as much in low-tech industries. Figs. 2 and 4 show two data points, since both moderators are binary variables, while Fig. 3 shows the data for a continuous variable.

#### 4.1. Robustness tests

We perform several tests to examine the robustness of our findings. First, we test the validity of our dependent variable. Given that most targets in our sample were private firms and/or typically consolidated into the acquirers (from an account-

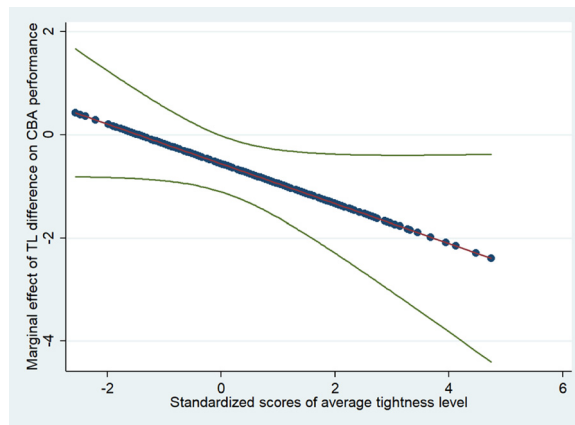


Fig. 3. Moderating effect of the level of tightness-looseness on the relationship between TL differences and CBA performance.

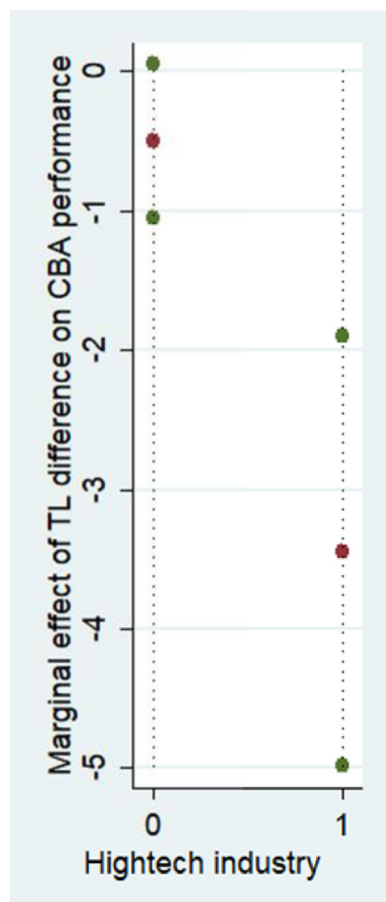


Fig. 4. Moderating effect of high-tech industry on the relationship between TL differences and CBA performance.

ing standpoint), we do not have access to the target’s accounting data and, thus, are unable to account for its pre-/post-deal ROA and assets and how they may affect the combined firms’ post-deal ROA. To ensure the robustness of our measure, we collect data for the 385 targets for which accounting data are available and construct a measure that captures the asset-weighted average of ROA for both firms a year prior to the focal deal (Rabier, 2017; Zollo and Singh, 2004). The correlation between the weighted measure and the original is 0.87, suggesting that the two approaches generate very similar measures. We also restrict our sample to those acquirers whose assets have not changed drastically over the period that our dependent variable (ROA change) was measured. As any change in ROA might be the result of a change in the numerator, the denomi-

nator, or both, restricting our sample to those CBAs, whose acquiring firms have not experienced drastic changes in assets, may help ensure that the changes in ROA we observe are indeed an outcome of better overall firm performance following cross-border M&As. The results are robust.

Second, we account for sample selection issues through a two-stage model. Thus, we estimated a Heckman two-stage model to account for sample selection with respect to CBA versus IJVs (Li and Reuer, 2021). For the first-stage, we use retrospective industry growth as the exclusion criterion, since an industry's previous growth should affect the availability of suitable acquisition targets, but not necessarily the performance and value creation of IJVs. In particular, we use the World Bank's retrospective 5-year growth rate, which consists of the growth rate of the industry in the partner country over the five years prior to entry, in line with prior work (Wolffolds and Siegel, 2019). Third, we also include alternative measures for industry relatedness such as an aggregate relatedness measure assigning the values 1.0, 0.5, 0.33, and 0.25 for matching 4-, 3-, 2-, and 1-digit SIC codes, respectively (Schildt et al., 2012). Correlation between this measure and the original relatedness measure is  $r = 0.82$ . Furthermore, we logged some of the skewed variables (including GDP per capita difference, revenue, experience, and deal value). The findings are consistent with the original results.

## 5. Discussion

Social norms have received growing attention in the field of economics, philosophy, psychology, and sociology (e.g., Bicchieri, 2019; Bicchieri et al., 2021; Bicchieri and Dimant, 2019; Kontogiannis et al., 2019). Here we focus on the role of social norms on CBA performance, and in particular, how the strength of social norms, or tightness-looseness, affects CBAs. We theorize and find that cross-country differences in TL significantly affect acquirer's ROA. We further incorporate a *culture by context* perspective (Gelfand et al., 2013) to identify the specific contexts that amplify the effects of TL differences on CBA, and show that directionality of TL, the absolute level of tightness, and membership in high-tech industries amplify the negative relationship between TL differences and CBA post-deal performance.

