



Global Merger and Acquisition (M&A) activity: 1992–2011



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ABSTRACT

In our global sample of 263,461 deals in 47 countries, 3-day target cumulative abnormal returns (CARs) average 6.9% and bidder CARs average 1.4%. When we impose the common filters used in the literature which restrict the sample to completed acquisitions of public firms, target CARs increase from 6.9% to 13%. 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.

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1. Introduction

This paper describes how value is generated and distributed in mergers and acquisitions (M&A) around the world. Global M&A deal volume averages 2.71 trillion dollars per year. We observe a cyclical increasing trend across time with a deal volume of 0.73 trillion dollars in 1992, increasing to 2.65 trillion dollars in 2010. US deals (in which the bidder or the target is a US firm) dominate the worldwide M&A market, constituting 50% of dollar volume and 33% of number of deals. M&A research overwhelmingly focuses on merger activity in US (Andrade et al., 2001; Fuller et al., 2002; Moeller et al., 2004; Alexandridis et al., 2012, 2013). Though a few articles do focus on deals in a specific country/region (Campa and Hernando, 2004, 2006; Goergen and Renneboog, 2004; Ma et al., 2009; Martynova and Renneboog, 2011; Craninckx and Huyghebaert, 2011) and some on cross-border deals (Chari et al., 2010; Erel et al., 2012; Dutta et al., 2013).

We describe global M&A activity with as large a sample as possible and compare the results with those in the literature. Our sample covers 663,933 deals with announcement dates ranging from 1992 to 2011. When we require that firms have return data to calculate 3-day cumulative abnormal returns (CARs) around deal announcements, the sample decreases to 263,461 deals across 47 countries. Requiring that sample firms have return data tilts the sample towards larger deals involving US firms. We enlarge the M&A dataset to cover developed and emerging market countries and investigate: (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.

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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% using US and Europe samples. In our sample, combined firm CARs are significant at 1.7%.

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% of target shares at the announcement and intends to buy control rights by purchasing more than 50% of shares after the deal. Reviews of US M&A studies find 3-day target CARs of around 20% and bidder CARs that range from -1 to $+1\%$ (Eckbo and Thorburn, 2000; Andrade et al., 2001; Fuller et al., 2002; Eckbo, 2009; Netter et al., 2011; Alexandridis et al., 2012, 2013). We find that 3-day target CARs in completed US acquisitions is 17% and bidder CARs is 1.4%.

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% and significantly different than CARs of 4.1% 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% and significantly different from CARs of 5.3% in partial sales. M&A activity encompasses acquisitions (69% of the sample) as well as partial sales (31%). We find that targets enjoy lower returns in partial sales.

Third, the magnitudes of target and bidder CARs prove larger in developed-market countries than they do in emerging market countries. Target 3-day CAR is 8.1% in developed-market countries and 2.8% 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% in developed-market countries and 0.9% 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% (Mulherin and Boone, 2000; Andrade et al., 2001; Bauguess et al., 2009; Alexandridis et al., 2012), lower target CARs in Europe of around 10% (Craninckx and Huyghebaert, 2011; Goergen and Renneboog, 2004; Martynova and Renneboog, 2011) and lowest target CARs in emerging-market countries of around 2% (Sehgal et al. 2012).

The difference in CARs across developed versus emerging-market countries may be due to differences in market efficiency, information leakages, merger anticipation, deal premiums and corporate governance structure. First, market efficiency may differ between developed and emerging markets due to differences in liquidity (Lagoarde-Segot and Lucey, 2008; Chordia et al., 2008), legal environment (La Porta et al., 1997, 1998; Klapper and Love, 2004) and/or political and economic uncertainty (El-Erian and Kumar, 1995; Feldman and Kumar, 1995). Second, information leakages may account for lower CARs in emerging market countries. If there are information leakages and/or differences in merger anticipation, then the effect of M&A announcements might be reflected in stock prices prior to the announcement date (Malatesta and Thompson, 1985; Brunnermeier, 2005; Cornett et al., 2011; Cai et al., 2011).

