Mars-Venus Marriages: Culture and Cross-Border M&A*

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Abstract

We explore different factors that may explain the long-term performance of cross-border M&A. Using a sample of over 400 cross-border acquisitions in the period 1991-2000, we find that in general cross-border acquisitions are associated with a significantly positive "announcement effect" on the acquirer's share value, followed by a partial reversal of these gains in the long-run. We use several deal-specific variables, as well as country-level economic and cultural variables and find that acquisitions perform relatively better in the long-run if the acquirer and the target come from countries that are culturally more disparate. This fact does not appear to be incorporated in the "announcement effect". Markets are more cautious towards announcements of acquisitions of targets from dissimilar countries, but focus on the *economic* disparity rather than cultural disparity. As for deal characteristics, cash acquisitions do better in the long-run. We use the Hofstede measure of cultural dimensions to define cultural distance and also examine alternative measures like language, religion and legal origin to capture cultural differences.

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"In Russia, 3M is showing how companies can turn cultural variations into business advantages." Harvard Business Review[1]

1. Introduction

The key role that cultural differences play in the success of mergers and acquisitions, particularly in the case of transnational M&A, is well known among practitioners. Pautler (2003), in a survey of recent studies of transnational M&A by consultants, lists managing cultural difference between organizations as central to the success of a deal. In this paper we investigate the effect that differences in national culture have on the performance of transnational acquisitions.

Culture is a relatively new entrant in the finance literature. In a series of papers, La Porta et al (1997, 1998, 1999, 2002) have demonstrated the importance of investor protection in the law on ownership, external finance as well as corporate governance. More recently, Stulz and Williamson (2003) argue that the culture of a country, as reflected in its religion and language, have a greater role to play in determining creditor rights than several variables including the origin of its legal system. Our approach is slightly different. Instead of looking at religion and language as proxies for culture, we adopt the measures that are most established in the international business literature – the measures of different dimensions of culture developed by Hofstede in his seminal work in 1980.

[1] "Making the Most of Culture Differences," Mikhail V. Gratchev, *Harvard Business Review*, Oct 2001, Vol. 79 Issue 9, 28-29.

We are not aware of any academic research in the finance area probing the effect of culture on the performance of mergers and acquisitions. It is only recently that some researchers in finance have begun to use Hofstede measures (see Licht, Goldschmidt, Schwartz, 2003) of cultural dimensions in looking at various issues. The issues of cultural distance and M&A performance have been studied to some extent in the international business literature but without consensus. There are theories and empirics on both sides of the debate on whether cultural distance is conducive or detrimental to the post-merger performance of acquiring firms. Many of these studies, however, suffer from methodological limitations.

We study the performance of 409 transnational mergers and acquisitions between 1991 and 2000 involving acquirers from 34 countries and targets from 37 countries. Using an event-study methodology, we study the effect of several deal characteristics and country-level measures of economic and cultural distance on the stock market performance of the acquiring firms. We examine different horizons extending up to three years after the deal. We use the Hofstede measures to determine "cultural difference" between the countries involved in the acquisition. We find that on an average acquirers enjoy a significantly positive "announcement effect". However, their stocks underperform their respective country market indices in the three years following the acquisition, partially dissipating the announcement window gains. The long term performance of acquirers is *positively* and significantly related to the "cultural distance" between them. In other words, acquisitions involving firms from countries with dissimilar cultures do *better* than those between firms from countries with similar cultures. There is also some evidence that cash purchases do slightly better than other acquisitions in the short and medium term.

It is important to point out that we focus on “national culture” as opposed to “corporate culture” in our study. Differences in the latter frequently pose serious challenges to post-merger integration and performance. While the two concepts may be related, it is possible to have considerable differences in corporate cultures of companies belonging to the same countries (AOL and Time Warner are a case in point). While distance in corporate cultures is an important and fascinating topic for investigation, we do not attempt this considerably more challenging task in this paper.

Transnational mergers have remained a relatively less explored field in finance, though they are increasing in frequency and importance over time. The SDC database documents over 1800 international acquisitions in the 1990s. Multi-billion dollar deals like that of Chrysler-Daimler have industry implications at a global level. There have been some studies of short-run returns of acquirers in cross-border acquisitions (Cakiki, Hessel and Tandon (1996) and Eun, Kolodny, and Scheraga (1996)).

More recent literature on cross-border deals has focused on the role of law and the degree of shareholder and creditor protection in acquiring firm country. Kupiers, Miller, and Patel (2003) study 182 successful cross-border deals over the period 1982-1991. They provide evidence that the rule of law and the degree of shareholder and creditor rights protection in the acquiring firm country explains the observed variation in target, acquirer, and portfolio returns. Rossi and Volpin (2004) investigate the determinants of mergers and acquisitions around the world. They provide evidence that M & A activity is significantly larger in countries with better accounting standards and stronger shareholder protection.

Moeller and Schlingemann (2004) provide evidence that U.S. acquirers experience significantly lower stock and operating performance from cross-border than for domestic transactions. They argue that lower bidder gains in cross-border transactions are consistent with the inability of acquirers to correctly value the synergy in the acquisition. Our paper contributes to the cross-border M & A literature by documenting the long-run performance of such transnational acquisitions. More importantly, we document the effect of cultural differences on the success of transnational acquisitions.

The rest of the paper is organized as follows. Section 2 discusses the related literature. Section 3 describes the data. Section 4 discusses the short-term and long-term performance of the acquiring firms. Section 5 presents some robustness tests. Section 6 concludes with avenues for future research.

2. Related Literature

This paper stands at the confluence of at least two distinct bodies of literature – that on mergers and acquisitions, particularly transnational M&A, and that on culture, or more specifically the literature on cross-national cultural *differences*. In this section, we briefly review the two branches and describe how the present paper relates to the extant literature.

Cross-national cultural differences – the Hofstede measures

Culture is hard to define and far more difficult to measure. Societies often differ from one another in several respects including race, language and religious beliefs –

dimensions that are easily observable and definable. Culture encompasses and often extends beyond most of these. While even anthropologists argue over the definition of culture, one of the more accessible definitions of culture is of it being “the man made part of the environment” (Herskovits (1955)). As such, quantifying and measuring culture becomes a considerable challenge. Nevertheless, cross-national differences in culture comprise an important topic in international business. Such differences affect almost every aspect of international business, particularly the strategic and organizational aspects. Metrics of culture are therefore important not just for anthropologists but scholars and practitioners of business as well.

Language and religion are often used as proxies of culture. Historically distant societies develop distinct language and culture. Religious norms and beliefs also have a great impact on the way of life in a society. In particular, language and culture are intrinsically related. In recent years, however, more direct metrics of culture, independent of other variables have gained wide acceptance in the International Business area.

Geert Hofstede, in his landmark book on international management, *Culture’s Consequences: International Differences in Work Related Values*, divided culture into four dimensions – individualism, power distance, uncertainty avoidance and masculinity – to which a fifth, long term orientation, was later added. Scores were developed for several countries on these different dimensions. Since then researchers have used the Hofstede measures to calibrate the different dimensions of a society’s culture and used the difference in the measures to capture the idea of “cultural distance” in a vast and growing literature in international business. Kirkman et al (2003) provide an exhaustive survey of the literature that has emerged since the publication of Hofstede's book. Hofstede measures have not been free from criticism and are definitely not exact or perfect measures of culture. However, it is fair to say that they have become the mainstay of "formal" analysis of culture and cross-cultural differences.

Power distance focuses on the degree of equality, or inequality, between people in the country's society. Societies with strict hierarchies (e.g. Japan) exhibit greater power distance. *Individualism* refers to the extent the society reinforces individual or collective, achievement and interpersonal relationships. USA, for instance, is more individualistic than Italy. *Masculinity* reflects the degree the society reinforces, or does not reinforce, the traditional masculine-work role model of male achievement, control, and power. It essentially indicates the rigidity of gender roles in society. Japan, for example, is one of the most "masculine" countries in this regard while Scandinavian countries are the least "masculine". *Uncertainty Avoidance* captures the society's attitude towards uncertainty and ambiguity (i.e., unstructured situations). These aspects constitute four dimensions along which any society can be "scored" or calibrated and therefore, along which the "distance" between different societies can be measured. Defining these dimensions and calibrating different nations along them have made the Hofstede system an extremely useful tool for studies involving cross-national cultural distance.

