

# The Value of Control in Emerging Markets

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When a developed-country multinational firm acquires majority control of a firm in an emerging market, there is an economically large and statistically significant increase in the acquiring firm's stock price. In 1986–2006, developed-market acquirers experienced positive and significant abnormal returns of 1.16%, on average, over a three-day event window. Positive acquirer returns and dollar value gains appear unique to emerging-market mergers and acquisitions and are not replicated when the same developed-market acquirers take over firms in developed markets. The size of the stock price increase is more pronounced (a) the weaker the contracting environment in the emerging market and (b) for industries with high asset intangibility. (*JEL* G15, G34)

Foreign acquisitions extend the boundaries of the firm across national borders. In the context of emerging markets, these boundaries are extended across countries with vast asymmetries in institutions and property rights protection. If developed-market firms can extend the benefits associated with superior institutions to their operations in emerging markets by acquiring control, the stock price of the acquiring firms should reflect these value gains. In this paper, we examine the returns to shareholders of developed-market firms that undertook acquisitions in emerging markets.<sup>1</sup>

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<sup>1</sup> In the late 1980s and early 1990s, many emerging markets enacted reforms to liberalize international capital flows including foreign direct investment (FDI), allowing foreign corporate control. Following these reforms there was a rapid expansion of FDI flows to emerging markets with an increasing fraction taking the form of foreign acquisitions of existing plant and equipment rather than green-field FDI.

We find that when developed-market acquirers gain control of emerging-market targets, they experience positive and significant abnormal returns of 1.16%, on average, over a three-day event window. In the context of the well-documented underperformance of acquiring firms in U.S. mergers and acquisitions (M&A) transactions (Andrade, Mitchell, and Stafford 2001; Moeller, Schlingeman, and Stulz 2005), this return is somewhat anomalous. It is also fairly substantial when viewed in relation to the size of acquiring firms in these transactions. The acquirer stock price reaction suggests a median (mean) dollar value gain of \$4.07 (\$30.15) million for the acquirer. In comparison, the median (mean) transaction value in an emerging-market acquisition where control is acquired is \$42.41 (\$308.57) million. In contrast, acquisitions of minority stakes do not deliver significant acquirer returns.

Positive acquirer returns and dollar value gains appear unique to the transfer of control in emerging-market M&A. The findings are not replicated when we examine acquisitions of developed-market targets by the same set of developed-market acquirers. While emerging-market acquirers also realize positive returns in transactions involving control of emerging-market targets, the magnitude of the gain realized by developed-market acquirers is significantly higher.

Evidence suggests that emerging markets have weak contracting institutions that make it difficult for firms to write enforceable contracts (La Porta et al. 1998; Rajan and Zingales 1998; Dyck and Zingales 2004). We claim that by allowing developed-market firms to extend the boundaries of the firm across borders, acquiring control can help overcome problems of incomplete contracting (Coase 1937; Alchian, Crawford, and Klein 1978; Williamson 1979; Grossman and Hart 1986), to increase firm value.

Two predictions follow. First, with control, acquirers can improve the target value by sharing better institutional and corporate governance practices such as legal and accounting standards. The ability of developed-market acquirers to bring better institutions and corporate governance through control rights to emerging-market targets can therefore drive value gains for the shareholders of acquiring firms.

Second, the importance of contract enforceability is likely to matter more in contract-intensive activities such as R&D or other intangible asset production (Morck and Yeung 1992). Multinational parents may therefore be more likely to share proprietary technologies and intangible assets such as brand name when they acquire majority control of the target, especially in settings with nonverifiable monitoring and weak investor protection.<sup>2</sup> The acquisition of majority control in emerging markets is therefore likely to generate larger increases in firm value in industries with high asset intangibility if acquiring control is sufficient to overcome the weak institutional environment of the emerging-market target firm.

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<sup>2</sup> Evidence also suggests that countries with good contract enforcement specialize in the production of goods for which relationship-specific or contract-intensive investments are important (Nunn 2007).

This paper finds evidence consistent with both of these predictions. The magnitude of the acquirer stock price increase is more pronounced (a) the weaker the contracting environment in the emerging market and (b) for acquirer industries with high asset intangibility.

An alternative explanation for our findings of positive acquirer returns is that foreign acquirers are identifying undervalued assets in emerging markets rather than generating surplus value (Aguar and Gopinath 2005). If emerging-market assets are simply “undervalued,” investors with no interest in corporate control, such as corporations interested in minority stakes, should also realize positive returns (Coval and Stafford 2007). Yet our results suggest that the acquisition of majority control is a key feature of transactions that deliver positive acquirer returns.

Our paper is related to the literature on cross-border activities of multinational firms in the context of costly financial contracting and weak investor protection. The findings in this paper complement those of Antras, Desai, and Foley (2009), who demonstrate that when multinational firms want to exploit technologies abroad, where monitoring is nonverifiable and financial frictions exist, they deploy technology through ownership (FDI) as opposed to arm’s length licensing. Note that in contrast to portfolio equity investments, the mechanism by which FDI generates returns for foreign investors is by conferring control rights on them (Buiters 2006). We find that conditional on the acquisition taking place, returns to acquirers are a function of control in the face of weak institutions and incomplete monitoring, and the effect is more pronounced in industries with high asset intangibility. The finding is consistent with that of Morck and Yeung (1992) who argue that internalizing multinational firm operations may be more important in R&D-intensive industries where the transfer of proprietary assets is an issue.

The question addressed in this paper is distinct from the literature about the private benefits of control in international settings. Notably, Nenova (2003) and Dyck and Zingales (2004) examine the “private benefits” that controlling shareholders can extract from the companies they run.<sup>3</sup> While it is possible that such private benefits may enhance total firm value, in most cases, these private benefits of control represent the potential for large shareholders to appropriate minority shareholders.<sup>4</sup>

As in Nenova (2003) and Dyck and Zingales (2004), we observe a positive premium paid to existing shareholders when a majority (or minority in our

<sup>3</sup> Such private benefits include, but are not limited to, influencing who is elected to the board of directors, perquisites, empire building, and the transfer of assets on nonmarket terms to related parties (Nenova 2003).

<sup>4</sup> Barclay and Holderness (1989) use privately negotiated transfers of controlling blocks of publicly traded companies to examine the difference between the price per share paid by the acquiring party and the price prevailing on the market the day after the acquisition announcement as a measure of private benefits of control accruing to the controlling shareholder. If large-block shareholders anticipate using their voting power to secure (positive) benefits that do not accrue to smaller shareholders, then blocks should trade at a premium relative to the exchange price. The salient finding by Barclay and Holderness (1989) is that trades of large blocks of stock are typically priced at substantial premiums to the postannouncement exchange price. They interpret these premiums as the net private benefits of large-block ownership.

case) stake is acquired. However, we also observe a positive acquirer announcement effect, suggesting that combined firm value increases when control of an emerging-market target is acquired.<sup>5</sup> Taken together, these results indicate that we are not simply observing a wealth transfer from old (domestic) to new (foreign) shareholders. The stock market anticipates that the value of the acquiring and target firms will increase under foreign ownership.<sup>6</sup>

It is not surprising that we observe these firm value gains in the same settings where Nenova (2003) and Dyck and Zingales (2004) observe high private benefits of control. These authors find that acquiring firms pay a premium over the target's prevailing exchange-traded market price to acquire control, and this premium is higher in countries with weak legal protection<sup>7</sup> (Nenova 2003) or if the acquiring party comes from a country that protects investors less (Dyck and Zingales 2004). If weak institutional environments, which facilitate the extraction of private benefits, also constrain firm value, it follows that an improvement in the institutional environment should enhance firm value. We test whether bonding the target to foreign institutional environments through a foreign majority owner leads to an increase in firm value.

We also investigate the relative effects of institutional bonding through foreign ownership across different types of industries. We find that the value of foreign control in emerging markets matters the most in industries where legal protection for unrelated parties is likely to be most relevant (i.e., industries with high asset intangibility). To our knowledge, this is the first paper to provide evidence of the link between the value of control, asset intangibility, and institutions.<sup>8</sup>

Related international M&A studies principally focus on the gains to target firms when they are acquired by firms operating in an environment with better investor protection. Notably, Rossi and Volpin (2004) show that firms in countries with poor investor protection are more likely to be targets in cross-border acquisitions. Starks and Wei (2004) suggest that takeover premiums for U.S. targets are decreasing in the foreign acquirer's home country governance for deals financed with the acquirer's stock as the method of payment. Bris and Cabolis (2008) find that target abnormal returns increase with better shareholder protection and accounting standards in the acquirer's country of origin when the target is wholly acquired for a pooled sample of developed- and emerging-market transactions. Francis, Hasan, and Sun (2008) find that U.S. acquirers experience significant positive abnormal returns when they acquire

<sup>5</sup> Similar to Dyck and Zingales (2004), we interpret positive acquirer CARs (in our case significant) as evidence against the overpayment hypothesis.

