

MERGERS AND ACQUISITIONS DURING FINANCIAL CRISES

A Ph.D. Dissertation

by

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Ankara

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To Şerafettin and Mukadder Yılmaz

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of
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İHSAN DOĞRAMACI BİLKENT UNIVERSITY
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September 2016

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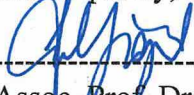
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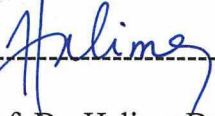
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ABSTRACT

MERGERS AND ACQUISITIONS DURING FINANCIAL CRISES

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Department of Management

Supervisor: Assist. Prof. Ayşe Başak Tanyeri

September 2016

This thesis investigates the effects of financial crises on mergers and acquisitions (M&A) activity. We investigate if M&A deals in crisis periods differ in terms of dollar volume and quantity of deals, target and bidder characteristics, cumulative abnormal returns (CAR) and deal premiums.

First, we describe global M&A activity across 47 countries over the period 1992 to 2011. We investigate how value is generated and distributed in M&A deals around the world. We find that M&A activity (particularly in deals where control rights are sold) generates value. We also find that the magnitudes of bidder and target CARs in developed countries are higher than those in emerging-market countries.

Second, we identify effects of financial crises based on a sample of 39 countries. We conclude that financial crisis in target country affects the value generated in M&A

deals and how the generated value is distributed between target and bidder shareholders. Moreover, a typical crisis affects the value generated and the distribution of value differently in developed and emerging countries. In particular, crisis time M&A deals generate more value if the target is from a developed country.

Finally, financial crises may affect the type of deals that are undertaken and/or affect the pricing of deals. We investigate if differences in deal characteristics account for differences in the value generated and distributed. We conclude that targets operating in countries, which experience crisis, enjoy higher CARs in the full sample even after accounting for the differences in deal specifics.

Keywords: Event Study, Financial Crisis, Mergers and Acquisitions, Partial Sales

ÖZET

FİNANSAL KRİZ DÖNEMLERİNDE ŞİRKET BİRLEŞME VE SATIN ALMALARI

Yılmaz, Işıl Sevilay

Doktora, İşletme Bölümü

Tez Yöneticisi: Yrd. Doç. Dr. Ayşe Başak Tanyeri

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Bu tez finansal krizlerin şirket birleşme ve satın alma aktivitesi üzerindeki etkisini araştırmaktadır. Kriz dönemlerinde gerçekleşen şirket birleşme ve satın almalarının kriz olmayan dönemlerde gerçekleşen işlemlerden işlem hacmi, işlem sayısı, hedef şirket ve alıcı (talip) şirket özellikleri, hedef şirket ve talip şirket hissedarları tarafından elde edilen kümülatif anormal getiri ve talip şirket tarafından ödenen prim açısından farklı olup olmadığı araştırılmıştır.

Öncelikle küresel şirket birleşme ve satın alma aktivitesi 47 ülkenin 1992-2011 dönemindeki işlemleri ile araştırılmıştır. Bulgularımız şirket birleşme ve satın alma işlemlerinin (özellikle kontrol haklarının el değiştirdiği durumlarda) değer yaratan işlemler olduğunu göstermektedir. Ayrıca gelişmiş ülkelerde talip ve hedef şirket kümülatif anormal getiri miktarlarının gelişmekte olan piyasa ülkelere oranla daha yüksek olduğu bulunmuştur.

İkinci olarak, kriz dönemlerinin şirket birleşme ve satın alma işlemleri üzerindeki etkisinin araştırılması için 39 ülkedeki işlemler kullanılmıştır. Hedef firma ülkesinde kriz olması durumunun şirket birleşme ve satın alma aktivitesi ile yaratılan değeri ve yaratılan değerın talip ve hedef şirket hissedarları arasında paylaşımını anlamlı ölçüde etkilediği sonucuna varılmıştır. Ayrıca hedef ülkenin gelişmiş ya da gelişmekte olan ülke olması durumunda finansal kriz etkilerinin farklı olduğu gösterilmiştir. Kriz dönemi işlemleri hedef şirketin gelişmiş ülke olması durumunda daha yüksek değer yaratmaktadır.

Son olarak, finansal krizler gerçekleşen işlemlerin türünü ve/veya fiyatlanmasını etkileyebilir. Kriz zamanı işlemlerindeki farkların yaratılan ve dağıtılan değer için rapor edilen farklılıkları açıklamakta yeterli olup olmadığı araştırılmıştır. Hedef firma ülkesinde kriz olması durumunun kriz zamanı işlemlerindeki farklar göz önüne alındıktan sonra bile yaratılan değeri ve yaratılan değerın talip ve hedef şirket hissedarları arasında paylaşımını anlamlı ölçüde etkilediği sonucuna varılmıştır.

Anahtar Kelimeler: Finansal Kriz, Kısmi Satışlar, Olay Çalışması, Şirket Birleşme ve Satın Almaları

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CHAPTER 1

INTRODUCTION AND MOTIVATION OF THE STUDY

This study investigates the effects of financial crises on mergers and acquisitions (M&A) activity. We investigate if M&A deals in crisis periods differ in terms of volume (both quantity and dollar volume) of deals, target and bidder characteristics, cumulative abnormal returns (henceforth CAR) and deal premiums. We study deals across 39 countries over the period from 1992 to 2011. A review of the M&A literature shows that the effect of crises on global M&A activity is distinctly understudied compared to the enormous literature on M&As. The existing studies are time and country/region specific and do not present a big picture view of M&A behavior during financial crises. A group of studies focus on 1997-1998 Asian Crisis (Acharya, Shin, & Yorulmazer, 2011; Aguiar & Gopinath, 2005; Shen & Lin, 2011). Some other researchers focus on 2007 U.S. Sub-prime mortgage crisis (Cernat-Gruici, Constantin, & Iamandi, 2010; Ravichandran, 2009). Moreover, studies on M&A activity during 2007 U.S. sub-prime mortgage crisis are descriptive in nature.

When we analyze global M&A activity over the period from 1992 to 2011 we identify two spikes, one prior to the downturn in the technology sector in 2000 and one prior

to the onset of the sub-prime mortgage crisis in 2007. Both quantity and dollar value of M&As peak before 2000 and 2007 stock market crashes and rebounds only after the overall economy recovers¹. This pattern in total volume is the result of dominance of developed nations in M&A market. Approximately 80 percent of targets and bidders are from developed countries (including United States) over the 1992 to 2011 period. We observe 24, 13, 11 and 15 percent decline in years 2001, 2002, 2008 and 2009, respectively in the number of deals in which a developed country is target. However, we do not observe this cyclicalities especially for 2007 global downturn for the subsample of emerging countries. In 2001 and 2002, the number of deals with targets from an emerging country decreases by 14 and 12 percent, respectively. However, we observe an increase of 20 and 8 percent in years 2008 and 2009, respectively. Overall, we observe an increasing trend in both quantity and dollar volume in emerging market M&A deals. Through time, the share of developed market countries in total M&A volume is diminishing while that of emerging market countries is increasing. This difference between developed market and emerging market country subsamples regarding M&A activity during financial crisis motivates us to study the effects of financial crisis in a global sample.

The change in M&A activity during financial crises might reflect financial and managerial effects of crisis on both bidder and target firms. Decreasing access to financing especially for large transactions and/or increasing risk-aversion of managers during crisis times may motivate the decrease in developed country M&A activity during financial crisis. Baghai, Smit and Viguerie (2008) study financial crisis investment activity of 200 global companies and state that 60 percent of companies in

¹ This pattern in global M&A activity supports merger waves as put forth by studies focusing on US M&A activity (Andrade et al, 2001; Gort, 1969; Mitchell and Mulherin, 1996; Rhoades-Kropf et al., 2004, 2005 and Harford, 2005).

their sample froze their portfolio moves in downturns while 40 percent made no moves in upturns. They also argue that for many companies the decision not to invest during crisis times is not just related to restricted financial resources.

A strand of literature focuses on the financial status of target firms while investigating the effect of financial crisis on M&A activity. Krugman (2000) is the first to introduce the “Fire Sale Theory”, which states that the firms in crisis countries are credit constrained and are forced to sell their firms below their “true” value. This theory predicts an increase in cross-border mergers where the firms from crisis-hit countries are targets and firms from non-crisis countries are acquirers during crisis times. In case of a global crisis, which affects nearly all countries worldwide, it is unlikely to see such financial transactions among countries. For example, Calderon and Didier (2009) point out that 2007 sub-prime mortgage crisis originated from the United States and then spread to both developed and emerging countries². It is different from previous crises in the sense that the past crises showed stability regarding foreign direct investment (FDI) flows associated with an increase in M&A transactions, reflecting “fire-sale FDI³” whereas the present crisis may constrain the purchasing ability of acquiring firms. Calderon and Didier (2009) document that: “the number of cross-border M&A deals starts to fall in the first quarter of 2008 and has followed a downward trend since then, decreasing almost 70% in the last quarter of 2008 vis-à-vis the second quarter of 2007.” Similarly, Poulsen and Hufbauer (2011) state that the global drop in FDI can be attributed to the decrease in cross-border M&A deals of developed-country companies since 2007, which has led to a 67 percent decline in

² Please see Bekaert, Harvey and Ng (2005), Masson (1998), Kaminsky and Reinhart (2000), Rijckeghem and Weder (2001) for a detailed discussion about contagion in crisis periods and channels of contagion.

³ Krugman (2000), Aguiar and Gopinath (2005), Acharya et al.(2011), Ang and Mauck (2011), Alquist et al.(2016)

cross-border M&As worldwide (despite a slight M&A rebound in 2010). Poulsen and Hufbauer (2011) underline that crisis periods are an important determinant of FDI and state that as expected FDI flows to and from developed countries have declined during the present financial crisis. The financial sector is particularly affected and many M&A transactions are cancelled, postponed, or downscaled. Since the only financial crisis period in US that corresponds to our sample period is the subprime mortgage crisis, the US findings of our study represent effects of this particular crisis on US targets.

The empirical evidence on the validity of ‘fire-sale FDI’ theory in explaining merger activity during times of financial crises is inconclusive. On one hand, Aguiar and Gopinath (2005) and Acharya et al. (2011) document large foreign purchases of East Asian firms during the 1997-1998 East Asian Financial Crisis, their findings support the idea that firms from developed countries tend to buy firms in countries where the effects of the crisis is severe and lower prices compared to fundamental values. On the other hand, Makaew (2012) argues the opposite and states that cross-border mergers come in waves that are highly correlated with business cycles and most cross-border mergers occur when both the acquirer and the target are in booming economies (even after eliminating the effects of global booms), based on M&A transactions data in emerging economies over the period 1988 to 2008. He concludes that “fire sale” mergers, in which acquirers from developed countries may take advantage of liquidity-constrained targets, can happen under a specific circumstance; however, most mergers do not follow this pattern. Thus, he advocates the theory that “firms invest in other countries to gain access to new markets and new investment opportunities and that it is better to enter the target countries when the demand is

strong, the productivity is high, and the business environment is good". Alquist, Mukherjee and Tesar (2016) document that crisis time foreign acquisitions of emerging market targets are not fundamentally different from non-crisis time acquisitions in terms of their industry composition (same industry versus different industry), average size of stakes acquired, likelihood of subsequent divestiture during market recovery and probability of being resold to a domestic buyer. These findings are contrary to expectations of Fire-Sale theory.

This empirical controversy regarding the M&A activity in crisis periods and the discussions that nature of the subprime mortgage crisis differs considerably from previous ones set up the main motivation to study the M&A transactions in the financial crisis. In our global sample, our findings do not support expectations of fire-sale theory. The volume of merger activity (as measured by merger intensity⁴) does not change significantly during crises.

We also investigate if the value generated in mergers and the distribution of this value between target and bidder shareholders differs during crisis. Existing studies look at value generation during merger waves and overwhelmingly limited to mergers of US and UK firms (Alexandridis, 2012; Goel & Thakor, 2010; Martynova & Renneboog, 2011; Moeller, Schlingemann, & Stulz, 2005). Goel and Thakor (2010) show that earlier mergers in a merger wave generate higher bidder abnormal returns compared to later mergers in the sample of US deals from 1979 to 2006. Saikevicius (2014)

⁴ We define merger intensity (in terms of quantity and dollar value) as a standardized measure of volume that makes it possible to compare volume across countries. *Quantity merger intensity* is ratio of number of all listed firms that engage in merger activity -as targets or bidders, as targets and as bidders- to number of listed companies. *Dollar volume merger intensity* is the ratio of number of all listed firms that engage in merger activity -as targets or bidders, as targets and as bidders- to number of listed companies.

study the last takeover wave in the period from 2001 to 2009 for New Member States of European Union. He concludes that crisis time deals do not create more value than those in the pre-crisis time frame. For emerging markets, Acharya, Shin, & Yorulmazer (2011), Aguiar & Gopinath (2005), Shen & Lin (2011) test the fire-sale theory using 1997-1998 Asian Crisis.

To the best of our knowledge, this thesis is the first in asking how M&A activity generates and distributes value around the world during financial crises. Unlike other papers that study certain periods and limited number of countries, we use a worldwide sample of firms during the period from 1992 to 2011. Moreover, we do not limit the study to returns to either target or bidder shareholders and analyze both target and bidder abnormal returns as well as returns to hypothetically combined bidder and target firms.

1.1 Summary of Findings

We find that the value that M&A deals generate differs in crisis and non-crisis times. We proxy for the value generated in M&A deals by analyzing the combined CAR to the hypothetically merged firm. We define combined CAR as the asset weighted 3-day CARs of bidders and targets. The combined CAR in 2,472 deals that are announced in times of financial crisis average 2.36 percent and are significantly different than the combined CAR in 15,165 deals that average 1.63 percent in normal times. Results indicate that in times of crisis M&A deals generate more value for the shareholders of the hypothetically combined firm.

We also show that there are significant differences in how crisis M&A deals generate value in developed versus emerging market countries. In US, the combined CARs average 2.86 percent in times of crisis and are significantly different from the 2.04 percent in normal times. In developed countries (other than US), the combined CARs average 2.37 percent in times of crisis and are significantly different than combined CARs of 1.60 percent in normal times. In emerging market countries, the combined CARs also prove higher in times of crisis relative to normal times (1.06 versus 0.95 percent). The difference, however, is insignificant.

The higher and significant combined CARs in times of crisis are driven by the higher CARs that target and bidder shareholders enjoy in times of crisis. Target CARs average 8.61 percent in times of crisis and prove significantly higher than the CARs of 7.02 percent in normal times. Bidder CARs are also higher in times of crisis (1.48 percent versus 1.33 percent) however the magnitude of difference is smaller. Results indicate that the distribution of value between target and bidder shareholders also varies between crisis and non-crisis times.

The difference in value generation and distribution of value in M&A deals in times of crisis and normal times may be due to differences in the types of deals undertaken and/or differences in the pricing of deals. First, we contrast the terms of deals undertaken in times of crisis and in normal times. We find that crisis deals are significantly larger acquisitions that are more likely to be successfully completed. Furthermore, in times of crisis, a smaller proportion of bidders and targets are public. Finally, in times of crisis 10 percent of deals are paid in cash whereas in normal times 16 percent of deals are paid in cash. We find that differences in deal terms partially

explain the higher magnitude of value generated in M&A deals. When we control for differences in deal terms, the difference in how M&A deals generate and distribute value in crisis versus normal times still persists.

1.2 Organization of this study

Chapter 2 provides an overview of the related M&A literature and studies about financial crises and discusses the contribution of this study to the existing literature. We contribute to the literature by: (i) showing that the existence of financial crisis in target country affects the value generated in mergers and distribution of value between target and bidder shareholders; (ii) documenting the cross-country differences in the effects of financial crisis for developed (US and other developed countries) versus emerging market countries and; (iii) using a worldwide sample of firms during the period from 1992 to 2011.

Chapter 3 develops the main hypothesis to be tested in this study. We discuss the three theories on merger motives and their predictions on M&A activity during financial crises. We identify volume, cumulative abnormal returns and merger premiums as the main areas to investigate.

Chapter 4 describes the sample and explains the data sources used in this study. We introduce the filters applied and data restrictions imposed by different databases.

Chapter 5 presents an overview of global M&A activity from 1992 to 2011. We also investigate cross-country differences in cumulative abnormal returns (CARs) to bidder and target firms.

Chapter 6 investigates the effects of financial crises on merger volume. Chapter 7 investigates the effects of financial crises on distribution of value between target and bidder shareholders. We study target premium, target CARs and bidder CARs as measures of distribution of value between target and bidder shareholders. Chapter 8 explores the effects of financial crises on value generation. We use the abnormal returns for hypothetically combined firms as the proxy for value generated in a merger. Chapter 9 presents a detailed analysis of differences in types of M&A deals during crisis versus non-crisis periods. Chapter 10 summarizes the results of robustness tests. Chapter 11 concludes by summarizing the main findings and identifying possible future research questions that stem from findings of this study.

CHAPTER 2

LITERATURE REVIEW AND CONTRIBUTIONS OF THIS STUDY

This thesis investigates the effects of financial crisis on the worldwide M&A market. In particular, we investigate if M&A deals in crisis periods differ in terms of target and bidder characteristics, M&A volume, value generation and distribution of value between target and bidder firm shareholders. This chapter relates the M&A literature with the financial crises literature. We identify if there are some links between the motivations underlying the M&A decisions (i.e., the forces that drive merger waves) and financial crises. Thus in order to formulate our hypotheses, we first review the literature on merger motives and financial crises.

We use a multi-country setting in the study and our sample covers both domestic and cross-border deals. In section 2.4 we present the findings of selected cross-border M&A studies in order to identify the additional complexities of working with international data.

2.1 Literature Review on Merger Motives

The extant literature on motivations for M&As can be classified under three main theories: value generation, misvaluation and agency conflicts. We summarize the leading studies of each theory in sections 2.1.1, 2.1.2 and 2.1.3 respectively.

In addition to these main theories, some studies emphasize the behavioral aspects of mergers. In particular, these studies, as summarized in section 2.1.4, claim that the overconfidence of managers might drive merger activity (Ferris, Jayaraman & Sabherwal, 2013; Roll, 1986). Finally, some recent studies develop mixed models that incorporate ideas from different theories on merger motivation (Cornett, Tanyeri & Tehranian, 2011; Gorton, Kahl & Rosen, 2009).

2.1.1 Value Generation (Synergy)

The first group of studies focuses on operating, financial or managerial synergies as the main motivation for a merger decision. Damodaran (2005) defines synergy as the additional value generated by combining two firms. This synergy creates opportunities that would not been available to these firms operating independently.

Damodaran (2005) argues that “operating synergies affect the operations of the combined firm and include economies of scale; increasing pricing power and higher growth potential.” and “financial synergies are more focused and include tax benefits, diversification, a higher debt capacity and uses for excess cash.” Operating synergy increases the productivity of the combined entity (Jovanovich and Rousseau, 2002). Financial synergy enables the combined entity to invest in projects, which are not

available to them as stand-alone firms (Fluck and Lynch, 1999). Managerial synergy is possible if the combined entity is better at solving strategic, organizational and operational problems compared to individual target and bidder firms.

According to this group, companies should pursue an M&A activity only if it creates value (also named as Neoclassical Theory). The empirical literature on the value generation effects of M&A deals mainly examines the abnormal returns to shareholders in the period surrounding the announcement (Andrade, Mitchell, & Stafford, 2001; Cheng & Leung, 2004; Eckbo & Thorburn, 2000; Loughran & Vijh, 1997; Scherer, 1988; Smith & Kim, 1994; Tse and Soufani, 2001). Merger studies which use different samples conclude that the target firm's shareholders enjoy significant and positive returns and M&A deals deliver a premium return to target firm's shareholders. For the acquiring firm's shareholders, the findings are less conclusive. Studies that investigate target and bidder cumulative abnormal returns overwhelmingly focus on merger activity in US (Alexandridis, Mavrovitis, & Travlos, 2012; Alexandridis, Fuller, & Terhaar, 2013; Andrade et al., 2001; Bradley & Sundaram, 2006; Fuller, Netter, & Stegemoller, 2002; Moeller, Schlingemann, & Stulz, 2004, 2005). A few articles focus on deals in a specific country/region (Campa & Hernando, 2004, 2006; Craninckx & Huyghebaert, 2011; Goergen & Renneboog, 2004; Ma, Pagan, & Chu, 2009; Martynova & Renneboog, 2011) and some on cross-border deals (Chari, Ouimet, & Tesar, 2010; Dutta, Saadi, & Zhu, 2013; Erel, Liao, & Weisbach, 2012).

The above cited studies and many others, which analyze value generation effects of M&A deals, use event-study methodology. These event studies employ financial

market data to measure the impact of the merger announcements on the value of target and bidder firms. Methodologically, event studies in the merger literature estimate the 'expected stock returns'⁵ of the target/bidder firms at the announcement date and several days before and after the announcement date (also called as the event window) based on an estimation window prior to the announcement date. Then, the method calculates 'abnormal returns' as the difference between 'expected returns' and the 'actual returns'. In an efficient market, the effects will be reflected immediately on stock prices, following a merger announcement. Hence, most of M&A studies use short horizon (from 1-month before to 1-month after the event) event windows. The most common event windows are 3-days, 5 days and 10 days surrounding announcement.

Table 1 presents a summary of findings in this literature on 3-day target and bidder CARs and CARs for hypothetically combined bidder and target firms surrounding announcements. We summarize 16 studies for US deals, 5 for European deals, 6 for emerging countries and 1 for developed emerging country paired deals. In US studies 12 out of 16 report negative bidder returns and all report positive target returns ranging from 13 percent to 23 percent. There are 9 studies that report combined 3-day CARs and all document positive CARs ranging from 0.7 percent to 3.5 percent. In Europe studies, target CARs range from 3 to 13 percent and bidder CARs range from -0.9 to 0.8 percent. Combined 3-day CARs in Europe are around 1 percent. For

⁵ Expected return determination in different studies is based on different specifications. The most widely used model is the 'market model'. Market model uses an estimation window prior to the event date to derive the typical relationship between the firm's stock and a reference index through a regression analysis. Based on the regression coefficients, the expected returns are estimated and used to calculate the abnormal returns. Some studies use Capital Asset Pricing Model (CAPM) and mean adjusted returns instead of market model.

emerging markets, Ma et al. (2009) reports 1.28 percent bidder CAR for 10 emerging markets, Selcuk and Kıymaz (2015) report significant (0.89 percent) bidder returns in Turkey. Hekimoglu and Tanyeri (2011) and Arslan and Şimşir (2013) report Turkish target CARs as 4.88 and 2.5 percent, respectively.

Some studies try to identify the value effects of M&A deals by examining changes in cash flow returns (Healy, Palepu, & Ruback, 1992; Ramaswamy & Waagelein, 2003), changes in market share (Mueller, 1985) and changes in financial ratios like return on assets (ROA) and return on equity (ROE) (Mantravadi & Reddy, 2008).

Starting with Gort (1969) and expanded by Mitchell and Mulherin (1996), a group of studies on merger waves support the idea that firms merge as a response to regime shifts. Harford (2005) presents additional evidence that merger waves are driven by economic, regulatory and technological shocks.

Gort (1969) is the first to claim that discrepancies in valuation can determine variations in merger rates among industries and over time. He proposes that the valuation differentials are triggered by economic disturbances. He identifies rapid changes in technology and movements in security prices as main shocks. Other factors affecting merger rate in his model are barriers to entry by new firms (expects higher merger frequency when barriers are high) and growth in demand. He documents a positive relationship between merger rate and growth using a sample taken from manufacturing industries during 1951-1959 period from FTC (Federal Trade Commission) records.

Table 1: M&A Literature on Value Creation (3-Day CARs)

Study	Country	Sample Size & Selection Criteria	Sample Period	Bidder CAR (%)	Target CAR (%)	Combined CAR (%)
Alexandridis et al. (2012)	USA	N=3,206 bidders & 2,509 targets Control Changing, Completed, Deal size>\$1mil	1993-2007	-1.5***	19.47***	1.12***
Mulherin & Boone (2000)	USA	N=281 bidders & targets Completed, Control Changing	1990-1999	-0.37	20.2***	3.56***
Bauguess, Moeller, Schlingemann, & Zutter (2009)	USA	N= 1,182 bidders & 1,668 targets Control Changing, Completed	1996-2005	-1.75	21.66	0.69
Andrade et al. (2001)	USA	N=3,688 bidders & targets Control Changing, Completed	1973–1998	-0.7	16.0**	1.8 **
Moeller et al. (2004 & 2005)	USA	N=12,023 bidders & 1967 Combined Control Changing, Completed , Deal size>\$1mil	1980–2001	1.10***	NA	1.35***
Netter et al. (2011)	USA	N=67,256 bidders & 4,047 targets Control Changing, Completed	1992-2009	1.1***	20.4***	NA
Alexandridis et al. (2013)	USA	N=3,035 bidders Control Changing, Completed, Deal size>\$1mil	1990-2007	-1.51***	NA	NA
Cai, Song, & Walkling (2011)	USA	N=6,930 bidders Control Changing, Deal size>\$10mil	1985-2009	0.71***	NA	NA
Jacobsen (2014)	USA	N= 516 bidders. Withdrawn, Control Changing, Deal value >=\$10 mil.	1990-2007	-0.6***	NA	NA
Hackbarth & Morellec (2008)	USA	N=1,086 bidders & targets	1985-2002	-2.26***	18.21***	NA
Harford, Jenter, & Li (2011)	USA	N=3,540 Control Changing, Completed	1984-2006	-1.3	19.4	1.9
Ahern(2012)	USA	N=4,102 Control Changing	1980-2008	-1.27	19.8	NA

Table 1 (cont'd),

Study	Country	Sample Size & Selection Criteria	Sample Period	Bidder CAR (%)	Target CAR (%)	Combined CAR (%)
Becher et al. (2012)	USA	N=234 targets&337 bidders Control Changing	1980-2004	-0.8***	13***	2.3***
Akbulut(2013)	USA	N=2,778 Control Changing	1993-2009	NA	NA	1.42***
Li(2013)	USA	N=1,430 bidders & targets Control Changing, Completed	1981-2002	-0.2	23.3	
Ishii & Xuan(2014)	USA	N=539 bidders & 519 targets Completed	199-2007	-1.97***	20.06***	1.04***
Craninckx & Huyghebaert (2011)	Europe	N=267 with public targets& 336 with private targets (Bidder & target are non-financial EU firms) Completed, Control changing	1997-2006	0.16 (public targets) 0.78***(private target)	7.56***	1.1***
Campa & Hernando (2004)	Europe	N=262 targets & bidders (listed EU firms) Completed	1998-2000	0.44	3.93**	1.04**
Campa & Hernando (2006)	Europe	N=172 targets & bidders (public EU financial institutions) /Control Changing	1998-2002	-0.87**	3.24**	
Goergen & Renneboog (2004)	Europe	N=142 bidders, 136 targets Deal size>=\$100 mil	1993-2000	0.70***	9.01***	NA
Martynova & Renneboog (2011)	Europe ⁶	N=2,109 bidders & 760 targets Non-financial firms, control changing	1993-2001	0.72***	12.47***	NA
Sehgal, Banerjee, & Deisting (2012)	BRICS countries ⁷	N=214 bidders (percent acquired >15%) Completed M&As of BRICS countries	2005-2009	1.95	NA	NA
Hekimoglu & Tanyeri (2011)	Turkey	N=125 Turkish non-financial targets	1991-2009	NA	4.88***	NA

⁶ 28 European Countries(UK and Continental Europe)⁷ BRICS countries: Brazil, Russia, India, China, &South Africa

Table 1 (cont'd),

Study	Country	Sample Size & Selection Criteria	Sample Period	Bidder CAR (%)	Target CAR (%)	Combined CAR (%)
Arslan & Şimşir (2016)	Turkey	N=105 Turkish targets, Completed	2005-2011	NA	2.5***	NA
Akben Selcuk & Kıymaz (2015)	Turkey	N=98 Turkish bidders ,Completed	2000-2011	0.89*	NA	NA
Ma et al. (2009)	10 emerging Asian markets ⁸	N=1,477 bidders Bidder & target from 10 emerging Asian markets Control Changing, Completed	2000-2005	1.28	NA	NA
Bhagat Malhotra & Zhu (2011)	8 emerging countries ⁹	N=698 bidders. Cross border, Control Changing bidder is from 8 emerging countries	1991-2008	1.72***		
Chari et al. (2010)	9 developed & 42 emerging countries ¹⁰	N=348 Control Changing(CC) & 246 Not CC Completed, Deal size>\$10 mil, developed bidder & emerging target (DM-EM)	1986–2006	1.16*** (CC) -0.02***(Not CC)		

Notes: Table summarizes the findings of M&A papers that compute 3-day CARs around announcement date, in different samples. The symbols ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

⁸ 10 emerging Asian markets studied by Ma et al. (2009): China, India, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand

⁹ 8 emerging countries studied by Bhagat et al. (2011): Brazil, China, India, Malaysia, Mexico, Philippines, Russia, and South Africa

¹⁰ 9 developed countries studied by Chari et al. (2010): Canada, France, Germany, Italy, Japan, the Netherlands, Spain, the United Kingdom, and the United States. 42 emerging countries: Antigua, Argentina, Barbados, Bolivia, Brazil, Cameroon, Chile, China, Colombia, Costa Rica, Ecuador, Egypt, Gabon, Guatemala, Honduras, India, Indonesia, Iran, Jamaica, Jordan, Kenya, Malaysia, Mauritania, Mauritius, Mexico, Morocco, Namibia, Nicaragua, Nigeria, Panama, Peru, Philippines, Republic of Congo, Saudi Arabia, South Africa, South Korea, Taiwan, Thailand, Uruguay, the United Arab Emirates, Venezuela, and Vietnam.

Mitchell and Mulherin (1996) broadens the idea of Gort (1969) by introducing a model where M&A's are least cost means for industry structure to respond to economic shocks (deregulation, changes in input costs, innovations in financing technology). They test their hypothesis based on a sample of 1,064 firms from 51 Industries during 1982-1989 period and find that variation in takeover activity in each industry is significant compared to the entire sample. They also document that the takeovers in a given industry tend to cluster in a subsample of years compared to the entire distribution. Finally, they also show that sales shocks and employment shocks are positively related to takeover activity.

Harford (2005) also finds evidence that merger waves are driven by economic, regulatory and technological shocks. However he states that shocks can only generate merger waves if there is sufficient capital liquidity to be used in the transactions. He admits that market timing can be effective for managers while taking the merging decision but also states that such mergers do not cause merger waves. His findings are obtained from a sample of merger or tender offer bids from 1981-2000 period in which he has identified 35 waves from 28 industries.

Fluck and Lynch (1999) develop an alternative theory of mergers and divestitures, which is only applicable if one of the firms is a financially distressed firm with agency problems. They claim that the inability of individual firms to finance marginally profitable and possibly short horizon projects is the motivation for mergers. Since the merger is only a tool to invest in the project, the financing synergy ends as profitability improves which in turn leads the acquirer to divest assets. Their study does not involve any empirical evidence.

As an extension of neoclassical theory of mergers, Jovanovic and Rousseau (2002) present a broader version of “Q-theory of investment”¹¹ to the mergers. They treat mergers as used capital trade since merger is re-allocative. In other words, high productivity firms acquire low productivity firms so as to make their assets more profitable. In their model, the gap between the qs of potential acquiring and target firms can create a merger wave.

2.1.2 Market Misvaluation (Mispricing)

Some researchers focus on market imperfections as the main merger motivation. Myers and Majluf (1984) show that managers with insider information may alter their investment decisions accordingly if their firms’ shares are mispriced. The information asymmetry between managers and investors puts managers at an advantageous position in merger decisions. Overvalued stocks may motivate managers to engage in mergers as bidders and pay with stock.¹²

Shleifer and Vishny (2003) claim that stock market misvaluations of the combining firms may lead to merger activity. In their model, some firms are valued incorrectly and the managers of bidding firms are rational players so they take advantage of these inefficiencies in their merger decisions. According to misvaluation theory, wave-like clustering can be result of aggregate overvaluation. Rhoades-Kroft and Viswanathan (2004) also develop a model where rational managers without perfect information overestimate synergies during valuation waves and this misvaluation creates merger

¹¹ Q-theory of investment: q is defined as market value of existing shares divided by replacement cost of physical assets and additional investment makes sense when $q > 1$.

¹² Cornett, Tanyeri and Tehranian (2011) argue that managers may utilize their information advantage to serve shareholders or to protect opportunistic benefits. On the one hand, they may try to generate long run value for pre-merger shareholders at the expense of post-merger shareholders (Hansen (1987), Schwert (1996), and Betton et al. (2009)). On the other hand, managers may only look for their opportunistic benefits at the expense of both pre- and post-merger shareholders (Jensen (2005)).

waves. Rhoades-Kroft, Robinson and Viswanathan (2005) provide empirical evidence for the misvaluation theory by decomposing the M/B ratio into three components that are firm-level, sector level and a component for long-run growth opportunities. Based on a sample from 1978-2001, they confirm that higher M/B firms tend to acquire lower M/B firms in the short run. However, the long-run behavior is just the reverse and they also document larger market to book differences between bidder and target compared to completed deals.

2.1.3 Agency Conflicts

A group of researchers emphasize the agency problems as the main driver of mergers. The agency theory states that managers look after their own self-interest instead of shareholders. (Goel & Thakor, 2010; Jensen & Meckling, 1976; Jensen, 2005) The M&A decisions of these managers may reflect their desire to build empires even if little or no value is associated with the deal. Managers may also use M&As to accomplish their growth and earnings targets, without paying attention to the effects on shareholder value.

Goel and Thakor (2010) develop a formal model where envy among CEOs of bidder firms can generate merger waves even when the first firm in the wave only has idiosyncratic shock. They also empirically test some of the predictions of their model based on a sample of acquisitions realized by US-listed firms where the acquirer obtains at least 50% of target shares during a merger wave for 1979 to 2006 period. In particular they verify that earlier mergers in a merger wave involve smaller targets,

create higher abnormal returns for bidders and result in larger compensation for top management compared to later mergers in the wave.

2.1.4 Behavioral Models

Roll (1986) introduced the concept of managerial ‘hubris’, which means that the managers are likely to be overconfident in their ability to negotiate a good deal for their shareholders and then run the combined entity. This overconfidence leads these managers to overpay for their acquisitions. Ferris, Jayaraman and Sabherwal (2013) present evidence that overconfidence of Chief Executive Officers (CEO) influences the number of offers made, the frequencies of non-diversifying and diversifying acquisitions, and the use of cash rather than equity as the primary financing vehicle. They also argue that overconfidence of managers play role in explaining international M&As. The degree of overconfidence in different countries is shaped by their cultures. In particular, as the degree of individualism increase in a given country, the degree of overconfidence increases. Their empirical results are based on a sample drawn from mergers during 2000 to 2006 executed by 500 largest non-financial companies ranked by Fortune magazine. The overconfidence data is constructed using Factiva database.

2.1.5 Mixed Studies

Recently some studies presented models acknowledging that merger decision is a combination of different factors. The study of Gorton, Kahl and Rosen (2009) introduced as “eat or be eaten theory” is based on the idea that “the desire not to be acquired is an important managerial motive”. In their model, managers can reduce the

chance of being acquired by increasing the size of their firm through acquiring another firm (even by unprofitable defensive actions). They claim that anticipation of merger opportunities can lead to defensive¹³ or "positioning" acquisitions and the industry structure matters in the decisions. They empirically test their hypothesis based on a sample of US firms that are in both the CRSP and Compustat databases during 1982-1999 period and they detect two things: "First, the profitability of acquisitions increases in the ratio of the size of the largest firm in the acquirer's industry to the size of other firms in its industry, all else equal. Second, the quantity of mergers increases in the proportion of medium-size firms in an industry, all else equal."

Cornett, Tanyeri and Tehranian (2011) develop a model of investor anticipations of both bidder and target firm candidacy by incorporating multiple merger motives (generate shareholder value and generate opportunistic benefits for managers) using a two-stage framework. They investigate if investors can anticipate bidder and target merger candidacy. They also examine if investor anticipations about candidacy affect the stock price responses to merger announcements and hence distribution of value between bidder and target firm shareholders. They use a sample of non-financial US merging and non-merging firms for 26 years from 1979 to 2004. Mergers used in the study are completed deals that transfer control rights from the target to the bidder firm in which at least one of the two firms are publicly traded. A firm is identified as a bidder (target) in a given year if it proposes (solicits) at least one bid in the next year. Their final sample is 98,554 firm years (4,964 firm years for bidder subsample; 2,830

¹³ Defensive merger is defined as value reducing merger for shareholders but provides the managers of acquiring firms to retain their jobs.

firm years for target subsample and 90,760 firm years for non-merging subsample). In their model investors cannot directly observe managerial motives. Instead, they observe merger announcements. They find that investors predict bidder firms more accurately than target firms. This asymmetry in investor anticipations about merger candidacy causes disparity in bidder and target firm announcement period abnormal returns. The difference in merger anticipation may account for documented higher magnitude of target firm CARs than bidder CARs.

2.2 Literature Review on Financial Crisis

Mishkin (1992) defines a financial crisis as “a disruption to financial markets in which adverse selection and moral hazard problems become much worse, so that financial markets are unable to efficiently channel funds to those who have the most productive investment opportunities”

Most of the studies related to financial crises try to answer three main questions: (i) what are the causes of financial crises? (ii) What are the consequences of a crisis? and (iii) what are the possible action plans for countries experiencing crises?

Studies, which investigate the causes of crisis and potential early indicators, are generally categorized as first generation models, second-generation models and other models in the literature. The First Generation Models, which are also known as exogenous -policy models (Flood & Garber, 1984; Krugman, 1979), are mainly based on experiences of Latin American Economies in 1970s, 1980s. In these models, crises are an unavoidable outcome of a deterioration of the fundamentals, typically due to

inconsistency of economic policies and the main indicator of crisis is runs on FX Reserves at the Central Bank. Early warning indicators identified in this group of studies are decline in FX reserves, budget deficits and growth in domestic credit.

The Second Generation Models (Krugman, 1999; Obstfeld, 1997) are introduced after the European Monetary System (EMS) Currency Crisis in 1992-93 since some countries with adequate FX Reserves, manageable domestic credit and low fiscal deficit are affected. These models present a game theoretic approach for government's optimizing decisions on whether to keep fixed exchange rate regime. Early indicators identified by this group are public debt, maturity mismatches of banks and real interest rates.

As the 1997-1998 Asian-Crisis has exploded, additional models of financial crises are introduced in order to further investigate the crisis issue. The "moral hazard models" as introduced by Allen and Gale (2000) claim that "Liquidity Shocks" can explain financial crises. This claim is based on the idea that moral hazard problems of banks due to investment using debt-financed money are the main underlying reason for crises. Thus, fragile financial system accounts for observed crises and according to these studies an index of financial system fragility may act as an early warning indicator. Another group of additional models is the Information Cascade Models (Drazen, 2000). These models are based on the idea that expectations are formed under the context of imperfect and asymmetric information. In these models, large expectation shifts may occur due to small injection of new, possibly wrong information. These large expectation shifts mainly stem from the so-called herding behavior among investors (Bikhchandani & Sharma, 2000).

An important line of study in crisis literature investigates how financial crises can spread to other sectors and countries. These are known as “contagion models”. Masson (1998) identifies monsoonal effects (common external shocks to countries), spillover effects (effects on trading partners or competitors) and pure contagion effect (spread of crises based on market sentiment or herding behavior). Channels for contagion are also widely studied (Bekaert, Harvey, & Ng, 2005; Kaminsky & Reinhart, 2000; Van Rijckeghem & Weder, 2001). The main channels identified are financial channels such as banks, mutual funds, pension funds and insurance companies and trade channels. These channels transmit crises across countries.

An important consideration when studying financial crises is to understand different types of crises. Laeven and Valencia (2008, 2010) compile a worldwide crises database for the period 1970 to 2009 where dates of systemic banking crises, currency crises and debt crises are identified for various countries. Two conditions for systemic banking crisis in their study are: significant signs of financial distress in the banking system (as indicated by significant bank runs, losses in the banking system, and bank liquidations) and significant banking policy intervention measures in response to significant losses in the banking system. They detect a currency crisis when nominal depreciation of the currency is at least 30 %, and if this depreciation simultaneously satisfies the condition of min 10 % increase in the rate of depreciation, compared to the year before. Their 2008 study identified 208 currency crises worldwide for 1970-2007. Their debt crisis identification is based on Beim and Calomiris (2001), World Bank (2002), Sturzenegger and Zettelmeyer (2006), and IMF Staff reports and the database includes 63 cases since 1970. Laeven and Valencia (2012) extends the crisis

database so as to include the subprime mortgage crisis¹⁴ and their final database covers crises up to 2011.

Reinhart and Rogoff (2009) also provide a comprehensive study of financial crises by analyzing various crises from 12th century to today. Their well-known book presents a history of financial crises for 66 countries over 8 centuries. They identify banking crisis, sovereign debt crisis, inflation crises and currency crashes as different types of crises. Banking crisis and sovereign debt crisis are classified under “crisis defined by events” while inflation crises and currency crashes are classified under “crisis defined by quantitative thresholds”. They label certain times as “banking crises” when a significant part of banking sector has become insolvent after heavy investment losses, banking panics or both. Banking crises are observed in both poor and rich countries. When a government fails to meet payments on its external or domestic debt obligations or both, then we are facing a “sovereign debt crisis”. A sovereign debt crisis is an issue for emerging market countries. “Inflation crisis” happens when annual inflation rate is higher than 20% (extreme case threshold is 40%)¹⁵. “Currency crashes” are characterized as times when we observe annual depreciation versus US dollar of 15% or more. They also point out that it is uncommon to observe one type of crises at a time and crises often occur in clusters.

However, we have to be very careful while using above mentioned financial crises databases or any other comprehensive database, which defines crisis periods as binary variables of crisis versus no-crisis periods while conducting empirical studies.

¹⁴ The term ‘subprime mortgage crisis’ refers to U.S. recession of December 2007 – June 2009. It is named after the collapse of a housing bubble in US, which triggered a large decline in home prices and marked the beginning of a deep financial crisis in US.

¹⁵ They state that these thresholds are reconsidered for some cases in their study.

Balakrishnan, Danninger, Elekdag and Tytell (2011) acknowledge this by stating that that “such variables do not provide a measure of the intensity of stress and ignore the ambiguity of ‘near-miss’ events”. They also point out to the fact that “even the most comprehensive databases of the crisis literature focus on banking, currency and debt crises and pay little attention to securities-market stress” which makes these databases inadequate for a simultaneous analysis for the entire financial system¹⁶.

2.3 Financial Crisis and M&A Activity

Despite the abundance of independent merger and financial crisis studies, crisis and M&A relationship is understudied in literature. The existing studies are time and country/region specific. Most of these studies focus on 1997-1998 Asian Crisis (Acharya et al., 2011; Alquist et al., 2016; Aguiar & Gopinath, 2005; Shen & Lin, 2011). Some researchers focus on 2007 U.S. sub-prime mortgage crisis (Cernat-Gruici et al., 2010; Ravichandran, 2009)

2.3.1 M&A and Asian Financial Crisis 1997-1998

The studies on relationship between financial crisis and merger activity are predominantly empirical studies for Asian Financial crisis of 1997-1998. Aguiar and Gopinath (2005) investigate the relationship between liquidity crisis and foreign acquisitions based on a sample of M&As from South Korea, Thailand, Indonesia, Malaysia, and Philippines (nations hit hardest by crisis) during 1986-2001 from SDC.

¹⁶ Laeven and Valencia (2012) crisis database, which we use in this study, also fails to report some crises such as Enron failure and LTM bankruptcy.

Their study develops a theoretical model and also includes empirical tests. Their main hypothesis is that the number of acquisitions increases during crisis while the average price of an acquisition declines. Their findings reveal that (i) foreign acquisitions increased by 91% in East Asia between 1996 and 1998, while intra-national merger activity declined, (ii) there is a decline in the price of acquisitions during the crisis, (iii) the observed effect is more prominent in the tradable sector.

Shen and Lin (2011) analyze whether the 1997 crisis affected the determinants of cross-border mergers and acquisitions among financial institutions in eight selected Asian countries. They test five international trade hypotheses (gravity hypothesis, following the client hypothesis, market opportunity hypothesis, information cost hypothesis, regulatory restriction hypothesis)¹⁷ based on a sample of M&As among financial institutions in the selected countries for 1990-2006 period. They use a poisson regression model to study the number of M&As between two countries where they specify before and after Asian crisis periods using a dummy variable. They also incorporate five sets of explanatory variables for five hypotheses under investigation¹⁸. Their findings reveal that some determinants remain unchanged in both periods (distance-proxy for gravity- and trade- proxy for following the client-)

¹⁷ Shen and Lin (2011) summarize these hypotheses as follows:

Gravity hypothesis: trade flows between two countries can be explained using GDP and distance.

Following the client hypothesis: international financial institutions follow their customers when they go abroad in order to protect their existing relationship with them (Williams, 2002)

Market opportunity hypothesis: the decision to expand abroad is spurred the search for profit opportunities.

Information cost hypothesis: there are information costs related to cross border mergers due to cultural and legal differences in target and bidders' countries.

Regulatory restriction hypothesis: the attitude of local authority towards M&As is a critical factor in affecting a firm's decision as to whether or not to invest in a country.

¹⁸ They use **distance** for the gravity model, **trade** for the following the client model, the **GDP growth rate** for the market opportunity model, **religion** for the information cost model, and **rule of law** for the regulation model. (Shen and Lin, 2011:94)

whereas some determinants are only effective before crisis (stock return-proxy for market opportunity) and some determinants are only effective after crisis (being of the same religious faith-proxy for information cost). They interpret these findings to characterize before and after crisis periods. They state that information cost hypothesis, gravity hypothesis and following the client hypothesis are effective in both periods while market opportunity hypothesis is only effective before the crisis. The effects of following the client, market opportunity and information cost hypotheses on the cross-border M&A decisions are found to increase after the crisis.

Acharya et al. (2011) analyze M&A and FDI activity during Asian Crisis using both domestic and cross-border completed deals for Asian Countries¹⁹ for 1991 to 2000 period. They compare pre-crisis (Jan 1991- Dec. 1994) period to crisis (July 1997- Dec. 1999) period and observe that domestic acquisitions fall and foreign acquisitions rise significantly in crisis period both in terms of deal number and deal value. They also note that FDI-flows surge even as portfolio flows reverse and higher levels of shares acquired in target firms during crisis times. They find that cross-border acquisitions made during crisis times are re-sold quickly to domestic buyers once financial conditions improve in the crisis-stricken country (not observed for normal time acquisitions). They report that the firms acquired during the crisis period by foreign investors are almost twice as likely to be flipped back relative to their domestic counterparts within a five-year window.

Recently, Alquist et al. (2016) use fire-sale theory to develop a theoretical model of cross-border M&As in emerging markets. They test the predictions of their model

¹⁹ The target firms are from Malaysia, Thailand, Indonesia, South Korea, the Philippines, Singapore, Vietnam, Cambodia, Myanmar (Burma), Brunei, and Laos.

based on a sample of 30,000 foreign and domestic acquisitions in 16 emerging markets between 1990 and 2007. They analyze foreign M&A activity in emerging markets over an extended period of time which they refer to as “business as usual”²⁰. Their model extends the previous models of fire sale FDI as introduced by Aguiar and Gopinath (2005) and Acharya et al. (2011). In their model crises are defined as periods of illiquidity as in Aguiar and Gopinath (2005). In addition, they also allow for differences in payoffs to synergistic (same-industry deals according to one digit SIC-code) and non-synergistic acquisitions. In the empirical part, their focus is not limited to Asian crisis in contrast to Aguiar and Gopinath (2005) and Acharya et al. (2011). They use the annual crises dates as identified by Laeven and Valencia (2010). They confirm Aguiar and Gopinath (2005) on that the proportion of foreign acquisitions increases during crisis. However, they do not observe fundamental differences between crisis and non-crisis time acquisitions in terms of industry composition (same-industry versus different industry), size of foreign ownership stakes acquired and the duration of crisis-time matches. These findings are contrary to expectations of Fire-Sale theory.

Table 2 presents a summary of hypotheses tested by and findings of Aguiar and Gopinath (2005), Acharya et al. (2011) and Alquist et al. (2016) on relationship between Asian financial crisis and merger activity.

²⁰ In Business as usual: same-industry acquisitions dominate, acquisition stakes acquired are heterogeneous and duration of foreign acquisitions vary.

Table 2: Findings of Literature on Crisis and M&A Relationship

Hypothesis	Alquist et al. (2016)	Acharya et al. (2011)	Aguiar & Gopinath (2005)
1 Foreign firms acquire larger stakes in the target firm during crises.	NO	YES	-
2 The frequency (proportion) of foreign (cross-border) acquisitions is higher in crises.	YES	YES	YES
3 There are sectoral differences in crisis effects.	-	-	YES ²¹
4 There is a higher turnover rate for crisis-time acquisitions.	NO ²²	YES	-
5 The proportion of non-synergistic (different industry) acquisitions relative to synergistic (same industry) acquisitions increases during crises.	NO ²³		
6 The number of acquisitions increases during a liquidity crisis	-	-	YES
7 The average price of an acquisition declines during a liquidity crisis			YES
8 The sensitivity of the conditional probability of acquisition to firm liquidity declines (becomes more negative) during a liquidity crisis			YES
9 The sensitivity of the conditional probability of acquisition to future productivity increases during a liquidity crisis			YES
10 The sensitivity of the price of an acquisition to firm liquidity increases during a liquidity crisis			YES
11 The sensitivity of the price of an acquisition to future productivity declines during a liquidity crisis			YES

Notes: Table presents a summary of main findings of Aguiar and Gopinath (2005), Acharya et al. (2011) and Alquist et al. (2016) on relationship of Asian financial crisis and merger activity.

²¹ **Aguiar & Gopinath (2005):** tradable vs. non-tradable sector

²² **Alquist et al. (2016):** (there is little evidence for a higher turnover rate compared to non-crisis periods)

²³ Only little evidence

2.3.2 M&A and Recent 2007 U.S. Sub-prime mortgage crisis

Cernat-Gruici, Constantin and Iamandi (2010) analyze the effect of 2007 financial crisis on merger volume of Romania and 10 other EU countries based on a sample of M&A deals over the period from 2000 to 2009. First, they identify completed, pending, canceled and proposed deals. Then they compare period 2000-2009 to 2008-2009 using descriptive statistics and graphs. They conclude that most of the countries considered were not affected in terms of M&A volume (except Great Britain and Hungary) and the Romanian M&A market has grown in volume in the 2008 to 2009 period.

Ravichandran (2009) presents a descriptive study regarding the M&A activity in Gulf Cooperation Council (GCC) countries following 2007 Crisis. He describes M&A activity by tables and graphs without any statistical analysis for 1996-2008 period. He observes that cross-border deals are main drivers of Middle East M&A activity and M&A deals are concentrated in financial services sector, industrials, telecom and logistics. He compares 2007-2008 values of M&A deals with GCC participation and report that number of deals increased by 31% while value of deals decreased by 47%.

To the best of our knowledge, studies focusing on the effects of 2007 financial crisis are mainly descriptive yet and there is no comprehensive study to disentangle the crisis effects using a theoretical framework.

2.3.3 Dynamic Models of M&A Crisis Relationship

Makaew (2012) develops a dynamic model where he assumes that lagged macroeconomic indicators are proxies for exogenous shocks and M&As fluctuate in response to these shocks. He tries to discover the dynamic patterns of cross-border mergers, and the factors that drive them. He aims to explain the volume of cross-border deals as a function of real economy indicators (Gross Value Added, GDP and Capital Formation) and Financial Market indicators (Market capitalization, Market Capitalization/Total Assets, P/E and domestic credit) in addition to the exchange rate between target and bidder countries. He also controls for year fixed effects for both acquirer and targets' countries to determine variations beyond global averages still have an effect on M&As. He presents a test of his model based on a sample of M&A deals announced and completed over the period from 1988 to 2008 for 50 countries from SDC database. He states that cross-border mergers come in waves that are highly correlated with business cycles and most cross-border mergers occur when both the acquirer and the target are in booming economies (even after eliminating the effects of global booms).

2.4 Literature Review on Cross Border Mergers

An important contribution of this study to literature is the use of a comprehensive dataset involving both domestic and international mergers. Thus, it is essential to understand if domestic and cross-border mergers have any structural differences and account for these differences in the analysis part, if any. More recently, the rise of global competition led M&As to become increasingly international. The international

perspective of M&A activity started to constitute a popular area among M&A researchers. The cross-border M&A studies recognize that factors related to country-based differences such as cultural or geographic variables or factors associated with the economy of the firm's home country may affect cross-border mergers and considering these additional factors enable these studies to present the greater picture better compared to studies that solely focus on domestic mergers. The main variables identified in literature that may affect international merger activity are physical and cultural distance between target and bidder nations and corporate governance structures, exchange rate movements, and legal and political environments of target and bidder nations.

1) Physical and cultural distance between target and bidder nations:

Erel et al. (2012) argue that geography matters in cross-border mergers. It is more likely to have acquisitions between the two countries, as physical distance between these countries gets shorter. Weitzel and Berns (2006) state that as geographic distance get smaller cross-border competition for the acquisition of local targets would increase which in turn leads to higher premiums.

Erel et al. (2012) also state that mergers are likely to occur between firms of countries with a common cultural background. Weitzel and Berns (2006) argue that as the cultural distance between target and bidder is greater, it is more likely that the

potential bidder prefers green-field investments²⁴ to mergers. Thus there is less potential competition and lower premiums if target and bidder are culturally distant.

2) Corporate governance structures of target and bidder nations

Rossi and Volpin (2004) document higher premium in countries with higher shareholder protection. Weitzel and Berns (2006) find that the premium paid is negatively associated with target country corruption after controlling for differences in political stability, legal systems, and financial disclosure standards.

Bris and Cabolis (2008) use a sample of cross-border mergers and show that the higher the shareholder protection and accounting standards in a bidder's country, the higher is the premium that target shareholders receive relative to premiums in matching domestic acquisitions.

3) Exchange rate movements

When the acquirer country's currency appreciates, the target becomes cheaper in terms of acquirer country currency. Then, acquirer may become more willing to pay a higher premium in order to avoid potential competition for the target shares (Weitzel & Berns, 2006). Weitzel and Berns (2006) use the (lagged) change in the average annual exchange rates between the home/host countries as the measure of exchange rate movements in their analysis.

4) Legal and political environments of target and bidder nations

²⁴ A green field investment is a form of foreign direct investment (FDI) where the foreign investor builds new production facilities in the home country instead of investing to the new country through mergers and acquisitions.

Dinc and Erel (2013) argue that economic nationalism and different forms of regulations, political environment may affect the volume of cross-border M&A deals. Political interventions and regulations may tend to work in favor of domestic bidders especially for big sales in a target country. They use hand-collected data for large corporate merger attempts in 15 European Union countries during the period from 1997 to 2006. In particular, they argue that the current global crisis led to an increase in the importance of economic nationalism. There may be foreign potential bidders for the financially distressed firms. However, calls for political intervention to the economy in general and for protectionism in particular seems to be an increasing trend during the period analyzed in the study. Moreover, they argue that such nationalist government reactions also have indirect economic impacts on mergers as well, since foreign bidders deter potential future deals of the nationalist country in the future.

In a comprehensive study, Erel et al. (2012) analyze how international factors such as cultural differences, geographic differences, country-level governance differences, and international tax effects influence the decision for cross-border M&As using a sample of 56,978 cross-border mergers occurring between 1990 and 2007.

Differences in valuation, which can vary substantially over time for any pair of countries through fluctuations in exchange rates, stock market movements, and macroeconomic changes, are considered. They utilize mergers and acquisitions data rather than all FDI due to data quality²⁵ as a basis for their empirical work. They

²⁵ They argue that “FDI contains components other than investment such as inter-company loans and retained earnings and the non-merger component of FDI is measured differently across countries, making cross-country comparisons problematic. To compile data on FDI, a number of countries use “administrative” data from exchange-control or investment-control authorities’ approvals of

conclude that geography, the quality of accounting disclosure, and bilateral trade are important determinants for analyzing the likelihood of mergers between two countries. Valuation is also found to play a role in motivating mergers such that the “firms in countries whose stock market has increased in value, whose currency has recently appreciated, and that have a relatively high market-to-book value tend to be purchasers, while firms from weaker-performing economies tend to be targets”. Findings of Erel et al. (2012) contradicts to that of Makaew (2012) who documents that most cross-border mergers occur when both the acquirer and the target are in booming economies based on M&A transactions data in emerging economies over the period 1988 to 2008.

2.5 Contribution of This Study

This study contributes to literature by providing an in-depth analysis of M&A activity during financial crises. Our contribution is threefold. First, we show that the existence of financial crisis in target country affects the value generated in mergers and distribution of value between target and bidder shareholders. Second, we document significant cross-country differences in the effects of financial crisis for developed (US and other developed countries) versus emerging market countries. In particular, we report that crisis time M&A deals create more value if the target is from a developed country. Developed (emerging) country targets generate higher (lower) value to their shareholders (as calculated by target CARs) if they are in financial

investment. However, there are often substantial time lags between approval and actual investment, and sometimes an approved investment never actually occurs. In addition, countries differ in their definition of foreign investment capital or income. Finally, the geographic breakdowns of inward and outward FDI flows are not comprehensive. A number of countries do not report a detailed breakdown of FDI flows, limiting the extent to which one can measure bilateral FDI flows.”

crisis, compared to value generated in normal times. Bidder CARs are higher for US targets in crisis while lower for emerging country targets during crisis. Third, we use a sample that is global and covers deals announced between 1992 and 2011.