Empirical evidence on long-term acquirer returns

Takeovers are one of the most important and increasingly common events in corporate finance. Nearly $4 trillion worth of mergers were done in the US alone between 1998 and 2000 – greater than that in the previous 30 years put together[2]. The value of annual global M&A transactions exceeded $ 2.2 trillion in 1999[3]. Consequently, there is a large body of literature investigating both the short-term stock market performance of the acquirers and targets and the long-term stock market performance of the acquirers – primarily focusing on the U.S. acquirers. In a recent survey article, Bruner (2002) summarizes the findings of 130 studies conducted from 1971 to 2001. The results of the studies that focused on short-term returns suggest that target shareholders earn significant positive abnormal returns and that bidders earn zero risk-adjusted returns. The combined returns of bidders and targets together are positive.

Though the shareholders of the bidding firms earn zero abnormal returns, a wide cross-sectional variation exists among these returns. As Hietala, Kaplan, and Robinson (2003) argue, it is often difficult to interpret the evidence on bidder returns because they would exhibit the combined effect of synergies, the stand-alone value of bidders and target firms, and the potential overpayment by the bidder. Magenheim and Mueller (1988) find underperformance by the acquiring firms. But, using the same sample with a different methodology, Bradley and Jarrell (1988) do not report any significant underperformance in the three-year period following the acquisitions. Agrawal, Jaffe, and Mandelker (1992),using a methodology that adjusts for firm size and beta, report significant underperformance of acquiring firms for mergers and insignificant performance for tender offers. Loughran and Vijh (1997) report similar results. Franks, Harris, and Titman (1991) find significant underperformance of the acquiring firms in the post-merger period when using equally weighted index, significant positive performance

[2] Business Week (2002).
[3] KPMG (1999)

when using value weighted index, and insignificant results when using ten-factor or eight-portfolio benchmarks. Mitchell and Stafford (2000) show significant negative abnormal returns for the acquiring firms in the post-merger period when using the Fama-French three-factor model as the benchmark with all observations equally weighted. However, they report insignificant results when using 25 size and book-to-market reference portfolios or the Fama-French three-factor model with all observations value weighted. It appears that the measurement of the acquiring firms' long-term performance is sensitive to the measurement methodology employed. In summary, the findings of previous studies indicate that acquiring firms earn zero or negative abnormal returns in both the announcement period and the post-merger period. None of these studies focus on a sample of acquirers that acquire foreign targets.

To date, there has been very limited empirical evidence on long-term performance of acquirers who acquire firms from a foreign country. Moeller and Schlingemann (2004) provide evidence that U.S. acquirers experience significantly lower stock and operating performance from cross-border than for domestic transactions. They argue that lower bidder gains in cross-border transactions are consistent with the inability of acquirers to correctly value the synergy in the acquisition. A successful integration of the target firm and the acquiring firm is often key to the success of the combined firm.[4] However, the issue related to integration to a large extent has remained unexplored by studies investigating the post-merger performance of acquiring firms.

[4] See Kay and Shelton (2000).

Culture and Cross-border acquisitions

There are two conflicting views in the management literature on the effect of culture on long-term performance of cross-border acquisitions: one arguing for improved long-term performance of cross-border acquisitions and the other arguing for reduced post-acquisition performance due to culture clashes.

The theory in support of enhanced performance argues that the national cultural distance enhances cross-border acquisition performance by providing access to target's and the acquirer's diverse set of routines embedded in national culture (Shane, 1992; Hofstede, 1980; Kogut and Singh, 1988; Barney, 1986). The opposite camp contends that the relatively larger cultural distance between firms tend to result in unavoidable cultural "collisions" during the post-acquisition period. (Jemison and Sitkin, 1986; Buono et al., 1985)). Jemison and Sitkin (1986) argue that higher level of cultural distance between firms have been associated with a higher degree of conflict during post-acquisition period.

The scanty empirical research in the area is equally divided on this issue. Datta and Puia (1995) analyze completed US cross-border acquisitions between 1978 and 1990 and find that as the overall cultural distance between countries increases, shareholder wealth in those firms making cross-border acquisitions decreases as a result of the acquisition. On the other hand Morosini, Shane and Singh (1998) provide evidence that the national cultural distance enhances cross-border acquisition performance.

Both of these studies, in spite of their contribution to the literature, have some serious limitations. Datta and Puia (1995) look at windows of up to 30 trading days from the first press report of the cross-border acquisition in the *Wall Street Journal* – an approach that is evidently susceptible with dating errors, and which at best only captures "announcement effects" and not the long-term performance of the acquiring firm. Announcement effects are less likely to capture the effects of culture, since the effect of culture may not be easy to quantify in the short-run. Morosini et al (1998) on the other hand, conduct a survey of 400 companies that engaged in cross-border acquisition activity in Italy between 1987 and 1992. Their usable sample for empirical analysis consists of only 52 observations. As the authors themselves acknowledge, their study suffers from serious limitations. First, by design their sample consists of acquisitions in which one of the partners is an Italian firm. The performance proxy used by them is the percentage sales growth for the two years following the acquisition and is not a stock market based performance measure.

The present paper

Our study focuses on the effect of cross-national cultural differences on the short and long-term stock performance of cross-border acquisitions. We analyze a sample of 409 acquisitions with acquirers from 34 countries and targets from 37 countries. Our horizon for long-run stock performance ranges up to three years from the effective date of the acquisition. This study seeks to answer the following question raised in the management literature: Which of the two opposite effects of acquisition involving firms from culturally disparate countries is stronger – the performance enhancing synergy effect or the dampening integration effect?

3. **Data and Variables**

Our empirical tests are based on a sample of cross-border acquisitions that occurred in the ten-year period 1991 to 2000. The data on acquisitions is obtained from the SDC Platinum Mergers & Acquisitions database. There are well over 1800 cross-border mergers in this period in the SDC database. We use the announcement date of the acquisition in constructing the sample and choose acquirers with public status and deal size over $100 million. The acquirer firms are then matched with available stock market returns data from DataStream. Monthly stock market returns of acquiring firms as well as total market index returns for the country of the acquiring firm are obtained from DataStream. In order to have uniformity across the countries, we use the Datastream stock market indices. The matching exercise reduces the number of acquisitions with data to around 1200. Next, in order to avoid contamination of the stock returns in our horizon from multiple events, we drop acquirers conducting multiple cross-border acquisitions within a three-year period. Finally, we exclude observations from Bermuda, Bahamas, British Virgin Islands and Puerto Rico, to avoid including "shell" operations. Our final sample consists of 409 unique acquisitions with 34 different acquirer countries and 37 different target nations from Asia, Europe, North America, South America, Africa and Australia.

The SDC database also provides us with certain important characteristics of the different acquisitions. We note whether the acquisitions were friendly or hostile, whether there was a cash purchase of shares and whether there was a tender offer for shares – variables that have been identified in prior research as affecting the success of the acquisitions. We construct dummy variables based on these characteristics. We also note if the acquisitions are related or not by matching the SIC codes of the two firms involved, both at the 3-digit level and at the 4-digit level.

We begin by presenting the salient features of our data. In Table 1 we present a partial country-wise breakdown of the data. Clearly the United States dominates our dataset as the host country with both the most acquiring firms as well as the most target firms. UK is a distant second followed by Canada in both categories. Much of the cross-border M&A activity appears to be restricted to the developed countries with South Africa, Hong Kong and Singapore being the only emerging markets involved. The US-Canada and US-UK combinations are the most common ones. While we have excluded multiple cross-border acquirers to arrive at our sample, this pattern may still be indicative of the distribution of overall cross-border M&A activity in the world.

Table 2 presents a summary of the characteristics of deals covered in our dataset. We note that 97% of cross-border acquisitions in our sample are friendly. Cash purchase of shares is the likely method of acquisition in close to two-thirds of the cases while a tender offer is made in only about 20% of cases. While a majority of the acquisitions are related, a large number (about 40%) are unrelated acquisitions. Thus, we find considerable variation in the mode of acquisitions as well as the relatedness of the parties involved in the deal.