<sup>6</sup> We find that both acquirer and target CARs are positive and significant when control is acquired.

<sup>7</sup> Control-block votes are significantly less valuable in stricter legal environments (Nenova 2003).

<sup>8</sup> Note that we examine CARs for acquirers, which are estimates of shareholder value creation over and above the bid price paid to gain control of the target firm. We interpret the positive and significant CARs as evidence of the value-enhancing aspect of cross-border takeovers when control is acquired in industries with high asset intangibility in countries with weak institutions.

targets in financially segmented markets. Our paper shows that acquirers from countries with better investor protection experience significant gains when majority control of a target located in a country with weak investor protection is announced.

Our findings contribute to the current debate about the proper valuation of holdings of foreign assets (see, e.g., Hausmann and Sturzenegger 2006). Lipsey (2007) argues that, increasingly, the poor match between the stock and flow measures of foreign direct investment (FDI) is attributable to the fact that more and more production is the output from intangible and financial assets. A substantial missing component of transaction value estimates of foreign assets acquired is the value of intangibles such as technology, know-how, and brand name that firms from developed countries bring to emerging-market firms (Hausmann and Sturzenegger 2006). Shareholder value gains from cross-border M&As can be interpreted as a market-based measure of the returns from investments in foreign assets.

We conduct a number of tests to ensure the robustness of our results. First, we confirm that our results are not driven by survivorship bias at the level of the target country. Survivorship bias could arise if developed-country acquirers only make acquisitions in markets where previous transactions have proven profitable. Second, we establish that 50% is the critical threshold that drives the positive acquirer returns. Third, we conduct additional tests that exclude alternative explanations of our results based on asymmetric information and control for deal characteristics such as whether or not the acquisition was diversifying and method of payment effects.

The paper is organized as follows. Section 1 describes the data. Section 2 establishes the positive acquirer gains and the link to control and explores alternative sources of acquirer gains. Section 3 provides robustness checks. Section 4 concludes.

## **1. The Data**

Mergers and acquisitions as a mode of entry into emerging markets are relatively new phenomena. Foreign participation in emerging markets was fairly restricted until the 1990s when many emerging-market countries deregulated their capital markets to foreign entry. For example, Latin American countries began actively seeking foreign investment in their newly privatized industries in the early 1990s. In a number of East Asian countries, however, prohibitions on foreign investors gaining a controlling share of local firms continued until the mid-1990s. The IMF bailout packages to Thailand, Korea, and Indonesia following the East Asian financial crisis imposed conditions to allow foreign competition in the market for corporate control. Developed-market M&A transactions in East Asia and Latin America surged following the implementation of these policies. From 1991 through 2003, developed-market M&A transactions

accounted for 61% of FDI in Latin America and 48% in East Asia, up from 10% and 4% respectively in the 1980s.

The data come from SDC Thompson's International Mergers and Acquisitions database, which covers public and private M&A transactions involving at least a 5% ownership of the target company before 1992. After 1992, transactions of any size are included in the SDC database. SDC collects information from more than 200 English and foreign language news sources, SEC filings and the filings from its international counterparts, trade publications, newswire reports, and proprietary surveys of investment banks, law firms, and other advisory firms.

For each transaction, the SDC database provides information about the date on which the transaction was announced and the date on which the transaction became effective.<sup>9</sup> The database also provides target and acquiring firm characteristics, such as name, nation, industry, and primary SIC classification. The data provide transaction-specific information for a large subset of the data, such as the percent shares sought, acquired, and owned after the transaction was complete.

We consider three data samples. The DM-EM sample (sample 1) includes observations where the acquirer is from a developed market and the target is from an emerging market. The DM-DM sample (sample 2) includes observations where both the acquirer and target are from developed markets. To examine whether the patterns we observe in the data are particular to the emerging-developed distinction or to acquirer characteristics, this sample restricts developed-market acquirers to those that also appear in the DM-EM sample (sample 1). The EM-EM sample (sample 3) includes observations where both the acquirer and target are from emerging markets. The DM-DM (sample 2) and EM-EM (sample 3) samples include both domestic and cross-border M&A transactions.

To be included in any of our samples, the following criteria must be met: a deal announcement date between 1986 and 2006 with a publicly listed acquirer; a minimum of 280 days of trading data for the acquirer before the acquisition to estimate market correlations; information on the percent stake acquired and whether control was transferred has to be present; a public or private target firm; a transaction value of \$10 M or greater.

The developed-market nations include Canada, France, Germany, Italy, Japan, the Netherlands, Spain, the United Kingdom, and the United States. The sample of emerging-market target nations include 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

<sup>9</sup> We verified these dates using Factiva newspaper searches.

Arab Emirates, Venezuela, and Vietnam.<sup>10</sup> Note that stock price return data were not available for all of the emerging-market nations included in the emerging-market target sample, thus limiting the sample of countries also included as emerging-market acquirers in the EM-EM sample (sample 3).

To illustrate the effects of the above data screens on our sample, consider DM-EM transactions. We identify 4593 observations in SDC with a public acquirer from our set of developed markets and a public or private target from an emerging market. Of these observations, the sample dwindles to 2019 transactions with transaction values. After dropping observations with transaction values below \$10 million the sample declines further to 1111. Of these observations, acquirer stock price data were available for 280 trading days before the announcement for 773 observations. Of these transactions, sixty-four acquirers had control of the target before the announcement, and in 115 cases it could not be determined whether control had been transferred based on the information in SDC. We drop these cases and are left with 594 observations in the DM-EM sample.

Table 1 describes the samples and the represented target and acquirer nations after applying the aforementioned screens. The developed-market acquirers in the sample made 594 acquisitions in emerging markets and 1624 acquisitions in developed markets. The emerging-market acquirers in the sample made 900 acquisitions in emerging markets.

Stock prices are from Datastream for non-U.S. firms, and from CRSP for the U.S. sample. All returns are denominated in \$U.S. and returns are estimated using a symmetric three-day event window around the announcement date. Cumulative abnormal returns (CARs) sum the abnormal returns over the event-window, with abnormal returns estimated using a market model with Scholes-Williams betas.<sup>11</sup> The market model is run using 250 days, with the estimation window ending 30 days before the event. The market returns used in the estimations are the broadest equity market index available for each country.

Table 2 includes summary statistics for firm and transaction characteristics for the acquisitions included in our samples. The data show that the transaction size in developed-market acquisitions of developed-market targets is about 2.5 times higher than developed-market acquisitions of emerging-market targets, and 3.5 times higher than emerging-market acquisitions of emerging-market targets. While the median developed-market acquirer market capitalizations are comparable in transactions with developed- and emerging-market targets, they are twenty times greater than the market capitalization of emerging-market acquirers.

<sup>10</sup> Given our approximately twenty-year timeline, we recognize that some countries that were emerging markets in 1986 may no longer be classified as such in 2006. To prevent countries from entering and exiting the emerging-market sample, we exclude Hong Kong and Singapore from the sample. Similarly, the transition economies of Eastern Europe are excluded from the sample.

<sup>11</sup> See Scholes and Williams (1977).

**Table 1**  
**Summary statistics: number of transactions by subsample**

	Sample 1 (DM-EM)	Sample 2 (DM-DM)	Sample 3 (EM-EM)
Sample description	Developed-market acquirers and emerging-market targets	Developed-market acquirers and developed-market targets	Emerging-market acquirers and emerging-market targets
<i>Acquirer nation</i>	Canada (43) France (34) Germany (15) Italy (14) Japan (64) Netherlands (9) Spain (73) United Kingdom (109) United States (233) Total ( <b>594</b> )	Canada (63) France (83) Germany (66) Italy (26) Japan (63) Netherlands (50) Spain (104) United Kingdom (294) United States (875) Total ( <b>1624</b> )	Argentina (15) Brazil (36) Chile (28) China (48) Egypt (3) India (80) Indonesia (28) Malaysia (269) Morocco (2) Peru (3) Philippines (26) South Africa (132) South Korea (163) Thailand (67) Total ( <b>900</b> )
<i>Target nation</i>	Antigua (4) Argentina (47) Barbados (2) Bolivia (5) Brazil (82) Cameroon (1) Chile (42) China (49) Colombia (13) Costa Rica (4) Ecuador (1) Egypt (12) Gabon (1) Guatemala (2) Honduras (1) India (33) Indonesia (15) Iran (2) Jamaica (3) Jordan (3) Kenya (1) Malaysia (12) Mauritania (1) Mauritius (1) Mexico (60) Morocco (1) Namibia (1) Nicaragua (1) Nigeria (2) Panama (2) Peru (13) Philippines (15) Rep of Congo (2) Saudi Arabia (1) South Africa (33) South Korea (48) Taiwan (38) Thailand (21) Uruguay (2) Utd Arab Em (2) Venezuela (13) Vietnam (2) Total ( <b>594</b> )	Canada (88) France (89) Germany (50) Italy (44) Japan (66) Netherlands (25) Spain (93) United Kingdom (208) United States (961) Total ( <b>1624</b> )	Argentina (23) Brazil (33) Chile (25) China (61) Ecuador (1) Egypt (4) India (72) Indonesia (38) Malaysia (262) Morocco (2) Peru (4) Philippines (27) South Africa (131) South Korea (148) Thailand (69) Total ( <b>900</b> )

The table summarizes the sample of transactions involving publicly listed acquirers that made acquisitions, with transaction values greater than \$10 million, of public or private targets announced between 1986 and 2006. Sample 1 (DM-EM) is our main sample and includes observations with a developed-market acquirer and an emerging-market target. Sample 2 (DM-DM) includes only observations with a developed-market acquirer and a developed-market target. This sample is restricted to only include developed-market acquirers which also appear in sample 1. Sample 3 (EM-EM) includes observations with an emerging-market acquirer and emerging-market target.

