

ESSAYS IN CORPORATE FINANCE

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To my wife, Yifei, for her unconditional love and support

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## CHAPTER I

### THE GEOGRAPHY OF FINANCIAL ADVISORS AND ACQUIRER RETURNS

#### 1. Introduction

The valuation effect of information asymmetry between acquirers and targets has always received theoretical and empirical attention (Hansen (1987), Kedia, Panchapagesan, and Uysal (2006), Officer, Poulsen and Stegemoller (2005), Higgins and Rodriguez (2005)). Economic theories suggest that acquirers are susceptible to the “Winner’s Curse” problem in that they tend to overpay for targets and that the probability of overpaying increases with the degree of information asymmetry between acquirers and targets about the true value of target assets. As experts in information gathering and production, financial intermediaries, investment banks in particular, have the potential to mitigate the asymmetric information problem faced by bidders. Some banks have informational advantages over others and can value targets more accurately. These banks can help acquirers avoid paying too much for targets, contributing positively to bidder shareholder gains.

Prior studies such as Bowers and Miller (1990), Servaes and Zenner (1996), and Rau (2000) focus on the ranking or tier of an investment bank as a proxy for its efficacy in gathering, producing, and processing information. These studies fail to find evidence that acquirers advised by top-ranked banks create more value for their shareholders. In this paper, we concentrate on an alternative characteristic of financial advisors and investigate whether an advisor’s locality affects its ability to serve as an effective information agent.

Specifically, in a sample of cross-border acquisitions made by U.S. firms, we examine whether investment banks from the same country as target firms can effectively reduce the asymmetric information about the value of target assets and help acquirers avoid overbidding.

When a U.S. firm buys a foreign target, it faces unfamiliar market conditions, different regulations from foreign governments and agencies, limited availability of information about the target, and even less reliable accounting numbers from the target's financial statements. All these can increase the level of asymmetric information about the value of target assets. Moeller and Schlingemann (2005) document that U.S. firms acquiring foreign targets experience significantly lower abnormal returns than those making domestic acquisitions, consistent with the argument that cross-border bidders are more susceptible to the "Winner's Curse" problem. Similarly, Eckbo and Thorburn (2000) find that acquisitions of Canadian targets by Canadian firms generate significantly higher bidder returns than acquisitions of Canadian targets by U.S. firms.

Financial advisors domiciled in targets' home countries conceivably have an information advantage over other financial advisors in valuing target assets. Local banks can better understand targets' financial statements, more accurately assess target management quality and local competitive landscape, and even have access to private information about targets via local social networks. A strand of studies has examined the relationship between geographic proximity and information flow. For example, Coval and Moskowitz (1999, 2001) argue that geographic proximity facilitates information transfer, reduces the cost of information gathering, and provides access to private information. They document a 'local bias' in mutual funds' investment portfolios and higher returns to the local investments. A similar local bias in the portfolios of individual investors is also documented by Huberman (2001), Grinblatt and Keloharju (2001), Zhu (2002), and Ivkovich and Weisbennar (2003)). In addition, Malloy (2005) reports evidence that local analysts are more accurate in earnings forecasts due to their information advantages. In the context of merger and acquisitions, Kedia, Panchapagesan, and Uysal (2006) find that firms acquiring local firms experience significantly higher abnormal returns than those making non-local acquisitions. In sum, we expect acquirers advised by banks from target home countries are less likely to overpay for targets. This will translate into higher abnormal returns for acquirer shareholders around the acquisition announcement date.



In a sample of 382 cross-border acquisitions by U.S. firms from 1990 to 2006, we find support for our hypothesis. Our results show acquisition announcements made by firms assisted by banks from target home countries generate higher abnormal bidder returns than other acquisitions, and the difference is significant both statistically and economically. Specifically, bidders assisted by local advisors experience abnormal returns 1.9% higher than those advised by non-local banks. This result holds after we control for bidder-, deal- and target country-characteristics that are potential determinants of bidder returns documented in the literature.

We also examine the acquirer's choice of payment. Acquirers facing high level of asymmetric information about the value of target assets have great incentives to use stock as the financing method, since by accepting bidder stock, target shareholders bear any risk of overpayment (Hansen (1987)). If a local advisor can effectively reduce the asymmetric information problem, it can serve as a substitute for stock financing. In our empirical test, we do find that acquirers advised by local banks use less stock to finance the payment. Finally, as another piece of evidence on the beneficial role played by local banks, we find that acquirers advised by local banks complete the transactions faster than those advised by non-local banks.

In further analysis, we estimate a probit model to investigate the circumstances under which an acquirer hires a local advisor. Consistent with the asymmetric information story, we find that acquiring firms tend to hire advisors from target home countries when they are buying smaller firms and firms in countries with low accounting standards. We also find that local advisors are more likely in diversifying acquisitions, hostile deals, and tender offers. It is in these types of acquisitions where the asymmetric information problem is most acute. Given that bidders do not choose target-country advisors randomly, we compute the inverse Mills ratio from the probit model of advisor selection and include it in all the previous regressions. Our earlier results continue to hold.

The remainder of the paper is organized as follows. Section 2 describes the data sources and acquisition sample. Section 3 presents the empirical results. Section 4 concludes the paper.

## 2. Sample construction

We obtain a list of 382 acquisitions of foreign public firms made by U.S. public companies during the period of 1990 to 2006 from the Securities Data Corporation's (SDC) Mergers and Acquisitions database. We require that (i) The deal value disclosed in SDC is more than \$1 million and is at least 1 percent of the acquirer's market value of equity measured on the 11th trading day prior to the announcement date,<sup>1</sup> (ii) the acquirer has annual financial statement information available from COMPUSTAT and stock return data (210 trading days prior to acquisition announcements) from the University of Chicago's Center for Research in Security Prices (CRSP) Daily Stock Price and Returns file, (iii) the acquirer has financial advisor information available from SDC.

We also obtain from SDC the home countries of bidders' financial advisors and target firms. We define a bidder's financial advisor to be a "local advisor" if the advisor and the target firm come from the same country. All other advisors are "non-local advisors". These may include U.S. banks, or banks from third nations other than U.S. and the target country. We recognize that some non-local advisors, for example, Goldman Sachs, although a U.S. bank, may have branches or offices in the target country and their local operations may also give these banks informational advantages in valuing target firms. However, this should only work against us finding any significant positive effects of local advisors.

In Table 1.1, we present the distribution by announcement year of our acquisition sample. Beginning in 1990, the number of cross-border acquisitions in each year increases annually until it reaches its highest level in 1997 and 1998. Then it drops off during the early 2000's. This trend

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<sup>1</sup> SDC defines the deal value as the total value of consideration paid by the acquirer, excluding fees and expenses. The dollar value includes the amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction

is very similar to that of overall U.S. domestic acquisition activities documented by Moeller, Schlingemann, and Stulz (2004), whose sample period ends in 2001.

We divide the sample into deals involving advisors from the same country as target firms and those that are not. We find U.S. acquirers hire local advisors in 91 (23.82%) of the 382 acquisitions. We also report the year distribution for transactions involving local advisors and those with non-local advisors, respectively. The distributions for the two groups of acquisitions are relatively similar, especially before 2000. In our regression analyses, we do control for the calendar year fixed-effects.

**Table 1.1. Sample distribution**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). Local advisors are bidders' financial advisors that are in the same countries as target firms.

	Whole sample (N=382)		Local advisors (N=91)		Non-local advisors (N=291)	
	N	%	N	%	N	%
1990	6	1.57	0	0.00	6	2.06
1991	4	1.05	1	1.10	3	1.03
1992	6	1.57	0	0.00	6	2.06
1993	8	2.09	1	1.10	7	2.41
1994	17	4.45	4	4.40	13	4.47
1995	25	6.54	7	7.69	18	6.19
1996	22	5.76	6	6.59	16	5.50
1997	43	11.27	9	9.89	34	11.68
1998	43	11.27	9	9.89	34	11.68
1999	40	10.47	11	12.09	29	9.97
2000	30	7.85	5	5.49	25	8.59
2001	23	6.02	7	7.69	16	5.50
2002	23	6.02	10	10.99	13	4.47
2003	19	4.97	5	5.49	14	4.81
2004	26	6.81	6	6.59	20	6.87
2005	18	4.71	8	8.79	10	3.44
2006	29	7.59	2	2.20	27	9.28
Total	382	100.00	91	100.00	291	100.00

### 3. Empirical results

#### 3.1. Variable construction

In the next three subsections, we discuss the measurement of two categories of variables: acquirer return as the dependent variable, and bidder-, deal- and target-country characteristics as the control variables. Our key explanatory variable is an indicator which equals one if an acquirer uses a local financial advisor, and zero otherwise.