Apart from the features of the deal, country-level characteristics are likely to influence the success of a cross-border acquisition. We therefore investigate the effect of economic and cultural differences between the acquirer's country and that of the target on the performance of the acquirer. We use the relative difference in per capita income (PCI_DIFF) to capture the economic distance between the two countries. In addition, we use the volatility of the exchange rate between the two countries (FOREX_STDEV) and the target country's openness to foreign trade (OPENNESS_TARGET) as explanatory variables. Finally we use several alternative measures of "cultural distance" – the Hofstede distance, Religion, Language and Legal Origin – to capture the cross-country differences in culture.

Economic difference between the two nations may be expected to have a considerable effect on the performance of the acquisition. Differences in per capita income are often associated with major socioeconomic differences between countries. Our measure of such "economic distance", PCI_DIFF is computed as:

$$PCI\_DIFF = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

Openness of the target nation to the world economy may have an important bearing on the functioning of acquired business. It can influence the ease with which the acquirer can manage and support the new division as well as the efficiency with which it can employ its profits. Our variable, OPENNESS_TARGET, captures the degree of openness of the target nation to international trade, and is computed as:

$$\text{OPENNESS\_TARGET} = \frac{(\text{Target Nation Import} + \text{Target Nation Export})}{(\text{Target Nation GDP})}$$

There is a considerable debate in the literature about the relationship between exchange rate changes and Foreign Direct Investment (FDI) flows (see for example Chakrabarti and Scholnick (2002) among others). Exchange rate volatility is likely to have an impact on the FDI vs. trade choice and hence affect cross-border M&A decisions. We therefore include foreign exchange volatility as a factor that can play a role in determining the success of cross-border acquisitions. Our measure, FOREX_STDEV, is the standard deviation of monthly exchange rates between the acquiring and target nations in the 36 months immediately preceding the effective date of the acquisition.

The economic data is obtained primarily from DataStream, while we use other sources where possible to retrieve economic data that is unavailable in DataStream. The Appendix describes the variables we use in this paper and indicates their sources.

Our primary measure of cultural distance, the Hofstede measure, is obtained from data available on the ITIM website <http://www.itim.org/4aba.html>. The distances are calculated from the numerical values of the four Hofstede dimension, namely, Individualism (IDV), Uncertainty Avoidance Index (UAI), Power Distance Index (PDI) and Masculinity (MAS). It is computed as follows:

$$\textbf{Hofstede\_distance} = \frac{\sqrt{\sum_{i=1}^{4}(S_{A,i} - S_{T,i})^2}}{4}$$

where $S_{A,i}$ = Acquirer Score on Dimension i ; $S_{T,i}$ = Target Score on Dimension i

As alternative measures of cultural distance, we use three other cultural proxies – Language, Religion and Legal Origin. We follow Stulz & Williamson (2003) for the Language and Religion proxies. The Legal Origin proxy is obtained from La Porta et al (1998). We use the broad categories of common and civil law in our regression analyses and do not differentiate between French, Scandinavian and German civil law. Dummy variables based on these three characteristics are used to measure the cultural match between the acquirer and the target countries. We assign a value of 1 if the proxies are an exact match and a value of 0 otherwise.

We seek to test whether national level economic and cultural differences, together with deal characteristics can explain the variation in long-run performances of cross-border acquisitions. We show that some of the cultural proxies have a significant effect on the long-run performance of the acquisitions. We justify the use of Hofstede distance as our primary measure of cultural distance because language, religion and legal origin are all found to be highly correlated with the Hofstede measure[5]. We perform further tests to check the robustness of our results to different specifications.

While our total sample size of cross-border M&A is 409, the regression analyses that follow are restricted to a smaller sub-sample. This reduction is because of the unavailability of stock-return observations for three years following the acquisition or of daily returns in a six-month window prior to the effective date (for announcement effect) for the acquirers.

4. Cross-border M&A – announcement effects and long-run performance

4.1 Announcement Effects

We employ an event-study methodology using the market model to measure the stock price effects associated with the announcements of acquisitions. We estimate the abnormal returns for each acquiring firm during the period five days preceding the acquisition announcement date through five days following the acquisition announcement date. The ordinary-least-squares coefficients of the market-model regression are estimated over the period from t = -160 to t = -41 relative to the acquisition announcement date for each firm.[6] The daily abnormal return (AR_{it}) for security i on day t is computed by

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[5] The correlation of Hofstede distance with our language, religion and legal origin dummies are -0.791, -0.378, and -0.516 respectively.

[6] Of the 132 firms in our sample, 16 did not have the complete data dating back to 240 days preceding their acquisition announcement dates. In those cases, we use as many observations as we can get from CRSP

$$AR_{it} = R_{it} - \hat{a}_i - \hat{b}_i R_{mt}, \qquad t = -5,...,0,...,5, \tag{1}$$

where R_{it} is the return for the common stock of firm i on day t; R_{mt} is the return for the CRSP value-weighted index of NYSE, AMEX, and Nasdaq stocks; and $\hat{a}_i$ and $\hat{b}_i$ are the market model parameter estimates. For a sample of N firms, the average cumulative abnormal return, $CAR_{T1,\ T2}$ is computed by

$$CAR_{T1,T2} = \frac{1}{N}\sum_{i=1}^{N}\sum_{t=T1}^{T2} AR_{it} \tag{2}$$

The test statistic for $CAR_{T1,T2}$ is based on the average standardized cumulative abnormal return ($ASCAR_{T1,\ T2}$)[7]. Assuming that the individual abnormal returns are normal and independent across t and across securities, the statistic $Z_{T1,T2}$, which follows a unit-normal distribution, is used to test the hypothesis that the average cumulative standardized abnormal returns equal zero, where

$$Z_{T1,T2} = \sqrt{N} \times ASCAR_{T1,T2} \ . \tag{3}$$

Table 3 presents the announcement day abnormal returns and the cumulative abnormal returns for the entire sample. The announcement day abnormal returns and the cumulative abnormal returns are expressed in percent. The numbers in parentheses are t-statistics.

We find that acquiring firms on an average earn significant *positive* abnormal returns. The three-day CAR ([-1,1]) is 0.71% and is significant at the 1% level. However, the results for other longer announcement windows are not statistically

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over the estimation period to estimate the coefficients of the market-model regression, maintaining the restriction that there must at least be 36 observations. Because of this requirement, four sample firms are dropped from the calculation of the announcement abnormal returns.

[7] The methodology employed here is based on Dodd and Warner (1983). For more details on the computation, please refer to Dodd and Warner (1983).

significant. Next, we try to explain the cross-sectional variation in the short-term returns using deal-specific variables, country-level economic variables, and Hofstede measure of cultural distance.

We present six models in the table. The dependent variable in the regression is the short-term returns. The first model contains only the deal-specific variables as explanatory variables. In model 2, we add country-level economic variables in addition to deal-specific variables. The coefficient of economic disparity between the target and acquiring country is statistically significant. The negative coefficient suggests that the market reacts more favorably if the acquiring firm's country is expected to grow at a higher rate than the target firm country.

In model 3, in addition to deal-specific variables, country-level economic variables, we also use Hofstede measure of cultural distance between the acquirer and the target nation. In models 4 through 6 we employ alternative proxies for culture.

As Table 4 clearly indicates, the only variable that is consistently significant in all the specifications is the PCI_DIFF, the measure of economic distance using per capita incomes. Interestingly, none of the deal level variables appear to have an impact on the announcement effect. Markets appear to have a less charitable view of cross-border acquisitions involving firms from countries with larger economic disparities. None of the measures of cultural difference seem to have any impact on the short-term announcement returns. The factors considered in the analysis explain about 10% of the variation in the announcement period abnormal return.