Control is acquired in nearly 60% of the DM-EM sample and may reflect restrictions on acquiring control by foreign firms during the sample period. In comparison, the data suggest that control is acquired in approximately 75% of the transactions involving developed-market targets or in purely emerging-market transactions. Also, emerging-market targets are more likely to be private compared to developed-market targets. Diversifying acquisitions are more likely in the EM-EM sample and least likely in the DM-EM sample, where a diversifying acquisition is defined as a transaction where the target and acquirer are in different industries, as measured by three-digit SIC codes.

**Table 2**  
**Summary statistics: firm and transaction characteristics**

	Sample 1 (DM-EM)	Sample 2 (DM-DM)	Sample 3 (EM-EM)
Sample description	Developed-market acquirers and emerging-market targets	Developed-market acquirers and developed-market targets	Emerging-market acquirers and emerging-market targets
<i>Firm and deal characteristics</i>			
Median transaction size (\$M)	53.25	125.09	36.66
Median acquirer market capitalization (\$M)	6773.98	7052.10	297.80
Control acquired (%)	58.59%	77.59%	73.00%
Private target (%)	49.16%	43.35%	55.22%
Diversifying acq. (%)	31.99%	49.57%	60.00%
Median acquirer CAR (%)	0.26%	-0.20%	0.12%
Median acquirer CAR with control acquired (%)	0.72%	-0.28%	0.13%
<i>Acquirer industry</i>			
Agr. and cons. products	9.09%	3.69%	12.78%
Basic manufacturing	16.33%	10.47%	17.67%
Machinery and electronics	22.56%	26.11%	17.78%
Utilities and transportation	12.12%	15.70%	9.44%
Wholesale and retail trade	4.38%	2.71%	5.11%
Financial services	24.24%	21.92%	29.56%
Tourism and misc. services	11.28%	19.40%	7.67%
<i>Target industry</i>			
Agr. and cons. products	11.45%	5.23%	9.67%
Basic manufacturing	13.47%	12.19%	16.67%
Machinery and electronics	20.71%	19.46%	16.33%
Utilities and transportation	12.79%	12.01%	13.56%
Wholesale and retail trade	5.22%	7.45%	6.00%
Financial services	23.91%	17.30%	28.44%
Tourism and misc. services	12.46%	26.35%	9.33%

The table summarizes the sample of transactions involving publicly listed acquirers that made acquisitions, with transaction values greater than \$10 million, of public or private targets announced between 1986 and 2006. CARs are estimated using a three-day event window and using U.S.-denominated returns. *Control Acquired* is a dummy variable that denotes whether the acquirer holds 50% or more of the target firm's equity following the acquisition and did not previously have control. *Diversify* is a dummy variable that denotes whether the target is in the same three-digit SIC industry Code as the acquirer. Agriculture and consumer products are firms with two-digit SIC codes 00–19; basic manufacturing 20–29; machinery and electronics 30–39; utilities and transportation 40–49; wholesale and retail trade 50–59; FIRE 60–69; tourism and miscellaneous services 70–99.

The three-day returns data show a positive median CAR when the acquisition of an emerging-market target is announced, and a CAR of -0.20% when a developed-market acquisition is announced. Furthermore, the median CAR in the DM-EM sample (0.26%) is higher than the median CAR in the EM-EM sample (0.12%); however, this difference is not statistically significant. In contrast, when control is acquired, the median CAR return in DM-EM transactions (0.72%) is higher than the median CAR in DM-DM transactions (-0.28%) and EM-EM transactions (0.13%), and now these differences are statistically significant.

Target returns are available for less than one-tenth of the DM-EM sample. The limited sample is not unexpected. For one, 45% of the DM-EM target sample is private. Furthermore, Datastream does not provide universal coverage of all public firms. Given the significant sample selection bias present in these returns,

**Table 3**  
**Pre- and postacquisition ownership by the sample**

Number of M&A transactions	Acquirer had minority interest before acquisition		Preacquisition ownership		
	No	Yes	<20%	20–40%	40–50%
<b>Postacquisition ownership</b>					
<b>Panel A: Sample 1 (DM-EM)</b>					
0–50%	181	65	49	16	0
50–95%	90	50	10	24	16
95–100%	189	19	5	8	6
Total	460	134	64	48	22
<b>Panel B: Sample 2 (DM-DM)</b>					
0–50%	229	135	116	15	4
50–95%	56	47	17	13	17
95–100%	1083	74	39	20	15
Total	1368	256	172	48	36
<b>Panel C: Sample 3 (EM-EM)</b>					
0–50%	135	110	88	20	2
50–95%	90	67	21	29	17
95–100%	466	32	12	12	8
Total	691	209	121	61	27

The table summarizes M&As by the sample and by pre- and postacquisition ownership. The table covers all M&A transactions announced between 1986 and 2006 and for which ownership data are available and sample criteria are met. M&A transactions are identified and control information is collected from SDC data items “percent shares acquired” and “percent shares owned after transaction.”

we err against over-emphasizing these results. However, we find it interesting to note that target returns for the DM-EM sample also follow the same pattern as acquirer returns. Target returns are higher when control is transferred from an emerging-market target to a developed-market acquirer. However, this increase is not statistically significant.

Table 2 also presents the distribution of transactions by industrial sector. As the table shows, there is substantial cross-sectional variation across industries, and the data do not display a clear-cut concentration of transactions in any one sector.

Table 3 shows the change in the extent of corporate control resulting from the M&A transactions included in this paper. The columns of the table show the extent of ownership of the target prior to the acquisition, while the rows indicate postacquisition ownership shares. Column 2 breaks down the postacquisition stakes in transactions where the acquirer did not have an ownership stake in the target prior to the announcement. Column 3 shows the postacquisition ownership pattern in transactions where the acquirer had a prior minority stake in the target. Columns 4–6 present a detailed breakdown of the pattern of ownership for the transactions in column 3.

The data in panel A of Table 3 show that in 460 out of 594 transactions, the developed-market acquirer had no ownership stake in the emerging-market target before the announcement. In 348 transactions, or about 59% of the sample, the acquisition leads to a majority or near complete transfer of control to the developed-market acquirer. A transfer of majority control also occurred

in sixty-nine transactions where the acquirer had a minority stake in the target before the announcement.

Panel B of Table 3 shows that in DM-DM transactions (sample 2), in 1368 out of 1624 transactions, acquirers did not own a stake in the target before the announcement. Seventy-eight percent of these transactions result in a transfer of majority control to the acquirer. Of 256 cases, where the acquirer had a minority stake in the target before the announcement, 121 cases (47%) result in a transfer of majority control to the acquirer.

Panel C of Table 3 shows the pattern of control acquisition in EM-EM transactions (sample 3). Of 691 transactions, 556 (80%) result in a transfer of control to the emerging-market acquirer in cases where there was no prior relationship between the acquirer and the target, and ninety-nine out of 209 transactions (47%) result in a transfer of control to the acquirer where the acquirer had a prior minority stake in the target.

## 2. Results

### 2.1 Acquirer returns for the developed-market acquirer, emerging-market target sample

Table 4 investigates acquirer returns when developed-market acquirers announce acquisitions in emerging markets. \$U.S.-denominated returns are measured as CARs estimated over a three-day event window. We include target nation fixed effects in all regressions. Standard errors are robust and corrected for clustering at the acquiring firm.

Column 1 of Table 4 shows that the coefficient on control is 1.26% and is significant at the 1% level. To test whether the importance of control varies over time, in column 2 we repeat the regression in column 1 but add a continuous time-trend variable reflecting the year the deal was announced relative to the sample timeline, centered at the year 1996. Acquirer returns do not change significantly over time.