##### 3.1.1. Acquirer return

We measure bidder announcement effects by market model adjusted stock returns around initial acquisition announcements (see Brown and Warner (1985)). We obtain the announcement dates from SDC. We compute five-day cumulative abnormal returns (CARs) during the window encompassed by event days (-2, +2), where event day 0 is the acquisition announcement date.<sup>2</sup> We use the CRSP value-weighted return as the market return and estimate the market model parameters over the period from event day -210 to event day -11.

As shown in Panel A of Table 1.2, the average CAR for the whole sample is -0.317%, which is not significantly different from zero at the conventional level. The median is -0.154% and not significant either. This is consistent with Doukas and Travlos (1988) who find that U.S. bidders experience no significant returns in cross-border mergers. Moeller and Schlingemann (2005) also fail to document significant 3-day CAR for their cross-border sample during the period of 1991-1995. However, when we divide the sample into deals with local advisors and those with non-local advisors, we find that bidders hiring local advisors experience significantly higher abnormal returns around the announcement date. Specifically, the mean (median) CAR for bidders using local advisors is 1.044% (0.484%). The mean is not significantly different from 0, while the median is significant at the 5% level. However, the mean (median) CAR for acquirers

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<sup>2</sup> Our results are not sensitive to the use of 11-day window (-5,+5) or 3-day window (-1,+1).

**Table 1.2. Summary statistics**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). Variable definitions are in Appendix 1.1. For each variable, the first row presents the mean, while the second row presents the median. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively.

		Whole Sample (N=382)	Local advisors (N=91)	Non-local advisors (N=291)	Difference	p-value for tests in difference
<u>Panel A: Bidder cumulative abnormal returns</u>						
CAR (-2,+2)	Mean	-0.317%	1.044%	-0.742% <sup>b</sup>	1.786% <sup>b</sup>	0.031
	Median	-0.154%	0.484% <sup>b</sup>	-0.398% <sup>b</sup>	0.882% <sup>a</sup>	0.005
<u>Panel B: Bidder Characteristics</u>						
Total Assets (\$mil)	Mean	7,599	4,595	8,558	-3,963 <sup>b</sup>	0.027
	Median	2,042	1,871	2,225	-354	0.155
Tobin's q	Mean	2.222	2.098	2.260	-0.162	0.330
	Median	1.679	1.760	1.654	0.106	0.439
Free cash flow	Mean	0.506	0.224	0.593	-0.369	0.132
	Median	0.230	0.198	0.243	-0.045	0.135
Leverage	Mean	0.158	0.151	0.160	-0.009	0.578
	Median	0.133	0.112	0.134	-0.022	0.748
Toehold	Mean	0.085	0.116	0.075	0.041	0.135
	Median	0	0	0	0	0.173
Prior Acquisitions	Mean	0.257	0.264	0.254	-0.010	0.895
	Median	0	0	0	0	0.570
<u>Panel C: Deal Characteristics</u>						
Relative size	Mean	0.252	0.253	0.252	-0.001	0.981
	Median	0.092	0.092	0.090	0.002	0.614
Percentage of stock	Mean	0.227	0.175	0.243	-0.068 <sup>b</sup>	0.039
	Median	0	0	0	0 <sup>c</sup>	0.063
Diversifying	Mean	0.230	0.286	0.213	0.073	0.175
	Median	0	0	0	0	0.152
Competed	Mean	0.152	0.154	0.151	0.003	0.952
	Median	0	0	0	0	0.952
Hostile	Mean	0.084	0.154	0.062	0.092 <sup>b</sup>	0.025
	Median	0	0	0	0 <sup>a</sup>	0.006
Tender offer	Mean	0.521	0.648	0.481	0.167 <sup>a</sup>	0.005
	Median	1	1	1	0 <sup>a</sup>	0.005
Number of days to complete	Mean	115	105	118	-13	0.275
	Median	97	85	98	-13	0.328

using non-local advisors is -0.742% (-0.398%) and both the mean and the median are significantly different from 0 at the 5% level. In addition, the statistics of tests for differences in means or medians are both highly significant. Therefore, the univariate analysis supports our hypothesis that local advisors help U.S. acquirers evaluate foreign targets more accurately and reduce the likelihood of overbidding.

### 3.1.2. Other determinants of acquirer returns

Despite the support we find in the univariate analysis, we need to control for other determinants of bidder announcement returns in order to draw reliable inferences. We consider three categories of factors that are related to acquirer returns: bidder characteristics, deal features, and target-country characteristics.

The bidder characteristics that we control for include firm size, Tobin's Q, leverage, and free cash flow (FCF), all of which are measured at the fiscal year end prior to the acquisition announcement. Moeller, Schlingemann, and Stulz (2004) find robust evidence that bidder size is negatively correlated with acquirer return measured by the announcement-period CAR. They interpret this size effect as evidence supporting the managerial hubris hypothesis (Roll (1986)), since they find that larger acquirers on average pay higher premiums and make acquisitions that generate negative dollar synergies. We define firm size as the log transformation of the acquirer's book value of total assets. We also use alternative measures, such as the log transformation of the acquirer's market value of equity or net sales and find very similar results.

Prior studies find that an acquirer's Tobin's Q has an ambiguous effect on CAR. Lang, Stulz, and Walking (1991) and Servaes (1991) document a positive relation for tender offers and public-firm acquisitions, respectively, while Moeller, Schlingemann, and Stulz (2004) find a negative relation in a comprehensive sample of acquisitions. We define Tobin's Q as the ratio of a bidder's market value of assets over its book value of assets, where the market value of assets is

computed as the book value of assets minus the book value of common equity (item60) plus the market value of common equity (item25×item199).

Following Jensen's (1986) free cash flow hypothesis, we also control for firm leverage and free cash flow (FCF). We expect leverage to have a positive effect on CAR since higher debt levels help reduce free cash flow and limit managerial discretion. On the other hand, the free cash flow hypothesis predicts a negative coefficient for FCF, since managers at firms with more free cash flows have more resources available to them to engage in empire building. Leverage is defined as a firm's book value of long-term debt (item9) and short-term debt (item34) divided by its market value of total assets, and FCF is equal to operating income before depreciation (item13) minus interest expense (item15) minus income taxes (item16) minus capital expenditures (item128) minus the change in working capital, scaled by deal value. We divide FCF by deal value to measure how many internal resources are available for managers to make this particular acquisition and thus directly test the free cash flow hypothesis.

Finally, we include the acquirer's toehold in the target and the acquirer's past acquisition experience in the target's country. We expect the larger the acquirer's ownership in the target prior to the takeover, the less valuation uncertainty. In addition, toeholds can deter potential competing bids and help bidders win the takeover battles at low price. Acquirers' prior acquisition experience in target countries can also help them more accurately value the next target and improve future acquisition performance. Therefore, we expect both toehold and prior acquisition experience to have positive effects on acquirer returns. We measure an acquirer's prior acquisition experience by the number of deals the acquirer completed in the target's country during the past five years. We also use the total dollar value of these deals as an alternative measure and find similar results.

The summary statistics of these variables are shown in Panel B of Table 1.2. We also separately report means and medians for deals involving local advisors and those involving non-local advisors. The tests of difference in means or medians show that the two groups of bidders

are similar, except that the average bidder that hires a local advisor is smaller than the average bidder not using a local advisor. The p-value for the test of difference in means of bidder size is 0.027. Given the evidence in Moeller et. al. (2004) that bidder size is negatively related to bidder returns, the higher CARs for bidders hiring local advisors (shown in Panel A Table 1.2) might just reflect the size effect. However, we later show that after controlling for the bidder size, the positive effect of local advisors still holds.

The deal characteristics that we control for include relative deal size, method of payment, industry relatedness of the acquisition, whether the deal is competed, whether the bid is hostile, and an indicator for tender offers.

We control for relative deal size since studies by Asquith et al. (1983) and Moeller et al. (2004) find that bidder announcement returns increase in relative deal size, although the reverse is true for the subsample of large bidders in Moeller et al. (2004). Relative deal size is defined as deal value over the bidder's market value of equity, measured at the 11<sup>th</sup> trading day before the announcement date.

The method of payment is also related to the stock market response to acquisition announcements. It is well known that bidders experience significantly negative abnormal returns when they pay for their acquisitions with equity and this is generally attributed to the adverse selection problem in equity issuance analyzed by Myers and Majluf (1984).<sup>3</sup> We control for the method of payment by including the percentage of bidder stock used in the transaction. We expect that bidder returns are decreasing in this variable.

Morck, Shleifer, and Vishny (1990) find that diversifying acquisitions usually destroy shareholder value, while potentially benefiting self-interested managers. Diversification can increase the expected utility of poorly diversified risk-averse managers by reducing firm risk (Amihud and Lev (1981)). Managers can also acquire unrelated assets that fit their own strength

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<sup>3</sup> For example, Travlos (1987), Amihud et al. (1990), Servaes (1991) and Brown and Ryngaert (1991) find that bidders experience significantly negative abnormal returns on the announcement of stock-financed acquisitions, but not on the announcement of cash-financed acquisitions.



so that it is more costly for shareholders to replace them (Shleifer and Vishny (1989)). We classify an acquisition as diversifying if the target and the bidder do not share a Fama-French industry.<sup>4</sup>

We also control for deals with competing bidders and hostile deals. Acquirers facing competition from other bidders experience lower abnormal returns (Moeller et al. (2004)), as well as bidders making hostile offers (Schwert (2000)). Finally, we also include a dummy variable that equals one if the deal takes the form of tender offer.