### 5.1. Theoretical implications

Our paper has several theoretical implications. First, it adds to the growing focus on cultural norms in economics (e.g., Bicchieri et al., 2020a, 2020b; Krammer 2019; Wang et al., 2019), by illustrating the importance of TL in affecting financial performance in international M&As. Cross-country differences in TL between the target and acquirer nations negatively affect changes in ROA, such that a one standard deviation increase in TL difference results in an average decrease of acquirer's ROA by 0.8 percentage points, equivalent to a drop of 245 million US dollars in net income, if assets remained constant. TL may also have implications for a wide range of other CBA phenomena. For instance, TL may affect foreign entry mode decisions (Meyer et al., 2009; Zhao et al., 2021), the selection of international joint ventures partners and their subsequent success (Nippa and Reuer, 2019), the process of cross-border knowledge transfer (Bresman et al., 1999), and the differential effectiveness of global versus local strategies in multinationals (Bartlett and Ghoshal, 1989).

Furthermore, we advance a *culture by context* perspective to identify the specific factors that amplify the negative impact of TL on CBA performance based on the concrete underlying mechanisms (Gelfand et al., 2017b). In so doing, we expand research (Gelfand et al., 2013; Lee et al., 2008; Miller and Parkhe, 2002) to focus on both main and moderating effects of culture. We show, for example, that the impact of TL differences on CBAs depends on country level and industry factors. In particular, the negative impact of TL on CBAs was amplified based on the relative tightness between the acquirer's and the target's culture, the level of tightness of the merging firms' cultures, and the industries in which the firms were embedded. We note that neither tight nor loose cultures are inherently better for CBAs, but that it rather depends on different circumstances and several important contingencies. Therefore, our findings help expand research beyond the simple cultural difference-performance premise and introduce several boundary conditions that warrant further investigation.

### 5.2. Practical implications

This study has practical implications. While managers may view societal culture as a distal factor that is less relevant to their organizations, it can, in fact, have a significant influence on their bottom lines, and M&A performance in particular. Thus, managers as well as policymakers should learn about different cultures, and in particular, the strength of their norms. In doing so, they can rely on cultural interpreters and boundary spanners to diagnose differences in TL and help firms identify ways to manage TL differences prior to merging. For example, they can try to identify and negotiate areas of compromise, i.e. determine which domains should be tight versus loose. In doing so, they can strive to have *tight-loose ambidexterity* in the merged firm (De, 2018). Such changes, to be sure, are not easy. Tight cultures may resist change, as they may threaten feelings of control and order. Likewise, loose cultures may resist change, as they may threaten feelings of autonomy. Future research should investigate how to best manage differences in TL in CBAs.

### 5.3. Limitations and avenues for future research

Our work also has limitations that invite interesting avenues for future research. First, as with many studies on cross-national variation on CBAs (Ellis et al., 2011; Huang et al., 2017), we are not able to document the mechanisms that affect

CBA post-deal performance. Future studies can use case studies, interviews, and surveys to identify more fine-grained conflict and coordination processes that occur during M&As and help shed light on TL's role in the M&A process, such as the pre-deal premium negotiation phase (Li and Haleblan, 2021). Second, while our data can show that differences in societal TL generally affect CBAs, there can be within-country variation on TL within and across different industries. While we did control for industry—and firm-level factors that can be associated with organizational culture—we couldn't directly measure TL at the organizational level. Future work can collect TL scores on organizations to provide a more detailed account of the joint effects of societal and organizational variation in TL in CBAs (Stallkamp et al., 2018). In addition, the majority of observations that we had data on stem from North America and Europe. This limits the generalizability of our findings to specific regions. Thus, we encourage scholars to explore firms from outside these regions.

Future research should also continue to examine how both values and norms affect CBA outcomes. In this study, we find that Hofstede's cultural values dimensions do not significantly relate to CBA long-term performance. It is possible that cultural values may be predictive of CBA outcomes at different stages of the M&A process. For example, cultural values may be more critical in the earlier choices of management styles and strategies, whereas TL may be more central to post-merger integration and, thus, the long-term performance of CBAs. We hope that future research will explore this topic.

More broadly, our work opens up new directions for the role of TL in economics and related fields. For example, experimental research on social norms in economics often ignores their strength. That is, research often provides mean levels of other players' contributions without the variance that exists around the mean. In a recent study, Dimant et al. (2021) manipulated both means and variances and found that loose norms (those with high variance) produced more variable cooperative contributions than tight norms (those with low variance). TL also has implications for field research on norm nudging (Bicchieri and Dimant, 2019; Bicchieri et al., 2020a). Tight cultures generally have more inertia than loose ones (De et al., 2017), and accordingly, it may take a larger tipping point in a population for nudges to take effect. Once a new norm takes off, however, it may rapidly spread through tight cultures (see De et al., 2018). TL may also be relevant to the phenomenon of pluralistic ignorance, wherein people misestimate the beliefs of others in the population (Bursztyn et al., 2020). To the extent that people rely more on social norms than personal values to guide behavior in tight cultures (Elster and Gelfand, 2021)—thus making one's true opinions less accessible—this may make pluralistic ignorance more common in tight than loose cultures, with important implications for theory and policy.

## 6. Conclusion

Globalization has flourished for thousands of years as early as the 2nd century BC along the Silk Road (Elisseeff, 2000), bringing together different cultural groups. Here we document how cultural differences in the strength of social norms in modern nations negatively affect the economic performance of CBAs, and such differences are particularly pronounced based on the directionality of TL, the level of tightness, and the type of industry. As the world continues to globalize, social norms need to be negotiated during CBAs to help achieve high economic performance.

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