To the best of our knowledge, this thesis is the first in asking how M&A activity generates and distributes value around the world during financial crises. Existing studies focus on certain periods and limited number of countries, we use a worldwide sample of firms during the period from 1992 to 2011. Existing studies look at value generation during merger waves and overwhelmingly limited to mergers of US and UK firms (Alexandridis, 2012; Goel & Thakor, 2010; Martynova & Renneboog, 2011; Moeller, Schlingemann, & Stulz, 2005). The emerging market studies focus on expectations of fire-sale theory regarding merger volume (Acharya et al. 2011; Aguiar & Gopinath, 2005; Shen & Lin, 2011). Emerging market studies are limited to analysis of 1997-1998 Asian Crisis and do not consider value generation during crisis. Moreover, we do not limit the study to returns to either target or bidder shareholders and analyze both target and bidder abnormal returns as well as returns to hypothetically combined bidder and target firms.

CHAPTER 3

HYPOTHESES ON FINANCIAL CRISES AND MERGER MOTIVES

3.1 Volume of Mergers in Financial Crises

The three theories on merger motives that focus on value generation, misvaluation and agency conflicts lead to different predictions regarding M&A activity during financial crisis. If the main motivation for a merger is value generation through synergies, then mergers may arise as efficient responses to investment opportunities in product markets (Makaew, 2012). Thus, the merger volume may increase during crisis as long as existence of crisis generates additional investment opportunities. However, we may observe lower volume if the investment opportunities become more limited or the bidder firms experience financing problems. The financial crisis situations of both target and bidder nations and the firm-specific characteristics all play important roles in evaluating M&A deals according to synergy theory.

If the main motivation for a merger is to invest in an underpriced target, we may expect an increase in merger deals where the target is from a financially distressed

country. Krugman (2000) formally models “Fire-Sale Theory” based on this idea.

This theory states that in times of crisis, firms in crisis-hit countries are credit constrained and are forced to sell their firms under their fair value.

If the agency based explanations set up the main motivation for a merger, we still expect differences in crisis versus non-crisis periods since the attitudes of managers are shaped by environmental factors. We may expect a decline in M&A decisions if the managers from crisis countries become more conservative leading to a decrease in merger attempts.

Moreover, even if there are no agency conflicts, the managers of bidding firms may be overconfident in their ability to negotiate a good deal for their shareholders and then run the combined entity as suggested by Roll (1986). If managers’ overconfidence increases during a crisis, this leads to an increased volume of M&A deals.

Hypothesis 1 tests the predictions of these merger motive theories on merger volume.

We define the null and the alternative hypotheses as follows:

***H_{NI}**: M&A volume (quantity and dollar volume) is **not** different during crisis periods than non-crisis periods.*

***H_{AI}**: M&A volume (quantity and dollar volume) is different during crisis periods than non-crisis periods.*

3.2 Distribution of Value between Target and Bidder Shareholders during Financial Crises

We use target premiums and CARs as measures of distribution of value between bidder and target shareholders. The premium in a merger is defined as the difference between the offer price and the market price of the target before the announcement of the deal. Premium reflects the extent to which the merger generates value and tells how this value is distributed between a bidder and a target.

3.2.1 Merger Premium during Financial Crises

The offer price in an M&A deal and the resulting premium is a reflection of the potential and bargaining powers of the target and the bidder. According to value generation (synergy) theory, we may expect positive merger premiums since the bidder expects higher synergy gains to compensate for the premium paid. However, if the managers overestimate the expected synergy gains, the bidders may end up with unprofitable deals for their shareholders. A positive premium is also consistent with the expectations of agency and mispricing theories. If managers of bidding firms do not pay attention to maximizing firm value and try to increase their opportunistic benefits instead, they are more likely to pay higher premiums. A high premium can be an indicator of overpayment by bidder and reduces the likelihood of making the acquisition profitable for the bidder. Such an overpayment may result from overestimation of the target's value, overestimation of the expected synergies or managerial hubris²⁶.

²⁶ Roll's hubris hypothesis predicts that managers are overconfident and overpay.

There is a dispute when it comes to how crisis affects merger premiums. According to the fire-sale theory, the target firms in crisis-hit countries may lose their bargaining powers and this may lead to lower premiums. Mispricing theory suggests that the underpricing of target firms may become greater under financial crisis and these very low target stock prices may lead to higher premiums. Agency theory also predicts a change in merger premiums during crisis since agents (managers) might change their attitude towards merger decisions. Managers from crisis countries may become more conservative leading to a decrease in merger attempts. Even if they decide to bid for targets, their offer might be lower compared to pre-crisis levels leading to lower premiums. While managers from non-crisis countries may have the same risk aversion or even may become more confident for new investments. They may think that they can achieve higher success by exploiting the stressed financial situation of the target firm. Hypothesis 2 states that merger premiums may differ during crisis periods. We define the null and the alternative hypotheses as follows:

*H_{N2} : The average premium for acquisitions is **not** different during crisis periods than non-crisis periods.*

H_{A2} : The average premium for acquisitions is different during crisis periods than non-crisis periods.

3.2.2 Target and Bidder CARs During Financial Crises

Our second measure for the distribution of value between target and bidder shareholders is target and bidder CARs. If financially distressed firms, who tend to sell their shares at fire-sale prices, dominate M&A market during crisis as suggested

by “Fire-sale theory”, then we would expect significantly higher bidder CARs compared to non-crisis periods. Chari et al. (2010) conduct an event study for the period 1986-2006, where they investigate the abnormal returns to bidders of emerging market targets. They document positive and significant abnormal returns for developed country bidders where the target firm is an emerging market firm and the bidder gets the majority control in the deal. They state that these positive acquirer returns are not replicated when the same developed-market acquirers take over firms in developed markets. Their findings document the abnormal returns based on the 1986-2006 period and they do not control for existence of financial crisis in the target country. Our study contributes to literature by investigating if bidder CARs are higher when the target country is experiencing a crisis. Hypothesis 3 tests the higher bidder CAR in financial crisis prediction of “Fire-Sale Theory” and probable effects of crisis on target CARs. We define the null and the alternative hypotheses as follows:

***H_{N3}**: The bidder and target CARs **are not** different during crisis periods than non-crisis periods.*

***H_{A3}**: The bidder and target CARs are different during crisis periods than non-crisis periods.*

3.3 Value Generation in M&A Deals During Financial Crises

Book value of equity or asset weighted cumulative abnormal returns for bidders and targets proxy for the value generated in M&A deals (Alexandridis et al., 2012; Andrade et al., 2001; Bauguess et al., 2009; Campa & Hernando, 2004; Craninckx & Huyghebaert, 2011; Moeller et al., 2004; Mulherin & Boone, 2000). In the same

spirit, we define combined CAR as the value-weighted bidder and target CARs according to the book value of assets. It represents the cumulative abnormal returns for hypothetically combined bidder and target firms.

Financial crisis may affect the type of deals that are undertaken and/or may affect the pricing of deals. If there are structural changes in M&A deals during financial crisis we may expect value generated in these deals to change as well as the distribution of value between target and bidder firms. (Gort, 1969; Mitchell & Mulherin, 1996)

Hypothesis 4 tests whether value generated (as proxied by combined CAR) is different during financial crisis. We define the null and the alternative hypotheses as follows:

H_{N4}: *The combined CARs **are not** different during crisis periods than non-crisis periods.*

H_{A4}: *The combined CARs are different during crisis periods than non-crisis periods.*

CHAPTER 4

SAMPLING FRAME

4.1 Sampling of the M&A Activity

M&A sample and deal characteristics are drawn from Thompson Financial Securities Data Company's (SDC) mergers and acquisitions database.

SDC defines its coverage as:

“All corporate transactions involving at least 5% of the ownership of a company where the transaction was valued at \$1 million or more (after 1992, deals of any value are covered) or where the value of the transaction was undisclosed. Public and private transactions are covered.”

Data for US domestic mergers are available from 1979, while data for international mergers are available from 1985. Only after 1992 does SDC start covering deals of any value (including deal values smaller than 1 million USD). This is why, our sample period starts from January 1st, 1992 and ends at September 30th, 2011. The time filter yields 717,636 deals. We first eliminate duplicate deals²⁷. We then exclude

²⁷ We delete duplicate observations based on all of the following variables: announcement date, target cusip, acquiror cusip, target Datastreamcode and acquiror Datastreamcode. We also delete observations

buyback, exchange offer or recapitalization deals²⁸. Finally, we leave out rumors of deals. The resulting sample covers 663,933 deals across 223 target and 200 bidder countries with announcement dates ranging from January 1st, 1992 to September 30th, 2011.

Panel A of Table 3 describes the full sample. The full sample covers 663,933 deals of which 41 percent have public bidders and 14 percent have public targets. To conduct event study, we draw on the sample of 263,461 deals (40 percent of the original sample of 663,933 deals) in which either bidder or target are public firms with return data.

Netter et al. (2011) show that the standard data filters used in the M&A literature severely restrict the sample and affect the results of M&A papers analyzing US deals. They present evidence on completed M&A deals from 1992 to 2009 and empirically show that increasing the sample size so as to encompass smaller and/or non-public firms makes the cyclical patterns in M&A activity less pronounced both in aggregate and industry level compared to previous studies. Similarly, the relation between IPO activity and M&A activity is much weaker in the larger sample. They also argue that

where target name and bidder name are same, where target datastream code and bidder datastream code are same and both target and bidder datastream codes are not available and where targetnation is unknown, multi-national or supranational.

²⁸ SDC definitions for buyback, exchange offer and recapitalization are as follows:

B (BUYBACK): deals in which the company buys back its equity securities or securities convertible into equity, either on the open market, through privately negotiated transactions, or through a tender offer. Board authorized repurchases are included.

EO (EXCHANGE OFFER): deals in which a company offers to exchange new securities for its equity securities outstanding, securities convertible into equity, or non-convertible debt securities. Also includes deals in which an existing loan is replaced with a new facility during a debt restructuring.

R (RECAPITALIZATION): deals in which a company undergoes a shareholders' Leveraged recapitalization in which the company issues a special one-time dividend (in the form of cash, debt securities, preferred stock, or assets) allowing shareholders to retain an equity interest in the company.

findings regarding the role of method of payment on bidder returns are sample specific.

Table 3: Describing the Sample of M&As: 1992-2011

	Panel A : Full sample	Panel B : Event-study sample
# of deals	663,933	263,461
# of deals with disclosed dollar value	280,609	151,956
% of deals with disclosed dollar value	42	58
Total deal volume(trillion \$)	53	38
Average deal value (million \$)	190	249
# of target nations	223	47
# of bidder nations	200	47
Acquisition (% of quantity)	75	69
Completed (% of quantity)	77	74
USA deals (% of quantity)	33	38
Focusing (% of quantity)	43	44
# of deals with both target & bidder return data	32,243	21,759

Notes: Table presents the descriptive statistics for the full sample and the final sample with return data (event-study sample). All dollar values are in September 2011 dollars.

We aim to describe global M&A activity with as large a sample as possible and compare our unfiltered results with those in the literature. We impose no filters on deal type (acquisition versus partial sales), on deal result (completed, withdrawn or other²⁹), on bidder or target nation (US versus the rest of the world), on target and bidder industry (focusing versus diversifying). Acquisitions are deals in which the bidder owns less than 50 percent of target shares at the announcement date and intends to buy control rights by purchasing more than 50 percent of shares after the deal³⁰. Partial sales are deals in which the bidder seeks to purchase minority stake or increase its majority stake in the target firm³¹. 75 percent of deals are acquisitions and

²⁹ Other deals include pending, status unknown and tentative deals as defined in SDC.

³⁰ We do not use SDC “form of deal” variable definitions in identifying acquisitions since there is subjectivity in the definitions of SDC (Netter et al, 2011). Instead, we classify each deal either as an acquisition (control changing deal) or a partial sale.

³¹ A subsample of the partial sales group is “toeholds”. Betton, Eckbo and Thorburn (2009) define a toehold as the acquisition of target shares prior to launching a bid. They show that toehold bidding

77 percent of deals go successfully through. Deals in which target and bidder operate (do not operate) in the same 2-digit SIC industry codes³² are classified as focusing (diversifying). 43 percent of all deals are focusing deals.

A review of the 139 merger related empirical articles published in the four leading finance journals in the last 10 years³³ shows that 85 percent of them analyze US deals, 80 percent investigate acquisitions, and 63 percent of them focus on completed deals. We will investigate the validity of findings in the literature, which uses predominantly US completed acquisitions using the unrestricted global sample of M&A deals.

4.2 Sample Restrictions Arising from the Availability of Share Prices

We investigate the value generated in merger activity using event study method. To calculate cumulative abnormal returns (CAR) using event study method, we need deal announcement dates, daily share prices and market index data for sample countries. Announcement dates are available in SDC. Daily share prices (in USD) are from Thomson DataStream (TDS)³⁴. We calculate individual stock returns from prices (using data type P). We compile the data in US cents for highest precision. We calculate daily stock returns by equation 1.

$$1 \quad \text{Daily return} = \frac{\text{Closing Price in day (t)} - \text{Closing Price in day (t-1)}}{\text{Closing Price in day (t-1)}}$$

affects takeover gains. In this study, we do not control for the special case of toeholds and report our findings for the whole “partial sales” group.

³² Servaes (1996) argues that 2-digit SIC codes present a good representation of the degree of diversification by a company.

³³ A Web of Science search for articles whose topic includes “merger” or “acquisition” or “partial sale” in the Journal of Finance, Review of Financial Studies, Journal of Financial Economics, and Journal of Financial and Quantitative Analysis published from 2005 to 2015 yields 280 articles. 139 of these articles are empirical, 34 are theoretical, and 107 are not merger related.

In the literature, papers that use TDS data use filtering procedures to deal with outliers. Ince and Porter (2006) question the quality of stock market data obtained from Datastream International, in particular for emerging markets. They suggest a screening procedure for monthly returns such that any return above 300 percent that is reversed within one month is treated as missing. Hou et al. (2011) also applies a similar technique and drop monthly returns that are less than 0.1 percent and greater than 99.9 percent in each country. Chui et al. (2010) also filter out monthly returns less than -95 percent and greater than 100 percent. In line with these papers, we have chosen to drop daily returns greater than 100 percent.³⁵ We also drop any daily price that is less than or equal to 0. Thus, we don't have any daily returns less than -100 percent.

TDS repeats the last valid data point for delisted firms (Ince & Porter, 2006). We correct for share prices using data type time (TIME), which gives us the delisting date or the current date for active equities. We drop observations from the sample if the announcement date is later than delisting date. We conduct event study around deal announcements and require a firm to have at least 150 returns in the 252 days that extend from 282 days to 30 (-282, -30 window) trading days before announcement and 30 returns in the 61-day event period around announcement.

The measure of country market returns is Total Market Return Index. Total Market Return Index is available for 58 countries. Of these 58 countries, 11 have less than 100 deals and are excluded from the sample. In particular, we exclude Oman, Pakistan, Bulgaria, Bahrain, United Arab Emirates, Cyprus, Kuwait, Slovenia,

³⁵ As a robustness check we also replicate our analysis using 300 percent as the cutoff point instead of 100 percent. The findings are qualitatively similar.(see Chapter 10)

Venezuela, Romania and Qatar since each has less than 100 deals. Out of remaining 47 countries, market returns data for 10 countries (Colombia, Israel, China, Argentina, Czech Republic, Peru, Poland, Brazil, Egypt and Russia) are not available for the whole 1922-2011 period. Market returns data start in March 1992 for Colombia; in 1993 for Israel, China, Argentina and Czech Republic; in 1994 for Peru, Poland and Brazil; in 1996 for Egypt and in 1998 for Russia. We do not exclude these countries.

Panel B of Table 3 describes the event-study sample. The event-study sample with return data covers 263,461 deals³⁶. 217,781 deals have bidder return data and 67,439 deals have target return data. There are 21,759 deals for which we can calculate both target and bidder CARs. There are three important distinctions between the original sample and the final event-study sample. First, deals in which the bidder or the target is incorporated in US constitutes 33 percent in the original sample and 38 percent in the final sample. Second, average deal value is 190 million dollars in the original sample and 249 million dollars in the final sample. Third, in the original sample bidders and targets operate in 223 and 200 countries respectively. However, in the final sample bidders and targets operate in 47 countries. When we require that firms have return data, the sample tilts towards larger deals involving US firms.

³⁶ 263,461 deals out of the full SDC sample of 663,933 deals have return data either for the target or the bidder firm or both the target and bidder firms included.

4.3 Identifying Crisis across Countries

To test whether M&A activity differs in crisis versus non-crisis periods, we first determine the crisis years for each country. We adopt the financial crisis starting and ending dates from Laeven and Valencia (2008, 2010, and 2012). Laeven and Valencia (2008) compile a database for systemic banking crisis, currency crisis and debt crisis over 1970-2007. Laeven and Valencia (2010) extends the database up to 2009 and includes ending dates for systemic banking crisis³⁷. Laeven and Valencia (2012) extends the database as to include the subprime mortgage crisis and the final database covers crises up to 2011. They identify 147 banking crises, 217 currency crises and 66 sovereign debt crises over 1970-2011 period³⁸. They detect 9 countries where no crisis is observed: Australia, Barbados, Belize, Bhutan, Brunei, Canada, Hong Kong, Mauritius, and Singapore. Moreover, there are 5 countries for which the crisis dates identified in Laeven-Valencia database do not correspond to our sample period³⁹. Table 102 (in Appendix) tabulates crisis years by country based on Laeven Valencia database. Matching the crisis database and SDC full sample restricts the sample to 118 countries. Matching the crisis database and our sample of 47 countries restricts the sample to 39 countries.

Table 4 reports the total number of crisis in the full sample and the sample used in crisis analysis based on Laeven-Valencia database in Panels A and B, respectively.

We have 397 crises years for 118 countries in the full sample and 151 crises-years for 39 countries. Figure 1 shows the distribution of crises over time and reveals that crises

³⁷ Laeven and Valencia (2010), defines end of a crisis as the year before two conditions hold: Real GDP growth and real credit growth are positive for at least two consecutive years. They admit that ending date determination is “oversimplified!”

³⁸ Laeven and Valencia Crises Database are presented in Appendix 2 and 3.

³⁹ The last crisis date is stated as 1985 for Israel, 1990 for Chile, 1990 for Morocco, 1984 for New Zealand and 1978 for Sri Lanka.

are concentrated in the beginning and later years of our sample period. In the last 4 sample years (2008 through 2011) 18 out of 39 countries are in crises.

4.4. Sample Restrictions Arising from the Availability of Merger Premiums

SDC database reports 1-day, 1-week and 4-week premiums. SDC defines “Premium 1-day Prior to Announcement Date” as premium of offer price to target closing stock price 1-day prior to the original announcement date. The formula is given by equation 2:

$$2 \quad 1\text{-day Premium} = \frac{\text{HOSTPR} - \text{HOSTC1DAY}}{\text{HOSTC1DAY}} * 100$$

where,

“HOSTPR (Price Per Common Share in Host Currency): Price paid per common share or partnership unit by the acquirer in the transaction, stated in the currency of the target company's nation. In cases where a range of prices was paid, HOSTPR is the highest price paid per share.

HOSTC1DAY (Target Stock Price 1-day Prior to Announcement Date in Host Currency): Closing price of target's common stock on primary stock exchange 1-day prior to original announcement date (DAO) of the transaction stated in the currency of the target company's nation.”

Table 4: Number of Crisis Identified during 1992-2011

Country	# of Countries	Any Type of Crisis(#)
Panel A: Full Sample		
Developed	24	85
Emerging	19	79
Other	75	233
Total	118	397
Panel B: Sample Used in Crisis Analysis		
Developed	23	81
Emerging	16	70
Total	39	151

Note: Table reports the total number of crisis in our sample based on Laeven-Valencia database.

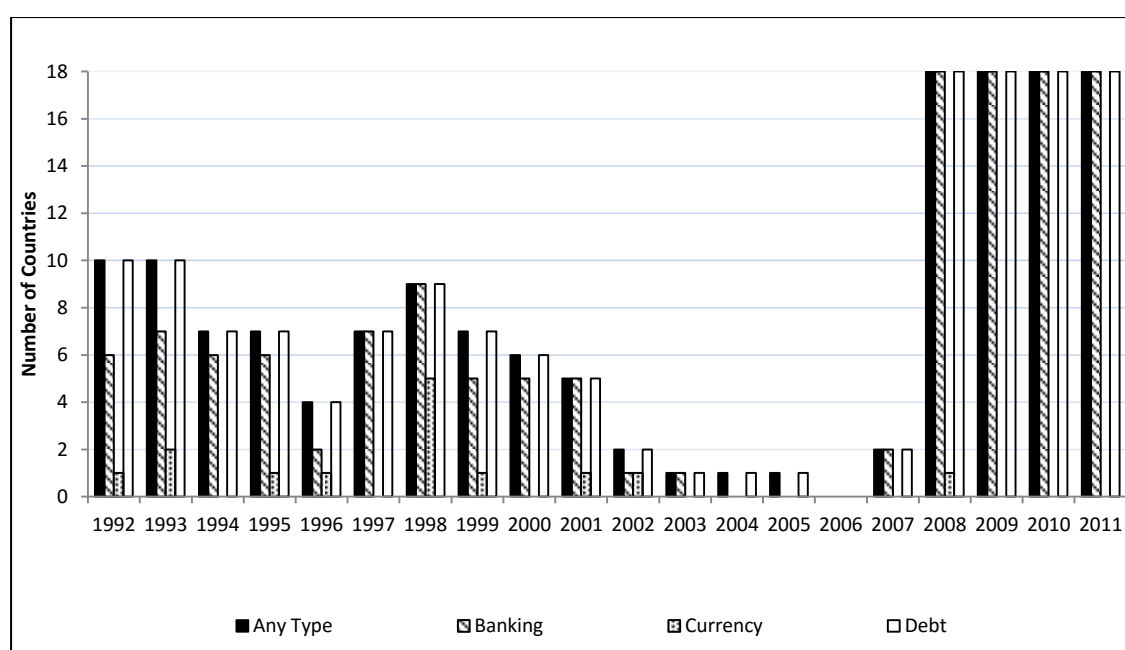


Figure 1: Distribution of Crises over Time. Figure plots the number of countries with crises per year in our sample.

Similarly, SDC defines “Premium 1-week Prior to Announcement Date” as “premium of offer price to target closing stock price 1-week prior to the original announcement date, expressed as a percentage $((\text{HOSTPR} - \text{HOSTC1WK}) / \text{HOSTC1WK}) * 100$ ” and “Premium 4-weeks Prior to Announcement Date” as “premium of offer price to target closing stock price 4-weeks prior to the original announcement date, expressed as a percentage $((\text{HOSTPR} - \text{HOSTC4WK}) / \text{HOSTC4WK}) * 100$.”

In premium analysis, we drop deals for which 1-day, 1-week and 4-weeks premium data are missing (538,673 observations). The sample with premium data covers of 33,111 deals. (32,878 observations for 1-day, 32,592 observations for 1-week and 32,498 observations for 4-week premiums)

Table 5 summarizes 4-week target premium by target nation. Premium data is highly clustered at the national level. The top 5 countries according to non-missing premium data are United States (34%), Japan (11%), United Kingdom (7%), Canada (7%) and Australia (7%). 66 percent of the full sample includes deals that involve one of these 5 nations as target.

Table 5: 4-week Premiums by Target Nation

Full Sample	N	Mean	Median	Std Dev.	% share in Total
United States	11,161	33.28	25.17	46.03	34.3%
Other Developed					
Australia	2,221	22.36	16.28	43.88	6.8%
Austria	71	13.69	9.59	30.63	0.2%
Belgium	121	26.21	17.99	38.37	0.4%
Canada	2,254	27.45	19.69	50.51	6.9%
Denmark	123	13.30	17.11	41.99	0.4%
Finland	99	25.29	17.06	42.78	0.3%
France	1,015	21.66	14.75	42.86	3.1%
Germany	439	21.28	14.83	45.30	1.4%
Greece	101	16.26	11.52	35.31	0.3%
Hong Kong	1,650	3.63	0.00	55.73	5.1%
Ireland-Rep	98	34.93	27.81	46.35	0.3%
Italy	371	18.84	11.27	42.05	1.1%
Japan	3,400	5.66	0.00	33.54	10.5%
Luxembourg	22	19.13	12.13	35.36	0.1%
Netherlands	207	27.92	23.26	37.67	0.6%
Norway	400	16.04	14.31	37.50	1.2%
Portugal	77	22.09	6.20	51.79	0.2%
Singapore	694	14.99	10.16	44.36	2.1%
Spain	289	17.62	12.94	38.61	0.9%
Sweden	352	26.37	22.89	38.30	1.1%
Switzerland	142	16.17	14.80	32.17	0.4%
United Kingdom	2,313	34.64	30.27	43.87	7.1%
Emerging					
Argentina	36	12.59	18.84	42.10	0.1%
Brazil	110	0.58	8.74	60.44	0.3%
China	959	-32.35	-38.27	45.47	3.0%
Hungary	18	36.77	13.53	63.77	0.1%
India	953	18.36	11.76	53.08	2.9%
Indonesia	216	11.91	1.86	52.76	0.7%
Malaysia	518	22.43	13.14	40.58	1.6%
Mexico	41	23.03	11.01	46.37	0.1%
Peru	14	19.22	15.94	33.62	0.0%
Philippines	53	13.07	4.35	52.32	0.2%
Poland	185	12.71	10.83	26.94	0.6%
Russian Fed	54	6.17	8.79	74.28	0.2%
South Africa	280	17.61	13.29	39.32	0.9%
South Korea	855	11.58	2.34	54.53	2.6%
Thailand	546	11.61	4.89	49.50	1.7%
Turkey	40	14.38	5.12	53.75	0.1%
TOTAL	32,498	21.83	15.47	47.48	100.0%

Note: Table presents the summary statistics for 4-week premiums on the sample of individual deals sorted by target country.

4.5 Country, Firm and Deal Level Variables

We compile all firm level financial statement data (except total assets used in combined CAR calculation) from Datastream. We gather country specific data from Datastream and Worldscope and data on deal specifics from SDC. Table 6 describes the variables that we use in this study⁴⁰. The first set of variables is at the country level. This group includes variables representing broad macroeconomic conditions and proxies for the legal and regulatory environment. The second set of variables is at the deal level. This group includes data on deal size, deal status (completed versus not completed), deal type (acquisition versus partial sale), deal attitude (hostile versus friendly), means of payment (all cash versus not), and on whether the deal is competitive or not. The third group is at the firm level and includes variables that represent target and bidder firm characteristics such as target and bidder size, industry relatedness of target and bidder and public status of target/bidder firms.

⁴⁰ The detailed country level, firm level and deal level variables we use in the study, the associated data sources, the codes used to download the variables and their definitions as it appears in the associated data source are available in Appendix 3 (Table 104, Table 105 and Table 106).

Table 6: Description of Variables

Variable	Description
Panel A: Country Level Variables	
% change market index	Percentage change in market index of country i for the year preceding the deal (Source: Datastream)
Stock price volatility	Average of the 360-day volatility of the national stock market index. (Source: Worldbank- Global Financial Development)
Return on Equity (ROE)	Return on Equity (ROE) for country i calculated by Net Profit (Income) / Common Shareholders' Equity x 100 (Source: Datastream)
Market capitalization of listed companies	Share price times the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles. Data are in current US dollars. (Source: World Development Indicator):
GDP growth (annual %)	Annual percentage growth rate of Gross Domestic Product (GDP) ⁴¹ at market prices. (Source: World Development Indicator)
Deposit Interest Rate	Rate paid by commercial or similar banks for demand, time, or savings deposits. (Source: World Development Indicator)
Panel B: Deal Level Variables	
Deal Size	Log of value of transaction (total value of consideration paid by the acquirer, excluding fees and expenses) adjusted to September 2011 constant million dollars using the U.S. city average Consumer Price Index (CPI-U) published by Bureau of Labor Statistics. (Source: SDC)
Deal Status	Indicator variable equals one if the deal is completed and zero otherwise. (Source: SDC)
Deal Type	Indicator variable equals one if the deal is an acquisition and zero otherwise (partial sale). (Source: SDC)
Deal Attitude	Indicator variable equals one if the deal is hostile and zero otherwise. (Source: SDC)
The means of payment	Indicator variable equals one if the deal is paid in all cash and zero otherwise. (Source: SDC)
Deal is Cross-border (Dummy)	Indicator variable equals one if the deal is cross border and zero otherwise. (Source: SDC)
Competitive Deal (1/0)	Indicator variable equals one if there are more than one bidder for the same target (Source: SDC)

⁴¹ World Development Indicator defines GDP as the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

Table 6 (cont'd),

Variable	Description
Panel C: Firm Level Variables	
Size of target and bidder	Log of total assets in million dollars adjusted using 2011 September CPI to proxy target and bidder size. (Source: SDC)
Relative Size	Ratio of target total assets to bidder total assets as a percentage (Source: SDC)
Public status of target and bidder	Indicator variable equals one if the bidder (target) firm is public and zero otherwise. (Source: SDC)
Industry relatedness	Indicator variable equals one if the bidder and the target operate in the same industry based on 2-digit SIC code and zero otherwise (Source: SDC)
Origin of bidder and target	Indicator variable equals one if the bidder (target) is from a developed country and zero otherwise. (Source: SDC)

Note: Table describes country level, firm level and deal level variables.

CHAPTER 5

DESCRIBING GLOBAL M&A ACTIVITY THROUGH TIME AND ACROSS COUNTRIES

This chapter describes global M&A activity through time and across countries⁴². First, we explore how quantity and dollar volume of global M&A activity evolve over time from 1992 to 2011. Second, we investigate how value is generated and distributed in M&As around the world.

Panels A and B of Figure 2 plot quantity and dollar volume, respectively, in US, other developed market countries, and emerging market countries in the full sample and the event-study sample for which we can calculate cumulative abnormal returns (CAR sample hereafter)⁴³. We use S&P Dow Jones country classification of developed and emerging market countries⁴⁴. Global M&A volume (both number and dollar value of

⁴² Yilmaz and Tanyeri (2016) is based on chapters 4 and 5 of this thesis study.

⁴³ Figure 1 plots volume across target nation. Volume graphs across bidder nations exhibit a similar trend.

⁴⁴ We make two exceptions in S&P Dow Jones country classification as of September 2011. We include Argentina and Sri-Lanka in emerging market countries. Argentina and Sri Lanka dropped to frontier market classification by S&P in 2009 and 2001, respectively. The remaining countries in the sample are classified as “Other” and included in total volume but not presented separately in Figure 1 since they constitute less than 2 percent in CAR sample.

deals) shows an increasing trend. Volume increases from 18,676 deals with an aggregated dollar value of 0.73 trillion in 1992 to 31,661 deals with an aggregated dollar value of 1.9 trillion in the first three quarters of 2011. The increase in volume is partially driven by the increasing volume in emerging market countries. The share of emerging market countries in M&A dollar (number) volume increases from 7 (4) percent in 1992 to 24 (33) percent in 2010. We observe the same increasing trend of M&A volume in the CAR sample. The number of deals increases from 5,911 with an aggregated dollar value of 0.35 trillion in 1992 to 11,009 deals with an aggregated dollar value of 1.31 trillion in the first three quarters of 2011. The increase in the quantity (dollar) volume is 70 (157) percent in the full sample and 86 (268) percent in the CAR sample. Hence, the CAR sample is tilted towards larger deals and this tilt is more pronounced in the later years.

The dominance of developed market countries in the global M&A market decreases from 1992 to 2011. 90 percent of bidders are from developed market countries (including US) in the sub-period 1992 to 1999 and 75 percent of bidders in the sub-period from 2007 to 2011. US deals are the culprit for this decrease in developed market M&A activity. 45 percent of targets and 48 percent of bidders were incorporated in US in the 1992-1999 sub-period while the corresponding shares dropped to 22 and 23 percent in the 2007-2011 sub-period, respectively.

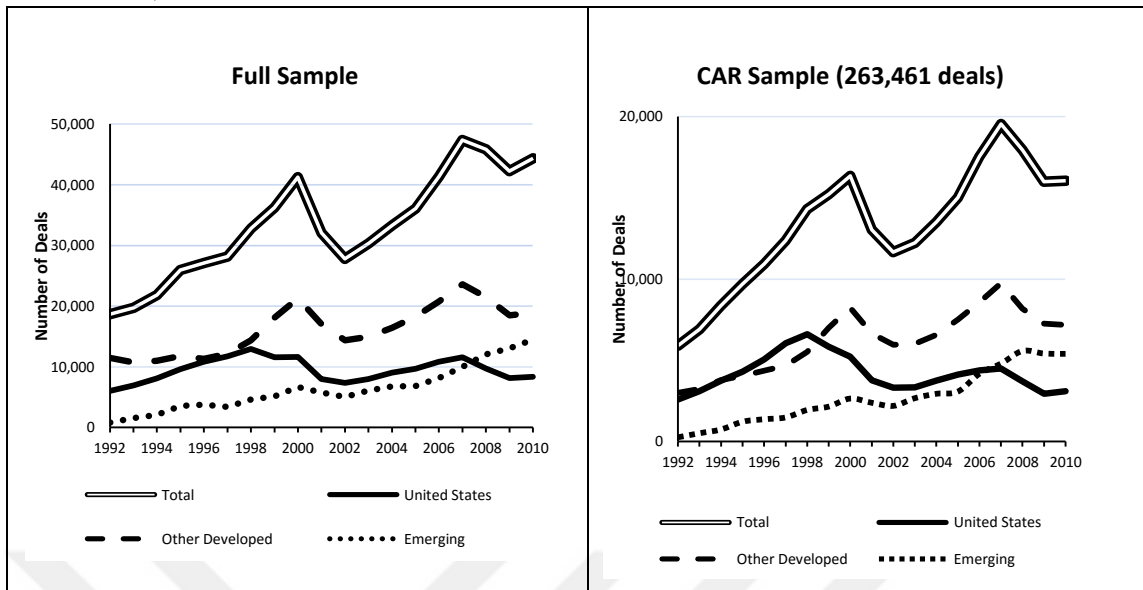
Panel B of Figure 2 shows two spikes in M&A activity, one prior to the downturn in the technology sector in 2000 and one prior to the onset of the sub-prime mortgage crisis in 2007. This pattern in global M&A activity supports merger waves as put

forth by studies focusing on US M&A activity (Andrade et al., 2001; Gort, 1969; Harford, 2005; Mitchell & Mulherin, 1996; Rhoades-Kropf et al., 2004, 2005).

McCarthy (2012) reviews merger studies and identifies six merger waves (namely, the first ca.⁴⁵ 1895-1904, the second ca. 1918-1929, the third ca. 1960-1969, the fourth ca. 1981-1989, the fifth ca. 1991-2001 and the sixth ca. 2003-2008). Our sample period corresponds to the fifth and the sixth wave (ca. 1991-2001 and 2003-2008). M&A activity in which the target is incorporated in an emerging market country shows an increasing trend rather than a wave-like pattern compared to global M&A activity over the period 1992 to 2011. Thus, as the share of emerging market country deals in total M&A volume increase over time, the contribution of emerging market countries in global merger waves become more pronounced.

⁴⁵ ca. is an abbreviation from circa meaning around. Here, it is used to denote ‘approximate’ periods for merger waves.

Panel A: Number of deals over time



Panel B: Dollar volume over time

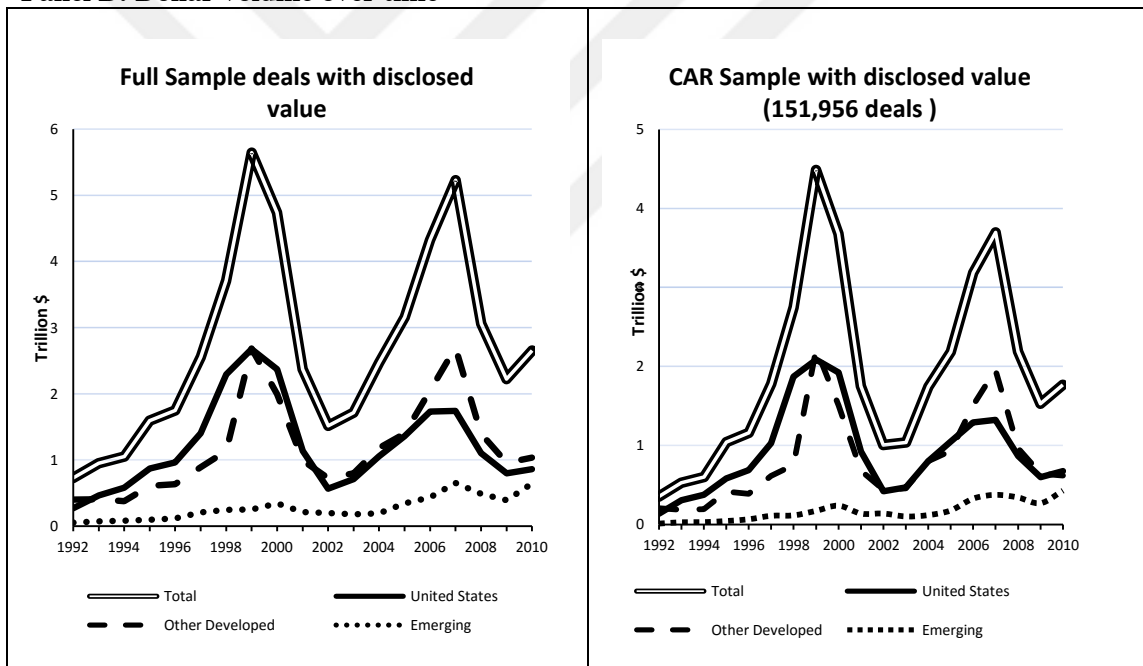


Figure 2: Volume of Deals over time by Target Nation (Quantity and Dollar value). Figure plots the total number of deals and aggregated dollar deal value from 1992 to 2010 by target nation. Panels A and B plot number of deals and dollar volume for full and CAR sample. All dollar values are in September 2011 dollars. This figure is based on information given by Table 7.

Table 7: Volume of Deals over time by Target Nation (Quantity and Dollar Value)

Panel A: Number of deals over time

Year	Full M&A Sample of 663,933 Deals					CAR Sample of 263,461 deals				
	United States	Other Developed	Emerging	Other	Total	United States	Other Developed	Emerging	Other	Total
1992	6,041	11,453	834	348	18,676	2,576	3,006	259	70	5,911
1993	6,908	10,733	1,568	503	19,712	3,089	3,238	510	68	6,905
1994	8,086	10,973	2,068	707	21,834	3,737	3,780	742	99	8,358
1995	9,619	11,789	3,577	977	25,962	4,289	4,045	1,216	130	9,680
1996	10,824	11,324	3,784	1,155	27,087	5,056	4,349	1,370	156	10,931
1997	11,752	12,165	3,419	805	28,141	6,051	4,664	1,480	177	12,372
1998	12,969	14,342	4,594	910	32,815	6,600	5,526	1,941	219	14,286
1999	11,560	18,084	5,127	1,445	36,216	5,840	6,997	2,145	238	15,220
2000	11,646	21,280	6,651	1,663	41,240	5,220	8,229	2,642	246	16,337
2001	7,993	17,049	5,747	1,283	32,072	3,761	6,650	2,382	244	13,037
2002	7,353	14,346	5,056	1,007	27,762	3,317	5,952	2,192	195	11,656
2003	7,971	14,944	6,089	1,307	30,311	3,340	6,008	2,665	205	12,218
2004	9,030	16,441	6,753	1,030	33,254	3,743	6,572	2,934	259	13,508
2005	9,686	18,285	6,811	1,305	36,087	4,128	7,517	3,069	296	15,010
2006	10,859	20,749	8,131	1,620	41,359	4,371	8,564	4,167	416	17,518
2007	11,570	23,605	9,998	2,196	47,369	4,489	9,729	4,789	521	19,528
2008	9,748	21,508	12,041	2,535	45,832	3,710	8,170	5,569	494	17,943
2009	8,170	18,470	13,061	2,506	42,207	2,948	7,250	5,408	376	15,982
2010	8,368	18,896	14,467	2,605	44,336	3,091	7,167	5,392	402	16,052
2011	6,273	13,455	10,147	1,786	31,661	2,387	4,641	3,678	303	11,009
TOTAL	186,426	319,891	129,923	27,693	663,933	81,743	122,054	54,550	5,114	263,461



Table 7 (cont'd)

Panel B: Deal Volume (million dollars)

Year	Full M&A Sample of 663,933 Deals					CAR Sample of 263,461 deals				
	United States	Other Developed	Emerging	Other	Total	United States	Other Developed	Emerging	Other	Total
1992	270,269	399,654	54,112	6,100	730,135	135,230	205,410	12,794	1,188	354,621
1993	465,595	404,484	74,111	7,900	952,090	308,441	186,882	29,489	1,279	526,091
1994	581,335	377,956	83,997	9,858	1,053,146	376,336	192,878	31,141	1,325	601,680
1995	873,333	611,978	95,031	14,426	1,594,768	581,020	414,208	45,406	2,783	1,043,416
1996	964,781	634,939	115,097	33,298	1,748,116	686,270	388,878	67,330	16,021	1,158,498
1997	1,405,610	892,699	209,789	52,036	2,560,135	1,026,398	614,105	111,211	27,656	1,779,369
1998	2,293,197	1,139,718	248,132	30,754	3,711,801	1,870,612	750,450	116,944	11,303	2,749,309
1999	2,674,193	2,685,018	251,691	35,172	5,646,074	2,085,561	2,217,512	174,082	11,309	4,488,464
2000	2,372,227	1,994,103	344,654	31,527	4,742,511	1,923,475	1,505,913	239,188	11,861	3,680,438
2001	1,137,910	993,174	213,132	30,444	2,374,661	920,910	681,468	138,846	9,569	1,750,792
2002	566,949	724,538	196,941	27,411	1,515,838	418,304	440,438	139,668	8,568	1,006,978
2003	710,769	796,770	180,276	29,418	1,717,233	469,921	455,002	102,946	10,654	1,038,523
2004	1,053,625	1,181,867	193,554	42,381	2,471,428	802,029	799,947	120,327	19,996	1,742,299
2005	1,362,064	1,399,885	341,824	55,014	3,158,786	1,047,533	932,408	178,950	24,878	2,183,769
2006	1,731,104	2,051,217	435,276	104,299	4,321,896	1,293,065	1,505,052	328,361	58,397	3,184,875
2007	1,742,731	2,699,355	651,660	134,788	5,228,533	1,325,493	1,954,798	375,233	42,391	3,697,915
2008	1,104,632	1,397,932	487,121	72,871	3,062,556	866,710	962,203	342,425	17,114	2,188,452
2009	801,017	958,505	390,977	71,668	2,222,167	598,167	641,146	270,548	20,472	1,530,332
2010	861,444	1,034,102	645,969	111,486	2,653,000	676,380	619,163	429,099	41,806	1,766,448
2011	756,922	659,604	409,531	47,600	1,873,658	591,855	420,989	279,169	13,454	1,305,466
TOTAL	23,729,708	23,037,499	5,622,874	948,451	53,338,532	18,003,708	15,888,847	3,533,157	352,024	37,777,736

Notes: Panels A and B of Table 7 present the total number of deals and aggregated dollar deal value for full and CAR sample from 1992 to 2011 by target nation, respectively. All dollar values are adjusted using CPI. CPI (All Urban Consumers) data is obtained from U.S. Department of Labor, Bureau of Labor Statistics and September 2011 is taken as the base date in calculations. 2011 figures cover the period from January 1, 2011 to September 30, 2011.

5.1 Distribution of M&A Value: Bidder and Target Cumulative Abnormal Returns (CAR)

This section describes how value is generated and distributed in M&As around the world. We use the event study method, as described in Brown and Warner (1985), to determine the effect of M&A announcements on shareholder wealth. Estimation window covers the 252 days that extend from 282 days to 30 (-282,-30 window) trading days before announcement. Abnormal return is the difference between observed return and expected return estimated using the market model in the estimation window. Abnormal returns for t -days around announcements are summed up to find $(2t+1)$ -day CARs. We use 3-day CARs in this study. The standard deviation of abnormal returns is the standard deviation of average daily abnormal returns in the estimation window.

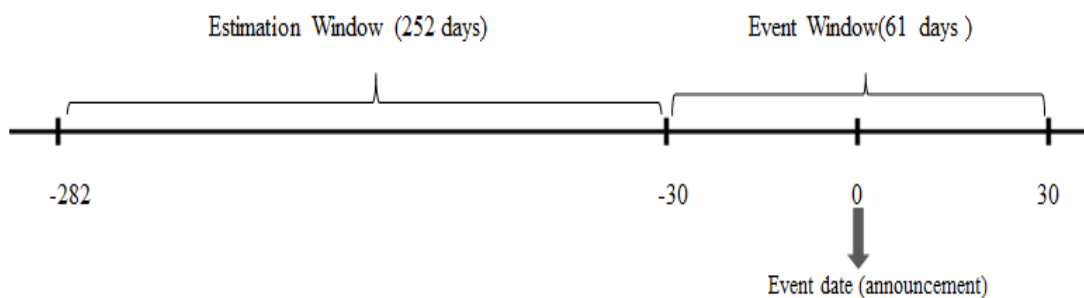


Figure 3: Event Study Timeline.

Panels A and B of Table 8 summarize 3-day bidder and target CARs across 47 countries. 3-day CARs average 1.4 percent for 217,781 bidders and 6.9 percent for 67,439 targets. As documented in the literature, M&As create value and most of this

value accrues to target shareholders. However the magnitudes of CARs in our sample are different from those reported in the literature.

This difference arises from the global nature of the sample and our choice of not to apply the common filters used in the literature. Netter et al. (2011) show that the common filters (excluding partial sales, withdrawn deals, private bidders and small targets) used in the literature severely restrict the samples of US acquisitions. In our sample, partial sales and deals that are not successfully completed constitute 31 percent and 26 percent of the CAR sample, respectively. Hence, restricting the sample to completed acquisitions decreases the number of targets by 75 percent and number of bidders by 42 percent. Furthermore, this restriction significantly affects target CARs. The 3-day target CAR increases from 6.9 percent to 13 percent when the full sample is restricted to completed acquisitions. We find that target CARs in completed US acquisitions averaged 17 percent and bidder CARs averaged 1.4 percent. These CARs are comparable to the findings of studies that sample completed US acquisitions (Alexandridis et al., 2012; Bauguess et al., 2009; Mulherin & Boone, 2000; Netter et al., 2011).

Table 8: 3-day Bidder and Target CARs

Panel A - Bidder 3-day CAR								
Country Class	#	Full Sample	Successfully Completed Acquisition	Deal Type		Deal Outcome		
				Acquisition	Partial Sales	Completed	Withdrawn	Other ⁴⁶
All Countries	47	1.35%	1.35%	1.54%	0.73%	1.19%	1.95%	1.79%
		(217,781)	(126,153)	(166,312)	(51,469)	(161,810)	(7,611)	(48,360)
Developed	25	1.43%	1.37%	1.61%	0.80%	1.23%	2.14%	2.13%
		(185,426)	(114,672)	(146,209)	(39,217)	(143,443)	(6,312)	(35,671)
<i>United States</i>	1	1.55%	1.38%	1.65%	0.71%	1.31%	2.88%	2.66%
		(76,222)	(56,765)	(68,272)	(7,950)	(62,785)	(2,830)	(10,607)
<i>Other Developed</i>	24	1.35%	1.37%	1.57%	0.82%	1.17%	1.54%	1.91%
		(109,204)	(57,907)	(77,937)	(31,267)	(80,658)	(3,482)	(25,064)
Emerging	22	0.86%	1.08%	1.08%	0.51%	0.89%	1.01%	0.82%
		(32,355)	(11,481)	(20,103)	(12,252)	(18,367)	(1,299)	(12,689)
Difference between Developed and Emerging		0.57%	0.29%	0.52%	0.29%	0.34%	1.13%	1.31%

Panel B - Target 3-day CAR								
Country Class	#	Full Sample	Successfully Completed Acquisition	Deal Type		Deal Outcome		
				Acquisition	Partial Sales	Completed	Withdrawn	Other
All Countries	47	6.86%	12.96%	11.61%	4.05%	7.17%	10.31%	4.31%
		(67,439)	(17,217)	(25,020)	(42,419)	(49,104)	(5,231)	(13,104)
Developed	25	8.13%	14.09%	12.84%	4.73%	8.33%	11.52%	5.35%
		(51,199)	(15,114)	(21,433)	(29,766)	(38,563)	(4,420)	(8,216)
<i>United States</i>	1	11.37%	17.02%	15.43%	5.31%	11.95%	13.26%	6.31%
		(16,323)	(7,051)	(9,765)	(6,558)	(12,291)	(1,911)	(2,121)
<i>Other Developed</i>	24	6.61%	11.53%	10.67%	4.57%	6.64%	10.20%	5.01%
		(34,876)	(8,063)	(11,668)	(23,208)	(26,272)	(2,509)	(6,095)
Emerging	22	2.84%	4.82%	4.28%	2.44%	2.90%	3.70%	2.58%
		(16,240)	(2,103)	(3,587)	(12,653)	(10,541)	(811)	(4,888)
Difference between Developed and Emerging		5.29%	9.27%	8.57%	2.30%	5.44%	7.82%	2.76%

Notes: Panels A and B report 3-day bidder and target CARs for all countries, developed and emerging market countries and the difference in developed and emerging-market countries. Numbers in parentheses shows the sample size. The CARs and the difference in CARs are all statistically different from 0 at 1%.

⁴⁶ The other category includes unknown, pending and tentative deals as classified by SDC.

Table 8 shows that bidder and target CARs in acquisitions are significantly higher than bidder and target CARs in partial sales. Market perceives deals in which bidders acquire control rights to generate more value for both bidder and target shareholders. Table reports the 3-day CARs for the bidder, target, and hypothetically combined firms. Combined CAR is the value-weighted bidder and target CARs according to the book value of assets⁴⁷. The 3-day combined CARs average 1.7 percent in 18,430 deals. Table 9 confirms that acquisitions generate more value for hypothetically combined firm shareholders (combined CAR of 2.4 percent) compared to partial sales (combined CAR of 1.1 percent). Both Table 8 and Table 9 indicate that target shareholders enjoy the lion share of the value generated. In Table 8 and Table 9, Target CARs average 11.6 and 14.8 percent in acquisitions and 4.1 and 5.4 percent in partial sales. Our results indicate that targets enjoy higher returns when they sell control rights. This finding is in line with Hekimoglu and Tanyeri (2011) who find that target CARs are higher (8.6 percent) in acquisitions compared to partial sales (2.25 percent) in Turkish M&A deals.

⁴⁷ Requiring bidder and target to have return data in order to calculate combined-firm CAR restricts the sample and affects CARs. Table 8 covers public-private, public-public, and private-public bidder and target pairs whereas Table 9 only covers public-public bidder and target pairs. On the one hand, bidders of public targets enjoy lower CARs relative to bidders of private targets. On the other hand, targets of public bidders enjoy higher CARs relative to targets of private bidders. This finding is in line with Fuller et al.(2002), Moeller et al. (2004), Craninckx & Huyghebaert (2011) and Martynova & Renneboog (2011) who report higher bidder CARs when the target is private compared to deals with public targets.

Table 9: 3-day Bidder, Target and Combined CARs

	Sample Size	Combined CAR	Bidder CAR	Target CAR
Full CAR Sample	18,430	1.73%***	-0.02%	10.16%***
Deal Type				
Acquisition	9,308	2.36%***	-0.42%***	14.83%***
Partial Sales	9,122	1.08%***	0.39%***	5.40%***
Deal Outcome				
Completed	14,386	1.70%***	-0.02%	10.63%***
Withdrawn	1,798	2.54%***	-0.63%***	11.69%***
Other	2,246	1.25%***	0.52%***	5.98%***

Notes: Table describes 3-day combined, bidder and target CARs for the sample of 18,430 deals for which we can calculate Combined CARs. Combined CAR is the value-weighted bidder and target CARs according to book value of assets. *** denote statistical significance at the 1% level.

Negotiations are successfully completed in 74 percent of the sample. In 4 percent of the sample, negotiations fail and the deal is withdrawn. In 22 percent of the sample, we do not know the eventual outcome of the deal⁴⁸. Even though, investors do not know how the deal will conclude (successful, withdrawn, or other) at the time of announcement, market reactions to announcements of deals that are eventually successful or withdrawn differ. Bidder and target CARs in deals where negotiations are successful average 1.2 and 7.2 percent, respectively. Bidder and target CARs in deals that are eventually withdrawn are higher and average 2 and 10.3 percent, respectively. Hedge funds who forecast the successful completion of deals, may bid up the price of target shares prior to announcements (Baker & Savaşoglu, 2002). As such the market reaction to deals whose completion success is accurately forecasted would take place outside the event window and explain the finding of higher target CARs for withdrawn deals.

⁴⁸ SDC categorizes deals as completed, withdrawn, tentative, pending and unknown. We put all deals that are not completed or withdrawn into the other category.

5.2 Cross-country Differences in Bidder and Target CARs

Table 8 shows that bidder and target CARs differ across countries. Developed-country bidders and targets enjoy higher CARs (1.4 and 8.1 percent, respectively) relative to emerging-country bidders and targets (0.9 and 2.8 percent, respectively). Mulherine and Boone (2000), Andrade et al. (2001), Moeller et al. (2004), Baugess et al. (2009), Cai et al. (2011), and Alexandridis et al. (2012 and 2013) are representative studies that sample completed US acquisitions. These studies find 3-day bidder CARs that range from -1.75 percent to 1.10 percent and target CARs that range from 16 percent to 22 percent. Campa and Hernando (2004 and 2006), Georgen and Renneboog (2004), Craninckx and Huyghebaert (2011), and Martynova and Renneboog (2011) study acquisitions in developed European countries. 3-day bidder CARs are approximately zero percent (ranging from -0.87 percent to 0.78 percent) and similar to CARs in US. However, European targets CARs are approximately 10 percent and are lower than US target CARs.

Panels A and B of Figure 4 plot bidder and target 3-day CARs in acquisitions across 47 countries. Black and white bars denote developed and emerging-market countries, respectively. Bidder CARs range from -0.6 percent in Hungary to 2.8 percent in Canada. Bidder CARs are positive in 45 countries (significant in 43 at 5 percent) and negative (but insignificant at 5 percent) in 2 countries. Target CARs range from 0.9 percent in Peru to 18.5 percent in Luxembourg. Target CARs are positive and significant in all 47 countries. The top ten target CARs are in developed-market countries. Results indicate that mergers generate more value for target shareholders in developed-market countries when compared to emerging-market countries.

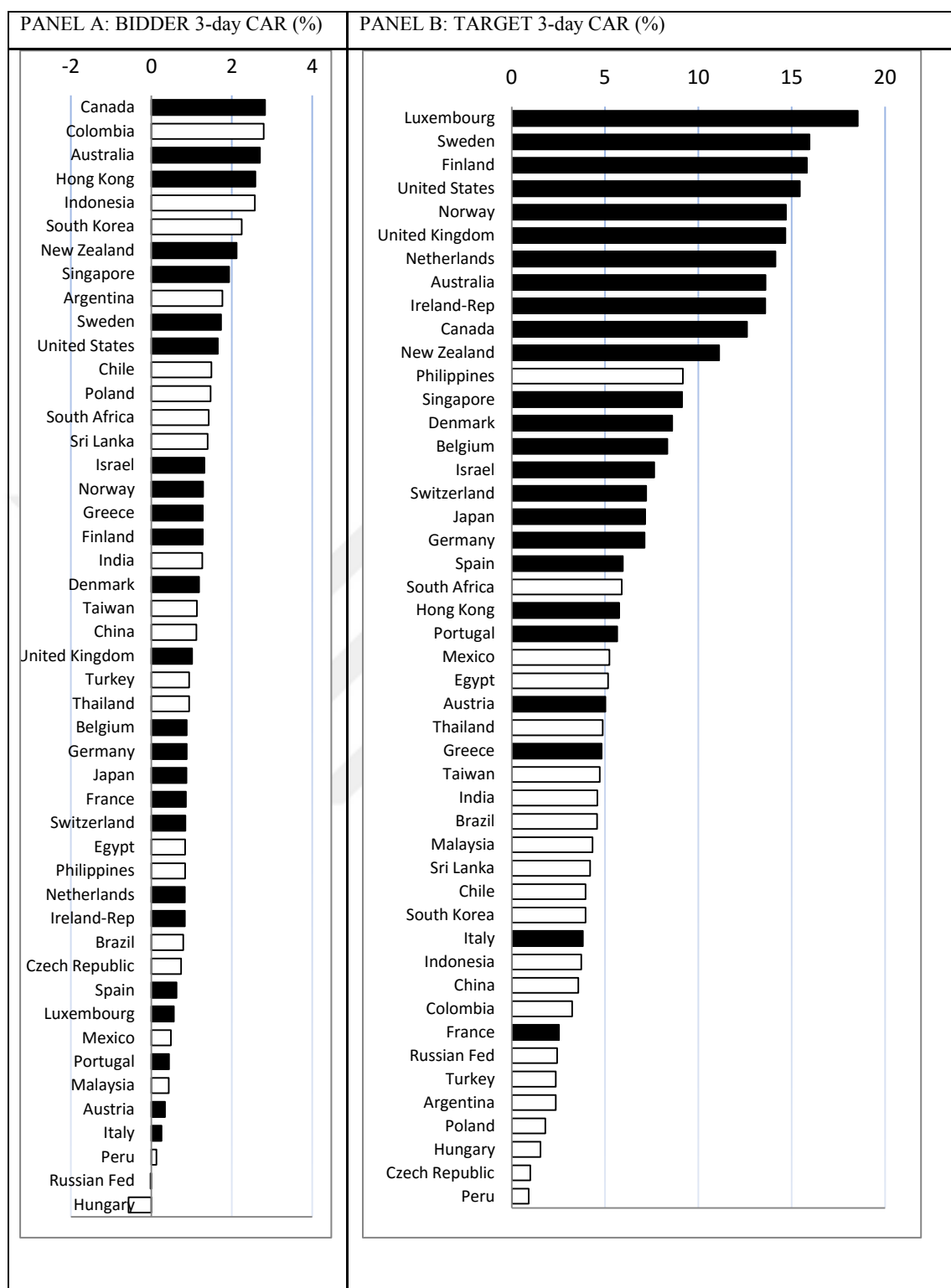


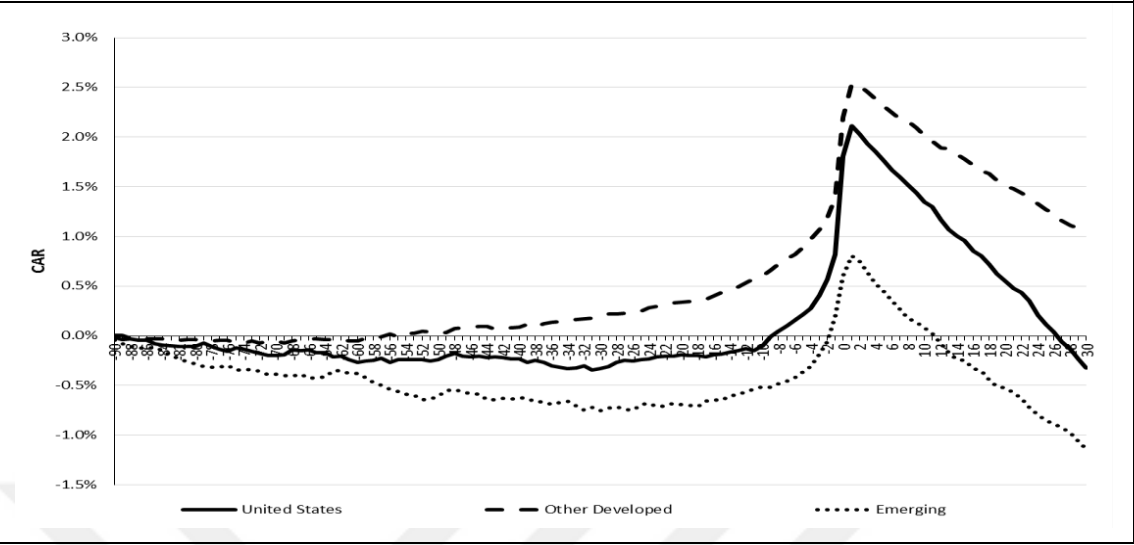
Figure 4: 3-day CARs for Acquisitions by Country (1992-2011). Panels A and B graph bidder and target 3-day CARs in acquisitions across 47 countries, respectively. Black and white bars indicate developed-market and emerging-market countries.