The summary statistics of these variables are reported in Panel C of Table 1.2. Several interesting findings emerge. First, both the mean and median difference tests show that bidders hiring advisors from the target country are less likely to pay with stock. Acquiring firms choose to use their stock as deal consideration to share potential overbidding risks with targets when they perceive there is more valuation uncertainty about targets (Hansen (1987)). To the extent that local advisors reduce the likelihood of bidders overpaying, higher percentage of cash is expected to be used if bidders are assisted by local advisors. Second, the mean and median difference tests also show that firms making tender offers and hostile bids tend to hire local banks. In tender offer and hostile deals, bidders typically bypass target management and boards of directors and thus have limited information available from target management teams. This will make it harder for acquirers to accurately value targets. Therefore, bidders should have greater incentives to use local advisors.

The target-country characteristics we include in the regression of acquirer returns are target-country economic and financial development, shareholder protection, and accounting quality. All the target-country variables are taken from La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) (henceforth LLSV). We use the log of GNP per capita as a proxy for the economic and financial development in target countries. Lower level of economic and financial

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<sup>4</sup> As a robustness check, we use 3-digit sic to define diversifying acquisitions and find qualitatively similar results.

development is associated with higher asymmetric information and thus may result in lower bidder returns.

Similar to Rossi and Volpin (2004), we also include a measure of shareholder protection strength in the target country. It is defined as each country's anti-director rights index multiplied by its rule of law score and then scaled by 10. Both the anti-director rights index and the rule of law score come from LLSV (1998). The anti-director rights index is constructed by adding one point for each anti-director right that protects minority shareholders. It ranges from 0 to 6. A higher index represents better shareholder rights. The rule of law index measures the quality of enforcement of investor rights. Therefore, a higher product between the antidirector rights index and the rule of law index represents better and more effective shareholder protection. LLSV (2000) hypothesizes that higher synergies can result from acquisitions of firms in countries with poor investor protection by companies that come from countries with good investor protection. According to LLSV (1998), U.S. is among the countries with the strongest shareholder protection. If the market for corporate control in countries with poor shareholder protection is not perfectly competitive, U.S. bidders may capture some portion of the total gains. Therefore, we expect the shareholder protection measure to have a positive coefficient.

Finally, we control for a country's accounting quality using an indicator variable that equals one if the country's accounting quality index is below the sample median, and zero otherwise. According to LLSV(1998), the accounting quality index is constructed by rating firms' 1990 annual reports on their inclusion and omission of 90 items.<sup>5</sup> A higher index corresponds to better accounting quality. Public financial statements are expected to contain more reliable information about targets if they are in countries with higher accounting ratings, facilitating bidders in valuing target assets. Thus, we expect the dummy variable of low accounting ratings to be negatively associated with bidder returns.

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<sup>5</sup> These items can be classified into 7 groups: general information, income statements, balance sheets, funds flow statement, accounting standards, stock data, and special items.

### 3.2 Regression results

We present the regression results in Table 1.3. In all specifications, we control for year and Fama-French 48-industry dummies. We adjust standard errors for heteroskedasticity (White (1980)) and acquirer clustering. In column (1), we include bidder, deal, and target-country characteristics described in Section 3.1. In column (2), we exclude the country characteristics from the regression and add target-country fixed effects instead. Coefficient estimates show that consistent with our hypothesis, local advisors have a positive effect on acquirer returns and the effect is significant both statistically and economically. For example, the coefficient estimate of the local advisor dummy in column (1) is 1.901 with a p-value of 0.05. Acquirer returns for firms hiring local banks are 1.901% higher, about one third of the standard deviation of our sample CAR (6.540%). Even after we control for target country fixed effects in column (2), the coefficient estimate of the local advisor dummy remains significant at the 10% level under a two-sided test.

For other control variables, we observe that bidder size has a significantly negative effect on bidder announcement returns and bidder returns are decreasing in the percentage of bidders' stock used in the transaction. Among the target country characteristics that are included in the first column, we find that the abnormal returns of U.S. acquirers declines with the level of shareholder protection in target countries. This is consistent with a hypothesis in LLSV (2000) that acquisitions of firms in countries with weak shareholder protection by firms that are from countries with strong shareholder protection generate higher synergies. Thus, bidder returns in such deals will be higher if acquirers can capture some portion of the synergistic gains.

### 3.3 Adjust for selection bias

The bidder's decision to hire an advisor from the target country is potentially not random. This may introduce selection bias into the OLS estimates reported in Table 1.3. To correct the selection bias, we adopt Heckman (1979)'s two-step procedure to re-estimate the OLS models of

**Table 1.3. Regression analysis of bidder returns**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). The dependent variable is 5-day acquirer cumulative abnormal return around the announcement date. Local advisor is a dummy variable that is one if the acquirer's financial advisor is in the same country as the target, and zero otherwise. Definitions of other independent variables are in Appendix 1.1. In parentheses are *p-values* based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. Both regressions control for year and industry fixed effects, whose coefficient estimates are suppressed for brevity.

Estimation method: OLS	(1)	(2)
<u>Key Explanatory Variable:</u>		
Local advisor	1.901 <sup>b</sup> (0.050)	1.822 <sup>c</sup> (0.088)
<u>Bidder Characteristics:</u>		
Log(assets)	-0.576 <sup>b</sup> (0.025)	-0.569 <sup>b</sup> (0.042)
Tobin's q	0.107 (0.389)	0.082 (0.562)
Free cash flow	0.203 (0.310)	0.241 (0.225)
Leverage	1.950 (0.553)	1.031 (0.763)
Toehold	-0.608 (0.660)	-1.209 (0.419)
Past acquisition activity	0.758 (0.240)	0.889 (0.160)
<u>Deal Characteristics:</u>		
Relative deal size	0.038 (0.980)	0.090 (0.957)
Percentage of stock	-4.396 <sup>a</sup> (0.001)	-4.168 <sup>a</sup> (0.001)
Diversifying acquisition	0.210 (0.822)	0.167 (0.873)
Competed	0.655 (0.452)	0.996 (0.297)
Hostile	-0.400 (0.722)	-0.525 (0.667)
Tender Offer	-0.054 (0.936)	-0.232 (0.748)
<u>Target-country Characteristics:</u>		
Log(GNP per capita)	0.529 (0.349)	
Shareholder protection	-0.676 <sup>c</sup> (0.077)	
Countries with low accounting ratings	0.844 (0.356)	
Target-country fixed effects	No	Yes
Number of Obs.	382	382
Adjusted R <sup>2</sup>	15.17%	13.96%

bidder returns. In the first step, we estimate a probit model to examine the determinants of a bidder's decision to hire a local advisor. Then we compute the inverse Mills ratio from the first-stage probit model and add it in the second-stage OLS regressions.

In the probit model, we include several proxies for the level of asymmetric information faced by acquirers. The first proxy is the target size, measured by the log of deal value. Smaller targets generally are associated with higher level of asymmetric information and create more valuation uncertainty for U.S. acquirers. Thus, we expect that a U.S. bidder is more likely to hire a local advisor when buying a small foreign target. The rest measures of information asymmetry are defined in the previous section, including a dummy variable for low accounting ratings, bidders' toehold, and bidders' past acquisition experience, an indicator for diversifying acquisitions, and dummy variables for hostile deals and tender offers. We expect firms making acquisitions in countries with low accounting ratings have greater incentives to hire local banks as their financial advisors. The same is true for firms acquiring targets in unrelated industries. A bidder' toehold in the target and past acquisition experience in the target country may reduce the level of asymmetric information about the true value of target assets and hence reduce its need to use a local advisor. Finally, bidders have less access to target boards and managers in tender offers and hostile deals. Having limited information from the target management team, a U.S. bidder may turn to a local investment bank which can value the target assets more accurately. Other variables we control for include bidder size, competed deal dummy, and the log of GNP per capita in the target country.

We present the probit regression results in Table 1.4. We control for year and Fama-French 48-industry dummies in our regression. We also adjust standard errors for heteroskedasticity (White (1980)) and acquirer clustering. In column (1), we present the estimated coefficients and their p-values. In column (2), we report the marginal effects of these estimates. The marginal effects are calculated at the mean value of the continuous variables. For the dummy variables the effect of a change from 0 to 1 is calculated.