The contribution of this paper to M&A literature is threefold. First, we use a sample that is global and covers 263,461 deals announced between 1992 and 2011 across 47 countries. Second, we do not restrict the sample to completed acquisitions. We analyze acquisitions and partial sales some of which are successfully completed while others are not. Third, we increase the time and country dimension which allows us to investigate how the distribution of value between bidders and targets change across countries. In particular, we document significant cross-country differences in target and bidder CARs for developed (US and other developed countries) versus emerging market countries.

2. M & A sample

Sample and deal characteristics are drawn from Thomson Financial Securities Data Company's (SDC) mergers and acquisitions database. We first eliminate duplicate deals, then exclude buyback, exchange offer or recapitalization deals, and finally 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 1, 1992 to September 30, 2011.

Daily prices and returns (in USD) are from Thomson DataStream (TDS). We conduct event study around deal announcements and require a firm to have at least 150 returns in the 252-day estimation period before announcement and 30 returns in the 61-day event period around announcement. The measure of country market returns is Total Market Return Index¹. The resulting sample with return data covers 263,461 deals². We calculate bidder CARs for 217,781 deals and target CARs for 67,439 deals. There are 21,759 deals for which we can calculate both target and bidder CARs.

To conduct event study, we draw on the sample of 263,461 deals (40% of the original sample of 663,933 deals) in which either bidder or target are public firms with return data. There are three important distinctions between the original sample and the final sample. First, deals in which the bidder or the target is incorporated in US constitutes 33% in the original sample and 38% in the final sample. Second, average deal value is 190 million dollars in the original sample and 249 million

¹ 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.

² Ince and Porter (2006), Chui et al. (2010) and Hou et al. (2011) argue that returns above certain thresholds (greater than 300 or 100%) should be dropped or winsorized due the poor quality of data in TDS. In line with their arguments, we drop daily returns that are greater than 100% and any daily price that is less than or equal to 0.

Table 1

3-day bidder and target CARs. 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%.⁶

Panel A - Bidder 3-day CAR								
Country class	#	Full sample	Successfully completed acquisition	Deal type		Deal outcome		
				Acquisition	Partial sales	Completed	Withdrawn	Other
All Countries	47	1.35% (217,781)	1.35% (126,153)	1.54% (166,312)	0.73% (51,469)	1.19% (161,810)	1.95% (7611)	1.79% (48,360)
Developed	25	1.43% (185,426)	1.37% (114,672)	1.61% (146,209)	0.80% (39,217)	1.23% (143,443)	2.14% (6312)	2.13% (35,671)
<i>United States</i>	1	1.55% (76,222)	1.38% (56,765)	1.65% (68,272)	0.71% (7950)	1.31% (62,785)	2.88% (2830)	2.66% (10,607)
<i>Other Developed</i>	24	1.35% (109,204)	1.37% (57,907)	1.57% (77,937)	0.82% (31,267)	1.17% (80,658)	1.54% (3482)	1.91% (25,064)
Emerging	22	0.86% (32,355)	1.08% (11,481)	1.08% (20,103)	0.51% (12,252)	0.89% (18,367)	1.01% (1299)	0.82% (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% (67,439)	12.96% (17,217)	11.61% (25,020)	4.05% (42,419)	7.17% (49,104)	10.31% (5231)	4.31% (13,104)
Developed	25	8.13% (51,199)	14.09% (15,114)	12.84% (21,433)	4.73% (29,766)	8.33% (38,563)	11.52% (4420)	5.35% (8216)
<i>United States</i>	1	11.37% (16,323)	17.02% (7051)	15.43% (9765)	5.31% (6558)	11.95% (12,291)	13.26% (1911)	6.31% (2121)
<i>Other Developed</i>	24	6.61% (34,876)	11.53% (8063)	10.67% (11,668)	4.57% (23,208)	6.64% (26,272)	10.20% (2509)	5.01% (6095)
Emerging	22	2.84% (16,240)	4.82% (2103)	4.28% (3587)	2.44% (12,653)	2.90% (10,541)	3.70% (811)	2.58% (4888)
Difference between developed and emerging		5.29%	9.27%	8.57%	2.30%	5.44%	7.82%	2.76%

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.