Differences in market efficiency, information leakages, and differences in corporate governance across countries may explain the variation in target CARs across developed and emerging-market countries. First, if emerging markets are less efficient due to differences in legal environment, the level of competition and/or other country specific factors, then stock prices in these emerging markets may not reflect all available information (Chordia, Roll, & Subrahmanyam, 2008; El-Erian & Kumar, 1995; Feldman & Kumar, 1995; Klapper & Love, 2004; Lagoarde-Segot & Lucey, 2008; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1997, 1998). Second, differences in corporate governance across countries might affect how target and bidder shareholders share the value generated in mergers. Bris and Cabolis (2008) use a sample of cross-border mergers and show that the higher the shareholder protection and accounting standards in a bidder's country, the higher is the premium that target shareholders receive relative to premiums in matching domestic acquisitions. Third, stock prices might incorporate M&A related news prior to announcement date if there are information leakages in emerging-market countries or if investors anticipate deals prior to announcement (Brunnermeier, 2005; Cai et al., 2011; Cornett, Tanyeri, & Tehranian, 2011; Malatesta & Thompson, 1985). The use of SDC announcement dates may also affect the results. Mulherin and Simsir (2015) and Arslan and Simsir (2016) document abnormal price movements before SDC announcement dates due to merger-related events (such as merger rumors or search-for buyer announcements) in 24 percent of US deals and 74 percent of Turkish deals, respectively.

We investigate whether M&A related news might be released and reflected in stock prices before the announcement by analyzing abnormal returns in the 90 trading days prior to SDC announcement dates. We reconstruct the estimation window to cover the

252 days that extend from 342 days to 90 (-342, -90 window) days before announcement. Panels A and B of Figure 5 plot bidder and target cumulated abnormal returns in the 121-day event window, respectively. Event window starts from 90 days before the announcement and ends 30 days after the announcement. Panels A and B plot a marked difference in bidder and target cumulated abnormal returns before the announcement date across developed and emerging countries. Bidder cumulated abnormal returns 40 days prior to announcement is -0.23 percent in US, 0.08 percent in other developed countries and -0.63 percent in emerging countries. In emerging markets relative to developed markets, bidder cumulated abnormal returns exhibit a negative drift prior to announcement. Our results support Arslan and Simsir (2016) who argue that information leakages in emerging markets are greater than developed markets. Target cumulated abnormal returns 40 days prior to announcement is -0.01 percent in US, 1.24 percent in other developed countries and 1.36 percent in emerging countries. In contrast to bidder cumulated abnormal returns, target cumulated abnormal returns exhibit a positive drift prior to announcement in emerging markets. A drift in abnormal returns whether positive or negative would be supportive of information leakages prior to announcements in emerging markets.

PANEL A-BIDDER CAR from day -90 to day 30



PANEL B-TARGET CAR from day -90 to day 30

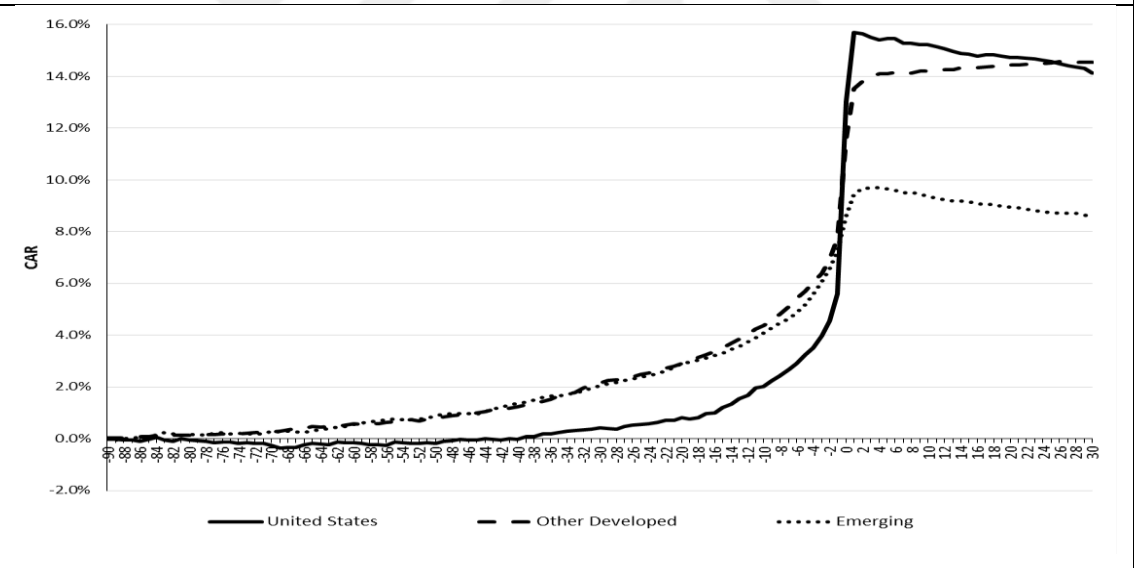


Figure 5: Bidder and Target Cumulative Abnormal Returns (CAR) in the 121 (-90, 30) Event Window. Panels A and B plot bidder and target Cumulative Abnormal Returns (CAR) that are accumulated beginning from day -90 to day 30 in United States, other developed countries and emerging countries, respectively.

We can summarize our findings on (i) whether M&A deals generate value, (ii) how the standard data filters used in the literature affect the results found in the full sample, and (iii) cross-country differences in target and bidder CARs in developed versus emerging markets as follows. First, in line with individual country findings, we find that global M&A activity creates value. Alexandridis et al. (2012), Mulherin and Boone (2000), Bauguess et al. (2009), Andrade et al. (2001), Moeller et al. (2004), Craninckx and Huyghebaert (2011), Campa and Hernando (2004) report 3-day CARs for hypothetically combined bidder and target firms which range from 0.7 to 3.6 percent using US and Europe samples. In our sample, combined firm CARs are significant at 1.7 percent.

Second, the literature focuses on successfully completed acquisitions of public bidders and public targets. Acquisitions are deals in which the bidder owns less than 50 percent of target shares at the announcement and intends to buy control rights by purchasing more than 50 percent of shares after the deal. Reviews of US M&A studies find 3-day target CARs of around 20 percent and bidder CARs that range from -1 to +1 percent (Alexandridis et al., 2012, 2013; Andrade et al., 2001; Eckbo & Thorburn, 2000; Eckbo, 2009; Fuller et al., 2002; Netter et al., 2011). We find that 3-day target CARs in completed US acquisitions is 17 percent and bidder CARs is 1.4 percent.

Netter et al. (2011) show that the standard data filters (that select completed acquisitions) severely restrict the samples and affect results. Hence, we do not restrict our sample to public firms or filter the deals based on size or on whether the deal is completed. When we include partial sales (defined as deals in which the bidder either

seeks a minority stake or an increase in its majority stake in the target firm), 3-day target CARs change significantly. 3-day target CARs in acquisitions is 11.6 percent and significantly different than CARs of 4.1 percent in partial sales. The difference in target CARs for acquisitions versus partial sales also hold when we restrict the sample to US deals. 3-day target CARs in US acquisitions is 15.4 percent and significantly different from CARs of 5.3 percent in partial sales. M&A activity encompasses acquisitions (69 percent of the sample) as well as partial sales (31 percent). We find that targets enjoy lower returns in partial sales.

Third, the magnitudes of target CARs prove larger in developed-market countries than they do in emerging market countries. Target 3-day CAR is 8.1 percent in developed-market countries and 2.8 percent in emerging-market countries. In the case of bidder CARs, the developed versus emerging market country difference still exists but the magnitude of the difference is smaller. 3-day bidder CAR is 1.4 percent in developed-market countries and 0.9 percent in emerging-market countries. Our findings are in line with the findings in the literature that report highest 3-day target CARs in US of around 20 percent (Alexandridis et al., 2012; Andrade et al., 2001; Bauguess et al., 2009; Mulherin & Boone, 2000), lower target CARs in Europe of around 10 percent (Craninckx & Huyghebaert, 2011; Goergen & Renneboog, 2004; Martynova & Renneboog, 2011) and lowest target CARs in emerging-market countries of around 2 percent (Sehgal et al., 2012).

Both target and bidder shareholders earn significantly higher 3-day CARs in developed market countries compared to those in emerging market countries. It is possible that the effect of M&A announcements might be reflected in stock prices

prior to announcement date in emerging market countries if there are information leakages. We find support in favor of information leakage argument as we detect drifts in both target and bidder CARS in emerging markets prior to announcement date. Better corporate governance practices in developed countries may also account for higher target and bidder CARs in developed market M&A deals.



CHAPTER 6

HOW DOES CRISIS AFFECT M&A VOLUME?

The first null hypothesis of this study is that M&A volume (quantity and dollar volume) is not different during crisis periods compared to non-crisis periods. This chapter conducts the univariate and multivariate analysis to analyze the effects of financial crisis on merger volume and reports our findings.

We study M&A activity in a multi-country setting so we first create a standardized measure of volume that makes it possible to compare volume across countries. We define merger intensity in terms of quantity and dollar value by equations 3 and 4, respectively.

$$3 \quad \text{Merger Intensity (Quantity)} = \frac{\text{Total number of PUBLIC firms in country(i) that are targets or bidders in a deal in year (t)}}{\text{Number of listed domestic companies in country (i) in year (t-1)}} \times 100$$

$$4 \quad \text{Merger Intensity (\$ Value)} = \frac{\text{Total dollar value of deals with either a PUBLIC target or bidder from country (i) in year (t)}}{\text{Market Capitalization of country (i) in year (t)}} \times 100$$

6.1 Univariate Analysis for Volume Effects by Target Nation

Table 10 reports mean and number of observations for the merger intensity measures (either defined as quantity in Panel A or aggregate dollar volume in Panel B) for crisis and non-crisis years. The statistical significance of the difference between crisis and non-crisis years is determined by the t-test of the null hypothesis that merger intensity in the two subsamples is equal. We also report t-tests for two alternative merger intensity measures where a given country is target or bidder.

In Table 10, the t-tests for merger intensity indicate some significant differences between non-crisis and crisis years. We also observe differences between developed and emerging country subsamples. The mean ratio of number of all listed firms that engage in merger activity as either targets or bidders is significantly higher (44.30 percent) in crisis years compared to non-crisis years (39.19 percent) in the developed country sub-sample while the reverse holds true for developed country sub-sample (17.93 percent in crisis versus 21.77 percent in non-crisis). The developed country firms are more likely to become targets (17.57 percent during crisis versus 13.99 percent in non-crisis) while emerging country firms are less likely to become bidders during crisis (8.80 percent during crisis versus 14.29 percent in non-crisis).

We do not find evidence of any significant difference in merger intensity in terms of dollar volume. The only statistically significant difference in Panel B of Table 10 for dollar volume is higher mean ratio of aggregate dollar value of deals by listed firms to market capitalization for emerging countries during financial crisis. This indicates

larger average deal size during crisis since the quantity decreases in crisis for emerging market countries.

We also test if crisis and non-crisis subsamples come from a common population. We report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis tests in Table 11. We reject the null hypothesis of a common population for crisis and non-crisis time deals based on M&A quantity volume. The common population tests presented in Table 11 indicate that distribution of merger intensity measures defined as quantity in non-crisis and crisis periods prove different when the full sample of countries are considered. However, for the developed country subsample we cannot reject the null hypothesis of a common population for the distribution of quantity merger intensity of becoming a bidder. Similarly, we cannot reject the null hypothesis of a common population for the distribution of quantity merger intensity of becoming a target for the emerging country subsample. For the dollar volume, we cannot reject the null hypothesis of a common population for the distribution of quantity merger intensity of becoming a target for the emerging country subsample.

Overall, Table 10 and Table 11 together suggest that developed country firms are more likely to be targets and emerging country firms are less likely to become bidders if their country is in financial crisis. So we reject the fire-sale theory for emerging market targets.

Table 10: Merger Intensity across Crisis versus Non-crisis Years**Panel A: Merger Intensity (frequency, %)**

	1992-2010		Non-Crisis Years		Crisis Years		Diff.
	N	Mean	N	Mean	N	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	718	32.43	591	32.65	127	31.42	-1.23
Developed	434	39.96	369	39.19	65	44.30	5.1**
Emerging	284	20.93	222	21.77	62	17.93	-3.84*
Target							
All Sample	718	12.93	591	12.57	127	14.62	2.05**
Developed	434	14.53	369	13.99	65	17.57	3.57***
Emerging	284	10.49	222	10.20	62	11.53	1.33
Bidder							
All Sample	680	23.60	564	23.99	116	21.71	-2.28
Developed	434	29.53	369	29.12	65	31.83	2.71
Emerging	246	13.15	195	14.29	51	8.80	-5.49***

Panel B: Merger Intensity (Dollar Volume, %)

	1992-2011		Non-Crisis Years		Crisis Years		Diff.
	N	Mean	N	Mean	N	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	717	5.62	591	5.61	126	5.67	0.05
Developed	434	6.67	369	6.76	65	6.16	-0.6
Emerging	283	4.02	222	3.71	61	5.13	1.42*
Target							
All Sample	713	3.91	588	3.89	125	4.01	0.11
Developed	431	4.31	366	4.41	65	3.73	-0.68
Emerging	282	3.31	222	3.04	60	4.31	1.26*
Bidder							
All Sample	678	3.76	562	3.83	116	3.40	-0.43
Developed	433	4.62	368	4.70	65	4.22	-0.48
Emerging	245	2.22	194	2.19	51	2.36	0.17

Notes: Table presents the results of t-tests for *merger intensity* (ratio of number of all listed firms that engage in merger activity -as targets or bidders, as targets and as bidders- to number of listed companies in Panel A and ratio of aggregated dollar value of deals by listed firms -as targets or bidders, as targets and as bidders- to market capitalization in Panel B). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 11: Common Population Tests for Volume**Panel A: Merger Intensity defined as Quantity**

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	1.67	0.01	2.79	-1.54	0.02	2.37	2.65	0.00	7.03
Target	-0.09	0.06	0.01	-1.85	0.00	3.41	0.50	0.82	0.25
Bidder	2.16	0.00	4.68	-0.92	0.65	0.85	3.80	0.00	14.42

Panel B: Merger Intensity defined as Dollar Value

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	0.19	0.67	0.04	1.22	0.51	1.48	-1.91	0.02	3.66
Target	-0.21	0.66	0.05	1.46	0.15	2.14	-2.41	0.02	5.81
Bidder	2.20	0.09	4.85	1.56	0.13	2.44	1.23	0.16	1.52

Notes: Table investigates whether the distribution of volume of M&As (defined as quantity and dollar value) during crisis and non-crisis periods come from a common population. Panel A and B report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square-statistic for the Kruskal-Wallis tests for quantity and dollar value, respectively.

6.2 Multivariate Analysis for Volume Effects

In univariate analysis, we reported significant differences in merger intensity (quantity) for the developed and emerging country subsamples. In this section, we examine whether the documented effects of financial crisis disappear after accounting for additional variables that affect merger volume. We use specification 5 to analyze merger volume and run a regression which includes control variables.

$$5 \quad \text{Volume}_{it} = \alpha + \delta C_{it} + \beta X_{it} + \varepsilon_{it}$$

Where, Volume_{it} represents merger intensity (quantity and total dollar volume in two models as in equations 3 and 4) in year t for country i .

C_{it} is a dummy variable for crisis periods and defined as:

$$C_{it} = \begin{cases} 1 & \text{if country } i \text{ is experiencing a crisis in year } t \\ 0 & \text{otherwise} \end{cases}$$

X_{it} is a matrix of time-varying country level control variables⁴⁹. β is a vector of coefficients. Erel et al. (2012) argue that country and firm- specific factors affect firm value and that these valuation changes are a potential source of mergers. The country-specific factors we use in our study are stock price volatility, market capitalization of listed companies⁵⁰, the annual deposit interest rate, return on equity (ROE)⁵¹, GDP growth rate for country (i) and the percentage change in market index of country (i) for the year preceding the deal. These variables proxy for the change in economic

⁴⁹ Details are in Appendix 3

⁵⁰ We use the log of adjusted value of market capitalization

⁵¹ Net Profit (Income) / Common Shareholders' Equity x 100

conditions and country-level stock market performance (Erel et al. , 2012; Rossi & Volpin, 2004; Makaew, 2012).

Table 12 through Table 17 presents results of regressions as in specification 5. The common independent variable in all regressions is an indicator variable which takes the value of one if the country is experiencing a crisis of any type in a given year and zero otherwise. We run three models for the full sample and the subsamples of developed and emerging countries. Model 1 is run only using crisis dummy variable. In the other two models we add the country level control variables. In model 3, we account for country fixed effects⁵², the coefficients of which are not reported.

Table 12 reports estimates of merger intensity (ratio of number of all listed firms that engage in merger activity as targets or bidders to number of listed companies) for full sample as well as for developed and emerging country subsamples. We find that the coefficient of crisis dummy variable is positive (significant in models 1 and 2) for developed country subsample and negative (significant in model 1) in all models for emerging market country subsample. Table 13 and Table 14 repeat the same analysis using as dependent variable merger intensity defined as ratio of number of all listed firms that engage in merger activity ‘as targets’ and ‘as bidders’ to number of listed companies, respectively. Table 13 reveals that more firms become targets in crisis times in the full sample and in the developed countries subsample. However, the effect of crisis is insignificant when we account for time-invariant country fixed effects in model 3. The coefficient of crisis dummy variable is statistically insignificant in all models in emerging country sub-sample. In Table 14, crisis dummy

⁵² The Hausman test indicates that fixed effect model is appropriate compared to random effects model.

coefficients are negative in all 3 models for the emerging country subsample.

However, statistical significance disappears as we account for country-level control variables and time-invariant country fixed effects. Overall, Table 12 through Table 14 suggest that we do not observe a significant difference in merger volume (defined in terms of quantity) after accounting for country-level control variables and time-invariant country fixed effects.

Table 15, Table 16 and Table 17 report regression estimates of dollar volume merger intensity (ratio of aggregated dollar value of deals by listed firms -as targets or bidders, as targets and as bidders- to market capitalization) for full sample as well as for developed and emerging country subsamples. The crisis coefficient is statistically insignificant indicating that ratio of aggregated deal dollar value to market capitalization remains unchanged during crises.

Overall, our multivariate analysis as presented through Table 12 to Table 17 fails to reject the hypothesis that volume of merger activity is not significantly different during crises. This finding is contrary to expectations of fire-sale theory, which predicts an increase in merger volume if there is financial crisis in target nation.

Table 12: Merger Intensity in Crisis versus Non-crisis (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-1.23	3.43	2.75	5.10*	17.46***	11.33	-3.84*	-3.26	-2.81
COUNTRY LEVEL									
Volatility (t)		-0.08	0.09		0.16	0.33		0.10	0.16
Log Adj. Market Cap (t)		1.91***	2.43		-1.20	-4.53		-0.43	3.44
Deposit Interest Rate (t)		-0.46***	-0.01		-1.76***	-0.69		-0.25***	0.04
ROE in year t		0.32***	0.17		0.69***	0.49**		0.16	0.06
% chg. in PI(t)		0.01	-0.02		0.09	0.05		-0.02	-0.03**
GDP growth year t		-0.61**	0.47		0.25	1.24		0.04	0.33
Constant	32.65***	10.69	-4.67	39.19***	47.00***	83.95	21.77***	26.07**	-24.52
Observations	718	504	504	434	267	267	284	237	237
Adjusted R-sq.	0.00	0.14	0.03	0.01	0.14	0.08	0.01	0.06	0.08
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.31	19.43	1.229	3.142	7.244	6.859	2.945	8.227	8.098

Notes: The table reports regression estimates of merger intensity (quantity). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 13: Merger Intensity Defined as Quantity Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	2.05*	1.93	1.98	3.57**	8.77***	7.48	1.33	-2.04	-1.44
COUNTRY LEVEL									
Volatility (t)		0.01	0.02		0.12**	0.11		0.10	0.07
Log Adj. Market Cap (t)		-0.76**	-0.93		-1.11**	-3.72		-2.13***	-0.25
Deposit Interest Rate (t)		-0.16***	0.00		-0.23	-0.20		-0.12***	0.03
ROE in year t		0.05	0.03		0.01	0.05		0.05	0.00
% chg. in PI(t)		0.01	0.00		0.04	0.03		0.00	-0.01*
GDP growth year t		-0.33***	0.04		0.12	0.22		-0.12	0.06
Constant	12.57***	23.39***	23.12	13.99***	25.85***	59.36	10.20***	34.80***	11.42
Observations	718	504	504	434	267	267	284	237	237
Adjusted R-sq.	0.01	0.05	0.01	0.02	0.11	0.11	0.00	0.10	-0.01
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	3.11	7.76	0.636	6.157	2.426	1.755	0.568	3.176	1.175

Notes: The table reports regression estimates of merger intensity (quantity). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 14: Merger Intensity Defined as Quantity Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-2.28	3.69	2.62	2.71	13.29***	7.31	-5.49***	-1.92	-1.41
COUNTRY LEVEL									
Volatility (t)		-0.09	0.08		0.10	0.26		0.01	0.13*
Log Adj. Market Cap (t)		1.83***	3.46*		-0.68	-2.23		0.60	4.29
Deposit Interest Rate (t)		-0.43***	-0.01		-1.67***	-0.57		-0.22***	0.02
ROE in year t		0.39***	0.22**		0.72***	0.51***		0.20***	0.11
% chg. in PI(t)		0.01	-0.01		0.08*	0.03		-0.02	-0.02*
GDP growth year t		-0.33*	0.49**		0.22	1.21**		0.16	0.31
Constant	23.99***	1.05	-27.00	29.12***	30.64**	44.78	14.29***	6.97	-43.27
Observations	680	469	469	434	267	267	246	202	202
Adjusted R-sq.	0.00	0.20	0.11	0.00	0.18	0.13	0.04	0.18	0.21
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	1.68	22.37	3.342	1.544	10.84	8.157	15.64	21.63	6.602

Notes: The table reports regression estimates of merger intensity (quantity). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 15: Merger Intensity Defined as Dollar Volume Regressions (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.05	0.08	0.83	-0.60	-0.11	1.16	1.42	0.26	0.35
COUNTRY LEVEL									
Volatility (t)		0.00	0.06*		0.01	0.08*		0.02	0.03
Log Adj. Market Cap (t)		-0.31	-0.41		-0.24	0.38		-0.69***	-1.07
Deposit Interest Rate (t)		-0.08***	-0.07***		-0.16	0.06		-0.06***	-0.08***
ROE in year t		0.06*	0.06		0.22***	0.23***		0.01	0.01
% chg. in PI(t)		0.01*	0.01		0.00	0.00		0.01	0.01
GDP growth year t		-0.28***	-0.03		0.04	0.28		-0.26**	-0.18
Constant	5.61***	9.78***	8.75	6.76***	6.93	-4.21	3.71***	13.42***	17.43*
Observations	717	504	504	434	267	267	283	237	237
Adjusted R-sq.	0.00	0.03	0.00	0.00	0.03	0.05	0.01	0.06	0.02
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.01	7.06	2.599	0.487	3.9	3.285	2.539	5.232	4.679

Notes: The table reports regression estimates of merger intensity (dollar volume). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 16: Merger Intensity Defined as Dollar Volume Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.11	-0.56	0.18	-0.68	-0.48	0.62	1.26	-0.62	-0.31
COUNTRY LEVEL									
Volatility (t)		0.00	0.03		0.00	0.05		0.01	0.01
Log Adj. Market Cap (t)		-0.54***	-0.43		-0.45*	0.31		-0.73***	-0.97*
Deposit Interest Rate (t)		-0.03*	-0.03		-0.03	0.09		-0.03	-0.04*
ROE in year t		0.03	0.02		0.12**	0.12*		-0.01	-0.01
% chg. in PI(t)		0.01	0.00		0.00	0.00		0.01	0.00
GDP growth year t		-0.21***	-0.07		0.01	0.17		-0.22*	-0.18
Constant	3.89***	11.25***	8.64*	4.41***	8.61**	-3.09	3.04***	13.13***	15.93**
Observations	713	502	502	431	266	266	282	236	236
Adjusted R-sq.	0.00	0.02	-0.01	0.00	0.01	0.00	0.01	0.05	0.01
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.04	2.44	0.882	1.378	2.613	1.099	1.849	3.83	1.922

Notes: The table reports regression estimates of merger intensity (dollar volume). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 17: Merger Intensity Defined as Dollar Volume Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.43	0.86	1.40**	-0.48	0.97	1.80	0.17	1.05	0.81
COUNTRY LEVEL									
Volatility (t)		-0.02	0.04**		-0.01	0.05		0.00	0.04**
Log Adj.Market Cap (t)		0.09	-0.35		0.03	-0.36		-0.10	-0.51
Deposit Interest Rate (t)		-0.06***	-0.04***		-0.06	-0.07		-0.04***	-0.04**
ROE in year t		0.07***	0.09**		0.17***	0.21***		0.04*	0.04
% chg. in PI(t)		0.01	0.00		0.00	0.01		0.00	0.00
GDP growth year t		-0.12**	0.07		-0.04	0.07		-0.01	0.06
Constant	3.83***	2.79*	5.78	4.70***	2.56	5.73	2.19***	3.46**	6.78
Observations	678	468	468	433	266	266	245	202	202
Adjusted R-sq.	0.00	0.06	0.03	0.00	0.02	0.05	0.00	0.03	0.03
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	1.03	13.20	2.678	0.586	2.245	4.769	0.132	5.797	1.51

Notes: The table reports regression estimates of merger intensity (dollar volume). The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

CHAPTER 7

HOW DOES CRISIS AFFECT THE DISTRIBUTION OF VALUE BETWEEN BIDDER AND TARGET SHAREHOLDERS?

This chapter tests our second and third hypotheses related to financial crises. In Chapter 3, we hypothesized that the distribution of value between bidder and target shareholders is different during crisis. We use target premiums and target and bidder cumulative abnormal returns (CARs) as measures of distribution of value between bidder and target shareholders. In sections 7.1 and 7.2, we analyze whether premiums that target shareholders get and bidder and target CARs differ in crisis periods.

7.1 Measuring Distribution of Value between Bidder and Target Shareholders Using Premiums

7.1.1 Univariate Analysis for Merger Premium

We first compile 1-day, 1-week and 4-week deal premiums as reported by SDC⁵³.

Then we report mean and median values for these merger premiums for crisis and

⁵³ We drop premiums that are greater than the 99th percentile to remove outliers. Alexandridis et al (2013) and Officer (2003) use premiums between -100 and 100% in their study. We use their filtering as a robustness check for our analysis and findings are presented in Chapter 10.

non-crisis years. The statistical significance of the premium difference between crisis and non-crisis years is determined by t-test. Table 18 through Table 23 present our univariate findings for target premiums paid in M&A deals. Table 18 reports t-tests for 1-day, 1-week and 4-week merger premiums for the full sample. We find that 1-day and 1-week premiums paid are significantly higher during financial crisis in the full sample, US subsample, other developed country and emerging country subsamples. 4-weeks premium is higher during crisis in all subsamples but the difference is statistically insignificant for United States and other developed country subsamples. Table 19, Table 20, Table 21, Table 22 and Table 23 repeat the same analysis for subsamples of domestic M&As, cross-border M&As, acquisitions, completed deals and completed acquisitions, respectively. In this subsample analysis, we still observe higher premiums during crisis however the statistical significance disappears for developed country subsample (excluding US). Results are also statistically insignificant for acquisitions and completed acquisitions of emerging market targets.

We also test if crisis and non-crisis subsamples come from a common population. We report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis test. We test the null hypothesis of a common population for crisis and non-crisis time 1-day, 1-week and 4-week premiums in Table 24 . We highlight the cases for which the null hypothesis of a common population cannot be rejected. For the full sample 1-day, 1-week and 4-week merger premiums come from different populations in non-crisis and crisis periods except 4-week premiums of completed acquisitions. We cannot reject the null hypothesis for 4-week premiums of developed countries for cross border mergers,

acquisitions and completed acquisitions. For the emerging market countries, the crisis and non-crisis premiums come from the same population for cross-border mergers, acquisitions and completed acquisitions.

Overall, our univariate analysis suggests that merger premiums are higher during financial crisis in the full sample and the subsamples of developed emerging countries. This finding contradicts fire-sale theory and supports mispricing theory. Fire-sale theory predicts that target firms in crisis-hit countries may lose their bargaining powers and this may lead to lower premiums. Mispricing theory predicts that the underpricing of target firms may become greater in financial crisis and these very low target stock prices may lead to higher premiums.

Table 18: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis)-FULL SAMPLE

FULL SAMPLE	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	32,878	15.82	10.00	28,984	14.78	9.15	3,894	23.57	17.66	8.79***
United States	11,230	26.63	19.65	9,342	25.61	18.38	1,888	31.72	25.68	6.12***
Other Developed	16,710	13.35	7.30	14,909	13.08	7.14	1,801	15.59	9.34	2.51**
Emerging	4,938	-0.38	0.00	4,733	-1.20	0.00	205	18.65	6.17	19.86***
Premium 1week										
All Sample	32,592	18.67	12.54	28,704	17.80	11.69	3,888	25.09	19.27	7.3***
United States	11,213	29.66	22.37	9,327	29.14	21.52	1,886	32.23	26.08	3.08***
Other Developed	16,486	16.12	9.84	14,682	15.86	9.66	1,804	18.21	11.07	2.35**
Emerging	4,893	2.04	1.20	4,695	1.29	1.00	198	19.83	8.41	18.55***
Premium 4weeks										
All Sample	32,498	21.83	15.47	28,608	21.13	14.87	3,890	26.97	20.00	5.83***
United States	11,161	33.28	25.17	9,273	33.18	25.00	1,888	33.76	25.96	0.58
Other Developed	16,459	18.83	12.70	14,652	18.65	12.54	1,807	20.29	13.64	1.64
Emerging	4,878	5.78	4.17	4,683	5.06	3.84	195	23.06	9.30	18***

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1-day/1-week/4-weeks is defined as premium of offer price to target closing stock price 1day/1 week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 19: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis)-DOMESTIC M&A

domestic	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	26,653	14.96	9.41	23,590	13.94	8.53	3,063	22.74	17.42	8.79***
United States	10,072	26.41	19.40	8,469	25.40	18.09	1,603	31.75	25.85	6.34***
Other Developed	12,760	11.44	5.87	11,419	11.29	5.56	1,341	12.67	7.74	1.38
Emerging	3,821	-3.50	-1.49	3,702	-4.09	-1.69	119	14.85	4.35	18.93***
Premium 1week										
All Sample	26,444	17.63	11.67	23,376	16.77	10.95	3,068	24.16	18.81	7.38***
United States	10,062	29.33	21.82	8,460	28.80	21.16	1,602	32.09	25.92	3.29***
Other Developed	12,592	14.04	8.00	11,244	13.85	7.86	1,348	15.54	8.95	1.69
Emerging	3,790	-1.47	0.00	3,672	-2.00	-0.23	118	14.90	6.87	16.9***
Premium 4weeks										
All Sample	26,370	20.73	14.68	23,301	20.03	14.09	3,069	26.05	19.54	6.03***
United States	10,011	32.78	24.74	8,407	32.65	24.62	1,604	33.42	25.20	0.77
Other Developed	12,580	16.68	11.07	11,231	16.53	10.80	1,349	17.95	12.21	1.42
Emerging	3,779	2.28	1.67	3,663	1.77	1.50	116	18.44	11.42	16.66***

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 20: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis)-CROSS BORDER M&A

cross-border	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	6,225	19.55	12.68	5,394	18.45	11.84	831	26.66	19.02	8.2***
United States	1,158	28.54	22.09	873	27.55	20.85	285	31.59	25.59	4.04
Other Developed	3,950	19.53	12.63	3,490	18.93	12.22	460	24.11	15.37	5.18**
Emerging	1,117	10.29	4.74	1,031	9.15	4.55	86	23.92	13.87	14.77***
Premium 1week										
All Sample	6,148	23.11	16.28	5,328	22.27	15.38	820	28.59	21.32	6.32***
United States	1,151	32.59	25.84	867	32.46	25.52	284	33.00	26.96	0.53
Other Developed	3,894	22.86	15.79	3,438	22.43	15.41	456	26.10	18.98	3.67*
Emerging	1,103	14.11	7.09	1,023	13.09	7.03	80	27.12	12.86	14.03***
Premium 4weeks										
All Sample	6,128	26.59	19.18	5,307	26.00	18.64	821	30.38	21.92	4.38**
United States	1,150	37.63	30.19	866	38.27	30.21	284	35.69	29.54	-2.58
Other Developed	3,879	25.81	19.02	3,421	25.62	19.17	458	27.18	18.14	1.56
Emerging	1,099	17.79	9.99	1,020	16.86	10.13	79	29.84	9.09	12.98**

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 21: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis)-ACQUISITIONS (CONTROL CHANGING)

acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	16,253	26.74	21.80	13,923	25.93	21.05	2,330	31.58	26.76	5.65***
United States	7,567	33.57	27.27	6,177	32.62	26.30	1,390	37.80	31.09	5.17***
Other Developed	7,637	22.56	18.45	6,746	22.44	18.21	891	23.39	19.69	0.95
Emerging	1,049	7.92	5.56	1,000	8.10	5.65	49	4.32	0.65	-3.78
Premium 1week										
All Sample	16,115	30.49	25.48	13,786	29.93	25.00	2,329	33.81	28.35	3.89***
United States	7,564	37.50	30.65	6,173	37.14	30.38	1,391	39.10	31.83	1.97
Other Developed	7,515	26.11	21.94	6,623	26.00	21.88	892	27.00	22.66	1
Emerging	1,036	11.02	8.11	990	11.25	8.30	46	6.06	4.76	-5.18
Premium 4weeks										
All Sample	-	.	.	13,765	33.95	28.57	2,330	37.05	29.56	3.1***
United States	7,564	42.28	34.37	6,169	42.28	34.78	1,395	42.26	33.01	-0.02
Other Developed	7,504	29.11	25.00	6,614	28.97	25.00	890	30.17	25.07	1.2
Emerging	1,027	15.08	12.30	982	15.23	12.42	45	11.87	0.65	-3.35

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 22: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis)-COMPLETED

completed	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	25,685	16.09	10.06	22,732	15.20	9.37	2,953	22.91	17.45	7.71***
United States	9,233	25.27	18.38	7,848	24.15	17.00	1,385	31.63	26.58	7.48***
Other Developed	13,112	13.34	7.28	11,696	13.20	7.14	1,416	14.49	8.64	1.29
Emerging	3,340	1.52	1.06	3,188	0.54	0.78	152	22.03	6.76	21.48***
Premium 1week										
All Sample	25,477	19.05	12.65	22,525	18.34	11.94	2,952	24.45	19.05	6.11***
United States	9,222	28.54	21.35	7,837	27.92	20.08	1,385	32.05	26.66	4.13***
Other Developed	12,945	16.17	9.68	11,525	16.07	9.67	1,420	17.01	10.03	0.94
Emerging	3,310	3.88	2.37	3,163	2.90	2.09	147	24.81	9.32	21.91***
Premium 4weeks										
All Sample	25,394	22.24	15.74	22,443	21.63	15.25	2,951	26.83	20.00	5.2***
United States	9,169	32.63	24.57	7,783	32.24	24.05	1,386	34.83	27.83	2.59**
Other Developed	12,925	18.69	12.68	11,506	18.67	12.73	1,419	18.85	12.41	0.19
Emerging	3,300	7.28	4.94	3,154	6.30	4.60	146	28.55	14.16	22.25***

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 23: Univariate Tests for Merger Premiums (Crisis vs. Non-crisis) - COMPLETED ACQUISITIONS

completed acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N	Mean (%)	Median (%)	N	Mean (%)	Median (%)	N	Mean (%)	Median (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Premium 1day										
All Sample	12,676	26.59	21.79	10,915	25.92	21.05	1,761	30.76	26.98	4.84***
United States	6,024	32.63	26.74	4,992	31.63	25.77	1,032	37.46	31.17	5.83***
Other Developed	5,934	22.55	18.34	5,239	22.66	18.32	695	21.77	18.64	-0.89
Emerging	718	9.27	5.65	684	9.19	5.65	34	10.92	5.67	1.73
Premium 1week										
All Sample	12,582	30.63	25.58	10,820	30.22	25.00	1,762	33.13	28.32	2.91***
United States	6,024	36.98	30.29	4,989	36.58	29.88	1,035	38.88	32.21	2.3*
Other Developed	5,849	26.25	21.95	5,153	26.36	21.95	696	25.42	21.79	-0.94
Emerging	709	12.78	8.39	678	12.73	8.41	31	13.92	6.67	1.2
Premium 4weeks										
All Sample	12,565	34.75	29.31	10,805	34.37	29.10	1,760	37.07	30.29	2.7**
United States	6,021	42.36	34.77	4,984	42.18	34.81	1,037	43.27	34.29	1.09
Other Developed	5,844	29.14	25.00	5,151	29.21	25.00	693	28.60	25.00	-0.62
Emerging	700	16.05	12.90	670	15.93	12.90	30	18.68	10.81	2.75

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 24: Common Population Tests for Merger Premiums

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
FULL SAMPLE									
Premium 1day	-14.37	0.00	206.43	-10.18	0.00	103.66	-4.73	0.00	22.37
Premium 1week	-11.25	0.00	126.53	-7.04	0.00	49.57	-4.39	0.00	19.27
Premium 4weeks	-7.81	0.00	61.02	-3.93	0.00	15.43	-3.53	0.00	12.45
DOMESTIC M&A									
Premium 1day	-13.59	0.00	184.61	-9.62	0.00	92.60	-3.19	0.00	10.16
Premium 1week	-10.73	0.00	115.20	-6.63	0.00	43.98	-3.36	0.00	11.32
Premium 4weeks	-7.71	0.00	59.51	-3.91	0.00	15.32	-2.73	0.00	7.47
CROSS BORDER M&A									
Premium 1day	-4.77	0.00	22.74	-3.39	0.00	11.49	-2.19	0.01	4.79
Premium 1week	-3.51	0.00	12.30	-2.34	0.00	5.45	-1.40	0.12	1.96
Premium 4weeks	-1.84	0.03	3.40	-0.79	0.27	0.62	-0.86	0.08	0.75
ACQUISITION									
Premium 1day	-6.98	0.00	48.78	-5.76	0.00	33.23	0.93	0.13	0.86
Premium 1week	-4.12	0.00	16.98	-2.88	0.00	8.30	1.08	0.21	1.16
Premium 4weeks	-1.87	0.05	3.48	-0.80	0.36	0.65	1.90	0.10	3.60
COMPLETED DEALS									
Premium 1day	-11.28	0.00	127.19	-8.41	0.00	70.77	-4.14	0.00	17.17
Premium 1week	-8.42	0.00	70.96	-5.40	0.00	29.21	-4.28	0.00	18.32
Premium 4weeks	-6.17	0.00	38.07	-3.28	0.00	10.75	-3.84	0.00	14.76
COMPLETED ACQUISITIONS									
Premium 1day	-5.78	0.00	33.42	-4.81	0.00	23.16	0.03	0.59	0.00
Premium 1week	-3.01	0.00	9.06	-2.04	0.00	4.18	0.18	0.67	0.03
Premium 4weeks	-1.67	0.16	2.78	-0.81	0.56	0.65	0.74	0.55	0.55

Notes: Table investigates whether the distribution of target premiums during crisis and non-crisis periods come from a common population. We report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square-statistic for the Kruskal-Wallis tests.

7.1.2 Multivariate Analysis for Merger Premium

In this section we examine the relationship between merger premium and financial crises using regression analysis. The common independent variable in all regressions is an indicator variable which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database and zero otherwise. We include additional control variables as well. Hence, to determine whether crisis periods affect the premium in a given deal, we use specification 6:

$$6 \quad \text{Premium}_{ijt} = \alpha + \delta C_{it} + \beta X_{ijt} + \varepsilon_{ijt}$$

Where,

Premium_{ijt} : premium of offer price to target closing stock price 4-weeks prior to the original announcement date for deal j at time t in which a firm from nation i is the target (source: SDC).

C_{it} is a dummy variable for crisis periods and defined as:

$$C_{it} = \begin{cases} 1 & \text{if country } i \text{ is experiencing a crisis in year } t \\ 0 & \text{otherwise} \end{cases}$$

X_{ijt} is a matrix of firm, deal and country level control variables that influence the magnitude of premium paid as identified in literature (Alexandridis et al., 2013; Moeller et.al. 2004; Officer, 2003; Rossi & Volpin, 2004; Schwert, 2000). β is a vector of coefficients. We first present a summary of findings in literature related to selected deal and firm level control variables. Then, we state the proxies that we use for these selected control variables.

1) Firm Level Variables:

Size of target and bidder: Moeller et.al. (2004) show that the premium paid increases with acquirer size after controlling for firm and deal characteristics. They use the logarithm of equity market capitalization as measure of size. They argue that managers of large firms are more likely to be infected by hubris and pay higher premiums Alexandridis et al. (2013) report lower premium for larger target size.

We use log of total assets in million dollars adjusted using 2011 September CPI to proxy target and bidder size. We also define relative size as the ratio of target total assets to bidder total assets.

Public status of target and bidder: Bargerion, Schlingemann, Stulz and Zutter (2008) find that unlisted bidders pay lower premiums. We use an indicator variable which takes the value of one if the bidder firm is public and zero otherwise.

Industry relatedness of bidder and target: The firms engage in focusing (same industry) and diversifying (different industry) mergers for different reasons. A diversifying deal can be done either in order to minimize the potential risk of performing in one industry or to benefit from probable synergies of mergers. Focusing mergers are related to growth strategies of bidder firms such as increasing production or entering new markets.

Officer (2003) finds that higher premiums are offered in same-industry mergers⁵⁴. We use an indicator variable which takes the value of one if the bidder and the target operate in the same industry based on 2-digit SIC code and zero otherwise.

Origin of bidder and target (developed vs. emerging country): We use an indicator variable, which takes the value of one if the bidder (target) is from a developed country and zero otherwise. As robustness, we also run our regressions for developed and emerging country subsamples separately.

2) Deal level variables:

Deal size: Alexandridis et al. (2013) investigate the association between deal size and premium paid in acquisitions in detail. They discuss the possible effects of deal size on premium and state that there are conflicting expectations about the relationship between the size of M&A deals and premiums. On one hand, we may observe higher premium in large deals if bidders are more likely to pay too much for large targets as documented by Loderer and Martin (1990). This is possible if excessively confident managers overpay while bidding for larger targets as they overestimate their ability to extract acquisition benefits. Moreover, since larger deals often provide particularly high private benefits, top executives may pay larger premium for large firms (Harford & Li, 2007; Loderer & Martin, 1990; Morck et al., 1990). On the other hand, larger deal size can also lead to lower premium. Larger deals need more financing, which means that the value-at-stake is high for the bidder firm. Thus, managers of bidding firms are more likely to hesitate in offering large premiums. They can also demand more accurate valuations about the target firms, which avoid them to overpay.

⁵⁴ He adopts the industry definitions of Fama and French, 1997.

Moreover, the expected synergies associated with larger deals are more uncertain due to higher complexity and this in turn leads bidders to make less generous offers. The complexity and the need for high level of financing might also result in a smaller pool of potential acquirers. Alexandridis et al. (2010) states that lower competition in larger deals can mitigate the “winner's curse” problem and result in lower acquisition premia. Finally, less concentrated managerial ownership in larger firms (Demsetz & Lehn, 1985) may make them accept smaller premia (Bauguess et al., 2009).

Alexandridis et al. (2013) document a negative relation between premium and deal size based on a sample of domestic US acquisitions during 1990-2007. We use log of value of transaction adjusted to 2011-September CPI (in million dollars) to represent deal size.

Deal status (completed vs. not completed): We use an indicator variable, which takes the value of one if the deal is completed and zero otherwise.

Deal type (acquisition vs. partial sales): We use an indicator variable, which takes the value of one if the deal is an acquisition, and zero otherwise (partial sale).

Deal Attitude (Hostile vs. Friendly): Schwert (2000) and Alexandridis et al. (2013) report larger premiums in hostile deals. We use an indicator variable which takes the value of one if the deal is hostile and zero otherwise.

The means of payment (all-cash, all-equity, mixed offer): For merger premiums, findings about the effect of payment method are inconclusive. Huang and Walkling

(1987) and Savor and Lu (2009) document larger premiums in cash-financed acquisitions. The higher premium in cash financed deals is interpreted as compensation for the immediate tax implications of cash offers. However, Alexandridis et al (2013) do not provide support for the tax compensation effect. Instead, they find that cash payments are associated with a relative discount.

We use an indicator variable, which takes the value of 1 if the deal is paid in all cash, and zero otherwise.

Geographical scope of the deal (cross-border vs. domestic): Rossi and Volpin (2004) report a positive coefficient for cross-border indicator variable in premium regressions. We use an indicator variable which takes the value of 1 if the deal is cross-border and zero otherwise. We also analyze cross-border deals separately in sub-sample analysis.

Existence of competing bidders: We expect higher premiums when there are several bidders competing for the same target since higher competition leads to higher bargaining power to negotiate for the target, which in turn leads to a higher offer price and, thus, premium (Rossi & Volpin, 2004). We use a dummy variable, which takes the value of one if there is more than one bidder for the same target.

Due to the sample restrictions arising from availability of merger premiums in SDC (see section 4.4), we study premiums based on a sample of 33,111 observations. Moreover, the control variables put further restrictions on data when conducting the

multivariate analysis. Summary of variables when premium data is non-missing is presented in Table 25.

Table 26 through Table 31 present estimates of pooled OLS and fixed effects regressions as in specification 6. We run 5 models for both pooled OLS and fixed effects regressions. Model 1 is run only using Crisis Dummy. In the other 3 models we add the firm level, deal level and country level control variables separately. In model 5, we include all control variables in the regression. In particular, we use size, public status, industry relatedness and origin of target and bidder firms as firm level control variables. Deal size, deal status (completed versus not completed), deal type (acquisition versus partial sales), deal attitude (hostile versus friendly), the means of payment (all-cash versus other), dummy variable for cross-border deals and existence of competing bidders are the deal level control variables. Country level variables are stock price volatility, percentage change in market index, return on equity (ROE) and market capitalization of the given country. The common independent variable in all regressions is an indicator variable, which takes the value of one if the country is experiencing a crisis of any type and zero otherwise.

Table 26 reports pooled OLS and fixed effects regression estimates of 4-weeks merger premium in the full sample. We find that the coefficient of crisis dummy variable is positive in first four OLS models and negative but insignificant in model 5. When we add country fixed effects, the crisis coefficient proves insignificant in models 1 through 3 and negative and significant in models 4 and 5. Results indicate that after accounting for time invariant country level differences, the premium paid is lower if the target country is experiencing a crisis. Table 27, Table 28 and Table 29

present results for the subsamples of United States, other developed and emerging market targets, respectively. Table 30 and Table 31 repeat the same analysis in domestic and cross-border deals, respectively. We observe the same change in crisis dummy variable coefficient sign in the fixed effect analysis.

The coefficients of control variables on merger premium regressions indicate that 4-weeks premium is negatively related to target size and positively related to bidder size. We observe higher premium as target gets smaller and as bidder gets larger. This finding supports Moeller et al. (2004) and Fuller et al. (2002). The coefficients on the remaining control variables are also positive. Thus, premium is higher when the bidder is public, target and bidder operate in the same industry, the bidder is from a developed country, the deal is large, the deal is successfully completed, the deal is an acquisition or a hostile deal, when the deal is paid in cash, when there are competing bidders. The expected signs of independent variables based on findings of literature and reported signs of this study are summarized in Table 32.

Overall, our multivariate analysis support the hypothesis that merger premiums are significantly lower in the full sample if the target country is in a crisis, which is just the opposite of our univariate findings. In particular, the coefficient of crisis dummy is negative after accounting for premium control variables and country fixed effects. The negative coefficient is statistically significant in full sample and subsamples of US and domestic deals. It is statistically insignificant in the subsamples of other developed, emerging market countries and cross-border deals. Hence, our full sample results present evidence in favor of fire-sale theory and contradict to mispricing theory. Fire-sale theory predicts that target firms in crisis-hit countries may lose their

bargaining powers and this may lead to lower premiums. Mispricing theory predicts that the underpricing of target firms may become greater in financial crisis and these very low target stock prices may lead to higher premiums. However, the subsample analysis reveals that crisis dummy is insignificant in the emerging market subsample in contrast to expectations of fire-sale theory.



Table 25: Comparative Summary of Variables Used in Premium Analysis (when premium is non-missing)

Variable Definition	FULL SAMPLE						Sample for Premium Analysis					
	mean	sd	min	p50	max	N	mean	sd	min	p50	max	N
Dependent Variables												
Target 3 day CAR (%)	7.25	18.10	-196.50	2.38	180.40	59,448	10.93	18.85	-115.49	5.61	148.47	29,022
Bidder 3-day CAR (%)	1.35	10.26	-151.56	0.21	197.68	205,082	-0.32	7.49	-73.22	-0.36	119.75	13,472
Combined 3-day CAR (%)	1.73	7.29	-80.34	0.77	90.91	17,637	2.04	7.31	-37.67	1.02	90.53	10,691
Crisis												
Any Type of Crisis in Target Country (%)	18.97					571,784	11.89					33,111
Any Type of Crisis in Bidder Country (%)	18.97					571,784	13.05					33,111
Firm Level Control Variables												
Relative Size=Target TA / Bidder TA	47.35	112.48	0.02	12.25	1,333.33	35,789	46.98	95.90	0.02	16.48	1,224.22	13,483
Adj.Target Total Assets (Billion \$)	4.82	121.54	0.00	0.10	22,700	88,618	4.29	54.49	0.00	0.18	3,948	31,108
Adj. Bidder Total Assets (Billion \$)	21.03	162.32	0.00	0.57	30,900	206,778	36.28	246.95	0.00	2.25	22,500	14,193
Target Firm ROE	-12.79	69.36	-769.36	0.50	72.49	62,775	-11.73	66.84	-768.21	3.30	72.47	26,750
Bidder Firm ROE	3.40	31.29	-313.59	7.77	74.98	220,794	6.82	25.18	-310.97	9.83	74.74	13,913
Bidder is Public (%)	44.40					571,784	46.81					33,111
Same Industry-2DigitSIC (%)	45.22					571,784	37.00					33,111
Bidder is from Developed Country (%)	85.37					571,784	86.23					33,111
Target is from Developed Country (%)	81.79					571,784	85.00					33,111
Deal Level Control Variables												
Adj.Deal Size (mil\$)	199.19	1,782.14	0.00	13.49	273,379	251,386	712.03	4,392.19	0.00	37.47	273,379	33,015
Deal is Completed (%)	79.87					571,784	78.08					33,111
Deal is an acquisition (%)	76.33					571,784	49.44					33,111
Deal is Hostile (%)	0.17					571,784	1.99					33,111
Deal is all cash (%)	14.61					571,784	50.67					33,111
Deal is competitive (%)	0.60					571,779	5.05					33,111
Deal is Cross-border (%)	21.53					571,784	18.96					33,111

Notes: Table compares the sample used in premium analysis with the full M&A sample. Total assets, deal size and market capitalization are in September 2011 dollars.

Table 26: 4-weeks Premium Regressions (FULL SAMPLE)

PREMIUM 4-weeks FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	5.83***	1.85	1.80**	3.81***	-1.43	0.47	0.56	-0.34	-3.73**	-3.58**
FIRM LEVEL										
Relative Size		0.00			0.01		0.00			0.01*
Log. Target Size (mil\$)		-2.59***			-7.11***		-2.82***			-6.84***
Log. Bidder Size (mil\$)		0.94***			1.13***		1.43***			1.29***
Public Bidder (1/0)		4.97**			2.29		4.48***			3.33
Same Industry (1/0)		7.26***			2.66***		3.50***			1.89**
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.07***		5.70***			2.09***		5.23***
Deal is Completed (Dummy)			2.90***		4.04***			0.87		4.71***
Acquisition (1/0)			18.42***		8.32***			12.18**		5.25*
Hostile Deal (1/0)			6.99***		8.35***			5.48***		7.28***
All-cash Deal (1/0)			5.51***		5.56***			4.92***		5.74***
Competitive Deal (1/0)			14.98***		14.53***			13.01***		14.54***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.20***	0.39***				0.55***	0.66***
Log. Market Cap (Target Nation) (mil\$)				3.88***	2.17***				3.16	-2.80
ROE (Target Nation)				0.38***	0.21**				-0.08	-0.29*
% change in Price index (Target Nation)				-0.21***	-0.09***				-0.05*	-0.01
Constant	21.13***	27.42***	-1.09	-34.83***	-24.05***	21.78***	27.56***	4.20***	-33.82	52.09*
Observations	32,498	13,298	32,406	32,157	13,202	32,498	13,298	32,406	32,157	13,202
Adjusted R-squared (%)	0.16	1.50	8.72	2.76	12.37	0	1.1	4.8	1.14	7.98
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	48.69	32.36	482.5	158.90	114.8	0.311	24.96	110.5	12.93	250.5

Notes: The table reports regression estimates⁵⁵ of 4-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 4-weeks prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁵⁵ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 27: 4-weeks Premium Regressions (UNITED STATES)

PREMIUM 4-weeks UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.58	0.60	-1.80	-8.30***	-6.85***
FIRM LEVEL					
Relative Size		0.00			0.01
Log. Target Size (mil\$)		-4.42***			-6.79***
Log. Bidder Size (mil\$)		1.62***			1.56***
Public Bidder (1/0)		7.06*			7.28*
Same Industry (1/0)		1.30			0.61
DEAL LEVEL					
Log (Deal Size) (mil\$)			-0.12		3.30***
Deal is Completed (Dummy)			1.26		5.42***
Acquisition (1/0)			29.24***		14.90***
Hostile Deal (1/0)			8.09***		8.56***
All-cash Deal (1/0)			5.33***		7.06***
Competitive Deal (1/0)			6.89***		10.47***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				0.81***	1.28***
Log. Market Cap (Target Nation) (mil\$)				11.93***	-11.19***
ROE (Target Nation)				-0.45**	0.20
% change in Price index (Target Nation)				0.00	0.14***
Constant	33.18***	45.12***	9.92***	-168.87***	180.90***
Observations	11,161	5,595	11,157	11,161	5,595
Adjusted R-squared (%)	-0.01	2.34	8.53	2.92	8.27
F	0.22	19.30	179.8	61.14	30.58

The table reports regression estimates⁵⁶ of 4-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 4-weeks prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁵⁶ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 28: 4-weeks Premium Regressions (OTHER DEVELOPED)

PREMIUM 4-weeks OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.64	-2.24	0.15	3.39***	0.23	-1.07	-0.40	0.04	-2.60*	-0.55
FIRM LEVEL										
Relative Size		0.00			0.01		0.00			0.00
Log. Target Size (mil\$)		-1.40***			-7.04***		-1.60***			-6.49***
Log. Bidder Size (mil\$)		0.20			0.64*		1.27***			1.10***
Public Bidder (1/0)		0.23			-0.88		2.00			0.14
Same Industry (1/0)		6.75***			2.32**		4.68***			2.05
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.37***		6.93***			2.34***		6.23***
Deal is Completed (Dummy)			1.19		3.97***			1.11		4.72**
Acquisition (1/0)			11.50***		3.31***			6.88*		2.13*
Hostile Deal (1/0)			6.52***		7.62***			4.62***		6.14***
All-cash Deal (1/0)			3.78***		5.65***			4.53***		5.49***
Competitive Deal (1/0)			20.21***		18.60***			17.95***		17.96***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.19***	0.39***				0.43***	0.59***
Log. Market Cap (Target Nation) (mil\$)				0.35	-1.49***				-2.71	-1.32
ROE (Target Nation)				0.91***	0.14				0.39**	-0.29
% change in Price index (Target Nation)				-0.18***	-0.10***				-0.04	-0.06*
Constant	18.65***	24.51***	1.13	8.50	29.90***	18.95***	16.66***	3.21**	44.13	23.84
Observations	16,459	6,520	16,383	16,150	6,428	16,459	6,520	16,383	16,150	6,428
Adjusted R-squared (%)	0.01	1.11	7.25	1.20	13.58	0	0.69	4.57	0.65	9.92
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	2.19	12.57	188.6	41.70	61.48	0.915	20.45	49.3	22.43	2307

Notes: The table reports regression estimates⁵⁷ of 4-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 4-weeks prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁵⁷ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 29: 4-weeks Premium Regressions (EMERGING)

PREMIUM 4-weeks EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	18.00***	10.12	15.82***	-3.53	-3.17	12.60	8.98	10.49	-0.90	-9.02
FIRM LEVEL										
Relative Size		0.00			0.01		-0.01			0.00
Log. Target Size (mil\$)		-2.39**			-7.62***		-1.48			-6.94***
Log. Bidder Size (mil\$)		0.88			1.03		0.66			0.56
Public Bidder (1/0)		7.59			7.90		6.53			6.45
Same Industry (1/0)		7.94***			5.20*		8.39***			5.38*
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.78***		6.32***			4.30***		7.02***
Deal is Completed (Dummy)			3.77**		4.59			1.14		2.13
Acquisition (1/0)			7.14***		-1.11			-0.10		-3.35
Hostile Deal (1/0)			34.57*		24.86			29.06		21.16
All-cash Deal (1/0)			9.41***		5.75**			7.80***		5.62*
Competitive Deal (1/0)			28.20**		41.38**			19.42		33.63**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.18*	-0.02				0.35	0.06
Log. Market Cap (Target Nation) (mil\$)				-7.32***	-2.29*				4.48	0.11
ROE (Target Nation)				-0.26*	-0.51**				-0.59***	-0.76***
% change in Price index (Target Nation)				-0.06*	-0.05				-0.09*	-0.06
Constant	5.06***	12.94	-10.98***	102.67***	50.48***	5.27***	10.51*	-10.76***	-51.28	23.01
Observations	4,878	1,183	4,866	4,846	1,179	4,878	1,183	4,866	4,846	1,179
Adjusted R-squared (%)	0.43	1.00	3.69	3.66	6.49	0.2	0.73	4.13	1.67	6.65
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	13.26	2.70	27.8	39.68	5.38	2.464	3.02	21.01	15.81	.

