National Culture and Acquisition Choices

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Abstract

This paper examines the role of national culture as an informal-institutional setting in influencing acquisition choices by employing a large panel of 176,548 firm-year observations across 33 countries spanning the years 1990 to 2012. Using Hofstede's four cultural dimensions (power distance, collectivism/individualism, masculinity/femininity, and uncertainty avoidance) as national-culture proxies, the empirical results show that firms located in countries embedded with high power distance, high collectivism, high masculinity, and high uncertainty avoidance are less likely to undertake acquisitions. Further, such firms are less likely to acquire large target, more likely to use cash, and pay less premiums to target firm. Moreover, this paper finds that national culture also influences acquisition choices indirectly through its impact on the effect of leverage deficit. Overall, it indicates that, in addition to formal institutions, national culture plays an important role in explaining cross-country variations in acquisition choices.

JEL Classifications: Z10, G34, G32
Keywords : National culture, Acquisition, Leverage deficit.

1 Introduction

In a perfect capital market, corporate assets are allocated and used in the most efficient way (Modigliani and Miller (1958)). Mergers and acquisitions play an important role in transferring ownership and control of corporate assets among firms. However, the presence of financing frictions, such as transaction costs, information asymmetries, and agency conflicts, impede the best possible reallocation of control through mergers and acquisitions. Literature suggests that a country's contracting environment influences the choice of appropriate financial contract which can mitigate the friction costs under incomplete contracts. Both formal institutions, such as "constitutions, laws, and property rights", and informal institutions, such as "sanctions, taboos, customs, traditions, and codes of conduct" are considered as important factors of contracting environment (North (1990); North (1991); Williamson (1988); Williamson (2000); Aggarwal and Goodell (2009)). There are growing researches highlighting the important role of country-level corporate governance as formal institutions in mitigating the friction costs associated with mergers and acquisitions.[1] This paper follows this trend of literature and aims to explore the role of national culture as an informal-institutional setting that helps in explaining the international variations in acquisition choices.

The ability of formal legal rules in governing market exchanges are undermined by opportunistic behaviors (self-interest seeking with guile) of human actors under incomplete contracts (Williamson (1988)). North (1990) suggests that, despite the importance of formal rules, informal constraints that stem from culture have a significant contribution in shaping economic choices. In addition, Williamson (2000) builds a analytical framework that emphasizes the economic relevance of culture.

Zheng, Ghoul, Guedhami, and Kwok (2012) suggest that culture, as an in-

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[1]Rossi and Volpin (2004); Moeller and Schlingemann (2005); Bris and Cabolis (2008); Chari, Ouimet, and Tesar (2010); Ferreira, Massa, and Matos (2010); Ellis, Moeller, Schlingemann, and Stulz (2011); Serdar Dinc and Erel (2013), among others.

formal constraint, can directly impact economic activities through its role in shaping opportunistic behaviors. Guiso, Sapienza, and Zingales (2006) argue that culture influences fundamental economic decision-making via people's expectations and preferences. Overall, it suggests that informal constraints that stem from culture play an important role in influencing economic decisions. Recent literature documents the importance of culture as an informal-institutional setting in explaining economic activities.[2] This paper extends previous researches and investigates the role of national culture in influencing acquisition choices.

Hofstede (2001 p.9) defines culture as "the collective programming of the mind that distinguishes the members of one group or category of people from another". This paper employs Hofstede's four cultural dimensions (power distance, collectivism/individualism, masculinity/femininity, and uncertainty avoidance) as national-culture proxies. After controlling for formal institutions, firm-, industry-, and country-level characteristics, I investigate the role of national culture in explaining the cross-country differences in acquisition choices, in particular, probability, size, payment method, and premiums of acquisitions.

Hofstede (2001) argues that the "mind" of a group represents the collective beliefs, attitudes, and skills of its members. Such features endow people with particular values which distinguish one group from the other. Thus, culture may impact people's attitude in making real-life decisions. Uysal (2011) suggests that, high leverage deficit impedes firms from raising capital, thus influences acquisition choices in the presence of financing frictions.

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[2]Chui, Lloyd, and Kwok (2002); Guiso, Sapienza, and Zingales (2006); Kwok and Tadesse (2006); Guiso, Sapienza, and Zingales (2008); Chui and Kwok (2008); Guiso, Sapienza, and Zingales (2009); Aggarwal and Goodell (2009); Chui, Titman, and Wei (2010); Liang Shao and Guedhami (2010); Beugelsdijk and Frijns (2010); Gorodnichenko and Roland (2010)); Li, Griffin, Yue, and Zhao (2011); Ahern, Daminelli, and Fracassi (2012); Zheng, Ghoul, Guedhami, and Kwok (2012); Aggarwal, Kearney, and Lucey (2012); Giannetti and Yafeh (2012); Zheng, Ghoul, Guedhami, and Kwok (2013); Frijns, Gilbert, Lehnert, and Tourani-Rad (2013), among others.

Given the role of culture in influencing friction costs through its effect on the choice of appropriate financial contract (Aggarwal and Goodell (2009); North (1990); Williamson (2000)), it would be interesting to examine how national culture and leverage deficit interact in influencing acquisition choices through financing frictions. That is, to examine whether national culture influences people's view and attitude about financing frictions in making acquisition choices. This paper examines the indirect effects of national culture on acquisition choices through its impact on the effect of leverage deficit.

This paper combines the data of Datastream and Securities Data Corporation (SDC) Mergers and Acquisitions databases to obtain an international sample that contains 176,548 firm-year observations across 33 countries spanning the years 1990 to 2012. The multi-country data enables me to examine how international differences in acquisition choices are explained by national culture and how national culture influences the effects of leverage deficit on acquisition choices.

The empirical results show that firms located in countries embedded with high power distance, high collectivism, high masculinity, and high uncertainty avoidance are less likely to undertake acquisitions. Further, such firms are less likely to acquire large target, more likely to use cash, and pay less premiums to target firm. It suggests that acquisition choices are directly affected by countries' culture characteristics. In addition, I find national culture and leverage deficit jointly impact acquisition choices. The results show that the negative relation between leverage deficit and probability (size) of acquisitions is attenuated for firms located in high-power-distance, high-collectivism, high-masculinity, and high-uncertainty-avoidance countries. For firms in high-masculinity and high-uncertainty-avoidance countries, the role of leverage deficit in affecting use of cash in acquisitions is mitigated. The results suggest that national culture also influences acquisition choices indirectly through its impact on the effect of leverage deficit. The results are robust given the inclusion of formal institutions, firm-, industry-, and

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country-level characteristics. The evidence holds in sub-period samples or in samples excluding U.S. (United States) firms. Collectively, it shows that, in addition to formal institutions, national culture plays an important role in explaining cross-country variations in acquisition choices.

This paper contributes to current literature in following ways. First, this paper sheds new light on the effect of national culture as an informal-institutional setting on acquisition choices. There is a rich set of cross-boarder mergers and acquisitions studies document that formal institutions affect mergers and acquisitions in the forms of volume and payment method (Rossi and Volpin (2004)), premiums (Rossi and Volpin (2004) and Bris and Cabolis (2008)), and bidder's stock returns (Moeller and Schlingemann (2005); Chari, Ouimet, and Tesar (2010); Ellis, Moeller, Schlingemann, and Stulz (2011)). In addition, there are a few studies document the effects of informal institutions on acquisition choices. For instance, Ahern, Daminelli, and Fracassi (2012) suggest that greater culture distance decreases volume and combined abnormal returns in cross-boarder mergers and acquisitions. Further, Frijns, Gilbert, Lehnert, and Tourani-Rad (2013) connect uncertainty avoidance with CEO risk tolerance, suggesting there are higher acquirers' abnormal returns and less cross-boarder/cross-industry takeovers in countries with higher uncertainty avoidance. Using Hofstede's four cultural dimensions, this paper extends extant literature and examines the effects of acquirers' culture characteristics on ability and forms of both domestic and cross-boarder mergers and acquisitions. It suggests that, in addition to formal institutions, national culture plays as an important informal institutional setting in explaining cross-country variations in acquisition choices.

Second, multi-country analysis allows this paper to identify how national culture affects the sensitivity of leverage deficit to acquisition choices. This paper finds the effects of leverage deficit on acquisition choices are influenced by national culture. The results provide evidence why leverage deficit affects acquisition choices differently across countries. It suggests that national

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culture as an informal-institutional setting not only directly impacts acquisition choices (Frijns, Gilbert, Lehnert, and Tourani-Rad (2013)), but also indirectly influences the above though its impact on the effects of leverage deficit, thus contributing to explore the form of culture effect on acquisition choices.

Last, this study contributes to the growing body of research that considers the role of national culture in finance. In particular, these studies document the role of national culture in influencing economic outcomes (Guiso, Sapienza, and Zingales (2006); Guiso, Sapienza, and Zingales (2009)), economic growth and development (Gorodnichenko and Roland (2010)), financial intermediation (Aggarwal and Goodell (2009)), financial systems (Kwok and Tadesse (2006)), mergers and acquisitions (Ahern, Daminelli, and Fracassi (2012); Frijns, Gilbert, Lehnert, and Tourani-Rad (2013)), stock market participation (Guiso, Sapienza, and Zingales (2008)), momentum profits (Chui, Titman, and Wei (2010)) capital structure (Chui, Lloyd, and Kwok (2002); Li, Griffin, Yue, and Zhao (2011); Zheng, Ghoul, Guedhami, and Kwok (2012)), financial contract (Giannetti and Yafeh (2012)), dividend policy (Liang Shao and Guedhami (2010)), corruption in bank lending (Zheng, Ghoul, Guedhami, and Kwok (2013)), life insurance consumption (Chui and Kwok (2008)), foreign portfolio investment (Aggarwal, Kearney, and Lucey (2012)), and foreign asset allocation (Beugelsdijk and Frijns (2010)). This paper provides comprehensive evidence that national culture plays an important role in finance, in particular, acquisition decisions.

The rest of the paper is organized as follows: I discuss the empirical hypotheses in Section 2 and empirical design in Section 3; data and sample are reported in Section 4; Sections 5 presents the empirical results; Section 6 reports the robustness tests; and Section 7 provides the conclusion.

2 Hypotheses and Testable Predictions

2.1 The Role of National Culture in Acquisition Choices

This subsection provides a summary of predictions on how national culture as a proxy for informal-institutional setting affects acquisition choices, in particular, probability, size, payment method, and premiums of acquisitions. I employ Hofstede's four national-culture dimensions, namely, power distance (PDI), collectivism/individualism (CLT), masculinity/femininity (MAS), and uncertainty avoidance (UAI)). Described as follows, I establish the links between these four national-culture dimensions with the level and form of acquisitions.

2.1.1 Power Distance

People are unequal not only in physical and intellectual, but also in power and wealth. The latter grows over time in societies and becomes hereditary. All societies are unequal, but in different degrees. Hofstede's power distance index captures such inequality between societies.

The inequity in power cultivates social fractionation which leads to low social trust. In particular, the level of social trust is reduced by social fractionation in form of income inequality and political diversity (Bjrnskov (2008)). Dyer and Chu (2003) argue that social trust is a unique governance mechanism which establishes information sharing channel and minimizes transaction costs. Thus, a higher power distance reduces social trustiness which leads to higher transaction costs. In addition, in high-PDI countries, centralization of authority and autocratic leadership are more likely to be cultivated in organizations (Hofstede (1983)). Such features encourage opportunistic behaviors for personal gains and reduce contracting efficiency (Dow (1987); John (1984)). Overall, given a higher power distance associated with higher transaction costs and contracting inefficiency, I expect the firms in high-PDI countries are less likely to undertake acquisitions and to acquire large target.

In an acquisition context, uncertainty arises if the transaction is paid by equity since the ultimate price that target shareholders receive is conditional on bidder's stock price movements until closing. Such uncertainty is more concerned by target firm if bidder is from a low-trust country, since it is more difficult to establish an efficient information sharing channel (Dyer and Chu (2003)). The information asymmetry may cause stock price to fluctuate in an unfavored way of target firm. Alternatively, target shareholders receive a fixed amount of cash which removes any contingency payment. Thus, cash payment is a preferred payment method for target firm if bidder is from a low-trust country. Given the fact that a higher power distance leads to a lower social trust, I expect the firms in high-PDI countries aware this issue, thus, there will be more cash used in acquisitions.

Since the lack of social trust causes higher transaction costs, there are less synergies generated from acquisitions for firms in high-PDI countries. In line with the hypothesized negative relation between bidder's PDI and probability of acquisitions, these firms are impeded from bidding aggressively. Thus, lower premiums are expected to pay to target firm.

2.1.2   Collectivism/Individualism

Hofstede's individualism/collectivism culture dimension (IDV) illustrates individuals' internal attributes and the relations between individuals and their ingroups. On one hand, individualist society is loosely integrated. Individuals are associated with large amount of freedom, and tend to view themselves as autonomous, independent, and above-average ability persons (Hofstede (1983); Markus and Kitayama (1991); Heine, Lehman, Markus, and Kitayama (1999)). On the other hand, collectivist society is tightly integrated. Individuals comply and look after the common opinions and beliefs of their ingroups, and tend to view themselves "not as separate from the social contest but as more connected and less differentiated from others" (Markus and Kitayama (1991 p.227)).

Based on the features of individualist culture dimension, Chui, Titman, and Wei (2010) link between individualism with overconfidence and self-attribution bias, and they find a positive relation between individualism and magnitude of momentum profit. Malmendier and Tate (2008) and Ferris, Jayaraman, and Sabherwal (2013) suggest that, overconfident managers overestimate their abilities in creating values for both their firms and acquisitions. Such managers tend to engage in more acquisition activities. Therefore, firms in high-IDV (low-CLT) countries are overconfident about their abilities in creating values, thus more likely to participate in acquisitions. It implies CLT is negatively related to the ability to acquire and size of acquisitions.[3]

Malmendier and Tate (2008) and Ferris, Jayaraman, and Sabherwal (2013) suggest that overconfident managers tend to view their firms as undervalued and are reluctant to use equity to finance the acquisitions. Thus, overconfident managers in high-IDV countries are expected to use less equity in acquisitions. It implies a positive relation between CLT and use of cash in merges and acquisitions.

Doukas and Petmezas (2007) argue that overconfident managers tend to underestimate the risk and overestimate the synergy associated with acquisitions. The overestimated synergy allows such firms offer high premiums to target firm to increase the probability of successful acquisitions. It implies a negative relation between CLT and the premiums of acquisitions.

2.1.3 Masculinity/Femininity

Hofstede (2001 p.297) defines masculinity as "a society in which social gender roles are clearly distinct: men are supposed to be assertive, tough, and focus on material success; women are supposed to be more modest, tender, and concerned with the quality of life". Specifically, the traditional masculine social values include "showing off, performing, achieving something visible,

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[3]CLT is the collectivism/individualism index, equals 100 minus Hofstedes cultural index on individualism.

making money, and "big is beautiful"" (Hofstede (1983 p.85)). These values permeate the whole society in influencing the ways of thinking of both men and women. In contrast, the dominant values in more feminine societies include "not showing off, putting relationships with people before money, minding the quality of life and preservation of the environment, helping others, and "small is beautiful"" (Hofstede (1983 p.85)).

People may confuse about the differences between masculinity/femininity and individualism/collectivism culture dimensions. Hofstede (2001) suggests that these two culture dimensions are based on orthogonal factors and statistically independent. In particular, "individualism/collectivism is about "I"versus "we", independence from versus dependence on in-groups", and "masculinity/femininity is about ego (such as careers and money) enhancement versus relationship (such as relationships, helping others, and the physical environment) enhancement, regardless of group ties" (Hofstede (2001 p.293)).