4.2. Analysis of long-term post-acquisition performance

The measure we use to capture the long-run performance of the acquiring firm is the *buy-and-hold abnormal return* (BHAR). Essentially this indicates the excess return over the market that an investor buying the shares of the acquiring company will be enjoying if he made the purchase in the month of the acquisition. Because our focus is on the actual post-merger performance rather than the "announcement effect" on the stock, we construct our windows for event-study analysis beginning from the month of the *effective date* of the merger rather than the announcement date. We look at two different window lengths of 30 and 36 months following the acquisition. The BHAR over a relevant window is then computed in the following manner. The cumulative return over the window is computed by compounding the monthly returns on the acquiring company's stock over the window. The cumulative market return for the country of the acquirer is computed in an analogous way. The difference between the two returns is the BHAR for the acquiring company over the window. The BHAR methodology is standard in studies of long-term stock performance (see Mitchell and Stafford (2000) for instance). In terms of computing abnormal returns, there are two standard methods – the simple excess of stock returns over market returns and the risk-adjusted abnormal returns. The latter takes into account the beta of the stock in computing the abnormal returns. We use the first method here.

Table 5 presents the summary statistics for the BHARs of the acquiring company over different windows. Since data is not available for all acquiring companies for the entire 36-month post-merger period, the number of observations decline as the length of the window increases. One thing that is evident from Table 5 is the negative performance of the average acquirer vis-à-vis its country index. The mean BHAR is negative in every window and starts becoming increasingly significant and negative with time. This is evident in the 30-month and the 36-month windows, although the magnitude of average negative returns is considerably smaller than the average increase associated with the announcement. Thus, there appears to be an element of "over-reaction" in the announcement effect. The long-term decline observed here is in agreement with the consensus view of the effect of domestic acquisitions on stock returns for US companies.

In panel A of Table 6, we present the summary statistics for the key explanatory variable of our study, the Hofstede measure of cultural distance. Table 6 (Panel B) shows the five country pairs with maximum similarity in culture and the five pairs with most dissimilar cultures. We also provide Hofstede culture distance measure for these ten country pairs.

In Table 7, we present the results of our first regression. The dependent variable is the BHARs of acquiring companies over 36 months. The independent variables are the various deal characteristics, economic country-level variables as well as the Hofstede measure of cultural distance. The variables used in the regression analysis have been discussed previously and are also presented in summary form in the appendix.

We present six models in the table. The dependent variable in the regression is the 36 month BHAR. The first model contains only the deal-specific variables as explanatory variables. Only the acquirer size measure is statistically significant at the 1% (t-stat of 2.42). In model 2, we add country-level economic variables in addition to deal-specific variables. None of the economic variables are statistically significant. Only the coefficient of cash dummy is significant at the 1% level (t-stat of 2.13). This suggests that, on an average, acquiring firms that pay cash perform well in the long-run. This evidence is very similar to the evidence for U.S. acquirers acquiring domestic targets (see for example Loughran and Vijh (1997)).

In model 3, in addition to deal-specific variables, country-level economic variables, we also use Hofstede measure of cultural distance between the acquirer and the target nation. As the regression shows, in addition to the cash dummy, the Hofstede cultural distance variable is positive and statistically significant at the 1% level. (t-stat of 3.04). The positive sign of the coefficient indicates that as cultural distance increases, so does the BHAR of the acquiring firm.

The Hofstede measure of cultural distance that we use in our analysis is one of several measures of the degree of dissonance between socio-legal characteristics of different countries. Other recent studies in finance (Stulz and Williamson (2003)) have used differences in religion and language to capture cultural differences while La Porta et al (1998, 1999, 2000) have used origin of legal system as another important feature that determines the financial structure in the country. We compute the correlations between the different measures of socio-legal differences. Our dummy variables for religion, language and legal origin take the value 1 when two countries have the same feature and 0 when they are different. Hofstede measures are highly correlated with language (-0.79), the religion (-0.38) and legal origin (-0.52) variables suggesting that the differences in the different aspects go together.

All these variables can be viewed as being representative of the culture of a country. We conduct a simple "horse-race" of the four alternative measures in models 4 through 6 in the regression tables. It turns out that the language dummy performs almost as well as the Hofstede measure, and does considerably better than religion and legal origin in explaining the variation in the three year buy-and-hold returns for firms making international acquisitions. The religion dummy is the only culture proxy that is not statistically significant in our analysis. The qualitative importance of the measures disagrees with Stulz and Williamson (2003). While these regressions do not aim to prove the superiority of one measure over another in capturing socio-legal differences that affect finance in general, they do show evidence that cultural differences make for better performance in cross-border M&A.

In view of the fact that the financial press is often agog with corporate culture clash ruining mergers (e.g. Daimler Chrysler and AOL Time Warner), our finding that companies from countries with disparate cultures lead to better acquisitions, is perhaps intriguing. However, as mentioned earlier, this opposite possibility has also been theorized in the international business literature. As Morosini et al (1998) point out, the acquisition of diverse "routines and repertoires" helps a company to function in the global marketplace. Cultural distance enhances the variety of the "routines and repertoires" embedded in the target firm and the acquiring firm, thus helping the combined entity to perform better. Of course, this benefit has to be measured against the possible "collision" effects of firms from disparate cultures in the post-merger integration process. Our results suggest that in context of cross-border M&A, the former value-enhancement effect outweighs the latter risk.

A caveat in interpreting these results is in place here. We would like to re-emphasize the distinction between national culture and corporate culture in this context.

It is quite possible that two firms from the same country may have very different *corporate* cultures providing them with benefits and challenges in a merger. National cultures are likely to influence corporate cultures but the two remain distinct notions. It is quite possible that differences in corporate cultures may actually make the union unviable in the integration process, although the firms share the same national culture. Our results therefore should not be interpreted as an unqualified "different is compatible" recommendation.

5. Robustness Tests

We conduct several additional tests to check the robustness of our results to alternative specifications. In section A, we discuss the issue of using 30 versus 36-month BHAR as alternative proxy for the long-term returns; in section B, we focus on the performance of US firms making cross-border acquisitions. Finally in section C, we investigate if the culture effects that we detected using buy-and-hold returns are robust to an alternative measurement of performance – the cumulative abnormal returns (CAR).

A. Results using 30-month BHAR

In Table 8, we present the regression results suing 30-month BHAR as our dependent variable. The results are qualitatively very similar to the ones presented using 36-month BHAR in Table 7. For instance, the Hofstede measure is staatistically significant at the 1 percent level. However, the cash dummy is not significant. As before, the language dummy and legal dummy are statistically significant. Interestingly, the explanatory power of the regression is the highest when we use Hofstede measure as the proxy (R squared of 11 percent).

B. Results using Long-term performance of US acquirers only

Since a large body of the recent literature on cross-border M&A has focused on US acquirers., we look only at the performance of US firms making cross-border acquisitions. As over a third of our total sample falls in this category, it is important to ascertain their performance separately. Table 9 shows the regression results for this sub-sample. The cash dummy is significant in the first four models. The Hofstede measure is once again significantly positive. The alternative measures of culture are all significant as well indicating that cultural distance enhances long-term acquirer performance. Clearly then, US acquisitions too work well when the targets are from lands whose culture is different from American culture. Interestingly, the coefficient of foreign exchange rate proxy is positive and statistically significant in two models, suggesting that the US acquirers perform better in those countries whose exchange rate with the dollar is more volatile. Such acquisitions appear to provide a good exchange rate hedge to the acquirer.

C. Results using Cumulative Abnormal Returns

We investigate if the culture effects that we detected using buy-and-hold returns are robust to an alternative measurement of performance – the cumulative abnormal returns (CAR). The CARs are computed as the sum of monthly abnormal returns of the acquiring firms over the returns on the relevant national index. Thus the chief difference between BHARs and CARs comes from compounding. BHARs take into account the compounding while CARs do not. While BHARs are more frequently used in long-term studies, CARs are also used quite often in event studies. Table 10 shows the regression results with the CARs for 36-month horizon. Qualitatively, these results are indistinguishable from those in Table 7. Interestingly, only Hofstede measure continues to be statistically significant. The other proxies for culture are not statistically significant.