Notes: The table reports regression estimates⁵⁸ of 4-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 4-weeks prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁵⁸ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 30: 4-weeks Premium Regressions (DOMESTIC)

PREMIUM 4-weeks DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	6.03***	1.55	1.72*	3.50***	-1.12	0.27	0.76	-0.72	-3.95**	-2.96**
FIRM LEVEL										
Relative Size		-0.01			0.00		0.00			0.00
Log. Target Size (mil\$)		-2.44***			-6.61***		-2.70***			-6.53***
Log. Bidder Size (mil\$)		0.94***			0.96***		1.30***			1.25***
Public Bidder (1/0)		8.07***			4.63**		7.30**			5.49
Same Industry (1/0)		7.67***			1.95**		2.84***			1.32**
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.06***		5.31***			2.02**		4.90***
Deal is Completed (Dummy)			3.20***		3.61***			0.84		4.50***
Acquisition (1/0)			19.24***		8.79***			12.26*		5.46
Hostile Deal (1/0)			8.46***		10.06***			6.90***		8.86***
All-cash Deal (1/0)			5.83***		4.54***			4.74***		4.69***
Competitive Deal (1/0)			14.33***		13.20***			11.97***		13.17***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.24***	0.40***				0.56***	0.70***
Log. Market Cap (Target Nation) (mil\$)				4.73***	2.92***				4.02	-2.91
ROE (Target Nation)				0.39***	0.40***				-0.09	-0.17
% change in Price index (Target Nation)				-0.23***	-0.08***				-0.04	0.01
Constant	20.03***	22.20***	-2.94***	-48.24***	-40.28***	20.70***	24.41***	3.57***	-48.21	49.93
Observations	26,370	10,582	26,290	26,130	10,518	26,370	10,582	26,290	26,130	10,518
Adjusted R-squared (%)	0.16	1.58	9.02	3.59	12.86	0	1.1	4.59	1.24	7.18
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	43.67	27.34	406.9	173.00	94.77	0.113	28.05	107.1	14.19	84.9

Notes: The table reports regression estimates⁵⁹ of 4-week premium on the target country indicator variable for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 4-weeks prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁵⁹ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 31: 4-weeks Premium Regressions (CROSS-BORDER)

PREMIUM 4-weeks CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	6.02***	1.25	2.57	3.73*	-3.96	2.13	-1.25	2.09	-2.98	-5.66
Crisis in Bidder Country (1/0)	-4.90***	-2.21	-3.36**	-6.89***	-3.12	-3.19	-1.03	-2.83	-4.98***	-2.84
FIRM LEVEL										
Relative Size		0.02			0.04*		0.02			0.04*
Log. Target Size (mil\$)		-3.07***			-7.46***		-2.61***			-7.04***
Log. Bidder Size (mil\$)		0.55			1.02		0.60			0.75
Public Bidder (1/0)		0.84			0.47		-0.04			0.42
Same Industry (1/0)		5.66***			3.16*		5.44***			3.38*
Bidder from Developed Country (1/0)		5.38			0.93		3.43			0.42
Target from Developed Country (1/0)		13.46***			0.17	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.47***		5.25***			1.65***		5.44***
Deal is Completed (Dummy)			2.24		6.68***			1.08		5.23**
Acquisition (1/0)			18.03***		8.05***			14.18***		6.40**
Hostile Deal (1/0)			1.43		5.05			1.09		3.99
All-cash Deal (1/0)			4.03***		6.12***			4.51***		6.27***
Competitive Deal (1/0)			16.62***		16.91***			16.02***		16.78***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.14	0.28				0.49***	0.45*
Log. Market Cap (Target Nation) (mil\$)				2.87***	1.84***				-1.45	-2.64
ROE (Target Nation)				0.24	-0.47**				-0.09	-0.48**
% change in Price index (Target Nation)				-0.18***	-0.08				-0.10*	-0.06
Stock Price Volatility (Bidder Nation)				0.26**	0.18				0.12	0.18
Log. Market Cap (Bidder Nation) (mil\$)				1.74***	-0.04				1.66***	0.36
ROE (Bidder Nation)				0.06	-0.03				0.32*	0.06
% change in Price index (Bidder Nation)				0.01	-0.02				0.06	0.00
Constant	26.75***	26.65***	8.10***	-42.71***	-2.61	26.93***	37.94***	9.71***	9.58	53.11
Observations	6,128	2,716	6,116	5,812	2,639	6,128	2,716	6,116	5,812	2,639
Adjusted R-squared (%)	0.22	2.59	7.72	2.03	11.88	0.03	1.02	5.3	1.14	9.5
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	7.19	7.42	71.42	11.90	16.39	1.457	22.25	90.64	16	81.5

Table 32: Summary of Findings on Premium (4weeks) Regressions

	EXPECTED SIGN & Literature		REPORTED SIGN					
	Exp.Sign	Literature	Premium 4-weeks Full Sample	US	Other Developed	Emerging	Domestic	Cross Border
Crisis in Target Country(Dummy)			-	-	-	-	-	-
Crisis in Bidder Country(Dummy)								-
Deal level control variables:								
Deal Size	+/-	Alexandridis et al. (2013)	+	+	+	+	+	+
Deal Status (Completed vs. not Completed):			+	+	+	+	+	+
Deal Type (Acquisition vs. Partial Sales):			+	+	+	-	+	+
Deal Attitude (Hostile vs. Friendly):	+	Schwert (2000) , Alexandridis et al. (2013)	+	+	+	+	+	+
The means of payment (all-cash vs. not):	+/-	Huang and Walkling (1987) and Savor and Lu (2009) ,Alexandridis et al. (2013)	+	+	+	+	+	+
Existence of competing bidders:	+	Rossi and Volpin, 2004	+	+	+	+	+	+
Firm level control variables:								
Relative Size			Ø	Ø	Ø	Ø	Ø	Ø
Target Size	-	Alexandridis et al. (2013)	-	-	-	-	-	-
Bidder Size	+	Moeller et.al. (2004)	+	+	+	+	+	+
Bidder is Public	+	Bargeron et al. (2008)	+	+	+	+	+	+
Same Industry	+	Officer (2003)	+	+	+	+	+	+
Target is developed								+
Bidder is developed								+

Notes: Table summarizes the expected signs (and related literature) vs. reported signs for regression variables (Table 26 to Table 31). Reported signs belong to model 5 (model that uses firm, deal and country level variables as well as country fixed effects).

7.2 Measuring Distribution of Value between Bidder and Target Shareholders Using CARs

7.2.1 Univariate Analysis for Target and Bidder Cumulative Abnormal Returns (CARs)

We report mean, median, and number of observations for 3-day bidder and target CARs from crisis and non-crisis samples. The statistical significance of the difference between crisis and non-crisis years is determined by the t-test of the null hypothesis that the mean CARs in the two subsamples are equal. (Table 33 through Table 38)

Table 33 reports the t-tests for 3-day bidder and target CARs for all deals as well as for United States, developed country and emerging country subsamples. Bidders of US targets earn more if the target country is in financial crisis (2.03 percent in crisis versus 1.56 percent in non-crisis) while the reverse holds true for bidders of crisis-hit emerging country targets (0.48 percent in crisis versus 1.13 percent in non-crisis). Moreover, target CARs of developed country targets are also higher in crisis while targets in emerging countries earn less during crises. In Table 34, Table 35, Table 36, Table 37 and Table 38 we repeat the same univariate analysis for subsamples of domestic M&As, cross-border M&As, acquisitions, completed deals and completed acquisitions, respectively. In this subsample analysis, target and bidder CAR findings are qualitatively similar to that of Table 33 except for the subsample of cross-border deals. In cross-border deals we do not observe any significant difference in target and bidder CARs of developed country M&As. Emerging country target and bidder CARs are lower as is the case in the full sample.

Table 39 tests if crisis and non-crisis subsamples come from a common population. For this purpose, we report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis test. We test the null hypothesis of a common population for the distribution of 3-day bidder CARs and target CARs. Table 39 indicates that target and bidder CARs come from different populations in non-crisis and crisis periods for both developed and emerging country subsamples.

Overall, our univariate analysis supports the hypothesis that distribution of value between target and bidder firms (as proxied by target and bidder CARs) is significantly different if the target firm is in financial crisis. Finding of significantly higher bidder CARs during crises compared to non-crisis periods is in line with predictions of mispricing (misvaluation) theory. According to mispricing theory, the undervaluation of targets becomes more severe during financial crises leading to higher bidder CARs.

Table 33: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis)-FULL SAMPLE

FULL SAMPLE	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Bidder 3-day CAR										
All Sample	205,082	1.35	0.21	174,139	1.33	0.21	30,943	1.48	0.22	0.15**
United States	71,215	1.65	0.24	56,891	1.56	0.24	14,324	2.03	0.27	0.47***
Other Developed	95,998	1.25	0.21	83,766	1.25	0.20	12,232	1.19	0.28	-0.06
Emerging	37,869	1.06	0.13	33,482	1.13	0.16	4,387	0.48	-0.05	-0.65***
Target 3-day CAR										
All Sample	59,448	7.25	2.38	51,060	7.02	2.30	8,388	8.61	2.95	1.59***
United States	15,108	11.93	6.79	12,060	11.71	6.55	3,048	12.79	8.19	1.08**
Other Developed	31,212	6.83	2.13	27,381	6.69	2.05	3,831	7.85	2.77	1.17***
Emerging	13,128	2.86	0.71	11,619	2.96	0.82	1,509	2.09	0.22	-0.87***

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 34: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis)-DOMESTIC M&A

Domestic	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Bidder 3-day CAR										
All Sample	150,121	1.42	0.21	129,128	1.38	0.21	20,993	1.66	0.22	0.28***
United States	61,258	1.65	0.23	50,132	1.54	0.23	11,126	2.14	0.25	0.59***
Other Developed	64,242	1.40	0.22	56,746	1.41	0.21	7,496	1.35	0.30	-0.06
Emerging	24,621	0.87	0.10	22,250	0.93	0.13	2,371	0.39	-0.13	-0.54***
Target 3-day CAR										
All Sample	46,851	7.24	2.39	40,448	7.01	2.32	6,403	8.67	2.94	1.66***
United States	13,425	11.73	6.59	10,827	11.55	6.41	2,598	12.45	7.84	0.9*
Other Developed	23,215	6.63	2.05	20,446	6.49	1.97	2,769	7.72	2.70	1.23***
Emerging	10,211	2.71	0.68	9,175	2.82	0.78	1,036	1.72	0.13	-1.09***

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 35: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis)-CROSS BORDER M&A

Cross-border	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Bidder 3-day CAR										
All Sample	54,961	1.17	0.21	45,011	1.19	0.21	9,950	1.10	0.24	-0.08
United States	9,957	1.66	0.30	6,759	1.66	0.28	3,198	1.65	0.34	-0.02
Other Developed	31,756	0.92	0.20	27,020	0.92	0.19	4,736	0.95	0.24	0.04
Emerging	13,248	1.40	0.19	11,232	1.54	0.21	2,016	0.60	0.04	-0.95***
Target 3-day CAR										
All Sample	12,597	7.29	2.36	10,612	7.08	2.27	1,985	8.42	2.95	1.35***
United States	1,683	13.52	8.19	1,233	13.08	7.73	450	14.74	10.05	1.66
Other Developed	7,997	7.40	2.37	6,935	7.27	2.30	1,062	8.20	2.81	0.93*
Emerging	2,917	3.39	0.97	2,444	3.48	1.07	473	2.89	0.61	-0.59

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 36: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis)-ACQUISITION

Acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Bidder 3-day CAR										
All Sample	158,292	1.54	0.25	133,667	1.52	0.25	24,625	1.65	0.27	0.13*
United States	64,658	1.73	0.26	51,595	1.64	0.25	13,063	2.10	0.28	0.46***
Other Developed	70,591	1.43	0.27	61,607	1.44	0.25	8,984	1.34	0.36	-0.1
Emerging	23,043	1.32	0.19	20,465	1.43	0.22	2,578	0.42	-0.05	-1.01***
Target 3-day CAR										
All Sample	22,561	12.22	7.30	18,869	11.91	6.94	3,692	13.83	9.16	1.93***
United States	9,217	15.96	12.55	7,243	15.83	12.21	1,974	16.46	14.95	0.63
Other Developed	10,580	11.06	5.88	9,240	10.75	5.59	1,340	13.20	7.86	2.45***
Emerging	2,764	4.19	1.08	2,386	4.48	1.34	378	2.35	0.23	-2.13***

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 37: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis)-COMPLETED

Completed	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N	Mean	Median	N	Mean	Median	N	Mean	Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Bidder 3-day CAR										
All Sample	153,509	1.19	0.20	130,112	1.18	0.20	23,397	1.28	0.21	0.1
United States	58,659	1.39	0.22	47,396	1.35	0.22	11,263	1.60	0.21	0.25**
Other Developed	72,942	1.09	0.21	63,718	1.08	0.20	9,224	1.17	0.29	0.08
Emerging	21,908	0.99	0.09	18,998	1.08	0.13	2,910	0.38	-0.07	-0.7***
Target 3-day CAR										
All Sample	44,770	7.37	2.42	38,626	7.19	2.36	6,144	8.54	2.84	1.35***
United States	11,677	12.26	7.07	9,554	12.05	6.76	2,123	13.19	8.83	1.15**
Other Developed	24,191	6.68	2.07	21,284	6.54	2.00	2,907	7.70	2.64	1.16***
Emerging	8,902	2.85	0.67	7,788	2.99	0.78	1,114	1.89	0.17	-1.11***

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 38: Univariate Tests for Bidder and Target Cumulative Abnormal Returns (Crisis vs. Non-crisis) - COMPLETED ACQUISITION

completed acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Bidder 3-day CAR										
All Sample	120,828	1.35	0.24	101,940	1.34	0.24	18,888	1.40	0.24	0.06
United States	53,657	1.45	0.23	43,280	1.41	0.24	10,377	1.65	0.22	0.24*
Other Developed	53,789	1.26	0.27	46,969	1.26	0.25	6,820	1.29	0.36	0.04
Emerging	13,382	1.25	0.15	11,691	1.39	0.18	1,691	0.29	-0.08	-1.1***
Target 3-day CAR										
All Sample	16,309	13.11	8.40	13,768	12.83	8.09	2,541	14.63	10.17	1.81***
United States	6,936	16.99	13.96	5,553	16.92	13.56	1,383	17.26	16.40	0.34
Other Developed	7,653	11.51	6.28	6,740	11.19	6.17	913	13.89	8.27	2.7***
Emerging	1,720	4.56	1.21	1,475	4.89	1.53	245	2.57	0.20	-2.32**

Notes: Table presents the results of t-tests for 3-day bidder and target cumulative abnormal returns by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Bidder and target cumulative abnormal returns are calculated using Brown Warner (1985) methodology as explained in Chapter 5. We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 39: Common Population Tests for Bidder and Target Cumulative Abnormal Returns

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
FULL SAMPLE									
Bidder 3-day CAR	-1.25	0.01	1.59	-3.06	0.00	9.35	4.62	0.00	21.32
Target 3-day CAR	-6.09	0.00	37.09	-7.28	0.00	52.98	4.10	0.00	16.79
DOMESTIC M&A									
Bidder 3-day CAR	-1.05	0.02	1.12	-2.46	0.01	6.05	4.39	0.00	19.25
Target 3-day CAR	-5.40	0.00	29.13	-6.11	0.00	37.36	4.17	0.00	17.38
CROSS BORDER M&A									
Bidder 3-day CAR	-0.87	0.25	0.78	-2.09	0.01	4.35	2.17	0.02	4.72
Target 3-day CAR	-2.84	0.01	8.08	-4.08	0.00	16.65	1.49	0.33	2.21
ACQUISITION									
Bidder 3-day CAR	-0.99	0.00	0.97	-2.57	0.00	6.59	4.68	0.00	21.91
Target 3-day CAR	-6.09	0.00	37.03	-6.99	0.00	48.86	3.99	0.00	15.88
COMPLETED DEALS									
Bidder 3-day CAR	-0.59	0.06	0.32	-2.02	0.03	4.07	3.90	0.00	15.18
Target 3-day CAR	-3.96	0.00	15.68	-5.68	0.00	32.24	3.70	0.00	13.68
COMPLETED ACQUISITIONS									
Bidder 3-day CAR	-0.11	0.01	-0.01	-1.37	0.00	1.89	4.18	0.00	17.46
Target 3-day CAR	-4.51	0.00	20.31	-5.57	0.00	30.98	3.42	0.00	11.71

Notes: Table investigates whether the distribution of 3-day target and bidder cumulative abnormal returns during crisis and non-crisis periods come from a common population. We report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square-statistic for the Kruskal-Wallis tests.

7.2.2 Multivariate Analysis for Target and Bidder Cumulative Abnormal Returns (CARs)

In this section we examine the relationship between target (bidder) CARs and financial crises using regression analysis. The common independent variable in all regressions is an indicator variable which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database and zero otherwise (C_{it}). We include additional control variables as well. Hence, to determine whether existence of financial crisis affect target (bidder) CARs in a given deal, we use specification 7:

$$7 \quad CAR_{ijt} = \alpha + \delta C_{it} + \beta X_{ijt} + \varepsilon_{ijt}$$

where

CAR_{ijt} : three-day target (bidder) cumulative abnormal return in year t of deal j in country i (CAR is measured using Brown & Warner Methodology).

X_{ijt} is a matrix of firm, deal and country level control variables that influence cumulative abnormal returns in a given year for a given country. We gather these variables from literature that study factors that influence the magnitude of target and bidder cumulative abnormal returns (Moeller et.al. 2004; Fuller et al., 2002; Barger et al., 2008; Chari et al., 2010; Martynova and Renneboog, 2011). β is a vector of coefficients. We first present a summary of findings in literature related to selected deal and firm level control variables. Then, we state the proxies that we use for these selected control variables.

1) Firm Level:

Size of target and bidder: Moeller et al. (2004) find that large bidders have lower announcement abnormal returns than small firms (irrespective of the form of financing and whether the acquired firm is public or private). However, Alexandridis et al. (2013) state that the reported negative association between acquirer size and gains to acquisitions in Moeller et al. (2004) may be driven by target size, as deals made by large acquirers tend to result in more extensive losses only when they involve large targets. Betton et al. (2008) report a negative (positive) association between the size of the target and target (bidder) returns.

Fuller et al. (2002) report lower bidder returns for higher target-to-bidder relative size. However Alexandridis et al. (2013) documents that negative effect of the target-to-bidder relative size on acquirer returns (Fuller et al., 2002) is only significant when the target firm is particularly large.

We use log of total assets in million dollars adjusted using 2011 September CPI⁶⁰ to proxy target and bidder size. We also define relative size as the ratio of target total assets to bidder total assets.

Public status of target and bidder: Target CARs are higher in deals with public bidders compared to deals where the bidder is private (Bargeron et al., 2008). Bidder CARs are higher in deals with private targets compared to deals where both the bidder

⁶⁰ Dollar values are adjusted using CPI. CPI (All Urban Consumers) data is obtained from U.S. Department of Labor, Bureau of Labor Statistics and September 2011 is taken as the base date in calculations.

and target are public (Craninckx & Huyghebaert, 2011; Fuller et al., 2002; Martynova & Renneboog, 2011; Moeller et al., 2004). Fuller et al. (2002) find that CARs are higher for firms acquiring private firms or subsidiaries than for firms acquiring public firms. Moeller et al. (2004) report positive and significant 3-day bidder CARs when the target is private or subsidiary (1.50 and 2 percent, respectively) and negative but insignificant CAR amounting to -1.02 if the target is public. Craninckx and Huyghebaert (2011) report positive and significant bidder CARs (0.78 percent) for private and positive but insignificant (0.16 percent) CARs for public targets. Martynova and Renneboog (2011) document significant bidder CARs of 1.08 percent when target is private and negative but insignificant bidder CARs of 0.25 percent when target is public. We use an indicator variable which takes the value of one if the bidder (target) firm is public and zero otherwise.

Industry relatedness of bidder and target: Martynova and Renneboog (2011) report lower bidder CARs (0.85 percent in same-industry deals versus 0.49 percent in diversifying deals) and higher target CARs (11.83 percent in same-industry deals and 13.91 percent in diversifying deals) in diversifying deals. They argue that bidders are more aggressive when diversifying their business to different industries leading to higher bids and higher target CARs. Morck, Shleifer, and Vishny (1990), Hubbard and Palia (1999), and Akbulut and Matsusaka (2010), Hoechle et al. (2012) also report lower bidder announcement returns in diversifying acquisitions than that of non-diversifying acquisitions. However, Masulis, Wang and Xie (2007) argue, “the predicted effect of diversifying acquisitions on bidder returns is ambiguous.” We use an indicator variable which takes the value of one if the bidder and the target operate in the same industry based on 2-digit SIC code and zero otherwise.

Origin of bidder and target (developed vs. emerging country): Mean bidder and target returns in developed countries are higher compared to emerging countries (Table 8). In our multivariate analysis, we use an indicator variable, which takes the value of one if the bidder (target) is from a developed country and zero otherwise. As robustness, we also run our regressions for developed and emerging country subsamples separately.

2) Deal level:

Deal size: Alexandridis et al. (2013) report lower bidder CARs in large deals.

We use log of value of transaction in 2011-september million dollars to represent deal size.

Deal status (completed vs. not completed): Savor and Lu (2009) and Hekimoglu and Tanyeri (2011) report higher target CARs to successfully completed deals compared to unsuccessful ones. However, we reported lower 3-day CARs in completed deals in Table 8. We use an indicator variable, which takes the value of one if the deal is successfully completed and zero otherwise.

Deal Type (Acquisition vs. Partial Sales): We define acquisitions as deals in which the bidder owns less than 50 percent of target shares at the announcement date and intends to buy control rights by purchasing more than 50 percent of shares after the

deal⁶¹. Partial sales are deals in which the bidder seeks to purchase minority stake or increase its majority stake in the target firm.

Target CARs are found to be higher in acquisitions. Hekimoglu and Tanyeri (2011) study Turkish deals and report 8.56 percent versus 2.25 percent target CARs in control acquisitions and partial sales, respectively. Chari-Ouimet-Tesar (2010) study bidder CARs and report 1.16 percent for acquisitions and -0.02 percent for partial sales. Bidder CARs are higher or lower depending on sample selection.

We use an indicator variable, which takes the value of one if the deal is an acquisition, and zero otherwise (partial sale).

Deal Attitude (Hostile vs. Friendly): Martynova and Renneboog (2006) report significantly larger target abnormal returns in hostile deals (16%) compared to targets in friendly deals (3%). They also report lower bidder abnormal returns hostile deals (-0.4%) compared to bidders in friendly deals (0.8%). We use an indicator variable which takes the value of one if the deal is hostile and zero otherwise.

The means of payment (all-cash, all-equity, mixed offer): The pecking-order hypothesis (Myers and Majluf, 1984) states that markets assess a firm as overvalued when equity is used to finance investment projects. The underlying assumption is managers being better informed than investors and they tend to engage in merger activity as bidders if the shares of their company are overvalued. Thus, paying the deal value in stocks is a signal to market that the acquirer is currently overvalued.

⁶¹ We do not use SDC “form of deal” variable definitions in identifying acquisitions since there is subjectivity in the definitions of SDC (Netter et al, 2011). Instead, we classify each deal either as an acquisition (control changing deal) or a partial sale.

Accordingly, we expect lower cumulative abnormal returns to bidder shareholders if the bidder company offers to pay in stocks. Empirical merger studies report higher bidder and target CARs as well as the combined CARs in cash financed deals (Andrade et al., 2001; Alexandridis et al., 2013). We use an indicator variable, which takes the value of one if the deal is paid in all cash and zero otherwise.

Geographical scope of the deal (cross-border vs. domestic): Faelten and Vitkova (2014) review the findings in literature regarding abnormal returns in cross-border deals. They state that targets (bidders) in cross-border acquisitions typically enjoy larger (lower) abnormal returns compared to domestic bids (Conn, Cosh, Guest and Hughes, 2005; Martynova & Renneboog, 2006). We use an indicator variable which takes the value of 1 if the deal is cross-border and zero otherwise. We also analyze cross-border deals separately in sub-sample analysis.

Existence of competing bidders: We use a dummy variable, which takes the value of one if there is more than one bidder for the same target.

C_{it} is a dummy variable for crisis periods and defined as:

$$C_{it} = \begin{cases} 1 & \text{if country } i \text{ is experiencing a crisis in year } t \\ 0 & \text{otherwise} \end{cases}$$

Due to the sample restrictions arising from availability of crisis dates, the sample size for target and bidder CARs is 243,820 observations. Moreover, the control variables put further restrictions on data when conducting the multivariate analysis. Summary of variables when at least one of target and bidder CAR data is non-missing is presented in Table 40.

Table 41 through Table 52 present results of OLS and fixed effects regressions as in specification 7. We run 5 models for both pooled OLS and fixed effects regressions. Model 1 is run only using Crisis Dummy. In the other 3 models we add the firm level, deal level and country level control variables separately. In model 5, we include all control variables in the regression. In multivariate analysis, we control for the same set of firm level, deal level and country level variables as we use in premium analysis. We use size, public status, industry relatedness and origin of target and bidder firms as firm level control variables. Deal size, deal status (completed versus not completed), deal type (acquisition versus partial sales), deal attitude (hostile versus friendly), the means of payment (all-cash versus other), dummy variable for cross-border deals and existence of competing bidders are the deal level control variables. Country level variables are stock price volatility, percentage change in market index, return on equity (ROE) and market capitalization of the given country. The variable of interest in all regressions is an indicator variable which takes the value of one if the country is experiencing a crisis of any type and zero otherwise.

Table 41 through Table 46 report pooled OLS and fixed effects regression estimates of 3-day target CARs for full sample and the subsamples of US deals, other developed countries' deals, emerging country deals, domestic deals and cross-border deals, respectively. We find that the coefficient of crisis dummy variable is positive and significant in all models indicating higher target CARs during crisis. The only exception is target CARs in the emerging country subsample (Table 44) for which the coefficient on crisis dummy is negative and significant. Thus, financial crisis has a positive (negative) effect on abnormal returns to target shareholders for developed (emerging) country targets. We conclude that target CARs are significantly different

during financial crisis. Finding of significantly lower target CARs in crisis hit emerging market countries is in line with the predictions of fire-sale theory. Findings support the hypothesis that target CARs are different during financial crisis.

Table 47 through Table 52 report pooled OLS and fixed effects regression estimates of 3-day bidder CARs for full sample and the subsamples of US deals, other developed countries' deals, emerging country deals, domestic deals and cross-border deals, respectively. We find that the coefficient of crisis dummy variable is positive and significant for the full sample and domestic deals (Table 47 and Table 51). However, there is no significant difference in bidder CARs during crisis if the deal is cross-border (Table 52). We also see that the crisis dummy is positive and significant in developed and negative but insignificant in emerging country subsamples (Table 48, Table 49, and Table 50). Thus, bidders earn more if they bid for a firm from a crisis-hit developed country. In the contrary, bidders earn less if they bid for a firm from a crisis-hit emerging country. These findings suggest that bidder CARs are significantly different during financial crisis.

The expected signs of independent variables based on findings of literature and reported signs of this study are summarized in Table 53 and Table 54 for target and bidder CARs, respectively.

In Table 53, the coefficients of control variables indicate that target CARs are negatively related to target size and positively related to bidder size. We observe higher target CAR as target gets smaller and as bidder gets larger. The coefficients on the remaining firm and deal level control variables are positive except the coefficient

of competing bidders. Thus, target CARs are higher when the bidder is public, target and bidder operate in the same industry, the bidder is from a developed country, the deal is large, the deal is successfully completed, the deal is an acquisition or a hostile deal, when the deal is paid in cash.

In Table 54, the coefficients of control variables on bidder CARs indicate that bidder CARs are positively related to target size and negatively related to bidder size. Bidder CARs are lower when the target is public and when target and bidder operate in the same industry, the bidder is from a developed country, the deal is large, the deal is successfully completed, the deal is a hostile deal, when the deal is paid in cash. Bidder CARs are higher when the deal is an acquisition.

Overall, our multivariate analysis as presented through Table 41 to Table 52 show that the distribution of value between target and bidder shareholders is affected by the existence of crisis. In particular, we observe higher target CARs in both domestic and cross-border deals and higher bidder CARs in crisis-time domestic deals of developed country targets. On the contrary, financial crisis in emerging countries lead to lower target CARs for emerging country targets and lower bidder CARs for bidders of emerging country targets. We conclude that target CARs are significantly different during financial crisis. Our findings do not support predictions of fire-sale theory for emerging market targets. We report lower (but insignificant) bidder CARs if targets are from crisis hit emerging market countries.

Table 40: Comparative Summary of Variables Used in CAR Analysis (when at least one of target or bidder car is non-missing)

Variable Definition	FULL SAMPLE						Sample for CAR Analysis					
	mean	sd	min	p50	max	N	mean	sd	min	p50	max	N
Dependent Variables												
premium1day (%)	15.82	41.93	-100.00	10.00	287.14	32,878	15.67	41.02	-100.00	10.21	287.14	30,479
premium1week (%)	18.67	43.80	-100.00	12.54	304.01	32,592	18.53	42.94	-100.00	12.85	303.00	30,265
premium4weeks (%)	21.83	47.48	-100.00	15.47	337.50	32,498	21.71	46.64	-100.00	15.72	337.50	30,245
Crisis												
Crisis in Target Country (%)	18.97					571,784	14.98					243,820
Crisis in Bidder Country (%)	18.97					571,784	14.89					243,820
Firm Level Control Variables												
Relative Size=Target TA / Bidder TA	47.35	112.48	0.02	12.25	1,333.33	35,789	46.70	110.10	0.02	12.07	1,300.00	32,830
Adj.Target Total Assets (Billion \$)	4.82	121.54	0.00	0.10	22,700	88,618	4.49	53.63	0.00	0.13	3,948	68,395
Adj. Bidder Total Assets (Billion \$)	21.03	162.32	0.00	0.57	30,900	206,778	22.61	156.75	0.00	0.63	22,500	178,021
Target Firm ROE	-12.79	69.36	-769.36	0.50	72.49	62,775	-13.71	70.87	-769.36	1.74	72.49	54,498
Bidder Firm ROE	3.40	31.29	-313.59	7.77	74.98	220,794	3.98	31.18	-313.45	8.76	74.98	190,453
Bidder is Public (%)	44.40					571,784	85.71					243,820
Target is Public (%)	13.73					571,784	26.98					243,820
Same Industry-2DigitSIC (%)	45.22					571,784	44.42					243,820
Bidder is from Developed Country (%)	85.37					571,784	84.82					243,820
Target is from Developed Country (%)	81.79					571,784	80.52					243,820
Deal Level Control Variables												
Adj.Deal Size (mil\$)	199.19	1,782.14	0.00	13.49	273,379	251,386	254.40	2,238.56	0.00	15.37	273,379	142,132
Deal is Completed (%)	79.87					571,784	74.75					243,820
Deal is an acquisition (%)	76.33					571,784	69.87					243,820
Deal is Hostile (%)	0.17					571,784	0.31					243,820
Deal is all cash (%)	14.61					571,784	19.37					243,820
Deal is competitive (%)	0.60					571,779	0.95					243,819
Deal is Cross-border (%)	21.53					571,784	25.62					243,820

Notes: Table compares the sample used in CAR analysis with the full M&A sample. Total assets, deal size and market capitalization are in September 2011 dollars.

Table 41: 3-day Target CAR Regressions (Full Sample)

TARGET 3-day CAR FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.59***	2.44***	2.50***	1.65***	3.36***	0.95***	2.15**	2.09***	0.69**	2.62***
FIRM LEVEL										
Relative Size		-0.01***			0.00		-0.00***			0.00
Log. Target Size (mil\$)		-1.04***			-2.11***		-0.75***			-1.79***
Log. Bidder Size (mil\$)		0.36***			0.80***		0.49***			0.84***
Public Bidder (1/0)		2.75***			1.59**		1.84***			1.52**
Same Industry (1/0)		2.67***			0.58*		1.12***			0.19
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.44***		1.23***			0.52***		1.01***
Deal is Completed (Dummy)			0.28		0.88**			-0.23		0.94*
Acquisition (1/0)			8.30***		5.72***			6.36***		4.71***
Hostile Deal (1/0)			5.17***		6.72***			4.61***		6.23***
All-cash Deal (1/0)			2.70***		3.90***			2.49***		4.12***
Competitive Deal (1/0)			-1.56***		-0.55			-2.28		-1.14
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.08***	-0.01				0.06***	0.11***
Log. Market Cap (Target Nation) (mil\$)				1.58***	1.29***				1.38*	0.32
ROE (Target Nation)				0.09***	0.15***				0.05**	0.03
% change in Price index (Target Nation)				-0.03***	-0.04***				0.00	-0.01
Constant	7.02***	9.42***	2.06***	-14.80***	-16.14***	7.11***	8.38***	3.20**	-14.58	-3.03
Observations	59,448	19,974	44,212	58,338	16,288	59,448	19,974	44,212	58,338	16,288
Adjusted R-squared (%)	0.09	1.93	6.99	2.67	11.23	0.03	0.96	4.11	0.28	5.35
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	40.46	67.83	436.4	285.00	134.2	9.036	40.66	84.47	4.73	70.29

Notes: The table reports regression estimates of 3-day Target CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 42: 3-day Target CAR Regressions (United States)

TARGET 3-day CAR UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.08**	4.58***	2.00***	0.11	2.77***
FIRM LEVEL					
Relative Size		-0.01**			0.00
Log. Target Size (mil\$)		-1.13***			-2.08***
Log. Bidder Size (mil\$)		0.86***			1.09***
Public Bidder (1/0)		1.83			2.22
Same Industry (1/0)		0.85			-0.16
DEAL LEVEL					
Log (Deal Size) (mil\$)			0.68***		0.95***
Deal is Completed (Dummy)			0.51		2.05**
Acquisition (1/0)			11.06***		9.31***
Hostile Deal (1/0)			4.37***		8.17***
All-cash Deal (1/0)			3.99***		6.55***
Competitive Deal (1/0)			-5.73***		-4.12***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				-0.03	0.19***
Log. Market Cap (Target Nation) (mil\$)				7.05***	-2.03*
ROE (Target Nation)				0.07	0.26**
% change in Price index (Target Nation)				-0.06***	-0.07**
Constant	11.71***	13.89***	1.29**	-104.57***	29.43*
Observations	15,108	6,342	12,696	15,108	5,928
Adjusted R-squared (%)	0.03	1.54	7.8	1.07	7.7
F	3.99	15.95	193.6	44.86	34.52

Notes: The table reports regression estimates of 3-day target CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 43: 3-day Target CAR Regressions (Other Developed)

TARGET 3-day CAR OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.17***	1.10**	2.51***	1.39***	2.99***	1.23**	1.07	2.81***	0.99*	2.46***
FIRM LEVEL										
Relative Size		-0.00*			0.00		0.00			0.00
Log. Target Size (mil\$)		-0.93***			-2.13***		-0.58***			-1.70***
Log. Bidder Size (mil\$)		0.19*			0.64***		0.37**			0.73***
Public Bidder (1/0)		2.38***			1.50		2.07**			1.41
Same Industry (1/0)		2.26***			0.84**		1.59***			0.51*
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.18***		1.30***			0.37*		1.10***
Deal is Completed (Dummy)			-0.41		0.56			-0.61		0.47
Acquisition (1/0)			6.37***		4.04***			4.91***		3.22***
Hostile Deal (1/0)			5.54***		5.94***			4.98***		5.28***
All-cash Deal (1/0)			2.50***		3.18***			2.49***		3.18***
Competitive Deal (1/0)			0.67		1.85**			-0.10		1.22
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.01	0.05*				0.08***	0.15***
Log. Market Cap (Target Nation) (mil\$)				0.92***	-0.14				0.90*	-0.38
ROE (Target Nation)				0.22***	0.18***				0.08**	0.03
% change in Price index (Target Nation)				-0.02***	-0.01				0.01	0.01
Constant	6.69***	8.89***	4.06***	-8.27***	4.38	6.68***	6.16***	4.17***	-8.48	5.79
Observations	31,212	10,651	22,519	30,273	8,184	31,212	10,651	22,519	30,273	8,184
Adjusted R-squared (%)	0.05	2.10	4.58	0.58	8.18	0.05	0.88	3.26	0.26	5.1
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	13.99	38.73	141.1	38.62	44.71	4.45	25.8	62.08	5.9	96.51

Notes: The table reports regression estimates of 3-day target CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 44: 3-day Target CAR Regressions (Emerging)

TARGET 3-day CAR EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	-0.87***	-0.35	-1.16**	-0.93**	-0.41	-0.49	-0.95	-1.10*	-0.86	-1.90**
FIRM LEVEL										
Relative Size		-0.00*			0.00		-0.00*			0.00
Log. Target Size (mil\$)		-0.62***			-0.96***		-0.53**			-0.83***
Log. Bidder Size (mil\$)		0.19			0.38**		0.19			0.39**
Public Bidder (1/0)		0.20			0.76		0.33			1.13
Same Industry (1/0)		0.14			-0.33		0.11			-0.28
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.12*		0.39**			0.17*		0.32*
Deal is Completed (Dummy)			-0.11		-0.52			-0.21		-0.45
Acquisition (1/0)			2.16***		1.48**			1.79***		1.20
Hostile Deal (1/0)			5.38		3.52			4.59		2.54
All-cash Deal (1/0)			1.30***		0.86*			1.16***		1.03*
Competitive Deal (1/0)			0.05		2.27			-0.15		1.67
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.02*	-0.03				0.00	0.01
Log. Market Cap (Target Nation) (mil\$)				-0.12	0.18				0.35	0.76*
ROE (Target Nation)				-0.01	-0.03				-0.03	-0.07**
% change in Price index (Target Nation)				-0.01**	-0.01				-0.01*	-0.01
Constant	2.96***	6.01***	2.18***	5.41***	3.75	2.91***	5.45***	2.24***	-1.13	-5.12
Observations	13,128	2,981	8,997	12,957	2,176	13,128	2,981	8,997	12,957	2,176
Adjusted R-squared (%)	0.05	0.86	0.86	0.13	1.56	0	0.63	0.65	0.06	1.29
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	7.57	6.60	10.97	4.40	3.217	0.848	23.55	30.82	1.642	.

Notes: The table reports regression estimates of 3-day target CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 45: 3-day Target CAR Regressions (Domestic)

TARGET 3-day CAR DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.66***	2.54***	2.74***	1.53***	3.38***	0.94***	2.50**	2.18***	0.65*	2.65***
FIRM LEVEL										
Relative Size		-0.00**			0.00		-0.00*			0.00
Log. Target Size (mil\$)		-1.16***			-2.17***		-0.84***			-1.86***
Log. Bidder Size (mil\$)		0.64***			0.93***		0.63***			0.99***
Public Bidder (1/0)		3.78***			2.51***		2.46***			2.49***
Same Industry (1/0)		3.33***			0.86**		1.27***			0.45**
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.40***		1.10***			0.45***		0.89***
Deal is Completed (Dummy)			0.24		0.85*			-0.41		0.96*
Acquisition (1/0)			8.19***		5.38***			6.23***		4.24**
Hostile Deal (1/0)			5.21***		7.02***			4.59***		6.33***
All-cash Deal (1/0)			2.53***		3.71***			2.28***		4.04***
Competitive Deal (1/0)			-1.72***		-0.83			-2.51		-1.41
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.09***	-0.01				0.06***	0.13***
Log. Market Cap (Target Nation) (mil\$)				1.67***	1.36***				1.41	0.23
ROE (Target Nation)				0.09***	0.20***				0.05*	0.01
% change in Price index (Target Nation)				-0.04***	-0.04***				0.00	-0.01
Constant	7.01***	6.67***	2.20***	-16.05***	-19.06***	7.11***	7.21***	3.63**	-15.14	-3.12
Observations	46,851	15,164	35,217	46,093	12,624	46,851	15,164	35,217	46,093	12,624
Adjusted R-squared (%)	0.09	2.14	6.58	2.74	10.38	0.03	1.04	3.65	0.26	4.69
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	32.15	56.75	331.9	236.90	94.21	11.05	12.8	54.95	4.92	35.34

Notes: The table reports regression estimates of 3-day target CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 46: 3-day Target CAR Regressions (Cross-Border)

TARGET 3-day CAR CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.29***	2.23***	1.44**	1.71***	2.20**	0.62	0.61	1.38**	0.34	1.66**
Crisis in Bidder Country (1/0)	0.17	0.91	0.83	-0.27	1.83*	0.57	1.30	0.79	0.01	1.92**
FIRM LEVEL										
Relative Size		-0.01***			-0.01		-0.01**			-0.01
Log. Target Size (mil\$)		-0.88***			-1.70***		-0.53**			-1.54***
Log. Bidder Size (mil\$)		-0.06			0.33*		0.05			0.32**
Public Bidder (1/0)		0.74			-0.56		0.04			-1.09
Same Industry (1/0)		1.27**			-0.41		0.76			-0.60
Bidder from Developed Country (1/0)		2.39***			2.19**		2.36**			2.27***
Target from Developed Country (1/0)		7.39***			2.56***	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.53***		1.33***			0.68***		1.25***
Deal is Completed (Dummy)			0.42		0.65			0.36		0.66
Acquisition (1/0)			9.06***		6.92***			7.18***		6.19***
Hostile Deal (1/0)			5.03***		5.80***			4.65***		5.54**
All-cash Deal (1/0)			3.14***		3.65***			2.88***		3.70***
Competitive Deal (1/0)			-1.29		-0.92			-1.75		-0.92
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.10***	-0.01				0.08*	0.04
Log. Market Cap (Target Nation) (mil\$)				1.53***	1.12***				1.05*	0.11
ROE (Target Nation)				0.09***	0.03				0.04	0.04
% change in Price index (Target Nation)				-0.03***	-0.03***				-0.01	-0.02***
Stock Price Volatility (Bidder Nation)				0.10***	0.06				0.02	0.03
Log. Market Cap (Bidder Nation) (mil\$)				0.37***	0.07				0.33**	0.06
ROE (Bidder Nation)				0.06*	0.10				0.08**	0.10*
% change in Price index (Bidder Nation)				0.01	0.01				0.02*	0.01
Constant	7.05***	6.42***	1.62***	-21.01***	-15.42***	7.08***	10.32***	1.95*	-15.59*	0.76
Observations	12,597	4,810	8,995	11,729	3,577	12,597	4,810	8,995	11,729	3,577
Adjusted R-squared (%)	0.07	4.98	8.86	3.03	15.1	0.03	0.98	6.21	0.39	7.78
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	4.22	37.47	94.08	33.58	31.42	1.909	30.76	21.8	3.385	78.87

Table 47: 3-day Bidder CAR Regressions (Full Sample)

BIDDER 3-day CAR FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.15**	0.44***	0.22**	0.06	0.46***	0.30***	0.46**	0.31***	0.24**	0.55**
FIRM LEVEL										
Relative Size		0.00*			0.00		0.00			0.00
Log. Target Size (mil\$)		0.05*			0.14***		0.03			0.11**
Log. Bidder Size (mil\$)		-0.27***			-0.26***		-0.28***			-0.27***
Public Target (1/0)		-1.60***			-1.81***		-1.72***			-1.83***
Same Industry (1/0)		-0.39***			-0.24**		-0.35**			-0.28**
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.19***		-0.13***			-0.19**		-0.13
Deal is Completed (Dummy)			-0.44***		0.49***			-0.43**		0.48*
Acquisition (1/0)			0.98***		-0.15			0.85***		-0.14
Hostile Deal (1/0)			-1.62***		-0.57*			-1.67***		-0.48**
All-cash Deal (1/0)			-0.55***		0.51***			-0.45***		0.52
Competitive Deal (1/0)			-0.57**		0.55*			-0.69		0.57
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.01**	0.00				0.00	-0.02
Log. Market Cap (Target Nation) (mil\$)				0.14***	-0.10**				0.64***	0.03
ROE (Target Nation)				0.01***	-0.01				-0.03**	-0.03*
% change in Price index (Target Nation)				-0.00***	0.00**				-0.00*	0.00
Constant	1.33***	3.44***	1.68***	-1.05***	4.54***	1.31***	3.70***	1.74***	-7.74***	3.55**
Observations	205,082	30,184	114,671	201,858	24,680	205,082	30,184	114,671	201,858	24,680
Adjusted R-squared (%)	0.00	2.04	0.48	0.06	2.28	0.01	2.1	0.41	0.09	2.21
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	4.61	59.96	72.6	24.43	29.92	7.725	52.94	36.14	17.01	141.4

Notes: The table reports regression estimates of 3-day bidder CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 48: 3-day Bidder CAR Regressions (Target Nation is United States)

BIDDER 3-day CAR UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.47***	0.19	0.34**	0.40***	0.38
FIRM LEVEL					
Relative Size		0.00			0.00
Log. Target Size (mil\$)		-0.12			0.19**
Log. Bidder Size (mil\$)		-0.26***			-0.25***
Public Target (1/0)		-2.83***			-2.89***
Same Industry (1/0)		-0.72***			-0.56***
DEAL LEVEL					
Log (Deal Size) (mil\$)			-0.43***		-0.45***
Deal is Completed (Dummy)			-0.89***		0.83**
Acquisition (1/0)			1.06***		0.20
Hostile Deal (1/0)			-1.88***		-0.22
All-cash Deal (1/0)			-0.26**		1.63***
Competitive Deal (1/0)			0.20		1.58***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				-0.03**	-0.05**
Log. Market Cap (Target Nation) (mil\$)				0.97***	0.78*
ROE (Target Nation)				-0.07***	-0.06
% change in Price index (Target Nation)				-0.02***	0.00
Constant	1.56***	4.97***	2.87***	-12.82***	-7.10
Observations	71,215	10,284	38,082	71,215	9,300
Adjusted R-squared (%)	0.02	4.05	0.85	0.11	4.99
F	12.42	44.31	31.86	16.19	24.73

Notes: The table reports regression estimates of 3-day bidder CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 49: 3-day Bidder CAR Regressions (Target Nation is a Developed Country-other than US-)

BIDDER 3-day CAR OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	-0.06	0.65***	0.05	-0.12	0.70***	0.37**	0.63**	0.40***	0.27	0.67**
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.10**			0.09		0.08			0.08
Log. Bidder Size (mil\$)		-0.24***			-0.24***		-0.25***			-0.25***
Public Target (1/0)		-0.94***			-1.09***		-0.91**			-0.99**
Same Industry (1/0)		-0.17			-0.12		-0.15			-0.12
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.16***		0.00			-0.14*		0.01
Deal is Completed (Dummy)			-0.68***		0.09			-0.49**		0.06
Acquisition (1/0)			0.83***		-0.31*			0.76***		-0.30***
Hostile Deal (1/0)			-1.37***		-0.55			-1.46***		-0.50**
All-cash Deal (1/0)			-0.67***		0.08			-0.50***		0.04
Competitive Deal (1/0)			-1.14***		-0.34			-1.33***		-0.36
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.02***	0.00				0.02	-0.01
Log. Market Cap (Target Nation) (mil\$)				0.05*	-0.13*				0.70***	0.14
ROE (Target Nation)				0.04***	-0.04***				-0.02***	-0.04**
% change in Price index (Target Nation)				0.00	0.01*				0.00	0.00
Constant	1.25***	2.50***	1.94***	-0.18	4.79***	1.20***	2.64***	1.69***	-8.67***	1.17
Observations	95,998	15,678	54,314	93,508	12,205	95,998	15,678	54,314	93,508	12,205
Adjusted R-squared (%)	0.00	1.15	0.6	0.04	1.17	0.02	1.06	0.4	0.14	0.94
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	0.56	20.00	41.72	9.00	7.759	7.757	32.19	36.67	23.37	189.4

Notes: The table reports regression estimates of 3-day bidder CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 50: 3-day Bidder CAR Regressions (Target Nation is an Emerging Country)

BIDDER 3-day CAR EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	-0.65***	0.43	-0.49**	-0.47***	0.18	-0.55***	0.18	-0.56**	-0.33	-0.12
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.02			0.00		0.02			-0.03
Log. Bidder Size (mil\$)		-0.22***			-0.30***		-0.25***			-0.30***
Public Target (1/0)		-0.43			-0.27		-0.41			-0.07
Same Industry (1/0)		0.07			-0.01		0.01			-0.01
DEAL LEVEL										
Log (Deal Size) (mil\$)			0.06**		0.11			0.05		0.10*
Deal is Completed (Dummy)			0.11		0.54*			0.08		0.46**
Acquisition (1/0)			0.95***		0.46*			0.92***		0.51**
Hostile Deal (1/0)			-2.57		-2.63			-2.22*		-2.17
All-cash Deal (1/0)			-0.45***		-0.06			-0.45**		-0.07
Competitive Deal (1/0)			0.42		-0.03			0.46		0.01
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.00	0.02				-0.01	0.01
Log. Market Cap (Target Nation) (mil\$)				0.17***	0.09				0.43***	0.03
ROE (Target Nation)				0.00	0.01				-0.01	0.00
% change in Price index (Target Nation)				0.00	0.00				0.00	0.00
Constant	1.13***	2.52***	0.66***	-1.20***	0.30	1.12***	2.71***	0.73**	-4.19***	1.70
Observations	37,869	4,222	22,275	37,135	3,175	37,869	4,222	22,275	37,135	3,175
Adjusted R-squared (%)	0.05	1.19	0.39	0.12	1.28	0.03	1.13	0.35	0.13	0.99
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	28.41	7.65	13.5	11.16	3.261	18.34	20.12	9.541	15.1	.

Notes: The table reports regression estimates of 3-day bidder CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 51: 3-day Bidder CAR Regressions (Domestic)

BIDDER 3-day CAR DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.28***	0.51***	0.36***	0.22**	0.56***	0.49***	0.55*	0.49***	0.40***	0.67**
FIRM LEVEL										
Relative Size		0.00*			0.00		0.00*			0.00
Log. Target Size (mil\$)		0.06			0.15***		0.02			0.12**
Log. Bidder Size (mil\$)		-0.28***			-0.25***		-0.29***			-0.25***
Public Target (1/0)		-1.76***			-1.91***		-1.94***			-1.97***
Same Industry (1/0)		-0.38***			-0.19		-0.30			-0.23
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.20***		-0.16***			-0.20*		-0.17
Deal is Completed (Dummy)			-0.36***		0.53***			-0.40**		0.52*
Acquisition (1/0)			0.99***		-0.07			0.82***		-0.04
Hostile Deal (1/0)			-1.78***		-0.77**			-1.93***		-0.68**
All-cash Deal (1/0)			-0.58***		0.49***			-0.43***		0.49
Competitive Deal (1/0)			-0.36		0.85**			-0.54		0.87
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.00	0.00				0.00	-0.03**
Log. Market Cap (Target Nation) (mil\$)				0.11***	-0.12**				0.67***	0.08
ROE (Target Nation)				0.01**	-0.02*				-0.04***	-0.05**
% Change in Price index (Target Nation)				-0.01***	0.01				-0.01*	0.00
Constant	1.38***	3.50***	1.62***	-0.30	4.92***	1.35***	3.78***	1.72***	-8.08***	3.03
Observations	150,121	23,433	86,554	148,756	19,622	150,121	23,433	86,554	148,756	19,622
Adjusted R-squared (%)	0.01	2.11	0.46	0.04	2.37	0.02	2.23	0.37	0.1	2.35
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	9.07	52.65	54.04	12.71	27.17	25.18	112.2	96.85	23.2	98.96

Notes: The table reports regression estimates of 3-day bidder CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 52: 3-day Bidder CAR Regressions (Cross-Border)

BIDDER 3-day CAR CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	-0.09	0.24	-0.07	-0.26**	0.22	-0.12	0.18	-0.14	-0.04	0.12
Crisis in Bidder Country (1/0)	0.03	0.01	-0.19	-0.08	-0.09	0.09	0.02	-0.09	-0.14	-0.01
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.06			0.10		0.06			0.10
Log. Bidder Size (mil\$)		-0.31***			-0.34***		-0.32***			-0.35***
Public Target (1/0)		-1.03***			-1.41***		-0.92***			-1.34***
Same Industry (1/0)		-0.53***			-0.47**		-0.54***			-0.48**
Bidder from Developed Country (1/0)		0.23			0.46		0.10			0.39
Target from Developed Country (1/0)		-0.41**			-0.52*	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.16***		-0.02			-0.15***		-0.03
Deal is Completed (Dummy)			-0.72***		0.32			-0.58***		0.33
Acquisition (1/0)			0.99***		-0.30			0.94***		-0.35
Hostile Deal (1/0)			-0.95		0.09			-0.84		0.12
All-cash Deal (1/0)			-0.47***		0.50**			-0.44***		0.52
Competitive Deal (1/0)			-1.14***		-0.36			-1.01**		-0.32
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.02***	-0.01				0.01	-0.01
Log. Market Cap (Target Nation) (mil\$)				0.21***	0.04				0.71***	-0.04
ROE (Target Nation)				0.02***	0.00				-0.01	0.00
% Change in Price index (Target Nation)				0.00	0.01				0.00	0.01*
Stock Price Volatility (Bidder Nation)				0.01	0.01				0.00	0.02
Log. Market Cap (Bidder Nation) (mil\$)				0.01	-0.06				-0.02	-0.02
ROE (Bidder Nation)				0.01	0.01				0.01	0.02
% Change in Price index (Bidder Nation)				0.00	0.00				0.00	0.00
Constant	1.18***	3.85***	1.91***	-2.78***	3.77**	1.18***	3.68***	1.79***	-8.58***	4.09
Observations	54,961	6,751	28,117	52,070	4,943	54,961	6,751	28,117	52,070	4,943
Adjusted R-squared (%)	0.00	1.98	0.6	0.16	2	0	1.8	0.48	0.13	1.72
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	0.35	6.19	18.09	9.27	2.761	0.353	7.625	12.83	9.936	16.74

Table 53: Summary of Findings on Target CAR Regressions

	EXPECTED SIGN		REPORTED SIGN					
	Exp.Sign	Literature	Target CAR Full Sample	US	Other Developed	Emerging	Domestic	Cross Border
Crisis in Target Country(Dummy)			+	+	+	-	+	+
Crisis in Bidder Country(Dummy)								+
Deal level control variables:								
Deal Size			+	+	+	+	+	+
Deal Status (Completed vs. not Completed):	+	Savor&Lu(2009), Hekimoglu &Tanyeri(2011)	+	+	+	-	+	+
Deal Type (Acquisition vs. Partial Sales):	+	Hekimoglu &Tanyeri(2011)	+	+	+	+	+	+
Deal Attitude (Hostile vs. Friendly):	+	Martynova & Renneboog (2006)	+	+	+	+	+	+
The means of payment (all-cash vs. not):	+	Andrade et al., 2001; Alexandridis et al., 2013	+	+	+	+	+	+
Deal is Cross-border (Dummy):	+	Faelten and Vitkova (2014)						
Existence of competing bidders:			-	-	+	+	-	-
Firm level control variables:								
Relative Size			Ø	Ø	Ø	Ø	Ø	-
Target Size	-	Betton et al. (2008)	-	-	-	-	-	-
Bidder Size			+	+	+	+	+	+
Bidder is Public	+	Bargeron et al., 2008	+	+	+	+	+	-
Same Industry Dummy	-	Martynova and Renneboog (2011)	+	-	+	-	+	-
Target is developed dummy	+							+
Bidder is developed dummy	+							+

Notes: Table summarizes the expected signs (and related literature) vs. reported signs for regression variables. (Table 41 to Table 46) Reported signs belong to model 5 (model that uses firm, deal and country level variables as well as country fixed effects)

Table 54: Summary of Findings on Bidder CAR Regressions

	EXPECTED SIGN		REPORTED SIGN					
	Exp.Sign	Literature	Bidder CAR Full Sample	US	Developed	Emerging	Domestic	Cross Border
Crisis in Target Country(Dummy)			+	+	+	-	+	+
Crisis in Bidder Country(Dummy)								-
Deal level control variables:								
Deal Size	-	Alexandridis et al. (2013)	-	-	+	+	-	-
Deal Status (Completed vs. not Completed):			+	+	+	+	+	+
Deal Type (Acquisition vs. Partial Sales):	+	Chari, Ouimet &Tesar (2010)	-	+	-	+	-	-
Deal Attitude (Hostile vs. Friendly):	-	Martynova and Renneboog (2006)	-	-	-	-	-	+
The means of payment (all-cash vs. not):	+	Andrade et al., 2001; Alexandridis et al., 2013	+	+	+	-	+	+
Deal is Cross-border (Dummy):	-	Faelten and Vitkova (2014)						
Existence of competing bidders:			+	+	-	+	+	-
Firm level control variables:								
Relative Size	-	Fuller et al. (2002), Alexandridis et al., 2013	Ø	Ø	Ø	Ø	Ø	Ø
Target Size	+	Betton et al. (2008)	+	+	+	-	+	+
Bidder Size	-	Moeller et al. (2004)	-	-	-	-	-	-
Target is Public	-	Fuller et al., 2002, Moeller et al., 2004; Craninckx and Huyghebaert, 2011; Martynova & Renneboog, 2011	-	-	-	-	-	-
Same Industry Dummy	+	Martynova and Renneboog (2011)	-	-	-	-	-	-
Target is developed dummy	+							+
Bidder is developed dummy	+							+

Table summarizes the expected signs (and related literature) vs. reported signs for regression variables (Table 47 through Table 52) Reported signs belong to model 5 (model that uses firm, deal and country level variables as well as country fixed effects)

CHAPTER 8

HOW DOES CRISIS AFFECT THE VALUE GENERATED IN M&A ACTIVITY?