In high-MAS countries, managers are more likely to engage in "status purchase", such as perk consumption and empire building, to expropriate private benefits. In order to expand the corporation, managers may invest in value-destroying projects in building corporate kingdoms. In addition, Powell and Ansic (1997) find that females are less likely to pursue high-risk investment in making financial decisions, regardless of the context factors of familiarity, cost, and ambiguity. Therefore, the asset substitution problem is more likely in high-MAS countries. Based on these arguments, Zheng, Ghoul, Guedhami, and Kwok (2012) suggest that managers in high-MAS countries are more likely to exhibit extensive risk-seeking behavior and fall into intensity overinvestment problems. Collectively, in an acquisition context, target firm perceives the high risks in relating to asset substitution and overinvestment problems of the acquirers in high-MAS countries. Thus, the likelihood and size of acquisitions in relating to high-MAS acquirers may reduce. It implies that MAS is negatively correlated with probability and

size of acquisitions.

For acquisitions initiated by firms in high-*MAS* countries, since the high risks in relating to asset substitution and overinvestment problems may be realized in stock price movement after acquisition, shareholders of target firm are less willing to hold equity of combined firm. In contrast, cash payment secures a fixed amount in exchange, and escapes shareholders of target firm from future risk exposures. Thus, conditional on the completion of acquisition, I expect cash payment is more likely to be used if the acquirer is from a high-*MAS* country. It implies a positive relation between *MAS* and use of cash in acquisitions.

As discussed above, firms in high-*MAS* countries are likely to pursue high-risk investments. It leaves such firms less resources to offer high premiums to target firms. Thus, I expect the firms in high-*MAS* countries are less likely to pay high premiums in acquiring another firm.

2.1.4 Uncertainty Avoidance

People live in societies with uncertainty. Because the future is unpredictable, there is a higher level of anxiety about ambiguity in societies with a higher uncertainty avoidance. People try to avoid unpredictable situations and manifest nervousness, emotion, and aggressiveness. Although, the inherent uncertainty of living can be coped by technology (to defend against uncertainties caused by nature), law (to defend against uncertainties in the behavior of others), and religion (to accept the uncertainties we can not defend ourselves against), these defenses do not really create certainty in an objective sense (Hofstede (1983); Hofstede (2001)).

Zheng, Ghoul, Guedhami, and Kwok (2012) find that creditors in high-*UAI* countries try to eschew the exposure to future uncertainty, and prefer to issue short-term debt. Mergers and acquisitions can be viewed as infinity-long-term investments, and acquirers have to be responsible for the long-term commitment of shareholders of combined firms. Such long-term investments

create a higher level of uncertainty about firms' future perspectives. Therefore, investors in high-*UAI* countries may prefer predictable investment returns. Such firms are expected to have lower likelihood of acquisition and are less likely to acquire large target. Frijns, Gilbert, Lehnert, and Tourani-Rad (2013) find a negative relation between *UAI* and cross-boarder acquisitions, suggesting *UAI* captures more cross-culture differences in risk perception than risk aversion, drives CEO takeover decisions. This paper is different from Frijns, Gilbert, Lehnert, and Tourani-Rad (2013) by examining the direct effect of *UAI* on both domestic and cross-boarder acquisitions.

Stock price fluctuates in reflecting the information released to stock market. From high-*UAI* firms' perspective, any unpredictable situation should be eschewed as much as possible. Thus, compared to cash, stock payment is expected to be less likely to be used by acquirers from high-*UAI* countries. It implies a positive relation between *UAI* and use of cash in acquisitions.

Acquirers bear the risk of insufficient synergies generated from takeover to cover the premiums paid to target firm. Firms consider such uncertainty associated with the level of premiums paid to target firm in making acquisition decisions. Thus, investors from high-*UAI* countries are expected to pay less premiums to target firm.

Collectively, the hypothesis is formed as following,

H1. *Firms located in countries embedded with high power distance, high collectivism, high masculinity, high uncertainty avoidance are less likely to undertake acquisitions. Further, such firms are less likely to acquire large target, more likely to use cash, and pay less premiums to target firm.*

2.2 The Indirect Effect of National Culture on Acquisition Choices

This subsection discusses the role of leverage deficit in determining acquisition choices, followed by discussing the possible indirect effects of national culture on acquisition choices. That is, the effects of national culture on the relations between leverage deficit and acquisition choices.

2.2.1 The Role of Leverage Deficit in Acquisition Choices

The seminal work of Modigliani and Miller (1958) establishes the foundation of capital structure research in explaining firms' financing behavior. In particular, all positive net present value (NPV) projects, including acquisitions, should be financed in frictionless capital markets. However, in an imperfect capital market, acquisition decisions are restricted by financing frictions. In order to finance acquisitions, firms access external financing when internal funds are exhausted (Myers (1984); Myers and Majluf (1984)). Thus, firms' capital structures are likely to be affected if the acquisition is undertaken. Hence, firms should consider and incorporate their pre-acquisition capital structures in making acquisition decisions. In particular, when firms do not have sufficient ability in generating internal funds and are considered over-leveraged, more costly equity finance is required in order to complete the acquisitions. Under such circumstance, high level of leverage deficit is considered as a disincentive of making acquisitions. Uysal (2011) finds that capital raising ability of over-leveraged firms is constrained by financing frictions. Such firms are unable to bid aggressively for acquisition targets due to their inability. Thus, the ability of such firms to undertake acquisitions and the size of acquisitions are likely to be influenced by leverage deficit. Uysal (2011) documents that leverage deficit is negatively related to probability and size of acquisitions in the presence of financing frictions.

Leverage deficit influences not only firms' ability to acquire but also the

form of acquisitions. Debt issuance, in particular, is constrained for over-leveraged firms, since it makes their capital structures further deviated from target. Bharadwaj and Shivdasani (2003) suggest that debt issuance is the major source of cash components of acquisition offers. Thus, if over-leveraged firms undertake acquisitions regardless the state of capital structures, the cash components used in acquisitions should be lower. Harford, Klasa, and Walcott (2009) and Uysal (2011) empirically confirm that over-leveraged firms are likely to use less cash in acquisitions.

In addition, for over-leveraged firms, the existence of severe financing frictions related to leverage deficit reduces the synergy generated from acquisitions. Since there are less benefits shared with target firm, over-leveraged firms are impeded from bidding aggressively. Therefore, lower premiums are available to offer to target firm. Uysal (2011) empirically confirms that over-leveraged firms are constrained from paying high premiums. Uysal (2011) also suggests that this finding is in line with the negative effect of leverage deficit on probability of acquisitions, since the offered low premiums decrease probability of successful acquisitions.

Overall, it suggests that firms' ability to undertake acquisition is likely to be affected by their leverage deficits. Further, firms' leverage deficits are also likely to influence the size and cash components of transaction, and the premiums paid to target firm. It suggests that firms incorporate their leverage deficits in making acquisition decisions.

2.2.2 The Joint Effect of National Culture and Leverage Deficit on Acquisition Choices

Hofstede (2001) suggests that culture endows people in a group with collective beliefs, attitudes, and skills. People from a specific culture background share common values in perceiving and understanding. Guiso, Sapienza, and Zingales (2006) argue that culture influences fundamental economic decision-making via people's expectations and preferences. Thus, culture may impact

people's attitude regarding make real-life decisions.

As discussed above, high-leverage-deficit firms are exposed to high financing-friction costs which impede such firms from raising capital, thus influence acquisition choices (Uysal (2011)). Aggarwal and Goodell (2009), North (1990), and Williamson (2000) suggest that, as informal institutions, culture influences friction costs through its effect on the choice of appropriate financial contract. Given the role of leverage deficit in acquisition choices, national culture may influence acquisition choices indirectly through its impact on the effect of leverage deficit. It would be interesting to examine how national culture and leverage deficit interact in influencing acquisition choices through financing frictions. That is, to examine whether national culture influences people's view and attitude about financing frictions in making acquisition choices. Such joint effect can be examined by including an interaction of national-culture variable and leverage-deficit measure in the model.

H2. *National culture influences acquisition choices indirectly through its impact on the effect of leverage deficit;*

3 Empirical Design

3.1 Model

This subsection discusses the model used in examining how acquisition choices are determined by national culture in an international context. In particular, I employ national-culture, leverage-deficit, acquisition-, firm-, industry-, and country-level control variables in estimating probability, size, payment method, and premiums of acquisitions. Year-fixed effect is controlled to capture the unobserved heterogeneity across time. Standard errors are adjusted

for clustering by firm. The model is described as following,

$$Acquisition\_Choices_{j,i,t} = \alpha + \beta_1 CULTURE_j + \beta_2 ML\_DEF_{j,i,t-1}$$
$$+ \boldsymbol{\gamma}\mathbf{Z}_{j,i,t-1} + e_{j,i,t}, \tag{1}$$

where country is indexed by j, firm by i, and year by t. I examine the acquisition choices by using following dependent variables:

1. acquisition dummy (ACQ) which equals to one if the firm undertake an acquisition, and zero otherwise;

2. size of acquisition ($VALUE$) which is the ratio of total acquisition value to book value of assets;

3. all cash dummy (ALL_CASH) which equals to one if the acquisition is entirety paid in cash, and zero otherwise;

4. premiums ($PREMIUM\_1DAY$ ($PREMIUM\_1WK$, $PREMIUM\_4WK$)) which is the premiums of offer price to target closing stock price 1 day (1 week, 4 weeks) prior to the announcement date, expressed as a percentage.

Hofstede's four culture dimensions are employed as proxies for national culture ($CULTURE$), including power distance (PDI), collectivism/individualism (CLT), masculinity/femininity (MAS), and uncertainty avoidance (UAI). ML_DEF is the computed market leverage deficit defined as the difference between actual leverage and target leverage.[4] I also define an over leverage dummy (OL) as an alternative leverage-deficit measure. OL equals to one if ML_DEF is greater than zero, and zero otherwise.

$\mathbf{Z}_{j,i,t}$ is a vector of control variables, including shareholder protection index ($SHAREHOLDER$), average leverage (ML_AVE), nature Logarithm of sales ($SALES$), annual stock return (RET), market to book ratio (MTB), profitability ($PROF$), industry M&A liquidity (IND_LIQ), herfindahl in-

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[4]In this study, I focus on market leverage rather than book leverage since majority of theoretical capital structure predictions and recent related empirical studies focus on market leverage.

dex (*HERFINDAHL*), GDP per capita (*GDPC*), and GDP growth rate (*GGDP*).[5] Additional acquisition-level characteristics are controlled when I examine payment method and premiums of acquisitions. These variables include relative size (*RSIZE*), within industry acquisition dummy (*IND_ACQ*), all cash dummy (*ALL_CASH*), competed acquisition dummy (*MBID*), target's organization form (*PUBLIC* and *PRIVATE*), and hostile acquisition dummy (*HOSTILE*).

Next, based on equation 1, I include an interaction of national-culture variable and leverage-deficit measure ($ML\_DEF_{j,i,t-1} \times CULTURE_j$) to examine their joint effect on acquisition choices. The model is described as following,

$$
\begin{aligned}
Acquisition\_Choices_{j,i,t} = \alpha &+ \beta_1 CULTURE_j + \beta_2 ML\_DEF_{j,i,t-1} \\
&+ \beta_3 ML\_DEF_{j,i,t-1} \times CULTURE_j + \boldsymbol{\gamma}\mathbf{Z}_{j,i,t-1} + e_{j,i,t},
\end{aligned}
\tag{2}
$$

3.2   Measurement of the Leverage Deficit

Empirical capital structure research suggests that target leverage is a function of firm (Titman and Wessels (1988); Rajan and Zingales (1995); Fama and French (2002); Flannery and Rangan (2006)) and industry characteristics (Frank and Goyal (2009)). Following this strand of literature, I estimate target leverage by running annual regressions for each country of actual market leverage (*ML*) on its main determinants,

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ML_{j,i,t} = \alpha_{j,t} + \boldsymbol{\gamma}_{j,t}\mathbf{X}_{j,i,t-1} + e_{j,i,t},
\tag{3}
$$

$\mathbf{X}_{j,i,t}$ is a vector of firm characteristics, including nature Logarithm of sales (*SALES*), market to book ratio (*MTB*), research and development expense to total assets (*R&D*), a *R&D* dummy (*R&D_DUM*), selling expenses to sales (*SELL_EXP*), profitability (*PROF*), tangibility (*TANG*), and annual

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[5]Variables definitions are summarized in Appendix A.

stock return (RET). Following Lemmon, Roberts, and Zender (2008), one year lagged market leverage (ML_LAG) is included to control for firm-fixed effect. In addition, industry-fixed effect is controlled to capture the unobserved heterogeneity across industry.[6] I estimate equation (3) by country and year to allow heterogeneous coefficient estimators across country and year. The fitted values of equation (3) is defined as target leverage ratio (TL),

$$TL_{j,i,t} = \hat{\alpha}_{j,t} + \hat{\boldsymbol{\gamma}}_{j,t} \mathbf{X}_{j,i,t-1}. \tag{4}$$

Following Hovakimian, Opler, and Titman (2001), I define leverage deficit (ML_DEF) as the difference between actual leverage and target leverage (i.e., $ML\_DEF = ML$ - TL). I also define an over leverage dummy variable (OL) which equals to one if ML_DEF is greater than zero, and zero otherwise.

4   Data and Sample

I collect firm-level accounting data from Datastream which contains annual financial data of public firms around the world. The national-culture and formal-institutional variables are obtained from Hofstede (2001) and La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). Country-level control variables are collected from World Development Indicators (WDI).[7]

I use all firms that are available in Datastream from 1990 to 2012 to estimate target leverage ratio. Following previous capital structure studies, I remove financial and utility firms from the sample. All firm- and industry-level variables are winsorized at the top and bottom 1 percent levels to remove the potential data errors and outliers. I estimate the target leverage ratio by running yearly regressions of leverage ratio on its main determinants for each country over the sample period. Firm-year observations with missing

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[6]I use the Industry Classification Benchmark (ICB) 41 sectors as industry indicator which is the default industry classification indicator of Datastream.

[7]The data of Taiwan is collected from the official websites of National Statistic of Taiwan and Taiwan Stock Exchange.

firm-, industry-, or country-level data are excluded from the sample. There are 176,548 firm-year observations left in the sample which contains 23,323 firms across 33 countries.

Next, I obtain the acquisition information of each firm in the sample from the Securities Data Corporation (SDC) Mergers and Acquisitions database. I identify 18,792 acquisitions made by 6,742 acquirer between January 1, 1990 and December 31, 2012 that following the criteria:

1. The status of the deal is either completed or unconditional.[8]

2. The form of the deal is either classified as a firm acquisition (merge or acquisition of majority interest) or an asset acquisition (asset acquisition or acquisition of certain assets).

3. The acquisition is excluded from the sample if the deal value is at the bottom 5 percent of the country or the ratio of deal value to total assets of the acquirer is less than percent.

Table 1 provides a description of the sample. Columns 1 to 3 report the number of year, firm, and firm-year observations of each country, respectively. It shows that the data coverage of the sample is fairly different across countries. In general, developed countries tend to have longer sample period, better firm and firm-year coverage than developing countries. In addition, same as other international studies, U.S. firms dominate the sample. As showed in Column 3, the sample contains 55,088 U.S. firms which account for 31.20 percent of the full sample.[9] Column 4 showed that there are 11,996 acquisitions are in common law countries which account from 82.42 percent of all acquisitions. Similar pattern is found in Column 5 which reports the numbers of acquirer of each country. This is consistent with Rossi and Volpin (2004) which suggest that there are more mergers and acquisitions in com-

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[8]Unconditional deal status refers to the initial conditions for the transaction set forth by the acquirer have been met, but the deal is still not completed. It is only for UK, Australian, and New Zealand deals. SDC recorded these deals as completed in its league tables ranking since the deals are guaranteed to be completed in the end.