**Table 1.4. Probit model of a bidder's decision to hire a local advisor**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). The dependent variable is one if the acquirer's financial advisor is in the same country as the target, and zero otherwise. Other variable definitions are in Appendix 1.1. In parentheses in the first column are *p-values* based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. In the second column are the marginal effects of estimated coefficients. The marginal effects are calculated at the mean value of the continuous variables. For the dummy variables the effect of a change from 0 to 1 is calculated. The probit regression controls for year and industry fixed effects, whose coefficient estimates are suppressed for brevity.

Regression method: Probit		
	Coefficient estimates ( <i>p-value</i> )	Marginal effects
<u>Bidder Characteristics:</u>		
Log(assets)	0.056 (0.450)	0.006
Toehold	0.268 (0.501)	0.031
Past acquisition activity	0.094 (0.454)	0.011
<u>Deal Characteristics:</u>		
Log (deal value)	-0.185 <sup>b</sup> (0.031)	-0.021
Diversifying acquisition	0.519 <sup>b</sup> (0.027)	0.074
Competed	0.001 (0.999)	0.000
Hostile	0.832 <sup>b</sup> (0.011)	0.157
Tender Offer	0.628 <sup>a</sup> (0.002)	0.072
<u>Target-country Characteristics:</u>		
Log(GNP per capita)	0.803 <sup>a</sup> (0.002)	0.092
Countries with low accounting ratings	0.476 <sup>b</sup> (0.030)	0.051
Year fixed effects		Yes
Industry fixed effects		Yes
Number of Obs.		382
Log-likelihood		-146.58
Pseudo- R <sup>2</sup>		30.11%

Consistent with our hypothesis, several proxies of the asymmetric information about the value of target assets have coefficient estimates that have the right signs and are also statistically significant. Specifically, we find that firms acquiring smaller foreign targets and targets in unrelated industries and in countries with low accounting quality are more likely to hire financial advisors from target home countries. We also find local advisors are more popular in hostile deals and tender offers. Among other control variables, the log of GNP per capita positively contributes to the use of local advisors. The GNP per capita may proxy for the capital market development in the target country. A more developed financial market is associated with a greater number of high-quality investment banks available for foreign bidders. Therefore, it is not surprising that this variable is positively associated with a bidder's decision to use a local bank. The probit model also has relatively good explanatory power, with a Pseudo R-square of 0.30.

Based on this probit regression, we calculate the inverse Mills ratio and include it in the OLS models in Table 1.3. As shown in Table 1.5, adjusting for self-selection bias does not affect our results. The estimates of the local advisor dummy are qualitatively the same as in Table 1.3. The statistical significance levels are also very similar. In sum, the results support our hypothesis that local advisors help acquirers avoid overpaying and have positive effects on bidder returns. This conclusion does not change even after adjusting for the selection bias embedded in a bidder's decision to hire a local advisor.

### 3.4. Method of payment

Hansen (1987) argues that bidders can choose stock as the financing currency when the asymmetric information about the target's true value is high. This is because by accepting bidders' stock, target shareholders share the risk of bidders overpaying. However, if bidders pay for targets with cash, bidder shareholders bear all the risk of overvaluation. To the extent that advisors from the target country reduce the amount of asymmetric information about the value of target assets and hence help bidders avoid overpaying, we expect bidders to have fewer incentives

**Table 1.5. Regression analysis of bidder returns after controlling for selection bias**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). Lamda is the inverse mill ratio calculated from the probit model in Table 1.4. Other variables are the same as in Table 1.3. In parentheses are *p-values* based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Estimation method: Heckman	(1)	(2)
<u>Key Explanatory Variable:</u>		
Local advisor	1.916 <sup>b</sup> (0.049)	1.833 <sup>c</sup> (0.085)
<u>Bidder Characteristics:</u>		
Log(assets)	-0.479 (0.150)	-0.449 (0.216)
Tobin's q	0.117 (0.363)	0.092 (0.527)
Free cash flow	0.197 (0.344)	0.234 (0.261)
Leverage	1.781 (0.598)	0.834 (0.813)
Toehold	-1.011 (0.535)	-1.721 (0.631)
Past acquisition activity	0.661 (0.333)	0.773 (0.252)
<u>Deal Characteristics:</u>		
Relative deal size	0.433 (0.828)	0.578 (0.793)
Percentage of stock	-4.321 <sup>a</sup> (0.001)	-4.077 <sup>a</sup> (0.001)
Diversifying acquisition	-0.319 (0.835)	-0.486 (0.781)
Competed	0.746 (0.398)	1.126 (0.246)
Hostile	-1.181 (0.597)	-1.525 (0.549)
Tender Offer	-0.634 (0.662)	-0.971 (0.542)
<u>Target-country Characteristics:</u>		
Log(GNP per capita)	-0.323 (0.881)	
Shareholder protection	-0.677 <sup>c</sup> (0.077)	
Countries with low accounting ratings	0.377 (0.802)	
<u>Self-selectivity correction:</u>		
Lamda	-1.239 (0.668)	-1.552 (0.631)
Target-country fixed effects	No	Yes
Number of Obs.	382	382
Adjusted R <sup>2</sup>	14.96%	13.75%



to finance with stock when advised by local banks. To test this hypothesis, we regress the proportion of bidder stock used in the transaction on the local bank dummy variable. We follow Faccio and Masulis (2005) to control for a series of determinants of the method of M&A payment.

The amount of cash available for a bidder to finance a deal comes from two sources: cash generated internally and cash raised by debt financing. We include the free cash flow measure defined in the regression of bidder returns to control for the first source of cash. We expect FCF to be negatively related to the proportion of bidder stock in each deal. Following Faccio and Masulis (2005), we construct several proxies for a bidder's debt capacity to control for the second source of cash. These variables include firm size, leverage, and proportion of tangible assets, measured by the ratio of a bidder's property, plant, and equipment (PPE) to its book value of assets. Larger firms tend to be more diversified and have easier access to the debt market. Firms with higher leverage ratios are more constrained to issue more debt, as well as companies with fewer tangible assets. Therefore, we expect firm size and PPE to have negative effects on stock financing and leverage to have a positive effect.

A bidder has greater incentives to finance with stock when its stock is overvalued (Myers and Majluf (1984)). We include bidders' pre-announcement stock price runup, which is measured by bidder's buy-and-hold abnormal return over the 200-day window (event days -210 to -11) with the CRSP value-weighted market index as the benchmark. We also use bidders' Tobin's q as an alternative measure of bidder stock overvaluation. We expect both measures to have positive effects on stock financing.

The rest of control variables are the same as those in column (2) in Table 1.3. They include: a bidder's toehold, past acquisition experience, relative deal size, and dummy variables for diversifying acquisitions, competed deals, hostile deals and tender offers. We also control for target country fixed effects and year and Fama-French 48-industry dummies.

The regression results are shown in Table 1.6. Column (1) presents the results of the OLS model without adjusting self-selection bias. Column (2) presents the results based on Heckman

**Table 1.6. Regression analysis of the method of payment**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). The dependent variable is the proportion of deal payment that is stock. Local advisor is a dummy variable that is one if the acquirer's financial advisor is in the same country as the target, and zero otherwise. Lamda is the inverse mill ratio calculated from the probit model in Table 1.4. Definitions of other independent variables are in Appendix 1.1. In parentheses are *p-values* based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for year and industry fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)
Estimation method	OLS	Heckman two-step	Tobit
<u>Key Explanatory Variable:</u>			
Local advisor	-0.112 <sup>b</sup> (0.021)	-0.124 <sup>b</sup> (0.017)	-0.974 <sup>b</sup> (0.041)
<u>Bidder Characteristics:</u>			
Log(assets)	-0.027 <sup>c</sup> (0.082)	-0.024 (0.136)	-0.195 (0.138)
Tobin's q	0.032 <sup>a</sup> (0.002)	0.032 <sup>a</sup> (0.002)	0.286 <sup>b</sup> (0.018)
Free cash flow	-0.019 <sup>b</sup> (0.029)	-0.019 <sup>b</sup> (0.032)	-0.165 <sup>b</sup> (0.021)
Leverage	-0.286 (0.150)	-0.293 (0.137)	-3.034 (0.106)
PPE	-0.070 (0.525)	-0.056 (0.617)	-0.444 (0.611)
Stock price runup	0.081 <sup>a</sup> (0.009)	0.082 <sup>a</sup> (0.010)	0.630 <sup>b</sup> (0.031)
Toehold	-0.018 (0.800)	-0.024 (0.740)	-2.217 <sup>c</sup> (0.067)
Past acquisition activity	0.016 (0.574)	0.016 (0.581)	0.244 (0.295)
<u>Deal Characteristics:</u>			
Relative deal size	0.159 <sup>a</sup> (0.002)	0.164 <sup>a</sup> (0.002)	1.355 <sup>a</sup> (0.004)
Diversifying acquisition	-0.034 (0.482)	-0.036 (0.456)	-0.223 (0.586)
Competed	-0.091 <sup>c</sup> (0.085)	-0.088 <sup>c</sup> (0.097)	-1.070 <sup>c</sup> (0.059)
Hostile	-0.027 (0.594)	-0.029 (0.598)	-0.766 (0.252)
Tender Offer	-0.134 <sup>a</sup> (0.003)	-0.139 <sup>a</sup> (0.002)	-1.078 <sup>a</sup> (0.006)
<u>Self-selectivity correction:</u>			
Lamda		-0.011 (0.279)	
Target-country fixed effects	Yes	Yes	Yes
Number of Obs.	382	382	382
Adjusted R <sup>2</sup>	26.62%	26.60%	27.66%

two-step procedure, where Lamda is the inverse Mills ratio calculated from the probit model in Table 1.4. In column (3), we estimate a two-boundary Tobit model, where the lower bound is 0 and the upper bound is 1. We adjust standard errors for heteroskedasticity (White (1980)) and acquirer clustering in all regressions.