When acquirers from developed markets take over targets in emerging markets, they may also be purchasing relatively illiquid assets that cannot be bought or sold easily. Positive acquirer returns may therefore reflect an illiquidity discount in the valuation of emerging-market assets. Given that approximately 45% of our emerging-market targets are private, we include a dummy variable to test whether private targets drive the positive acquirer returns. The results appear consistent with the pattern of acquirer returns in private firm acquisitions in the United States (Fuller, Netter, and Stegemoller 2002). We find that private targets are associated with higher announcement returns for acquirers; however, the coefficient on control continues to be significant with the inclusion of the private target dummy (column 3).

Furthermore, the result in column 4 suggests that diversifying acquisitions do not appear to have a statistically significant impact on acquirer returns. These

**Table 4**  
**Majority control drives positive acquirer returns in emerging-market acquisitions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control	1.255*** (0.429)	1.312*** (0.433)	0.916** (0.440)	1.252*** (0.427)		1.173* (0.638)	1.09** (0.511)	1.212*** (0.424)
Timetrend		-0.031 (0.051)						
Private target			0.865* (0.523)					
Diversify				0.11 (0.46)				
Postacquisition ownership (x %)					0.347* (0.207)	-0.125 (0.318)		
Postacquisition ownership (x > 95%)							0.38 (0.71)	
Transaction value								-0.289* (0.172)
Target country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-square	0.094	0.094	0.099	0.094	0.083	0.089	0.094	0.099
N	594	594	594	594	594	594	594	594

This table summarizes the results of regressions where the dependent variable is abnormal returns for acquirer firms during a three-day event window around the announcement date on firm characteristics. All M&A transactions in the sample were announced between 1986 and 2006 and involve a public acquirer from a developed market and a target from an emerging market (sample 1). Emerging and developed markets are listed in Table 1. Returns (in %) are \$U.S.-denominated and calculated using a market model where the market return is based on the market index for each country. *Control* is a dummy variable that denotes whether the acquirer holds 50% or more of the target firm’s equity following the acquisition and did not previously have control. *Timetrend* is a continuous variable reflecting the year the deal was announced relative to the sample timeline. The timetrend is centered so that 1996 is year 0. *Private target* and *Diversify* are dummy variables to denote the listing status of the target and whether it is in the same three-digit SIC industry code as the acquirer. *Postacquisition ownership (x %)* and *Transaction Value* are log-transformed. Mean coefficient estimates are reported with robust standard errors in parentheses. Standard errors are corrected for clustering in acquirer firms. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

results are in contrast to the findings reported in Morck, Shleifer, and Vishny (1990) and may reflect differences between cross-border and domestic M&A.

Our definition of “majority control” requires a final ownership of 50% or more of target shares. It is possible that de facto control of a company is related to ownership concentration. For example, in diffusely held companies, effective control of the target may be achieved with a relatively small stake. Furthermore, the share price impact of an acquisition may depend upon the relative stake of the target that is purchased. The acquisition of a 5% stake may have a lower share price impact than a 90% stake. To ensure that our measure of majority control is robust, we run the estimations with alternative ownership measures and additional controls.

First, we examine the relationship between acquirer returns and the size of the target stake acquired using a continuous measure of ownership. The coefficient, as reported in column 5 of Table 4, is positive and significant. Furthermore, when the majority control dummy is included in the regression specification, the coefficient on postacquisition ownership is now insignificant,

while the coefficient on control remains significant, as reported in column 6. These results are consistent with the hypothesis that the transfer of control is not simply a proxy for the size of the acquired stake.

Given the acquisition of control, the mean and median percent shares acquired are 76% and 90% respectively. To ensure that the positive acquirer returns associated with control are not driven by complete or nearly complete acquisitions, we create a dummy variable to capture whether the acquirer purchased at least 95% of the target firm. In column 7 we find that the coefficient on control is positive and significant, but given control, acquiring 95% or greater of the target firm is not associated with a further increase in returns.

Finally, we consider whether control is simply a proxy for transaction size. In column 8 we find that control does not proxy for transaction size. We find a positive and significant coefficient on control and a negative, and significant, coefficient on transaction size. In summary, the results are consistent with the hypothesis that the transfer of control drives acquirer returns in developed-market acquisitions of emerging-market targets and that control is not simply a proxy for the size of the acquired stake or the size of the transaction.<sup>12</sup>

## 2.2 Dollar value gains for shareholders of developed-market acquirers and emerging-market targets

To get a sense of the magnitude of the shareholder wealth creation from a typical acquisition in our DM-EM sample, Table 5 shows the distribution of CARs and dollar value gains for developed-market acquirers. Panel A shows a median CAR of 0.72% in transactions where control is acquired. In contrast, the median CAR for acquirers in transactions where control is not acquired is 0.02% (Table 5, panel B). A Wilcoxon signed-rank test of medians shows that acquirer returns are significantly higher in transactions where the acquirer gains majority control of the target as compared to transactions where control is not acquired ( $P = 0.004$ ).

These calculations suggest that the shareholders of developed-market acquirer firms reap substantial dollar value gains from emerging-market acquisitions when control is acquired. The announcement returns translate to an aggregate dollar value gain of \$10.5 billion for the shareholders of developed-market acquiring firms considering all emerging-market targets where control is transferred to the acquirer in our sample.<sup>13</sup>

At first glance, relative to the evidence from U.S. data,<sup>14</sup> these numbers look anomalous. The median value of the acquirer's stock price reaction

<sup>12</sup> All estimations were replicated using local currency returns. The results remain robust.

<sup>13</sup> The aggregate dollar value gain is calculated by multiplying the average dollar value gain per transaction (\$30.15 million) in panel A of Table 5 by the number of transactions for control with available data ( $N = 348$ ).

<sup>14</sup> See for instance, Moeller, Schlingemann, and Stulz (2005) who show huge dollar value losses for acquiring firms in domestic M&A transactions.

**Table 5**  
**Summary statistics for developed-market acquirer firm value gains**

	CAR	Acquirer market capitalization (\$ billion)	Dollar value gain per transaction (\$ million)	Transaction value (\$ million)	Target market capitalization (\$ million)	Net synergy return per transaction
Panel A: Developed-market acquirer gains majority control						
Mean	1.16%	14.768	30.15	308.57	1098.92	2.05
Median	0.72%	3.189	4.07	42.81	279.01	0.11
Top quartile	2.62%	13.908	67.19	147.5	727.35	1.34
Bottom quartile	-1.53%	0.473	-25.28	19.91	94.14	-0.4
Std dev	5.84%	31.377	318.86	1215.96	2464.77	23.73
N	348	348	348	348	16	348
Panel B: Developed-market acquirer does not gain control						
Mean	-0.02%	51.528	-13.8	196.4	1613.45	-3.73
Median	0.02%	12.01	0.66	66.83	609.7	0.02
Top quartile	1.43%	32.815	119.3	176.96	1135.25	1.31
Bottom quartile	-1.57%	4.179	-193.63	30	248.73	-2.3
Std dev	3.79%	256.922	412.53	387.59	2972.07	46.63
N	246	246	246	246	32	246

This table presents summary statistics for the shareholder value gains from the announcement of M&A transactions involving developed-market acquirers and emerging-market targets (DM-EM sample). Panels A and B show summary statistics for developed-market acquirer returns and acquirer, target, and deal characteristics for different subsamples of transactions. CAR is the U.S.-denominated abnormal return for acquirer firms during a three-day event window around the transaction announcement date. Dollar value gains are calculated on a transaction by transaction basis by multiplying the acquirer CARs by their respective market capitalization. Dollar value gains are winsorized at the 5% due to minimize the presence of extreme outliers. Net synergy returns also are calculated on a transaction by transaction basis by dividing the dollar value gain by the transaction value.

suggests a dollar value gain of \$4.07 million per transaction.<sup>15</sup> The median transaction value in an emerging-market acquisition is \$42.81 million in transactions where control is acquired (Table 5, panel A). The median net “synergy” return (acquirer’s dollar value gain/transaction value) on a transaction-by-transaction basis is 0.11. In other words, the stock market anticipates that developed-market acquirers will realize a net present value of 11 cents for every dollar they spend on emerging-market acquisitions involving control. If we use averages instead of medians, then the average acquirer gain of \$30.2 million also compares favorably to the average transaction value of \$308.6 million.

By contrast, the median net synergy return in transactions where minority stakes are acquired is 0.02 (Table 5, panel B), suggesting that the transfer of control rights is a key mechanism for generating positive returns for foreign investors in emerging markets. Why do we observe the large dollar value gains for shareholders of foreign acquirers?