[9]In the robustness test, I examine the regressions by using the samples excludes U.S. firms. The results are qualitative consistent.

mon law countries due to better investor protection. As showed in Columns 6 and 7, the country median of the means of acquisition value and *VALUE* (ratio of total acquisition value to book value of assets) are 259.80 million U.S. dollar and 0.04, respectively.

[Insert Table 1]

Panel A of Table 2 reports the summary statistics of acquisition, firm, industry, and country variables used in this paper. It shows that acquisitions play an important role globally. In particular, there are 8.5 percent of firm-year observations have acquisitions and annual-deal value accounts 1.2 percent of acquirers' total assets averagely. Further, approximately half of acquisitions (50.2 percent) are all paid in cash. The average one day, one week, and four weeks premiums of offering price to target close stock price are 34.388 percent, 39.117 percent, and 44.119 percent, respectively. In addition, on average, firms are slightly under-levered across the world, as the mean of *ML_DEF* is -0.002. This is confirmed by the statistics of *OL* which shows that there are over half (55.7 percent) firm-year observations are under-levered compared to over-levered ones (44.3 percent). The description statistics of the variables used in estimating target leverage resemble those in previous international capital structure studies. In particular, the mean and standard deviation of market leverage ratio are 0.284 and 0.226, respectively.

[Insert Table 2]

Panel B of Table 2 describes the summary statistics of national-culture variables and formal-institutional variables. All national-culture variables are available in all 33 sampled countries. Table 3 presents indexes of Hofstede's four national-culture dimensions (Columns 1–4) and formal-institutional variables (Columns 5–7) of 33 countries. There are 13 and 20 countries are based on common law and civil law legal system, respectively.

[Insert Table 3]

Table 4 presents the correlation matrix between likelihood and size of acquisition, firm-, industry-, and country-level variables. It shows how probability and size of acquisitions are correlated with their main determinants. Specifically, Table 4 exhibits that *ACQ* and *VALUE* are negativity associated with *ML_DEF*, *OL*, *ML_AVE*, and positively related to *SALES*, *MTB*, *PROF*, *RET*, *IND_LIQ*, *GGDP*, and *GDPC*. In addition, Table 5 provides the correlation matrix for pairs of acquisition-, firm-, industry-, and country-level variables based on 13,646 deal-level observations.

[Insert Table 4]

[Insert Table 5]

Table 6 provides the correlation matrix for pairs of national-culture and formal-institutions variables. Although, it shows that some of the national-culture variables are highly correlated (for instance, the correlation between *PDI* and *CLT* is 0.70), Hofstede (2001) suggests that these culture dimensions are based on orthogonal factors and statistically independent.

[Insert Table 6]

5   Empirical Results

This section discusses the empirical results in examining how acquisition choices are affected by national culture in an international context. In particular, I examine the direct and indirect effects of national culture on probability, size, payment method, and premiums of acquisitions.

5.1   The Role of National Culture in affecting Probability and Size of Acquisitions

This subsection discusses the role of national culture in determining probability and size of acquisitions. The probability of acquisition is measured

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by an acquisition dummy (ACQ) which equals to one if the firm undertake an acquisition. The ratio of total acquisition value to book value of assets ($VALUE$) is used to measure the size of acquisition. Firstly, I regress probability and size of acquisitions on their main determinants. Second, I add national-culture variable as a proxy for informal-institutional setting in the model. Last, I examine the joint effect of national-culture variable and leverage-deficit measure in influencing probability and size of acquisitions. The following subsections (subsections 5.1 and 5.2) are constructed in the same structure in estimating payment method and premiums.

Panels A and B of Table 7 present the results of how probability and size of acquisitions are influenced by their main determinants, respectively. In particular, Columns 1 of Panels A and B show that formal-institutional setting is significantly positively related to ACQ and $VALUE$. Specifically, the coefficient estimates (t-statistics) of $SHAREHOLDER$ is 0.1643 (20.7011) and 0.0569 (22.3335), respectively . The results are unchanged by using alternative formal institutions ($ACCSTD$ and $LEGCOM$) in Columns 2 and 3 in both Panels. Consistent with Rossi and Volpin (2004), the results indicate that the likelihood of mergers and acquisitions is higher in countries with better shareholder protection, transparent accounting standard, and common law legal system. In addition, ML_DEF is significantly negatively related to ACQ and $VALUE$ with coefficient estimates (t-statistics) of -0.3132 (-6.3297) and -0.1081 (-6.8822), respectively. Consistent with Uysal (2011), the results indicate that over-leveraged firms lack of capital raising ability in the presence of financing frictions. Such firms are less likely to undertake acquisitions and to acquire large target. The results are unchanged in samples excluding U.S. firms (Column 6), in sub-period samples (Columns 7 to 8), and by using OL as an alternative leverage-deficit measure (Columns 9 to 16). The results of other firm-, industry- and country-level determinants are generally consistent with Uysal (2011), though he focus on U.S. firms.

[Insert Table 7]

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Table 8 presents the results of national-culture variables in influencing probability and size of acquisitions. I add national-culture variables in the regressions based on the model of Column 1 of Table 7. Columns 1 to 4 of Panel A show that the coefficient estimates of national-culture variables are all negatively related to ACQ at 1 percent significant level. Specifically, the coefficient estimates (t-statistics) of PDI, CLT, MAS, and UAI are -0.0172 (-21.5452), -0.0149 (-36.0254), -0.0091 (-24.4093), and -0.0089 (-23.6524), respectively. In addition, Columns 1 to 4 of Panel B show that the coefficient estimates of national-culture variables are all negatively related to $VALUE$ at 1 percent significant level. Specifically, the coefficient estimates (t-statistics) of PDI, CLT, MAS, and UAI are -0.0061(-23.5925), -0.0052 (-37.5406), -0.0029 (-26.1569), and -0.0031 (-26.1188), respectively. These results are not only statistically but also economically significant. For example, the result indicates that one unit increase in PDI leads to an about 1.72 percent decrease in probability of acquisitions and 0.61 percent decrease in acquisition size relative to acquirers' assets. The results are unchanged by using OL as an alternative leverage-deficit measure (Columns 5 to 8). The results of control variables are consistent with Table 7.

[Insert Table 8]

The results are consistent with **H1**. That is, the likelihood and size of acquisitions are lower for firms located in (1) high-PDI countries, since a higher power distance associates with higher transaction costs and contracting inefficiency; (2) high-CLT countries, since firms in high-IDV (low-CLT) countries overestimate their abilities in creating values for both firms and acquisitions; (3) high-MAS countries, since target firm perceives the high risks in relating to asset substitution and overinvestment problems of the acquirers in such countries; (4) high-UAI countries, since investors in such countries less prefer the uncertainty associated with mergers and acquisitions. The results indicate that after controlling for formal-institutions, firm-, industry-, and country-level characteristics, national culture plays an important role

in explaining the cross-country differences in probability and size of acquisitions.

Table 9 presents the results of joint effect of national culture and leverage deficit in influencing probability and size of acquisitions. I add an interaction of national-culture variable and leverage-deficit measure ($ML\_DEF_{j,i,t-1} \times CULTURE_j$) in the regression based on the model in Table 8. Except Columns 3 and 4, Panel A shows that all interactions ($ML\_DEF \times PDI$, $ML\_DEF \times CLT$, $ML\_DEF \times MAS$, and $ML\_DEF \times UAI$) are positively significantly related to ACQ. In addition, Panel B shows that the interactions are also significantly positively related to $VALUE$.

[Insert Table 9]

For instance, Columns 1 of Panels A and B show that the coefficient estimates (t-statistics) of $ML\_DEF \times PDI$ are 0.0149 (2.9077) and 0.0049 (3.0980), respectively. The results show that, in median-PDI country (Pakistan, PDI=55), one-standard deviation increase in ML_DEF (0.1040) decrease ACQ and $SIZE$ by 1.73 percent (-0.0173=0.1040×(-0.9856+0.0149×55)) and 0.58 percent (-0.0058=0.1040×(-0.3251+0.0049×55)), respectively. The results indicate that the negative effects of leverage deficit on probability and size of acquisitions are mitigated for firms located in high-PDI countries. It suggests that, the financing frictions associated with low social trust in high-PDI countries substitute the financing frictions raised from leverage deficit. Thus, people consider leverage deficit as a less important factor in making acquisition choices in high-PDI countries

Columns 2 of Panels A and B show that the coefficient estimates (t-statistics) of $ML\_DEF \times CLT$ are 0.0051 (2.3280) and 0.0017 (2.6736), respectively. The results show that, in median-CLT country (India, CLT=52), one-standard deviation increase in ML_DEF (0.1040) decrease ACQ and $SIZE$ by 2.03 percent (-0.0203=0.1040×(-0.4603+0.0051×52)) and 0.67 percent (-0.0067=0.1040×(-0.1527+0.0017×52)), respectively. The results indicate

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that the negative effects of leverage deficit on probability and size of acquisitions are mitigated for firms located in high-CLT (low-IDV) countries. That is, people consider leverage deficit as a less (more) important factor in making acquisition decisions in high-CLT (high-IDV) countries. The results are consistent with the notion that overconfident managers from high-IDV countries view external funds as unduly costly (Malmendier and Tate (2005)). Such managers are reluctant to raise funds for acquisitions through external resources when they face high leverage deficit. Therefore, the probability and size of acquisitions are reduced for firms located in high-IDV (low-CLT) countries.

Columns 7 of Panels A and B show that the coefficient estimates (t-statistics) of $OL \times MAS$ are 0.0011 (2.3202) and 0.0003 (2.2646), respectively. Taking Malaysia as an example (MAS=50), the results show that ACQ and $SIZE$ decrease by 5.59 percent (-0.0559=-0.1109+0.0011×50) and 1.86 percent (-0.0186=-0.0336+0.0003×50) for over-leveraged firms (OL=1) compared to under-leveraged firms (OL=0). It indicates that target firm incorporates acquirers' leverage deficit in considering the acquisition offers from high-MAS countries. In particular, high-leverage-deficit firms are constrained from overinvestment due to their inability of fund raising. Target firm considers such acquirers are less risky firms compared to under-leveraged ones in high-MAS countries. Therefore, the probability and size of acquisitions are higher for firms with higher leverage deficit in high-MAS countries.

Columns 8 of Panels A and B show that the coefficient estimates (t-statistics) of $OL \times UAI$ are 0.0018 (4.1651) and 0.0006 (4.6806), respectively. In the country (Switzerland) with median UAI (58), the results show that ACQ and $SIZE$ decrease by 3.34 percent (-0.0334=-0.1378+0.0018×58) and 1.21 percent (-0.0121=-0.0469+0.0006×58) for over-leveraged firms (OL=1) compared to under-leveraged firms (OL=0). It indicates that the negative effects of leverage deficit on probability and size of acquisitions is reduced in high-UAI countries. Such firms are reluctant to participate in acquisitions

due their uncertainty avoidance nature. Though leverage deficit negatively affects probability and size of acquisitions, people consider it as a less important factor in making acquisition decisions in high-*UAI* countries. That is, firms' attitude about mergers and acquisitions is predominately influenced by their uncertainty avoidance nature rather than their pre-acquisition leverage conditions.

The results indicate that, for firms located in countries embedded with high power distance, high collectivism, high masculinity, and high uncertainty avoidance, the relations between leverage deficit and probability and size of acquisitions are attenuated. It suggests that national culture indirectly impact probability and size of acquisitions through its effect on the relations between leverage deficit and acquisition choices.

5.2 The Role of National Culture in affecting Payment method

This subsection presents the evidences relating national culture to payment method in acquisitions. I construct an all-cash dummy (*ALL_CASH*) as dependent variable. It equals to one if the acquisition is entirely paid in cash, and zero otherwise. Based on the control variables used in previous subsection, I add acquisition-level characteristics in regressions to control for relative deal size (*RSIZE*), within-industry acquisition dummy (*IND_ACQ*), multiple bidder dummy (*MBID*), and target's organization form (*PUBLIC* and *PRIVATE*).

Table 10 presents the results of baseline regressions. The results show that formal-institutional setting is significantly negatively related to *ALL_CASH*. In Column 1, the coefficient estimate (t-statistic) of *SHAREHOLDER* is -0.1091 (-5.2727). The results are unchanged by using *ACCSTD* and *LEG-COM* as alternative formal institutions in Columns 2 and 3. Consistent with Rossi and Volpin (2004), the results indicate that cash is a preferred payment method in countries with lower shareholder protection since stocks

entail higher risk of expropriation. In addition, consistent with Uysal (2011) and Harford, Klasa, and Walcott (2009), ML_DEF is significantly negatively related to ALL_CASH with coefficient estimate (t-statistic) of -0.3944 (-2.8215). It indicates that over-leveraged firms are constrained from debt issuance which normally funds cash payment in acquisitions. Such firms are less likely to use cash in acquisitions. The results are unchanged in samples excluding U.S. firms (Column 6), in sub-period samples (Columns 7 to 8), and by using OL as an alternative leverage-deficit measure (Columns 9 to 16). The results of other firm-, industry- and country-level determinants are generally consistent with Uysal (2011) and Harford, Klasa, and Walcott (2009).

[Insert Table 10]

Table 11 presents the results of national-culture variables in influencing payment method in acquisitions. It shows that national-culture variables have significant positive effects on the use of cash in undertaking acquisitions. In particular, Columns 1 to 4 report the coefficient estimates (t-statistics) of PDI, CLT, MAS, and UAI are 0.0064 (3.3542), 0.0026 (1.9063), 0.0029 (2.5838), and 0.0031 (2.6856), respectively. Take PDI as an example, the result indicates that one unit increase in PDI leads to an about 0.64 percent increase in probability of cash-only acquisitions. The results of control variables are consistent with Table 10.

[Insert Table 11]

The results confirm **H1**. That is, cash payment provides certainty for either acquirer or target. The probability of use all cash payment in acquisitions are higher for firms located in (1) high-PDI countries, since a higher power distance associates with lower social trust; (2) high-CLT countries, since overconfident managers in high-IDV (low-CLT) tend to view their firms as undervalued; (3) high-MAS countries, since target firm concerns

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about asset substitution and overinvestment risks of the acquirers in such countries; (4) high-UAI countries, since cash payment removes uncertainty associated with mergers and acquisitions. It indicates that national culture has a significant effect in payment method of acquisitions globally.

Next, I examine the joint effect of national culture and leverage deficit in influencing ALL_CASH. I add an interaction of national-culture variable and leverage-deficit measure ($ML\_DEF_{j,i,t-1} \times CULTURE_j$) in the regressions based on the model in Table 11. Columns 3 and 7 of Table 12 show that $ML\_DEF \times MAS$ is positively significantly related to ALL_CASH. It shows that the positive effect of MAS on ALL_CASH is enhanced among over-leveraged firms. That is, among completed acquisitions, target firm demands certainty from cash payment if the over-leveraged bidder is from a high-MAS country. In particular, target firm prefers cash payment due to the uncertainties associated with asset substitution and overinvestment problems of bidders in high-MAS countries. For such deals, target firm demands more certainty if the bidder is over leveraged which associates with high bankruptcy costs. Though, higher leverage deficit constrains firms located in high-MAS countries from engaging overinvestment activities which increases the likelihood of acquisitions, target shareholders are reluctant to hold equity of combined firm.

[Insert Table 12]

In addition, Column 8 shows that $ML\_DEF \times UAI$ is positively related to ALL_CASH at 5 percent significant level. It shows that the negative effect of leverage deficit on ALL_CASH is attenuated for firms located in high-UAI countries. It indicates that, when bidders is from high-UAI countries, the preference of cash payment dominates the role of leverage deficit in influencing payment method in acquisitions. Thus, such bidders consider leverage deficit as a less important factor in choosing the payment method of acquisitions.