As shown in each column, the coefficient estimate of the local advisor dummy is negative and statistically significant at the 5% level. For example, in the Heckman model, the local advisor dummy has an estimated coefficient of -0.124 with a p-value of 0.017. Acquirers with local banks use 12.4% less stock to finance the deal than other acquirers. This number is about one third of the standard deviation of the percentage of stock financing for the whole sample (39.7%). These results support our hypothesis that a bidder advised by a local bank has less incentive to use its stock as the financing method to share any risk of overpaying with target shareholders, since the local adviser can more accurately value the target assets and effectively reduce the probability of overbidding.

For other control variables, we find that a bidder is more likely to use stock as the payment method when it has more free cash flow, its Q is high, and its stock performs well recently. We also document that bidders are more likely to issue stock to finance tender offers, deals with competing bidders, and acquisitions of targets that are large relative to bidder size.<sup>6</sup>

### 3.5 The time to complete a deal

In the acquisition process, a financial advisor not only provides its opinion on the price that a bidder should pay for a target, but also helps design the transaction structure and payment terms, deals with government regulations, and sometimes even negotiates directly with the target. We expect that banks from the target country are in a better position than other banks in dealing

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<sup>6</sup> The results in this section indicate that the method of payment is a potentially endogenous variable in the CAR regression. To address this issue, in the CAR regression in Table 4, we replace the stock percentage variable with its predicted value from column 1 of Table 6. We find that the coefficient estimate of local advisor dummy is still positive and significant at better than 5% level.

with foreign takeover laws, structuring deals and negotiating with target. This will facilitate the transaction process and reduce the amount of time from the initial announcement of the acquisition to the completion of the deal, diminishing the negative valuation effects resulted from any uncertainty about the deal going through. Therefore, we expect that, *ceteris paribus*, bidders assisted by local banks complete the transactions more quickly than those advised by non-local banks.

We present the regression results in Table 1.7. The dependent variable is the log of the number of days from the announcement of the acquisition to the effective date as recorded in SDC. The independent variables are the same as those in column (2) of Table 1.3, except that we also add the announcement period abnormal returns in the regression. We expect that deals with higher bidder returns are completed more quickly than other deals. Since we have to focus on deals that are completed, the sample size reduces to 330.

In all specifications, we control for target country fixed effects and year and Fama-French 48-industry dummies. Column (1) reports OLS estimates without adjusting self-selection bias. Column (2) presents the results based on the Heckman two-step procedure, where Lamda is the inverse Mills ratio calculated from the probit model in Table 1.4. In column (3), we estimate a one-boundary Tobit model, where the lower bound is 0. We adjust standard errors for heteroskedasticity (White (1980)) and acquirer clustering. As shown in Table 1.7, the coefficient estimates of the local advisor dummy are negative and significant in all three specifications. This is consistent with our hypothesis that bidders advised by local banks take less time to complete the acquisitions.

For other control variables, we document that the more complex the transaction is, the more time a bidder needs to complete the deal. For example, we find that acquisitions of larger targets, diversifying deals, deals with competing bidders, and tender offers tend to take more time to complete. We also find the percentage of stock has a significantly negative coefficient estimate. This is consistent with Gilson (1986) who documents that a deal takes more time if the

**Table 1.7. Regression analysis of the time to complete**

The sample consists of 382 mergers and acquisitions of foreign public targets by U.S. public firms between 1990 and 2006 (listed in SDC). The dependent variable is the log of the number of days from the announcement date to the date that a deal becomes effective. Local advisor is a dummy variable that is one if the acquirer's financial advisor is in the same country as the target, and zero otherwise. Lamda is the inverse mill ratio calculated from the probit model in Table 1.4. Definitions of other independent variables are in Appendix 1.1. In parentheses are *p-values* based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for year and industry fixed effects, whose coefficient estimates are suppressed for brevity.

Estimation method	(1) OLS	(2) Heckman two-step	(3) Tobit
<u>Key Explanatory Variable:</u>			
Local advisor	-0.305 <sup>b</sup> (0.041)	-0.278 <sup>c</sup> (0.060)	-0.328 <sup>b</sup> (0.032)
<u>Bidder Characteristics:</u>			
Log(assets)	0.136 <sup>a</sup> (0.008)	0.133 <sup>a</sup> (0.010)	0.142 <sup>a</sup> (0.002)
Tobin's q	-0.109 <sup>a</sup> (0.000)	-0.108 <sup>a</sup> (0.000)	-0.125 <sup>a</sup> (0.000)
Free cash flow	0.001 (0.978)	0.001 (0.989)	-0.002 (0.904)
Leverage	-0.828 (0.191)	-0.825 (0.194)	-0.941 <sup>c</sup> (0.092)
Toehold	1.398 <sup>a</sup> (0.000)	1.386 <sup>a</sup> (0.000)	1.449 <sup>a</sup> (0.000)
Past acquisition activity	-0.052 (0.622)	-0.054 (0.612)	-0.025 (0.739)
<u>Deal Characteristics:</u>			
CAR(-2,+2)	-0.007 (0.420)	-0.007 (0.419)	-0.008 (0.395)
Relative deal size	0.586 <sup>a</sup> (0.002)	0.586 <sup>a</sup> (0.002)	0.599 <sup>a</sup> (0.002)
Percentage of stock	1.091 <sup>a</sup> (0.000)	1.086 <sup>a</sup> (0.000)	1.129 <sup>a</sup> (0.000)
Diversifying acquisition	0.430 <sup>b</sup> (0.021)	0.436 <sup>b</sup> (0.022)	0.446 <sup>a</sup> (0.004)
Competed	0.386 <sup>b</sup> (0.028)	0.378 <sup>b</sup> (0.033)	0.396 <sup>c</sup> (0.064)
Hostile	0.203 (0.329)	0.198 (0.344)	0.209 (0.420)
Tender Offer	0.634 <sup>a</sup> (0.000)	0.645 <sup>a</sup> (0.001)	0.675 <sup>a</sup> (0.000)
<u>Self-selectivity correction:</u>			
Lamda		-0.045 (0.559)	
Target-country fixed effects	Yes	Yes	Yes
Number of Obs.	382	382	382
Adjusted R <sup>2</sup>	41.49%	41.27%	24.81%

bidder's stock is used as the financing method, since the acquirer normally need to register its securities and obtain shareholder approval. Finally, we find that larger acquirers, firms with higher Tobin's q, and firms with higher toeholds tend to need more time to complete the transactions.

#### **4. Conclusion**

Financial intermediaries are specialists in information gathering and processing. In mergers and acquisitions, acquirers employ the services from financial institutions to reduce the uncertainty in pricing targets. Compared to domestic acquisitions, cross-border transactions are featured with higher level of asymmetric information between acquirers and targets about the value of target assets. In this paper, we use cross-border acquisitions made by U.S. firms to examine whether a financial advisor in the target's home country possesses an informational advantage over other advisors. We expect that local advisors can value targets more accurately and help acquirers avoid overbidding. This will translate into higher stock returns for bidder shareholders around the acquisition announcement date.

Our results show that U.S. bidders advised by local banks earn higher abnormal returns than other acquirers. The positive effect of local advisors is robust to controlling for other factors that have been shown to affect bidder returns, including bidder-, deal- and target country-characteristics. We also examine the determinants of a bidder's decision to hire a local advisor. We find that local banks are more likely in diversifying acquisitions, hostile deals, tender offers, and acquisitions of small firms and firms in countries with low accounting quality, where the asymmetric information problem is most acute.

We also examine the acquirer's choice of payment and find that acquirers advised by local banks use less stock as the financing method. This is consistent with the hypothesis that local advisors can effectively reduce the asymmetric information problem and serve as another

mechanism for bidders to hedge against the risk of overpayment. Finally, we document that acquirers with local advisors complete deals more quickly than other acquirers.