D. Results using Undistributed Cash Flow of acquirer prior to the acquisition and relatedness of the acquirer and target

We examine additional variables that could be important in explaining the long-term performance of the acquisitions. We construct dummy variables for the relatedness of the acquirer and target using 4-digit and 3-digit SIC codes of the firms. We also use a measure of the acquiring firm's undistributed cash flows as in Lehn & Poulsen (1989), in the year prior to the acquisition. It is calculated using firm-level data from Global Compustat database, as follows:

CASH_FLOW = INC – TAX – INTEXP – PFDDIV – COMDIV

Here, INC is the Operating Income before Depreciation (Item #13), TAX is calculated as (Total Income Taxes (Item #16) – Change in Deferred Taxes from pervious year to present year (Change in Item #35)), INTEXP is the Gross interest expense on short- and long-term debt (Item #15), PFDDIV is the Total amount of preferred dividend requirement on cumulative preferred stock and dividends paid on non-cumulative preferred Stock (Item #19), and COMDIV is the Total dollar amount of dividends declared on common stock (Item #21)

On adding the relatedness measures and the cash flow measures as explanatory variables, the results do not change and these variables prove to be statistically insignificant. They do not add any explanatory power in our regressions for long-term performance of cross-border acquirers.

6. Conclusion

We explore the different factors that may explain the long-term performance of cross-border M&A. We find that in general cross-border acquisitions are associated with a significantly positive "announcement effect" on the acquirer's share value, followed by a partial reversal of these gains in the long-run. Acquisitions work better in the long-run if the acquirer and the target come from countries that are culturally more disparate. This fact does not appear to be incorporated in the "announcement effect". Markets are more cautious of announcements of acquisitions of targets from dissimilar countries, but focus on the *economic* rather than cultural dissimilarity. As for deal characteristics, cash acquisitions do better in the long-run.

Several recent papers have underlined the influence of culture on finance in general. Stulz and Williamson (2003) have demonstrated the effect of national culture on protection of creditor rights, which in turn determine the nature of financial markets around the world. The effects of cultural difference in M&A situations, however, have so far not been documented in the finance literature. While differences in culture may lead to problems in post-merger integration, mergers between firms from culturally disparate countries arm the acquirer with a diverse set of "routines and repertoires" that help in their functioning in the global marketplace. We find that this latter effect is stronger than integration problems stemming from cultural differences. It is conceivable that mergers between firms from completely different cultures may lead to *lesser* integration problems since the target firm may be allowed to function with greater autonomy.

Clearly the effects of culture on finance and even cross-border M&A are multi-faceted. The channels through which they enter the M&A, the exact nature of the diversity of routines and strategies and how they help the acquirer's performance, as well as the challenges cultural dissonance pose in the integration process are all important questions in corporate finance. The relationship between corporate cultures and national cultures is also an area that needs further investigation. We leave the exploration of these topics to future research.

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APPENDIX: Description of variables included in the study and their sources.

Deal-level Variables	
Friendly Dummy	Dummy variable with value 1 for friendly acquisition (ie, recommendation of the target company's management or board of directors toward the transaction is friendly) and 0 otherwise Sources: SDC Platinum, provided by Thomson Financial Securities Data
Tender Dummy	Dummy variable with value 1 when acquisition was through a tender offer launched for the target and 0 otherwise Sources: SDC Platinum
Cash Dummy	Dummy variable with value 1 if the acquisition is entirely paid in cash and 0 otherwise. Source: SDC Platinum
Prior Presence Dummy	Measure of acquirer's prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. Dummy variable has value 1 if the acquirer had one or more joint ventures/alliances in the target nation prior to the acquisition and value of 0 otherwise. Source: SDC Platinum
Number of Bidders	Number of bids for a target, ie, the number of challenging deals for one target. Source: SDC Platinum
Acquirer Market Value	Market Value of outstanding equity of acquirer in the month prior to the acquisition. Source: DataStream
Relatedness	Dummy variable measuring whether the acquisition is related. Two alternate measures of relatedness were based on matching of the 4-digit and the 3-digit SIC codes for the acquirer and the target. Dummy variable has value 1 if the acquisition is related and 0 otherwise. Source: SDC Platinum
Undistributed Cash Flow	Measures the acquiring firm's undistributed cash flows computed according to Lehn & Poulsen (1989) Source: Global Compustat
Economic Country-level Variables	
Openness of Target Nation	Extent to which the target nation's economy is open, measured by the ratio of its trade (exports plus imports) to GDP Sources: Datastream and Penn World Tables
Per Capita Income difference	Acquirer and target nations' income per person is measured as GDP divided by population. Per Capita Income difference is calculated as the ratio of the difference between per capita incomes of target and acquirer nations to the sum of per capita incomes. Source: Datastream

Forex Standard Deviation	Measure of exchange rate risk in the acquisition, arising due to uncertainty about the future value of exchange rate between the acquirer and target nation's currencies. We use historical data and compute standard deviation of the exchange rate between the two currencies for the -36 to -1 month window, where month of acquisition is 0. Source: Datastream, Penn World Tables, IMF
Cultural Country-level Variables	
Hofstede Distance	Cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between Hofstede's four different cultural dimensions for the two nations. Data is obtained from Dr. Geert Hofstede's comprehensive study of how values in the workplace are influenced by culture. From 1967 to 1973, while working at IBM as a psychologist, he collected and analyzed data from over 100,000 individuals from forty countries. From those results, and later additions, Hofstede developed a model that identifies four primary dimensions to differentiate cultures. We use the values of the four dimensions for the nations included in our sample. Source: *Culture's Consequences* (by Geert Hofstede)
Religion Dummy	Measures whether the target nation and acquirer nation share the same primary religion. Dummy variable has value 1 when the two nations share a common primary religion and 0 otherwise. Source: CIA World Fact Book
Language Dummy	Measures whether the target nation and acquirer nation share the same primary language. Dummy variable has value 1 when the two nations share a common language and 0 otherwise. Source: CIA World Fact Book
Legal Dummy	Measures whether the target nation and acquirer nation share the same legal origin, according to the broad categories in LaPorta et al. (1998). Dummy variable has value 1 when the two nations share a common legal origin and 0 otherwise. Source: CIA World Fact Book

Table 1: Country-wise breakdown of sample of acquirers who conducted cross-border acquisitions during 1991-2000

Panel A: Major acquiring and target countries

Acquiring Nations	No. of acquisitions	Target Nations	No. of acquisitions
United States	144	United States	116
United Kingdom	72	United Kingdom	52
Canada	30	Canada	42
France	23	Germany	27
Japan	17	France	25
Germany	13	Netherlands	17
Switzerland	10	Australia	13
Netherlands	10	Sweden	11
Australia	10	Italy	10
Hong Kong	7	Switzerland	8
Finland	7	Norway	8
Sweden	6	Israel	7
South Africa	6	Denmark	7
Singapore	5	Spain	6
Italy	5	New Zealand	6
Others	44	Hong Kong	6
		Finland	5
		Others	43

Panel B: A few common pairs

		Target Country				
		USA	Canada	UK	Germany	France
Acquiring Country	USA		35	34	15	12
	UK	35	4		4	9
	Canada	18		3	0	1
	France	11	0	3	0	
	Japan	10	0	1	0	1

Table 2: Summary description of sample of cross-border acquisitions in 1991-2000

Cash vs. Non-cash, Friendly vs. Hostile, Tender Offer vs. Non-tender offer, Unrelated vs. Related (matched with 3-digit SIC code, or 4-digit SIC code) are the characteristics we use to categorize the acquisitions.

	Number	Percent
Total number of acquisitions	405	100
Cash	252	62
Non-cash	153	38
Friendly	391	97
Hostile	14	3
Tender offer	82	20
No tender offer	323	80
Unrelated	212	40
Related at 3-digit SIC level	193	44
Related at 4-digit SIC level	85	15

Table 3:
Announcement Period Abnormal Returns associated with Acquirer announcing cross-border acquisition, 1991-2002.

The Abnormal Return (AR) is calculated for several windows around the date of announcement. This takes into account leakage of news before the announcement. We use daily stock market returns for the acquirer, obtained from DataStream. The windows we consider are [-40, +5], [-40, +1], [-1, +5] and [-1, +1]. We use the market model to calculate the Abnormal Return according to the following relationship:

$$AR_{it} = R_{it} - (\alpha_{it} + \beta_{it} R_{Mt})$$

Here, AR_{it} is the Abnormal Return for acquirer i, at time t. R_{it}, R_{Mt} are the daily returns for acquirer i and the acquirer's country stock market index, at time t. The parameters α_{it} and βit are estimated in the period [-160, -41] from the announcement date 0, using a market model regression. The z-statistic ($Z_{T1,T2}$) follows a unit-normal distribution and is used to test the hypothesis that the average cumulative standardized abnormal returns ($ASCAR_{T1,T2}$) equals zero. It is computed as:

$Z_{T1,T2} = \sqrt{N} \times ASCAR_{T1,T2}$. where N is the number of observations

Event Window	**Abnormal Return % (z-statistic)**	**Number of Observations (N)**
[-40, +5]	-0.038 (-0.746)	385
[-40, +1]	-0.025 (-0.491)	385
[-1, +5]	0.082 (1.609)	385
[-1, +1]	**0.714*** (14.01)**	385

***Significant at the 1% level

Table 4:
Regression for Announcement Period Abnormal Returns associated with Acquirer announcing cross-border acquisition, 1991-2002.