In part, the large dollar value gain can be explained by simple mechanics. Acquiring firms are, on average, over an order of magnitude larger than the target firms. The median acquirer market capitalization is \$3.2 billion in transactions where control is acquired (Table 5, panel A). A small, positive, CAR translates to a large dollar value gain.

<sup>15</sup> This is the median value of the acquirer dollar value gain calculated by transaction rather than the median CAR times the median market capitalization value for the acquirers in the sample.

**Table 6**  
**Gains from majority control are unique to emerging-market acquisitions**

	(1)	(2)	(3)	(4)	(5)
Sample description	DM acquirer All targets	DM acquirer All targets	DM acquirer All targets	All acquirers EM target	All acquirers EM target
Control	-0.882*** (0.304)	-0.851** (0.349)	-0.846** (0.426)	2.981** (1.545)	3.916*** (1.582)
EM target	-0.317 (0.332)	-0.929*** (3.244)	-0.538 (0.456)		
Control * EM target	1.49*** (0.493)	1.554*** (0.535)	1.116* (0.618)		
DM acquirer				-0.617 (0.752)	-1.227 (0.764)
Control * DM acquirer				1.661* (0.920)	1.753* (0.922)
Private	1.424*** (0.263)	1.421*** (0.272)	1.418*** (0.359)	0.11 (0.388)	-0.019 (0.415)
Diversify	-0.314 (0.237)	-0.211 (0.241)	-0.41 (0.281)	-0.417 (0.392)	-0.187 (0.4)
Acquirer market capitalization				-0.012 (0.164)	0.012 (0.161)
Acquirer market capitalization *				-0.452** (0.223)	-0.557*** (0.222)
Control					
Target nation fixed effects	No	Yes	No	Yes	Yes
Firm fixed effects	No	No	Yes	No	No
N	2218	2218	2218	1494	1493
Adjusted R-square	0.023	0.043	0.323	0.010	0.037

This table summarizes the results of regressions where the dependent variable is abnormal returns (in %) for acquirer firms during a three-day event window around the announcement date on characteristics of the involved firms. The sample used in each regression is described in the header row. *Control* is a dummy variable identified if the acquirer holds 50% or more of the target firm's equity following the acquisition and did not previously have control. *Private target* and *Diversify* are dummy variables to denote the listing status of the target and whether it is in the same three-digit SIC industry code as the acquirer. *Acquirer market capitalization* is measured three months prior to the acquisition announcement and is log-transformed. Mean coefficient estimates are reported with robust standard errors in parentheses. Standard errors are corrected for clustering in acquirer. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

However, the question of why the dollar value gains, elusive in domestic M&As, are positive and large in emerging-market transactions remains. We argue that the market value of an asset can differ across countries given differences in the know-how, brand value, and other intangible firm characteristics, as well as the institutional setting that protects property rights. Since a direct benefit of better institutions and property rights enforcement in developed markets is the legal protection of intangibles such as R&D, we expect any value that is transferred through better institutions from developed- to emerging-market firms to be more pronounced in industries associated with high asset intangibility, that is, in industries where governance is likely to be most important.

**2.3 Are the gains associated with control unique to developed-market acquirers and emerging-market targets?**

Thus far, the results suggest that the transfer of control from emerging- to developed-market firms is associated with positive acquirer returns. In Table 6,

we explore in detail whether the result is unique to the DM-EM context or whether there are alternative explanations for the finding.

An alternative explanation for the finding assumes that the acquirers in our developed-market acquirer sample are unique and would enjoy high returns in all transactions involving control, regardless of whether or not the target was located in an emerging market. If the hypothesis is valid, then the developed-market acquirers in our sample would experience similar returns when they acquire control of targets in developing markets. To test the hypothesis, we combine subsamples 1 and 2 (DM-EM and DM-DM). Given that the set of developed-market acquirers is restricted to firms that made acquisitions in emerging markets, in combining these two samples we are adding a sample of developed-market targets acquired by the same set of developed-market acquirers as in our EM target sample.

Using this combined sample, we find a negative and significant coefficient on control ( $-0.88\%$ ) and a positive and significant coefficient on the interaction term between control and the emerging-market target ( $1.49\%$ ) in column 1 of Table 6. The result suggests that positive and significant acquirer returns associated with control are unique to developed acquirer-emerging target pairs. These results are consistent with our findings in Table 2 of a negative median CAR for the DM-DM group when control is acquired.<sup>16</sup> Similar results are found in column 2 of Table 6 after including target nation fixed effects, and in column 3 after including acquirer firm fixed effects.

In Table 6, we also include controls for whether the target firm is public or private, and for diversifying acquisitions. Consistent with the U.S. M&A literature, we find a positive coefficient on private targets and a negative coefficient on diversifying acquisitions. However, the coefficient on diversifying acquisitions is not statistically significant.

An alternative explanation for the finding that control is a key driver of positive acquirer returns in Table 6 is that M&A activity in the emerging market context is fundamentally different from M&A activity in the United States or other developed markets. If this hypothesis holds in the data, then any acquirer (from a developed or emerging market) stands to reap substantial returns in an M&A transaction involving an emerging-market target.

To test this hypothesis, in columns 4 and 5 of Table 6 we combine all acquirers (from developed and emerging markets) of emerging-market targets (samples 1 and 3). We find a positive and significant impact of control on acquirer returns for both emerging- and developed-market acquirers. The result suggests that the acquisition of control is a key driver of acquirer returns in the emerging-market context and indicates that the institutional environment in emerging markets may be such that value gains for acquirers are inextricably linked to control.

<sup>16</sup> Note that Table 2 uses medians and Table 6 refers to means.

However, it is important to note that developed-market acquirers experience an additional boost in returns, as evidenced by the positive and significant coefficient on control interacted with a dummy variable for developed-market acquirers (column 4). The positive coefficient suggests that the value gains that accrue to developed-market acquirers through control are greater in magnitude than those that accrue to their emerging-market counterparts. Furthermore, we caution against extrapolating from our set of emerging-market acquirers as being representative of emerging-market firms in general. It is likely that these firms represent a unique subsample of emerging-market firms, and that not all emerging-market firms would be able to replicate these returns patterns if they attempted a similar acquisition.

Recall from Table 2 that developed-market acquirers are, on average, over 200 times larger than emerging-market acquirers. The median developed-market acquirer has a market capitalization of \$U.S. 7052 million as compared to a median of \$U.S. 298 million for the emerging-market acquirer group. Moeller, Schlingeman, and Stulz (2004) provide evidence for the acquirer size effect in the U.S. market for mergers and acquisitions—large companies earn significantly lower announcement returns. Accordingly, the specification in column 4 includes controls for the size of the acquirer (log market capitalization) along with an interaction term between size and control. As in Moeller, Schlingeman, and Stulz (2004), we find a negative relationship between acquirer size and returns when control is acquired.<sup>17</sup> Similar results for the importance of control and developed-market acquirers hold in column 5 with the inclusion of target nation fixed effects.

In summary, we find that developed-market acquirer returns appear unique to the emerging-market context. The developed-market acquirers in our sample do not realize significant returns when they acquire control of developed-market targets. While both developed- and emerging-market acquirers realize positive returns when they acquire the control of an emerging-market target, the magnitude of the returns is higher for the developed-market acquirers in our sample.

## **2.4 Sources of acquirer value gains**

**2.4.1 Improved governance.** Legal and institutional features can have an important impact on the property rights setting and the incomplete contracting problem in emerging markets. The ability of developed-market acquirers to bring better institutional practices to emerging-market targets may drive up expected future cash flows if the target is acquired and becomes bonded to better institutions (Coffee 1999). We use the legal and institutional measures as proposed by La Porta et al. (1998) for the countries in our sample as proxies for institutional differences between countries.

<sup>17</sup> Note that without controlling for the size of the acquirer's market capitalization, we obtain a positive but insignificant coefficient on control, and an insignificant coefficient on the interaction between control and a developed-market acquirer dummy.

Using data from all three samples (DM-EM, DM-DM, and EM-EM), we examined the correlation coefficients between various legal and institutional measures, as proposed by La Porta et al. (1998) for the target countries in our sample. The correlations between log GDP per capita and the rule of law, the efficiency of the judicial system, contract repudiation risk, and the risk of expropriation are 0.89, 0.66, 0.85, and 0.85 respectively, indicating that nations with higher GDP per capita are associated with better institutional characteristics. The pattern of correlations suggests that the degree of economic development (measured by GDP per capita) is highly correlated with institutional development. Developed-market acquisitions of emerging-market firms therefore offer a unique setting to examine value creation across countries with vast asymmetries in institutional settings and economic development.