5.3 The Role of National Culture in affecting Premiums

This subsection examines the role national culture in influencing acquisition premiums paid to target firm. The acquisition premium variables are calculated as the premiums offer price divided by target closing stock price 1 day ($PREMIUM\_1DAY$), or 1 week $PREMIUM\_1WK$), or 4 weeks ($PREMIUM\_4WK$) prior to the announcement date. There are only approximately 2,500 deal-level observations available for premium regressions, since the acquisition premium data is available only for public-firm acquisitions. Based on the control variables used in previous subsection, I remove target type variables ($PUBLIC$ and $PRIVATE$) and control for all-cash dummy (ALL_CASH) and hostile-offer dummy ($HOSTILE$) in the regressions.

Column 1 of Table 13 reports that $SHAREHOLDER$ is positively related to $PREMIUM\_1DAY$ 1 percent significant level. In particular, the coefficient estimate (t-statistic) of $SHAREHOLDER$ is 3.3545 (2.6667). The results are unchanged by estimating alternative premium variables ($PREMIUM\_1WK$ and $PREMIUM\_4WK$) (Columns 2 to 3), and by controlling OL as an alternative leverage-deficit measure (Columns 4 to 6). Consistent with Rossi and Volpin (2004), the results suggest that cost of capital is reduced by strong shareholder protection. Thus, higher premiums are paid to target due to the existence of high competition among bidders. In addition, strong shareholder protection promotes diffuse ownership which exacerbates the free-rider problem in acquisitions. It forces bidders to offer a higher premium (Grossman and Hart, 1980).

[Insert Table 13]

Columns 4 to 6 present the negative significant effects of OL on acquisition premiums. It is consistent with Uysal (2011) which suggests that over-leveraged firms are impeded from bidding aggressively due to the inability of

raising capital, though the coefficient estimates of ML_DEF are not significant in Columns 1 to 3. The results are also in line with the negative relation between leverage deficit and probability of acquisitions, since the offered low premiums decrease probability of successful acquisitions.

Table 14 presents the results of national culture in influencing premiums paid to target firm. Panels A shows that national-culture variables have negative effects on $PREMIUM\_1DAY$ at 1 percent significant level. In particular, Columns 1 to 4 report the coefficient estimates (t-statistics) of PDI, CLT, MAS, and UAI, are -0.3572 (-2.6732), -0.4143 (-5.5115), -0.2246 (-2.8472), and -0.2313 (-3.1100), respectively. Take PDI as an example, the result indicates that one unit increase in PDI leads to an about 0.3572 decrease in one day premium. The results are unchanged in Panels B and C which estimating alternative premium variables ($PREMIUM\_1WK$ and $PREMIUM\_4WK$).

[Insert Table 14]

The results confirm **H1**. That is, firms located in countries embedded with high power distance, high collectivism, high masculinity, and high uncertainty avoidance are less likely to pay high premiums to target firm. It indicates that national culture plays an important role in explaining international differences in acquisition premiums.

The results confirm **H1**. That is, the premiums pay to target firms are lower for firms located in (1) high-PDI countries, since a higher power distance associates with higher transaction costs and contracting inefficiency; (2) high-CLT countries, since overconfident managers in high-IDV (low-CLT) tend to overestimate they synergy associated with acquisitions; (3) high-MAS countries, since there are less resources left for overinvestment firms in high-MAS countries; (4) high-UAI countries, since the firms located in high-UAI countries are more conservative in offering premiums. It indicates that national culture plays an important role in explaining international differences in acquisition premiums.

The joint effect of national culture and leverage deficit is examined. However, the interactions are insignificant by using different national-culture variables and different leverage-deficit measures. It suggests that national culture has insignificant effect on the negative relation between leverage deficit and acquisition premiums.

6   Robustness Tests

6.1   Controlling Alternative Formal Institutions

In examining the role of national culture as an informal-institutional setting, I control formal institutions by using a country-level variable, *SHAREHOLDER*, which is computed as the product of *RULLAW* and *ANTID* divided by 10 (Rossi and Volpin (2004)). Specifically, *RULLAW* measures the law and order tradition in the country; while *ANTID* is an aggregated shareholder right index. Therefore, *SHAREHOLDER* is used to capture minority shareholders' effective rights.

As a first robustness check, I examine the role of national culture in influencing acquisition choices by controlling alternative formal-institutional variables from the aspects of accounting information quality (*ACCSTD*) and legal origin (*LEGCOM*). *ACCSTD* is the average inclusion or omission of the 90 accounting and non-accounting items by examining 1990 annual reports of the companies in the country; while *LEGCOM* is a dummy equals to one if a country adopts the common law system. I replace *SHAREHOLDER* with *ACCSTD* or *LEGCOM* in the regressions, and re-examine all results. The results are qualitatively unchanged and confirm the finding. It suggests that national culture influences acquisition choices after controlling formal institutions (in particular, shareholder protection, accounting information quality, and legal origin).[10]

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[10]The results are not reported for brevity, and are available upon request.

6.2 Excluding the U.S. Firms

U.S. firms account for a substantial fraction of the full sample. Specifically, there are 55,088 U.S. firm-year observations which account for 31.20 percent of the full sample. Thus, the results are possibly driven by U.S. observations, not by national culture. To address this issue, I construct a non-US sub-sample by removing all U.S. firms and re-examine all models described in section 3. The results are qualitatively consistent with full sample across different acquisition choices variables and national-culture variables, and by controlling alternative leverage-deficit measure. It suggests that the significant role of national culture in influencing acquisition choices is not driven by U.S. firms.[11]

6.3 Controlling Interactions between National-culture Variables and Control Variables

National culture may indirectly impact acquisition choices through the effects of other firm, industry, and country determinants. As a robustness test, I include the interactions of national-culture variables and other firm, industry, and country determinants ($\mathbf{Z}_{j,i,t-1} \times CULTURE_j$) in the model. The results are unchanged. In particular, national culture influences probability and size of acquisitions through the effects of leverage deficit, and MAS and UAI attenuate the negative relation between leverage deficit and all-cash acquisitions.

7 Conclusion

This paper sheds new light on firms' acquisition choices by employing a large sample of $176,548$ firm-year observations across 33 countries over two

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[11]The Non-US subsample results are not reported for brevity, and are available upon request.

decades. I focus on the role of national culture in influencing probability, size, payment method, and premiums of acquisitions.

Using Hofstede's four cultural dimensions, I find robust evidence that firms located in countries embedded with high power distance, high collectivism, high masculinity, and high uncertainty avoidance are less likely to undertake acquisitions. Further, such firms are less likely to acquire large target, more likely to use cash, and pay less premiums to target firm. In addition, this paper documents that national culture and leverage deficit jointly effect acquisition choices. The results show that the negative relation between leverage deficit and probability (size) of acquisitions is attenuated for firms located in high-power-distance, high-collectivism, high-masculinity, and high-uncertainty-avoidance countries. For firms in high-masculinity and high-uncertainty-avoidance countries, the role of leverage deficit in influencing use of cash in acquisitions is mitigated.

The results are robust given the inclusion of formal-institutions, firm-, industry-, and country-level characteristics. We conduct several robustness checks. The evidence holds in sub-period samples or in samples excluding U.S. firms. Our results are robust to control for alternative formal institutions and alternative leverage-deficit measure. Overall, the results indicate that, in addition to formal institutions, national culture plays an important role in explaining cross-country variations in acquisition choices.

There are policy implications. In an acquisition context, firms should manage their leverage deficit according to their culture background, as a country's culture characteristics influence the role of leverage deficit in influencing acquisition choices. For instance, in order to increase the probability of acquisitions, firms located in low-PDI countries should keep lower leverage deficit, since the negative effect of leverage deficit on likelihood of acquisitions is enhanced compared to high-PDI countries.

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Table 1: **The sample**: This table provides a description of sample. The sample period is from 1990 to 2012. Number of year, firm, firm-year, acquisition, and acquirer of each country are reported in Columns 1–5, respectively. Columns 6 and 7 report the means of acquisition value and *VALUE* (ratio of total acquisition value to book value of assets) of each country.

Country	N.O. of year	N.O. of firm	N.O. of firm-year	N.O. of acquisition	N.O. of acquirer	Mean of acquisition value (USD mil)	Mean of *VALUE*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Australia	10	578	2308	359	176	124.41	0.17
Brazil	4	80	234	23	19	609.86	0.09
Canada	23	1129	5647	879	372	252.24	0.16
Chile	13	107	834	31	19	287.14	0.00
Denmark	13	98	662	56	31	108.50	0.02
Finland	3	63	154	21	17	225.71	0.14
France	17	187	1182	191	61	1307.24	0.12
Germany	19	660	4164	181	94	1553.09	0.15
Greece	18	277	2297	58	39	144.47	0.11
Hong Kong	12	779	4866	118	90	462.62	0.06
Indonesia	19	248	2167	40	23	173.71	0.00
India	2	33	34	1	1	348.84	0.00
Israel	9	296	1182	70	33	548.75	0.03
Italy	19	258	2000	165	85	546.10	0.13
Japan	23	3914	42103	1412	895	185.20	0.00
South Korea	18	1543	9736	413	293	120.69	0.00
Mexico	11	83	479	29	14	2883.13	0.02
Malaysia	11	719	4413	138	103	31.87	0.03
Netherlands	10	103	581	88	38	1007.22	0.19
Norway	11	152	586	99	42	526.92	0.03
New Zealand	1	42	42	2	2	38.81	0.07
Peru	1	42	42	1	1	45.00	0.02
Pakistan	8	97	525	0	0	.	.
Philippines	6	81	332	12	9	22.95	0.00
South Africa	10	151	772	38	25	442.94	0.02
Singapore	11	528	2839	119	81	43.23	0.07
Sweden	14	195	1239	227	86	267.36	0.02
Switzerland	20	208	1851	139	62	1149.60	0.11
Thailand	19	430	3653	49	39	216.73	0.00
Turkey	13	213	1597	21	19	150.90	0.07
Taiwan	17	1377	9234	96	73	340.28	0.01
United Kingdom	23	1794	13705	3129	813	134.42	0.22
United States	23	6858	55088	10587	3087	428.33	0.17
Mean	13.06	706.76	5349.94	569.45	204.30	460.26	0.07
Median	13	213	1597	88	39	259.80	0.04
Total		23323	176548	18792	6742		

Table 2: **Descriptive statistics**: This table presents the descriptive statistics of acquisition, firm, industry, and country variables (Panel A) and national-culture and formal-institutional variables (Panel B). The sample period is from 1990 to 2012. All variables are defined in Appendix A.

	(1) N	(2) Mean	(3) Median	(4) Std. Dev.	(5) Min.	(6) Max.
Panel A: Acquisition, firm, industry, and country variables						
ACQ	176548	0.085	0.000	0.278	0.000	1.000
VALUE	176548	0.012	0.000	0.066	0.000	0.999
ALL_CASH	13646	0.502	1.000	0.500	0.000	1.000
PREMIUM_1DAY	2526	34.388	27.175	46.648	-98.030	809.090
PREMIUM_1WK	2528	39.117	30.980	52.077	-98.940	1122.220
PREMIUM_4WK	2524	44.119	34.365	66.114	-98.100	1937.040
RSIZE	13646	-2.351	-2.425	1.297	-4.605	4.746
IND_ACQ	13646	0.348	0.000	0.476	0.000	1.000
PUBLIC	13646	0.212	0.000	0.409	0.000	1.000
PRIVATE	13646	0.470	0.000	0.499	0.000	1.000
MBID	13646	0.013	0.000	0.113	0.000	1.000
HOSTILE	13646	0.009	0.000	0.095	0.000	1.000
ML_DEF	176548	-0.002	-0.009	0.104	-0.889	0.897
OL	176548	0.443	0.000	0.497	0.000	1.000
ML	176548	0.284	0.226	0.255	0.000	0.940
SALES	176548	5.499	5.451	1.929	-3.057	9.949
MTB	176548	1.253	0.890	1.535	0.098	36.028
RD_DUM	176548	0.444	0.000	0.497	0.000	1.000
RD_EXP	176548	0.021	0.000	0.049	0.000	0.352
SELL_EXP	176548	0.208	0.166	0.159	0.011	0.864
PROF	176548	0.088	0.095	0.136	-0.708	0.475
TANG	176548	0.308	0.273	0.215	0.000	0.944
RET	176548	0.140	0.001	0.713	-0.931	4.755
ML_AVE	176548	0.271	0.220	0.233	0.000	0.913
IND_LIQ	176548	0.018	0.000	0.055	0.000	0.998
HERFINDAHL	176548	0.318	0.222	0.270	0.032	1.000
GDPC	431	25113	28953	16122	656	67805
GGDP	431	2.870	3.034	3.201	-13.127	14.781
Panel B: National culture and institutional variables						
PDI	33	53.364	55	21.734	13	104
CLT	33	50.121	52	26.121	9	86
MAS	33	48.606	50	19.704	5	95
UAI	33	59.670	58	23.383	8	112
SHAREHOLDER	33	2.403	2.083	1.335	0.54	5
ACCSTD	31	65.613	65	9.570	38	83
LEGCOM	33	0	0	0.496	0	1

Table 3: **National-culture and formal-institutional variables**: This table presents indexes of Hofstede's four national-culture dimensions (Columns 1–4) and formal-institutional variables (Column 5–7) of 33 countries in the sample. All variables are defined in Appendix A.

Country	PDI (1)	CLT (2)	MAS (3)	UAI (4)	SHAREHOLDER (5)	ACCSTD (6)	LEGCOM (7)
Australia	36	10	61	51	4.00	75	1
Brazil	69	62	49	76	1.90	54	0
Canada	39	20	52	48	5.00	74	1
Chile	63	77	28	86	3.51	52	0
Denmark	18	26	16	23	2.00	62	0
Finland	33	37	26	59	3.00	77	0
France	68	29	43	86	2.70	69	0
Germany	35	33	66	65	0.92	62	0
Greece	60	65	57	112	1.24	55	0
Hong Kong	68	75	57	29	4.11	69	1
Indonesia	78	86	46	48	0.80		0
India	77	52	56	40	2.08	57	1
Israel	13	46	47	81	1.45	64	1
Italy	50	24	70	75	0.83	62	0
Japan	54	54	95	92	3.59	65	0
South Korea	60	82	39	85	1.07	62	0
Mexico	81	70	69	82	0.54	60	0
Malaysia	104	74	50	36	2.71	76	1
Netherlands	38	20	14	53	2.00	64	0
Norway	31	31	8	50	4.00	74	0
New Zealand	22	21	58	49	4.00	70	1
Peru	64	84	42	87	0.75	38	0
Pakistan	55	86	50	70	1.52		1
Philippines	94	68	64	44	0.82	65	0
South Africa	49	35	66	49	2.21	70	1
Singapore	74	80	48	8	3.43	78	1
Sweden	31	29	5	29	3.00	83	0
Switzerland	34	32	70	58	2.00	68	0
Thailand	64	80	34	64	1.25	64	1
Turkey	66	63	45	85	1.04	51	0
Taiwan	58	83	45	69	2.55	65	0
United Kingdom	35	11	66	35	4.28	78	1
United States	40	9	62	46	5.00	71	1