## Appendix 1.1. Variable Definitions

Variable	Definitions
<u>Panel A: Bidder cumulative abnormal returns</u>	
CAR (-2,+2)	5-day cumulative abnormal return (in percentage) calculated using the market model. The market model parameters are estimated using the return data for the period (-210,-11). The market index is the CRSP value-weighted return.
<u>Panel B: Bidder characteristics</u>	
Firm size	Log of book value of total assets (item6)
Market value of equity	Number of shares outstanding multiplied by the stock price at the 11 <sup>th</sup> trading day prior to announcement date.
Tobin's Q	Market value of asset over book value of asset: (item6-item60+item25*item199)/item6
Leverage	Book value of debts (item34+item9) over book value of total assets (item6)
Free Cash Flow	Operating income before depreciation (item13)–interest expense (item15)–income taxes (item16)–capital expenditures (item128) – change in working capital, scaled by deal value (from SDC).
PPE	Book value of property, plant, and equipment (item 8) scaled by book value of total assets (item6)
Stock price runup	Bidder's buy-and-hold abnormal return (BHAR) during the period (-210,-11). The market index is the CRSP value-weighted return.
Toehold	Bidder's stock ownership in the target prior to acquisition announcement.
Past acquisition experience	The number of acquisitions made by the U.S. firm in the target country during past five years.
<u>Panel C: Deal characteristics</u>	
Relative deal size	Deal value (from SDC) over bidder's market capitalization, defined above.
Percentage of stock	Percentage of stock used in the transaction (from SDC), ranging from 0 to 1.
Diversifying	Dummy variable: 1 if bidder and target do not share a Fama-French (1997) industry, 0 otherwise.
Competed	Dummy variable: 1 for competed deals, 0 otherwise.
Hostile	Dummy variable: 1 for hostile deals, 0 otherwise.
Tender offer	Dummy variable: 1 for tender offers, 0 otherwise.
<u>Panel D: Target country characteristics</u> (all target country information is taken from LLSV (1998))	
Financial development	Log of GNP per capita
Shareholder protection	The LLSV anti-director rights multiplied by scores of rules of law and divided by 10.
Low accounting quality	Dummy variable: 1 if the target country has an accounting rating below the sample median, 0 otherwise.



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## CHAPTER II

### ARE FOREIGN DIRECTORS EFFECTIVE MONITORS?

#### 1. Introduction

The separation of ownership and control results in conflicts of interest between managers and shareholders in public corporations (Berle and Means (1932) and Jensen and Meckling (1976)). Monitoring by the board of directors is one important governance mechanism to ensure that a company is run in the interests of its shareholders. However, there are several concerns with the effectiveness of this mechanism. First, Jensen and Meckling's agency theory highlights a fundamental weakness with boards of directors, namely, that directors, like managers, are agents expected to pursue their private interests, which at times will conflict with the interests of shareholders. Second, there is substantial empirical research showing that boards do not always act in shareholders' best interests. This concern is especially serious for insider directors and to a lesser extent, outside directors with familial and financial ties to management, often termed "gray directors". Generally speaking, the corporate governance literature considers outside directors without direct ties to senior management, commonly termed "independent directors", the most effective monitors of management. However, the empirical evidence supporting this position is mixed.<sup>7</sup> We conjecture that not all independent directors are equally effective monitors, consistent with a recent study by Fich and Shivdasani (2005). We extend their work by examining the effectiveness of foreign directors, rather than busy directors.

Recent corporate scandals in the U.S. by large public companies such as Enron, Tyco, Adelphia, and Worldcom raise questions about what are the important characteristics that lead

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<sup>7</sup> We classify directors into inside directors, gray directors and independent directors. Inside directors are the company's executives and officers. Gray directors generally have familial or financial ties to management. Independent directors are those who have no affiliations that may compromise their ability or incentives to perform oversight duties for the best interests of shareholder. Since the monitoring function of a board largely comes from independent directors, we only focus on them.

boards of directors to fulfill their fiduciary duties and safeguard shareholder interests. Table 2.1 lists the names, primary employers, and home countries of Enron's independent directors during fiscal years from 1997 to 2001, the period when Enron committed the high profile accounting fraud. On the surface, the board looks very strong from a management oversight perspective, with a large majority of directors being independent. One interesting aspect of the Enron board is that two independent foreign directors were on the board and they were both members of Enron's audit committee during 1997-2001 when Enron committed serious earnings misstatements.<sup>8</sup> This raises important questions about the effectiveness of the management oversight function performed by independent directors, and foreign directors in particular.

Are foreign independent directors as effective monitors as domestic independent directors? What is the impact of foreign independent directors on firm value? How prevalent are foreign independent directors on the boards of U.S. public companies? Are there circumstances when appointing foreign independent directors is beneficial for firm performance? These are the key questions we explore in this study.

One important function of independent directors is to monitor senior management. Foreign independent directors may not be as effective monitors as U.S. independent directors for several reasons. First, substantial oversight costs associated with the long geographic distance between a director's home and the company's headquarter reduces foreign directors' ability to closely monitor management. To effectively oversee senior management, directors have to commit their time to attend regular board meetings. These oversight costs are likely to increase if the director lives far away from the firm on whose board he or she sits. Consistent with this argument, Lerner (1995) finds that venture capitalists are less likely to sit on boards of distant portfolio firms. Similarly, the time and energy spent on cross-border travels are likely to place excessive burden on foreign directors, potentially undermining their incentives and ability to

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<sup>8</sup> As shown in Table 1, the two foreign directors are: Ronnie C. Chan, chairman of the Hang Lung Group in Hong Kong; and Paulo V. Ferraz Pereira, a senior executive of Group Bozano in Brazil.

**Table 2.1. Enron's independent directors during 1997-2001**

Director Name	Years on board (till 2001)	Primary Employment	Country Origin	On the audit committee during 1997-2001
Ronnie C. Chan	1996-2001	Hang Lung Group	Hong Kong (China)	Yes
Paulo V. Ferraz Pereira	1999-2001	Group Bozano	Brazil	Yes
Norman P. Blake Jr.	1993-2001	Turnaround Specialist	United States	No
Bruce Willison	1997-1999	H.F. Ahmanson Co.	United States	Yes
Jerome J. Meyer	1997-2000	Tektronix Inc.	United States	No
		Professor at Graduate School of Business, Stanford University	United States	Yes
Robert K. Jaedicke	1985-2001	Economist, George Mason University	United States	Yes
Wendy L. Gramm	1993-2001	Alliance Capital Management	United States	No
Frank Savage	1999-2001	Private investor in Houston	United States	No
John H. Duncan	1985-2001	Anderson Cancer Center, University of Texas	United States	No
Charles A. Lemaistre	1985-2001	Anderson Cancer Center, University of Texas	United States	Yes
John Mendelsohn	1999-2001	Walker & Walker LLC	United States	No
Charles E. Walker	1985-1999	Capricorn Holdings Inc.	United States	No
Herbert S. Winokur Jr.	1985-2001			

effectively monitor senior management.<sup>9</sup> Second, many foreign directors are not familiar with the accounting standards, laws and regulations in the U.S., and lack the necessary knowledge to evaluate and challenge senior managers' decisions. Third, foreign director managers may be poorly versed in U.S. management methods, which may make it more difficult for them to evaluate the performance of U.S. senior managers. Fourth, if foreign directors come from countries with poor investor protections and weak standards of law enforcement, they may be insensitive to poor corporate governance policies. In contrast, directors residing in the U.S. are more likely to push for more rigorous corporate governance standards, given that the U.S. has stronger shareholder rights and higher law enforcement standards than most foreign countries (La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998), hereafter LLSV). In sum, we hypothesize that foreign directors contribute to less effective monitoring and disciplining of senior management, which enable managers to pursue their private benefits with less concern for the consequences. These increased agency costs are expected to lower firm performance.

Another important function of independent directors is to advise senior management on business strategies. Klein (1998) argues that firms' economic needs determine who is appointed to sit on their boards. Some directors are placed on boards to address a firm's needs for special expertise and proprietary information. In a recent study, Coles, Daniel, and Naveen (2005) emphasize the advisory role of non-executive directors and document that firms with greater advisory needs, such as complex firms and diversified firms, benefit from larger boards of directors. Similarly, firms may hire foreign directors to seek their advice on business strategies on foreign operations and to benefit from their social and political connections in these foreign countries. A recent article in the *Wall Street Journal (WSJ)* points out that some U.S. companies recruit foreign directors to benefit from their experience and expertise on foreign operations.

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<sup>9</sup> In an interview with Financial Times, Charles King, a managing director of Korn Ferry International (an executive search firm), comments on the logistical problem of hiring a foreign director-“To get some one to fly to New York for a board meeting six or seven times a year, even from London, takes at least 18 days out of their schedule.”

According to the *WSJ* article, Wal-Mart Stores Inc, which has 20% of its revenue from foreign operations, already has a foreign director sitting on its board, and is “actively searching” for a second non-U.S. director.<sup>10</sup> In sum, the advisory services provided by foreign directors may especially benefit companies with foreign operations. Thus, one would expect a less negative or even a positive effect on firm performance from these foreign director appointments. We examine this issue and find much more favorable effects on firm value when the firm has substantial foreign operations.