Table 7 (panel A) examines the influence of these institutional variables on acquirer returns. The estimations were conducted using a distance measure of institutional quality, calculated as the difference between the acquirer and target country scores. For example, Switzerland scores 9.98 for the risk of contract repudiation, while Philippines scores 5.22 along the same institutional quality dimension. The distance between a Swiss acquirer and a Philippine target would therefore be 4.76.<sup>18</sup> To maximize the cross-sectional variance, we combine all three samples (DM-EM, DM-DM, and EM-EM) in the specifications.

The distance in the rule of law between acquirer and target pairs is significantly correlated with acquirer returns (column 1 in Table 7). The higher the “rule of law” score for the acquirer relative to the target, the greater the magnitude of acquirer announcement returns. Furthermore, in column 2 we observe that this positive relationship between the rule of law distance and acquirer returns is specific to acquisitions where control is attained. A similar pattern obtains when we consider expropriation risk in columns 3 and 4. The distance in contract repudiation risk delivers positive acquirer returns in transactions with control (column 5). In unreported results, we find no significant correlation between the interaction of differences in the efficacy of the judiciary and control.

In summary, these results indicate that the greater the distance between the institutional quality of the acquirer and target nations, the greater the acquirer returns. However, these gains only occur when the acquirer attains control of the target. The results are consistent with our hypothesis that, with control, acquirers are able to bond target firms to the institutions in their home countries, leading to the creation of shareholder value.

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<sup>18</sup> Summary statistics for the average distance between the institutional environment of the acquirers and the targets show that, on average, the distance between the institutional environment of developed-market acquirers and developed-market targets is not statistically significant. There is, however, a striking difference between the institutional environment of developed-market acquirers and emerging-market targets. On average, the distance between the institutional environment of developed-market acquirers and emerging-market targets is positive and statistically significant for the rule of law, the efficiency of the judicial system, contract repudiation risk, and the risk of expropriation.

**Table 7**  
Sources of acquirer value gains-improved governance and asset intangibility

Sample	Panel A				Panel B			
	(1) All acquirers All targets	(2) All acquirers All targets	(3) All acquirers All targets	(4) All acquirers All targets	(5) All acquirers All targets	(6) DM acquirer EM target	(7) DM acquirer DM target	(8) DM acquirer All targets
Rule of Law	0.140** (0.060)	-0.055 (0.074)						
Control		-0.445 (0.275)		-0.515* (0.278)	-0.499* (0.274)	0.492 (0.857)	-0.452 (0.536)	-0.393 (0.523)
Rule of Law*Control		0.291*** (0.112)						
Expropriation Risk			0.185* (0.099)	-0.158 (0.132)				
Expropriation Risk* Control				0.524*** (0.188)				
Contract Repudiation Risk					-0.164 (0.115)			
Contract Repudiation Risk * Control					0.439*** (0.166)			
Patents						-0.203* (0.110)	-0.126 (0.089)	-0.123 (0.088)
Patents * Control						0.358** (0.225)	-0.065 (0.137)	-0.071 (0.135)
EM target								-0.173 (0.521)
Control * EM target								0.657 (0.88)
Patents * EM target								-0.089 (0.14)
Patents * Control * EM target								0.44* (0.244)
Private	1.105*** (0.250)	1.170*** (0.264)	1.104*** (0.250)	1.172*** (0.265)	1.182*** (0.266)	0.864 (0.805)	1.522*** (0.507)	1.384 (0.453)
Diversify	-0.153 (0.248)	-0.185 (0.248)	-0.158 (0.248)	-0.192 (0.248)	-0.219 (0.248)	-0.984 (0.683)	-0.796* (0.448)	-0.83*** (0.398)
N	2967	2967	2967	2967	2967	185	642	827
Adjusted R-squared	0.009	0.009	0.008	0.009	0.009	0.035	0.025	0.030

The dependent variable is three-day CARs. In panel A, the institutional quality measure is a continuous variable that measures the distance between the acquirer country score and the target country score along a particular dimension of institutional quality. The institutional quality rankings are from La Porta et al. 1998. *Control* is a dummy which takes on a value of one if majority control is acquired in a transaction. In panel B, *Patents* is the median number of patents per firm in the target's industry. In panel B, *Patents* is the median number of patents per firm in the acquirer's industry. This variable is then transformed as  $\log(1 + x)$ . Due to limitations of the NBER patent database, this sample is restricted to 1985–1999. *Private target* and *Diversify* are dummy variables to denote the listing status of the target and whether it is in the same three-digit SIC industry code as the acquirer. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**2.4.2 Intangible assets.** Evidence suggests that intangible assets have substantial productivity benefits, and in particular, R&D assets bring benefits in the form of positive marginal product and market valuation (Hall 1993; Griliches 1981; Lev and Sougiannis 1996). Brynjolfsson and Hitt (2003) find that each dollar of capital invested in computer capital results in \$17 of market value in contrast to investments in traditional PP&E, which result in a return of \$0.7 for every dollar invested. Furthermore, Hausmann and Sturzenegger (2006) argue that a substantial missing component of value from book value estimates of foreign assets acquired (and recorded by the Bureau of Economic Analysis) is precisely the value from intangibles assets that firms from developed countries can bring to emerging-market firms.

Consistent with the above arguments, we hypothesize that the sharing of intangible assets through an acquisition is likely to be most important in the context of a developed-market acquirer and an emerging-market target. For instance, the better governance and institutions typically ascribed to the developed markets will promote greater investment in intangibles such as proprietary technologies. In contrast, firms in emerging markets may be reluctant to invest in R&D in poor property rights environments. Any value gain associated with the transfer of intangible assets may be further compounded if the acquisition results in the transfer of the laws and institutions that govern the developed-market firms to the emerging-market targets, as in the event of a majority control acquisition.

To test the hypothesis that announcement returns increase in settings with high asset intangibility, we construct a measure of R&D intensity using industry-level patent data. Patent data are seen as an improvement over other measures of asset intangibility, such as R&D expenditures, as patents measure successful research (Griliches 1990; Trajtenberg 1990). Furthermore, patent data are well suited to our research question, as we are interested in the ability of an acquirer to increase the target's value by sharing valuable intangible assets. The fact that a firm seeks a costly patent on a certain technology is indicative of its outside value.

The patent data are from an NBER patent dataset created by Hall, Jaffe, and Trajtenberg (2001). We use a database of matched patent data to Compustat firms, as in Seru (2007).<sup>19</sup> We measure patent intensity as the mean patent count per firm in a four-digit SIC Code. We use industry-level measures to apply the U.S. data to our full sample of developed-market and emerging-market firms. For these tests, the sample time period is truncated to 1985–1999, reflecting the availability of the patent data.

Panel B in Table 7 presents the results. We focus on the acquirer industry patent intensity to capture the accumulation of intangible assets that the acquirer can bring to the target. In column 6, we focus exclusively on developed-market

<sup>19</sup> We are grateful to Amit Seru for providing us with the matched patent data by industry. For more details of the specific matching procedure used, see Seru (2007).

acquirers and emerging-market targets (sample 1). We find that patent intensity interacted with control has a significant effect on acquirer returns. The benefit to acquiring control for a developed-market acquirer of an emerging-market target is increasing in the patent intensity of the acquirer's industry. In column 7, we repeat the same regression but with the developed-market acquirers and developed-market targets (sample 2). Patent intensity and patent intensity interacted with control do not appear to drive acquirer returns in developed markets.

In column 8 of Table 7 we consider a specification with developed-market acquirers and their acquisitions in both emerging and developed markets. Similar to the results in column 6, we find that the coefficient on patent intensity interacted with control and limited to the set of emerging-market targets is positive and significant. We also find an insignificant coefficient for the interaction term between patent intensity and control. Taken together, these results suggest that the positive relationship between asset intangibility and acquirer returns is significantly different when acquiring control of an emerging- rather than a developed- market target.

The findings in columns 6–8 of Table 7 suggest that the importance of acquiring control in industries with high patent intensity appears to matter exclusively in emerging markets, and that acquiring firms may be reluctant to share valuable intangible assets unless they gain control of the target in an emerging-market environment. The results are also consistent with the hypothesis that the sharing of intangible assets, such as patents, as a source of value gains in M&A transactions is most valuable in transactions where the target is located in an emerging market. This is particularly important, as evidence suggests that firms in emerging markets have made fewer investments in R&D.<sup>20</sup> The results in columns 6–8 therefore underscore the importance of acquiring control in weaker institutional environments, especially when the acquirer anticipates sharing valuable intangible assets.

In summary, the findings in this section suggest that abnormal announcement returns are the greatest when control is transferred from an emerging-market target to a developed-market acquirer, and the developed-market acquirer is from an industry with high patent intensity.