The dependent variable in the regression is the Abnormal Return (AR), calculated for the window [-1, +1] around the date of announcement. We use daily stock market returns for the acquirer, obtained from DataStream. We use the market model to calculate the Abnormal Return according to the following relationship:

$$AR_{it} = R_{it} - (\alpha_{it} + \beta_{it} R_{Mt})$$

Here, AR_{it} is the Abnormal Return for acquirer i, at time t. R_{it}, R_{Mt} are the daily returns for acquirer i and the acquirer's country stock market index, at time t. The parameters α_{it} and βit are estimated in the period [-160, -41] from the announcement date 0, using a market model regression. CASH_DUMMY is a dummy variable with value 1 when the acquirer paid 100% cash for acquiring the target and 0 otherwise. FRIENDLY_DUMMY is a dummy variable that assumes a value of 1 when the acquisition is friendly, as described in the SDC Platinum database, and value of 0 otherwise. PRIOR_PRESENCE_DUMMY is a dummy variable assuming a value of 1 if the acquirer had prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. PRIOR_PRESENCE_DUMMY has value of 0 if the acquirer did not have any joint ventures/alliances in the target nation prior to the acquisition. NO_OF_BIDDERS is the number of firms that bid for the target firm. LOG_ACQUIROR_MV is a measure of the acquirer size, computed as log of acquirer's market value of equity prior to the effective month for acquisition. HOFSTEDE_DIST is the cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between the different cultural dimensions for the two nations. TENDER_DUMMY is a dummy variable with value 1 when acquisition was made by extending a tender offer, and value of 0 otherwise. OPENNESS_TARGET is a measure of the degree of "openness" of the target nation to international trade, computed as:

OPENNESS_TARGET = (Target Nation Import + Target Nation Export)/ (Target Nation GDP)

PCI_DIFF is a measure of the economic disparity between the target firm nation and the acquiring firm nation, computed as:

$$\text{PCI\_DIFF} = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

FOREX_STDEV is a measure of the foreign exchange rate volatility between the target nation's currency and acquiring nation's currency, as measured by the -36 to -1 month standard deviation, where month of acquisition is 0.

Independent Variable	Announcement Period Abnormal Return for window [-1,+1]					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	0.016 (0.87)	0.013 (0.68)	0.014 (0.70)	0.010 (0.51)	0.020 (0.19)	0.005 (0.23)
FRIENDLY_DUMMY	0.000 (0.29)	0.000 (0.44)	0.000 (0.32)	0.000 (0.41)	0.000 (0.13)	0.000 (0.31)
TENDER_DUMMY	-0.008 (-1.09)	-0.006 (-0.75)	-0.006 (-0.76)	-0.005 (-0.68)	-0.007 (-0.85)	-0.007 (-0.87)
CASH_DUMMY	-0.002 (-0.25)	-0.002 (-0.28)	-0.002 (-0.24)	-0.003 (-0.40)	-0.001 (-0.17)	-0.002 (-0.29)
PRIOR_PRESENCE_DUMMY	0.013 (1.55)	0.012 (1.32)	0.011 (1.31)	0.013 (1.44)	0.011 (1.31)	0.012 (1.37)
NO_OF_BIDDERS	0.009 (0.55)	0.009 (0.55)	0.009 (0.54)	0.008 (0.47)	0.009 (0.57)	0.010 (0.63)
LOG_ACQUIROR_MV	**-0.005*** **(-1.65)**	-0.005 (-1.33)	-0.004 (-0.98)	-0.004 (-1.18)	-0.003 (-0.92)	-0.004 (-1.03)
OPENNESS_TARGET		0.000 (0.41)	0.000 (0.43)	0.000 (0.65)	0.000 (0.56)	0.000 (0.40)
PCI_DIFF		**-0.011**** **(-1.99)**	**-0.012**** **(-1.97)**	**-0.012**** **(-1.96)**	**-0.010**** **(-2.01)**	**-0.011**** **(-2.00)**
FOREX_STDEV		0.000 (0.35)	0.000 (0.32)	0.000 (0.37)	0.000 (0.48)	0.000 (0.43)
HOFSTEDE_DIST			-0.000 (-0.80)			
RELIGION_DUMMY				0.006 (0.94)		
LANGUAGE_DUMMY					0.008 (1.39)	
LEGAL_DUMMY						0.007 (1.19)
R2 (%)	4.80	7.98	8.60	8.83	9.82	9.33
Number of Observations	385	385	380	380	380	380

*** Significant at the 1% level
** Significant at the 5% level
*Significant at the 10% level

Table 5: Summary statistics for the Buy-and-Hold Abnormal Returns (BHAR) following the acquisition

BHAR12, BHAR24, BHAR30, BHAR36 are the Buy-and-Hold Abnormal Returns for twelve, twenty-four, thirty and thirty-six month windows following the effective date of the acquisition, respectively

	BHAR12	BHAR24	BHAR30	BHAR36
Observations	395	294	241	199
Mean	-0.049%	-0.082%	-0.011%	-0.149%
t-stat	-2.02	-1.58	-1.43	-1.92
Median	-0.058	-0.217	-0.262	-0.334
Maximum	3.69	7.37	7.63	5.07
Minimum	-1.11	-3.48	-2.50	-2.92
Std. Dev.	0.54	1.07	1.17	1.09
Skewness	1.28	3.04	3.00	1.61
Kurtosis	5.97	16.64	15.96	4.97
Jarque-Bera statistic (test of normality)	388.59	3028.17	2258.79	105.85
Probability	0.00	0.00	0.00	0.00

Table 6: Summary description of Hofstede measure of cultural distance

Panel A: Summary Statistics

	Hofstede Distance
Observations	405
Mean	38.67
Median	31.51
Maximum	98.82
Minimum	6.56
Std. Dev.	23.8
Skewness	0.452
Kurtosis	-1.043
Jarque-Bera statistic (test of normality)	32.9
Probability	0

Panel B: Country pairs with maximum and minimum cultural distance

Five country pairs with most similar cultures		**Hofstede Distance**
Australia	United States	6.56
Germany	Switzerland	8.19
United Kingdom	United States	12.88
Australia	Canada	14.11
Belgium	France	14.49
Five country pairs with most dissimilar cultures		**Hofstede Distance**
New Zealand	Malaysia	98.82
Netherlands	Japan	97.44
Australia	Malaysia	95.22
United States	Greece	88.98
Chile	United States	88.93

Table 7: Regressions for the Buy-and-Hold Returns of Acquirers for a 36- month period following the acquisition.

The dependent variable in these OLS regressions are the Buy-and-Hold Abnormal Returns (BHARs) calculated for an event window of 30 and 36 months following the effective date of the acquisition. The BHAR is the average BHAR across all acquirers. CASH_DUMMY is a dummy variable with value 1 when the acquirer paid 100% cash for acquiring the target and 0 otherwise. FRIENDLY_DUMMY is a dummy variable that assumes a value of 1 when the acquisition is friendly, as described in the SDC Platinum database, and value of 0 otherwise. PRIOR_PRESENCE_DUMMY is a dummy variable assuming a value of 1 if the acquirer had prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. PRIOR_PRESENCE_DUMMY has value of 0 if the acquirer did not have any joint ventures/alliances in the target nation prior to the acquisition. NO_OF_BIDDERS is the number of firms that bid for the target firm. LOG_ACQUIROR_MV is a measure of the acquirer size, computed as log of acquirer's market value of equity prior to the effective month for acquisition. HOFSTEDE_DIST is the cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between the different cultural dimensions for the two nations. TENDER_DUMMY is a dummy variable with value 1 when acquisition was made by extending a tender offer, and value of 0 otherwise. OPENNESS_TARGET is a measure of the degree of "openness" of the target nation to international trade, computed as:

OPENNESS_TARGET = (Target Nation Import + Target Nation Export)/ (Target Nation GDP)

PCI_DIFF is a measure of the economic disparity between the target firm nation and the acquiring firm nation, computed as:

$$\text{PCI\_DIFF} = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

FOREX_STDEV is a measure of the foreign exchange rate volatility between the target nation's currency and acquiring nation's currency, as measured by the -36 to -1 month standard deviation, where month of acquisition is 0.