3. How do M&As generate value? bidder and target cumulative abnormal returns

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 around announcements are summed up to find 3-day CARs. The standard deviation of abnormal returns is the standard deviation of average daily abnormal returns in the estimation window.

Panels A and B of [Table 1](#) summarize 3-day bidder and target CARs across 47 countries. 3-day CARs average 1.4% for 217,781 bidders and 6.9% 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% and 26% of the CAR sample, respectively. Hence, restricting the sample to completed acquisitions decreases the number of targets by 75% and number of bidders

Table 2

3-day bidder, target and Combined CARs. 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.

	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%***

by 42%. Furthermore, this restriction significantly affects target CARs. The 3-day target CAR increases from 6.9% to 13% when the full sample is restricted to completed acquisitions. We find that target CARs in completed US acquisitions averaged 17% and bidder CARs averaged 1.4%. These CARs are comparable to the findings of studies that sample completed US acquisitions (Mulherin and Boone, 2000; Bauguess et al., 2009; Netter et al., 2011; Alexandridis et al., 2012).

Table 1 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 2 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 assets³. The 3-day combined CARs average 1.7% in 18,430 deals. Table 2 confirms that acquisitions generate more value for hypothetically combined firm shareholders (combined CAR of 2.4%) compared to partial sales (combined CAR of 1.1%). Both Tables 1 and 2 indicate that target shareholders enjoy the lion's share of the value generated. In Tables 1 and 2, Target CARs average 11.6 and 14.8% in acquisitions and 4.1 and 5.4% in partial sales. Our results indicate that targets enjoy higher returns when they sell control rights⁴.

Negotiations are successfully completed in 74% of the sample. In 4% of the sample, negotiations fail and the deal is withdrawn. In 22% of the sample, we do not know the eventual outcome of the deal⁵. 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%, respectively. Bidder and target CARs in deals that are eventually withdrawn are higher and average 2% and 10.3%, respectively. Hedge funds who forecast the successful completion of deals, may bid up the price of target shares prior to announcements (Baker and Savaşoglu, 2002). As such, the market reaction to deals whose completion success are accurately forecasted would take place outside the event window and explain the finding of higher target CARs for withdrawn deals.

3.1. Cross-country differences in bidder and target CARs

Table 1 shows that bidder and target CARs differ across countries. Developed-country bidders and targets enjoy higher CARs (1.4% and 8.1%, respectively) relative to emerging-country bidders and targets (0.9% and 2.8%, respectively). Mulherin and Boone (2000), Andrade et al. (2001), Moeller et al. (2004), Bauguess 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% to 1.10% and target CARs that range from 16% to 22%. 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% to 0.78%) and similar to CARs in US. However, European target CARs are approximately 10% and are lower than US target CARs.

Panels A and B of Fig. 1 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% in Hungary to 2.8% in Canada. Bidder CARs are positive in 45 countries (significant in 43 at 5%) and negative (but insignificant at 5%) in 2 countries. Target CARs range from 0.9% in Peru to 18.5% in Luxembourg. Target CARs are positive and significant in all 47 countries. The top ten

³ Requiring bidder and target to have return data in order to calculate combined-firm CAR restricts the sample and affects CARs. Table 1 covers public-private, public-public, and private-public bidder and target pairs whereas Table 2 only covers public-public bidder and target pairs.

⁴ This finding is in line with Hekimoglu and Tanyeri (2011) who find that target CARs are higher (8.6%) in acquisitions compared to partial sales (2.25%) in Turkish M&A deals.

⁵ SDC categorizes deals as completed, withdrawn, tentative, pending and unknown. We put all deals that are not completed or withdrawn into the other category.