The fourth hypothesis posits that the value generated in mergers is significantly different during crisis periods compared to non-crisis periods. We use the abnormal returns for hypothetically combined firms as the proxy for value generated in a merger. Combined CAR (as calculated in equation 8) is the value-weighted bidder and target CARs according to the book value of assets.

$$8 \quad \text{Combined CAR}_{ijt} = \frac{\text{TTA}}{\text{TTA} + \text{BTA}} \times \text{TCAR} + \frac{\text{BTA}}{\text{TTA} + \text{BTA}} \times \text{BCAR} .$$

TTA (BTA) represents target (bidder) total assets and TCAR (BCAR) represents target (bidder) 3-day CARs, respectively.

8.1 Univariate Analysis for Combined Cumulative Abnormal Returns (CARs)

Table 55 through Table 60 report mean, median, and number of observations for 3-day combined CARs in crisis and non-crisis periods. T-tests report the statistical significance of the difference between crisis and non-crisis years.

Table 55 reports the t-tests for 3 day combined CARs in the full sample, in the United States, developed country and emerging country subsamples. 3-day combined CARs are 2.36 percent in crisis periods and are significantly different than CARs of 1.63 percent in non-crisis periods in the full sample. We also have a positive crisis versus non-crisis difference for all subsamples. However, the positive difference is statistically insignificant for emerging country targets. In Table 56, Table 57, Table 58, Table 59 and Table 60, we repeat the same univariate analysis for subsamples of domestic M&As, cross-border M&As, acquisitions, completed deals and completed acquisitions, respectively. In this subsample analysis, the findings are qualitatively similar to that of Table 55. We observe higher combined CARs during crisis. The positive difference is statistically significant for developed countries and insignificant for emerging countries.

Table 61 tests if crisis and non-crisis subsamples come from a common population. For this purpose, we report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis test. We test the null hypothesis of a common population for the distribution of 3-day combined CARs. We highlight the cases for which the null hypothesis of a common population cannot be rejected. Table 61 shows that combined CARs come from different

populations in non-crisis and crisis periods for both the full sample and the subsample of developed countries. However, we fail to reject that combined CARs for emerging countries come from different populations in non-crisis and crisis periods.

According to our univariate analysis, we reject the hypothesis that value generated in mergers is same during financial crisis in the full sample and in the subsample of developed countries. However, there is not enough evidence to state that value generated is higher if the target is from a crisis-hit emerging country. Thus, we fail to reject the null hypothesis that value generated in mergers is same during financial crisis in the emerging market subsample.

Table 55: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis)-FULL SAMPLE

FULL SAMPLE	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Combined 3-day CAR										
Full Sample	17,637	1.73	0.77	15,165	1.63	0.73	2,472	2.36	0.94	0.73***
United States	5,475	2.18	1.08	4,570	2.04	1.03	905	2.86	1.54	0.82***
Other Developed	9,463	1.70	0.71	8,253	1.60	0.68	1,210	2.37	0.88	0.78***
Emerging	2,699	0.97	0.34	2,342	0.95	0.34	357	1.06	0.32	0.1

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 56: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis)-DOMESTIC M&A

Domestic	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Combined 3-day CAR										
Full Sample	13,336	1.82	0.82	11,631	1.73	0.78	1,705	2.50	1.03	0.77***
United States	4,713	2.12	1.07	4,030	2.02	1.04	683	2.71	1.35	0.68*
Other Developed	6,866	1.76	0.72	6,018	1.66	0.69	848	2.52	0.95	0.86***
Emerging	1,757	1.27	0.53	1,583	1.23	0.56	174	1.60	0.43	0.37

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation for the subsample of domestic deals. Domestic deals are deals in which target and bidder firms are from the same nation. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 57: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis)-CROSS BORDER M&A

Cross-border	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N	Mean	Median	N	Mean	Median	N	Mean	Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Combined 3-day CAR										
Full Sample	4,301	1.45	0.62	3,534	1.32	0.58	767	2.05	0.80	0.73***
United States	762	2.52	1.21	540	2.19	0.98	222	3.34	2.03	1.15*
Other Developed	2,597	1.52	0.66	2,235	1.44	0.66	362	2.03	0.62	0.6
Emerging	942	0.40	0.12	759	0.37	0.07	183	0.53	0.29	0.16

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation for the subsample of cross-border deals. Cross-border deals are deals in which the target and bidder firms are from different nations. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 58: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis)-ACQUISITION

Acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Combined 3-day CAR										
Full Sample	9,026	2.34	1.21	7,686	2.22	1.16	1,340	3.00	1.59	0.78***
United States	4,390	2.46	1.26	3,646	2.33	1.19	744	3.10	1.67	0.77**
Other Developed	3,894	2.41	1.29	3,393	2.30	1.24	501	3.19	1.60	0.9**
Emerging	742	1.19	0.53	647	1.19	0.56	95	1.17	0.49	-0.02

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation for acquisition subsample. Acquisitions are deals in which the bidder owns less than 50 percent of target shares at the announcement date and intends to buy control rights by purchasing more than 50 percent of shares after the deal. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 59: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis)-COMPLETED

Completed deals	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N	Mean	Median	N	Mean	Median	N	Mean	Median	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Combined 3-day CAR										
Full Sample	13,852	1.70	0.76	12,027	1.62	0.73	1,825	2.22	0.95	0.6***
United States	4,462	2.09	1.05	3,785	1.96	0.99	677	2.77	1.54	0.8**
Other Developed	7,519	1.64	0.68	6,621	1.57	0.66	898	2.15	0.81	0.58**
Emerging	1,871	0.99	0.36	1,621	0.99	0.36	250	1.00	0.35	0.01

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation for the subsample of completed deals. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 60: Univariate Tests for Combined Cumulative Abnormal Returns (Crisis vs. Non-crisis) - COMPLETED ACQUISITION

Completed Acquisition	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (2)	Median (3)	N (4)	Mean (5)	Median (6)	N (7)	Mean (8)	Median (9)	
Combined 3-day CAR										
Full Sample	6,989	2.23	1.15	6,028	2.15	1.10	961	2.72	1.59	0.57**
United States	3,625	2.29	1.14	3,061	2.18	1.07	564	2.88	1.66	0.7*
Other Developed	2,895	2.31	1.25	2,559	2.25	1.21	336	2.71	1.54	0.46
Emerging	469	1.26	0.60	408	1.25	0.59	61	1.31	0.61	0.05

Notes: Table presents the results of t-tests for 3-day combined cumulative abnormal returns by target nation for the subsample of completed acquisitions. Combined CAR (as calculated by equation 8) is the value-weighted bidder and target CARs according to the book value of assets. We report number of observations, mean, and median, for the full sample, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-no crisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 61: Common Population Tests for Combined Cumulative Abnormal Returns

Combined 3-day CAR									
Sample	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
FULL SAMPLE	-3.22	0.00	10.34	-3.35	0.00	11.21	-0.24	0.96	0.06
DOMESTIC M&A	-2.65	0.00	7.01	-2.56	0.00	6.55	-0.41	0.83	0.16
CROSS BORDER M&A	-2.21	0.01	4.87	-2.39	0.01	5.69	-0.50	0.60	0.25
ACQUISITION	-2.82	0.01	7.95	-2.85	0.01	8.13	-0.08	0.93	0.01
COMPLETED DEALS	-2.45	0.00	5.99	-2.59	0.00	6.71	-0.21	0.97	0.04
COMPLETED ACQUISITIONS	-2.27	0.03	5.14	-2.27	0.03	5.13	-0.35	0.51	0.12

Notes: Table investigates whether the distribution of 3-day combined cumulative abnormal returns during crisis and non-crisis periods come from a common population. We report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square-statistic for the Kruskal-Wallis tests.

8.2 Multivariate Analysis for Combined Cumulative Abnormal Returns (CARs)

In this section we examine the relationship between combined CARs and financial crises using regression analysis. The common independent variable in all regressions is an indicator variable which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database and zero otherwise (C_{it}). We include additional control variables as well. Hence, to determine whether existence of financial crisis affect combined CARs in a given deal, we use specification 9:

$$9 \quad \text{Combined\_CAR}_{ijt} = \alpha + \delta C_{it} + \beta X_{ijt} + \varepsilon_{ijt}$$

where

$\text{Combined\_CAR}_{ijt}$: three-day combined cumulative abnormal return in year t for deal j in country i .

C_{it} is a dummy variable for crisis periods and defined as:

$$C_{it} = \begin{cases} 1 & \text{if country } i \text{ is experiencing a crisis in year } t \\ 0 & \text{otherwise} \end{cases}$$

X_{ijt} is a matrix of firm, deal and country level control variables that influence cumulative abnormal returns in a given year for a given country. β is a vector of coefficients. We use the same set of control variables as we used for target and bidder CARs.

Table 62 through Table 67 present results of OLS and fixed-effects regressions as in specification 9. We run 5 models for both pooled OLS and fixed effects regressions. Model 1 is run only using Crisis Dummy. In the other 3 models we add the firm level, deal level and country level control variables separately. In model 5, we include all control variables in the regression.

In multivariate analysis, we control for the same set of firm level, deal level and country level variables as we use in premium and target/bidder CAR analysis. We use size, public status, industry relatedness and origin of target and bidder firms as firm level control variables. Deal size, deal status (completed versus not completed), deal type (acquisition versus partial sales), deal attitude (hostile versus friendly), the means of payment (all-cash versus other), dummy variable for cross-border deals and existence of competing bidders are the deal level control variables. Country level variables are stock price volatility, percentage change in market index, return on equity (ROE) and market capitalization of the given country. The main independent variable in all regressions is an indicator variable which takes the value of one if the country is experiencing a crisis of any type and zero otherwise.

Table 62 to Table 67 report pooled OLS and fixed effects regression estimates of 3-day combined CARs for full sample and the subsamples, US deals, other developed countries' deals, emerging country deals, domestic deals and cross-border deals, respectively. We find that the coefficient of crisis dummy variable is positive and significant in all models indicating higher combined CARs during crisis except for emerging country targets. For the emerging country targets (as shown in Table 65), we do not observe any significant effect of financial crises on combined CARs.

The reported signs of independent variables are summarized Table 68 for combined CARs. The coefficients of control variables on combined CARs indicate that combined CARs are positively related to target size and negatively related to bidder size. Combined CARs are lower when target and bidder operate in the same industry, the deal is large, the deal is successfully completed, when the deal is an acquisition, the deal is a hostile deal, when the deal is paid in cash, when there are competing bidders.

Overall, our multivariate analysis as presented through Table 62 to Table 67 suggest that there are significant cross-country differences in how crisis M&A deals generate value in developed versus emerging market countries. In particular, M&A deals generate more value in crisis periods (as measured in combined CAR) in the full sample and in the sample of developed countries. Thus, we reject our fourth null hypothesis that the value generated in mergers is same during crisis periods compared to non-crisis periods.

Table 62: 3-day Combined CAR Regressions (Full Sample)

COMBINED 3-day CAR FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.73***	0.87***	0.85***	0.89***	1.03***	0.65***	0.71***	0.80***	0.69***	0.87***
FIRM LEVEL										
Relative Size		0.00			0.00*		0.00			0.00*
Log. Target Size (mil\$)		0.45***			0.57***		0.50***			0.62***
Log. Bidder Size (mil\$)		-0.68***			-0.68***		-0.67***			-0.69***
Same Industry (1/0)		0.20*			0.06		0.03			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.10***		-0.10**			-0.10		-0.13
Deal is Completed (Dummy)			-0.08		0.22			-0.10		0.18
Acquisition (1/0)			1.32***		0.88***			1.06***		0.77**
Hostile Deal (1/0)			2.16***		1.74***			2.02***		1.65***
All-cash Deal (1/0)			0.43***		0.83***			0.42		0.84*
Competitive Deal (1/0)			0.97***		0.76**			0.80**		0.63**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.02**	0.00				0.01	0.01
Log. Market Cap (Target Nation) (mil\$)				0.15***	0.12***				0.28*	0.17
ROE (Target Nation)				0.03***	0.01				0.01	0.00
% change in Price index (Target Nation)				0.00	0.00				0.00	0.01*
Constant	1.63***	4.12***	1.27***	-0.62	1.19	1.64***	3.92***	1.43***	-2.70	0.26
Observations	17,637	17,328	14,596	17,438	14,277	17,637	17,328	14,596	17,438	14,277
Adjusted R-squared (%)	0.12	4.03	1.22	0.38	5.1	0.08	3.81	0.79	0.1	4.65
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	17.84	127.50	30.78	14.15	48.68	7.824	28.02	41.86	6.802	40.92

Notes: The table reports regression estimates of 3-day Combined CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 63: 3-day Combined CAR Regressions (United States)

COMBINED 3-day CAR UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.82**	0.77**	0.76**	0.93***	0.69**
FIRM LEVEL					
Relative Size		0.01**			0.01**
Log. Target Size (mil\$)		0.63***			0.99***
Log. Bidder Size (mil\$)		-0.88***			-0.89***
Same Industry (1/0)		-0.10			-0.08
DEAL LEVEL					
Log (Deal Size) (mil\$)			-0.27***		-0.47***
Deal is Completed (Dummy)			-0.38		0.46
Acquisition (1/0)			2.14***		1.91***
Hostile Deal (1/0)			2.87***		2.43***
All-cash Deal (1/0)			1.15***		2.09***
Competitive Deal (1/0)			0.46		0.19
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				-0.01	0.00
Log. Market Cap (Target Nation) (mil\$)				0.14	0.19
ROE (Target Nation)				0.02	0.04
% change in Price index (Target Nation)				0.00	0.01
Constant	2.04***	5.09***	1.56***	-0.48	-1.09
Observations	5,475	5,433	5,139	5,475	5,107
Adjusted R-squared (%)	0.11	5.98	1.7	0.07	7.86
F	6.63	58.58	16.74	2.13	28.07

Notes: The table reports regression estimates of 3-day Combined CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 64: 3-day Combined CAR Regressions (Other Developed)

COMBINED 3-day CAR OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.78***	0.95***	0.96***	0.89***	1.25***	0.70	0.78*	0.90*	0.67	1.03**
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.43***			0.41***		0.49***			0.49***
Log. Bidder Size (mil\$)		-0.63***			-0.64***		-0.61***			-0.63***
Same Industry (1/0)		0.19			0.00		0.09			-0.07
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.02		0.08			0.00		0.04
Deal is Completed (Dummy)			0.03		0.30			0.05		0.22
Acquisition (1/0)			1.02***		0.47**			0.69**		0.34
Hostile Deal (1/0)			1.65***		1.27**			1.46***		1.13***
All-cash Deal (1/0)			0.05		0.41**			0.04		0.38
Competitive Deal (1/0)			1.24***		1.07***			1.03**		0.93**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.00	0.01				0.03	0.03
Log. Market Cap (Target Nation) (mil\$)				0.08	0.02				0.22	0.13
ROE (Target Nation)				0.05***	0.01				0.00	-0.02
% change in Price index (Target Nation)				0.00	0.01				0.01*	0.01**
Constant	1.60***	3.89***	1.22***	-0.11	2.53*	1.61***	3.42***	1.30***	-2.10	0.71
Observations	9,463	9,266	7,456	9,278	7,228	9,463	9,266	7,456	9,278	7,228
Adjusted R-squared (%)	0.13	3.94	1.11	0.23	4.72	0.1	3.5	0.61	0.14	4.15
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	10.06	65.56	13.61	4.52	22.99	2.734	17.47	27.94	6.356	27.96

Notes: The table reports regression estimates of 3-day Combined CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 65: 3-day Combined CAR Regressions (Emerging)

COMBINED 3-day CAR EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.10	0.35	0.03	0.56	0.50	-0.17	-0.05	-0.14	-0.05	-0.05
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.11			0.21*		0.13			0.20
Log. Bidder Size (mil\$)		-0.35***			-0.38***		-0.37***			-0.37***
Same Industry (1/0)		0.17			0.11		0.10			0.10
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.09		-0.02			-0.11**		-0.06
Deal is Completed (Dummy)			0.03		0.00			0.08		0.01
Acquisition (1/0)			0.53*		0.26			0.57		0.30
Hostile Deal (1/0)			0.09		-0.21			0.29		0.01
All-cash Deal (1/0)			0.25		0.23			0.19		0.23
Competitive Deal (1/0)			-0.37		-0.24			-0.24		-0.23
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.01	0.00				0.00	0.00
Log. Market Cap (Target Nation) (mil\$)				0.18*	0.14				0.38	0.22
ROE (Target Nation)				0.00	0.00				-0.01	-0.01
% change in Price index (Target Nation)				0.00	0.00				0.00	0.00
Constant	0.95***	3.00***	1.09***	-1.09	0.80	0.99***	3.14***	1.16***	-3.76	-0.05
Observations	2,699	2,629	2,001	2,685	1,942	2,699	2,629	2,001	2,685	1,942
Adjusted R-squared (%)	-0.03	1.47	-0.1	-0.02	1.08	-0.03	1.42	-0.08	-0.04	0.9
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	0.10	8.59	0.791	1.15	2.447	0.258	45.46	2.163	0.591	1633

Notes: The table reports regression estimates of 3-day Combined CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 66: 3-day Combined CAR Regressions (Domestic)

COMBINED 3-day CAR DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.77***	0.89***	0.86***	0.97***	0.98***	0.72***	0.71***	0.83***	0.75***	0.80***
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		0.49***			0.64***		0.54***			0.69***
Log. Bidder Size (mil\$)		-0.71***			-0.72***		-0.72***			-0.72***
Same Industry (1/0)		0.26**			0.11		0.07			0.04
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.11***		-0.14**			-0.10		-0.16
Deal is Completed (Dummy)			-0.03		0.30			-0.02		0.25*
Acquisition (1/0)			1.18***		0.90***			0.97**		0.79*
Hostile Deal (1/0)			2.57***		2.08***			2.35***		1.93***
All-cash Deal (1/0)			0.37***		0.77***			0.38		0.79
Competitive Deal (1/0)			1.12***		0.84**			0.93***		0.70**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.02**	-0.01				0.00	0.00
Log. Market Cap (Target Nation) (mil\$)				0.06	0.13**				0.22	0.19
ROE (Target Nation)				0.04***	0.00				0.00	-0.01
% change in Price index (Target Nation)				0.00	0.00				0.00	0.01
Constant	1.73***	4.08***	1.39***	0.79	1.12	1.73***	3.98***	1.47***	-1.59	0.05
Observations	13,336	13,171	11,274	13,225	11,089	13,336	13,171	11,274	13,225	11,089
Adjusted R-squared (%)	0.11	3.77	1.05	0.26	4.68	0.09	3.57	0.71	0.08	4.25
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	13.06	99.90	20.98	8.18	36.84	9.694	42.14	16.05	7.036	39.07

Notes: The table reports regression estimates of 3-day Combined CARs on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. Second set of regressions also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Table 67: 3-day Combined CAR Regressions (Cross-Border)

COMBINED 3-day CAR CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	0.75**	0.71**	0.90**	0.75**	1.00***	0.62	0.51	0.78	0.72*	0.89*
Crisis in Bidder Country (1/0)	-0.05	0.30	-0.04	-0.16	0.25	-0.08	0.30	0.00	-0.34	0.23
FIRM LEVEL										
Relative Size		0.00			0.01*		0.00			0.01
Log. Target Size (mil\$)		0.37***			0.45***		0.43***			0.49***
Log. Bidder Size (mil\$)		-0.61***			-0.60***		-0.62***			-0.62***
Same Industry (1/0)		-0.02			-0.11		-0.11			-0.12
Bidder from Developed Country (1/0)		0.25			0.42		0.09			0.27
Target from Developed Country (1/0)		0.78***			0.13		0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			-0.05		-0.07			-0.05		-0.10
Deal is Completed (Dummy)			-0.26		-0.05			-0.25		-0.02
Acquisition (1/0)			1.65***		1.00***			1.16***		0.90***
Hostile Deal (1/0)			0.61		0.70			0.49		0.71
All-cash Deal (1/0)			0.57**		0.95***			0.57***		0.98***
Competitive Deal (1/0)			0.44		0.34			0.49		0.40
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.02	-0.01				0.02	-0.02
Log. Market Cap (Target Nation) (mil\$)				0.32***	0.14*				0.40	0.13
ROE (Target Nation)				0.02	0.02				0.02	0.03
% change in Price index (Target Nation)				0.00	0.01				0.00	0.01
Stock Price Volatility (Bidder Nation)				0.04***	0.03*				0.02	0.04*
Log. Market Cap (Bidder Nation) (mil\$)				0.02	0.03				-0.02	0.06
ROE (Bidder Nation)				0.02	0.02				0.01	0.01
% change in Price index (Bidder Nation)				0.00	0.00				0.00	-0.01
Constant	1.33***	3.50***	0.87**	-4.35***	-0.67	1.36***	4.02***	1.10***	-5.17	-0.69
Observations	4,301	4,157	3,322	4,104	3,114	4,301	4,157	3,322	4,104	3,114
Adjusted R-squared (%)	0.14	5.32	1.9	1.09	7.23	0.06	4.48	0.88	0.18	6.09
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	3.26	20.05	9.381	4.69	8.757	1.118	5.827	12.23	2.692	17.41

Table 68: Summary of Findings on Combined CAR Regressions

	REPORTED SIGN					
	Combined CAR	US	Developed	Emerging	Domestic	Cross Border
Crisis in Target Country(Dummy)	+	+	+	+/-	+	+
Crisis in Bidder Country(Dummy)						+/-
Deal level control variables:						
Deal Size	-	-	-	-	-	-
Deal Status (Completed vs. not Completed):	-	+/-	+	+	+/-	-
Deal Type (Acquisition vs. Partial Sales):	+	+	+	+	+	+
Deal Attitude (Hostile vs. Friendly):	+	+	+	+	+	+
The means of payment (all-cash vs. not):	+	+	+	+	+	+
Deal is Cross-border (Dummy):						
Existence of competing bidders:	+	+	+	-	+	+
Firm level control variables:						
Relative Size	∅	+	∅	∅	∅	∅
Target Size	+	+	+	+	+	+
Bidder Size	-	-	-	-	-	-
Same Industry Dummy	+	-	+	+	+	-
Target is developed dummy						+
Bidder is developed dummy						+

Note: Table summarizes the reported signs for regression variables. (Table 62 to Table 67)

CHAPTER 9

EXPLAINING DIFFERENCES IN M&A DEALS -CRISIS VS. NON-CRISIS-

Our analysis so far has identified two main areas where deals in crisis periods differ from deals in non-crisis periods. Table 69 summarizes crisis versus non-crisis differences. First, the value generated in M&A deals as measured in combined CARs is significantly higher in crisis periods compared to non-crisis periods in the full sample and in the subsamples of United States deals and other developed country deals. We do not observe this difference in value generated in deals in which the target is from an emerging country. Second, there are differences in the distribution of value in crisis periods compared to non-crisis periods as measured in bidder CAR, target CAR and premium. Merger premium is lower if the target country is experiencing a crisis. Target CARs are higher (lower) if the target firm is incorporated in a crisis-hit developed (emerging) country. Bidder CARs are higher for US targets in crisis while lower for emerging country targets during crisis. These differences in target and bidder CARs during crisis versus non-crisis periods support the hypothesis that distribution of value between target and bidder firm shareholders is affected by existence of financial crisis.

In this chapter, we analyze if this difference in value generated and the difference in the distribution of value are due to a difference in the type of M&A deals. Table 70 summarizes the crisis versus non-crisis time deal specifics. We find that deal specifics are different in developed and emerging country subsamples. The developed country deals drive the full sample results as they represent a larger portion of all deals. Deal size is larger in crisis. Deal relative size is lower in crisis except for US targets. Bidder size gets larger in crisis in both developed and emerging countries. Target size gets larger in developed but gets smaller in emerging countries during crises. The percentage of acquisitions compared to partial sales increase (decrease) in developed (emerging) countries during crisis. The deals that are completely paid in cash decrease during crises. Deals are less competitive in developed countries but more competitive in emerging countries in crisis years. Same industry deals decrease in crisis years except for deals having a US firm as target. The percentages of public bidders and targets also decrease in all subsamples. More deals (as a percentage of all deals announced in a given year) are successfully completed if the target country is experiencing a crisis. We report the differences in deal specifics through Table 74 to Table 98.

9.1 Analysis of Differences in Deal Size

Panel A of Table 74 reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for deal size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. In Panel B, we

create two size groups relative to median value. Table 75, Table 76 and Table 77 splits the United States, other developed countries and emerging countries' subsamples into low and high deal size groups based on median deal sizes reported in Table 74, respectively. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. We split the sample in order to see if the reported differences in value generated and distribution of value in our study during crisis and non-crisis periods applies to both low and high deal size groups.

Table 69 reports higher (lower) target CARs for developed (emerging) country targets in crisis periods. Table 75 and Table 76 show that larger deals generate higher target CARs in both crisis and non-crisis periods (in line with the positive coefficient of deal size in regression estimates) in developed countries. Moreover, crisis time target CARs are significantly higher in both large and small deal size groups. Mean target CAR is 2.49 percent higher during crises in large US deals compared to large US deals in non-crisis periods. Similarly, mean target CAR is 2.2 percent higher during crises in large deals of other developed countries compared to large deals in non-crisis periods. On the contrary, in Table 77 we see that larger deals do not lead to higher target CARs in emerging markets during crisis. Moreover, the mean target CAR is significantly lower by 1.39 percent in emerging countries during crisis if the deal is large. Thus larger deal size during crisis (as reported in Table 70) would lead to higher (lower) target CARs in developed (emerging) countries. Thus larger deal size during crisis is effective in observing higher (lower) target CARs during crisis in developed (emerging) countries.

9.2 Analysis of Differences in Relative Size

Panel A of Table 78 reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for relative size (target total assets to bidder total assets expressed as percentage) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. In Panel B, we create two size groups relative to median value. Table 79, Table 80 and Table 81 splits the United States, other developed countries and emerging countries' subsamples into low and high relative size groups based on median relative sizes reported in Table 78, respectively. The last column reports high and low mean relative size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. We split the sample in order to see if the reported differences in value generated and distribution of value in our study during crisis and non-crisis periods applies to both low and high relative size groups.

Relative target to bidder size gets larger in US and lower in rest of the world during crisis. Table 79 shows that larger relative size in US is associated with lower target CARs and premiums. Also, the crisis time target CARs are larger in both the large and small relative size group. Thus, larger relative size in US during crisis has the effect of leading to lower target CARs and premiums. Therefore, we cannot explain the finding of higher crisis-time US target CARs based on change in relative size of deals during crisis. On the contrary, lower relative size during crisis in developed countries might account for higher crisis time target CARs in other developed countries.

9.3 Analysis of Differences in Bidder Size

Panel A of Table 82 reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for bidder size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. In Panel B, we create two size groups relative to median value. Table 83, Table 84 and Table 85 splits the United States, other developed countries and emerging countries' subsamples into low and high bidder size groups based on median bidder sizes reported in Table 82, respectively. The last column reports high and low bidder size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. We split the sample in order to see if the reported differences in value generated and distribution of value in our study during crisis and non-crisis periods applies to both low and high bidder size groups.

Table 70 shows that bidders get larger during crisis in both developed and emerging countries. Table 83 shows that larger bidder size is associated with higher target and lower bidder CARs in US. Thus, increase in bidder size during crisis may at least partly account for higher crisis time target CARs in US. For emerging markets (Table 85) bidder CARs are lower in larger bidder size and this might lead to lower bidder CARs of emerging country targets during crisis as documented in Table 70.

9.4 Analysis of Differences in Target Size

Panel A of Table 86 reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for target size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. In Panel B, we create two size groups relative to median value. Table 87, Table 88 and Table 89 splits the United States, other developed countries and emerging countries' sub-samples into low and high target size groups based on median target sizes reported in Table 86, respectively. The last column reports high and low target size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. We split the sample in order to see if the reported differences in value generated and distribution of value in our study during crisis and non-crisis periods applies to both low and high target size groups.

Table 70 documents that target size gets larger in developed but gets smaller in emerging countries during crises. However, Table 87 and Table 88 shows that higher target size is associated with lower target CARs in both US and other developed countries. Table 69 reports higher target CARs for developed country targets in crisis periods. Hence, an increase in target size during crisis has the opposite effect on target CARs than reported in Table 69.

9.5 Analysis of Differences in Deal Type (Acquisition vs. partial sale)

Table 90 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal type (acquisition vs. partial sale). Both (acquisition-partial sale) difference and (crisis-no crisis) difference is reported.

In Table 90, acquisitions generate higher abnormal returns and premiums in developed and emerging countries during both crisis and non-crisis times compared to partial sales. However, crisis time acquisitions do not generate significantly different CARs and premiums than partial sales in emerging markets. From Table 70, we know that more deals are acquisitions in developed countries during crises, which may contribute to finding of higher CARs and premiums in developed countries during crisis.

9.6 Analysis of Differences in Payment Method (All Cash vs. Not-all cash)

Table 91 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on payment method (All Cash vs. Not-all cash). Both (All Cash- Not-all cash) difference and (crisis-no crisis) difference is reported.

In Table 91, all cash deals generate higher target and lower bidder CARs in non-crisis periods in United States, other developed countries and emerging countries. However, there is no significant difference in target and bidder CARS between all-cash deals

and other deals for emerging market targets during crisis. Table 70 shows that “ratio of all-cash payments to all deals” is 5.3 percent lower during crises in the full sample. Table 91 also reports that crisis-time mean target CARs for “all-cash” deals are almost three times higher compared to crisis time mean target CARs of “not-all cash” deals in developed countries (14.11 percent for all-cash deals versus 5.5 percent for other deals). Moreover, deals with US targets that are paid in all-cash generate 19.3 percent target CARs, which is significantly higher than 8.32 percent target CARs of not-all-cash deals. The ratio of all-cash deals decreases in crisis leading to lower target CARs however value generated for target shareholders in all-cash deals increase significantly during crisis in developed countries which leads to higher target CARs. The final effect on mean target CARs depend on the sample studied.

9.7 Analysis of Differences in Competition (Competitive vs. Not-competitive)

Table 92 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on competition (competitive vs. not-competitive). Both (competitive vs. not-competitive) difference and (crisis-no crisis) difference is reported.

Table 70 shows that ratio of competitive deals to all deals in a given year is lower (higher) during crises in developed (emerging) countries. Table 92 shows that competitive deals generate higher premiums irrespective of the financial crisis situation of the target country. During financial crisis, competitive deals generate significantly higher target CARs (3.75 percent higher in US and 8.68 percent higher in other developed on average) compared to “not competitive” deals. Moreover, the

crisis time competitive deals generate significantly higher target CARs compared to target CARs generated in normal times. For emerging markets, the crisis time sample size for competitive deals is small (less than 30), so we do not make any statistical inference for emerging markets.

9.8 Analysis of Differences in Industry (Focusing vs. Diversifying)

Table 93 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on industry relatedness of target and bidder firms (focusing vs. diversifying). Both (focusing - diversifying) difference and (crisis-no crisis) difference is reported. Focusing (same industry) deals generate higher target CARs in United States, other developed countries and emerging countries compared to diversifying deals during both crisis and non-crisis periods. Table 70 reports that percentage of focusing deals decrease during crisis periods. We would expect to observe lower target CARs during crisis if the only determinant is industry relatedness however other factors and the effect of crisis itself leads to higher target CARs in the full sample as reported in Table 69.

9.9 Analysis of Differences in Geographical Scope (Cross-Border vs. Domestic)

Table 94 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on geographical scope (Cross-Border vs. Domestic). Both (Cross-Border- Domestic) difference and (crisis-no crisis) difference is reported.

Percentage of cross border deals increase in United States (by 3.8 percent) and decrease in emerging countries and other developed countries (Table 71). In Table 94, we see that cross border deals generate higher target CARs during normal times while this does not hold true in crisis. Domestic mergers generate significantly higher (lower) target CARs during crisis in deals in which the target is from other developed (emerging) countries. This may explain higher (lower) target CARs for other developed (emerging) countries during crisis.

9.10 Analysis of Differences in Bidder and Target Legal Status (Public vs. Private)

Table 95 (Table 96) summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on bidder (target) legal status. Both (public - private) difference and (crisis-no crisis) difference is reported. In Table 70, we see that the percentage of private firms as bidders and targets increase during crisis. Private targets are associated with higher bidder CARs in normal times in all country subsamples. However, private targets generate more bidder Cars during crisis only in US. Thus, we can only relate the effect of higher public targets to higher bidder CARs in US during crisis.

Private bidders are associated with lower target CARs and premiums in normal times. However, there is no significant difference between private and public bidders of emerging market targets in terms of generating target CARs or premiums.

9.11 Analysis of Differences in Deal Status (Successfully Completed or Not)

Table 97 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal status (successfully completed or not). Both (completed - not completed) difference and (crisis-no crisis) difference is reported. In Table 70, the percentage of deals that successfully go through is higher during crisis for both developed and emerging countries. However, we can not draw strong conclusions about the effect of successful completion on value generated in mergers since the only significant difference between crisis-time completed versus not completed deals in Table 97 is higher bidder CARs in US and lower deal premiums in other developed countries. The crisis time completed target CARs are 1.15 percent higher in developed countries and 1.11 percent lower in emerging countries compared to completed deals of normal times.

9.12 Analysis of Differences in Deal Attitude (Hostile or Not)

Table 98 summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal attitude (Hostile or Not). In Table 70, percentage of hostile deals is lower for developed and indifferent (insignificantly higher) in emerging countries. From Table 98, we see that hostile deals are associated with higher target and combined CARs and premiums and lower bidder CARs. However, the crisis time sample is so small that we do not use this variable to draw any strong conclusions.

Table 69: Summary Table for CARs and Premiums

	ALL DEALS	DOMESTIC	CROSS-BORDER
Combined CAR (3-day) %			
Full Sample	0.73***	0.77***	0.73***
United States	0.82***	0.68*	1.15*
Other Developed	0.78***	0.86***	0.6
Emerging	0.1	0.37	0.16
Bidder CAR (3-day) %			
Full Sample	0.15**	0.28***	-0.08
United States	0.47***	0.59***	-0.02
Other Developed	-0.06	-0.06	0.04
Emerging	-0.65***	-0.54***	-0.95***
Target CAR (3-day) %			
Full Sample	1.59***	1.66***	1.35***
United States	1.08**	0.9*	1.66
Other Developed	1.17***	1.23***	0.93*
Emerging	-0.87***	-1.09***	-0.59
Premium 1-day			
Full Sample	8.79***	8.79***	8.2***
United States	6.12***	6.34***	4.04
Other Developed	2.51**	1.38	5.18**
Emerging	19.86***	18.93***	14.77***
Premium 1-week			
Full Sample	7.3***	7.38***	6.32***
United States	3.08***	3.29***	0.53
Other Developed	2.35**	1.69	3.67*
Emerging	18.55***	16.9***	14.03***
Premium 4-weeks			
Full Sample	5.83***	6.03***	4.38**
United States	0.58	0.77	-2.58
Other Developed	1.64	1.42	1.56
Emerging	18***	16.66***	12.98**

Notes: Table reports the (crisis – no crisis) differences for cumulative abnormal returns and premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. We report the mean difference between crisis and non-crisis time for all deals as well as domestic and cross-border deals, respectively. (The details are available in Table 71, Table 72 and Table 73)***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 70: Summary Table for Crisis vs. Non-crisis Deal Specifics

	Full Sample	United States	Other Developed	Emerging
PANEL A-Both Domestic and Cross-border				
Deal Size (mil\$) Adjusted	78.96***	34.32	73.23***	40.62***
Relative target to bidder size (%)	-2.93*	6.6**	-8.56***	-5.86
Log. Bidder Size (mil\$) Adjusted	19,142***	11,980***	30,150***	15,895***
Log. Target Size (mil\$) Adjusted	8,326***	8,643***	10,630***	-444
Deal is Acquisition (%)	2.08***	0.62***	2.49***	-5.48***
Payment method is all cash (%)	-5.28***	-0.18	-5.96***	-13.12***
Deal is Competitive (%)	-0.2***	-0.25***	-0.37***	0.29***
Same Industry (%)	-0.41**	0.3	-0.6**	-4.53***
Deal is Cross border (%)	-0.92***	3.8***	-0.58***	-3.21***
Public Bidder (%)	-14.02***	-16***	-14.61***	-13.81***
Public Target (%)	-4.41***	-3.73***	-5.2***	-2.02***
Successful Completion (%)	4.2***	0.27	1.9***	15.42***
Deal is Hostile (%)	-0.14***	-0.18***	-0.16***	0.01
PANEL B-Domestic Deals				
Deal Size (mil\$) Adjusted	78.77***	37.8	58.21***	44.73***
Relative target to bidder size (%)	-1.96	6.42**	-7.37**	-6.81
Log. Bidder Size (mil\$) Adjusted	13,640***	10,016***	19,259***	9,301***
Log. Target Size (mil\$) Adjusted	8,771***	7,580***	12,043***	-341
Deal is Acquisition (%)	1.66***	0.72***	2.38***	-6.94***
Payment method is all cash (%)	-6.02***	-0.44**	-7.11***	-15.72***
Deal is Competitive (%)	-0.26***	-0.32***	-0.38***	0.14***
Same Industry (%)	-0.97***	-0.63**	-0.48*	-6.42***
Public Bidder (%)	-16.5***	-18.53***	-16.14***	-18.65***
Public Target (%)	-4.88***	-3.8***	-5.61***	-3.95***
Successful Completion (%)	5.27***	1.41***	2.5***	19.28***
Deal is Hostile (%)	-0.16***	-0.2***	-0.18***	-0.01
PANEL C-Cross-border Deals				
Deal Size (mil\$) Adjusted	69.47***	14.65	97.65**	19.81
Relative target to bidder size (%)	-2.06	10.16	-9.44**	9.05
Log. Bidder Size (mil\$) Adjusted	25,594***	10,320*	46,299***	9,720*
Log. Target Size (mil\$) Adjusted	6,569***	15,385***	6,646***	-722
Deal is Acquisition (%)	3.4***	2.43***	2.78***	-1.61**
Payment method is all cash (%)	-2.49***	0.68	-2.67***	-6.38***
Deal is Competitive (%)	0.02	0.23*	-0.32***	0.72***
Same Industry (%)	1.75***	7.47***	-0.92*	2.38***
Public Bidder (%)	-4.15***	-3.93***	-9.9***	1.51*
Public Target (%)	-2.65***	-3.5***	-4.04***	2.89***
Successful Completion (%)	0.1	-6.34***	0.16	4.82***
Deal is Hostile (%)	-0.05*	-0.04	-0.1**	0.07**

Notes: Table reports the (crisis – no crisis) differences for selected deal specifics by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. We report the mean difference between crisis and non-crisis time for all deals as well as domestic and cross-border deals in Panel A, Panel B and Panel C, respectively. (The details are available in Table 71, Table 72 and Table 73). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 71: Summary of Dependent and Control Variables (BOTH DOMESTIC AND CROSS-BORDER DEALS)

	FULL SAMPLE					UNITED STATES				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	51,060	7.02	8,388	8.61	1.59***	12,060	11.71	3,048	12.79	1.08**
Bidder CAR (3-day)	174,139	1.33	30,943	1.48	0.15**	56,891	1.56	14,324	2.03	0.47***
Combined CAR (3-day)	15,165	1.63	2,472	2.36	0.73***	4,570	2.04	905	2.86	0.82***
premium1day	28,984	14.78	3,894	23.57	8.79***	9,342	25.61	1,888	31.72	6.12***
premium1week	28,704	17.80	3,888	25.09	7.3***	9,327	29.14	1,886	32.23	3.08***
premium4weeks	28,608	21.13	3,890	26.97	5.83***	9,273	33.18	1,888	33.76	0.58
CONTROL VARIABLES										
Relative Size (%)	30,583	47.78	5,206	44.84	-2.93*	10,898	42.72	1,798	49.33	6.6**
Log. Target Size (mil\$) Adjusted	74,105	3,459.69	14,513	11,785.97	8326***	20,977	1,855.80	4,094	10,498.59	8643***
Log. Bidder Size (mil\$) Adjusted	175,580	18,139.11	31,198	37,281.42	19142***	58,081	12,120.21	13,678	24,100.44	11980***
Public Bidder (%)	463,343	47.06	108,441	33.04	-14.02***	136,554	54.55	42,024	38.55	-16***
Public Target (%)	463,343	14.57	108,441	10.16	-4.41***	136,554	12.16	42,024	8.43	-3.73***
Same Industry (%)	463,343	45.30	108,441	44.89	-0.41**	136,554	49.19	42,024	49.49	0.3
Developed Bidder (%)	463,343	85.24	108,441	85.93	0.69***	136,554	99.44	42,024	98.36	-1.08***
Developed Target (%)	463,343	81.41	108,441	83.43	2.02***	136,554	100.00	42,024	100.00	0
Deal Size (mil\$) Adjusted	217,103	188.42	34,283	267.38	78.96***	60,714	299.03	15,028	333.35	34.32
Successful Completion (%)	463,343	79.07	108,441	83.27	4.2***	136,554	84.90	42,024	85.17	0.27
Deal is Acquisition (%)	463,343	75.93	108,441	78.01	2.08***	136,554	88.94	42,024	89.56	0.62***
Deal is Hostile (%)	463,343	0.19	108,441	0.06	-0.14***	136,554	0.23	42,024	0.05	-0.18***
Deal is All Cash (%)	463,343	15.62	108,441	10.34	-5.28***	136,554	12.65	42,024	12.47	-0.18
Deal is All Competitive (%)	463,341	0.63	108,438	0.43	-0.2***	136,553	0.76	42,022	0.51	-0.25***
Deal is Cross border (%)	463,343	21.70	108,441	20.79	-0.92***	136,554	9.48	42,024	13.28	3.8***



Table 71 (cont'd),

	OTHER DEVELOPED					EMERGING				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	27,381	6.69	3,831	7.85	1.17***	11,619	2.96	1,509	2.09	-0.87***
Bidder CAR (3-day)	83,766	1.25	12,232	1.19	-0.06	33,482	1.13	4,387	0.48	-0.65***
Combined CAR (3-day)	8,253	1.60	1,210	2.37	0.78***	2,342	0.95	357	1.06	0.1
premium1day	14,909	13.08	1,801	15.59	2.51**	4,733	(1.20)	205	18.65	19.86***
premium1week	14,682	15.86	1,804	18.21	2.35**	4,695	1.29	198	19.83	18.55***
premium4weeks	14,652	18.65	1,807	20.29	1.64	4,683	5.06	195	23.06	18***
CONTROL VARIABLES										
Relative Size (%)	15,427	50.35	2,783	41.79	-8.56***	4,258	51.39	625	45.53	-5.86
Log. Target Size (mil\$) Adjusted	40,089	3,875.83	8,155	14,505.85	10630***	13,039	4,760.57	2,264	4,316.84	-444
Log. Bidder Size (mil\$) Adjusted	83,704	20,749.31	13,031	50,899.29	30150***	33,795	22,018.38	4,489	37,912.95	15895***
Public Bidder (%)	240,652	43.07	48,452	28.46	-14.61***	86,137	46.32	17,965	32.51	-13.81***
Public Target (%)	240,652	14.71	48,452	9.51	-5.2***	86,137	17.96	17,965	15.94	-2.02***
Same Industry (%)	240,652	45.13	48,452	44.53	-0.6**	86,137	39.61	17,965	35.07	-4.53***
Developed Bidder (%)	240,652	98.27	48,452	98.33	0.06	86,137	26.33	17,965	23.42	-2.91***
Developed Target (%)	240,652	100.00	48,452	100.00	0	86,137	-	17,965	-	0
Deal Size (mil\$) Adjusted	106,621	174.61	14,300	247.84	73.23***	49,768	83.06	4,955	123.68	40.62***
Successful Completion (%)	240,652	81.13	48,452	83.03	1.9***	86,137	64.07	17,965	79.49	15.42***
Deal is Acquisition (%)	240,652	75.05	48,452	77.53	2.49***	86,137	57.77	17,965	52.30	-5.48***
Deal is Hostile (%)	240,652	0.23	48,452	0.07	-0.16***	86,137	0.03	17,965	0.04	0.01
Deal is All Cash (%)	240,652	15.51	48,452	9.55	-5.96***	86,137	20.60	17,965	7.48	-13.12***
Deal is All Competitive (%)	240,652	0.72	48,451	0.36	-0.37***	86,136	0.18	17,965	0.47	0.29***
Deal is Cross border (%)	240,652	26.17	48,452	25.59	-0.58***	86,137	28.62	17,965	25.41	-3.21***

Notes: Table presents non-crisis versus crisis number of observations and means of dependent and control variables used in this study as well as the difference and statistical significance of the difference between crisis vs. non-crisis times. The statistical significance of the difference is based on t-statistics. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table reports full sample, United States, other developed countries and emerging countries.

Table 72: Summary of Dependent and Control Variables (ONLY DOMESTIC DEALS)

	FULL SAMPLE					UNITED STATES				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	40,448	7.01	6,403	8.67	1.66***	10,827	11.55	2,598	12.45	0.9*
Bidder CAR (3-day)	129,128	1.38	20,993	1.66	0.28***	50,132	1.54	11,126	2.14	0.59***
Combined CAR (3-day)	11,631	1.73	1,705	2.50	0.77***	4,030	2.02	683	2.71	0.68*
premium1day	23,590	13.94	3,063	22.74	8.79***	8,469	25.40	1,603	31.75	6.34***
premium1week	23,376	16.77	3,068	24.16	7.38***	8,460	28.80	1,602	32.09	3.29***
premium4weeks	23,301	20.03	3,069	26.05	6.03***	8,407	32.65	1,604	33.42	0.77
CONTROL VARIABLES										
Relative Size (%)	24,242	50.17	3,702	48.21	-1.96	9,966	43.17	1,477	49.59	6.42**
Log. Target Size (mil\$) Adjusted	59,660	3,113.20	11,166	11,883.86	8771***	19,309	1,771.92	3,564	9,351.62	7580***
Log. Bidder Size (mil\$) Adjusted	129,853	10,997.21	21,180	24,637.03	13640***	51,574	10,289.20	10,560	20,305.62	10016***
Public Bidder (%)	362,786	45.08	85,899	28.58	-16.5***	123,613	53.07	36,445	34.55	-18.53***
Public Target (%)	362,786	14.73	85,899	9.86	-4.88***	123,613	12.09	36,445	8.29	-3.8***
Same Industry (%)	362,786	45.04	85,899	44.07	-0.97***	123,613	49.55	36,445	48.92	-0.63**
Developed Bidder (%)	362,786	83.05	85,899	84.40	1.35***	123,613	100.00	36,445	100.00	0
Developed Target (%)	362,786	83.05	85,899	84.40	1.35***	123,613	100.00	36,445	100.00	0
Deal Size (mil\$) Adjusted	171,499	176.31	25,562	255.08	78.77***	53,723	297.60	12,148	335.39	37.8
Successful Completion (%)	362,786	79.19	85,899	84.46	5.27***	123,613	85.19	36,445	86.60	1.41***
Deal is Acquisition (%)	362,786	77.37	85,899	79.03	1.66***	123,613	89.76	36,445	90.48	0.72***
Deal is Hostile (%)	362,786	0.20	85,899	0.04	-0.16***	123,613	0.24	36,445	0.04	-0.2***
Deal is All Cash (%)	362,786	15.94	85,899	9.92	-6.02***	123,613	12.38	36,445	11.94	-0.44**
Deal is All Competitive (%)	362,785	0.63	85,896	0.37	-0.26***	123,612	0.79	36,443	0.47	-0.32***
Deal is Cross border (%)	362,786	-	85,899	-	0	123,613	-	36,445	-	0

Table 72(cont'd),

	OTHER DEVELOPED					EMERGING				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	20,446	6.49	2,769	7.72	1.23***	9,175	2.82	1,036	1.72	-1.09***
Bidder CAR (3-day)	56,746	1.41	7,496	1.35	-0.06	22,250	0.93	2,371	0.39	-0.54***
Combined CAR (3-day)	6,018	1.66	848	2.52	0.86***	1,583	1.23	174	1.60	0.37
premium1day	11,419	11.29	1,341	12.67	1.38	3,702	(4.09)	119	14.85	18.93***
premium1week	11,244	13.85	1,348	15.54	1.69	3,672	(2.00)	118	14.90	16.9***
premium4weeks	11,231	16.53	1,349	17.95	1.42	3,663	1.77	116	18.44	16.66***
CONTROL VARIABLES										
Relative Size (%)	11,194	53.52	1,893	46.15	-7.37**	3,082	60.68	332	53.86	-6.81
Log. Target Size (mil\$) Adjusted	30,182	3,418.72	5,957	15,462.21	12043***	10,169	4,753.24	1,645	4,411.92	-341
Log. Bidder Size (mil\$) Adjusted	55,537	14,223.41	8,143	33,482.05	19259***	22,742	4,724.29	2,477	14,025.30	9301***
Public Bidder (%)	177,685	39.94	36,054	23.80	-16.14***	61,488	43.84	13,400	25.19	-18.65***
Public Target (%)	177,685	14.87	36,054	9.27	-5.61***	61,488	19.64	13,400	15.69	-3.95***
Same Industry (%)	177,685	44.86	36,054	44.38	-0.48*	61,488	36.49	13,400	30.07	-6.42***
Developed Bidder (%)	177,685	100.00	36,054	100.00	0	61,488	-	13,400	-	0
Developed Target (%)	177,685	100.00	36,054	100.00	0	61,488	-	13,400	-	0
Deal Size (mil\$) Adjusted	80,780	143.35	10,370	201.56	58.21***	36,996	72.12	3,044	116.86	44.73***
Successful Completion (%)	177,685	80.83	36,054	83.33	2.5***	61,488	62.40	13,400	81.68	19.28***
Deal is Acquisition (%)	177,685	75.19	36,054	77.57	2.38***	61,488	58.75	13,400	51.81	-6.94***
Deal is Hostile (%)	177,685	0.23	36,054	0.05	-0.18***	61,488	0.03	13,400	0.02	-0.01
Deal is All Cash (%)	177,685	16.11	36,054	8.99	-7.11***	61,488	22.60	13,400	6.89	-15.72***
Deal is All Competitive (%)	177,685	0.68	36,053	0.30	-0.38***	61,488	0.18	13,400	0.32	0.14***
Deal is Cross border (%)	177,685	-	36,054	-	0	61,488	-	13,400	-	0

Notes: Table presents non-crisis versus crisis number of observations and means of dependent and control variables used in this study as well as the difference and statistical significance of the difference between crisis vs. non-crisis times for DOMESTIC deals. The statistical significance of the difference is based on t-statistics. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table reports full sample, United States, other developed countries and emerging countries.

Table 73: Summary of Dependent and Control Variables (ONLY CROSS-BORDER DEALS)

	FULL SAMPLE					UNITED STATES				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	10,612	7.08	1,985	8.42	1.35***	1,233	13.08	450	14.74	1.66
Bidder CAR (3-day)	45,011	1.19	9,950	1.10	-0.08	6,759	1.66	3,198	1.65	-0.02
Combined CAR (3-day)	3,534	1.32	767	2.05	0.73***	540	2.19	222	3.34	1.15*
premium1day	5,394	18.45	831	26.66	8.2***	873	27.55	285	31.59	4.04
premium1week	5,328	22.27	820	28.59	6.32***	867	32.46	284	33.00	0.53
premium4weeks	5,307	26.00	821	30.38	4.38**	866	38.27	284	35.69	-2.58
CONTROL VARIABLES										
Relative Size (%)	6,341	38.61	1,504	36.55	-2.06	932	37.95	321	48.11	10.16
Log. Target Size (mil\$) Adjusted	14,445	4,890.76	3,347	11,459.40	6569***	1,668	2,826.90	530	18,211.44	15385***
Log. Bidder Size (mil\$) Adjusted	45,727	38,420.30	10,018	64,014.12	25594***	6,507	26,632.72	3,118	36,952.70	10320*
Public Bidder (%)	100,557	54.20	22,542	50.05	-4.15***	12,941	68.62	5,579	64.69	-3.93***
Public Target (%)	100,557	13.96	22,542	11.31	-2.65***	12,941	12.82	5,579	9.32	-3.5***
Same Industry (%)	100,557	46.24	22,542	47.99	1.75***	12,941	45.76	5,579	53.24	7.47***
Developed Bidder (%)	100,557	93.14	22,542	91.77	-1.37***	12,941	94.09	5,579	87.63	-6.46***
Developed Target (%)	100,557	75.49	22,542	79.75	4.26***	12,941	100.00	5,579	100.00	0
Deal Size (mil\$) Adjusted	45,604	233.97	8,721	303.44	69.47***	6,991	310.09	2,880	324.74	14.65
Successful Completion (%)	100,557	78.65	22,542	78.75	0.1	12,941	82.16	5,579	75.82	-6.34***
Deal is Acquisition (%)	100,557	70.75	22,542	74.15	3.4***	12,941	81.14	5,579	83.56	2.43***
Deal is Hostile (%)	100,557	0.15	22,542	0.10	-0.05*	12,941	0.15	5,579	0.11	-0.04
Deal is All Cash (%)	100,557	14.45	22,542	11.95	-2.49***	12,941	15.27	5,579	15.95	0.68
Deal is All Competitive (%)	100,556	0.64	22,542	0.66	0.02	12,941	0.54	5,579	0.77	0.23*
Deal is Cross border (%)	100,557	100.00	22,542	100.00	0	12,941	100.00	5,579	100.00	0



Table 73 (cont'd),

	OTHER DEVELOPED					EMERGING				
	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)	NON-CRISIS (A)		CRISIS (B)		Difference (B-A)
	N	Mean	N	Mean		N	Mean	N	Mean	
DEPENDENT VARIABLES										
Target CAR (3-day)	6,935	7.27	1,062	8.20	0.93*	2,444	3.48	473	2.89	-0.59
Bidder CAR (3-day)	27,020	0.92	4,736	0.95	0.04	11,232	1.54	2,016	0.60	-0.95***
Combined CAR (3-day)	2,235	1.44	362	2.03	0.6	759	0.37	183	0.53	0.16
premium1day	3,490	18.93	460	24.11	5.18**	1,031	9.15	86	23.92	14.77***
premium1week	3,438	22.43	456	26.10	3.67*	1,023	13.09	80	27.12	14.03***
premium4weeks	3,421	25.62	458	27.18	1.56	1,020	16.86	79	29.84	12.98**
CONTROL VARIABLES										
Relative Size (%)	4,233	41.97	890	32.53	-9.44**	1,176	27.04	293	36.08	9.05
Log. Target Size (mil\$) Adjusted	9,907	5,268.44	2,198	11,913.94	6646***	2,870	4,786.55	619	4,064.19	-722
Log. Bidder Size (mil\$) Adjusted	28,167	33,616.46	4,888	79,914.96	46299***	11,053	57,601.66	2,012	67,321.36	9720*
Public Bidder (%)	62,967	51.89	12,398	42.00	-9.9***	24,649	52.51	4,565	54.02	1.51*
Public Target (%)	62,967	14.27	12,398	10.23	-4.04***	24,649	13.78	4,565	16.67	2.89***
Same Industry (%)	62,967	45.89	12,398	44.97	-0.92*	24,649	47.39	4,565	49.77	2.38***
Developed Bidder (%)	62,967	93.39	12,398	93.48	0.1	24,649	92.02	4,565	92.18	0.16
Developed Target (%)	62,967	100.00	12,398	100.00	0	24,649	-	4,565	-	0
Deal Size (mil\$) Adjusted	25,841	272.30	3,930	369.95	97.65**	12,772	114.73	1,911	134.54	19.81
Successful Completion (%)	62,967	81.99	12,398	82.15	0.16	24,649	68.25	4,565	73.08	4.82***
Deal is Acquisition (%)	62,967	74.65	12,398	77.43	2.78***	24,649	55.32	4,565	53.71	-1.61**
Deal is Hostile (%)	62,967	0.21	12,398	0.10	-0.1**	24,649	0.02	4,565	0.09	0.07**
Deal is All Cash (%)	62,967	13.82	12,398	11.16	-2.67***	24,649	15.60	4,565	9.22	-6.38***
Deal is All Competitive (%)	62,967	0.84	12,398	0.52	-0.32***	24,648	0.18	4,565	0.90	0.72***
Deal is Cross border (%)	62,967	100.00	12,398	100.00	0	24,649	100.00	4,565	100.00	0

Notes: Table presents non-crisis versus crisis number of observations and means of dependent and control variables used in this study as well as the difference and statistical significance of the difference between crisis vs. non-crisis times for CROSS-BORDER deals. The statistical significance of the difference is based on t-statistics. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. The table reports full sample, United States, other developed countries and emerging countries.