Table 4: **Correlation matrix – full sample**: This table provides the correlation matrix for pairs of likelihood and size of acquisition, firm-, industry-, and country-level variables based on 176,548 firm-year observations. All variables are defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ACQ (1)	1.00																	
VALUE (2)	0.62	1.00																
ML_DEF (3)	-0.04	-0.03	1.00															
OL (4)	-0.04	-0.04	0.68	1.00														
ML (5)	-0.08	-0.06	0.33	0.36	1.00													
SALES (6)	0.10	0.01	0.01	0.01	0.12	1.00												
MTB (7)	0.08	0.09	-0.09	-0.11	-0.25	-0.10	1.00											
RD_DUM (8)	-0.03	-0.02	0.00	0.01	0.11	-0.10	-0.06	1.00										
RD_EXP (9)	0.05	0.06	0.00	-0.03	-0.23	-0.14	0.23	-0.38	1.00									
SELL_EXP (10)	0.03	0.05	0.01	-0.03	-0.17	-0.30	0.17	-0.05	0.27	1.00								
PROF (11)	0.08	0.05	-0.16	-0.14	-0.17	0.25	0.12	0.03	-0.20	-0.24	1.00							
TANG (12)	-0.05	-0.05	0.03	0.06	0.24	0.05	-0.10	0.16	-0.24	-0.20	0.10	1.00						
RET (13)	0.06	0.06	-0.25	-0.17	-0.15	-0.05	0.19	-0.01	0.02	-0.01	0.13	-0.01	1.00					
ML_AVE (14)	-0.09	-0.08	0.04	0.17	0.75	0.12	-0.24	0.11	-0.24	-0.20	-0.10	0.25	0.06	1.00				
IND_LIQ (15)	0.12	0.12	0.01	-0.02	-0.10	-0.04	0.13	-0.05	0.15	0.13	0.01	-0.06	0.01	-0.13	1.00			
HERFINDAHL (16)	-0.03	-0.03	0.00	0.02	0.06	0.00	-0.05	0.18	-0.17	-0.04	0.06	0.06	0.00	0.07	-0.09	1.00		
GGDP (17)	0.01	0.02	0.00	0.00	-0.02	-0.09	0.06	0.05	-0.02	-0.07	0.07	0.03	-0.02	0.01	0.05	0.05	1.00	
GDPC (18)	0.13	0.10	0.00	-0.05	-0.12	0.17	0.11	-0.18	0.18	0.20	-0.04	-0.16	-0.03	-0.14	0.18	-0.20	-0.29	1.00

Table 5: **Correlation matrix − acquisition characteristics:** This table provides the correlation matrix for pairs of acquisition-, firm-, industry-, and country-level variables based on 13,646 deal-level observations. All variables are defined in Appendix A.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
ALL_CASH	(1)	1.00																				
PREMIUM_1DAY	(2)	0.06	1.00																			
PREMIUM_1WK	(3)	0.05	0.94	1.00																		
PREMIUM_4WK	(4)	0.03	0.72	0.84	1.00																	
RSIZE	(5)	-0.30	-0.01	-0.02	-0.02	1.00																
IND_ACQ	(6)	-0.04	0.00	-0.01	-0.01	0.07	1.00															
PUBLIC	(7)	-0.09	0.02	0.02	0.02	0.19	0.05	1.00														
PRIVATE	(8)	-0.13	-0.02	-0.02	-0.02	-0.11	-0.04	-0.49	1.00													
MBID	(9)	0.00	0.12	0.12	0.13	0.06	0.02	0.20	-0.10	1.00												
HOSTILE	(10)	0.01	0.10	0.10	0.08	0.07	0.02	0.18	-0.09	0.27	1.00											
ML_DEF	(11)	0.01	-0.03	-0.02	-0.01	-0.06	0.01	0.01	-0.03	0.00	-0.01	1.00										
OL	(12)	-0.02	-0.06	-0.06	-0.05	-0.05	0.01	0.01	-0.02	0.00	0.00	0.66	1.00									
SELL_EXP	(13)	0.15	-0.02	-0.03	-0.02	-0.28	0.01	0.28	-0.27	0.08	0.08	0.03	0.01	1.00								
MTB	(14)	-0.08	0.02	0.01	0.03	0.12	0.02	0.01	0.07	-0.01	-0.01	-0.07	-0.08	-0.02	1.00							
PROF	(15)	0.10	0.00	0.00	0.00	-0.07	0.01	0.04	-0.03	0.02	0.02	-0.10	-0.10	0.28	0.17	1.00						
RET	(16)	-0.09	0.01	0.00	0.00	0.11	0.00	-0.03	0.08	-0.01	-0.02	-0.25	-0.13	-0.11	0.29	0.03	1.00					
ML_AVE	(17)	0.01	-0.06	-0.05	-0.05	-0.06	0.01	0.02	-0.10	0.01	0.02	-0.07	0.10	0.10	-0.29	-0.07	0.05	1.00				
IND_LIQ	(18)	-0.06	0.02	0.04	0.03	0.00	0.01	-0.02	0.07	0.01	-0.01	0.00	0.00	-0.03	0.15	0.04	-0.04	0.10	1.00			
HERFINDAHL	(19)	0.04	-0.02	-0.02	-0.02	-0.05	-0.08	-0.02	-0.03	0.01	0.03	0.01	0.04	0.06	-0.10	0.04	-0.04	0.10	-0.08	1.00		
GGDP	(20)	-0.06	-0.03	-0.02	-0.02	0.07	-0.01	0.00	0.02	-0.01	0.01	-0.01	-0.01	-0.02	0.12	0.08	0.00	0.01	0.14	0.01	1.00	
GDPC	(21)	0.03	0.05	0.05	0.05	0.02	0.05	0.00	0.04	-0.01	0.02	-0.02	-0.06	0.10	0.07	-0.01	-0.02	-0.11	0.05	-0.20	-0.20	1.00

Table 6: **Correlation matrix – national-culture and formal institutional variables**: This table provides the correlation matrix for pairs of national-culture and formal-institutional variables of 33 countries. All variables are defined in Appendix A.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
PDI	(1)	1.00						
CLT	(2)	0.70	1.00					
MAS	(3)	0.23	-0.01	1.00				
UAI	(4)	0.08	0.26	0.20	1.00			
SHAREHOLDER	(5)	-0.33	-0.48	-0.02	-0.43	1.00		
ACCSTD	(6)	-0.27	-0.47	-0.07	-0.65	0.62	1.00	
LEGCOM	(7)	-0.05	-0.13	0.24	-0.46	0.46	0.41	1.00

Table 7: **The baseline regressions of probability and size of acquisitions**: This table presents probit analysis in Panel A and tobit analysis in Panel B. The dependent variables are ACQ (dummy variable equals to one if the firm undertake an acquisition, and zero otherwise) and $VALUE$ (ratio of total acquisition value to book value of assets) in Panels A and B, respectively. Leverage-deficit variables (ML_DEF and OL) are examined in Columns 1–8 and 9–16, respectively. Firm , industry, and country variables (ML_AVE, $SALES$, RET, MTB, $PROF$, IND_LIQ, $HERFINDAHL$, $GDPC$ and $GGDP$) are controlled in each regression. Variable definitions are given in Appendix A. All regressions include year-fixed effect. *Pseudo R^2* and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

Panel A: Acquisition (ACQ)

	Full sample					Excludes U.S. firms	1990–2000	2001–2012
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.3121***	-0.3169***	-0.3258***	-0.3172***	-0.3258***	-0.3075***	-0.2877***	-0.3200***
	(-6.3297)	(-6.3688)	(-6.7201)	(-6.3921)	(-6.6536)	(-4.2108)	(-2.9501)	(-5.6114)
$SHAREHOLDER$	0.1643***					0.1281***	0.3753***	0.1145***
	(20.7011)					(13.6420)	(15.4242)	(14.2782)
$ACCSTD$		0.0427***		0.0359***	0.0205***			
		(28.2665)		(20.3515)	(9.8863)			
$LEGCOM$			0.5264***		0.3913***			
			(34.6213)		(19.2970)			
ML_AVE	-0.6618***	-0.6334***	-0.6141***	-0.6245***	-0.6022***	-0.6098***	-0.5794***	-0.6816***
	(-21.9998)	(-20.8172)	(-20.6177)	(-20.5585)	(-20.0082)	(-16.5592)	(-9.2417)	(-21.1802)
$SALES$	0.0983***	0.1092***	0.1075***	0.1086***	0.1111***	0.0745***	0.0925***	0.1033***
	(28.2698)	(31.3103)	(31.0907)	(31.1407)	(32.0154)	(15.3391)	(13.2813)	(27.8015)
RET	0.1334***	0.1376***	0.1254***	0.1355***	0.1285***	0.1183***	0.2181***	0.1042***
	(19.9931)	(20.1970)	(18.7596)	(19.9276)	(18.9543)	(12.8150)	(16.5181)	(13.3970)
MTB	0.0179***	0.0225***	0.0152***	0.0210***	0.0175***	0.0445***	0.0138**	0.0172***
	(4.1800)	(5.0488)	(3.6321)	(4.7723)	(4.1019)	(8.8476)	(2.0163)	(3.9737)
$PROF$	0.4696***	0.4004***	0.3692***	0.4013***	0.3570***	0.4831***	1.0155***	0.2735***
	(10.0853)	(8.6780)	(8.2852)	(8.7283)	(7.9768)	(6.2857)	(9.3976)	(5.5445)
IND_LIQ	1.6308***	1.3770***	1.2643***	1.3517***	1.1875***	2.0628***	1.3690***	1.6834***
	(22.3404)	(18.8985)	(17.4822)	(18.6097)	(16.4412)	(20.3258)	(12.1864)	(18.3955)
$HERFINDAHL$	0.1582***	-0.0923***	0.0424*	-0.0093	-0.0121	0.3185***	0.3022***	0.0901***
	(6.3495)	(-3.5516)	(1.7019)	(-0.3453)	(-0.4768)	(11.6276)	(6.0301)	(3.3237)
$GDPC$	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	-0.0000***	0.0000***
	(12.5819)	(19.6950)	(22.2468)	(12.0555)	(18.0962)	(12.1413)	(-4.0341)	(14.6563)
$GGDP$	0.0359***	0.0188***	0.0022	0.0172***	-0.0011	0.0227***	0.0565***	0.0200***
	(11.8844)	(5.9436)	(0.7073)	(5.3883)	(-0.3603)	(6.5706)	(10.3464)	(5.3817)
$Intercept$	-3.0637***	-5.4968***	-2.8541***	-5.1667***	-4.1160***	-2.9261***	-3.3868***	-2.9155***
	(-73.2830)	(-51.8672)	(-74.2451)	(-45.3433)	(-30.3951)	(-56.5040)	(-35.7185)	(-65.7673)
Pseudo R^2	0.0989	0.1041	0.1106	0.1054	0.1110	0.0831	0.1212	0.0958
N	176548	173856	176548	173856	173856	121460	44523	132025

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Panel A: Acquisition (ACQ) cont.

	Full sample					Excludes U.S. firms	1990–2000	2001–2012
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OL	-0.0362***	-0.0429***	-0.0358***	-0.0401***	-0.0379***	-0.0266**	-0.0261	-0.0393***
	(-3.6735)	(-4.3217)	(-3.6020)	(-4.0383)	(-3.7992)	(-2.0339)	(-1.3774)	(-3.4213)
SHAREHOLDER	0.1637***			0.0733***		0.1279***	0.3744***	0.1139***
	(20.6490)			(7.9163)		(13.6341)	(15.4377)	(14.2193)
ACCSTD		0.0427***		0.0360***	0.0206***			
		(28.2637)		(20.3773)	(9.9362)			
LEGCOM			0.5250***		0.3892***			
			(34.5819)		(19.2177)			
ML_AVE	-0.6503***	-0.6194***	-0.6031***	-0.6116***	-0.5903***	-0.6019***	-0.5667***	-0.6704***
	(-21.6390)	(-20.3654)	(-20.2362)	(-20.1340)	(-19.5952)	(-16.3391)	(-9.0666)	(-20.7703)
SALES	0.0979***	0.1088***	0.1070***	0.1083***	0.1107***	0.0740***	0.0922***	0.1029***
	(28.1818)	(31.2370)	(30.9910)	(31.0637)	(31.9249)	(15.2486)	(13.2414)	(27.7118)
RET	0.1402***	0.1439***	0.1330***	0.1422***	0.1358***	0.1250***	0.2251***	0.1111***
	(21.3925)	(21.4981)	(20.2740)	(21.2864)	(20.4286)	(13.7160)	(17.4894)	(14.5396)
MTB	0.0180***	0.0226***	0.0153***	0.0211***	0.0176***	0.0448***	0.0135**	0.0174***
	(4.1896)	(5.0553)	(3.6497)	(4.7835)	(4.1207)	(8.8473)	(1.9810)	(4.0015)
PROF	0.4851***	0.4132***	0.3865***	0.4154***	0.3733***	0.5016***	1.0399***	0.2870***
	(10.4158)	(8.9569)	(8.6683)	(9.0336)	(8.3367)	(6.5147)	(9.5929)	(5.8214)
IND_LIQ	1.6249***	1.3718***	1.2588***	1.3463***	1.1822***	2.0548***	1.3644***	1.6773***
	(22.2659)	(18.8397)	(17.4133)	(18.5462)	(16.3769)	(20.2442)	(12.1457)	(18.3299)
HERFINDAHL	0.1586***	-0.0910***	0.0432*	-0.0089	-0.0114	0.3182***	0.3019***	0.0909***
	(6.3680)	(-3.5033)	(1.7376)	(-0.3308)	(-0.4490)	(11.6240)	(6.0316)	(3.3540)
GDPC	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	-0.0000***	0.0000***
	(12.6065)	(19.6586)	(22.2588)	(12.0708)	(18.0746)	(12.1792)	(-4.0213)	(14.6742)
GGDP	0.0358***	0.0187***	0.0022	0.0171***	-0.0011	0.0227***	0.0566***	0.0199***
	(11.8704)	(5.9145)	(0.7106)	(5.3647)	(-0.3603)	(6.5770)	(10.3625)	(5.3638)
Intercept	-3.0475***	-5.4770***	-2.8386***	-5.1510***	-4.1052***	-2.9138***	-3.3782***	-2.8978***
	(-72.7468)	(-51.7924)	(-73.6496)	(-45.2998)	(-30.3636)	(-56.3989)	(-35.3402)	(-65.2577)
Pseudo R^2	0.0986	0.1039	0.1103	0.1052	0.1107	0.0828	0.1209	0.0956
N	176548	173856	176548	173856	173856	121460	44523	132025

Panel B: Acquisition Value (VALUE)

	Full sample					Excludes U.S. firms	1990–2000	2001–2012
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.1081***	-0.1087***	-0.1099***	-0.1084***	-0.1097***	-0.1007***	-0.1348***	-0.0978***
	(-6.8822)	(-6.9057)	(-7.2435)	(-6.9250)	(-7.1735)	(-4.6766)	(-3.8191)	(-5.7654)
SHAREHOLDER	0.0569***					0.0435***	0.1350***	0.0394***
	(22.3335)					(14.7604)	(15.5957)	(16.2919)
ACCSTD		0.0145***		0.0122***	0.0066***			
		(29.1765)		(21.5729)	(10.6790)			
LEGCOM			0.1835***		0.1397***			
			(37.0317)		(23.6734)			
ML_AVE	-0.2149***	-0.2030***	-0.1943***	-0.1996***	-0.1899***	-0.1918***	-0.2090***	-0.2081***
	(-22.0733)	(-20.8811)	(-20.6560)	(-20.6287)	(-20.0519)	(-16.6047)	(-9.3795)	(-21.1074)
SALES	0.0241***	0.0275***	0.0267***	0.0273***	0.0278***	0.0163***	0.0242***	0.0240***
	(23.1903)	(26.6421)	(26.2879)	(26.4594)	(27.3853)	(11.8269)	(10.2116)	(23.3233)
RET	0.0447***	0.0460***	0.0415***	0.0452***	0.0425***	0.0366***	0.0794***	0.0326***
	(19.8808)	(20.0831)	(18.7505)	(19.8358)	(18.9246)	(13.0287)	(15.9463)	(13.5801)
MTB	0.0065***	0.0080***	0.0056***	0.0075***	0.0063***	0.0135***	0.0064***	0.0056***
	(4.6547)	(5.5637)	(4.1570)	(5.2827)	(4.6166)	(8.4795)	(2.6090)	(4.2320)
PROF	0.1418***	0.1172***	0.1066***	0.1172***	0.1019***	0.1443***	0.3432***	0.0757***
	(9.1380)	(7.6871)	(7.3044)	(7.7348)	(6.9671)	(5.9909)	(8.3847)	(4.8670)
IND_LIQ	0.5390***	0.4486***	0.4088***	0.4394***	0.3819***	0.6514***	0.5120***	0.5180***
	(22.5427)	(19.3782)	(17.4573)	(18.9543)	(16.5027)	(20.5289)	(12.6842)	(19.0500)
HERFINDAHL	0.0522***	-0.0356***	0.0142*	-0.0060	-0.0046	0.0980***	0.0968***	0.0316***
	(6.8252)	(-4.4568)	(1.8974)	(-0.7224)	(-0.5977)	(12.1472)	(5.6281)	(4.0715)
GDPC	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	-0.0000***	0.0000***
	(14.1233)	(21.9411)	(24.8730)	(13.6039)	(20.4303)	(13.2662)	(-4.3433)	(16.3020)
GGDP	0.0112***	0.0056***	-0.0008	0.0049***	-0.0018*	0.0069***	0.0202***	0.0056***
	(12.1167)	(5.7033)	(-0.8379)	(4.9896)	(-1.8874)	(6.8900)	(10.8752)	(5.3276)
Intercept	-0.9773***	-1.7997***	-0.8918***	-1.6840***	-1.3015***	-0.8739***	-1.1683***	-0.8752***
	(-62.4588)	(-47.8108)	(-62.7814)	(-42.9364)	(-30.8648)	(-39.9982)	(-32.6635)	(-53.5191)
Pseudo R²	0.1378	0.1460	0.1573	0.1483	0.1579	0.1251	0.1563	0.1366
N	176548	173856	176548	173856	173856	121460	44523	132025

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Panel B: Acquisition Value (*VALUE*) cont.