	36-month Buy-and-Hold Return (BHAR_36)					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-1.353 (-1.52)	-0.943 (-1.09)	-0.989 (-1.17)	-0.913 (-1.05)	-0.138 (-0.16)	-0.594 (-0.68)
FRIENDLY_DUMMY	0.515 (0.78)	0.354 (0.55)	0.214 (0.34)	0.372 (0.58)	0.044 (0.07)	0.251 (0.40)
TENDER_DUMMY	-0.119 (-0.58)	-0.296 (-1.47)	-0.257 (-1.30)	-0.296 (-1.47)	-0.238 (-1.22)	0.244 (-1.22)
CASH_DUMMY	0.274 (1.62)	**0.359***** **(2.13)**	**0.342***** **(2.08)**	**0.361***** **(2.14)**	**0.327***** **(2.01)**	**0.369***** **(2.22)**
PRIOR_PRESENCE_DUMMY	0.216 (1.05)	0.110 (0.55)	0.169 (0.86)	0.113 (0.56)	0.193 (0.99)	0.162 (0.81)
NO_OF_BIDDERS	-0.123 (-0.32)	-0.063 (-0.17)	-0.031 (-0.09)	-0.073 (-0.20)	-0.120 (-0.34)	-0.060 (-0.17)
LOG_ACQUIROR_MV	**0.186***** **(2.42)**	0.107 (1.37)	0.043 (0.54)	0.104 (1.33)	0.061 (0.80)	0.085 (1.10)
OPENNESS_TARGET		-0.000 (-0.89)	-0.000 (-0.86)	-0.000 (-0.95)	-0.000 (-1.43)	-0.000 (-1.07)
PCI_DIFF		0.195 (1.00)	0.212 (1.11)	0.187 (0.95)	0.137 (0.73)	0.179 (0.93)
FOREX_STDEV		0.013 (0.58)	0.006 (0.28)	0.011 (0.51)	0.002 (0.08)	0.010 (0.46)
HOFSTEDE_DIST			**0.010***** **(3.04)**			
RELIGION_DUMMY				-0.058 (-0.36)		
LANGUAGE_DUMMY					**-0.571***** **(-3.72)**	
LEGAL_DUMMY						**-0.350***** **(-2.31)**
R2 (%)	6.95	8.12	13.76	8.19	14.92	10.87
Number of Observations	190	183	183	183	183	183

*** Significant at the 1% level
** Significant at the 5% level
*Significant at the 10% level

Table 8: Regressions for the Buy-and-Hold Returns of Acquirers for a 30 month period following the acquisition.

The dependent variable in these OLS regressions are the Buy-and-Hold Abnormal Returns (BHARs) calculated for an event window of 30 and 36 months following the effective date of the acquisition. The BHAR is the average BHAR across all acquirers. CASH_DUMMY is a dummy variable with value 1 when the acquirer paid 100% cash for acquiring the target and 0 otherwise. FRIENDLY_DUMMY is a dummy variable that assumes a value of 1 when the acquisition is friendly, as described in the SDC Platinum database, and value of 0 otherwise. PRIOR_PRESENCE_DUMMY is a dummy variable assuming a value of 1 if the acquirer had prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. PRIOR_PRESENCE_DUMMY has value of 0 if the acquirer did not have any joint ventures/alliances in the target nation prior to the acquisition. NO_OF_BIDDERS is the number of firms that bid for the target firm. LOG_ACQUIROR_MV is a measure of the acquirer size, computed as log of acquirer's market value of equity prior to the effective month for acquisition. HOFSTEDE_DIST is the cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between the different cultural dimensions for the two nations. TENDER_DUMMY is a dummy variable with value 1 when acquisition was made by extending a tender offer, and value of 0 otherwise. OPENNESS_TARGET is a measure of the degree of "openness" of the target nation to international trade, computed as:

OPENNESS_TARGET = (Target Nation Import + Target Nation Export)/ (Target Nation GDP)

PCI_DIFF is a measure of the economic disparity between the target firm nation and the acquiring firm nation, computed as:

$$\text{PCI\_DIFF} = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

FOREX_STDEV is a measure of the foreign exchange rate volatility between the target nation's currency and acquiring nation's currency, as measured by the -36 to -1 month standard deviation, where month of acquisition is 0.

Independent Variable	30-month Buy-and-Hold Return (BHAR_30)					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-1.020 (-1.46)	-0.881 (-1.27)	-0.997 (-1.47)	-0.724 (-1.02)	-0.346 (-0.49)	-0.683 (-0.98)
FRIENDLY_DUMMY	0.135 (0.29)	0.207 (0.44)	0.137 (0.30)	0.202 (0.43)	0.048 (0.10)	0.163 (0.35)
TENDER_DUMMY	-0.044 (-0.22)	-0.239 (-1.26)	-0.182 (-0.98)	-0.237 (-1.25)	-0.186 (-0.99)	-0.207 (-1.09)
CASH_DUMMY	0.186 (1.10)	**0.322**** **(1.97)**	**0.278*** **(1.73)**	**0.320**** **(1.96)**	**0.269*** **(1.67)**	**0.308*** **(1.90)**
PRIOR_PRESENCE_DUMMY	0.265 (1.32)	0.154 (0.80)	0.200 (1.06)	0.152 (0.80)	0.190 (1.01)	0.167 (0.88)
NO_OF_BIDDERS	0.052 (0.14)	0.190 (0.56)	0.260 (0.79)	0.147 (0.43)	0.182 (0.55)	0.228 (0.68)
LOG_ACQUIROR_MV	**0.168***** **(2.09)**	0.076 (0.98)	0.004 (0.05)	0.069 (0.88)	0.035 (0.45)	0.064 (0.83)
OPENNESS_TARGET		-0.000 (-1.22)	-0.000 (-1.30)	-0.000 (-1.42)	-0.000 (-1.61)	-0.000 (-1.32)
PCI_DIFF		-0.003 (-0.02)	0.004 (0.00)	-0.017 (-0.09)	-0.054 (-0.30)	-0.018 (-0.10)
FOREX_STDEV		-0.003 (-0.31)	-0.004 (-0.43)	-0.004 (-0.42)	-0.006 (-0.64)	-0.005 (-0.48)
HOFSTEDE_DIST			**0.010***** **(3.16)**			
RELIGION_DUMMY				-0.148 (-0.96)		
LANGUAGE_DUMMY					**-0.439***** **(-2.89)**	
LEGAL_DUMMY						**-0.268*** **(-1.83)**
R2 (%)	4.39	4.79	10.88	5.20	8.40	6.27
Number of Observations	231	222	222	222	222	222

*** Significant at the 1% level
** Significant at the 5% level
*Significant at the 10% level

Table 9: Regressions for the Buy-and-Hold Returns of U.S. Acquirers for 36-month period following the acquisition

The dependent variable in these OLS regressions are the Buy-and-Hold Abnormal Returns (BHARs) calculated for an event window of 30 and 36 months following the effective date of the acquisition. The BHAR is the average BHAR across all acquirers. CASH_DUMMY is a dummy variable with value 1 when the acquirer paid 100% cash for acquiring the target and 0 otherwise. FRIENDLY_DUMMY is a dummy variable that assumes a value of 1 when the acquisition is friendly, as described in the SDC Platinum database, and value of 0 otherwise. PRIOR_PRESENCE_DUMMY is a dummy variable assuming a value of 1 if the acquirer had prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. PRIOR_PRESENCE_DUMMY has value of 0 if the acquirer did not have any joint ventures/alliances in the target nation prior to the acquisition. NO_OF_BIDDERS is the number of firms that bid for the target firm. LOG_ACQUIROR_MV is a measure of the acquirer size, computed as log of acquirer's market value of equity prior to the effective month for acquisition. HOFSTEDE_DIST is the cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between the different cultural dimensions for the two nations. TENDER_DUMMY is a dummy variable with value 1 when acquisition was made by extending a tender offer, and value of 0 otherwise.