Table 74: Distribution of Deal Size (mil. \$) in US, Other Developed Countries and Emerging Countries**Panel A-Statistics on Deal Size**

	mean	sd	min	p1	p25	p50	p75	p99	max	N
United States	305.84	2,366.93	0.001	0.15	6.29	24.75	106.96	4,855.55	221,441	75,742
Other Developed	183.27	1,718.62	0.001	0.04	2.59	11.50	55.51	2,870.60	273,379	120,921
Emerging	86.74	529.35	0.001	0.02	1.85	7.78	34.19	1,356.43	44,546	54,723
Full Sample	199.19	1,782.14	0.001	0.04	3.06	13.49	62.76	3,081.71	273,379	251,386

Panel B-Size Groups

	United States	Other Developed	Emerging	Total
Small (<=50%)	37,871	60,461	27,362	125,694
Large (>50%)	37,871	60,460	27,361	125,692
Total	75,742	120,921	54,723	251,386

Notes: Panel A reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for deal size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. Panel B partitions the data into small and large size groups based on the 50th percentile value.

Table 75: Distribution of Deal Size (mil. \$) - UNITED STATES

UNITED STATES									
LOW DEAL SIZE (<=50%) (<=24.75 Mil. Dollar)					HIGH DEAL SIZE (>50%) (>24.75 Mil. Dollar)				
	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	Difference (High-Low)
A) NON-CRISIS									
Target_3dCAR	3,699	7.28	7.99	5.94	6,525	16.32	1,387.71	197.53	9.04***
Bidder_3dCAR	14,148	2.06	8.96	7.40	16,589	1.00	666.52	102.55	-1.07***
Combined_3dCAR	721	2.12	10.68	10.40	3,562	2.03	1,767.54	276.01	-0.08
premium1day	3,079	15.71	7.66	5.38	6,259	30.46	1,675.52	228.68	14.75***
premium1week	3,072	17.72	7.66	5.37	6,251	34.74	1,676.39	229.13	17.02***
premium4weeks	3,030	19.53	7.72	5.41	6,239	39.80	1,679.82	229.80	20.27***
B) CRISIS									
Target_3dCAR	839	9.10	7.61	5.13	1,633	18.81	1,655.38	276.33	9.71***
Bidder_3dCAR	3,422	2.95	7.71	5.34	3,924	1.03	704.03	125.44	-1.92***
Combined_3dCAR	141	2.53	10.84	10.14	715	3.02	2,207.98	455.09	0.49
premium1day	476	25.03	8.57	6.15	1,412	33.98	1,832.01	339.40	8.95***
premium1week	477	25.54	8.59	6.19	1,409	34.49	1,836.14	343.47	8.96***
premium4weeks	478	24.32	8.60	6.18	1,410	36.97	1,815.82	338.38	12.64***
Difference (B-A)									
Target_3dCAR		1.82**	-0.38			2.49***	267.67*		
Bidder_3dCAR		0.88***	-1.25***			0.03	37.51		
Combined_3dCAR		0.41	0.16			0.99***	440.43*		
premium1day		9.32***	0.91***			3.52***	156.48		
premium1week		7.82***	0.93***			-0.25	159.75		
premium4weeks		4.79*	0.88***			-2.83**	136.01		

Notes: Table splits the United States sample into low and high deal size groups based on median deal size reported in Table 74. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 76: Distribution of Deal Size (mil. \$) - OTHER DEVELOPED

	OTHER DEVELOPED								
	LOW DEAL SIZE (<=50%) (<=11.50 Mil. Dollar)				HIGH DEAL SIZE (>50%) (>11.50 Mil. Dollar)				Difference (High-Low)
	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	
A) NON-CRISIS									
Target_3dCAR	8,075	6.05	3.80	2.94	12,154	9.44	702.37	78.40	3.4***
Bidder_3dCAR	24,808	1.81	3.43	2.39	23,557	1.00	411.47	54.80	-0.81***
Combined_3dCAR	1,779	1.46	4.61	4.08	4,858	1.89	987.92	104.86	0.43**
premium1day	5,208	2.25	4.15	3.38	9,630	18.98	839.40	88.57	16.74***
premium1week	5,141	4.25	4.15	3.39	9,472	22.22	845.15	88.84	17.97***
premium4weeks	5,111	6.70	4.14	3.38	9,472	25.21	847.06	88.88	18.5***
B) CRISIS									
Target_3dCAR	600	8.93	4.38	3.57	1,690	11.65	962.36	99.20	2.72***
Bidder_3dCAR	2,630	1.53	3.86	2.96	3,319	1.30	468.62	58.23	-0.24
Combined_3dCAR	181	2.83	4.76	4.25	638	2.65	1,211.60	99.73	-0.18
premium1day	447	3.64	4.33	3.40	1,347	19.50	1,062.80	103.18	15.86***
premium1week	449	5.19	4.29	3.36	1,348	22.54	1,058.21	102.15	17.34***
premium4weeks	453	6.46	4.30	3.36	1,347	24.99	1,058.97	101.68	18.53***
Difference (B-A)									
Target_3dCAR		2.88***	0.58***			2.2***	260**		
Bidder_3dCAR		-0.28	0.43***			0.29**	57.15		
Combined_3dCAR		1.37**	0.15			0.76***	223.69		
premium1day		1.39	0.18			0.52	223.4		
premium1week		0.95	0.15			0.32	213.06		
premium4weeks		-0.24	0.15			-0.22	211.91		

Notes: Table splits the other developed country sample into low and high deal size groups based on median deal size reported in Table 74. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 77: Distribution of Deal Size (mil. \$) - EMERGING

	EMERGING								
	LOW DEAL SIZE (<=50%) (<=7.78 Mil. Dollar)				HIGH DEAL SIZE (>50%) (>7.78 Mil. Dollar)				Difference (High-Low)
	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	N	Mean (%)	Average Deal Size (\$ Mil.)	Median Deal Size (\$ Mil.)	
A) NON-CRISIS									
Target_3dCAR	3,481	3.07	2.87	2.38	4,894	3.64	261.66	40.37	0.57**
Bidder_3dCAR	9,754	1.11	2.64	2.13	10,620	1.38	188.29	35.24	0.26**
Combined_3dCAR	422	1.46	3.41	3.06	1,377	0.88	445.58	76.15	-0.58*
premium1day	1,874	(6.68)	2.93	2.44	2,845	2.44	283.79	41.51	9.12***
premium1week	1,861	(5.40)	2.93	2.44	2,821	5.67	285.71	41.69	11.07***
premium4weeks	1,870	(1.86)	2.94	2.45	2,801	9.71	287.05	41.43	11.57***
B) CRISIS									
Target_3dCAR	133	2.69	3.35	3.31	489	2.25	320.78	85.41	-0.44
Bidder_3dCAR	670	0.47	2.63	2.03	1,231	1.02	208.74	51.62	0.55
Combined_3dCAR	38	(0.64)	2.77	2.44	164	1.38	390.29	111.78	2.01**
premium1day	51	14.35	3.39	3.27	154	20.08	187.60	58.82	5.73
premium1week	51	18.20	3.48	3.48	147	20.40	194.92	59.81	2.2
premium4weeks	50	24.49	3.42	3.41	145	22.56	192.81	59.81	-1.93
Difference (B-A)									
Target_3dCAR		-0.38	0.49**			-1.39**	59.12		
Bidder_3dCAR		-0.64*	0			-0.36	20.46		
Combined_3dCAR		-2.1*	-0.65*			0.49	-55.29		
premium1day		21.03***	0.46			17.63***	-96.19		
premium1week		23.6***	0.55*			14.73***	-90.8		
premium4weeks		26.35***	0.48			12.86***	-94.23		

Notes: Table splits the emerging country sample into low and high deal size groups based on median deal size reported in Table 74. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 78: Distribution of Relative Size in US, Other Developed Countries and Emerging Countries**Panel A-Statistics on Relative Size**

	mean	sd	min	p1	p25	p50	p75	p99	max	N
United States	43.66	102.87	0.02	0.06	3.72	13.23	40.92	541.48	1,325	12,696
Other Developed	49.04	118.49	0.02	0.04	2.34	11.22	43.67	647.94	1,333	18,210
Emerging	50.64	113.17	0.02	0.06	2.79	13.37	47.93	640.13	1,291	4,883
Full Sample	47.35	112.48	0.02	0.05	2.83	12.25	43.06	612.42	1,333	35,789

Panel B-Size Groups

	United States	Other Developed	Emerging	Total
Small (<=50%)	6,348	9,105	2,442	17,895
Large (>50%)	6,348	9,105	2,441	17,894
Total	12,696	18,210	4,883	35,789

Notes: Panel A reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for relative size (target total assets to bidder total assets) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. Panel B partitions the data into small and large size groups based on the 50th percentile value

Table 79: Distribution of Relative Size- UNITED STATES

UNITED STATES									
	LOW RELATIVE SIZE (<=50%) (<=13.23%)				HIGH RELATIVE SIZE (>50%) (>13.23%)				Difference (High-Low)
	N	Mean (%)	Average Relative Size	Median Relative Size	N	Mean (%)	Average Relative Size	Median Relative Size	
A) NON-CRISIS									
Target_3dCAR	2,459	17.98	4.43	3.29	2,912	14.50	81.79	43.89	-3.48***
Bidder_3dCAR	4,501	0.31	4.61	3.64	4,150	0.61	74.30	38.40	0.29
Combined_3dCAR	2,145	0.28	4.41	3.23	2,395	3.61	73.76	41.30	3.32***
premium1day	2,135	32.17	4.72	3.83	2,664	29.21	74.48	41.72	-2.96***
premium1week	2,127	37.15	4.72	3.83	2,663	33.36	74.44	41.72	-3.79***
premium4weeks	2,123	43.52	4.72	3.82	2,661	37.21	74.41	41.71	-6.3***
B) CRISIS									
Target_3dCAR	425	24.47	4.56	3.32	546	17.36	89.72	46.56	-7.11***
Bidder_3dCAR	814	0.32	4.53	3.57	819	1.38	85.56	41.74	1.06*
Combined_3dCAR	405	0.38	4.51	3.22	488	4.91	84.01	44.08	4.54***
premium1day	367	40.20	4.54	3.31	441	30.46	79.17	44.48	-9.74***
premium1week	366	41.92	4.55	3.29	444	32.08	80.73	44.56	-9.84***
premium4weeks	368	48.57	4.52	3.26	443	33.23	80.32	44.46	-15.34***
Difference (B-A)									
Target_3dCAR		6.49***	0.13			2.86***	7.93		
Bidder_3dCAR		0.01	-0.07			0.78*	11.26**		
Combined_3dCAR		0.1	0.1			1.31**	10.26*		
premium1day		8.03***	-0.18			1.25	4.68		
premium1week		4.76**	-0.18			-1.28	6.29		
premium4weeks		5.06*	-0.2			-3.98*	5.92		

Notes: Table splits the United States sample into low and high deal size groups based on median relative size reported in Table 78 .The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 80: Distribution of Relative Size - OTHER DEVELOPED

	OTHER DEVELOPED								
	LOW RELATIVE SIZE (<=50%)				HIGH RELATIVE SIZE (>50%)				Difference (High-Low)
	(<=11.22%)				(>11.22%)				
	N	Mean (%)	Average Relative Size	Median Relative Size	N	Mean (%)	Average Relative Size	Median Relative Size	
A) NON-CRISIS									
Target_3dCAR	3,947	9.34	3.68	2.69	5,393	7.49	96.71	46.33	-1.85***
Bidder_3dCAR	6,598	0.25	3.49	2.41	6,671	0.72	90.79	42.00	0.47***
Combined_3dCAR	3,491	0.33	3.69	2.68	4,599	2.54	92.45	44.49	2.21***
premium1day	2,461	17.59	3.80	2.86	3,455	16.68	83.98	43.06	-0.91
premium1week	2,431	20.18	3.79	2.85	3,414	19.56	84.08	43.09	-0.62
premium4weeks	2,429	22.65	3.80	2.87	3,404	21.24	84.54	43.10	-1.41
B) CRISIS									
Target_3dCAR	584	9.34	3.69	2.70	727	8.34	92.69	45.28	-1
Bidder_3dCAR	1,444	0.95	2.99	1.69	965	1.63	93.20	41.47	0.68**
Combined_3dCAR	524	0.63	3.69	2.73	652	3.74	94.71	45.23	3.1***
premium1day	308	15.97	4.11	3.45	376	14.64	72.79	44.11	-1.33
premium1week	311	18.02	4.08	3.35	374	16.88	72.15	44.11	-1.15
premium4weeks	310	19.46	4.09	3.34	377	18.06	72.69	44.04	-1.41
Difference (B-A)									
Target_3dCAR		0	0.01			0.85	-4.02		
Bidder_3dCAR		0.7***	-0.5***			0.91***	2.41		
Combined_3dCAR		0.3	0			1.19***	2.26		
premium1day		-1.62	0.3			-2.04	-11.19*		
premium1week		-2.16	0.29			-2.69	-11.93*		
premium4weeks		-3.18	0.28			-3.18	-11.85*		

Notes: Table splits the other developed country's sample into low and high deal size groups based on median relative size reported in Table 78. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 81: Distribution of Relative Size – EMERGING

	EMERGING								
	LOW RELATIVE SIZE (<=50%)				HIGH RELATIVE SIZE (>50%)				Difference (High-Low)
	<=13.37%				>13.37%				
	N	Mean (%)	Average Relative Size	Median Relative Size	N	Mean (%)	Average Relative Size	Median Relative Size	
A) NON-CRISIS									
Target_3dCAR	1,161	4.74	4.29	3.09	1,417	3.26	99.16	51.27	-1.49***
Bidder_3dCAR	1,847	0.46	4.12	2.88	1,860	1.17	96.43	48.49	0.72***
Combined_3dCAR	1,049	0.40	4.30	3.11	1,232	1.47	97.66	50.68	1.08***
premium1day	529	13.06	4.31	3.00	586	7.47	86.89	46.38	-5.59**
premium1week	527	16.81	4.30	3.01	585	10.16	86.94	46.38	-6.65**
premium4weeks	525	20.65	4.34	3.01	582	13.94	86.95	46.28	-6.71**
B) CRISIS									
Target_3dCAR	206	3.62	4.43	3.03	197	3.00	93.82	41.71	-0.61
Bidder_3dCAR	283	0.66	3.87	2.56	232	1.12	87.38	40.51	0.46
Combined_3dCAR	179	0.61	4.25	3.09	169	1.57	89.49	41.18	0.96
premium1day	38	10.06	4.77	3.67	41	34.33	55.98	30.56	24.27*
premium1week	36	9.39	4.67	3.67	41	40.39	55.98	30.56	31**
premium4weeks	38	8.32	4.45	2.92	38	44.93	57.60	31.37	36.61**
Difference (B-A)									
Target_3dCAR		-1.12	0.14			-0.25	-5.34		
Bidder_3dCAR		0.2	-0.25			-0.05	-9.05		
Combined_3dCAR		0.21	-0.05			0.09	-8.16		
premium1day		-3	0.46			26.87***	-30.91		
premium1week		-7.42	0.37			30.23***	-30.96		
premium4weeks		-12.33	0.12			30.99***	-29.35		

Notes: Table splits the emerging country sample into low and high deal size groups based on median relative size reported in Table 78 .The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 82: Distribution of Adjusted Bidder Size in US, Other Developed Countries and Emerging Countries**Panel A-Statistics on Bidder Size**

	mean	sd	min	p1	p25	p50	p75	p99	max	N
United States	14,403.77	171,349.00	0.10	0.25	117.71	644.58	3,187.86	251,183.30	30,900,000.00	71,759
Other Developed	24,810.76	161,282.90	0.10	0.64	87.74	538.93	3,894.76	554,407.10	13,500,000.00	96,735
Emerging	23,882.10	146,387.90	0.10	1.18	106.76	514.21	3,768.07	534,853.80	3,948,292.00	38,284
Full Sample	21,027.24	162,323.30	0.10	0.48	100.55	568.78	3,581.16	439,277.30	30,900,000.00	206,778

Panel B-Size Groups

	United States	Other Developed	Emerging	Total
Small (<=50%)	35,880	48,369	19,142	103,391
Large (>50%)	35,879	48,366	19,142	103,387
Total	71,759	96,735	38,284	206,778

Notes: Panel A reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for bidder size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. Panel B partitions the data into small and large size groups based on the 50th percentile value.

Table 83: Distribution of Adjusted Bidder Size- UNITED STATES

UNITED STATES									
LOW BIDDER SIZE (<=50%) (<=644.58 Mil. Dollar)					HIGH BIDDER SIZE (>50%) (>644.58 Mil. Dollar)				
	N	Mean	Average Bidder Size	Median Bidder size	N	Mean	Average Bidder Size	Median Bidder size	Difference (High-Low)
A) NON-CRISIS									
Target_3dCAR (%)	1,746	14.02	223	177	3,886	16.60	40,867	5,740	2.58***
Bidder_3dCAR (%)	23,372	2.32	196	136	24,682	0.15	24,538	3,082	-2.17***
Combined_3dCAR (%)	1,294	4.06	234	188	3,276	1.25	43,246	5,791	-2.82***
premium1day (%)	1,352	32.89	252	221	3,556	29.76	38,399	5,482	-3.12***
premium1week (%)	1,353	37.94	253	222	3,547	34.11	38,477	5,481	-3.83***
premium4weeks (%)	1,352	42.93	253	222	3,541	39.09	38,481	5,490	-3.84***
B) CRISIS									
Target_3dCAR (%)	317	14.68	186	113	737	22.40	59,069	7,209	7.72***
Bidder_3dCAR (%)	5,343	2.87	159	76	6,918	0.29	45,975	3,877	-2.58***
Combined_3dCAR (%)	230	3.80	220	161	675	2.54	63,046	7,596	-1.25*
premium1day (%)	193	35.65	240	192	646	35.21	50,488	6,870	-0.44
premium1week (%)	194	38.20	238	190	646	36.40	50,454	6,793	-1.8
premium4weeks (%)	195	39.90	236	188	646	40.51	49,550	6,793	0.61
Difference (B-A)									
Target_3dCAR (%)		0.66	-37***			5.8***	18201		
Bidder_3dCAR (%)		0.55***	-37***			0.14**	21437***		
Combined_3dCAR (%)		-0.27	-14			1.3***	19800		
premium1day (%)		2.76	-13			5.45***	12089		
premium1week (%)		0.26	-15			2.29	11977		
premium4weeks (%)		-3.03	-17			1.42	11068		

Notes: Table splits the United States sample into low and high deal size groups based on median bidder size reported in Table 82. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 84: Distribution of Adjusted Bidder Size - OTHER DEVELOPED

OTHER DEVELOPED									
LOW BIDDER SIZE (<=50%) (<=538.93 Mil. Dollar)					HIGH BIDDER SIZE (>50%) (>538.93 Mil. Dollar)				

Notes: Table splits the other developed country sample into low and high deal size groups based on median bidder size reported in Table 82. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 85: Distribution of Adjusted Bidder Size – EMERGING

EMERGING									
LOW BIDDER SIZE (<=50%) (<=514.21 Mil. Dollar)					HIGH BIDDER SIZE (>50%) (>514.21 Mil. Dollar)				
	N	Mean	Average Bidder Size	Median Bidder size	N	Mean	Average Bidder Size	Median Bidder size	Difference (High-Low)
A) NON-CRISIS									
Target_3dCAR (%)	970	3.84	165	119	2,115	3.95	75,619	6,677	0.11
Bidder_3dCAR (%)	15,393	1.61	152	106	13,956	0.30	49,713	3,375	-1.32***
Combined_3dCAR (%)	685	2.02	162	122	1,657	0.51	86,811	7,559	-1.51***
premium1day (%)	376	6.68	183	146	916	11.65	60,297	5,421	4.97*
premium1week (%)	375	9.54	183	146	913	14.99	60,445	5,387	5.46**
premium4weeks (%)	375	16.08	182	142	904	17.60	60,646	5,422	1.52
B) CRISIS									
Target_3dCAR (%)	74	3.96	233	241	388	3.14	117,229	12,197	-0.81
Bidder_3dCAR (%)	1,003	1.05	198	165	2,552	0.24	61,734	7,420	-0.81***
Combined_3dCAR (%)	58	1.77	234	227	299	0.92	138,467	14,133	-0.86
premium1day (%)	23	30.72	235	230	70	15.73	73,159	8,755	-14.98
premium1week (%)	23	39.36	235	230	69	18.29	73,447	8,686	-21.07
premium4weeks (%)	22	45.48	238	251	68	16.38	80,318	8,755	-29.09*
Difference (B-A)									
Target_3dCAR (%)		0.12	68***			-0.81	41610**		
Bidder_3dCAR (%)		-0.56*	46***			-0.05	12022**		
Combined_3dCAR (%)		-0.25	72***			0.41	51657**		
premium1day (%)		24.04**	52*			4.08	12862		
premium1week (%)		29.82***	51*			3.3	13002		
premium4weeks (%)		29.39**	55*			-1.22	19672		

Notes: Table splits the emerging country sample into low and high deal size groups based on median bidder size reported in Table 82. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 86: Distribution of Adjusted Target Size in US, Other Developed Countries and Emerging Countries**Panel A-Statistics on Target Size**

	mean	sd	min	p1	p25	p50	p75	p99	max	N
United States	3,267.14	46,332.00	0.10	0.22	21.97	118.69	550.31	37,177.91	2,351,475	25,071
Other Developed	5,672.70	120,120.30	0.10	0.25	14.16	83.41	477.75	99,526.80	22,700,000	48,244
Emerging	4,694.93	191,142.90	0.10	0.73	40.35	140.28	639.58	46,521.77	20,700,000	15,303
Total	4,823.29	121,541.20	0.10	0.27	19.65	102.31	526.80	69,868.61	22,700,000	88,618

Panel B-Size Groups

	United States	Other Developed	Emerging	Total
Small (<=50%)	12,537	24,122	7,652	44,311
Large (>50%)	12,534	24,122	7,651	44,307
Total	25,071	48,244	15,303	88,618

Notes: Panel A reports the mean, standard deviation, minimum, 1st, 25th, 50th, 75th, 99th percentile, maximum values and the number of observations for target size (in 2011 million dollars) variable for deals in which the target is incorporated in United States, other developed countries and emerging countries, respectively. Panel B partitions the data into small and large size groups based on the 50th percentile value.

Table 87: Distribution of Adjusted Target Size- UNITED STATES

UNITED STATES									
LOW TARGET SIZE (<=50%) (<=118.69 Mil. Dollar)					HIGH TARGET SIZE (>50%) (>118.69 Mil. Dollar)				
	N	Mean	Average Target Size	Median Target Size	N	Mean	Average Target Size	Median Target Size	Difference (High-Low)
A) NON-CRISIS									
Target_3dCAR	4,548	12.45	45.41	39.23	6,758	11.64	3,546.88	548.56	-0.81*
Bidder_3dCAR	4,870	2.09	34.73	22.32	4,718	(0.68)	3,882.76	517.77	-2.77***
Combined_3dCAR	1,590	2.26	49.68	44.60	2,980	1.93	4,085.61	617.48	-0.34
premium1day	3,215	28.79	50.87	45.99	5,900	23.93	3,719.09	550.06	-4.86***
premium1week	3,204	32.36	50.95	46.15	5,898	27.50	3,717.31	549.49	-4.86***
premium4weeks	3,195	37.48	51.04	46.23	5,873	30.86	3,732.48	551.50	-6.62***
B) CRISIS									
Target_3dCAR	946	14.26	34.94	22.84	1,747	12.70	23,403.81	970.14	-1.55
Bidder_3dCAR	908	1.93	26.60	13.10	867	0.24	13,705.23	776.10	-1.69***
Combined_3dCAR	258	1.71	40.23	30.54	647	3.32	16,492.82	893.46	1.61**
premium1day	522	39.55	46.85	38.71	1,291	28.24	18,138.21	946.01	-11.31***
premium1week	517	41.92	46.71	38.50	1,294	28.01	18,096.21	942.95	-13.91***
premium4weeks	524	45.95	46.36	37.94	1,292	28.78	17,498.29	925.24	-17.17***
Difference (B-A)									
Target_3dCAR		1.81**	-10.46***			1.06*	19857***		
Bidder_3dCAR		-0.16	-8.13***			0.92***	9822***		
Combined_3dCAR		-0.55	-9.45***			1.39***	12407***		
premium1day		10.76***	-4.02**			4.31***	14419***		
premium1week		9.56***	-4.24***			0.51	14379***		
premium4weeks		8.46***	-4.68***			-2.08*	13766***		

Notes: Table splits the United States sample into low and high deal size groups based on median target size reported in Table 86. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 88: Distribution of Adjusted Target Size - OTHER DEVELOPED

OTHER DEVELOPED									
	LOW TARGET SIZE (<=50%) (<=83.41 Mil. Dollar)				HIGH TARGET SIZE (>50%) (>83.41 Mil. Dollar)				Difference (High-Low)
	N	Mean	Average Target Size	Median Target Size	N	Mean	Average Target Size	Median Target Size	
A) NON-CRISIS									
Target_3dCAR	10,182	7.60	29.25	23.45	14,847	6.30	8,028.58	450.00	-1.31***
Bidder_3dCAR	7,285	0.86	23.03	14.42	8,070	0.28	9,708.34	510.73	-0.58***
Combined_3dCAR	2,649	1.66	32.47	28.25	5,604	1.57	10,972.23	535.90	-0.09
premium1day	5,570	10.95	31.61	27.05	8,464	14.46	6,068.20	410.71	3.51***
premium1week	5,487	13.94	31.60	27.13	8,356	17.02	6,037.26	410.81	3.07***
premium4weeks	5,468	17.57	31.63	27.05	8,361	19.01	6,060.72	411.74	1.44*
B) CRISIS									
Target_3dCAR	922	10.46	33.73	28.55	2,709	6.98	25,025.17	720.19	-3.48***
Bidder_3dCAR	1,346	1.50	17.18	7.79	1,287	0.84	16,509.91	758.29	-0.66**
Combined_3dCAR	242	2.93	33.74	28.67	968	2.23	16,772.28	854.71	-0.69
premium1day	456	17.86	35.10	31.20	1,258	15.35	23,273.23	553.77	-2.51
premium1week	458	20.47	34.86	30.60	1,260	17.76	23,236.43	537.98	-2.71
premium4weeks	459	24.14	34.96	30.26	1,262	19.14	23,202.87	542.11	-5**
Difference (B-A)									
Target_3dCAR		2.85***	4.48***			0.69**	16997***		
Bidder_3dCAR		0.64***	-5.85***			0.56***	6802***		
Combined_3dCAR		1.27**	1.27			0.67***	5800**		
premium1day		6.92***	3.49***			0.89	17205***		
premium1week		6.53***	3.26***			0.75	17199***		
premium4weeks		6.57***	3.34***			0.12	17142***		

Notes: Table splits the other developed country sample into low and high deal size groups based on median target size reported in Table 86. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 89: Distribution of Adjusted Target Size – EMERGING

EMERGING									
LOW TARGET SIZE (<=50%) (<=140.28 Mil. Dollar)					HIGH TARGET SIZE (>50%) (>140.28 Mil. Dollar)				
	N	Mean	Average Target Size	Median Target Size	N	Mean	Average Target Size	Median Target Size	Difference (High-Low)
A) NON-CRISIS									
Target_3dCAR	4,626	3.23	56.22	49.75	4,817	2.51	3,935.62	534.31	-0.72***
Bidder_3dCAR	1,935	1.19	45.57	35.09	2,102	0.52	5,585.69	809.41	-0.67***
Combined_3dCAR	875	1.45	59.67	51.27	1,467	0.65	4,909.07	880.78	-0.8***
premium1day	2,040	(2.00)	58.04	51.40	2,023	(1.86)	3,064.34	480.73	0.14
premium1week	2,024	(0.04)	58.00	51.40	2,012	0.51	3,004.04	478.09	0.55
premium4weeks	2,026	4.38	58.04	51.40	2,011	3.22	3,036.14	478.05	-1.16
B) CRISIS									
Target_3dCAR	369	2.15	60.55	53.50	898	2.19	5,503.83	1,163.03	0.04
Bidder_3dCAR	141	0.89	52.95	46.99	446	0.91	3,764.92	1,197.42	0.02
Combined_3dCAR	68	1.35	68.11	62.60	289	0.99	4,262.20	1,333.91	-0.37
premium1day	46	17.87	58.85	58.56	119	14.24	3,277.63	1,160.12	-3.63
premium1week	43	25.03	57.61	58.56	115	14.77	3,382.95	1,207.04	-10.26
premium4weeks	43	37.87	60.25	58.56	114	15.36	3,319.77	1,092.64	-22.51**
Difference (B-A)									
Target_3dCAR		-1.08	4.32**			-0.32	1568**		
Bidder_3dCAR		-0.3	7.38**			0.39	-1821		
Combined_3dCAR		-0.1	8.44*			0.33	-647		
premium1day		19.87***	0.81			16.11***	213		
premium1week		25.07***	-0.39			14.26***	379		
premium4weeks		33.49***	2.22			12.14**	284		

Notes: Table splits the emerging country sample into low and high deal size groups based on median target size reported in Table 86. The last column reports high and low deal size difference. The last six rows report crisis versus non-crisis difference for cumulative abnormal returns and premiums. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 90: Distribution of Deal Type (Acquisition vs. partial sale) - UNITED STATES, DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	PARTIAL SALE		ACQUISITION		Diff.	PARTIAL SALE		ACQUISITION		Diff.	PARTIAL SALE		ACQUISITION		Diff.
	(1)		(2)			(1)		(2)			(1)		(2)		
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	4,817	5.51	7,243	15.83	10.32***	18,141	4.61	9,240	10.75	6.14***	9,233	2.57	2,386	4.48	1.91***
Bidder_3dCAR	5,296	0.74	51,595	1.64	0.9***	22,159	0.72	61,607	1.44	0.73***	13,017	0.66	20,465	1.43	0.78***
Combined_3dCAR	924	0.91	3,646	2.33	1.42***	4,860	1.10	3,393	2.30	1.19***	1,695	0.86	647	1.19	0.33
premium1day	3,165	11.91	6,177	32.62	20.72***	8,163	5.34	6,746	22.44	17.11***	3,733	(3.69)	1,000	8.10	11.79***
premium1week	3,154	13.50	6,173	37.14	23.63***	8,059	7.54	6,623	26.00	18.46***	3,705	(1.37)	990	11.25	12.62***
premium4weeks	3,104	15.09	6,169	42.28	27.19***	8,038	10.16	6,614	28.97	18.81***	3,701	2.36	982	15.23	12.86***
B) CRISIS															
Target_3dCAR	1,074	6.05	1,974	16.46	10.4***	2,491	4.97	1,340	13.20	8.23***	1,131	2.01	378	2.35	0.34
Bidder_3dCAR	1,261	1.27	13,063	2.10	0.83*	3,248	0.79	8,984	1.34	0.56***	1,809	0.57	2,578	0.42	-0.15
Combined_3dCAR	161	1.77	744	3.10	1.33*	709	1.79	501	3.19	1.4***	262	1.01	95	1.17	0.15
premium1day	498	14.77	1,390	37.80	23.02***	910	7.96	891	23.39	15.44***	156	23.16	49	4.32	-18.84*
premium1week	495	12.91	1,391	39.10	26.2***	912	9.62	892	27.00	17.38***	152	24.00	46	6.06	-17.94*
premium4weeks	493	9.73	1,395	42.26	32.53***	917	10.70	890	30.17	19.47***	150	26.41	45	11.87	-14.54
Difference (B-A)															
Target_3dCAR		0.54		0.63			0.36		2.45***			-0.56		-2.13***	
Bidder_3dCAR		0.53*		0.46***			0.07		-0.1			-0.09		-1.01***	
Combined_3dCAR		0.86		0.77**			0.69***		0.9**			0.15		-0.02	
premium1day		2.86		5.17***			2.62**		0.95			26.85***		-3.78	
premium1week		-0.6		1.97			2.08		1			25.37***		-5.18	
premium4weeks		-5.37***		-0.02			0.54		1.2			24.05***		-3.35	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal type (acquisition vs. partial sale). Both (acquisition-partial sale) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 91: Distribution of Payment Method (All Cash vs. Not-all cash) - UNITED STATES, DEVELOPED, EMERGING

	UNITED STATES						OTHER DEVELOPED						EMERGING					
	NOT ALL CASH			ALL CASH			NOT ALL CASH			ALL CASH			NOT ALL CASH			ALL CASH		
	(1)			(2)		Diff.	(1)			(2)		Diff.	(1)			(2)		Diff.
	N	Mean		N	Mean	(2-1)	N	Mean		N	Mean	(2-1)	N	Mean		N	Mean	(2-1)
A) NON-CRISIS																		
Target_3dCAR	7,418	10.80		4,642	13.16	2.37***	17,245	5.28		10,136	9.07	3.79***	8,021	2.43		3,598	4.13	1.7***
Bidder_3dCAR	49,486	1.59		7,405	1.34	-0.24*	69,584	1.34		14,182	0.81	-0.53***	26,857	1.19		6,625	0.88	-0.31**
Combined_3dCAR	3,342	1.73		1,228	2.91	1.18***	5,352	1.51		2,901	1.75	0.23	1,549	0.87		793	1.11	0.24
premium1day	4,636	27.12		4,706	24.11	-3***	7,210	11.41		7,699	14.64	3.24***	2,575	(4.86)		2,158	3.16	8.02***
premium1week	4,629	31.25		4,698	27.08	-4.17***	7,077	14.11		7,605	17.49	3.38***	2,553	(2.88)		2,142	6.26	9.15***
premium4weeks	4,620	35.66		4,653	30.72	-4.94***	7,049	17.40		7,603	19.81	2.42***	2,540	0.73		2,143	10.19	9.47***
B) CRISIS																		
Target_3dCAR	1,807	8.32		1,241	19.30	10.99***	2,798	5.54		1,033	14.11	8.56***	1,307	2.00		202	2.65	0.65
Bidder_3dCAR	11,966	2.21		2,358	1.10	-1.11***	10,656	1.20		1,576	1.14	-0.06	3,890	0.49		497	0.44	-0.05
Combined_3dCAR	543	2.47		362	3.45	0.97	935	2.30		275	2.61	0.3	284	0.92		73	1.59	0.68
premium1day	791	23.65		1,097	37.55	13.9***	895	9.73		906	21.38	11.64***	123	22.22		82	13.31	-8.91
premium1week	788	23.99		1,098	38.14	14.15***	893	11.76		911	24.54	12.78***	117	22.26		81	16.34	-5.92
premium4weeks	789	25.17		1,099	39.94	14.77***	898	13.28		909	27.21	13.92***	115	22.78		80	23.46	0.68
Difference (B-A)																		
Target_3dCAR		-2.48***			6.14***			0.26			5.03***			-0.43			-1.48	
Bidder_3dCAR		0.62***			-0.24			-0.14			0.33*			-0.7***			-0.44	
Combined_3dCAR		0.74*			0.54			0.79***			0.86**			0.05			0.48	
premium1day		-3.47**			13.43***			-1.67			6.73***			27.08***			10.15**	
premium1week		-7.26***			11.07***			-2.35			7.04***			25.14***			10.07*	
premium4weeks		-10.49***			9.22***			-4.11***			7.39***			22.05***			13.26**	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on payment method (All Cash vs. Not-all cash). Both (All Cash- Not-all cash) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 92: Distribution of Competition (Competitive vs. Not-competitive) - US, DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	NOT COMPETITIVE		COMPETITIVE		Diff.	NOT COMPETITIVE		COMPETITIVE		Diff.	NOT COMPETITIVE		COMPETITIVE		Diff.
	(1)		(2)			(1)		(2)			(1)		(2)		
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	11,516	11.71	544	11.71	0	26,488	6.47	893	13.01	6.53***	11,554	2.94	65	5.66	2.71*
Bidder_3dCAR	56,451	1.56	440	0.66	-0.9	83,041	1.26	725	(0.11)	-1.37***	33,441	1.13	41	1.63	0.5
Combined_3dCAR	4,329	1.99	241	3.02	1.03*	7,852	1.51	401	3.34	1.83***	2,327	0.95	15	1.56	0.61
premium1day	8,796	24.61	546	41.61	17***	14,068	11.45	841	40.38	28.93***	4,703	(1.36)	30	23.63	24.99***
premium1week	8,781	28.15	546	45.13	16.98***	13,856	14.14	826	44.80	30.66***	4,665	1.11	30	28.83	27.72***
premium4weeks	8,728	32.21	545	48.76	16.56***	13,834	16.80	818	49.98	33.18***	4,653	4.80	30	44.80	39.99***
B) CRISIS															
Target_3dCAR	2,890	12.60	158	16.35	3.75*	3,708	7.57	123	16.25	8.68***	1,499	2.14	10	(5.28)	-7.42**
Bidder_3dCAR	14,236	2.04	87	0.46	-1.58	12,168	1.20	64	0.11	-1.09	4,365	0.48	22	1.09	0.61
Combined_3dCAR	846	2.76	59	4.26	1.5	1,164	2.28	46	4.68	2.39*	355	1.09	2	(5.73)	-6.82*
premium1day	1,743	31.10	145	39.17	8.07**	1,700	14.37	101	36.10	21.73***	203	18.32	2	52.87	34.55
premium1week	1,742	31.75	144	38.02	6.27	1,704	16.90	100	40.52	23.62***	196	19.50	2	52.70	33.2
premium4weeks	1,744	32.74	144	46.15	13.41***	1,708	18.92	99	43.85	24.93***	193	22.55	2	72.32	49.77
Difference (B-A)															
Target_3dCAR		0.89*		4.64***			1.1***		3.25**			-0.8**		-10.93***	
Bidder_3dCAR		0.47***		-0.21			-0.06		0.22			-0.65***		-0.54	
Combined_3dCAR		0.77**		1.24			0.78***		1.34			0.15		-7.29**	
premium1day		6.49***		-2.44			2.93***		-4.28			19.68***		29.24	
premium1week		3.6***		-7.11*			2.76***		-4.28			18.39***		23.87	
premium4weeks		0.54		-2.61			2.12*		-6.13			17.74***		27.52	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on Competition (Competitive vs. Not-competitive). Both (Competitive - Not-competitive) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 93: Distribution of Industry (Focusing vs. Diversifying) - UNITED STATES, OTHER DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	DIVERSIFYING		FOCUSING		Diff.	DIVERSIFYING		FOCUSING		Diff.	DIVERSIFYING		FOCUSING		Diff.
	(1)		(2)			(1)		(2)			(1)		(2)		
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	7,284	9.90	4,776	14.46	4.55***	18,746	5.88	8,635	8.44	2.56***	8,843	2.71	2,776	3.76	1.05***
Bidder_3dCAR	27,506	1.86	29,385	1.27	-0.59***	43,755	1.21	40,011	1.30	0.1	18,551	1.13	14,931	1.14	0.01
Combined_3dCAR	1,762	2.07	2,808	2.03	-0.04	4,423	1.41	3,830	1.81	0.41***	1,275	0.88	1,067	1.04	0.15
premium1day	5,263	22.10	4,079	30.12	8.02***	9,570	9.86	5,339	18.84	8.98***	3,542	(4.21)	1,191	7.75	11.96***
premium1week	5,253	25.14	4,074	34.31	9.17***	9,449	12.35	5,233	22.21	9.86***	3,516	(2.07)	1,179	11.29	13.36***
premium4weeks	5,207	28.35	4,066	39.36	11***	9,423	15.17	5,229	24.92	9.75***	3,508	1.63	1,175	15.30	13.68***
B) CRISIS															
Target_3dCAR	1,939	9.83	1,109	17.97	8.14***	2,659	7.16	1,172	9.44	2.28***	997	1.74	512	2.77	1.03*
Bidder_3dCAR	6,548	2.24	7,776	1.85	-0.39	6,543	1.20	5,689	1.19	0	2,354	0.45	2,033	0.52	0.07
Combined_3dCAR	319	1.98	586	3.34	1.37**	663	2.01	547	2.81	0.8*	158	1.22	199	0.93	-0.29
premium1day	1,061	28.83	827	35.43	6.6***	1,145	14.28	656	17.87	3.59*	131	22.08	74	12.60	-9.48
premium1week	1,062	28.59	824	36.92	8.33***	1,148	17.42	656	19.59	2.17	127	21.87	71	16.19	-5.68
premium4weeks	1,063	28.47	825	40.59	12.12***	1,148	20.17	659	20.50	0.33	126	21.88	69	25.21	3.34
Difference (B-A)															
Target_3dCAR		-0.07		3.51***			1.28***		1*			-0.97**		-0.99*	
Bidder_3dCAR		0.38**		0.58***			-0.01		-0.11			-0.68***		-0.62***	
Combined_3dCAR		-0.09		1.31***			0.61**		1***			0.34		-0.11	
premium1day		6.73***		5.31***			4.42***		-0.97			26.29***		4.85	
premium1week		3.45**		2.61*			5.07***		-2.61			23.94***		4.9	
premium4weeks		0.11		1.23			5***		-4.43**			20.25***		9.91	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on Industry (Focusing vs. Diversifying). Both (Focusing - Diversifying) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 94: Distribution of Geographical Scope (Cross-Border vs. Domestic) - US, OTHER DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	DOMESTIC		CROSS-BORDER		Mean Diff.	DOMESTIC		CROSS-BORDER		Mean Diff.	DOMESTIC		CROSS-BORDER		Mean Diff.
	(1)		(2)			(1)		(2)			(1)		(2)		
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	10,827	11.55	1,233	13.08	1.53**	20,446	6.49	6,935	7.27	0.79***	9,175	2.82	2,444	3.48	0.67**
Bidder_3dCAR	50,132	1.54	6,759	1.66	0.12	56,746	1.41	27,020	0.92	-0.49***	22,250	0.93	11,232	1.54	0.62***
Combined_3dCAR	4,030	2.02	540	2.19	0.17	6,018	1.66	2,235	1.44	-0.22	1,583	1.23	759	0.37	-0.86***
premium1day	8,469	25.40	873	27.55	2.14	11,419	11.29	3,490	18.93	7.64***	3,702	(4.09)	1,031	9.15	13.24***
premium1week	8,460	28.80	867	32.46	3.66**	11,244	13.85	3,438	22.43	8.58***	3,672	(2.00)	1,023	13.09	15.09***
premium4weeks	8,407	32.65	866	38.27	5.61***	11,231	16.53	3,421	25.62	9.1***	3,663	1.77	1,020	16.86	15.08***
B) CRISIS															
Target_3dCAR	2,598	12.45	450	14.74	2.29	2,769	7.72	1,062	8.20	0.49	1,036	1.72	473	2.89	1.17*
Bidder_3dCAR	11,126	2.14	3,198	1.65	-0.49	7,496	1.35	4,736	0.95	-0.39***	2,371	0.39	2,016	0.60	0.21
Combined_3dCAR	683	2.71	222	3.34	0.63	848	2.52	362	2.03	-0.48	174	1.60	183	0.53	-1.07*
premium1day	1,603	31.75	285	31.59	-0.16	1,341	12.67	460	24.11	11.44***	119	14.85	86	23.92	9.08
premium1week	1,602	32.09	284	33.00	0.9	1,348	15.54	456	26.10	10.56***	118	14.90	80	27.12	12.22
premium4weeks	1,604	33.42	284	35.69	2.27	1,349	17.95	458	27.18	9.24***	116	18.44	79	29.84	11.4
Difference (B-A)															
Target_3dCAR		0.9*		1.66			1.23***		0.93*			-1.09***		-0.59	
Bidder_3dCAR		0.59***		-0.02			-0.06		0.04			-0.54***		-0.95***	
Combined_3dCAR		0.68*		1.15*			0.86***		0.6			0.37		0.16	
premium1day		6.34***		4.04			1.38		5.18**			18.93***		14.77***	
premium1week		3.29***		0.53			1.69		3.67*			16.9***		14.03***	
premium4weeks		0.77		-2.58			1.42		1.56			16.66***		12.98**	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on geographical scope (Cross-Border vs. Domestic). Both (Cross-Border- Domestic) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 95: Distribution of Bidder Legal Status (Public vs. Private) – UNITED STATES, OTHER DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	PRIVATE BIDDER (1)		PUBLIC BIDDER (2)		Diff.	PRIVATE BIDDER (1)		PUBLIC BIDDER (2)		Diff.	PRIVATE BIDDER (1)		PUBLIC BIDDER (2)		Diff.
			N	Mean				N	Mean				N	Mean	
A) NON-CRISIS															
Target_3dCAR (%)	5,848	8.06	6,212	15.15	7.09***	15,724	5.70	11,657	8.01	2.31***	8,074	2.56	3,545	3.87	1.31***
premium1day (%)	4,205	19.60	5,159	30.57	10.96***	7,842	8.98	7,152	17.57	8.6***	3,327	(5.62)	1,428	9.62	15.24***
premium1week (%)	4,196	21.96	5,151	34.96	13***	7,760	11.54	6,991	20.60	9.05***	3,300	(3.53)	1,413	12.67	16.2***
premium4weeks (%)	4,147	24.49	5,145	40.16	15.67***	7,739	14.72	6,982	22.90	8.18***	3,296	0.30	1,406	16.59	16.29***
B) CRISIS															
Target_3dCAR (%)	1,885	8.72	1,163	19.40	10.68***	2,370	7.38	1,461	8.63	1.25**	935	1.73	574	2.68	0.94
premium1day (%)	1,024	28.48	864	35.57	7.1***	1,061	15.64	743	15.46	-0.18	102	16.26	105	19.94	3.67
premium1week (%)	1,023	28.15	864	37.38	9.23***	1,062	18.51	744	17.70	-0.82	96	18.92	104	19.59	0.67
premium4weeks (%)	1,023	27.84	865	40.77	12.92***	1,062	20.94	747	19.28	-1.66	95	23.23	102	21.72	-1.52
Difference (B-A)															
Target_3dCAR (%)		0.66		4.25***			1.67***		0.62			-0.83**		-1.19**	
premium1day (%)		8.87***		5.01***			6.66***		-2.11			21.89***		10.32**	
premium1week (%)		6.19***		2.42			6.97***		-2.9*			22.46***		6.92	
premium4weeks (%)		3.36**		0.61			6.22***		-3.63**			22.93***		5.13	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on bidder legal status (public vs. private). Both (public - private) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 96: Distribution of Target Legal Status (Public vs. Private) - UNITED STATES, OTHER DEVELOPED, EMERGING

	UNITED STATES						OTHER DEVELOPED						EMERGING					
	PRIVATE TARGET (1)			PUBLIC TARGET (2)			PRIVATE TARGET (1)			PUBLIC TARGET (2)			PRIVATE TARGET (1)			PUBLIC TARGET (2)		
	N	Mean		N	Mean	Diff. (2-1)	N	Mean		N	Mean	Diff. (2-1)	N	Mean		N	Mean	Diff. (2-1)
A) NON-CRISIS																		
Bidder_3dCAR	50,181	1.80		6,710	(0.27)	-2.07***	71,064	1.41		12,702	0.36	-1.06***	29,320	1.21		4,162	0.59	-0.62***
B) CRISIS																		
Bidder_3dCAR	13,117	2.17		1,207	0.51	-1.66***	10,683	1.24		1,549	0.89	-0.34	3,678	0.44		709	0.71	0.28
Difference (B-A)																		
Bidder_3dCAR		0.37***			0.77**			-0.17*			0.54***			-0.77***			0.13	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on target legal status (public vs. private). Both (public - private) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 97: Distribution of Deal Status (Successfully Completed or Not) - UNITED STATES, OTHER DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	NOT COMPLETED		COMPLETED		Diff.	NOT COMPLETED		COMPLETED		Diff.	NOT COMPLETED		COMPLETED		Diff.
	(1)		(2)			(1)		(2)			(1)		(2)		
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	2,506	10.41	9,554	12.05	1.63***	6,097	7.18	21,284	6.54	-0.64***	3,831	2.89	7,788	2.99	0.11
Bidder_3dCAR	9,495	2.61	47,396	1.35	-1.26***	20,048	1.79	63,718	1.08	-0.71***	14,484	1.20	18,998	1.08	-0.13
Combined_3dCAR	785	2.42	3,785	1.96	-0.46	1,632	1.68	6,621	1.57	-0.11	721	0.86	1,621	0.99	0.13
premium1day	1,494	33.26	7,848	24.15	-9.12***	3,213	12.65	11,696	13.20	0.55	1,545	(4.80)	3,188	0.54	5.35***
premium1week	1,490	35.60	7,837	27.92	-7.69***	3,157	15.12	11,525	16.07	0.95	1,532	(2.05)	3,163	2.90	4.96***
premium4weeks	1,490	38.10	7,783	32.24	-5.86***	3,146	18.60	11,506	18.67	0.07	1,529	2.50	3,154	6.30	3.8**
B) CRISIS															
Target_3dCAR	925	11.87	2,123	13.19	1.33	924	8.34	2,907	7.70	-0.64	395	2.67	1,114	1.89	-0.79
Bidder_3dCAR	3,061	3.61	11,263	1.60	-2.01***	3,008	1.28	9,224	1.17	-0.11	1,477	0.69	2,910	0.38	-0.3
Combined_3dCAR	228	3.14	677	2.77	-0.38	312	3.01	898	2.15	-0.86	107	1.19	250	1.00	-0.19
premium1day	503	31.99	1,385	31.63	-0.36	385	19.65	1,416	14.49	-5.16**	53	8.98	152	22.03	13.04
premium1week	501	32.73	1,385	32.05	-0.69	384	22.66	1,420	17.01	-5.65**	51	5.49	147	24.81	19.32*
premium4weeks	502	30.83	1,386	34.83	4	388	25.54	1,419	18.85	-6.69***	49	6.69	146	28.55	21.86*
Difference (B-A)															
Target_3dCAR		1.46		1.15**			1.16*		1.16***			-0.22		-1.11***	
Bidder_3dCAR		1***		0.25**			-0.51**		0.08			-0.52**		-0.7***	
Combined_3dCAR		0.72		0.8**			1.33***		0.58**			0.32		0.01	
premium1day		-1.28		7.48***			7***		1.29			13.79**		21.48***	
premium1week		-2.87		4.13***			7.54***		0.94			7.54		21.91***	
premium4weeks		-7.27***		2.59**			6.95**		0.19			4.19		22.25***	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal status (successfully completed or not). Both (completed - not completed) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 98: Distribution of Deal Attitude (Hostile or Not) - UNITED STATES, OTHER DEVELOPED, EMERGING

	UNITED STATES					OTHER DEVELOPED					EMERGING				
	NOT HOSTILE		HOSTILE		Diff.	NOT HOSTILE		HOSTILE		Diff.	NOT HOSTILE		HOSTILE		Diff.
	(1)	(2)	(1)	(2)		(1)	(2)	(1)	(2)						
	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)	N	Mean	N	Mean	(2-1)
A) NON-CRISIS															
Target_3dCAR	11,852	11.59	208	18.38	6.78***	27,006	6.54	375	17.50	10.96***	11,602	2.95	17	9.47	6.53**
Bidder_3dCAR	56,742	1.56	149	(0.96)	-2.52***	83,477	1.26	289	(0.59)	-1.85***	33,472	1.13	10	(1.01)	-2.15
Combined_3dCAR	4,453	1.96	117	5.34	3.38***	8,079	1.54	174	4.23	2.69***	2,334	0.95	8	1.33	0.38
premium1day	9,130	25.15	212	45.40	20.26***	14,517	12.49	392	34.73	22.24***	4,720	(1.31)	13	38.12	39.43***
premium1week	9,115	28.69	212	48.68	19.99***	14,306	15.26	376	39.02	23.77***	4,682	1.18	13	41.06	39.88***
premium4weeks	9,061	32.79	212	49.90	17.11***	14,280	18.06	372	41.20	23.14***	4,670	4.94	13	45.88	40.94***
B) CRISIS															
Target_3dCAR	3,028	12.70	20	26.65	13.95**	3,804	7.74	27	23.65	15.91***	1,504	2.09	5	2.60	0.51
Bidder_3dCAR	14,308	2.03	16	(0.69)	-2.72	12,222	1.20	10	(0.32)	-1.52	4,385	0.48	2	4.28	3.8
Combined_3dCAR	889	2.85	16	3.69	0.84	1,201	2.33	9	8.31	5.98**	356	1.03	1	10.90	9.87
premium1day	1,871	31.66	17	38.55	6.89	1,780	15.40	21	31.80	16.4*	204	17.95	1	161.65	143.7
premium1week	1,869	32.12	17	44.69	12.58	1,783	18.00	21	36.34	18.35**	197	19.22	1	140.89	121.67
premium4weeks	1,871	33.66	17	45.20	11.54	1,786	20.08	21	38.45	18.37*	194	22.23	1	183.66	161.43
Difference (B-A)															
Target_3dCAR		1.11**		8.27*			1.21***		6.15*			-0.86***		-6.88	
Bidder_3dCAR		0.47***		0.27			-0.06		0.27			-0.65***		5.29	
Combined_3dCAR		0.89***		-1.65			0.79***		4.08*			0.08		9.57	
premium1day		6.52***		-6.85			2.91***		-2.93			19.26***		123.53	
premium1week		3.42***		-3.99			2.74***		-2.68			18.04***		99.83	
premium4weeks		0.87		-4.7			2.01*		-2.75			17.28***		137.78	

Notes: Table summarizes cumulative abnormal returns and premium data for deals in which the target is from United States, other developed countries and emerging countries based on deal attitude (Hostile or Not). Both (Hostile- not-hostile) difference and (crisis-no crisis) difference is reported. The statistical significance of the reported differences is based on t-statistics of the t-test of mean difference in two groups. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

CHAPTER 10

ROBUSTNESS TESTS

10.1 Robustness for Merger Volume

We define 2 sets of alternative merger intensity measures in panel B and panel C of Table 103 in Appendix 4.

10.1.1 First Alternative Merger Intensity Measure for Volume

We first re-conduct our volume analysis using the first set of alternative measures presented in panel B of Table 103. Equations 10 and 11 present the alternative measures that we use for quantity and dollar volume robustness, respectively. These measures compare the share of a given country in total merger volume during crisis and non-crisis periods.

$$\text{Merger Intensity (Quantity)} = \frac{\text{Number of deals in which the target or bidder is from country(i) in year (t)}}{\text{Total number of deals in our sample in year (t)}} \times 100$$

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$$11 \quad \text{Merger Intensity (Dollar)} = \frac{\text{Total dollar value of deals in which the target or bidder is from country(i) in year(t)}}{\text{Total dollar value of deals in our sample in year (t)}} \times 100$$

We report our findings in Appendix A4_a (Table 107 through Table 114). Table 107 reports mean and number of observations for these alternative merger intensity measures (either defined as quantity in Panel A or aggregate dollar volume in Panel B) for crisis and non-crisis years. The statistical significance of the difference between crisis and non-crisis years is determined by the t-test of the null hypothesis that merger intensity in the two subsamples is equal. We also report t tests for two alternative merger intensity measures where a given country is target or bidder. Panel A of Table 107 suggests that there is no significant change in merger volume during crisis in terms of quantity. Panel B of Table 107 suggests that dollar volume is significantly lower if an emerging country is in financial crisis.

We also test for existence of a common population. For this purpose, we present the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis tests in Table 108. We test the null hypothesis of a common population for crisis and non-crisis time deals based on M&A volume. Table 108 indicates that emerging country deals come from different populations during crisis and normal times while developed country distribution remains unaffected.

Table 109 through Table 114 present multivariate analysis and we see that findings are qualitatively similar those reported in Chapter 6. In particular, there is no significant change in volume after accounting for country-level control variables and

time-invariant country fixed effects. We can not reject the hypothesis that merger volume remains unchanged if target country is in financial crisis.