	Full sample					Excludes U.S. firms	1990–2000	2001–2012
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OL	-0.0133***	-0.0155***	-0.0128***	-0.0145***	-0.0135***	-0.0098**	-0.0140**	-0.0127***
	(-4.3065)	(-5.0106)	(-4.1746)	(-4.6768)	(-4.3705)	(-2.5243)	(-2.0813)	(-3.7589)
SHAREHOLDER	0.0567***			0.0261***		0.0434***	0.1347***	0.0392***
	(22.2741)			(9.1021)		(14.7473)	(15.6041)	(16.2268)
ACCSTD		0.0145***		0.0122***	0.0067***			
		(29.1764)		(21.6068)	(10.7358)			
LEGCOM			0.1831***		0.1390***			
			(36.9927)		(23.5918)			
ML_AVE	-0.2105***	-0.1977***	-0.1901***	-0.1948***	-0.1855***	-0.1888***	-0.2022***	-0.2043***
	(-21.6470)	(-20.3557)	(-20.2040)	(-20.1323)	(-19.5666)	(-16.3824)	(-9.1099)	(-20.6770)
SALES	0.0239***	0.0274***	0.0265***	0.0272***	0.0277***	0.0161***	0.0240***	0.0239***
	(23.0862)	(26.5575)	(26.1746)	(26.3714)	(27.2840)	(11.7308)	(10.1484)	(23.2319)
RET	0.0470***	0.0480***	0.0440***	0.0474***	0.0449***	0.0387***	0.0825***	0.0346***
	(21.2396)	(21.3397)	(20.2205)	(21.1499)	(20.3535)	(13.8441)	(17.0217)	(14.6373)
MTB	0.0066***	0.0081***	0.0056***	0.0076***	0.0064***	0.0136***	0.0063**	0.0057***
	(4.6646)	(5.5710)	(4.1734)	(5.2945)	(4.6345)	(8.4870)	(2.5677)	(4.2598)
PROF	0.1467***	0.1211***	0.1120***	0.1215***	0.1069***	0.1497***	0.3533***	0.0794***
	(9.4404)	(7.9368)	(7.6586)	(8.0129)	(7.2994)	(6.1974)	(8.5907)	(5.1066)
IND_LIQ	0.5374***	0.4472***	0.4073***	0.4380***	0.3804***	0.6494***	0.5102***	0.5166***
	(22.4690)	(19.3198)	(17.3902)	(18.8909)	(16.4392)	(20.4509)	(12.6288)	(18.9958)
HERFINDAHL	0.0524***	-0.0351***	0.0145*	-0.0058	-0.0043	0.0980***	0.0968***	0.0319***
	(6.8525)	(-4.3960)	(1.9445)	(-0.7011)	(-0.5609)	(12.1478)	(5.6321)	(4.1084)
GDPC	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	0.0000***	-0.0000***	0.0000***
	(14.1467)	(21.9021)	(24.8821)	(13.6182)	(20.4047)	(13.3031)	(-4.3330)	(16.3181)
GGDP	0.0112***	0.0055***	-0.0008	0.0049***	-0.0018*	0.0069***	0.0203***	0.0056***
	(12.1070)	(5.6747)	(-0.8301)	(4.9682)	(-1.8829)	(6.9031)	(10.8979)	(5.3148)
Intercept	-0.9716***	-1.7931***	-0.8867***	-1.6788***	-1.2981***	-0.8698***	-1.1638***	-0.8698***
	(-62.0513)	(-47.7216)	(-62.3535)	(-42.8815)	(-30.8255)	(-39.9074)	(-32.3307)	(-53.1762)
Pseudo R^2	0.1374	0.1457	0.1568	0.1480	0.1574	0.1246	0.1559	0.1362
N	176548	173856	176548	173856	173856	121460	44523	132025

Table 8: **The role of national culture in determining probability and size of acquisitions**: This table presents probit analysis in Panel A and tobit analysis in Panel B. The dependent variables are ACQ (dummy variable equals to one if the firm undertake an acquisition, and zero otherwise) and $VALUE$ (ratio of total acquisition value to book value of assets) in Panels A and B, respectively. Leverage-deficit variables (ML_DEF and OL) are controlled in Columns 1–4 and 5–8, respectively. The national-culture variables are power distance (PDI), collectivism/individualism (CLT), masculinity/feminity (MAS), and uncertainty avoidance (UAI). Firm, industry, and country variables (ML_AVE, $SALES$, RET, MTB, $PROF$, IND_LIQ, $HERFINDAHL$, $GDPC$ and $GGDP$) are controlled in each regression but their coefficients are omitted for brevity. Variable definitions are given in Appendix A. All regressions include year-fixed effect. $Pseudo\ R^2$ and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, **, or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

Panel A: Acquisition (ACQ)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.3267***	-0.3352***	-0.3356***	-0.3329***				
	(-6.6352)	(-6.8076)	(-6.8893)	(-6.8171)				
OL					-0.0398***	-0.0389***	-0.0412***	-0.0400***
					(-4.0136)	(-3.8827)	(-4.1544)	(-4.0334)
$SHAREHOLDER$	0.1552***	0.0196**	0.1617***	0.0754***	0.1546***	0.0193**	0.1611***	0.0750***
	(20.7446)	(2.5538)	(21.6407)	(9.2547)	(20.6865)	(2.5067)	(21.5772)	(9.2037)
PDI	-0.0172***				-0.0172***			
	(-21.5452)				(-21.5399)			
CLT		-0.0149***				-0.0149***		
		(-36.0254)				(-36.0123)		
MAS			-0.0091***				-0.0090***	
			(-24.4093)				(-24.3929)	
UAI				-0.0089***				-0.0089***
				(-23.6524)				(-23.6259)
$Intercept$	-1.7301***	-1.3763***	-2.3819***	-2.0856***	-1.7136***	-1.3614***	-2.3648***	-2.0698***
	(-25.2487)	(-22.3301)	(-53.2461)	(-38.6407)	(-24.9192)	(-22.0099)	(-52.7097)	(-38.1885)
$Pseudo\ R^2$	0.1085	0.1195	0.1074	0.1078	0.1083	0.1192	0.1071	0.1075
N	176548	176548	176548	176548	176548	176548	176548	176548

Panel B: Acquisition Value ($VALUE$)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.1108***	-0.1116***	-0.1141***	-0.1130***				
	(-7.1643)	(-7.3147)	(-7.3994)	(-7.3631)				
OL					-0.0143***	-0.0138***	-0.0148***	-0.0144***
					(-4.6572)	(-4.4865)	(-4.7589)	(-4.6673)
$SHAREHOLDER$	0.0527***	0.0047**	0.0559***	0.0253***	0.0525***	0.0046**	0.0557***	0.0251***
	(22.4586)	(2.0296)	(23.2393)	(10.1006)	(22.3942)	(1.9728)	(23.1713)	(10.0383)
PDI	-0.0061***				-0.0061***			
	(-23.5925)				(-23.5937)			
CLT		-0.0052***				-0.0052***		
		(-37.5406)				(-37.5268)		
MAS			-0.0029***				-0.0029***	
			(-26.1569)				(-26.1526)	
UAI				-0.0031***				-0.0031***
				(-26.1188)				(-26.0999)
$Intercept$	-0.4963***	-0.3629***	-0.7521***	-0.6221***	-0.4904***	-0.3577***	-0.7462***	-0.6166***
	(-23.3662)	(-19.5968)	(-49.1842)	(-36.3170)	(-23.0175)	(-19.2494)	(-48.7271)	(-35.8708)
$Pseudo\ R^2$	0.1536	0.1717	0.1491	0.1524	0.1532	0.1712	0.1486	0.1520
N	176548	176548	176548	176548	176548	176548	176548	176548

Table 9: **The joint effect of national culture and leverage deficit in determining probability and size of acquisitions**: This table presents probit analysis in Panel A and tobit analysis in Panel B. The dependent variables are ACQ (dummy variable equals to one if the firm undertake an acquisition, and zero otherwise) and $VALUE$ (ratio of total acquisition value to book value of assets) in Panels A and B, respectively. Leverage-deficit variables (ML_DEF and OL) are controlled in Columns 1–4 and 5–8, respectively. The national-culture variables are power distance (PDI), collectivism/individualism (CLT), masculinity/femininity (MAS), and uncertainty avoidance (UAI). The interactions of national-culture variables and leverage-deficit measures are examined. Firm, industry, and country variables (ML_AVE, $SALES$, RET, MTB, $PROF$, IND_LIQ, $HERFINDAHL$, $GDPC$ and $GGDP$) are controlled in each regression but their coefficients are omitted for brevity. Variable definitions are given in Appendix A. All regressions include year-fixed effect. $Pseudo\ R^2$ and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

Panel A: Acquisition (ACQ)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.9856***	-0.4603***	-0.3182	-0.5119***				
	(-4.4059)	(-7.2146)	(-1.4824)	(-3.7954)				
OL					-0.2436***	-0.0874***	-0.1109***	-0.1378***
					(-5.3736)	(-5.9024)	(-3.4656)	(-5.3445)
$SHAREHOLDER$	0.1549***	0.0195**	0.1617***	0.0753***	0.1541***	0.0191**	0.1610***	0.0747***
	(20.7182)	(2.5406)	(21.6391)	(9.2403)	(20.6131)	(2.4908)	(21.5623)	(9.1649)
PDI	-0.0171***				-0.0192***			
	(-21.4555)				(-20.3343)			
CLT		-0.0149***				-0.0156***		
		(-35.9441)				(-34.9368)		
MAS			-0.0091***				-0.0095***	
			(-24.3638)				(-22.5219)	
UAI				-0.0089***				-0.0096***
				(-23.5921)				(-22.6922)
$ML\_DEF \times PDI$	0.0149***							
	(2.9077)							
$ML\_DEF \times CLT$		0.0051**						
		(2.3280)						
$ML\_DEF \times MAS$			-0.0003					
			(-0.0832)					
$ML\_DEF \times UAI$				0.0035				
				(1.3004)				
$OL \times PDI$					0.0046***			
					(4.6115)			
$OL \times CLT$						0.0018***		
						(4.5833)		
$OL \times MAS$							0.0011**	
							(2.3202)	
$OL \times UAI$								0.0018***
								(4.1651)
$Intercept$	-1.7339***	-1.3765***	-2.3818***	-2.0863***	-1.6269***	-1.3438***	-2.3336***	-2.0278***
	(-25.3312)	(-22.3454)	(-53.1744)	(-38.6605)	(-22.3905)	(-21.6806)	(-50.1147)	(-36.5250)
$Pseudo\ R^2$	0.1087	0.1196	0.1074	0.1078	0.1086	0.1195	0.1071	0.1076
N	176548	176548	176548	176548	176548	176548	176548	176548

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Panel B: Acquisition Value (*VALUE*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.3251***	-0.1527***	-0.0811	-0.1777***				
	(-4.6665)	(-7.5421)	(-1.3669)	(-4.3446)				
OL					-0.0808***	-0.0288***	-0.0336***	-0.0469***
					(-5.7674)	(-6.3207)	(-3.7148)	(-5.9206)
SHAREHOLDER	0.0526***	0.0047**	0.0559***	0.0252***	0.0524***	0.0045*	0.0557***	0.0251***
	(22.4307)	(2.0132)	(23.2379)	(10.0828)	(22.3246)	(1.9567)	(23.1603)	(9.9997)
PDI	-0.0060***				-0.0067***			
	(-23.4966)				(-22.3534)			
CLT		-0.0052***				-0.0055***		
		(-37.4650)				(-36.6739)		
MAS			-0.0029***				-0.0030***	
			(-26.1262)				(-24.3909)	
UAI				-0.0031***				-0.0034***
				(-26.0620)				(-25.1304)
ML_DEF × PDI	0.0049***							
	(3.0980)							
ML_DEF × CLT		0.0017***						
		(2.6736)						
ML_DEF × MAS			-0.0005					
			(-0.5777)					
ML_DEF × UAI				0.0013				
				(1.6165)				
OL × PDI					0.0015***			
					(4.9931)			
OL × CLT						0.0006***		
						(4.9927)		
OL × MAS							0.0003**	
							(2.2646)	
OL × UAI								0.0006***
								(4.6806)
Intercept	-0.4976***	-0.3629***	-0.7518***	-0.6224***	-0.4621***	-0.3522***	-0.7378***	-0.6027***
	(-23.4529)	(-19.6104)	(-49.1401)	(-36.3415)	(-20.5781)	(-18.9134)	(-47.0887)	(-34.2751)
Pseudo R²	0.1538	0.1718	0.1491	0.1525	0.1536	0.1715	0.1487	0.1522
N	176548	176548	176548	176548	176548	176548	176548	176548