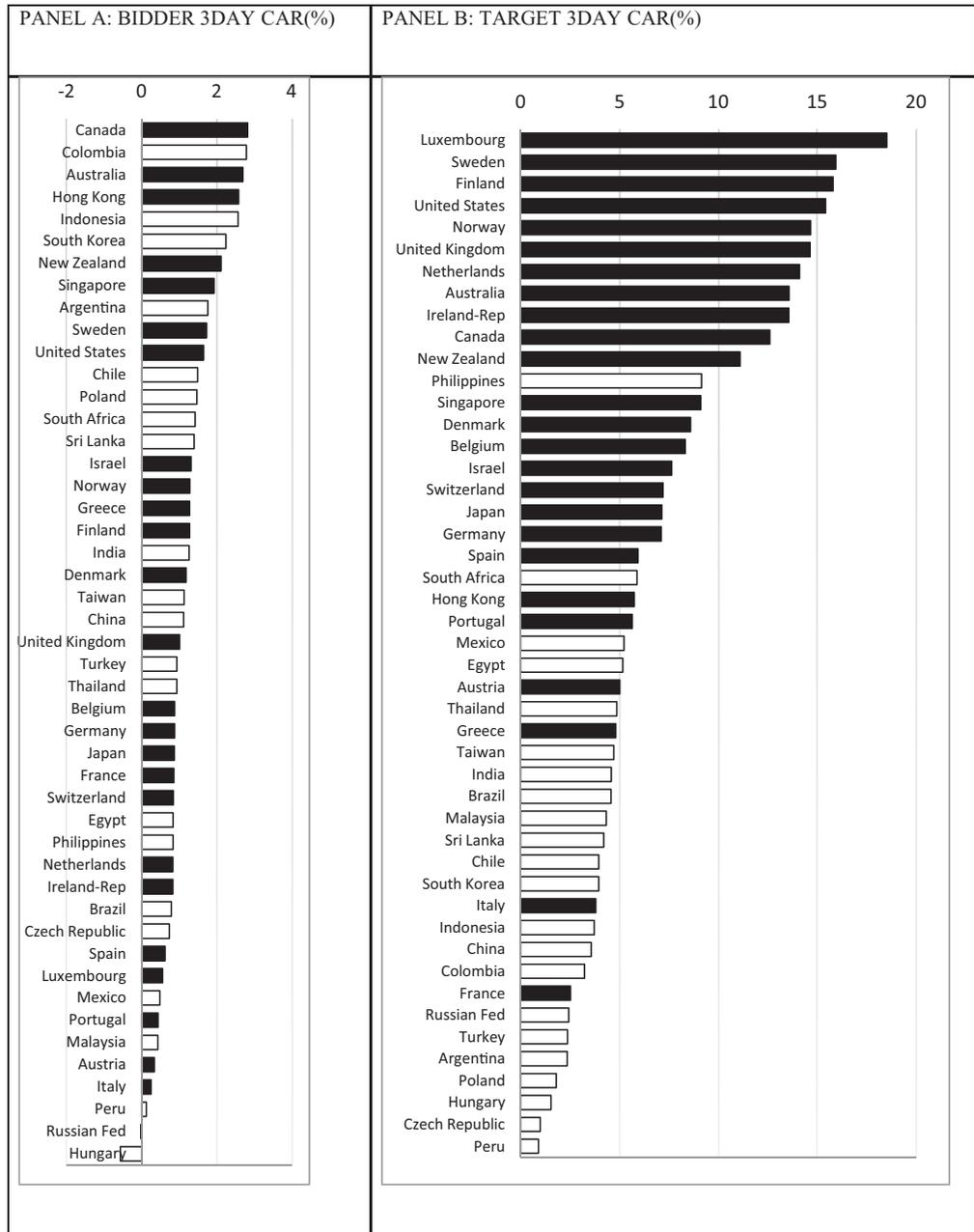


Fig. 1. 3-day CARs for Acquisitions by Country (1992–2011). Panels A and B graph bidder and target 3-day CARs in acquisitions across 47 countries, respectively. Black and white bars indicate developed-market and emerging-market countries. target CARs are in developed-market countries. Results indicate that mergers generate more value for target shareholders in developed-market countries when compared to emerging-market countries.