10.1.2 Second Alternative Merger Intensity Measure for Volume

We also replicate our volume analysis using the second set of alternative measures presented in panel C of Table 103. Equations 12 and 13 present the alternative measures that we use for quantity and dollar volume robustness, respectively.

$$\begin{aligned}
 \text{12} \quad \text{Merger Intensity (Quantity)} &= \frac{\text{Total number of PUBLIC firms in country(i) that are targets or bidders in a CROSS - BORDER deal in year (t)}}{\text{Number of listed domestic companies in country (i) in year (t-1)}} \times 100 \\
 \text{13} \quad \text{Merger Intensity (\$ Value)} &= \frac{\text{Total \$ value of CROSS - BORDER deals with either a PUBLIC target or bidder from country (i) in year (t)}}{\text{Market Capitalization of country (i) in year (t)}} \times 100
 \end{aligned}$$

We use this measure since the emphasis of fire-sale theory is on cross-border merger volume. This theory states that firms in crisis-hit countries are credit constrained and are forced to sell their firms under their fair value. Fire-sale theory predicts an increase in cross-border mergers where the firms from crisis-hit countries are targets and firms from non-crisis countries are acquirers during crisis times. In chapter 4, we found that total volume is not affected during crisis and here we analyze if this is also the case for cross-border mergers.

We report our findings in Appendix A4_b (Table 115 through Table 122). Table 115 reports mean and number of observations merger intensity (either defined as quantity in Panel A or aggregate dollar volume in Panel B) for crisis and non-crisis years. The statistical significance of the difference between crisis and non-crisis years is determined by the t-test of the null hypothesis that merger intensity in the two subsamples is equal. We also report t tests for merger intensity measures where a given country is target or bidder. Panel A of Table 115 suggests that number of listed firms in country (i) that are targets in a cross-border deal in a given year as a percentage of number of listed domestic companies in country (i) in the previous year is 6.6 percent in crisis and significantly higher than 5.9 percent in normal times. Panel B of Table 115 shows that there is no significant change in merger volume during crisis in terms of dollar volume.

We also test for existence of a common population. We present the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the κ^2 -statistic for the Kruskal-Wallis tests in Table 116. We test the null hypothesis of a common population for crisis and non-crisis time deals based on cross-border M&A volume. Table 116 indicates that distribution of merger intensity (in terms of target quantity) during crisis and normal times come from different populations in both emerging and developed country subsamples. Overall, univariate analysis (Table 115 and Table 116) present evidence in favor of fire-sale theory in both emerging and developed country subsamples.

Table 117 through Table 122 present multivariate analysis and findings are qualitatively similar those reported in Chapter 6. In particular, there is no significant change in volume after accounting for country-level control variables and time-invariant country fixed effects.

10.2 Robustness for Merger Premiums

In our analysis in Chapter 7, we dropped premiums that are greater than the 99th percentile to remove outliers. Alexandridis et al. (2013) and Officer (2003) use premiums between -100 and 100 percent in their study. We use their filtering as a robustness check for our analysis and corresponding results are presented in Appendix 5. Table 123 through Table 129 represent univariate and Table 130 through Table 135 represent multivariate analysis. The findings are qualitatively similar to those reported in Chapter 7. In particular, we report higher 1-day, 1-week and 4-week premiums during crisis in the full sample in our univariate analysis. This finding contradicts to prediction of fire-sale theory that target firms in crisis-hit countries may lose their bargaining powers and this may lead to lower premiums. But higher premium during crisis is in-line with mispricing theory, which predicts that the underpricing of target firms may become greater in financial crisis and these very low target stock prices may lead to higher premiums. However, when we account for control variables and country-fixed effects in multivariate analysis, merger premiums are significantly lower in the full sample if the target country is in a crisis, which is just the opposite of our univariate findings. The negative coefficient is statistically significant in full sample and subsamples of US and domestic deals. The crisis dummy coefficient statistically insignificant in the subsamples of other developed, emerging market

countries and cross-border deals. Hence, our full sample results present evidence in favor of fire-sale theory and contradict to mispricing theory. However, the subsample analysis reveals that crisis dummy is insignificant in the emerging market and cross-border deal subsamples in contrast to expectations of fire-sale theory.

10.3 Robustness for Cumulative Abnormal Returns

In this study, we calculate cumulative abnormal returns for a sample of 263,461 deals with return data to describe global M&A activity. We calculate returns using price data from TDS. In order to correct data errors in Datastream price data (Ince and Porter, 2006), we drop daily returns greater than 100 percent⁶² as described in Chapter 4. After this filter, we calculate bidder CARs for 217,781 deals and target CARs for 67,439 deals.

As a robustness check we also replicate our analysis using 300 percent as the cutoff point instead of 100 percent. The findings are qualitatively similar. We summarize the robustness of our findings for bidders and targets in Panels A and B of Table 99 .

⁶² Ince & Porter (2006), Chui, Titman & Wei (2010) and Hou, Karolyi & Kho (2011) argue that returns above certain thresholds (greater than 300 or 100 percent) should be dropped or winsorized due the poor quality of data in TDS. In line with their arguments, we drop any daily returns that are greater than 100 percent and any daily price that is less than or equal to 0.

Table 99: Robustness When Different Filters Are Used to Detect Outliers in Returns

	Current Version (Return cutoff point is 100 percent)	Robustness (Return cutoff point is 300 percent)
Panel A-Bidder CAR Robustness		
Sample Size	217,781	218,485
Mean Deal Size (mil \$)	235	234
Mean 3-day CAR (Full Sample)	1.35%	1.76%
-United States	1.55%	2.37%
-Other Developed	1.35%	1.58%
-Emerging	0.86%	0.89%
Standard Deviation	0.1	0.14
Minimum 3-day CAR	-151.56%	-152.31%
Maximum 3-day CAR	197.68%	522.69%
Percentile		
1%	-20.97%	-21.63%
5%	-8.95%	-9.17%
95%	14.83%	15.20%
99%	41.22%	48.17%
Panel B-Target CAR Robustness		
Sample Size	67,439	67,987
Mean Deal Size (mil \$)	507	503
Mean 3-day CAR (Full Sample)	6.86%	7.89%
-United States	11.37%	13.70%
-Other Developed	6.61%	7.38%
-Emerging	2.84%	3.03%
Standard Deviation	0.18	0.22
Minimum 3-day CAR	-196.50%	-196.50%
Maximum 3-day CAR	183.94%	326.61%
Percentile		
1%	-32.28%	-32.63%
5%	-11.10%	-11.17%
95%	40.07%	43.33%
99%	72.53%	94.12%

Note. Table summarizes the robustness of our findings for bidders and targets in Panels A and B, respectively.

CHAPTER 11

CONCLUSION AND DISCUSSION

In this study, we first describe the global M&A activity across 47 countries over the period from 1992 to 2011. We investigate how value is generated and distributed in mergers and acquisitions (M&A) around the world. Our findings indicate that M&A activity (particularly in deals where control rights are sold) generates value. We also find that the magnitudes of bidder and target CARs in developed countries are higher than those in emerging-market countries.

We then explore differences in merger activity during non-crisis and crisis time deals based on a global sample of 39 countries. We analyze merger intensity, cumulative abnormal returns and premiums over the period from 1992 to 2011 to see whether they differ across non-crisis and crisis years. We conduct our analysis for the full sample and the subsamples of developed country and emerging country targets. Therefore, we detect if reaction of M&A activity to financial crises differ across these two groups. We also study domestic and cross border deals separately.

We study M&A activity in a multi-country setting so we first create a standardized measure of volume that makes it possible to compare volume across countries. We use the ratio of number of all listed firms that engage in merger activity -as targets or

bidders, as targets and as bidders- to number of listed companies as our measure of merger intensity. We define merger intensity in terms of quantity and dollar value. We do not observe significant differences in merger volume during financial crises.

Premiums and cumulative abnormal returns prove significantly different during crisis years. In particular, we report higher combined CARs in crisis years compared to non-crisis years in the full sample and the subsamples of United States deals and deals of other developed countries. Higher combined CARs imply higher value generated in M&A deals. We do not observe any significant difference in value generated in deals in which the target is from an emerging country. Target CARs are higher (lower) if a firm from a developed (emerging) country experiencing a crisis is the target. Bidder CARs are higher for US targets in crisis while lower for emerging country targets during crisis. The finding of higher target/bidder/combined CARs in developed countries during crises motivates us to ask two questions: (i) Is this a selection of better firms in crisis years? (ii) Is the difference stem from targets being more underpriced during financial crisis?

The selection bias explanation is analyzed in detail in Chapter 9. As we have already discussed throughout this study, access to financing required for new investments might be limited during crisis. These tough economic conditions affect the investment decisions. It is possible that only financially healthier firms engage in merger activity as bidders in financial crisis years while more firms (including financially distressed firms) can use external financing and become bidders in other years. Similarly, the CEO traits (degree of risk aversion, tendency to overestimate synergy gains, hubris, and empire building) of non-crisis versus crisis time bidders might be different. If

there are differences then it is possible that crisis time bidders are better at evaluating risk-return profile of potential investments. In order to identify if the observed difference is a selection of better firms in crisis, we conduct a detailed analysis of deal specifics in Chapter 9.

We conclude that at least part of significant differences in cumulative abnormal returns and premiums can be explained by selection bias. In particular, crisis versus non-crisis time differences in the average deal size, bidder size, deal type, competition and geographical scope of deals might account for observed differences in value generation. However, existence of crisis in target nation significantly affects value generation and distribution of value even after accounting for the differences in deal specifics.

Another probable explanation for higher CARS and premiums might be related to misvaluation theory. If the misvaluation of the market about target and bidder firms is different in crisis years compared to non-crisis years, this may account for higher CARs and premiums. In this case, the high offer price does not necessarily reflect an overpayment and we can observe higher premiums as well as higher bidder and target CARs. In order to conduct an analysis for this, we have to determine the fair values of stocks in crisis and non-crisis periods. However, such analysis is beyond the scope of this study since it is practically impossible to determine fair prices of such a large number of stocks across 39 countries. Moreover, determination of fair prices by itself is problematic even in normal times while the existence of financial crisis puts additional complexity. Future research may explore ways to determine a reasonable range of fair prices of target firms that applies to both crises and non-crisis periods

using a smaller sample. This requires analysis of past trading data, future prospects of the target firms and country specific factors that affect firm value. Then, one can investigate if undervalued firms (firms that trade under their fair trading price range) are more likely to become targets, if the percentage of undervalued targets increases during crises and if target misvaluation affects the value generated and distribution of value between target and bidder shareholders.



APPENDICES

Appendix 1: Laeven and Valencia Crises Database

Table 100: Laeven and Valencia Crises Database

Country	Systemic Banking Crisis (starting date)	Currency Crisis (year)	Sovereign Debt Crisis (default date)	Sovereign Debt Restructuring (year)
Albania	1994	1997	1990	1992
Algeria	1990	1988, 1994		
Angola		1991, 1996	1988	1992
Argentina	1980, 1989, 1995, 2001	1975, 1981, 1987, 2002	1982, 2001	1993, 2005
Armenia	1994	1994		
Australia				
Austria	2008			
Azerbaijan	1995	1994		
Bangladesh	1987	1976		
Barbados				
Belarus	1995	1994, 1999, 2009		
Belgium	2008			
Belize				
Benin	1988	1994		
Bhutan				
Bolivia	1986, 1994	1973, 1981	1980	1992
Bosnia and Herzegovina	1992			
Botswana		1984		
Brazil	1990, 1994	1976, 1982, 1987, 1992, 1999	1983	1994
Brunei				
Bulgaria	1996	1996	1990	1994
Burkina Faso	1990	1994		
Burundi	1994			
Cambodia		1971, 1992		
Cameroon	1987, 1995	1994	1989	1992
Canada				
Cape Verde	1993			
Central African Rep.	1976, 1995	1994		
Chad	1983, 1992	1994		
Chile	1976, 1981	1972, 1982	1983	1990
China, P.R.	1998			
Colombia	1982, 1998	1985		
Comoros		1994		
Congo, Dem. Rep. of	1983, 1991, 1994	1976, 1983, 1989, 1994, 1999, 2009	1976	1989
Congo, Rep. of	1992	1994	1986	1992
Costa Rica	1987, 1994	1981, 1991	1981	1990
Côte d'Ivoire	1988	1994	1984, 2001	1997, nab.
Croatia	1998			
Czech Republic	1996			
Denmark	2008			
Djibouti	1991			
Dominica			2002	n.a.

Table 100 (cont'd),

Country	Systemic Banking Crisis (starting date)	Currency Crisis (year)	Sovereign Debt Crisis (default date)	Sovereign Debt Restructuring (year)
Dominican Republic	2003	1985, 1990, 2003	1982, 2003	1994, 2005
Ecuador	1982, 1998	1982, 1999	1982, 1999, 2008	1995, 2000, 2009
Egypt	1980	1979, 1990	1984	1992
El Salvador	1989	1986		
Equatorial Guinea	1983	1980, 1994		
Eritrea	1993			
Estonia	1992	1992		
Ethiopia		1993		
Fiji		1998		
Finland	1991	1993		
France	2008			
Gabon		1994	1986, 2002	1994
Gambia, The		1985, 2003	1986	1988
Georgia	1991	1992, 1999		
Germany	2008			
Ghana	1982	1978, 1983, 1993, 2000, 2009		
Greece	2008	1983	2012	2012
Grenada			2004	2005
Guatemala		1986		
Guinea	1985, 1993	1982, 2005	1985	1992
Guinea-Bissau	1995	1980, 1994		
Guyana	1993	1987	1982	1992
Haiti	1994	1992, 2003		
Honduras		1990	1981	1992
China, P.R.:				
Hong Kong				
Hungary	1991, 2008			
Iceland	2008	1975, 1981, 1989, 2008		
India	1993			
Indonesia	1997	1979, 1998	1999	2002
Iran, I.R. of		1985, 1993, 2000	1992	1994
Ireland	2008			
Israel	1977	1975, 1980, 1985		
Italy	2008	1981		
Jamaica	1996	1978, 1983, 1991	1978, 2010	1990, 2010
Japan	1997			
Jordan	1989	1989	1989	1993
Kazakhstan	2008	1999		
Kenya	1985, 1992	1993		
Korea	1997	1998		
Kuwait	1982			
Kyrgyz Republic	1995	1997		
Lao People's Dem. Rep.		1972, 1978, 1986, 1997		
Latvia	1995, 2008	1992		
Lebanon	1990	1984, 1990		
Lesotho		1985		
Liberia	1991		1980	n.a.
Libya		2002		

Table 100 (cont'd),

Country	Systemic Banking Crisis (starting date)	Currency Crisis (year)	Sovereign Debt Crisis (default date)	Sovereign Debt Restructuring (year)
Lithuania	1995	1992		
Luxembourg	2008			
Macedonia	1993			
Madagascar	1988	1984, 1994, 2004	1981	1992
Malawi		1994	1982	1988
Malaysia	1997	1998		
Maldives		1975		
Mali	1987	1994		
Mauritania	1984	1993		
Mauritius				
Mexico	1981, 1994	1977, 1982, 1995	1982	1990
Moldova		1999	2002	2002
Mongolia	2008	1990, 1997		
Morocco	1980	1981	1983	1990
Mozambique	1987	1987	1984	1991
Myanmar		1975, 1990, 1996, 2001		
Namibia		1984		
Nepal	1988	1984, 1992		
Netherlands	2008			
New Caledonia		1981		
New Zealand		1984		
Nicaragua	1990, 2000	1979, 1985, 1990	1980	1995
Niger	1983	1994	1983	1991
Nigeria	1991, 2009	1983, 1989, 1997	1983	1992
Norway	1991			
Pakistan		1972		
Panama	1988		1983	1996
Papua New Guinea		1995		
Paraguay	1995	1984, 1989, 2002	1982	1992
Peru	1983	1976, 1981, 1988	1978	1996
Philippines	1983, 1997	1983, 1998	1983	1992
Poland	1992		1981	1994
Portugal	2008	1983		
Romania	1990	1996	1982	1987
Russia	1998, 2008	1998	1998	2000
Rwanda		1991		
São Tomé and Príncipe	1992	1987, 1992, 1997		
Senegal	1988	1994	1981	1996
Serbia, Republic of		2000		
Seychelles		2008	2008	2009
Sierra Leone	1990	1983, 1989, 1998	1977	1995
Singapore				
Slovak Republic	1998			
Slovenia	1992, 2008			
South Africa		1984	1985	1993
Spain	1977, 2008	1983		
Sri Lanka	1989	1978		
Sudan		1981, 1988, 1994	1979	1985
Suriname		1990, 1995, 2001		
Swaziland	1995	1985		

Table 100 (cont'd),

Country	Systemic Banking Crisis (starting date)	Currency Crisis (year)	Sovereign Debt Crisis (default date)	Sovereign Debt Restructuring (year)
Sweden	1991, 2008		1993	
Syrian Arab Republic			1988	
Switzerland	2008			
Tajikistan		1999		
Tanzania	1987	1985, 1990	1984	1992
Thailand	1983, 1997	1998		
Togo	1993	1994	1979	1997
Trinidad and Tobago		1986	1989	1989
Tunisia	1991			
Turkey	1982, 2000	1978, 1984, 1991, 1996, 2001	1978	1982
Turkmenistan		1993, 2008		
Uganda	1994	1980, 1988	1981	1993
Ukraine	1998, 2008	1998, 2009	1998	1999
United Kingdom	2007			
United States	1988, 2007			
Uruguay	1981, 2002	1972, 1983, 1990, 2002	1983, 2002	1991, 2003
Uzbekistan		1994, 2000		
Venezuela	1994	1984, 1989, 1994, 2002, 2010	1982	1990
Vietnam	1997	1972, 1981, 1987	1985	1997
Yemen	1996	1985, 1995		
Yugoslavia, SFR			1983	1988
Zambia	1995	1983, 1989, 1996, 2009	1983	1994
Zimbabwe	1995	1983, 1991, 1998, 2003		

Source: Laeven and Valencia, 2012. "Systemic Banking Crises Database: An Update" IMF Working Paper. (Retrieved from <https://www.imf.org/external/pubs/cat/longres.aspx?sk=26015.0>)

Appendix 2: Laeven and Valencia Banking Crisis Start and End Dates

Table 101: Laeven and Valencia Banking Crisis Start and End Dates

Country	Start	End	Country	Start	End	Country	Start	End
Albania	1994	1994	Equatorial Guinea	1983	1983	Nicaragua	1990	1993
Algeria	1990	1994	Eritrea	1993	1993	Nicaragua	2000	2001
Argentina	1980	1982	Estonia	1992	1994	Niger	1983	1985
Argentina	1989	1991	Finland	1991	1995	Nigeria	1991	1995
Argentina	1995	1995	France	2008	ongoing	Nigeria	2009	ongoing
Argentina	2001	2003	Georgia	1991	1995	Norway	1991	1993
Armenia	1994	1994	Germany	2008	ongoing	Panama	1988	1989
Austria	2008	ongoing	Ghana	1982	1983	Paraguay	1995	1995
Azerbaijan	1995	1995	Greece	2008	ongoing	Peru	1983	1983
Bangladesh	1987	1987	Guinea	1985	1985	Philippines	1983	1986
Belarus	1995	1995	Guinea-Bissau	1993	1993	Philippines	1997	2001
Belgium	2008	ongoing	Guyana	1995	1998	Poland	1992	1994
Benin	1988	1992	Haiti	1993	1993	Portugal	2008	ongoing
Bolivia	1986	1986	Hungary	1994	1998	Romania	1990	1992
Bolivia	1994	1994	Hungary	1991	1995	Russia	1998	1998
Bosnia and Herzegovina	1992	1996	Hungary	2008	ongoing	Russia	2008	ongoing
Brazil	1990	1994	Iceland	2008	ongoing	São Tomé & Príncipe	1992	1992
Brazil	1994	1998	India	1993	1993	Senegal	1988	1991
Bulgaria	1996	1997	Indonesia	1997	2001	Sierra Leone	1990	1994
Burkina Faso	1990	1994	Ireland	2008	ongoing	Slovak Rep	1998	2002
Burundi	1994	1998	Israel	1977	1977	Slovenia	1992	1992
Cameroon	1987	1991	Italy	2008	ongoing	Slovenia	2008	ongoing
Cameroon	1995	1997	Jamaica	1996	1998	Spain	1977	1981
Cape Verde	1993	1993	Japan	1997	2001	Spain	2008	ongoing
Central African Rep	1976	1976	Jordan	1989	1991	Sri Lanka	1989	1991
Central African Rep	1995	1996	Kazakhstan	2008	ongoing	Swaziland	1995	1999
Chad	1983	1983	Kenya	1985	1985	Sweden	1991	1995
Chad	1992	1996	Kenya	1992	1994	Sweden	2008	ongoing
Chile	1976	1976	Korea	1997	1998	Switzerland	2008	ongoing
Chile	1981	1985	Kuwait	1982	1985	Tanzania	1987	1988
China, Mainland	1998	1998	Kyrgyz Rep	1995	1999	Thailand	1983	1983
Colombia	1982	1982	Latvia	1995	1996	Thailand	1997	2000
Colombia	1998	2000	Latvia	2008	ongoing	Togo	1993	1994
Congo, Dem Rep	1983	1983	Lebanon	1990	1993	Tunisia	1991	1991
Congo, Dem Rep	1991	1994	Liberia	1991	1995	Turkey	1982	1984

Table 101 (cont'd),

Country	Start	End	Country	Start	End	Country	Start	End
Congo, Dem Rep	1994	1998	Lithuania	1995	1996	Turkey	2000	2001
Congo, Rep	1992	1994	Luxembourg	2008	ongoing	Uganda	1994	1994
Costa Rica	1987	1991	Macedonia, FYR	1993	1995	Ukraine	1998	1999
Costa Rica	1994	1995	Madagascar	1988	1988	Ukraine	2008	ongoing
Cote d'Ivoire	1988	1992	Malaysia	1997	1999	United Kingdom	2007	ongoing
Croatia	1998	1999	Mali	1987	1991	United States	1988	1988
Czech Republic	1996	2000	Mauritania	1984	1984	United States	2007	ongoing
Denmark	2008	ongoing	Mexico	1981	1985	Uruguay	1981	1985
Djibouti	1991	1995	Mexico	1994	1996	Uruguay	2002	2005
Dominican Rep	2003	2004	Mongolia	2008	ongoing	Venezuela	1994	1998
Ecuador	1982	1986	Morocco	1980	1984	Vietnam	1997	1997
Ecuador	1998	2002	Mozambique	1987	1991	Yemen	1996	1996
Egypt	1980	1980	Nepal	1988	1988	Zambia	1995	1998
El Salvador	1989	1990	Netherlands	2008	ongoing	Zimbabwe	1995	1999

Source: Laeven and Valencia, 2012. "Systemic Banking Crises Database: An Update" IMF Working Paper. (Retrieved from <https://www.imf.org/external/pubs/cat/longres.aspx?sk=26015.0>)

Table 102: Financial Crises Dummies created in SDC Data using Laeven Valencia

Country	Banking Crises	Currency Crises	Debt Crises	Used in Analysis
Albania	1994	1997	1992	
Algeria	1994	1994		
Angola			1992	
Argentina	1995, 2001, 2002, 2003	2002	1992, 1993, 2001, 2002, 2003, 2004, 2005	yes
Australia				yes
Austria	2008, 2009, 2010, 2011			yes
Azerbaijan	1995			
Barbados				
Belarus	1995	1994, 1999, 2009		
Belgium	2008, 2009, 2010, 2011			yes
Belize				
Bhutan				
Bolivia	1994		1992	
Brazil	1992, 1993, 1994, 1995, 1996, 1997, 1998	1992, 1999	1992, 1993, 1994	yes
Brunei				
Bulgaria	1996, 1997	1996	1992, 1993, 1994	
C. African Rep	1995, 1996	1994		
Cameroon	1995, 1996, 1997	1994	1992	
Canada				yes
Cape Verde	1993			
Chad	1995			
China	1998			yes
Colombia	1998, 1999, 2000			
Costa Rica	1994, 1995			
Croatia	1998, 1999			
Czech Republic	1996, 1997, 1998, 1999, 2000			
Dem Rep Congo		2009		
Denmark	2008, 2009, 2010, 2011			yes
Dominica			2004	
Dominican Rep	2003, 2004	2003	1993, 1994, 2003, 2004, 2005	
Ecuador	1998, 1999, 2000, 2001, 2002	1999	1992, 1993, 1994, 1995, 1999, 2000, 2008, 2009	
Egypt			1992	
Estonia	1992, 1993, 1994	1992		
Fiji		1998		
Finland	1992, 1993, 1994, 1995	1993		yes
France	2008, 2009, 2010, 2011			yes
Gabon		1994	1992, 1993, 1994, 2002	
Georgia	1995	1999		
Germany	2008, 2009, 2010, 2011			yes
Ghana		1993, 2000, 2009		
Greece	2008, 2009, 2010, 2011			yes
Grenada			2004	
Guinea		2005		
Guyana	1993		1992	
Haiti	1995, 1996, 1998			
Honduras			1992	
Hong Kong				yes

Table 102(cont'd),

Country	Banking Crises	Currency Crises	Debt Crises	Used in Analysis
Hungary	1992, 1993, 1994, 1995, 2008, 2009, 2010, 2011	2008		yes
Iceland	2008, 2009, 2010, 2011	2008		
India	1993			yes
Indonesia	1997, 1998, 1999, 2000, 2001	1998	1999, 2000, 2001, 2002	yes
Iran		2000	1992	
Ireland-Rep	2008, 2009, 2010, 2011			yes
Italy	2008, 2009, 2010, 2011			yes
Ivory Coast	1992	1994	1992, 1993, 1994, 1995, 1996, 1997, 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010	
Jamaica	1996, 1997, 1998		2010	
Japan	1997, 1998, 1999, 2000, 2001			yes
Jordan			1992, 1993	
Kazakhstan	2008, 2009, 2010, 2011	1999		
Kenya	1992, 1994			
Kyrgyzstan	1995, 1996, 1997, 1999	1997		
Latvia	1995, 1996, 2008, 2009, 2010, 2011			
Lebanon	1992			
Liberia	1992, 1993, 1994		1992, 1993, 1994, 1996, 1999, 2001, 2005, 2006, 2007, 2008, 2009, 2010, 2011	
Libya		2002		
Lithuania	1995, 1996			
Luxembourg	2008, 2009, 2010, 2011			yes
Macedonia	1995			
Madagascar		2004		
Malaysia	1997, 1998, 1999	1998		yes
Mauritius				
Mexico	1994, 1995, 1996	1995		yes
Moldova		1999	2002	
Mongolia	2008, 2009, 2010, 2011	1997		
Myanmar(Burma)		1996, 2001		
Netherlands	2008, 2009, 2010, 2011			yes
Nicaragua	1992, 1993, 2000, 2001		1992, 1993, 1994	
Niger		1994		
Nigeria	1992, 1993, 1994, 1995, 2009, 2010, 2011	1997	1992	
Norway	1992, 1993			yes
Panama			1992, 1993, 1994, 1995, 1996	
Papua N Guinea		1995		
Paraguay	1995	2002		
Peru			1992, 1993, 1994, 1995, 1996	yes
Philippines	1997, 1998, 1999, 2000, 2001	1998	1992	yes
Poland	1992, 1993, 1994		1992, 1993, 1994	yes

Table 102(cont'd),

Country	Banking Crises	Currency Crises	Debt Crises	Used in Analysis
Portugal	2008, 2009, 2010, 2011			yes
Rep of Congo	1992,1993,1994	1994	1992	
Romania	1992	1996		
Russian Fed	1998, 2008, 2009, 2010, 2011	1998	1998, 1999, 2000	yes
Senegal		1994	1994, 1995, 1996	
Seychelles		2008	2008, 2009	
Sierra Leone	1993, 1994		1993, 1994	
Singapore				yes
Slovak Rep	1998, 1999, 2000, 2001, 2002			
Slovenia	1992, 2008, 2009,2010,2011			
South Africa			1992, 1993	yes
South Korea	1997, 1998			yes
Spain	2008, 2009, 2010, 2011			yes
Surinam		2001		
Swaziland	1995, 1997, 1998, 1999			
Sweden	1992, 1993, 1994, 1995, 2008, 2009, 2010, 2011	1993		yes
Switzerland	2008, 2009, 2010, 2011			yes
Thailand	1997, 1998, 1999, 2000	1998		yes
Togo			1996, 1997	
Turkey	2000, 2001	1996, 2001		yes
Turkmenistan		1993, 2008		
Uganda	1994		1992	
Ukraine	1998, 1999, 2008, 2009, 2010, 2011	1998, 2009	1998, 1999	
United Kingdom	2007, 2008, 2009, 2010, 2011			yes
United States	2007, 2008, 2009, 2010, 2011			yes
Uruguay	2002, 2003, 2004, 2005	2002	2002, 2003	
Uzbekistan		1994, 2000		
Venezuela	1994,1995,1996,1997,1998	1994, 2002, 2010		
Vietnam	1997		1992, 1993,1994, 1995,1996,1997	
Yemen	1996	1995		
Zambia	1995, 1996, 1997, 1998	1996, 2009	1993, 1994	
Zimbabwe	1995, 1996, 1997, 1998, 1999	1998, 2003		

Note. Table matches the countries for which merger data is available on SDC database with the Laeven Valencia (2012) database. The last column shows whether that country is one of the 39 countries that is included in our crisis analysis.

Appendix 3: Variable List

Table 103: MERGER INTENSITY MEASURES FOR VOLUME (QUANTITY and DOLLAR VALUE)

Dependent Variable for Merger Intensity	Formula
Panel A: Merger Intensity (Chapter 6)	
Quantity –Target or Bidder	$(\# \text{ of PUBLIC firms in country (i) that are target or bidders in a deal in year (t) } / \# \text{ of listed domestic companies in country (i) in year (t-1)}) * 100$
Quantity –Target	$(\# \text{ of PUBLIC firms in country (i) that are targets in a deal in year (t) } / \# \text{ of listed domestic companies in country (i) in year (t-1)}) * 100$
Quantity –Bidder	$(\# \text{ of PUBLIC firms in country (i) that are bidders in a deal in year (t) } / \# \text{ of listed domestic companies in country (i) in year (t-1)}) * 100$
Dollar –Target or Bidder	$(\text{Total \$ value of deals with either a PUBLIC target or bidder from country (i) in year (t) } / \text{Market Capitalization of country (i) in year (t)}) * 100$
Dollar –Target	$(\text{Total \$ value of deals with a PUBLIC target from country (i) in year (t) } / \text{Market Capitalization of country (i) in year (t)}) * 100$
Dollar –Bidder	$(\text{Total \$ value of deals with a PUBLIC bidder from country (i) in year (t) } / \text{Market Capitalization of country (i) in year (t)}) * 100$
Panel B: ROBUSTNESS for Merger Intensity	
Robustness Quantity –Target or Bidder	$(\# \text{ of deals in which the target or bidder is from country (i) in year (t) } / \text{Total number of deals in our sample in year (t)}) * 100$
Robustness Quantity –Target	$(\# \text{ of deals in which the target is from country (i) in year (t) } / \text{Total number of deals in our sample in year (t)}) * 100$
Robustness Quantity –Bidder	$(\# \text{ of deals in which the bidder is from country (i) in year (t) } / \text{Total number of deals in our sample in year (t)}) * 100$
Robustness Dollar –Target or Bidder	$(\text{Total \$ value of deals in which the target or bidder is from country (i) in year (t) } / \text{Total \$ value of deals in our sample in year (t)}) * 100$
Robustness Dollar –Target	$(\text{Total \$ value of deals in which the target is from country (i) in year (t) } / \text{Total \$ value of deals in our sample in year (t)}) * 100$
Robustness Dollar –Bidder	$(\text{Total \$ value of deals in which the bidder is from country (i) in year (t) } / \text{Total \$ value of deals in our sample in year (t)}) * 100$



Table 103 (cont'd),

Dependent Variable for Merger Intensity	Formula
Panel C: ROBUSTNESS 2 for Merger Intensity	
Robustness Quantity –Target or Bidder	(# of PUBLIC firms in country (i) that are target or bidders in a CROSS-BORDER deal in year (t) / # of listed domestic companies in country (i) in year (t-1))*100
Robustness Quantity –Target	(# of PUBLIC firms in country (i) that are targets in a CROSS-BORDER deal in year (t) / # of listed domestic companies in country (i) in year (t-1))*100
Robustness Quantity –Bidder	(# of PUBLIC firms in country (i) that are bidders in a CROSS-BORDER deal in year (t) / # of listed domestic companies in country (i) in year (t-1))*100
Robustness Dollar –Target or Bidder	(Total \$ value of CROSS-BORDER deals with either a PUBLIC target or bidder from country (i) in year (t) /Market Capitalization of country (i) in year (t))*100
Robustness Dollar –Target	(Total \$ value of CROSS-BORDER deals with a PUBLIC target from country (i) in year (t) /Market Capitalization of country (i) in year (t))*100
Robustness Dollar –Bidder	(Total \$ value of CROSS-BORDER deals with a PUBLIC bidder from country (i) in year (t) /Market Capitalization of country (i) in year (t))*100

Table 104: COUNTRY LEVEL VARIABLES

Variable	Source	Code in source	Definition given in source
Stock price volatility	Worldbank- Global Financial Development	GFDD.SM.01	“Stock price volatility is the average of the 360-day volatility of the national stock market index.”
GDP growth (annual %)	World Development Indicator	NY.GDP.MKTP.KD.ZG	“Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2000 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.”
Market capitalization of listed companies (current US\$)	World Development Indicator	CM.MKT.LCAP.CD	“Market capitalization (also known as market value) is the share price times the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies do not include investment companies, mutual funds, or other collective investment vehicles. Data are in current U.S. dollars.”
Listed domestic companies, total	World Development Indicator	CM.MKT.LDOM.NO	“Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. This indicator does not include investment companies, mutual funds, or other collective investment vehicles.”
Deposit interest rate (%)	World Development Indicator	FR.INR.DPST	“Deposit interest rate is the rate paid by commercial or similar banks for demand, time, or savings deposits. The terms and conditions attached to these rates differ by country, however, limiting their comparability. (Frequency: Annual)”
Return on Equity	Datastream	DWRE	“Net Profit (Income) / Common Shareholders' Equity x 100” (Net Income before Preferred Dividends - Preferred Dividend Requirement) / Average of Last Year's and Current Year's Common Equity * 100
Price Index (Country)	Datastream	PI	“The price index expresses the price of an equity as a percentage of its value on the base date, adjusted for capital changes.”



Table 104 (cont'd),

Variable	Source	Code in source	Definition given in source
Price Index (Country)	Datastream	TOTMKPI	“This is the default data type for equity indices. Datastream calculates its own aggregate sector and market price indices, together with associated aggregations such as sector price/earnings ratio (PE) and dividend yield (DY). Sector and market aggregations are weighted by market value and are calculated using a representative list of shares. Io = 100” $I_t = I_{t-1} * \frac{\sum_1^n (P_t * N_t)}{\sum_1^n (P_{t-1} * N_t * f)}$ “Where: It = index value on day t It-1 = index value on previous working day Pt = unadjusted price on day t Pt-1 = unadjusted price on previous working day Nt = number of shares in issue on day t f = adjustment factor for a capital action occurring on day t n = number of constituents in index The summations are performed on the constituents as they exist on day t.”
Return Index (Country)	Datastream	TOTMKRI	“The return index presents the theoretical growth in value of a notional stock holding, the price of which is that of the selected price index. This holding is deemed to return a daily dividend, which is used to purchase new units of the stock at the current price. The gross dividend is used.” $RI_t = RI_{t-1} * \frac{PI_t}{PI_{t-1}} * \left(1 + \frac{DY * f}{n}\right)$ “Where: RI = return index on day t RI-1 = return index on previous day PI = price index on day t PI-1 = price index on previous day DY = dividend yield of the price index f = grossing factor (normally 1) - if the dividend yield is a net figure rather than gross, is used to gross up the yield n = number of days in financial year (normally 260) * 100”
Market Value	Datastream	MV	“Market value on Datastream is the share price multiplied by the number of ordinary shares in issue. The amount in issue is updated whenever new tranches of stock are issued or after a capital change. § For companies with more than one class of equity capital, the market value is expressed according to the individual issue. § Market value is displayed in millions of units of local currency.”

Table 105: FIRM LEVEL VARIABLES

Variable	Source	Code in source	Definition given in source
Adjusted Price	Datastream	P	“Data type (P) represents the official closing price adjusted for subsequent capital actions.”
Target Datastream Code	SDC	T_DS_CODE	“Target Datastream Code: The datastream code of the target”
Target Primary SIC Code	SDC	TSICP	“Primary SIC Code: The SIC code of the target company's primary line of business.”
TargetPublicStatus	SDC	TPUB	“Target Public Status Long: Form of ownership of the target company at the time of the transaction.”
Target Nation	SDC	TNAT	“Target Nation: Nation in which target’s primary business or division was located at the time of the transaction.”
Acquiror Datastream Code	SDC	A_DS_CODE	“Acquiror Datastream Code: The unique Datastream code of the acquiring entity.”
Acquiror Primary SIC Code	SDC	ASICP	“Acquiror Primary SIC Code: SIC code for acquiror's primary line of business.”
Acq.Public Status	SDC	APUB	“Acquiror Public Status: Public status of acquiring company: public, private, subsidiary, joint venture, government owned.”
Acquiror Nation	SDC	ANAT	Acquiror Nation: Nation of the acquiring company.
Acquiror Total Assets (\$mil)	SDC	ATASS	Acquiror Total Assets Last 12 Months: Includes current assets, long-term investments and funds, net fixed assets, tangible assets, and deferred charges (\$mil). Equals total liabilities plus shareholders’ equity plus minority interest.
Target Total Assets (\$mil)	SDC	TASS	Target Total Assets: Total balance sheet assets including, current assets, long-term investments and funds, net fixed assets, intangible assets, and deferred charges, as of the date of the most current financial information prior to the announcement of the transaction (\$mil). TASS equals total liabilities plus shareholders' equity plus minority interest.

Table 106: DEAL LEVEL VARIABLES

Variable	Source	Code in source	Definition given in source
DealNumber	SDC	MASTER_DEAL_NO	“SDC Deal Number: Unique nine digit number assigned by Thomson Reuters to each individual transaction.”
DateAnnounced	SDC	DA	“Date Announced: The date one or more parties involved in the transaction makes the first public disclosure of common or unilateral intent to pursue the transaction (no formal agreement is required). Among other things, Date Announced is determined by the disclosure of discussions between parties, disclosure of a unilateral approach made by a potential bidder, and the disclosure of a signed Memorandum of Understanding (MOU) or other agreement. For transactions prior to 2006 this date is set to equal Rank Date. Date Announced must be dated either on or before the Rank Date. Therefore, in cases where the first public announcement of a transaction is made after the transaction has completed, Date Announced should equal both Rank Date and Date Effective/Unconditional.”
Status	SDC	STAT	“Status of the Transaction: Most recent status of the transaction. Status codes are grouped into 5 categories: Completed, Pending, Tentative, Unknown, and Withdrawn.”
% seeking to own after transaction	SDC	PSOUGHTOWN	“Percentage of Shares Acquiror is Seeking to Own After Transaction: The total percentage of common, or common equivalent, shares outstanding that the acquiror seeks to own after the transaction is completed. This field is an aggregate of the percentage of the target’s shares already owned by the acquiror previous to the transaction plus the percentage of the target’s shares that the acquiror seeks to acquire in the transaction. (PSOUGHT + PHDA)”
Percent of Shares Held at Announcement	SDC	PHDA	“Percentage Held at Announcement Date: Percentage of common, or common equivalent, shares outstanding held by the acquiror as of the announcement date.”
Attitude	SDC	ATT	“Attitude of the Transaction: Attitude or recommendation of the target company's management or board of directors toward the transaction; e.g., Hostile.”



Table 106 (cont'd),

Variable	Source	Code in source	Definition given in source
Form	SDC	FORM	“Form of the Transaction: 10 codes describing the specific form of the transaction: M (MERGER): A combination of business takes place or 100% of the stock of a public or private company is acquired. A (ACQUISITION): deal in which 100% of a company is spun off or split off is classified as an acquisition by shareholders. AM (ACQ OF MAJORITY INTEREST): the acquiror must have held less than 50% and be seeking to acquire 50% or more, but less than 100% of the target company’s stock. AP (ACQ OF PARTIAL INTEREST): deals in which the acquiror holds less than 50% and is seeking to acquire less than 50%, or the acquiror holds over 50% and is seeking less than 100% of the target company’s stock. AR (ACQ OF REMAINING INTEREST): deals in which the acquiror holds over 50% and is seeking to acquire 100% of the target company’s stock. AA (ACQ OF ASSETS): deals in which the assets of a company, subsidiary, division, or branch are acquired. This code is used in all transactions when a company is being acquired and the consideration sought is not given. AC: (ACQ OF CERTAIN ASSETS): deals in which sources state that "certain assets" of a company, subsidiary, or division are acquired. R (RECAPITALIZATION): deals in which a company undergoes a shareholders’ Leveraged recapitalization in which the company issues a special one-time dividend (in the form of cash, debt securities, preferred stock, or assets) allowing shareholders to retain an equity interest in the company. B (BUYBACK): deals in which the company buys back its equity securities or securities convertible into equity, either on the open market, through privately negotiated transactions, or through a tender offer. Board authorized repurchases are included. EO (EXCHANGE OFFER): deals in which a company offers to exchange new securities for its equity securities outstanding, securities convertible into equity, or non-convertible debt securities. Also includes deals in which an existing loan is replaced with a new facility during a debt restructuring.”



Table 106 (cont'd),

Variable	Source	Code in source	Definition given in source
% of Cash	SDC	PCT_CASH	"Percentage of consideration paid in cash: Value paid in cash divided by total value. $PCT\_CASH = VALCASH / VAL * 100\%$ "
% of Other	SDC	PCT_OTHER	"Percentage of consideration paid in other than cash or stock: Total value minus value paid in cash and stock divided by total value. $PCT\_OTHER = [(VAL - VALCASH - VALCOM) / VAL] * 100\%$ "
% of Stock	SDC	PCT_STK	"Percentage of consideration paid in stock: Value paid in stock divided by total value. $PCT\_STK = VALCOM / VAL * 100\%$ "
% of Unknown	SDC	PCT_UNKNOWN	"Percentage of consideration which is unknown."
Value of Transaction(\$mil)	SDC	VAL	"Value of Transaction (\$ mil): Total value of consideration paid by the acquiror, excluding fees and expenses. The dollar value includes the amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction. Liabilities assumed are included in the value if they are publicly disclosed. Preferred stock is only included if it is being acquired as part of a 100% acquisition. If a portion of the consideration paid by the acquiror is common stock, the stock is valued using the closing price on the last full trading day prior to the announcement of the terms of the stock swap. If the exchange ratio of shares offered changes, the stock is valued based on its closing price on the last full trading date prior to the date of the exchange ratio change. For public target 100% acquisitions, the number of shares at date of announcement (CACT) is used."
Offer Price to Target Stock Price Premium 1-day Prior to Announcement	SDC	PPMDAY	"Premium 1-day Prior to Announcement Date: Premium of offer price to target closing stock price 1-day prior to the original announcement date, expressed as a percentage $((HOSTPR - HOSTC1DAY) / HOSTC1DAY) * 100$ "
Offer Price to Target Stock Price Premium 1-week Prior to Announcement	SDC	PPMWK	"Premium 1-week Prior to Announcement Date: Premium of offer price to target closing stock price 1-week prior to the original announcement date, expressed as a percentage $((HOSTPR - HOSTC1WK) / HOSTC1WK) * 100$ "



Table 106 (cont'd),

Variable	Source	Code in source	Definition given in source
Offer Price to Target Stock Price Premium 4-weeks Prior to Announcement	SDC	PPM4WK	“Premium 4-weeks Prior to Announcement Date: Premium of offer price to target closing stock price 4-weeks prior to the original announcement date, expressed as a percentage $((\text{HOSTPR} - \text{HOSTC4WK}) / \text{HOSTC4WK}) * 100$.”
Cross-border	SDC		“A deal is a cross-border deal if the target’s nation is different from that of the acquirer’s ultimate parents. (Source: SDC Mergers and Corporate Transactions database)”
Same industry	SDC		“Target firms are in the same industries as acquirers if any line of business of the target firm (TSIC2) overlaps with that of acquirer (ASIC2). (Source: SDC Mergers and Corporate Transactions database)”
Challenged Deal	SDC	CHA	“Challenging Bid Flag: Yes/No flag set to 'Y' where a third party launched an offer for the target while this original bid was pending. Challenging bids are covered under a separate record and deal number with challenger as Acquiror.”

Appendix 4: Robustness for Volume

A4_a. Robustness for Volume (Alternative 1-percentage share)

Table 107: ROBUSTNESS-Merger Intensity across crisis versus non-crisis years

Panel A: Merger Intensity(frequency,%)

	1992-2010		Non-Crisis Years		Crisis Years		Diff.
	N	Mean	N	Mean	N	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	722	3.41	595	3.58	127	2.61	-0.97
Developed	437	4.85	372	4.92	65	4.42	-0.5
Emerging	285	1.20	223	1.34	62	0.70	-0.63***
Target							
All Sample	722	2.58	595	2.71	127	1.97	-0.74
Developed	437	3.62	372	3.67	65	3.31	-0.36
Emerging	285	0.99	223	1.11	62	0.56	-0.55***
Bidder							
All Sample	684	2.73	568	2.86	116	2.12	-0.74
Developed	437	3.78	372	3.84	65	3.47	-0.37
Emerging	247	0.87	196	0.99	51	0.40	-0.59***

Panel B: Merger Intensity (Dollar Volume)

	1992-2011		Non-Crisis Years		Crisis Years		Diff.
	obs	Mean	obs	Mean	obs	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	722	3.35	595	3.43	127	3.01	-0.41
Developed	437	5.08	372	5.01	65	5.49	0.47
Emerging	285	0.70	223	0.78	62	0.42	-0.36**
Target							
All Sample	722	2.60	595	2.68	127	2.23	-0.45
Developed	437	3.93	372	3.92	65	4.01	0.09
Emerging	285	0.57	223	0.63	62	0.37	-0.26**
Bidder							
All Sample	684	2.75	568	2.82	116	2.40	-0.43
Developed	437	4.01	372	4.00	65	4.06	0.06
Emerging	247	0.53	196	0.59	51	0.28	-0.31**

Notes: Table presents the results of t-tests for *merger intensity* (ratio of number of deals in which a firm from a given country is involved -as targets or bidders, as targets and as bidders- to number of **deals in our sample in year (t)** in Panel A and ratio of aggregated dollar value of deals -as targets or bidders, as targets and as bidders- **total dollar value of deals in Panel B**). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.



Table 108: ROBUSTNESS-Common Population Tests For Volume

Panel A: Merger Intensity defined as Quantity

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	3.31	0.00	10.98	0.10	0.42	0.01	3.52	0.00	12.41
Target	2.98	0.00	8.90	-0.21	0.13	0.04	3.57	0.00	12.77
Bidder	3.23	0.00	10.46	-0.13	0.31	0.02	4.63	0.00	21.48

Panel B: Merger Intensity defined as Dollar Value

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	2.32	0.03	5.39	-0.42	0.61	0.17	2.46	0.01	6.06
Target	1.89	0.16	3.56	-0.47	0.67	0.23	2.19	0.10	4.81
Bidder	2.31	0.08	5.33	-0.16	0.98	0.03	3.14	0.01	9.88

Notes: Table investigates whether the distribution of volume of M&As (defined as quantity and dollar value) during crisis and non-crisis periods come from a common population. Panel A and B report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square -statistic for the Kruskal-Wallis tests for quantity and dollar value, respectively.

Table 109: ROBUSTNESS-Merger Intensity Defined as Quantity Regressions (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.97*	0.00	-0.07	-0.50	-0.85*	-0.29	-0.63***	0.26	0.12
COUNTRY LEVEL									
Volatility (t)		-0.06***	-0.01		-0.10***	0.01		0.00	-0.01
Log Adj. Market Cap (t)		1.21***	0.36		1.79***	-0.53		0.60***	0.65
Deposit Interest Rate (t)		0.02***	0.01		0.29***	-0.09		-0.01*	0.01
ROE in year t		-0.04***	0.00		-0.05**	0.03		-0.01	-0.01
% chg. in PI(t)		0.00	0.00		-0.02**	0.00		-0.01***	0.00
GDP growth year t		-0.03	-0.01		0.01	0.00		0.09***	0.00
Constant	3.58***	-10.51***	-1.82	4.92***	-17.75***	10.32	1.34***	-6.11***	-6.35
Observations	722	504	504	437	267	267	285	237	237
Adjusted R-sq.	0.00	0.44	0.03	0.00	0.45	0.00	0.03	0.37	0.16
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	3.16	35.04	1.029	0.276	17.61	3.077	25.52	7.279	1.055

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: **(# of deals in which the target or bidder is from country (i) in year (t) / Total number of deals in our sample in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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



Table 110: ROBUSTNESS-Merger Intensity Defined as Quantity Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.74*	0.04	-0.05	-0.36	-0.59	-0.21	-0.55***	0.22	0.11
COUNTRY LEVEL									
Volatility (t)		-0.04***	-0.01		-0.07***	0.01		0.01	-0.01
Log Adj. Market Cap (t)		0.90***	0.32		1.30***	-0.57		0.52***	0.57
Deposit Interest Rate (t)		0.02***	0.01		0.20***	-0.10		-0.01**	0.01
ROE in year t		-0.03***	0.00		-0.04**	0.03		-0.01	0.00
% chg. in PI(t)		0.00	0.00		-0.01*	0.00		-0.01***	0.00
GDP growth year t		0.00	-0.01		-0.01	-0.01		0.08***	0.00
Constant	2.71***	-8.06***	-1.94	3.67***	-12.89***	9.77	1.11***	-5.45***	-5.68
Observations	722	504	504	437	267	267	285	237	237
Adjusted R-sq.	0.00	0.43	0.03	0.00	0.46	0.01	0.03	0.37	0.16
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	2.92	31.44	1.221	0.222	17.74	3.133	25.77	6.89	1.349

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: (# of deals in which the target is from country (i) in year (t) / Total number of deals in our sample in year (t))*100. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. . Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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



Table 111: ROBUSTNESS--Merger Intensity Defined as Quantity Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.74	0.00	-0.04	-0.37	-0.49	-0.15	-0.59***	0.21	0.07
COUNTRY LEVEL									
Volatility (t)		-0.05***	0.00		-0.07***	0.01		0.00	0.00
Log Adj. Market Cap (t)		0.96***	0.36		1.36***	-0.38		0.46***	0.58
Deposit Interest Rate (t)		0.02***	0.01		0.18***	-0.10		-0.01*	0.01
ROE in year t		-0.03***	0.00		-0.03*	0.03		0.00	0.00
% chg. in PI(t)		0.00	0.00		-0.01**	0.00		-0.00***	0.00
GDP growth year t		-0.02	-0.01		-0.01	-0.01		0.07***	0.01
Constant	2.86***	-8.60***	-2.52	3.84***	-13.56***	7.39	0.99***	-4.82***	-6.08
Observations	684	469	469	437	267	267	247	202	202
Adjusted R-sq.	0.00	0.45	0.05	0.00	0.47	0.01	0.04	0.35	0.19
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	2.22	34.89	1.503	0.213	20.55	3.548	27.47	7.722	1.551

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: **(# of deals in which the bidder is from country (i) in year (t) / Total number of deals in our sample in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. . Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 112: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.41	0.09	0.05	0.47	-0.45	0.06	-0.36***	0.13	0.08
COUNTRY LEVEL									
Volatility (t)		-0.04***	0.01		-0.06***	0.02		0.01	0.00
Log Adj. Market Cap (t)		1.13***	0.53**		1.71***	0.68		0.49***	0.57
Deposit Interest Rate (t)		0.02**	0.00		0.25***	0.06		0.00	0.01
ROE in year t		-0.01*	0.01		0.00	0.03		0.00	-0.01
% chg. in PI(t)		0.00	0.00		-0.01	0.00		0.00	0.00
GDP growth year t		-0.09***	-0.01		-0.08	-0.08		0.04**	0.03
Constant	3.43***	-10.75***	-4.87	5.01***	-18.59***	-6.53	0.78***	-5.44***	-6.20
Observations	722	504	504	437	267	267	285	237	237
Adjusted R-sq.	0.00	0.45	0.07	0.00	0.45	0.05	0.02	0.40	0.18
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.27	34.94	2.095	0.112	22.28	1.855	14.95	8.452	5.26

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger intensity measure is: **(Total dollar value of deals in which the target or bidder is from country (i) in year (t) / Total dollar value of deals in our sample in year (t)) * 100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. . Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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



Table 113: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.45	-0.05	-0.10	0.09	-0.62*	-0.26	-0.26***	0.10	0.06
COUNTRY LEVEL									
Volatility (t)		0.00	0.01		-0.04***	0.01		0.01*	0.01
Log Adj. Market Cap (t)		0.78***	0.32		1.20***	0.45		0.38***	0.41
Deposit Interest Rate (t)		0.01***	0.00		0.20***	0.07		-0.00*	0.00
ROE in year t		-0.02***	0.00		-0.03	0.00		0.00	0.00
% chg. in PI(t)		0.00	0.00		0.00	0.00		0.00	0.00
GDP growth year t		-0.06***	-0.01		-0.06	-0.07		0.03*	0.02
Constant	2.68***	-7.36***	-2.69	3.92***	-12.76***	-3.99	0.63***	-4.20***	-4.40
Observations	722	504	504	437	267	267	285	237	237
Adjusted R-sq.	0.00	0.40	0.03	0.00	0.40	0.01	0.01	0.39	0.15
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.48	29.97	1.761	0.00637	19.19	0.8	10.82	8.471	4.794

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger intensity measure is: **(Total dollar value of deals in which the target is from country (i) in year (t) / Total dollar value of deals in our sample in year (t)) * 100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. . Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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



Table 114: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.43	0.09	0.08	0.06	-0.24	0.12	-0.31***	0.16	0.10
COUNTRY LEVEL									
Volatility (t)		-0.03***	0.01		-0.05***	0.01		0.01	0.01
Log Adj. Market Cap (t)		0.91***	0.41*		1.34***	0.34		0.39***	0.55*
Deposit Interest Rate (t)		0.02***	0.01		0.19***	0.03		0.00	0.01
ROE in year t		-0.01*	0.01		-0.01	0.02*		0.00	0.00
% chg. in PI(t)		0.00	0.00		0.00	0.00		0.00	0.00
GDP growth year t		-0.07***	0.00		-0.08*	-0.07*		0.04**	0.04*
Constant	2.82***	-8.81***	-3.92	4.00***	-14.43***	-2.56	0.59***	-4.57***	-6.51
Observations	684	469	469	437	267	267	247	202	202
Adjusted R-sq.	0.00	0.43	0.06	0.00	0.46	0.03	0.02	0.37	0.21
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.39	33.22	1.748	0.0027	25.01	3.427	14.43	6.867	4.103

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger intensity measure is: **(Total dollar value of deals in which the bidder is from country (i) in year (t) /Total dollar value of deals in our sample in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. . Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

A4_b. Robustness for Volume (Alternative 2-Cross-border)

Table 115: ROBUSTNESS-Merger Intensity across crisis versus non-crisis years

Panel A: Merger Intensity(frequency,%)

	1992-2010		Non-Crisis Years		Crisis Years		Diff.
	N	Mean	N	Mean	N	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	716	14.97	591	14.96	125	15.01	0.05
Developed	434	20.02	369	19.70	65	21.80	2.09
Emerging	282	7.20	222	7.08	60	7.66	0.58
Target							
All Sample	714	5.39	589	5.14	125	6.57	1.43***
Developed	434	5.78	369	5.60	65	6.80	1.19**
Emerging	280	4.78	220	4.36	60	6.33	1.97**
Bidder							
All Sample	658	11.24	551	11.31	107	10.85	-0.46
Developed	432	15.47	367	15.28	65	16.54	1.26
Emerging	226	3.14	184	3.39	42	2.05	-1.34***

Panel B: Merger Intensity (Dollar Volume)

	1992-2011		Non-Crisis Years		Crisis Years		Diff.
	obs	Mean	obs	Mean	obs	Mean	(6-4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Target or Bidder							
All Sample	711	3.58	586	3.56	125	3.69	0.13
Developed	431	4.34	366	4.33	65	4.36	0.03
Emerging	280	2.41	220	2.27	60	2.96	0.69
Target							
All Sample	687	1.79	567	1.75	120	1.95	0.2
Developed	423	1.79	359	1.82	64	1.67	-0.15
Emerging	264	1.77	208	1.64	56	2.27	0.63
Bidder							
All Sample	644	1.83	540	1.83	104	1.84	0.01
Developed	428	2.40	363	2.39	65	2.46	0.08
Emerging	216	0.71	177	0.69	39	0.80	0.11

Notes: Table presents the results of t-tests for merger intensity (ratio of number of all listed firms that engage in **CROSS-BORDER** merger activity -as targets or bidders, as targets and as bidders- to number of listed companies in Panel A and ratio of aggregated dollar value of deals by listed firms -as targets or bidders, as targets and as bidders- to market capitalization in Panel B). ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.