### **3. Additional Tests and Robustness Checks**

#### **3.1 Are acquirer returns driven by survivorship bias?**

Yet another concern is that survivorship bias at the emerging-market target country level drives the positive developed-market acquirer returns that we document in this paper. Survivorship bias could arise if developed country acquirers only make acquisitions in markets where previous transactions have

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<sup>20</sup> The evidence is consistent with the findings of Nunn (2007), who shows that countries with good contract enforcement specialize in the production of goods for which relationship-specific investments are most important.

proven profitable. To explore this possibility, we conduct a series of tests in Table 8. First, we include target-country fixed effects in the regression specifications throughout. If target nations are always associated with either positive or negative acquirer returns, then target-nation fixed effects would be sufficient controls. We find acquirer returns continue to be positive and significant with the inclusion of target-country fixed effects.

Second, to consider the possibility of time-varying target-country effects, we construct a proxy for the fraction of previous transactions that delivered positive acquirer returns in a particular target country. This past deal success rate captures the last ten transactions in that country and, if fewer than ten transactions have occurred, then the rate is estimated using all existing deals.<sup>21</sup> The coefficient on past deal success is not significant (Table 8, column 1). If survivorship bias were driving the results, control would deliver further positive returns in countries where control had delivered positive returns in the past. We find the opposite. In column 2, past deal success interacted with control leads to negative and significant returns.

Third, we consider the acquirer's historical M&A experience. We create two new dummy variables that take the value of 1 if the acquirer had completed either prior emerging market acquisitions or prior acquisitions in a particular target country. In columns 3 and 5 of Table 8 we find that both dummy variables are associated with negative and significant returns. Furthermore, the coefficients on these dummy variables are rendered insignificant with the inclusion of interaction terms with control (columns 4 and 6). Columns 7 and 8 include a dummy variable for whether the acquirer had prior equity stake in the target. The coefficients on both the prior relationship and its interaction with control are insignificant.

Finally, we construct a variable to measure the fraction of developed-market acquisitions that involved control in the year prior to the transaction. If the value of control diminishes over time as more developed-market acquisitions for control take place in emerging markets, we expect the coefficient on the interaction of prior deals for control with control to be negative and significant. The interaction term is not significant. On balance, the results suggest that survivorship bias does not appear to drive the results.

### 3.2 Additional tests

Table 9 provides a series of additional robustness tests. The domestic M&A literature has documented significant differences between diversifying and non-diversifying acquisitions. We thus investigate whether there are different results in these two samples. In column 1 of Table 9 we restrict the sample to the DM-EM group. As with earlier regressions, we include the two control variables, private and diversify, and include an interaction term between diversify and control. The correlation between acquirer announcement returns and control is

<sup>21</sup> Data limitations restrict these past transactions to occur within our sample period.

**Table 8**  
**Survivorship bias**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Control	0.825* (0.460)	2.727** (1.136)	0.874** (0.435)	1.579* (0.850)	0.917** (0.443)	0.867* (0.525)	0.934* (0.447)	1.092** (0.519)	0.979** (0.454)	8.122* (4.545)
Target Nation Past Deal Success	-0.777 (1.115)	1.047 (1.134)								
Target Nation Past Deal Success* Control		-3.616** (1.833)								
Prior EM Acquisition			-1.151** (0.542)	-0.492 (0.596)						
Prior EM Acquisition * Control				-1.063 (0.938)						
Prior Target Nation Acquisition					-0.765* (0.423)	-0.848 (0.562)				
Prior Target Nation Acquisition* Control						0.151 (0.800)				
Previous Relation							-0.429 (0.470)	-0.118 (0.609)		
Previous Relation * Control								-0.604 (0.837)		
Deal Distribution									-5.480* (3.325)	-0.252 (3.957)
Deal Distribution * Control										-9.92 (6.337)
Adjusted R-square	0.061 594	0.064 594	0.106 594	0.106 594	0.100 594	0.098 594	0.097 594	0.098 594	0.099 592	0.099 592

This table summarizes the results of regressions where the dependent variable is abnormal returns for acquirer firms during a three-day event window around the announcement date on characteristics of the involved firms. All M&A transactions in the sample were announced between 1986 and 2006 and involve a public DM acquirer and a public EM target (sample 1). Returns (in %) are S.U.S.-denominated and calculated using a market model. *Target nation post deal success* is the % of prior DM-EM M&As in the target nation which had positive acquirer CARs. This success rate captures the last ten deals in that nation. If less than ten deals have occurred, then the rate is estimated using all existing deals. *Prior EM (TN) acquisition* is a dummy variable equal to 1 if the acquirer had previously acquired a target in an emerging-market nation (the target's nation). *Previous Relation* is a dummy variable that equals 1 if the acquirer had an equity stake in the target prior to the acquisition. *Deal Distribution* is the % of acquisitions in the prior year for control in the DM-EM sample. *Private target*, *Diversify*, and target country fixed effects are included but coefficients are not reported to conserve space. Mean coefficient estimates are reported with robust standard errors in parentheses. Standard errors are corrected for clustering in acquirer. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 9**  
**Robustness tests**

Sample description	(1) DM acquirer EM target	(2) S&P DM acquirer All targets	(3) DM acquirer All targets	(4) DM acquirer All targets	(5) DM acquirer All targets	(6) DM acquirer All targets
Control	1.150** (0.508)*	-2.168*** (0.804)	-1.419*** (0.537)	-1.249** (0.540)	-2.202 (2.276)	-1.631 (2.286)
EM Target		0.004 (0.785)	-0.646 (0.498)	-0.578 (0.488)	-0.827* (0.489)	-0.08 (1.715)
EM Target * Control		2.406* (1.233)	1.730*** (0.644)	1.575*** (0.630)	1.697*** (0.615)	1.532** (0.643)
Private	0.915** (0.457)	1.458* (0.860)	1.066*** (0.369)	1.084** (0.382)	1.103*** (0.378)	1.124*** (0.400)
Diversify	0.306 (0.464)	0.916 (0.731)	-0.069 (0.328)	-0.106 (0.326)	-0.094 (0.378)	0.165 (0.340)
Diversify * Control	-1.067 (0.814)					
Log Assets			-0.209* (0.109)	-0.230** (0.105)	0.021 (0.192)	-0.003 (0.204)
Acquirer Leverage			-0.003*** (0.001)	-0.003*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Acquirer Q			-0.055* (0.033)	-0.047 (0.032)	-0.003 (0.035)	0.002 (0.036)
Cash				0.502 (0.364)	0.545 (0.356)	0.634* (0.378)
Stock				-0.664 (0.827)	-0.598 (0.811)	-0.554 (0.817)
Acquirer Market Capitalization					-0.434* (0.231)	-0.377* (0.230)
Acquirer Market Capitalization * Control					0.092 (0.225)	0.044 (0.225)
Target Nation fixed effects	No	No	No	No	No	Yes
Adjusted R-square	0.015	0.048	0.027	0.029	0.032	0.067
N	594	208	1149	1149	1149	1149

This table summarizes the results of regressions where the dependent variable is abnormal returns (in %) for acquirer firms during a three-day event window around the announcement date on characteristics of the involved firms. Returns are calculated using a market model. *Control* is a dummy variable identified if the acquirer holds 50% or more of the target firm's equity following the acquisition. The S&P sample is restricted to acquirers in the S&P 500 at the time of the announcement. Accounting variables are measured using data from the year prior to the acquisition announcement. *Cash (Stock)* are dummy variables that take the value of 1 if the transaction was paid for with 100% cash (stock). *Assets and Market Capitalization* are log-transformed. Mean coefficient estimates are reported with robust standard errors in parentheses. Standard errors are corrected for clustering in the acquirer. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

similar in the diversifying and nondiversifying samples. Thus, acquirers realize similar returns when acquiring control of an emerging-market target in either their own industry or when they diversify across industries.

Next, it is possible that the large acquirer gains we observe when a developed-market acquirer announces a controlling acquisition of an emerging-market target reflect news about the firm in general, rather than the expected value gains from the acquisition. In particular, perhaps only firms with strong future growth opportunities would consider expanding to an emerging market and acquiring control. In this case, our announcement returns could be picking up news about future growth opportunities or other information about the acquiring firm. To distinguish between these alternative interpretations, column 2 restricts the sample to those acquirers that were part of the S&P 500 at the time the deal was announced. Firms in the S&P 500 should represent the firms about which there is a great deal of public information available. If our results are just picking up asymmetric information about the news conveyed by the acquisition announcement, we should observe little to no effect in this sample.

Column 2 of Table 9 includes targets from both emerging and developed markets but restricts the acquirer sample to S&P 500 firms. The specification is comparable to the one in Table 6 (column 1). The results are consistent with our earlier findings. The coefficient on the interaction term between the emerging-market target dummy and control is positive and significant even with 1/10th of the sample used in Table 6. The result suggests that the announcement returns capture the anticipated returns from the acquisition rather than other information about the acquiring firm.