We examine the S&P 1500 firms from 1998 to 2003 and find that foreign independent directors are present in 14.6% of our sample firm-years. Boards with foreign directors on average have one fifth of their independent directors drawn from foreign countries, representing 13% of all board members. This is nontrivial percentage given that on average independent directors represent only 63% of board members. Thus, if foreign independent directors are less effective than their domestic counterparts, then the average proportion of active independent directors able to closely monitor management on shareholders’ behalf drops from 63% to 50%.<sup>11</sup>

To examine whether foreign independent directors are effective monitors, we conduct three tests. In the baseline test, we estimate a firm-level fixed effects regression of firm value on the extent that foreign independent directors are on the board. The results show that firms with foreign independent directors have lower firm value, proxied by Tobin’s Q. Moreover, Q is decreasing in the percentage of independent directors who come from foreign countries. The negative relation between foreign independent directors and Tobin’s Q is robust to controlling for other determinants of Q, including firm size, growth options, operating performance, leverage, ownership structure and other board characteristics. However, the negative relation between foreign directors and Q is partially mitigated when firms have substantial foreign operations. This

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<sup>10</sup> Lublin, “Globalizing the boardroom”, the *Wall Street Journal*, October 31, 2005.

<sup>11</sup> Fich and Shivdasani (2005) present evidence that busy directors are not effective monitors of management. Since on average 20% of firms’ independent directors are busy directors, when combined with foreign independent directors, the proportion of active independent directors able to closely monitor management drops to substantially below 50%. Detailed summary statistics are presented in Table 2.



evidence suggests that foreign directors may play a more beneficial advisory role under these circumstances.

In further analysis of the relation between foreign directors and firm value, we rule out an alternative explanation for our empirical findings—reverse causality. It is possible that poorly performing managers appoint weak monitors, such as foreign directors, to entrench themselves. To investigate this possibility, we focus on the appointment of new independent directors and examine whether prior poor performance leads to the appointment of foreign independent directors. In a logit regression of 5,810 independent director appointments between 1998 and 2003, we find that prior poor performance does not increase the likelihood of appointments of foreign directors. Therefore, the negative relation between foreign directors and firm value is unlikely to be driven by reverse causality.

In our second test, we investigate how the attendance records of foreign independent directors at board meetings differ from those of domestic independent directors. We find that foreign directors are two times more likely to miss 25% or more board meetings than domestic directors. This evidence supports the argument that geographic separation of director offices from firms' headquarters increases foreign directors' oversight costs and weakens their incentives and ability to closely monitor senior management.

Finally, we examine whether firms with foreign independent directors are more likely to misreport their earnings. The results show that firms with foreign independent directors are more likely to misstate earnings, and especially when they sit on board audit committees, where they would be unlikely to make a serious contribution to the oversight of the financial accounting reports. In summary, the evidence suggests that foreign directors are associated with weaker managerial monitoring and reduced effectiveness of the board as a corporate governance mechanism.

Our study contributes to the literature on corporate governance by analyzing an important dimension of board qualities—the presence of foreign directors. Previous research has focused on

board independence as a proxy for board effectiveness and found mixed evidence of the importance of this board characteristic.<sup>12, 13</sup> Our study complements this literature by showing that independence is not enough to ensure effective monitoring and that additional director attributes contribute to the quality of oversight of a firm's senior management.

The remainder of the paper is organized as follows. Section 2 investigates whether foreign independent directors are related to firm value. Section 3 presents the tests on board meeting attendance. Section 4 examines the effect of foreign independent directors on earnings restatements. Section 5 concludes the paper.

## **2. Baseline test—foreign directors and Tobin's Q**

Our primary test focuses on the relation between foreign directors and firm value. If foreign directors contribute to lax monitoring, managers are more likely to engage in shirking and self-dealings and these increased agency costs will reduce firm value. We use Tobin's Q to measure firm value. The Q regression has been widely used in the corporate governance literature, including studies on the effects of ownership structure (Demsetz and Lehn (1985), Morck, Shleifer and Vishny (1988), McConnell and Servaes (1990), Himmelberg, Hubbard and Palia, (1999)), board size (Yermack (1996)), busy boards (Ferris et. al. (2003), Fich and Shivdasani (2005)), founding family ownership (Anderson and Reeb (2003), Villalonga and Amit (2005)), and shareholder rights (Gompers, Ishii, and Metrick (2003), Bebchuk, Cohen, and Ferrell (2004), Bebchuk and Cohen (2005)).

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<sup>12</sup> For example, see Weisbach (1988), Rosenstein and Wyatt (1990), Byrd and Hickman (1992), Cotter, Shivdasani and Zenner (1997), Bhagat and Black (1999), and Hermalin and Weisbach (2003).

<sup>13</sup> Other papers on board include studies on CEO/Chairman duality (Goyal and Park (2002), Masulis, Wang and Xie (2007)), board meeting frequency (Vafeas (1999)), the directors and officers (D&O) liability insurance (Core (2000)), the stock-based compensations of directors (Perry (1999), Yermack (2004)), the related-party transactions between firms and their directors (Gordon, Henry and Palia (2004), Kohlbeck and Mayhew (2005)), and how busy the directors are (Ferris, Jagannathan, and Pritchard (2003), Fich and Shivdasani (2005)). See Hermanlin and Weisbach (2003) for a survey of the literature.

## 2.1. Sample construction

We start with the universe of firms in the Investor Responsibility Research Center (IRRC) director database, which covers firms in the S&P large-cap (500), mid-cap (400) and small-cap (600) indices. The sample period is from 1998 to 2003. Beginning in 1998, IRRC recorded a director's primary employer and country of origin, the key information we use to identify foreign directors. The coverage of some other important director information, such as the director's shareholding and the director's committee affiliation, also started in 1998. We match the IRRC sample with Compustat to obtain company financial information. After excluding ADRs and firms incorporated in foreign countries, we have 7,533 firm-years in the sample.

## 2.2. Variable definitions and summary statistics

We calculate Tobin's Q as the market value of assets over the book value of assets. Following Kaplan and Zingales (1997) and Gompers et. al. (2003), the market value of assets is computed as the book value of total assets (Compustat item6) plus the market value of common stock (item25\*item199) less the sum of the book value of common stock (item60) and balance sheet deferred taxes (item74).<sup>14</sup>

All the director information is obtained from the IRRC director database. IRRC classifies directors into inside, gray and independent directors. Inside directors are the company's executives and officers. Independent directors are those who have no affiliations that may compromise their ability or incentives to perform oversight duties for the best interests of shareholders. The remaining are gray directors.<sup>15</sup> Since the monitoring function of the board

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<sup>14</sup> Erickson and Whited (2006) point out that elaborate algorithms for computing the replacement value of assets or market value of debts suffer from reduction in sample size and selection bias and add little to the measurement quality of this simple proxy of Q.

<sup>15</sup> According to IRRC, gray directors include "a former employee of the company or of a majority-owned subsidiary; a provider of professional services—such as legal, consulting or financial—to the company or an executive; a customer of or supplier to the company, unless the transaction occurred in the normal course of business; a designee under a documented agreement between the company and a group, such as a significant shareholder; a director who controls more than 50% of the company's voting power (and thus,

largely comes from independent directors, we focus exclusively on whether foreign independent directors are effective monitors.

We define foreign directors as individuals whose primary places of employment are outside the U.S. and its territories and retired individuals whose last places of employment were outside the U.S.<sup>16</sup> We create two measures to capture the extent of foreign director presence. The first is an indicator variable, which is one if at least one foreign independent director sits on the board, and zero otherwise. The other is the percentage of independent directors who are foreign directors. We expect these two variables to be negatively associated with Tobin's Q.

The summary statistics are shown in Table 2.2 and based on all the 7,533 firm-year observations. During 1998 to 2003, 14.6% of the firm-year observations have at least one foreign independent director. The average percentage of foreign independent directors is relatively small due to the fact that nearly 85% of the observations have no foreign independent directors. However, among boards with foreign directors, on average, nearly one fifth of their independent directors come from foreign countries. A typical foreign board has one foreign independent director, and the number ranges from 1 to 4.

In the Q regressions, we also control for other board attributes, firm ownership structure and firm characteristics that are documented in prior studies to affect firm value. The board characteristics we control for include board size, board independence, CEO/Chairman duality and percentage of busy independent directors, four attributes shown in prior work to affect how effectively a board functions. Yermack (1996) documents an inverse relation between board size and firm value. To capture this board size effect, we include the log of the number of directors on the board. While there is no consensus on whether a more independent board leads to better

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would not be considered to represent the broader interests of minority shareholders); a family member of an employee; an interlocking directorship or an employee of an organization or institution that receives charitable gifts from the company”.