Table 116: ROBUSTNESS-Common Population Tests For Volume

Panel A: Merger Intensity defined as Quantity

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	0.70	0.85	0.50	-0.84	0.76	0.71	-0.50	0.40	0.25
Target	-2.35	0.04	5.52	-1.53	0.07	2.35	-2.66	0.01	7.07
Bidder	1.63	0.00	2.67	-0.60	0.80	0.36	3.71	0.00	13.75

Panel B: Merger Intensity defined as Dollar Value

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test	Mann-Whitney test	Kolmogorov-Smirnov test	Kruskal-Wallis test
	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic	z-statistic	p-value	Chi ² -statistic
Target or Bidder	-0.01	0.85	0.00	1.19	0.22	1.41	-2.05	0.01	4.19
Target	0.04	0.25	0.00	1.96	0.03	3.84	-2.02	0.01	4.09
Bidder	0.90	0.55	0.80	0.66	0.71	0.44	0.50	0.57	0.25

Notes: Table investigates whether the distribution of volume of M&As (defined as quantity and dollar value) during crisis and non-crisis periods come from a common population. Panel A and B report the z-statistic for the Mann-Whitney, the p-value for the Kolmogorov-Smirnov, and the chi square -statistic for the Kruskal-Wallis tests for quantity and dollar value, respectively.



Table 117: ROBUSTNESS-Merger Intensity Defined as Quantity Regressions (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.05	1.34	1.07	2.09	8.66***	4.55	0.58	-1.88*	-1.42
COUNTRY LEVEL									
Volatility (t)		-0.02	0.11**		0.16**	0.22**		0.06	0.07
Log Adj.Market Cap (t)		0.25	1.14		-1.85***	1.48		-1.87***	0.37
Deposit Interest Rate (t)		-0.30***	0.01		-1.62***	0.21		-0.10***	0.00
ROE in year t		0.24***	0.09		0.75***	0.38***		0.06	-0.02
% chg. in PI(t)		0.02	-0.02**		0.03	-0.02		0.00	-0.01**
GDP growth year t		-0.68***	0.35***		0.04	0.91***		-0.19**	0.13
Constant	14.96***	12.34***	-5.34	19.70***	35.81***	-11.88	7.08***	29.38***	1.21
Observations	716	504	504	434	267	267	282	237	237
Adjusted R-sq.	0.00	0.12	0.07	0.00	0.25	0.21	0.00	0.17	0.02
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.00	14.06	4.091	1.324	17.6	7.585	0.365	5.118	20.81

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: **(Total number of PUBLIC firms in country (i) that are targets or bidders in a CROSS-BORDER deal in year (t) / number of listed domestic companies in country (i) in year (t-1))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 118: ROBUSTNESS-Merger Intensity Defined as Quantity Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	1.43***	0.52	0.25	1.19**	2.69***	2.11	1.97**	-1.41	-1.06
COUNTRY LEVEL									
Volatility (t)		0.05**	0.06		0.06**	0.06*		0.10**	0.08
Log Adj. Market Cap (t)		-1.00***	-0.51		-0.63***	-0.29		-2.15***	-0.54
Deposit Interest Rate (t)		-0.08***	0.01		-0.16*	0.15		-0.07***	0.01
ROE in year t		0.04	0.01		0.09**	0.05		0.03	-0.02
% chg. in PI(t)		0.00	-0.01		0.00	-0.01		0.00	-0.01
GDP growth year t		-0.18***	0.07		0.08	0.19**		-0.09	0.05
Constant	5.14***	17.17***	9.84	5.60***	11.42***	6.44	4.36***	28.51***	9.27
Observations	714	502	502	434	267	267	280	235	235
Adjusted R-sq.	0.01	0.13	0.04	0.01	0.12	0.06	0.02	0.30	0.05
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	7.27	10.48	1.416	4.145	5.725	1.201	4.573	8.644	3.617

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: **(Total number of PUBLIC firms in country (i) that are targets in a CROSS-BORDER deal in year (t) / number of listed domestic companies in country (i) in year (t-1))*100.....**The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 119: ROBUSTNESS--Merger Intensity Defined as Quantity Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	-0.46	2.41	1.89	1.26	7.37***	3.59	-1.34***	-0.55	-0.03
COUNTRY LEVEL									
Volatility (t)		-0.05	0.08**		0.12*	0.19**		-0.05***	0.01
Log Adj.Market Cap (t)		0.41	1.82***		-1.34***	1.73		-0.51**	0.86***
Deposit Interest Rate (t)		-0.35***	0.00		-1.47***	0.15		-0.05***	-0.01
ROE in year t		0.29***	0.13**		0.70***	0.37***		0.08***	0.03
% chg. in PI(t)		0.01	-0.01		0.03	-0.01		0.00	0.00
GDP growth year t		-0.54***	0.33***		0.01	0.84***		-0.12**	0.07
Constant	11.31***	6.50	-17.62**	15.28***	25.66***	-18.52	3.39***	11.08***	-7.82***
Observations	658	453	453	432	265	265	226	188	188
Adjusted R-sq.	0.00	0.18	0.16	0.00	0.26	0.28	0.03	0.18	0.21
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.15	10.54	4.016	0.712	18.38	10.37	9.529	8.387	13.18

Notes: The table reports regression estimates of merger intensity (quantity). Merger Intensity measure is: **(Total number of PUBLIC firms in country (i) that are bidders in a CROSS-BORDER deal in year (t) / number of listed domestic companies in country (i) in year (t-1))*100.....**The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 120: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (TARGET OR BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.13	-0.48	-0.09	0.03	-0.29	0.19	0.69	-0.75	-0.44
COUNTRY LEVEL									
Volatility (t)		0.01	0.03		0.04	0.08**		0.01	-0.01
Log Adj. Market Cap (t)		-0.30*	0.12		0.02	0.93		-0.73***	-0.54
Deposit Interest Rate (t)		-0.06***	-0.03*		-0.04	0.15		-0.04**	-0.05**
ROE in year t		0.06**	0.03		0.20***	0.18***		0.00	-0.01
% chg. in PI(t)		0.01	0.00		0.00	0.00		0.01	0.00
GDP growth year t		-0.25***	-0.07		0.09	0.29		-0.27**	-0.23*
Constant	3.56***	7.27***	1.13	4.33***	0.23	-13.10	2.27***	12.51***	10.86*
Observations	711	500	500	431	264	264	280	236	236
Adjusted R-sq.	0.00	0.04	0.00	0.00	0.07	0.11	0.00	0.09	0.01
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.07	4.52	0.883	0.00105	5.737	5.622	1.475	4.864	3.947

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger Intensity measure is: **(Total dollar value of CROSS-BORDER deals with either a PUBLIC target or bidder from country (i) in year (t) / market capitalization of country (i) in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 121: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (TARGET)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.20	-0.80*	-0.53	-0.15	-0.52*	-0.35	0.63	-1.30*	-0.82
COUNTRY LEVEL									
Volatility (t)		0.00	0.02		0.03	0.02		0.03	0.01
Log Adj. Market Cap (t)		-0.52***	0.00		-0.16	0.81		-0.71***	-0.39
Deposit Interest Rate (t)		-0.03*	-0.02		0.05	0.21		-0.04	-0.04*
ROE in year t		0.01	-0.01		0.07**	0.03		-0.01	-0.03
% chg. in PI(t)		0.00	0.00		0.00	-0.01		0.00	0.00
GDP growth year t		-0.16**	-0.12		0.05	0.16		-0.24*	-0.24
Constant	1.75***	8.15***	2.00	1.82***	2.04	-10.89	1.64***	11.14***	8.10*
Observations	687	483	483	423	261	261	264	222	222
Adjusted R-sq.	0.00	0.05	0.00	0.00	0.02	0.02	0.00	0.08	0.02
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.29	2.86	1	0.0957	3.299	2.232	1.233	4.306	4.021

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger Intensity measure is: **(Total dollar value of CROSS-BORDER deals with a PUBLIC target from country (i) in year (t) / market capitalization of country (i) in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Table 122: ROBUSTNESS-Merger Intensity Defined as Dollar Volume Regressions (BIDDER)

	FULL SAMPLE			DEVELOPED			EMERGING		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Any Type of Crisis	0.01	0.27	0.55**	0.08	0.34	0.55*	0.11	0.25	0.36
COUNTRY LEVEL									
Volatility (t)		-0.01	0.03**		0.02	0.06***		-0.01	0.00
Log Adj. Market Cap (t)		0.09	0.14		0.21	0.11		-0.20**	-0.19
Deposit Interest Rate (t)		-0.05***	-0.01		-0.01	0.00		-0.02**	-0.02*
ROE in year t		0.06***	0.05**		0.15***	0.16***		0.02**	0.01
% chg. in PI(t)		0.00	0.00		0.00	0.00		0.00	0.00
GDP growth year t		-0.09***	0.05		0.04	0.14		-0.04**	0.00
Constant	1.83***	0.45	-1.64	2.39***	-2.74	-2.67	0.69***	3.49***	3.18*
Observations	644	441	441	428	262	262	216	179	179
Adjusted R-sq.	0.00	0.07	0.04	0.00	0.10	0.13	0.00	0.05	-0.01
Country FE	NO	NO	YES	NO	NO	YES	NO	NO	YES
F	0.00	6.01	2.726	0.0199	6.139	10.15	0.228	2.493	0.798

Notes: The table reports regression estimates of merger intensity (dollar volume). Merger Intensity measure is: **(Total dollar value of CROSS-BORDER deals with a PUBLIC bidder from country (i) in year (t) / market capitalization of country (i) in year (t))*100**. The common independent variable in all regressions is an indicator variable, which takes the value of 1 if the target country is experiencing a crisis in a given year based on Laeven and Valencia crisis database. Model 3 controls for country fixed effects, the coefficients of which are not reported. We use the log of market capitalization recalculated in September 2011 dollars.

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

Appendix 5: Robustness for Merger Premium

Table 123: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-FULL SAMPLE

FULL SAMPLE ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	31,761	10.96	8.89	28,050	10.17	8.11	3,711	16.92	15.97	6.75***
United States	10,749	21.01	18.16	8,968	20.42	17.04	1,781	23.96	23.71	3.54***
Other Developed	16,228	9.25	6.45	14,485	9.01	6.25	1,743	11.22	8.29	2.21***
Emerging	4,784	-5.82	-0.20	4,597	-6.18	-0.50	187	2.95	3.90	9.13***
Premium 1week										
All Sample	31,254	12.91	11.11	27,568	12.25	10.34	3,686	17.86	17.46	5.61***
United States	10,627	22.96	20.30	8,856	22.78	19.86	1,771	23.82	24.06	1.04
Other Developed	15,903	11.16	8.58	14,169	10.93	8.49	1,734	13.05	9.90	2.13***
Emerging	4,724	-3.78	0.38	4,543	-4.15	0.15	181	5.50	5.88	9.65***
Premium 4weeks										
All Sample	30,839	14.58	13.53	27,187	14.11	12.90	3,652	18.12	17.78	4.01***
United States	10,424	24.60	22.68	8,676	24.87	22.58	1,748	23.27	23.05	-1.6**
Other Developed	15,755	12.75	11.11	14,021	12.55	11.07	1,734	14.40	12.10	1.85**
Emerging	4,660	-1.63	2.58	4,490	-1.81	2.46	170	3.17	6.52	4.98

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 124: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-DOMESTIC

Domestic ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median(%) (9)	
Premium 1day										
All Sample	25,781	10.24	8.38	22,848	9.40	7.44	2,933	16.77	15.75	7.36***
United States	9,645	20.88	17.92	8,134	20.29	16.84	1,511	24.08	23.69	3.79***
Other Developed	12,434	7.72	5.05	11,120	7.45	4.80	1,314	9.95	6.96	2.5***
Emerging	3,702	-9.01	-2.14	3,594	-9.20	-2.33	108	-2.69	1.89	6.51*
Premium 1week										
All Sample	25,413	12.13	10.31	22,492	11.43	9.58	2,921	17.51	17.03	6.08***
United States	9,546	22.75	20.00	8,041	22.56	19.39	1,505	23.75	23.67	1.19
Other Developed	12,201	9.58	7.00	10,894	9.34	6.80	1,307	11.59	7.96	2.25**
Emerging	3,666	-7.03	-0.92	3,557	-7.32	-1.08	109	2.40	5.26	9.72***
Premium 4weeks										
All Sample	25,075	13.70	12.80	22,180	13.15	12.20	2,895	17.91	17.54	4.76***
United States	9,362	24.29	22.35	7,880	24.59	22.31	1,482	22.73	22.47	-1.86**
Other Developed	12,088	11.02	9.37	10,780	10.70	9.09	1,308	13.69	11.37	2.99***
Emerging	3,625	-4.74	0.50	3,520	-4.95	0.24	105	2.42	6.67	7.37*

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use. Premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 125: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-CROSS BORDER

Cross-border ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	5,980	14.04	11.29	5,202	13.52	10.70	778	17.49	16.62	3.96***
United States	1,104	22.08	19.96	834	21.69	19.39	270	23.30	23.88	1.61
Other Developed	3,794	14.25	11.21	3,365	14.15	11.11	429	15.09	12.90	0.94
Emerging	1,082	5.07	4.08	1,003	4.63	4.00	79	10.65	8.33	6.02
Premium 1week										
All Sample	5,841	16.31	14.29	5,076	15.88	13.64	765	19.17	18.75	3.29***
United States	1,081	24.79	24.07	815	24.98	23.37	266	24.22	25.31	-0.76
Other Developed	3,702	16.36	14.10	3,275	16.20	13.92	427	17.54	16.52	1.34
Emerging	1,058	7.49	5.99	986	7.29	5.97	72	10.19	8.15	2.89
Premium 4weeks										
All Sample	5,764	18.45	16.81	5,007	18.37	16.32	757	18.95	19.40	0.58
United States	1,062	27.31	25.92	796	27.66	25.63	266	26.27	27.90	-1.39
Other Developed	3,667	18.47	16.98	3,241	18.72	17.04	426	16.60	16.23	-2.12
Emerging	1,035	9.26	8.26	970	9.59	8.59	65	4.38	6.37	-5.21

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 126: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-COMPLETED

Completed ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N	Mean (%)	Median (%)	N	Mean (%)	Median (%)	N	Mean (%)	Median (%)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Premium 1day										
All Sample	24,875	11.58	9.09	22,053	10.93	8.46	2,822	16.65	15.51	5.72***
United States	8,880	20.28	17.08	7,569	19.58	15.86	1,311	24.36	24.36	4.78***
Other Developed	12,765	9.54	6.52	11,392	9.44	6.45	1,373	10.39	7.28	0.95
Emerging	3,230	-4.26	0.25	3,092	-4.71	0.00	138	5.79	4.26	10.5***
Premium 1week										
All Sample	24,482	13.61	11.13	21,676	13.10	10.68	2,806	17.56	17.16	4.47***
United States	8,776	22.43	19.54	7,473	22.14	18.52	1,303	24.05	24.96	1.91**
Other Developed	12,517	11.49	8.55	11,147	11.40	8.57	1,370	12.17	8.33	0.77
Emerging	3,189	-2.32	1.64	3,056	-2.84	1.48	133	9.53	7.06	12.36***
Premium 4weeks										
All Sample	24,136	15.36	13.87	21,355	14.96	13.43	2,781	18.48	18.01	3.52***
United States	8,594	24.51	22.22	7,309	24.50	21.71	1,285	24.56	24.48	0.06
Other Developed	12,396	13.03	11.11	11,027	12.94	11.11	1,369	13.75	11.30	0.8
Emerging	3,146	-0.46	3.65	3,019	-0.81	3.45	127	7.90	8.67	8.71**

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 127: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-ACQUISITION

Acquisition ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	15,544	21.12	20.53	13,343	20.57	20.00	2,201	24.43	24.88	3.86***
United States	7,190	27.44	25.71	5,891	27.03	25.00	1,299	29.31	29.25	2.28***
Other Developed	7,344	17.62	17.20	6,489	17.49	17.12	855	18.58	18.10	1.09
Emerging	1,010	1.59	4.82	963	1.86	5.00	47	-3.92	0.48	-5.78
Premium 1week										
All Sample	15,243	23.68	23.64	13,062	23.35	23.09	2,181	25.61	26.32	2.25***
United States	7,102	30.08	28.64	5,806	30.09	28.40	1,296	30.02	29.69	-0.07
Other Developed	7,149	20.03	20.19	6,308	20.00	20.17	841	20.24	20.38	0.24
Emerging	992	4.14	6.65	948	4.42	6.84	44	-1.82	2.50	-6.24
Premium 4weeks										
All Sample	-	.	.	12,849	25.54	26.05	2,150	26.43	27.25	0.9
United States	6,951	32.27	31.46	5,679	32.72	31.81	1,272	30.25	29.79	-2.47***
Other Developed	7,075	21.77	22.58	6,237	21.70	22.47	838	22.36	22.92	0.66
Emerging	973	6.80	10.65	933	7.51	10.99	40	-9.62	-0.93	-17.13***

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively

Table 128: Robustness for Univariate Tests of Merger Premiums (Crisis vs. Non-crisis)-COMPLETED ACQUISITION

Completed Acquisition ROBUSTNESS	1992-2011			Non-Crisis Years			Crisis Years			Diff. (8-5)
	N (1)	Mean (%) (2)	Median (%) (3)	N (4)	Mean (%) (5)	Median (%) (6)	N (7)	Mean (%) (8)	Median (%) (9)	
Premium 1day										
All Sample	12,158	21.32	20.56	10,488	20.87	20.00	1,670	24.14	25.00	3.27***
United States	5,751	27.07	25.26	4,782	26.57	24.47	969	29.56	29.34	2.99***
Other Developed	5,718	17.83	17.26	5,049	17.87	17.25	669	17.47	17.47	-0.4
Emerging	689	2.28	5.05	657	2.43	5.05	32	-0.77	4.76	-3.2
Premium 1week										
All Sample	11,930	24.14	23.78	10,274	23.95	23.37	1,656	25.36	26.67	1.41*
United States	5,672	30.03	28.40	4,706	30.01	28.00	966	30.16	29.86	0.16
Other Developed	5,582	20.45	20.37	4,921	20.60	20.48	661	19.34	19.76	-1.27
Emerging	676	5.19	6.84	647	5.32	6.93	29	2.51	6.17	-2.81
Premium 4weeks										
All Sample	11,728	26.40	26.86	10,096	26.30	26.67	1,632	27.03	28.10	0.73
United States	5,546	32.86	31.98	4,599	33.12	32.05	947	31.55	31.23	-1.57
Other Developed	5,520	22.16	22.83	4,862	22.22	22.81	658	21.72	23.00	-0.5
Emerging	662	7.71	11.20	635	8.14	11.52	27	-2.45	6.67	-10.59

Notes: Table presents the results of t-tests for merger premiums by target nation to see if there is a significant difference in crisis versus non-crisis years across developed and emerging countries. Premium 1day/1week/4weeks is defined as premium of offer price to target closing stock price 1day/1week/4weeks prior to the original announcement date. We use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). We report number of observations, mean, and median, for the whole 1992-2011 period, as well as non-crisis and crisis periods respectively. The last column reports the mean (crisis-noncrisis) difference and shows the statistical significance of the difference based on t-stat. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 129: Robustness for Common Population Tests of Merger Premiums

	ALL COUNTRIES			DEVELOPED COUNTRY SUB-SAMPLE			EMERGING COUNTRY SUB-SAMPLE		
	Mann-Whitney z-statistic	Kolmogorov-Smirnov test p-value	Kruskal-Wallis test Chi ² -statistic	Mann-Whitney z-statistic	Kolmogorov-Smirnov test p-value	Kruskal-Wallis test Chi ² -statistic	Mann-Whitney z-statistic	Kolmogorov-Smirnov test p-value	Kruskal-Wallis test Chi ² -statistic
FULL SAMPLE									
Premium 1day	-13.62	0.00	185.62	-9.55	0.00	91.13	-3.54	0.00	12.55
Premium 1week	-10.69	0.00	114.22	-6.57	0.00	43.16	-3.36	0.00	11.29
Premium 4weeks	-7.20	0.00	51.78	-3.56	0.00	12.71	-1.65	0.20	2.71
DOMESTIC M&A									
Premium 1day	-13.29	0.00	176.73	-9.36	0.00	87.59	-2.16	0.02	4.67
Premium 1week	-10.46	0.00	109.49	-6.34	0.00	40.23	-2.72	0.00	7.37
Premium 4weeks	-7.49	0.00	56.13	-3.71	0.00	13.74	-1.86	0.03	3.47
CROSS BORDER M&A									
Premium 1day	-3.70	0.00	13.72	-2.50	0.00	6.25	-1.45	0.06	2.11
Premium 1week	-2.81	0.00	7.89	-1.89	0.00	3.57	-0.48	0.61	0.23
Premium 4weeks	-0.92	0.11	0.85	-0.40	0.24	0.16	1.20	0.34	1.45
ACQUISITION									
Premium 1day	-6.36	0.00	40.42	-5.07	0.00	25.70	1.04	0.12	1.08
Premium 1week	-3.55	0.00	12.62	-2.25	0.00	5.04	1.16	0.19	1.36
Premium 4weeks	-1.11	0.11	1.23	-0.10	0.52	0.01	2.92	0.03	8.53
COMPLETED DEALS									
Premium 1day	-10.54	0.00	111.16	-7.78	0.00	60.57	-3.08	0.01	9.46
Premium 1week	-7.87	0.00	61.90	-4.96	0.00	24.57	-3.28	0.01	10.79
Premium 4weeks	-5.77	0.00	33.34	-3.10	0.00	9.62	-2.30	0.07	5.30
COMPLETED ACQUISITIONS									
Premium 1day	-5.28	0.00	27.83	-4.26	0.00	18.14	0.25	0.52	0.06
Premium 1week	-2.55	0.00	6.50	-1.54	0.01	2.36	0.39	0.58	0.15
Premium 4weeks	-1.26	0.21	1.59	-0.41	0.64	0.17	1.35	0.26	1.83

Notes: Table investigates whether the distribution of target premiums during crisis and non-crisis periods come from a common population. We use premiums between -100 and 100 following Alexandridis et al. (2013) and Officer (2003).

Table 130: Robustness for 4-weeks Premium Regressions (FULL SAMPLE)

PREMIUM 4-weeks-robustness FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	4.01***	0.17	-0.04	3.87***	-0.70	-1.65***	-1.14**	-2.42**	-2.99**	-2.57*
FIRM LEVEL										
Relative Size		-0.01**			0.00		-0.01**			0.00
Log. Target Size (mil\$)		-0.61***			-4.71***		-0.81***			-4.53***
Log. Bidder Size (mil\$)		0.73***			0.95***		1.21***			1.06***
Public Bidder (1/0)		2.31			0.50		2.09			1.30
Same Industry (1/0)		6.02***			2.05***		2.99***			1.72***
DEAL LEVEL										
Log (Deal Size) (mil\$)			3.00***		5.08***			2.99***		4.82***
Deal is Completed (Dummy)			3.97***		3.49***			1.44*		3.65***
Acquisition (1/0)			13.13***		6.74***			7.35**		4.20
Hostile Deal (1/0)			10.02***		9.91***			8.07***		8.72***
All-cash Deal (1/0)			5.86***		5.88***			5.05***		5.88***
Competitive Deal (1/0)			10.20***		8.95***			8.00***		8.71***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.43***	0.03				0.23**	0.32***
Log. Market Cap (Target Nation) (mil\$)				3.08***	1.39***				3.46	-2.68
ROE (Target Nation)				0.37***	0.27***				0.11	0.00
% change in Price index (Target Nation)				-0.17***	-0.07***				-0.02	0.00
Constant	14.11***	14.42***	-9.61***	-25.93***	-18.49***	14.78***	13.83***	-3.96***	-41.98	40.43
Observations	30,839	12,544	30,749	30,521	12,452	30,839	12,544	30,749	30,521	12,452
Adjusted R-squared (%)	0.14	1.16	14.69	4.28	16.63	0.02	0.91	9.11	0.61	10.01
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	46.86	23.74	789.3	253.00	154.1	10.21	28.36	358	3.189	251.8

Notes: The table reports regression estimates⁶³ of 4-week premium when we use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁶³ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 131: Robustness for 4-weeks Premium Regressions (UNITED STATES)

PREMIUM 4-weeks-robustness UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	-1.60*	-1.32	-4.08***	-5.63***	-4.99***
FIRM LEVEL					
Relative Size		-0.01			0.00
Log. Target Size (mil\$)		-1.32***			-3.90***
Log. Bidder Size (mil\$)		1.28***			1.23***
Public Bidder (1/0)		3.47			3.92
Same Industry (1/0)		1.92**			1.64*
DEAL LEVEL					
Log (Deal Size) (mil\$)			1.79***		3.44***
Deal is Completed (Dummy)			3.31***		4.36***
Acquisition (1/0)			18.58***		13.26***
Hostile Deal (1/0)			11.11***		11.20***
All-cash Deal (1/0)			6.28***		6.94***
Competitive Deal (1/0)			4.82***		4.76***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				0.31***	0.70***
Log. Market Cap (Target Nation) (mil\$)				11.83***	-9.55***
ROE (Target Nation)				-0.32**	0.27*
% change in Price index (Target Nation)				0.05*	0.14***
Constant	24.87***	24.82***	-1.54	-170.66***	144.16***
Observations	10,424	5,175	10,420	10,424	5,175
Adjusted R-squared (%)	0.03	0.86	15.19	2.67	10.19
F	3.77	7.54	301.7	56.49	35.93

Notes: The table reports regression estimates⁶⁴ of 4-week premium when we use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁶⁴ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 132: Robustness for 4-weeks Premium Regressions (OTHER DEVELOPED)

PREMIUM 4-weeks-robustness OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	1.85**	-1.78	0.18	4.19***	1.29	-1.82	-0.90	-0.69	-1.99	0.04
FIRM LEVEL										
Relative Size		-0.01			0.00		-0.01			0.00
Log. Target Size (mil\$)		-0.21			-5.28***		-0.41			-4.92***
Log. Bidder Size (mil\$)		0.28			0.68***		1.17***			1.00***
Public Bidder (1/0)		-1.28			-1.74		0.39			-0.88
Same Industry (1/0)		5.17***			1.28*		3.54***			1.22
DEAL LEVEL										
Log (Deal Size) (mil\$)			3.11***		6.21***			3.01***		5.72***
Deal is Completed (Dummy)			2.26***		3.44***			1.30		3.61***
Acquisition (1/0)			8.11***		2.47**			4.15		1.38
Hostile Deal (1/0)			9.76***		8.98***			7.66***		7.34***
All-cash Deal (1/0)			3.82***		5.82***			4.27***		5.63***
Competitive Deal (1/0)			13.45***		12.79***			11.33***		12.13***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.37***	0.14**				0.16**	0.35***
Log. Market Cap (Target Nation) (mil\$)				0.20	-1.09***				-2.39	-1.74
ROE (Target Nation)				0.66***	0.14				0.33*	-0.15
% change in Price index (Target Nation)				-0.12***	-0.05***				0.00	-0.01
Constant	12.55***	14.30***	-6.44***	10.46**	19.28***	12.95***	7.76***	-3.54***	39.62*	24.70
Observations	15,755	6,252	15,681	15,468	6,164	15,755	6,252	15,681	15,468	6,164
Adjusted R-squared (%)	0.02	0.70	11.84	1.71	16.39	0.02	0.99	7.99	0.19	12.02
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	4.98	8.24	309.5	57.03	76.39	2.874	11.97	128.6	2.721	646

Notes: The table reports regression estimates⁶⁵ of 4-week premium when we use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁶⁵ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 133: Robustness for 4-weeks Premium Regressions (EMERGING)

PREMIUM 4-weeks-robustness EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	4.98	0.05	2.52	-7.29*	0.63	-0.48	-1.19	-2.49	-0.40	0.68
FIRM LEVEL										
Relative Size		-0.02			-0.01		-0.02			-0.02
Log. Target Size (mil\$)		-1.50*			-5.03***		-0.47			-4.46***
Log. Bidder Size (mil\$)		0.74			0.72		0.75			0.50
Public Bidder (1/0)		5.39			5.26		4.77**			4.21
Same Industry (1/0)		3.50*			2.01		5.17***			3.30**
DEAL LEVEL										
Log (Deal Size) (mil\$)			3.00***		4.81***			4.29***		5.65***
Deal is Completed (Dummy)			2.56**		2.63			0.08		1.14
Acquisition (1/0)			6.28***		-0.48			-1.48		-3.30
Hostile Deal (1/0)			11.39		7.23			5.27		2.12
All-cash Deal (1/0)			9.36***		9.30***			7.75***		8.85***
Competitive Deal (1/0)			10.13		16.96**			1.35		10.77
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.06	-0.22*				0.20	-0.01
Log. Market Cap (Target Nation) (mil\$)				-7.16***	-3.05***				5.65	2.03
ROE (Target Nation)				0.12	0.06				-0.08	-0.02
% change in Price index (Target Nation)				-0.04*	-0.09**				-0.07	-0.10*
Constant	-1.81***	6.48	-17.19***	90.33***	47.87***	-1.61***	0.59	-16.40***	-78.52	-22.80
Observations	4,660	1,117	4,648	4,629	1,113	4,660	1,117	4,648	4,629	1,113
Adjusted R-squared (%)	0.04	0.71	5.35	4.83	8.93	-0.02	1.02	6.88	1.56	8.25
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	2.22	2.43	40.32	53.85	7.999	0.0209	7.635	30.32	1.069	.

Notes: The table reports regression estimates⁶⁶ of 4-week premium when we use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively

⁶⁶ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 134: Robustness for 4-weeks Premium Regressions (DOMESTIC)

PREMIUM 4-weeks-robustness DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	4.76***	-0.19	0.49	4.13***	-0.79	-1.34**	-1.00*	-2.27	-2.86*	-2.39*
FIRM LEVEL										
Relative Size		-0.01			0.00		-0.01			0.00
Log. Target Size (mil\$)		-0.58**			-4.32***		-0.75*			-4.22***
Log. Bidder Size (mil\$)		0.90***			0.96***		1.24***			1.17***
Public Bidder (1/0)		4.33**			2.29		3.92*			2.96
Same Industry (1/0)		6.52***			1.70***		2.50***			1.34*
DEAL LEVEL										
Log (Deal Size) (mil\$)			3.01***		4.71***			2.95***		4.45***
Deal is Completed (Dummy)			4.55***		3.33***			1.65*		3.67***
Acquisition (1/0)			13.73***		7.37***			7.37*		4.64
Hostile Deal (1/0)			10.99***		11.12***			8.92***		9.95***
All-cash Deal (1/0)			6.21***		5.41***			5.02***		5.49***
Competitive Deal (1/0)			10.04***		7.89***			7.50***		7.70***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.46***	0.04				0.24***	0.35***
Log. Market Cap (Target Nation) (mil\$)				3.87***	1.92***				4.35	-2.35
ROE (Target Nation)				0.34***	0.34***				0.09	0.00
% change in Price index (Target Nation)				-0.17***	-0.07***				-0.01	0.01
Constant	13.15***	9.79***	-11.43***	-38.12***	-30.61***	13.85***	10.86***	-4.67***	-56.69	32.61
Observations	25,075	10,009	24,997	24,848	9,948	25,075	10,009	24,997	24,848	9,948
Adjusted R-squared (%)	0.19	1.39	15.07	5.54	16.59	0.01	0.82	8.78	0.77	8.71
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	54.09	22.81	657.8	263.70	121.1	4.389	27.58	272.1	3.444	105.9

Notes: The table reports regression estimates⁶⁷ of 4-week premium when we use premiums between -100 and 100 percent following Alexandridis et al. (2013) and Officer (2003). The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively

⁶⁷ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 135: Robustness for 4-weeks Premium Regressions (CROSS BORDER)

PREMIUM 4-weeks-robustness CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	2.00	0.61	-1.62	1.60	0.26	-2.40	-1.37	-2.27	-3.96**	-1.71
Crisis in Bidder Country (1/0)	-4.25***	-3.94**	-2.68**	-4.33***	-4.64**	-2.24*	-2.41	-2.08**	-2.98***	-3.44*
FIRM LEVEL										
Relative Size		-0.01*			0.01		-0.01			0.00
Log. Target Size (mil\$)		-0.84*			-5.38***		-0.56*			-5.21***
Log. Bidder Size (mil\$)		0.05			0.39		0.25			0.23
Public Bidder (1/0)		-0.67			-1.48		-1.53			-1.57
Same Industry (1/0)		4.46***			2.25*		4.45**			2.57
Bidder from Developed Country (1/0)		5.08**			1.83		2.93			0.06
Target from Developed Country (1/0)		15.06***			3.17	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.49***		5.56***			2.67***		5.84***
Deal is Completed (Dummy)			2.01*		4.19**			0.72		3.41***
Acquisition (1/0)			12.76***		5.05***			9.03***		3.47*
Hostile Deal (1/0)			6.59**		6.72**			5.79***		5.45**
All-cash Deal (1/0)			4.43***		5.84***			4.65***		5.62***
Competitive Deal (1/0)			10.48***		10.49***			9.36***		10.22***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.40***	-0.11				0.15	0.10
Log. Market Cap (Target Nation) (mil\$)				1.87***	0.44				-0.60	-3.49*
ROE (Target Nation)				0.31***	0.07				0.10	0.07
% change in Price index (Target Nation)				-0.15***	-0.08*				-0.06*	-0.03
Stock Price Volatility (Bidder Nation)				0.22***	0.23*				0.09	0.19**
Log. Market Cap (Bidder Nation) (mil\$)				1.10***	-0.07				1.05***	0.29
ROE (Bidder Nation)				0.01	-0.18				0.21**	-0.14
% change in Price index (Bidder Nation)				0.02	-0.01				0.05	0.00
Constant	19.02***	11.96**	-1.03	-22.32***	6.84	19.20***	24.29***	0.74	4.25	58.68**
Observations	5,764	2,535	5,752	5,465	2,459	5,764	2,535	5,752	5,465	2,459
Adjusted R-squared (%)	0.20	3.23	13.16	2.58	17.2	0.13	0.54	9.69	0.55	13.06
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	6.94	10.25	118.9	14.77	23.44	4.54	8.513	60.58	9.017	86.43

Appendix 6: Regression results for 1-day and 1-week premiums

Table 136: 1-week Premium Regressions (FULL SAMPLE)

PREMIUM 1-week FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	7.30***	2.68**	3.49***	5.46***	-0.19	1.77	1.38	0.99	-1.88*	-2.27**
FIRM LEVEL										
Relative Size		0.00			0.00		0.00			0.00
Log. Target Size (mil\$)		-1.78***			-5.39***		-1.96***			-5.14***
Log. Bidder Size (mil\$)		0.45*			0.71***		0.90***			0.83***
Public Bidder (1/0)		3.84*			1.44		3.49***			2.41
Same Industry (1/0)		6.16***			2.32***		2.76**			1.56**
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.94***		4.48***			1.92***		4.09***
Deal is Completed (Dummy)			2.84***		1.59			0.39		2.08*
Acquisition (1/0)			17.28***		8.65***			11.00**		5.75*
Hostile Deal (1/0)			9.61***		11.12***			7.91***		9.98***
All-cash Deal (1/0)			5.97***		5.41***			5.23***		5.63***
Competitive Deal (1/0)			13.53***		13.20***			11.47***		13.14***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.28***	0.26***				0.47***	0.55***
Log. Market Cap (Target Nation) (mil\$)				3.63***	1.85***				1.80	-3.85**
ROE (Target Nation)				0.35***	0.21**				0.03	-0.13
% change in Price index (Target Nation)				-0.24***	-0.13***				-0.07***	-0.05*
Constant	17.80***	25.05***	-3.59***	-32.14***	-17.42***	18.45***	24.87***	2.33	-16.68	67.30***
Observations	32,592	13,319	32,499	32,248	13,217	32,592	13,319	32,499	32,248	13,217
Adjusted R-squared (%)	0.29	1.15	9.3	3.43	11.26	0.01	0.7	4.89	1.12	6.97
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	88.23	25.82	515.4	192.50	102.1	1.873	29.13	90.59	13.63	145.5

Notes: The table reports regression estimates⁶⁸ of 1-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-week prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁶⁸ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 137: 1-week Premium Regressions (UNITED STATES)

PREMIUM 1-week UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	3.08***	1.97	0.80	-4.69***	-3.80**
FIRM LEVEL					
Relative Size		0.00			0.00
Log. Target Size (mil\$)		-2.92***			-4.56***
Log. Bidder Size (mil\$)		0.67			0.81**
Public Bidder (1/0)		4.29			4.70
Same Industry (1/0)		0.63			0.03
DEAL LEVEL					
Log (Deal Size) (mil\$)			-0.21		2.08***
Deal is Completed (Dummy)			-1.66		1.14
Acquisition (1/0)			25.26***		14.63***
Hostile Deal (1/0)			10.84***		12.82***
All-cash Deal (1/0)			4.89***		5.76***
Competitive Deal (1/0)			5.46***		7.65***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				0.61***	0.88***
Log. Market Cap (Target Nation) (mil\$)				10.55***	-9.44***
ROE (Target Nation)				-0.26	0.23
% change in Price index (Target Nation)				-0.09**	0.03
Constant	29.14***	42.17***	11.66***	-148.79***	161.33***
Observations	11,213	5,600	11,209	11,213	5,600
Adjusted R-squared (%)	0.07	1.50	8.03	2.81	6.33
F	7.32	12.71	159.5	56.02	25.04

Notes: The table reports regression estimates⁶⁹ of 1-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-week prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁶⁹ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 138: 1-week Premium Regressions (OTHER DEVELOPED)

PREMIUM 1-week OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	2.35**	-1.64	0.88	4.08***	0.73	-1.07	-0.36	0.01	-2.37*	-0.33
FIRM LEVEL										
Relative Size		-0.01			0.00		-0.01			0.00
Log. Target Size (mil\$)		-1.08***			-5.66***		-1.24**			-5.23***
Log. Bidder Size (mil\$)		0.03			0.42		0.99***			0.80**
Public Bidder (1/0)		1.35			0.08		2.95			0.94
Same Industry (1/0)		6.09***			2.47***		4.08***			2.11*
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.26***		5.66***			2.18***		5.12***
Deal is Completed (Dummy)			2.01**		2.68*			1.28		3.21*
Acquisition (1/0)			11.41***		4.10***			6.91*		2.87*
Hostile Deal (1/0)			8.37***		9.33***			6.40***		7.80***
All-cash Deal (1/0)			4.57***		6.36***			5.13***		6.16***
Competitive Deal (1/0)			18.30***		17.89***			16.11***		17.53***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.24***	0.35***				0.42***	0.57***
Log. Market Cap (Target Nation) (mil\$)				0.62**	-0.99**				-4.56**	-3.25
ROE (Target Nation)				0.96***	0.30***				0.66***	0.07
% change in Price index (Target Nation)				-0.21***	-0.13***				-0.05***	-0.08**
Constant	15.86***	21.39***	-2.25**	2.54	18.78**	16.24***	14.31***	0.62	64.97**	45.54
Observations	16,486	6,530	16,410	16,174	6,433	16,486	6,530	16,410	16,174	6,433
Adjusted R-squared (%)	0.02	0.96	7.92	1.63	12.8	0	0.56	4.92	0.93	9.22
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	5.05	11.16	206.1	55.33	55.17	0.644	19.94	88.55	20.95	229.3

Notes: The table reports regression estimates⁷⁰ of 1-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-week prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷⁰ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 139: 1-week Premium Regressions (EMERGING)

PREMIUM 1-week EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	18.55***	12.61*	16.33***	-5.20	-3.95	13.56	11.26	11.80	-2.88	-10.08
FIRM LEVEL										
Relative Size		-0.01			0.00		-0.01			-0.01
Log. Target Size (mil\$)		-1.73*			-6.59***		-0.91			-5.94***
Log. Bidder Size (mil\$)		1.10			1.23		0.93			0.83
Public Bidder (1/0)		3.92			4.24		3.64			3.26
Same Industry (1/0)		5.14*			2.37		5.65**			2.73
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.79***		5.82***			4.17***		6.34***
Deal is Completed (Dummy)			4.77***		3.79			2.46		1.80
Acquisition (1/0)			7.03***		0.07			-0.12		-2.01
Hostile Deal (1/0)			32.99**		26.99			27.61		23.92
All-cash Deal (1/0)			8.89***		4.77*			7.30***		4.44
Competitive Deal (1/0)			16.21*		39.21*			7.58		32.47**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.13	0.08				0.27	0.22*
Log. Market Cap (Target Nation) (mil\$)				-7.19***	-2.77**				3.37	-0.89
ROE (Target Nation)				-0.40***	-0.52**				-0.71***	-0.73***
% change in Price index (Target Nation)				-0.08**	-0.08				-0.10**	-0.07*
Constant	1.29*	8.76	-15.17***	100.83***	51.20***	1.49***	5.61	-14.84***	-36.24	27.53
Observations	4,893	1,189	4,880	4,861	1,184	4,893	1,189	4,880	4,861	1,184
Adjusted R-squared (%)	0.55	0.80	4.19	4.69	6.85	0.29	0.58	4.57	2.06	6.7
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	16.77	2.27	31.46	47.64	5.733	2.217	1.672	25.27	16.59	.

Notes: The table reports regression estimates⁷¹ of 1-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-week prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷¹ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 140: 1-week Premium Regressions (DOMESTIC)

PREMIUM 1-week DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	7.38***	2.29*	3.34***	5.06***	0.03	1.43	1.37	0.50	-2.21**	-1.75**
FIRM LEVEL										
Relative Size		-0.01			0.00		0.00			0.00
Log. Target Size (mil\$)		-1.74***			-5.04***		-1.93***			-4.97***
Log. Bidder Size (mil\$)		0.44			0.51*		0.75***			0.74***
Public Bidder (1/0)		6.08**			3.34		5.39**			4.01
Same Industry (1/0)		6.56***			1.72**		2.21**			1.14*
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.94***		4.20***			1.85**		3.88***
Deal is Completed (Dummy)			3.30***		0.95			0.40		1.60
Acquisition (1/0)			17.88***		8.77***			10.82*		5.72
Hostile Deal (1/0)			10.96***		12.96***			9.24***		11.62***
All-cash Deal (1/0)			6.28***		4.82***			5.01***		5.00***
Competitive Deal (1/0)			13.14***		11.55***			10.64***		11.45***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.34***	0.26***				0.47***	0.58***
Log. Market Cap (Target Nation) (mil\$)				4.54***	2.61***				2.83	-4.01**
ROE (Target Nation)				0.34***	0.40***				0.01	0.00
% change in Price index (Target Nation)				-0.25***	-0.13***				-0.07***	-0.04
Constant	16.77***	21.44***	-5.42***	-45.88***	-32.46***	17.47***	23.32***	1.90	-32.85	67.64**
Observations	26,444	10,598	26,363	26,202	10,530	26,444	10,598	26,363	26,202	10,530
Adjusted R-squared (%)	0.29	1.25	9.59	4.45	11.84	0.01	0.72	4.6	1.19	6.28
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	75.51	22.52	429.6	211.90	90.38	0.909	25.99	98.04	11.3	70.83

Notes: The table reports regression estimates⁷² of 1-week premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-week prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷² We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 141: 1-week Premium Regressions (CROSS-BORDER)

PREMIUM 1-week CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	6.92***	1.58	3.61*	4.86**	-3.18	2.97	-0.83	2.94	-1.63	-4.95
Crisis in Bidder Country (1/0)	-1.84	0.87	-0.49	-3.16*	0.20	-0.36	1.52	-0.08	-1.55	0.00
FIRM LEVEL										
Relative Size		0.00			0.02		0.00			0.02
Log. Target Size (mil\$)		-1.76***			-5.14***		-1.35*			-4.75***
Log. Bidder Size (mil\$)		0.07			0.65		0.15			0.42
Public Bidder (1/0)		0.79			-0.02		0.08			-0.05
Same Industry (1/0)		4.59***			2.66		4.24***			2.63*
Bidder from Developed Country (1/0)		2.38			-2.45		0.50			-3.30
Target from Developed Country (1/0)		12.71***			0.51	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.36***		3.78***			1.50***		3.92***
Deal is Completed (Dummy)			1.56		4.79**			0.51		3.63
Acquisition (1/0)			17.63***		9.58***			14.14***		8.13***
Hostile Deal (1/0)			4.57		6.92*			4.09		5.79*
All-cash Deal (1/0)			4.45***		4.82***			4.77***		4.79***
Competitive Deal (1/0)			14.18***		16.06***			13.45***		15.73***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.12	0.19				0.55***	0.43**
Log. Market Cap (Target Nation) (mil\$)				2.29***	1.49***				-3.05	-3.58
ROE (Target Nation)				0.19	-0.48**				-0.03	-0.37*
% change in Price index (Target Nation)				-0.21***	-0.11				-0.11**	-0.06
Stock Price Volatility (Bidder Nation)				0.06	0.07				-0.08	0.04
Log. Market Cap (Bidder Nation) (mil\$)				1.18***	0.16				1.05**	0.34
ROE (Bidder Nation)				0.17	0.08				0.39**	0.09
% change in Price index (Bidder Nation)				0.00	-0.05				0.05	-0.04
Constant	22.55***	23.12***	4.93***	-27.66***	0.61	22.79***	33.75***	6.60***	38.09	67.13
Observations	6,148	2,721	6,136	5,824	2,643	6,148	2,721	6,136	5,824	2,643
Adjusted R-squared (%)	0.23	1.75	8.24	1.92	10.39	0.01	0.29	5.61	1.19	7.99
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	6.37	5.00	78.18	10.24	13.71	1.106	4.858	36.73	15.3	72.96

Table 142: 1-day Premium Regressions (FULL SAMPLE)

PREMIUM 1-day FULL SAMPLE	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	8.79***	4.16***	5.25***	7.09***	1.62	3.35	2.81	2.57*	0.19	-0.23
FIRM LEVEL										
Relative Size		-0.01			0.00		0.00			0.00
Log. Target Size (mil\$)		-1.51***			-4.73***		-1.61***			-4.47***
Log. Bidder Size (mil\$)		0.44*			0.71***		0.84***			0.81***
Public Bidder (1/0)		3.27*			1.12		2.91**			2.01
Same Industry (1/0)		5.76***			2.17***		2.64**			1.46**
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.83***		3.95***			1.78***		3.61***
Deal is Completed (Dummy)			2.32***		0.85			-0.33		1.17
Acquisition (1/0)			15.68***		8.01***			9.57**		5.43**
Hostile Deal (1/0)			9.36***		10.63***			7.69***		9.52***
All-cash Deal (1/0)			5.79***		4.72***			5.06***		5.00***
Competitive Deal (1/0)			13.49***		13.59***			11.42***		13.52***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.33***	0.14**				0.37***	0.39***
Log. Market Cap (Target Nation) (mil\$)				3.49***	1.73***				1.71	-3.32**
ROE (Target Nation)				0.28***	0.14				-0.01	-0.15
% change in Price index (Target Nation)				-0.24***	-0.13***				-0.08***	-0.07***
Constant	14.78***	20.85***	-4.91***	-31.24***	-15.50***	15.43***	20.53***	1.18	-15.66	59.46***
Observations	32,878	13,401	32,782	32,515	13,294	32,878	13,401	32,782	32,515	13,294
Adjusted R-squared (%)	0.46	1.08	8.93	3.72	10.55	0.07	0.6	4.55	1.02	6.36
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	136.20	24.41	484.3	212.10	93.54	2.773	24.66	66.45	9.831	123.7

Notes: The table reports regression estimates⁷³ of 1-day premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-day prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷³ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 143: 1-day Premium Regressions (UNITED STATES)

PREMIUM 1-day UNITED STATES	UNITED STATES				
	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	6.12***	4.75***	3.90***	-0.42	0.28
FIRM LEVEL					
Relative Size		0.00			0.00
Log. Target Size (mil\$)		-2.25***			-3.57***
Log. Bidder Size (mil\$)		0.46			0.63
Public Bidder (1/0)		4.07			4.78
Same Industry (1/0)		0.63			0.04
DEAL LEVEL					
Log (Deal Size) (mil\$)			-0.20		1.58***
Deal is Completed (Dummy)			-2.95**		0.26
Acquisition (1/0)			22.19***		13.09***
Hostile Deal (1/0)			10.47***		12.94***
All-cash Deal (1/0)			5.10***		5.20***
Competitive Deal (1/0)			6.23***		9.14***
COUNTRY LEVEL					
Stock Price Volatility (Target Nation)				0.40***	0.54***
Log. Market Cap (Target Nation) (mil\$)				10.14***	-7.42***
ROE (Target Nation)				-0.35**	0.06
% change in Price index (Target Nation)				-0.13***	-0.05
Constant	25.61***	35.72***	11.08***	-140.52***	132.91***
Observations	11,230	5,607	11,226	11,230	5,607
Adjusted R-squared (%)	0.32	1.19	7.41	2.61	5.34
F	31.05	10.06	139.1	49.74	20.07

Notes: The table reports regression estimates⁷⁴ of 1-day premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-day prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷⁴ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 144: 1-day Premium Regressions (OTHER DEVELOPED)

PREMIUM 1-day OTHER DEVELOPED	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	2.51**	-1.18	1.10	4.17***	0.73	-1.07	-0.33	-0.15	-2.15	-0.29
FIRM LEVEL										
Relative Size		0.00			0.00		-0.01			0.00
Log. Target Size (mil\$)		-1.05***			-5.13***		-1.13**			-4.77***
Log. Bidder Size (mil\$)		0.21			0.61*		1.04***			0.91***
Public Bidder (1/0)		1.27			0.24		2.68			0.92
Same Industry (1/0)		5.79***			2.27***		3.93***			1.93*
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.16***		5.01***			2.06***		4.59***
Deal is Completed (Dummy)			1.65**		2.30*			0.47		2.54*
Acquisition (1/0)			10.35***		4.56***			6.14*		3.36*
Hostile Deal (1/0)			7.91***		8.43***			5.94***		6.77**
All-cash Deal (1/0)			4.31***		5.47***			4.75***		5.37***
Competitive Deal (1/0)			17.32***		17.40***			15.13***		17.05***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.27***	0.28***				0.37***	0.51***
Log. Market Cap (Target Nation) (mil\$)				0.78***	-0.50				-4.64**	-4.10**
ROE (Target Nation)				0.85***	0.27**				0.64***	0.13
% change in Price index (Target Nation)				-0.19***	-0.12***				-0.04***	-0.06**
Constant	13.08***	17.35***	-3.75***	-0.78	9.68	13.46***	10.89***	-0.45	64.42**	55.02**
Observations	16,710	6,600	16,632	16,381	6,498	16,710	6,600	16,632	16,381	6,498
Adjusted R-squared (%)	0.03	0.89	7.67	1.53	11.9	0	0.58	4.69	0.84	8.74
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	6.36	10.58	195.4	53.02	51.63	0.512	12.53	53.25	18.62	166.6

Notes: The table reports regression estimates⁷⁵ of 1-day premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-day prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷⁵ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 145: 1-day Premium Regressions (EMERGING)

PREMIUM 1-day EMERGING	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	19.86***	12.47*	17.78***	-3.37	-1.68	14.48	10.25	12.75	-0.62	-8.64
FIRM LEVEL										
Relative Size		-0.01			0.00		-0.01			0.00
Log. Target Size (mil\$)		-1.59			-6.52***		-0.82			-5.84***
Log. Bidder Size (mil\$)		1.00			1.15		0.86			0.81
Public Bidder (1/0)		0.96			1.02		0.74			0.16
Same Industry (1/0)		4.46*			1.72		4.94**			2.19
DEAL LEVEL										
Log (Deal Size) (mil\$)			2.53***		5.87***			3.83***		6.32***
Deal is Completed (Dummy)			4.95***		2.64			2.79		0.85
Acquisition (1/0)			6.44***		-1.13			-0.30		-3.29
Hostile Deal (1/0)			35.64**		30.32			30.09		27.19
All-cash Deal (1/0)			7.50***		2.53			6.25***		2.63
Competitive Deal (1/0)			14.74*		29.37			6.43		22.94**
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				0.13	0.03				0.21	0.15
Log. Market Cap (Target Nation) (mil\$)				-6.79***	-2.45**				3.61	0.72
ROE (Target Nation)				-0.42***	-0.49**				-0.71***	-0.74***
% change in Price index (Target Nation)				-0.08***	-0.07				-0.11***	-0.07*
Constant	-1.20*	8.73	-16.28***	93.44***	50.50***	-0.98**	5.55	-16.04***	-40.28	10.58
Observations	4,938	1,194	4,924	4,904	1,189	4,938	1,194	4,924	4,904	1,189
Adjusted R-squared (%)	0.68	0.69	3.82	4.78	6.45	0.36	0.4	4.06	2.2	6.41
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	19.20	2.01	28.29	47.84	4.944	2.115	1.572	17.06	18.11	.

Notes: The table reports regression estimates⁷⁶ of 1-day premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-day prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷⁶ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 146: 1-day Premium Regressions (DOMESTIC)

PREMIUM 1-day DOMESTIC	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	8.79***	3.43***	4.98***	6.55***	1.36	2.90	2.51	1.99	-0.31	-0.14
FIRM LEVEL										
Relative Size		-0.01			0.00		0.00			0.00
Log. Target Size (mil\$)		-1.48***			-4.38***		-1.55***			-4.26***
Log. Bidder Size (mil\$)		0.55**			0.65**		0.77***			0.81***
Public Bidder (1/0)		5.74***			3.31		5.15**			3.92*
Same Industry (1/0)		6.36***			1.95***		2.33**			1.35**
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.86***		3.66***			1.74**		3.38***
Deal is Completed (Dummy)			2.56***		-0.07			-0.51		0.41
Acquisition (1/0)			16.34***		8.37***			9.58*		5.68*
Hostile Deal (1/0)			10.77***		12.23***			9.11***		10.91***
All-cash Deal (1/0)			6.17***		4.33***			4.98***		4.62***
Competitive Deal (1/0)			12.86***		11.73***			10.38***		11.62***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.37***	0.16***				0.37***	0.42***
Log. Market Cap (Target Nation) (mil\$)				4.37***	2.40***				2.84	-3.30**
ROE (Target Nation)				0.26***	0.29***				-0.06	-0.07
% Change in Price index (Target Nation)				-0.25***	-0.13***				-0.08***	-0.06*
Constant	13.94***	16.34***	-6.53***	-44.50***	-30.02***	14.62***	17.92***	0.81	-32.99	56.19**
Observations	26,653	10,656	26,569	26,402	10,585	26,653	10,656	26,569	26,402	10,585
Adjusted R-squared (%)	0.45	1.16	9.24	4.71	10.93	0.05	0.57	4.35	1.09	5.66
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	114.80	20.69	405.3	226.90	79.08	1.442	21.62	87.65	7.315	85.66

Notes: The table reports regression estimates⁷⁷ of 1-day premium on the target and bidder country indicator variables for crisis and other deal, firm and market characteristics. The sample criteria are described in Table 25. Premium is the ratio of the offer price to the target share price 1-day prior to the deal announcement. The second set of regression models also control for country fixed effects, the coefficients of which are not reported. Total assets, deal size and market capitalization are in September 2011 dollars. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

⁷⁷ We use the robust option of Stata regressions for estimating the standard errors using the Huber-White sandwich estimators. These standard errors take into account issues concerning heterogeneity and lack of normality while leaving the point estimates of the coefficients unchanged.

Table 147: 1-day Premium Regressions (CROSS-BORDER)

PREMIUM 1-day CROSS BORDER	POOLED OLS					COUNTRY FIXED EFFECTS				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Crisis in Target Country (1/0)	8.54***	4.38*	5.59***	6.97***	0.88	4.66**	2.35	4.50**	0.82	-0.96
Crisis in Bidder Country (1/0)	-1.03	0.66	0.19	-1.93	0.35	0.45	1.05	0.72	-0.23	0.42
FIRM LEVEL										
Relative Size		0.00			0.01		0.00			0.01
Log. Target Size (mil\$)		-1.58***			-4.83***		-1.27*			-4.48***
Log. Bidder Size (mil\$)		-0.10			0.34		0.02			0.15
Public Bidder (1/0)		-0.37			-1.18		-0.76			-0.99
Same Industry (1/0)		3.63**			1.47		3.26**			1.48
Bidder from Developed Country (1/0)		2.81			-1.87		0.99			-2.68
Target from Developed Country (1/0)		13.06***			1.80	0.00	0.00			0.00
DEAL LEVEL										
Log (Deal Size) (mil\$)			1.22***		3.74***			1.31***		3.80***
Deal is Completed (Dummy)			1.89		4.79**			0.66		3.78*
Acquisition (1/0)			15.29***		7.29***			11.59***		5.91*
Hostile Deal (1/0)			4.18		6.91*			3.40		5.86**
All-cash Deal (1/0)			4.22***		4.32***			4.42***		4.25***
Competitive Deal (1/0)			15.26***		17.39***			14.41***		17.27***
COUNTRY LEVEL										
Stock Price Volatility (Target Nation)				-0.21**	0.02				0.42**	0.20
Log. Market Cap (Target Nation) (mil\$)				2.03***	0.98*				-3.72**	-3.70
ROE (Target Nation)				0.15	-0.41**				0.00	-0.33
% Change in Price index (Target Nation)				-0.20***	-0.09				-0.11**	-0.06
Stock Price Volatility (Bidder Nation)				0.03	0.05				-0.08	0.05
Log. Market Cap (Bidder Nation) (mil\$)				1.21***	0.01				1.12**	0.18
ROE (Bidder Nation)				0.10	-0.01				0.29*	0.01
% Change in Price index (Bidder Nation)				0.00	-0.08				0.04	-0.07
Constant	18.61***	19.80***	2.38	-24.23***	12.22	18.84***	30.63***	4.58***	46.21*	75.20
Observations	6,225	2,745	6,213	5,884	2,663	6,225	2,745	6,213	5,884	2,663
Adjusted R-squared (%)	0.41	2.15	7.73	2.17	10.22	0.11	0.36	4.95	1.12	7.53
Country FE	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
F	10.47	6.55	70.95	10.89	13.61	4.076	8.939	25.43	11.34	82.45

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