Table 10: **Baseline regressions of payment method of acquisitions:** This table reports the probit analysis of $AllCASH$ (dummy variable equals to one if the acquisition is entirety paid in cash, and zero otherwise). Leverage-deficit variables (ML_DEF and OL) are examined in Columns 1–8 and 9–16, respectively. Firm, industry, acquisition, and country variables (ML_AVE, $SALES$, RET, MTB, $PROF$, IND_LIQ, $HERFINDAHL$, $RSIZE$, IND_ACQ, $PUBLIC$, $PRIVATE$, $MBID$, $GDPC$ and $GGDP$) are controlled in each regression. Variable definitions are given in Appendix A. All regressions include year-fixed effect. $Pseudo\ R^2$ and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

| | Full sample | | | | | Excludes U.S. firms | 1990–2000 | 2001–2012 |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.3944***	-0.3940***	-0.4028***	-0.4024***	-0.4041***	-0.3026	-0.7628***	-0.2592
	(-2.8215)	(-2.8080)	(-2.8811)	(-2.8714)	(-2.8841)	(-1.5527)	(-2.8810)	(-1.5649)
$SHAREHOLDER$	-0.1091***					-0.1524***	-0.2646***	-0.0920***
	(-5.2727)					(-6.4285)	(-4.2258)	(-4.3232)
$ACCSTD$		-0.0162***		-0.0109***	-0.0086**			
		(-4.4367)		(-2.7441)	(-1.9931)			
$LEGCOM$			-0.2354***		-0.1762***			
			(-5.3000)		(-3.3629)			
ML_AVE	-0.3654***	-0.3794***	-0.3913***	-0.3863***	-0.3981***	-0.0855	-0.3699**	-0.3694***
	(-4.3286)	(-4.4475)	(-4.6050)	(-4.5334)	(-4.6593)	(-0.7218)	(-2.2189)	(-3.9375)
$SALES$	0.0276***	0.0223**	0.0274***	0.0236***	0.0245***	-0.0031	-0.0317*	0.0517***
	(3.0824)	(2.4357)	(3.0384)	(2.6042)	(2.6762)	(-0.2294)	(-1.9069)	(5.2204)
RET	-0.0776***	-0.0802***	-0.0774***	-0.0797***	-0.0793***	-0.0447	-0.1354***	-0.0528**
	(-3.9995)	(-4.1111)	(-3.9602)	(-4.0954)	(-4.0486)	(-1.4764)	(-3.8255)	(-2.2909)
MTB	-0.0227	-0.0258*	-0.0239	-0.0252	-0.0255*	0.0201	-0.0530**	0.0120
	(-1.4937)	(-1.6671)	(-1.5759)	(-1.6342)	(-1.6590)	(1.6242)	(-2.0939)	(1.2633)
$PROF$	1.1496***	1.1922***	1.1709***	1.1951***	1.2006***	0.6524***	1.1010***	1.1182***
	(9.3394)	(9.5800)	(9.4869)	(9.6161)	(9.6535)	(3.7348)	(4.2580)	(8.0786)
IND_LIQ	-0.3835**	-0.2926*	-0.2980*	-0.2885*	-0.2502	-0.3587*	0.0078	-0.7104***
	(-2.2287)	(-1.6643)	(-1.7270)	(-1.6659)	(-1.4415)	(-1.7127)	(0.0365)	(-3.0393)
$HERFINDAHL$	-0.0246	0.1214**	0.0296	0.0343	0.0691	0.1255	-0.0046	-0.0351
	(-0.3998)	(1.9798)	(0.4941)	(0.5199)	(1.0911)	(1.5949)	(-0.0401)	(-0.5185)
$RSIZE$	-0.3009***	-0.3051***	-0.2990***	-0.3028***	-0.3009***	-0.3184***	-0.2806***	-0.3144***
	(-27.5455)	(-27.8403)	(-27.3633)	(-27.5591)	(-27.3152)	(-19.2221)	(-14.0138)	(-24.5900)
IND_ACQ	-0.0624**	-0.0653**	-0.0604**	-0.0620**	-0.0611**	-0.0736*	0.0474	-0.1143***
	(-2.2873)	(-2.3882)	(-2.2088)	(-2.2680)	(-2.2286)	(-1.7914)	(0.9732)	(-3.6389)
$PUBLIC$	-0.5754***	-0.5800***	-0.5822***	-0.5826***	-0.5864***	-0.4858***	-0.7122***	-0.5000***
	(-15.4865)	(-15.5707)	(-15.6003)	(-15.6366)	(-15.6982)	(-8.6390)	(-11.1183)	(-11.1662)
$PRIVATE$	-0.6474***	-0.6460***	-0.6396***	-0.6461***	-0.6410***	-0.6398***	-0.8326***	-0.5608***
	(-22.1389)	(-22.1496)	(-21.8943)	(-22.1187)	(-21.9415)	(-14.7271)	(-15.8443)	(-16.1384)
$MBID$	0.3626***	0.3593***	0.3734***	0.3611***	0.3678***	0.4637***	0.4157***	0.3262**
	(3.6581)	(3.6100)	(3.7678)	(3.6252)	(3.6963)	(2.7589)	(2.7020)	(2.4446)
$GDPC$	0.0000***	0.0000	0.0000	0.0000***	0.0000	0.0000**	0.0000***	0.0000**
	(3.0956)	(0.6760)	(1.4587)	(2.7984)	(1.4272)	(2.2921)	(3.0631)	(2.1291)
$GGDP$	-0.0023	-0.0038	0.0096	-0.0000	0.0079	-0.0044	0.0388	-0.0013
	(-0.1932)	(-0.3179)	(0.7798)	(-0.0019)	(0.6440)	(-0.3298)	(1.3149)	(-0.0937)
$Intercept$	-0.0469	0.9118***	-0.1435	0.6536**	0.4240	0.0982	-0.0572	-0.2687*
	(-0.3613)	(3.4430)	(-1.1168)	(2.3765)	(1.4107)	(0.5968)	(-0.1755)	(-1.9524)
$Pseudo\ R^2$	0.1375	0.1372	0.1375	0.1384	0.1381	0.1271	0.1318	0.1371
N	13646	13634	13646	13634	13634	5959	4302	9344

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Table 10 cont.

	Full sample					Excludes U.S. firms	1990–2000	2001–2012
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
OL	-0.1048***	-0.1006***	-0.1051***	-0.1051***	-0.1044***	-0.0946**	-0.1103**	-0.1006***
	(-3.9652)	(-3.8112)	(-3.9803)	(-3.9751)	(-3.9520)	(-2.4925)	(-2.3139)	(-3.1927)
$SHAREHOLDER$	-0.1112***			-0.0875***		-0.1541***	-0.2641***	-0.0946***
	(-5.3716)			(-3.8459)		(-6.5028)	(-4.2175)	(-4.4355)
$ACCSTD$		-0.0162***		-0.0108***	-0.0084**			
		(-4.4556)		(-2.7273)	(-1.9621)			
$LEGCOM$			-0.2391***		-0.1808***			
			(-5.3769)		(-3.4442)			
ML_AVE	-0.3252***	-0.3400***	-0.3511***	-0.3456***	-0.3578***	-0.0587	-0.2955*	-0.3358***
	(-3.8618)	(-3.9908)	(-4.1402)	(-4.0626)	(-4.1948)	(-0.4951)	(-1.7844)	(-3.5575)
$SALES$	0.0272***	0.0219**	0.0270***	0.0233**	0.0241***	-0.0036	-0.0317*	0.0513***
	(3.0435)	(2.3950)	(2.9984)	(2.5676)	(2.6421)	(-0.2619)	(-1.9051)	(5.1793)
RET	-0.0758***	-0.0781***	-0.0754***	-0.0777***	-0.0772***	-0.0443	-0.1290***	-0.0542**
	(-3.9894)	(-4.0902)	(-3.9402)	(-4.0818)	(-4.0289)	(-1.4769)	(-3.7007)	(-2.3960)
MTB	-0.0224	-0.0256*	-0.0236	-0.0249	-0.0252*	0.0204	-0.0519**	0.0118
	(-1.4873)	(-1.6620)	(-1.5720)	(-1.6275)	(-1.6538)	(1.6376)	(-2.0711)	(1.2285)
$PROF$	1.1421***	1.1857***	1.1642***	1.1876***	1.1937***	0.6400***	1.1213***	1.1034***
	(9.2913)	(9.5363)	(9.4445)	(9.5675)	(9.6085)	(3.6757)	(4.3122)	(7.9861)
IND_LIQ	-0.3702**	-0.2811	-0.2838	-0.2760	-0.2369	-0.3415	0.0070	-0.6932***
	(-2.1506)	(-1.5971)	(-1.6438)	(-1.5929)	(-1.3644)	(-1.6284)	(0.0328)	(-2.9592)
$HERFINDAHL$	-0.0226	0.1254**	0.0329	0.0360	0.0718	0.1288	-0.0052	-0.0324
	(-0.3666)	(2.0444)	(0.5489)	(0.5455)	(1.1332)	(1.6396)	(-0.0446)	(-0.4806)
$RSIZE$	-0.3015***	-0.3057***	-0.2995***	-0.3034***	-0.3014***	-0.3188***	-0.2794***	-0.3154***
	(-27.6585)	(-27.9669)	(-27.4737)	(-27.6821)	(-27.4357)	(-19.2612)	(-13.9849)	(-24.6520)
IND_ACQ	-0.0620**	-0.0651**	-0.0600**	-0.0617**	-0.0607**	-0.0736*	0.0456	-0.1142***
	(-2.2720)	(-2.3773)	(-2.1926)	(-2.2529)	(-2.2123)	(-1.7883)	(0.9370)	(-3.6327)
$PUBLIC$	-0.5743***	-0.5788***	-0.5812***	-0.5815***	-0.5854***	-0.4836***	-0.7101***	-0.4983***
	(-15.4591)	(-15.5426)	(-15.5755)	(-15.6088)	(-15.6732)	(-8.6096)	(-11.1074)	(-11.1272)
$PIVATE$	-0.6466***	-0.6452***	-0.6387***	-0.6453***	-0.6401***	-0.6406***	-0.8271***	-0.5611***
	(-22.0890)	(-22.1016)	(-21.8443)	(-22.0691)	(-21.8905)	(-14.7382)	(-15.7841)	(-16.1269)
$MBID$	0.3627***	0.3593***	0.3735***	0.3611***	0.3680***	0.4599***	0.4201***	0.3234**
	(3.6648)	(3.6149)	(3.7756)	(3.6312)	(3.7036)	(2.7458)	(2.7441)	(2.4304)
$GDPC$	0.0000***	0.0000	0.0000	0.0000***	0.0000	0.0000**	0.0000***	0.0000**
	(3.0880)	(0.5924)	(1.3914)	(2.7950)	(1.3627)	(2.2860)	(2.9644)	(2.1168)
$GGDP$	-0.0026	-0.0041	0.0095	-0.0003	0.0078	-0.0047	0.0390	-0.0018
	(-0.2158)	(-0.3463)	(0.7729)	(-0.0264)	(0.6384)	(-0.3474)	(1.3198)	(-0.1332)
$Intercept$	-0.0033	0.9543***	-0.1022	0.6921**	0.4559	0.1421	0.0056	-0.2233
	(-0.0254)	(3.5951)	(-0.7888)	(2.5147)	(1.5177)	(0.8617)	(0.0170)	(-1.6146)
$Pseudo\ R^2$	0.1380	0.1377	0.1380	0.1388	0.1385	0.1276	0.1313	0.1378
N	13646	13634	13646	13634	13634	5959	4302	9344

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Table 11: **National culture in determining payment method of acquisitions:** This table reports the probit analysis of *All_CASH* (dummy variable equals to one if the acquisition is entirety paid in cash, and zero otherwise). Leverage-deficit variables (*ML_DEF* and *OL*) are controlled in Columns 1–4 and 5–8, respectively. The national-culture variables are power distance (*PDI*), collectivism/individualism (*CLT*), masculinity/femininity (*MAS*), and uncertainty avoidance (*UAI*). Firm, industry, acquisition, and country variables (*ML_AVE, SALES, RET, MTB, PROF, IND_LIQ, HERFINDAHL, RSIZE, IND_ACQ, PUBLIC, PRIVATE, MBID, GDPC* and *GGDP*) are controlled in each regression but their coefficients are omitted for brevity. Variable definitions are given in Appendix A. All regressions include year-fixed effect. *Pseudo R²* and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.4105***	-0.4036***	-0.3925***	-0.4037***				
	(-2.9312)	(-2.8863)	(-2.8095)	(-2.8865)				
OL					-0.1062***	-0.1058***	-0.1052***	-0.1062***
					(-4.0177)	(-4.0049)	(-3.9802)	(-4.0187)
SHAREHOLDER	-0.1083***	-0.0835***	-0.1166***	-0.0820***	-0.1104***	-0.0857***	-0.1188***	-0.0841***
	(-5.2447)	(-3.4257)	(-5.6479)	(-3.5180)	(-5.3438)	(-3.5137)	(-5.7512)	(-3.6061)
PDI	0.0064***				0.0063***			
	(3.3542)				(3.3292)			
CLT		0.0026*				0.0026*		
		(1.9063)				(1.8962)		
MAS			0.0029***				0.0030***	
			(2.5838)				(2.6158)	
UAI				0.0031***				0.0031***
				(2.6856)				(2.6932)
Intercept	-0.5374***	-0.3143	-0.2885*	-0.3603**	-0.4895**	-0.2691	-0.2481	-0.3175*
	(-2.6513)	(-1.5769)	(-1.8545)	(-2.0035)	(-2.4075)	(-1.3476)	(-1.5869)	(-1.7590)
Pseudo R²	0.1383	0.1378	0.1380	0.1381	0.1388	0.1383	0.1385	0.1386
N	13646	13646	13646	13646	13646	13646	13646	13646

Table 12: **The joint effect of national culture and leverage deficit in determining payment method of acquisitions**: This table reports the probit analysis of $AllCASH$ (dummy variable equals to one if the acquisition is entirety paid in cash, and zero otherwise). Leverage-deficit variables (ML_DEF and OL) are controlled in Columns 1–4 and 5–8, respectively. The national-culture variables are power distance (PDI), collectivism/individualism (CLT), masculinity/femininity (MAS), and uncertainty avoidance (UAI). The interactions of national-culture variables and leverage-deficit measures are examined. Firm, industry, acquisition, and country variables (ML_AVE, $SALES$, RET, MTB, $PROF$, IND_LIQ, $HERFINDAHL$, $RSIZE$, IND_ACQ, $PUBLIC$, $PRIVATE$, $MBID$, $GDPC$ and $GGDP$) are controlled in each regression but their coefficients are omitted for brevity. Variable definitions are given in Appendix A. All regressions include year-fixed effect. $Pseudo\ R^2$ and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-0.1142	-0.2476	-2.2726***	-0.8978**				
	(-0.2122)	(-1.3266)	(-3.5769)	(-2.2475)				
OL					-0.0191	-0.1019***	-0.3808***	-0.2588***
					(-0.1741)	(-2.8059)	(-3.3064)	(-3.2552)
$SHAREHOLDER$	-0.1081***	-0.0834***	-0.1163***	-0.0820***	-0.1106***	-0.0858***	-0.1187***	-0.0834***
	(-5.2360)	(-3.4211)	(-5.6298)	(-3.5181)	(-5.3500)	(-3.5161)	(-5.7474)	(-3.5785)
PDI	0.0063***				0.0072***			
	(3.3234)				(3.2961)			
CLT		0.0025*				0.0026*		
		(1.8606)				(1.8063)		
MAS			0.0031***				0.0011	
			(2.7074)				(0.7553)	
UAI				0.0031***				0.0017
				(2.7452)				(1.2966)
$ML\_DEF \times PDI$	-0.0069							
	(-0.5735)							
$ML\_DEF \times CLT$		-0.0070						
		(-1.2913)						
$ML\_DEF \times MAS$			0.0303***					
			(3.0061)					
$ML\_DEF \times UAI$				0.0098				
				(1.3241)				
$OL \times PDI$					-0.0021			
					(-0.8211)			
$OL \times CLT$						-0.0002		
						(-0.1599)		
$OL \times MAS$							0.0044**	
							(2.4526)	
$OL \times UAI$								0.0031**
								(2.0609)
$Intercept$	-0.5332***	-0.3099	-0.2969*	-0.3655**	-0.5227***	-0.2700	-0.1222	-0.2579
	(-2.6281)	(-1.5554)	(-1.9085)	(-2.0313)	(-2.6192)	(-1.3493)	(-0.7463)	(-1.4006)
$Pseudo\ R^2$	0.1384	0.1379	0.1385	0.1382	0.1389	0.1383	0.1388	0.1388
N	13646	13646	13646	13646	13646	13646	13646	13646

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Table 13: **Baseline regressions of acquisition premiums**: This table reports the OLS regression of acquisition premiums. The dependent variables are PREMIUM_1DAY (Columns 1 and 4), PREMIUM_1WK (Columns 2 and 5) and PREMIUM_4WK (Columns 3 and 6). Leverage-deficit variables (ML_DEF and OL) are examined in Columns 1–3 and 4–6, respectively. Firm, industry, acquisition, and country variables (ML_AVE, SALES, RET, MTB, PROF, IND_LIQ, HERFINDAHL, RSIZE, IND_ACQ, ALL_CASH, MBID, HOSTILE, GDPC and GGDP) are controlled in each regression. Variable definitions are given in Appendix A. All regressions include year-fixed effect. Adjusted R^2 and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