OPENNESS_TARGET is a measure of the degree of "openness" of the target nation to international trade, computed as:

OPENNESS_TARGET = (Target Nation Import + Target Nation Export)/ (Target Nation GDP)

PCI_DIFF is a measure of the economic disparity between the target firm nation and the acquiring firm nation, computed as:

$$\text{PCI\_DIFF} = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

FOREX_STDEV is a measure of the foreign exchange rate volatility between the target nation's currency and acquiring nation's currency, as measured by the -36 to -1 month standard deviation, where month of acquisition is 0.

36-month Buy-and-Hold Return (BHAR_36)

Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-1.563 (-1.05)	-1.158 (-0.78)	-2.041 (-1.43)	-0.777 (-0.54)	-0.936 (-0.66)	-0.916 (-0.64)
FRIENDLY_DUMMY	0.244 (0.29)	0.067 (0.08)	-0.167 (-0.21)	0.306 (0.38)	-0.132 (-0.17)	-0.073 (-0.09)
TENDER_DUMMY	-0.505 (-1.34)	**-0.693* (-1.78)**	**-0.613* (-1.67)**	**-0.833*** (-2.22)**	-0.453 (-1.20)	-0.472 (-1.22)
CASH_DUMMY	**0.763*** (2.50)**	**0.700*** (2.31)**	**0.627*** (2.19)**	**0.704*** (2.42)**	**0.540* (1.85)**	**0.581** (1.96)**
PRIOR_PRESENCE_DUMMY	0.215 (0.53)	0.211 (0.52)	0.266 (0.70)	0.252 (0.65)	0.305 (0.79)	0.284 (0.72)
NO_OF_BIDDERS	-0.210 (-0.28)	-0.003 (-0.00)	0.237 (0.33)	0.179 (0.25)	0.186 (0.26)	0.126 (0.17)
LOG_ACQUIROR_MV	0.267 (1.39)	0.218 (1.13)	0.219 (1.20)	0.106 (0.56)	0.270 (1.47)	0.243 (1.30)
OPENNESS_TARGET		-0.000 (-1.07)	-0.000 (-1.38)	-0.000 (-2.46)	-0.000 (-1.48)	-0.000 (-1.26)
PCI_DIFF		0.627 (1.21)	0.108 (0.21)	0.117 (0.22)	0.112 (0.22)	0.539 (1.07)
FOREX_STDEV		1.078 (0.26)	**7.642* (1.71)**	**10.064* (1.94)**	5.661 (1.34)	4.910 (1.13)
HOFSTEDE_DIST			**0.021*** (3.15)**			
RELIGION_DUMMY				**-1.044*** (-2.72)**		
LANGUAGE_DUMMY					**-0.887*** (-3.05)**	
LEGAL_DUMMY						**-0.704*** (-2.49)**
R2 (%)	13.73	19.82	29.93	27.58	29.34	26.41
Number of Observations	80	80	80	80	80	80

*** Significant at the 1% level
** Significant at the 5% level
*Significant at the 10% level

Table 10: **Regressions for the Cumulative Abnormal Returns (CAR) of Acquirers for a 36- month period following the acquisition.**

The dependent variable in these OLS regressions are the Cumulative Abnormal Returns (CARs) calculated for an event window of 30 and 36 months following the effective date of the acquisition. The CAR is the average CAR across all acquirers. CASH_DUMMY is a dummy variable with value 1 when the acquirer paid 100% cash for acquiring the target and 0 otherwise. FRIENDLY_DUMMY is a dummy variable that assumes a value of 1 when the acquisition is friendly, as described in the SDC Platinum database, and value of 0 otherwise. PRIOR_PRESENCE_DUMMY is a dummy variable assuming a value of 1 if the acquirer had prior presence in the target's nation, as measured by previous joint ventures/alliances in the target nation. PRIOR_PRESENCE_DUMMY has value of 0 if the acquirer did not have any joint ventures/alliances in the target nation prior to the acquisition. NO_OF_BIDDERS is the number of firms that bid for the target firm. LOG_ACQUIROR_MV is a measure of the acquirer size, computed as log of acquirer's market value of equity prior to the effective month for acquisition. HOFSTEDE_DIST is the cultural distance between the acquirer and the target nation, as measured by the Cartesian distance between the different cultural dimensions for the two nations. TENDER_DUMMY is a dummy variable with value 1 when acquisition was made by extending a tender offer, and value of 0 otherwise. RELATEDNESS is a measure of relatedness of the acquirer and target firms measured by a dummy with value 1 if the firms have matching 4-digit SIC codes, and a value of 0 otherwise. OPENNESS_TARGET is a measure of the degree of "openness" of the target nation to international trade, computed as:

OPENNESS_TARGET = (Target Nation Import + Target Nation Export)/ (Target Nation GDP)

PCI_DIFF is a measure of the economic disparity between the target firm nation and the acquiring firm nation, computed as:

$$\text{PCI\_DIFF} = \frac{[(\text{per capita GDP of Target Nation}) - (\text{per capita GDP of Acquirer Nation})]}{[(\text{per capita GDP of Target Nation}) + (\text{per capita GDP of Acquirer Nation})]}$$

FOREX_STDEV is a measure of the foreign exchange rate volatility between the target nation's currency and acquiring nation's currency, as measured by the -36 to -1 month standard deviation, where month of acquisition is 0.

Independent Variable	36-month Cumulative Abnormal Return (CAR_36)					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INTERCEPT	-0.861 (-1.64)	-0.760 (-1.35)	-0.828 (-1.49)	-0.612 (-1.06)	-0.522 (-0.89)	-0.770 (-1.34)
FRIENDLY_DUMMY	0.030 (0.09)	0.097 (0.25)	0.033 (0.09)	0.097 (0.25)	0.024 (0.06)	0.100 (0.26)
TENDER_DUMMY	-0.113 (-0.75)	-0.177 (-1.14)	-0.128 (-0.83)	-0.171 (-1.10)	-0.150 (-0.96)	-0.179 (-1.14)
CASH_DUMMY	**0.302*** (2.33)**	**0.304*** (2.24)**	**0.272*** (2.03)**	**0.306*** (2.26)**	**0.280*** (2.06)**	**0.304*** (2.24)**
PRIOR_PRESENCE_DUMMY	0.065 (0.43)	-0.000 (-0.00)	0.038 (0.25)	0.000 (0.00)	0.018 (0.12)	-0.001 (-0.00)
NO_OF_BIDDERS	0.130 (0.49)	0.178 (0.66)	0.208 (0.78)	0.139 (0.51)	0.167 (0.62)	0.177 (0.66)
LOG_ACQUIROR_MV	**0.103* (1.69)**	0.072 (1.13)	0.022 (0.33)	0.064 (1.00)	0.056 (0.86)	0.073 (1.13)
OPENNESS_TARGET		-0.000 (-1.43)	-0.000 (-1.47)	-0.000 (-1.68)	-0.000 (-1.60)	-0.000 (-1.42)
PCI_DIFF		-0.020 (-0.13)	-0.015 (-0.10)	-0.027 (-0.18)	-0.038 (-0.25)	-0.019 (-0.13)
FOREX_STDEV		0.001 (0.08)	-0.000 (-0.03)	-0.000 (-0.08)	-0.000 (-0.09)	0.001 (0.09)
HOFSTEDE_DIST			**0.007*** (2.85)**			
RELIGION_DUMMY				-0.159 (-1.25)		
LANGUAGE_DUMMY					-0.191 (-1.50)	
LEGAL_DUMMY						0.012 (0.10)
R2 (%)	4.48	5.25	8.74	5.95	6.25	5.26
Number of Observations	233	224	224	224	224	224

*** Significant at the 1% level
** Significant at the 5% level
*Significant at the 10% level