Columns 3–6 of Table 9 include additional controls which have been used in the U.S. literature on M&As. Column 3 includes controls for firm characteristics such as firm size, leverage, and Tobin's Q that have been found to be correlated with acquirer returns. The results suggest that with the inclusion of these additional controls, acquiring control of an emerging-market target continues to be correlated with higher abnormal returns.

Previous studies have also documented a correlation between the method of payment or consideration used and acquirer CARs. We add these variables and our main results continue to hold. In column 5 we add the acquirer's market capitalization and the interaction of this with control. In column 6 we add target nation fixed effects. In all specifications, our main finding holds—developed-market acquirers realize significant returns when they acquire control of an emerging-market target.

The estimations were also run including various deal and target characteristics reported in existing literature as determinants of developed-market acquirer returns (not reported). The additional variables tested include whether the target was bankrupt, there was a competing bidder or an unsolicited bid, the target was a division, the deal was a new joint venture, the target was being privatized, the deal was privately negotiated, and whether the deal was a tender offer. None of these additional variables explains acquirer returns in developed-market

acquisitions in emerging markets. However, these results should be interpreted with caution since SDC coverage of deal characteristics for transactions involving emerging-market targets is sparse.

### 3.3 Long-run accounting returns

The most direct test of the postacquisition performance of developed-market acquisitions is to examine the return on assets (ROA) of the emerging-market targets following the acquisition. We define ROA as EBIT/Total Assets. To allow for adequate time for the M&A to be reflected in ROA, we investigate a change in ROA in the second year following the acquisition.

We begin with 594 observations in the DM-EM sample; however, accounting data are available for only thirty-three observations, where twenty-six of these deals are for minority stakes, and seven of these deals involve majority control.<sup>22</sup> In columns 1 and 2 of Table 10, we report the mean ROA change for targets in the DM-EM sample. Column 1 shows that the mean ROA change for acquisitions for control is positive, but not statistically significant. Column 2 shows that the mean ROA change for acquisitions where control is not transferred is negative, but not statistically significant.

Column 3 of Table 10 includes controls for whether or not the deal was paid for with stock, as stock-financed acquisitions are associated with lower accounting returns. We also control for the historic rate of change in ROA at the firm. This lag change variable will capture any firm-specific growth in ROA. We find a positive coefficient on control; however, it is insignificant.

Given our findings with the patent data that acquirer announcement returns are highest when the acquirer comes from an industry with high patent intensity, column 4 of Table 10 controls for acquirer R&D.<sup>23</sup> We create a dummy variable, RDpos, which takes the value of 1 if the acquirer reported positive R&D expenditures in the year the M&A deal was announced. The coefficient of the interaction between the RDpos measure and control is positive, similar to the coefficient on the interaction between acquirer patent intensity and control, as reported in panel B of Table 7 for the DM-EM sample. The coefficient is statistically insignificant.

We also observe a positive coefficient on control. This coefficient has a *P*-value of 0.18. This is insignificant by conventional standards; however, given the limited sample size and the significant noise present in long-run accounting data, we cautiously interpret this finding as consistent with our announcement return results.

<sup>22</sup> To put this sample into context, consider that of the original 594 DM-EM observations, 292 involved a private target. Of the remaining 302 public targets, eighteen deals were never completed and are thus dropped from this analysis. Of the remaining 284 observations, we are able to match forty-seven target names from SDC to Datastream, where thirteen of these deals involve a majority stake. We then observe accounting data reported in the two years following the acquisition for seven of these deals, or just over 50%.

<sup>23</sup> We do not use the patent intensity variable we used in the earlier tests, as this variable is not available for all observations and will further restrict our limited sample in these tests.

**Table 10**  
**Long-run accounting returns**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sample restrictions	DM acquirers, EM targets			DM acquirers, all targets			
Dependent variable	Control acquisitions	Minority acquisitions	Full sample	Observations where transaction value > 15% of acquirer market capitalization			
	Target ROA change			Acquirer ROA change			
Intercept	0.678 (1.488)	-0.529 (0.416)	-0.514 (0.446)	-0.5 (0.659)	2.279 (1.817)	0.462 (1.509)	-0.068 (0.847)
Control			1.588 (2.081)	0.906 (0.662)	-2.174 (1.834)	-0.316 (1.666)	0.192 (0.966)
EM target					-6.279*	-5.541**	-4.733
EM target * Control					(3.236)	(2.516)	(4.069)
					7.451*	6.656**	6.053
					(3.860)	(3.206)	(4.909)
Rdpos				-0.033 (0.899)		3.123 (2.479)	4.060* (2.123)
RDpos * Control				1.148 (3.598)		-3.317 (2.640)	-4.196* (2.304)
RDpos * EM target							-1.751 (4.704)
RDpos * EM target * Control							1.237 (5.753)
ROA_Lagchange			0.003 (0.003)	0.003 (0.004)	-0.002 (0.019)	-0.003 (0.020)	-0.002 (0.020)
Stock			-1.378 (2.037)	-1.824 (3.487)	-0.267 (0.457)	-0.239 (0.439)	-0.226 (0.458)
Private					1.177	1.291	1.27
Adjusted R-square	0	0	0.053	0.06	(1.138)	(1.123)	(1.122)
N	7	25	32	32	0.063	0.071	0.072
					183	183	183

This table details long-run accounting performance for targets and acquirers following the completion of the acquisition. *ROA Change* is estimated as the change in EBIT/assets measured two years after the acquisition is completed as compared to the year in which the deal is completed. Columns 1-3 examine the target ROA change. Columns 4-6 examine acquirer ROA change. *ROA\_Lagchange* is the historic change in ROA prior to the acquisition. *RDpos* is a dummy variable that takes the value of 1 if the acquirer reported positive R&D expenditures. *Stock* is a dummy variable that takes the value of 1 if the acquisition was paid for with 100% equity. *Private* is a dummy variable that takes the value of 1 if the target was private. Mean coefficient estimates are reported with robust standard errors in parentheses. Standard errors are corrected for clustering in the acquirer. \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

Standard accounting rules stipulate that firms must include the profits or losses of any majority-owned subsidiaries in their consolidated accounting statements. Thus, target performance will be included in acquirer accounting performance in cases where control is obtained. However, in making inferences about target performance from acquirer performance, we run the risk of adding significant noise to our tests. To minimize this noise and ensure that target performance is observable, we limit the sample to those observations where the transaction value is at least 15% of the acquirer's market capitalization. When we combine subsamples 1 and 2, given that developed-market targets are larger, on average, it is not surprising to note that the majority of this sample comprises developed-market targets. Of the 183 observations used in these tests, only twenty-eight observations are from an emerging market and only nineteen of these observations involve the transfer of control.

In columns 5–7 in Table 10, the dependent variable is developed-market acquirer ROA change. We include a dummy variable for a private target. The coefficient on a private target displays a similar pattern. The sign on the coefficient is the same as the sign on the coefficient in our announcement return studies; however, standard errors are larger and the coefficient is insignificant.

Column 5 in Table 10 shows that relative to developed-market targets, the acquisition of control of an emerging-market target is associated with higher accounting returns. Furthermore, this result holds after including RDpos and the interaction of RDpos and control, as reported in column 6. In column 7, we look at the interaction of RDpos and control at emerging-market targets only. We find a positive coefficient, which is consistent with our results interacting acquirer patent intensity, control, and the emerging-market target dummy. However, the coefficient is insignificant.

Overall, relative to the announcement return results, we find the long-run accounting results display weak statistical significance. This is not unexpected given the limitations of very small sample sizes (e.g., thirty-three emerging-market targets) and the greater difficulty in observing patterns in two years of accounting data relative to the short three-day event window used in our announcement return studies. While these accounting results should not be overinterpreted, we are reassured to observe the expected signs on coefficients of interest, even if we do not observe statistical significance.

#### **4. Conclusion**

An extensive literature examines the impact of FDI from developed to developing countries by focusing on productivity spillovers associated with multinational firm activity (Caves 1996). While M&As are a component of FDI, the literature on international M&A has primarily focused on developed-market M&A largely because FDI liberalizations allowing foreign acquisitions into emerging markets did not take place until the late 1980s and early to mid-1990s.

This paper uses abnormal announcement returns associated with M&A transactions to estimate the market-capitalized returns to FDI in emerging markets. To do so, we examine M&A transactions that involve publicly listed developed-market acquirer and emerging-market targets between 1 January 1986 and 31 December 2006. In contrast to the previous literature that uses U.S. data, the evidence suggests that, on average, acquirer returns show a statistically significant increase of 1.16% when they acquire control of emerging-market targets. Distinct from domestic M&A transactions, the distribution of gains shifts in favor of acquiring firms.

We offer two possible explanations for our anomalous acquirer returns. The greater the asymmetry between developed- and emerging-market institutions, the higher are the acquirer returns, and this effect is strongest when control is acquired in industries with high asset intangibility.

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