	PREMIUM_1DAY	PREMIUM_1WK	PREMIUM_4WK	PREMIUM_1DAY	PREMIUM_1WK	PREMIUM_4WK
	(1)	(2)	(3)	(4)	(5)	(6)
ML_DEF	-13.9123	-10.1312	1.7856			
	(-1.0427)	(-0.6539)	(0.1348)			
OL				-5.2005***	-4.9028**	-4.4619*
				(-2.8508)	(-2.4876)	(-1.8328)
SHAREHOLDER	3.3545***	3.9335***	3.6407**	3.2244**	3.7983***	3.4837**
	(2.6667)	(3.0012)	(2.3894)	(2.5705)	(2.9176)	(2.3029)
ML_AVE	-9.2198	-8.7278	-8.2854	-7.8263	-7.4715	-7.3830
	(-1.5192)	(-1.3404)	(-1.0317)	(-1.3201)	(-1.1728)	(-0.9432)
SALES	-0.9527	-1.2880*	-1.4068*	-0.9761	-1.3110*	-1.4371*
	(-1.4526)	(-1.8783)	(-1.8245)	(-1.4934)	(-1.9133)	(-1.8631)
RET	1.6580	1.1575	1.2490	1.4002	0.8212	0.6500
	(0.8200)	(0.5351)	(0.7822)	(0.6677)	(0.3669)	(0.4051)
MTB	-0.0722	-0.1167	0.4957	-0.0439	-0.0870	0.5274
	(-0.1289)	(-0.2201)	(0.8396)	(-0.0792)	(-0.1651)	(0.9051)
PROF	-0.7056	-5.5763	0.4250	-1.6366	-6.8109	-1.5492
	(-0.0683)	(-0.5013)	(0.0368)	(-0.1581)	(-0.6118)	(-0.1332)
IND_LIQ	5.0804	13.9496	-1.3254	5.9229	14.9872	0.2024
	(0.4522)	(1.1846)	(-0.0953)	(0.5288)	(1.2781)	(0.0147)
HERFINDAHL	1.6470	2.6548	1.4868	2.0263	3.0019	1.7960
	(0.3839)	(0.5698)	(0.2865)	(0.4734)	(0.6447)	(0.3472)
RSIZE	-0.8971	-1.4619*	-2.1668**	-0.9317	-1.5018*	-2.2322**
	(-1.1600)	(-1.7672)	(-2.1450)	(-1.2141)	(-1.8253)	(-2.2013)
IND_ACQ	-0.1326	-1.1990	-1.4546	-0.0342	-1.0955	-1.3113
	(-0.0660)	(-0.5069)	(-0.4504)	(-0.0171)	(-0.4645)	(-0.4070)
ALL_CASH	5.6801***	5.9499**	4.8741	5.5702**	5.8390**	4.7352
	(2.5897)	(2.2726)	(1.3436)	(2.5352)	(2.2255)	(1.3006)
MBID	18.4281***	21.1738***	30.9517***	18.3007***	21.0771***	30.8646***
	(3.3713)	(2.8080)	(2.6963)	(3.3675)	(2.8043)	(2.6952)
HOSTILE	16.2988***	19.5883**	17.8524	16.3472***	19.5916**	17.7833
	(2.6834)	(2.1409)	(1.1514)	(2.6987)	(2.1447)	(1.1481)
GDPC	0.0002	0.0002	0.0005**	0.0002	0.0002	0.0005**
	(0.7927)	(0.9163)	(2.1800)	(0.7992)	(0.9205)	(2.1756)
GGDP	0.9466	1.3897	1.9983**	0.9271	1.3663	1.9467*
	(1.0703)	(1.5610)	(2.0008)	(1.0536)	(1.5431)	(1.9505)
Intercept	16.9818*	17.0501	3.4059	19.0922*	19.1302*	5.6754
	(1.6659)	(1.6019)	(0.2988)	(1.8758)	(1.8056)	(0.4996)
Adjusted R^2	0.0329	0.0377	0.0377	0.0351	0.0394	0.0387
N	2526	2528	2524	2526	2528	2524

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Table 14: **The role of national culture in determining acquisition premiums**: This table reports the OLS regression of acquisition premiums. The dependent variables are *PREMIUM_1DAY* (Panel A), *PREMIUM_1WK* (Panel B) and *PREMIUM_4WK* (Panel C). Leverage-deficit variables (*ML_DEF* and *OL*) are examined in Columns 1–4 and 5–8, respectively. The national-culture variables are power distance (*PDI*), collectivism/individualism (*CLT*), masculinity/femininity (*MAS*), and uncertainty avoidance (*UAI*). Firm, industry, acquisition, and country variables (*ML_AVE, SALES, RET, MTB, PROF, IND_LIQ, HERFINDAHL, RSIZE, IND_ACQ, ALL_CASH, MBID, HOSTILE, GDPC* and *GGDP*) are controlled in each regression but their coefficients are omitted for brevity. Variable definitions are given in Appendix A. All regressions include year-fixed effect. *Adjusted R²* and number of observations are reported. Standard errors clustered by firm. T-statistics are given in parentheses. ***, ** or * next to coefficients indicate that coefficients are significantly different from zero at the 1%, 5%, or 10% levels, respectively.

Panel A: *PREMIUM_1DAY*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-13.3830	-14.5423	-14.5302	-12.9624				
	(-1.0031)	(-1.0903)	(-1.0984)	(-0.9775)				
OL					-5.0795***	-5.1389***	-5.1913***	-5.0154***
					(-2.7744)	(-2.8310)	(-2.8537)	(-2.7534)
SHAREHOLDER	2.8946**	-0.6750	3.3783***	1.2793	2.7742**	-0.7736	3.2506***	1.1847
	(2.2629)	(-0.4871)	(2.6769)	(0.8907)	(2.1736)	(-0.5586)	(2.5838)	(0.8270)
PDI	-0.3572***				-0.3514***			
	(-2.6732)				(-2.6143)			
CLT		-0.4143***				-0.4115***		
		(-5.5115)				(-5.4932)		
MAS			-0.2246***				-0.2226***	
			(-2.8472)				(-2.8367)	
UAI				-0.2313***				-0.2277***
				(-3.1100)				(-3.0565)
Intercept	44.0888***	64.6532***	37.4392**	45.0888***	45.7225***	66.3919***	39.3459***	46.6986***
	(2.7862)	(4.7631)	(2.5782)	(2.9371)	(2.8946)	(4.9169)	(2.7177)	(3.0483)
Adjusted R²	0.0351	0.0415	0.0362	0.0362	0.0372	0.0435	0.0383	0.0382
N	2526	2526	2526	2526	2526	2526	2526	2526

Panel B: *PREMIUM_1WK*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	-9.6797	-11.0779	-10.9710	-9.2339				
	(-0.6249)	(-0.7157)	(-0.7151)	(-0.5986)				
OL					-4.7770**	-4.8449**	-4.8823**	-4.6937**
					(-2.4166)	(-2.4729)	(-2.4842)	(-2.3837)
SHAREHOLDER	3.4480***	-0.5424	3.9344***	1.5146	3.3243**	-0.6480	3.8029***	1.4212
	(2.5955)	(-0.3778)	(2.9812)	(1.0226)	(2.5180)	(-0.4533)	(2.9018)	(0.9655)
PDI	-0.3676***				-0.3611***			
	(-2.6587)				(-2.5971)			
CLT		-0.4602***				-0.4577***		
		(-5.8466)				(-5.8395)		
MAS			-0.2645***				-0.2626***	
			(-3.3542)				(-3.3452)	
UAI				-0.2674***				-0.2632***
				(-3.4846)				(-3.4344)
Intercept	45.0237***	70.1308***	41.2882***	49.6581***	46.5594***	71.8620***	43.1490***	51.1599***
	(2.7398)	(4.9408)	(2.7849)	(3.1382)	(2.8434)	(5.1007)	(2.9226)	(3.2486)
Adjusted R²	0.0395	0.0462	0.0414	0.0412	0.0411	0.0478	0.0430	0.0428
N	2528	2528	2528	2528	2528	2528	2528	2528

Table 14 cont.

Panel C: *PREMIUM_4WK*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ML_DEF	2.4032	0.5681	0.3500	3.0026				
	(0.1813)	(0.0430)	(0.0269)	(0.2275)				
OL					-4.2969*	-4.4267*	-4.5215*	-4.2076*
					(-1.7602)	(-1.8296)	(-1.8639)	(-1.7287)
SHAREHOLDER	2.9437*	-2.1401	3.6599**	0.2666	2.7991*	-2.2875	3.5059**	0.1553
	(1.8927)	(-1.2548)	(2.3939)	(0.1536)	(1.8111)	(-1.3474)	(2.3106)	(0.0899)
PDI	-0.5501***				-0.5432***			
	(-3.2853)				(-3.2213)			
CLT		-0.5948***				-0.5944***		
		(-7.1276)				(-7.1376)		
MAS			-0.3557***				-0.3568***	
			(-4.2923)				(-4.3075)	
UAI				-0.3793***				-0.3747***
				(-4.6637)				(-4.6092)
Intercept	45.1732**	71.9715***	35.9457**	49.4686***	46.8569**	74.1305***	38.2947**	51.0930***
	(2.4407)	(4.7240)	(2.4012)	(3.0337)	(2.5383)	(4.8993)	(2.5624)	(3.1445)
Adjusted R²	0.0403	0.0465	0.0419	0.0422	0.0412	0.0475	0.0429	0.0430
N	2524	2524	2524	2524	2524	2524	2524	2524

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A Appendix: Variable definitions

A.1 Acquisition variables

- Acquisition dummy (ACQ): A dummy variable equals to one if the firm undertake an acquisition, and zero otherwise, (*Source*: SDC Platinum)

- Acquisition value ($VALUE$): Ratio of total acquisition value to book value of assets, (*Source*: SDC Platinum)

- All cash acquisition (ALL_CASH): A dummy variable equals to one if the acquisition is entirety paid in cash, and zero otherwise, (*Source*: SDC Platinum)

- Acquisition premiums ($PREMIUM\_1DAY$ ($PREMIUM\_1WK$, $PREMIUM\_4WK$)): The premiums of offer price divided by target closing stock price 1 day (1 week, 4 weeks) prior to the announcement date, expressed as a percentage, (*Source*: SDC Platinum)

- Relative size ($RSIZE$): The natural Logarithm of the ratio of acquisition value to acquirer's total asset one year prior to the acquisition announcement, (*Source*: SDC Platinum)

- Within industry acquisition (IND_ACQ): A dummy variable equals to one if acquirer and target belong to the same three-digit SIC, and zero otherwise, (*Source*: SDC Platinum)

- Public acquisition ($PUBLIC$): A dummy variable equals to one if target is a public company at the time of the transaction, and zero otherwise, (*Source*: SDC Platinum)

- Private acquisition ($PRIVATE$): A dummy variable equals to one if target is a private company at the time of the transaction, and zero otherwise, (*Source*: SDC Platinum)

- Competed acquisition (*MBID*): A dummy variable equals to one if there are more than one bidder, and zero otherwise, (*Source*: SDC Platinum)

- Hostile acquisition (*HOSTILE*): A dummy variable equals to one if the acquirer makes an offer for target without prior negotiations, and zero otherwise, (*Source*: SDC Platinum)

A.2 Leverage-deficit variables

- Leverage deficit (*ML_DEF*): Market leverage minus target market leverage, (*Source*: Worldscope)

- Over-leveraged dummy (*OL*): A dummy variable equals to one if the firm is over-leveraged, and zero otherwise, (*Source*: Worldscope)

A.3 National culture and formal-institutional variables

- Power distance (*PDI*): Hofstedes cultural index on power distance, (*Source*: Hofstede (2001))

- Collectivism/individualism (*CLT*):100 minus Hofstedes cultural index on individualism, (*Source*: Hofstede (2001))

- Masculinity/femininity (*MAS*): Hofstedes cultural index on masculinity, (*Source*: Hofstede (2001))

- Uncertainty avoidance (*UAI*): Hofstedes cultural index on uncertainty avoidance, (*Source*: Hofstede (2001))

- Legal origin (*LEGCOM*): Dummy variable equals to one if a country adopts the common law system, zero otherwise, (*Source*: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998))

- Accounting standards ($ACCSTD$): Average inclusion or omission of the 90 accounting and non-accounting items by examining 1990 annual reports of the companies. A higher value indicates a more transparency information environment of the country. This items fall into seven categories (general information, income statements, balance sheets, fund of flow statements, accounting standards, stock data and special items), (*Source*: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998))

- Rule of law ($RULLAW$): Measures the law and order tradition in the country. The index is scaled from 0 (lowest tradition) to 10 (highest tradition), (*Source*: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998))

- Anti-director rights index ($ANTID$): An aggregated shareholder right index which including six dimensions. The index is formed by adding 1 when the country allows proxy the vote by mail; shareholders are not required to deposit their shares prior to the general shareholders' meeting; cumulative voting or proportional representation of minorities on the board of directors is allowed; an oppressed minorities mechanism is in place; the country requires the shareholder to hold at least 10 percent of share capital to call for an extraordinary shareholders' meeting; or shareholders have preemptive right that can be waived only by a shareholders' vote. This index is scaled from 0 (weakest shareholder protection) to 6 (strongest shareholder protection), (*Source*: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998))

- Shareholder protection ($SHAREHOLDER$): Measure of minority shareholders' effective rights. It is computed as the product of $RULLAW$ and $ANTID$ divided by 10. The index is scaled from 0 (weakest shareholder protection) to 6 (strongest shareholder protection), (*Source*: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998))

A.4 Firm-, industry-, and country-level variables

- Market leverage (ML): Book value of debt scaled by market value of assets. Market value of assets is defined as the sum of book value of debt, market value of equity and book value of preferred stock, (*Source*: Worldscope)

- Sales ($SALES$): The natural Logarithm of net sales which deflated to 2005 U.S. dollars by using the U.S. GDP deflator, (*Source*: Worldscope)

- Market to book (MTB): Ratio of market value of assets to book value of assets, (*Source*: Worldscope)

- Research and development dummy ($R\&D\_DUM$): A dummy variable equals to one if research and development expenses are not reported, and zero otherwise, (Worldscope)

- Research and development ($R\&D$): Ratio of research and development expenses to book value of assets, (Worldscope)

- Selling expenses (SEL_EXP): Ratio of selling expenses to sales, (Worldscope)

- Profitability ($PROF$): Ratio of earnings before interest, taxes, depreciation and amortization to book value assets, (*Source*: Worldscope)

- Tangibility ($TANG$): Ratio of net property, plant and equipment to book value of assets, (*Source*: Worldscope)

- Stock return (RET): Annual stock return, (*Source*: Datastream)

- Average market leverage (ML_AVE): The trailing 3 year average of market leverage, (*Source*: Worldscope)

- Industry M&A Liquidity (IND_LIQ): Sum of acquisitions value for each industry-year scaled by the book value of assets of all firms in the same

industry-year. Industry is classified based on three-digit SIC, (*Source*: Worldscope)

- Herfindahl index (*HERFINDAHL*): Sum of the squares of the market shares of all firms in the same industry. Market share is defined as the ratio of sales to sum of sales of the industry. Industry is classified based on three-digit SIC, (*Source*: Worldscope)

- GDP per capita (*GDPC*): Natural log of GDP per capita measured in U.S. dollar, (*Source*: World Development Indicator)

- GDP growth (*GGDP*): Annual GDP growth rate, (*Source*: World Development Indicator)