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 (Lagoarde-Segot and Lucey, 2008; Chordia et al., 2008; La Porta et al., (1997, 1998); Klapper and Love, 2004; El-Erian and Kumar, 1995; Feldman and Kumar, 1995). 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 (Malatesta and Thompson, 1985; Brunnermeier, 2005; Cornett et al., 2011; Cai et al., 2011). The use of SDC

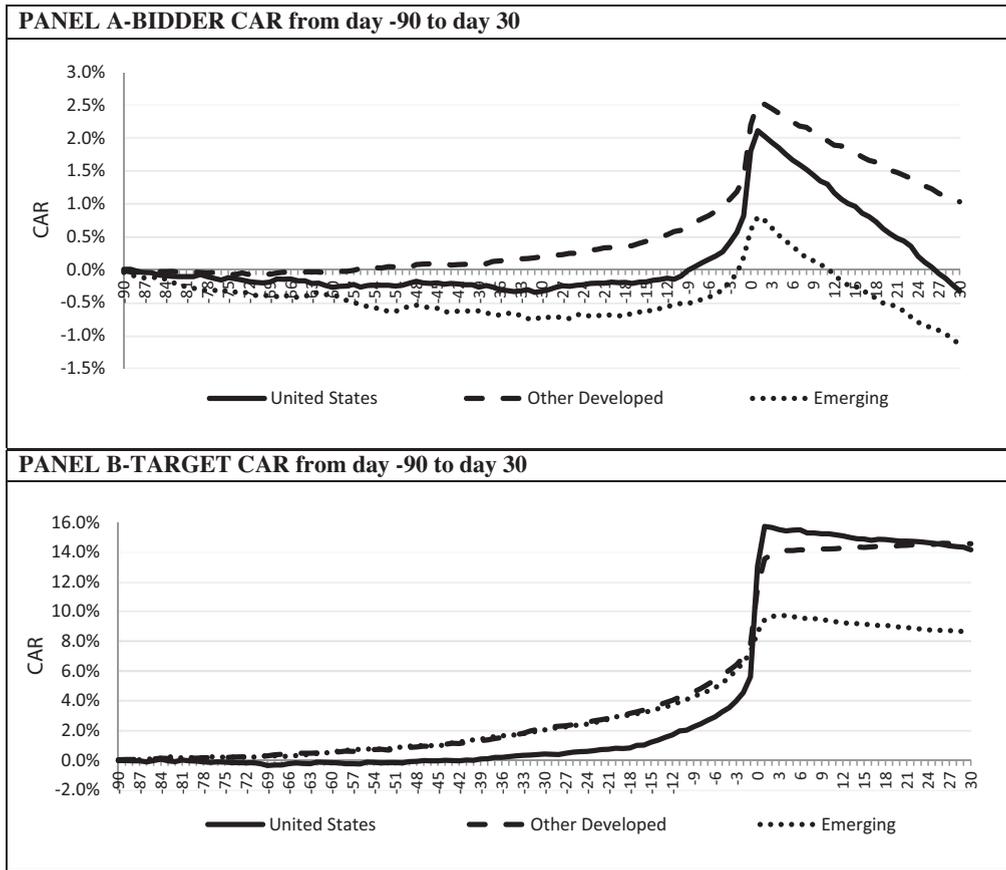


Fig. 2. Bidder and Target Cumulative Abnormal Returns (CAR) in the 121-day (–90, 30) Event Window. Panels A and B plot bidder and target Cumulative Abnormal Returns (CAR) that are accumulated beginning from day –90 to day 30 in United States, other developed countries and emerging countries, respectively.

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% of US deals and 74% 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 Fig. 2 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% in US, 0.08% in other developed countries and –0.63% 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% in US, 1.24% in other developed countries and 1.36% 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.

4. Conclusion

M&A activity is value creating in our global sample of deals across 47 countries. 3-day CARs for hypothetically-combined bidder and target firms is significant at 1.7%. Our sample covers acquisitions and partial sales. Moreover, we do not restrict the sample to public firms and do not filter the deals based on size. We find that global 3-day target CARs in acquisitions is 11.6% and significantly different than CARs of 4.1% in partial sales. Targets enjoy lower returns in partial sales. When we

apply the common sampling filter of using completed acquisitions used in the literature, 3-day target CARs significantly increase from 6.9 to 13% in the global sample and from 11.4 to 17% in the US sample.

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. Further research might investigate the effect of varying levels of corporate governance on gains to target and bidder shareholders across countries.

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