<sup>16</sup> We recognize that retired foreign directors may have part time homes in the U.S. and some domestic executive directors work for U.S. firms' foreign divisions and thus are primarily based outside the U.S. We do not have information to further identify these cases. However, such cases would bias against our finding significant differences between foreign directors and domestic directors.

overall firm performance (Bhagat and Black (1999) and Hermalin and Weisbach (2003)), we nevertheless control for the percentage of independent directors in the Q regression so that our results are comparable to those in prior studies. Prior studies also find that firms which combine the positions of CEO and Chairman are less likely to act in the best interests of shareholders when replacing a poorly performing CEO (Goyal and Park (2002)) or making acquisitions (Masulis, Wang and Xie (2007)). We create an indicator that equals one if a firm's CEO is also chairman of the board (COB), and zero otherwise. Finally, Fich and Shivdasani (2005) find that firms with busy boards have lower firm value. To reflect this concern we include the percentage of independent directors that are busy. We define busy directors as individuals serving on three or more boards that belong to the IRRC universe.<sup>17</sup>

In the Q regressions, we also control for firm ownership structure. Specifically, we include the percentage of a firm's common stock that is held by all the executives who sit on the board. We expect it to have a positive coefficient (Jensen and Meckling (1976), Yermack (1996)), reflecting better incentive alignment with shareholders. To account for the potential nonlinearity between firm value and insiders' share holdings (Morck et. al. (1988), McConnell and Servaes (1990)), we also include quadratic and cubic terms of insiders' stock ownership. Finally, we include aggregate stock ownership held by blockholders who are also independent directors. Blockholders are those who own at least 5% of the firm. Shleifer and Vishny (1986) argue that the presence of large shareholders can mitigate the agency problem between managers and shareholders, since investors holding a large block of shares have incentives to monitor the managers more intensively, overcoming the free-rider problem plaguing companies with diffuse ownership structures. The incentive to monitor should be particularly strong when a blockholder also sits on the board as an independent director. Therefore, we expect the aggregate stock ownership held by all independent director blockholders to be positively related to firm value.

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<sup>17</sup> This definition is slightly different from Fich and Shivdasani (2005) in that they count directorships in any publicly traded firms.

**Table 2.2. Summary statistics**

The sample consists of 7,533 firm-year observations from 1998 to 2003. Variable definitions are in Appendix 2.1.

Variable	Mean	Std. Deviation	Median	Correlation with Foreign director	Correlation with percentage of foreign independent directors
<i>Panel A: Board characteristics</i>					
Foreign director (dummy variable)	0.15	0.35	0	1.00	0.84 <sup>a</sup> ( <i>&lt;0.01</i> )
Percentage of foreign independent directors	2.9%	8.3%	0%	0.84 <sup>a</sup> ( <i>&lt;0.01</i> )	1.00
Percentage of foreign independent directors (when Foreign director=1)	19.6%	11.8%	16.7%	--	--
Number of foreign independent directors (when Foreign director=1)	1.3	0.6	1	--	--
Board size	9.5	3.0	9	0.17 <sup>a</sup> ( <i>&lt;0.01</i> )	0.07 <sup>a</sup> ( <i>&lt;0.01</i> )
Percentage of independent directors	63.3%	18.4%	66.7%	0.13 <sup>a</sup> ( <i>&lt;0.01</i> )	0.01 ( <i>0.27</i> )
CEO/Chairman duality (dummy variable)	0.64	0.48	1	0.01 ( <i>0.55</i> )	-0.01 ( <i>0.28</i> )
Percentage of independent busy directors	18.6%	22.0%	14.3%	0.14 <sup>a</sup> ( <i>&lt;0.01</i> )	0.07 <sup>a</sup> ( <i>&lt;0.01</i> )
<i>Panel B: Ownership Structure</i>					
Inside directors' stock holdings	6.8%	13.2%	1.9%	-0.07 <sup>a</sup> ( <i>&lt;0.01</i> )	-0.04 <sup>a</sup> ( <i>&lt;0.01</i> )
Independent director blockholder (dummy variable)	0.04	0.20	0	-0.01 ( <i>0.56</i> )	-0.01 ( <i>0.48</i> )
Independent director blockholders' holdings	0.7%	4.3%	0%	-0.001 ( <i>0.90</i> )	-0.004 ( <i>0.73</i> )
Number of independent director blockholders	0.05	0.28	0	0.01 ( <i>0.53</i> )	-0.01 ( <i>0.56</i> )
Independent director blockholders' holdings (when independent director blockholder=1)	16.6%	13.5%	12.0%	--	--
Number of independent director blockholders (when independent director blockholder=1)	1.3	0.6	1	--	--

**Table 2.2. (cont'd)***Panel C: Firm Characteristics:*

Tobin's Q	1.85	1.45	1.37	0.01 (0.52)	0.01 (0.55)
Industry-adjusted Tobin's Q	0.44	1.34	0.07	-0.01 (0.50)	-0.01 (0.22)
Total Assets (in millions)	13,600	64,594	1,717	0.13 <sup>a</sup> ( <i>&lt;0.01</i> )	0.08 <sup>a</sup> ( <i>&lt;0.01</i> )
Leverage	0.25	0.23	0.23	0.06 <sup>a</sup> ( <i>&lt;0.01</i> )	0.05 <sup>a</sup> ( <i>&lt;0.01</i> )
ROA	0.12	0.11	0.12	0.02 <sup>c</sup> (0.08)	0.01 (0.45)
Industry-adjusted ROA	0.04	0.17	0.03	0.01 (0.31)	0.01 (0.69)
Growth Options	0.05	0.05	0.03	-0.002 (0.84)	0.02 (0.12)
Foreign operations	0.19	0.23	0.08	0.18 <sup>a</sup> ( <i>&lt;0.01</i> )	0.18 <sup>a</sup> ( <i>&lt;0.01</i> )
Firm Age	24	19	18	0.14 <sup>a</sup> ( <i>&lt;0.01</i> )	0.07 <sup>a</sup> ( <i>&lt;0.01</i> )

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The firm characteristics we control for include firm size, return on assets (ROA), leverage, growth options, and foreign operations, all defined at the prior fiscal year-end. Firm size is defined as the natural log of total assets. ROA is EBITDA over total assets. Leverage is the book value of all debts over total assets. Since Tobin's Q may also proxy for a firm's investment opportunities, it is important to control for growth options in the Q regressions. We measure growth opportunities by capital expenditures over total assets. Using R&D as an alternative measure for growth options generates similar results.

Finally, firms may hire foreign independent directors to obtain their advice on global expansion and foreign operations. Denis, Denis and Yost (2002) present evidence that globally diversified firms trade at a discount. Therefore, without controlling for global diversification, any negative relationship between the presence of foreign directors and firm value may be spurious. We define the degree of global diversification as the proportion of a firm's sales derived from foreign operations. Firms' foreign sales are obtained from Compustat's Geographic Segment data.<sup>18</sup>

Appendix 2.1 presents the detailed definitions for all of the aforementioned variables and Table 2.2 reports their summary statistics. The typical firm in our sample has 9 directors sitting on its board, two thirds of which are independent directors. The CEO and Chairman are the same person in 64% of firm-years. On a median board, about 19% of independent directors are classified as busy directors. This number is lower than that reported by Fich and Shivdasani (2005). There are two possible explanations for this difference. First, IRRC only includes directorships in the S&P 1500 universe of firms, while Fich and Shivdasani count directorships in any publicly traded firms. Second, Fich and Shivdasani focus on *Forbes* 500 firms, while IRRC primarily covers a broader range of firms in the S&P 1500 index. The *Forbes* 500 firms on average are much larger than the average firm in IRRC, and larger firms tend to hire more

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<sup>18</sup> U.S. firms are required to report geographic segments that account for 10% of consolidated sales, profits, or assets. For a detailed description of Compustat's Geographic Segment data, please refer to Denis, et. al. (2002).



directors sitting on multiple boards. Panel B of Table 2.2 lists the summary statistics for the ownership variables. The median insider stock ownership is 2%. Independent director blockholders occur in only 4% of the sample. Finally, the median firm has a Tobin's Q of 1.37 and obtains 8% of its total sales from foreign operations.

In the last two columns of Table 2.2, we also report the simple correlations between the explanatory variables and our two foreign director measures. Firms with larger board size and higher percentages of busy independent directors are more likely to have foreign directors. Furthermore, there is a negative correlation between foreign directors and insider ownership, and a positive correlation between foreign directors and firm size, leverage, age, and foreign operations.

### 2.3. Regression Results

We use a firm-level fixed effects regression to control for unobservable firm characteristics that might simultaneously affect the likelihood of foreign directors and level of firm performance. This approach is used by Himmelberg et. al. (1999) to examine the link between ownership and performance, and more recently, by Fich and Shivdasani (2005) to analyze the impact of busy boards on firm value. Besides firm-level fixed effects, we also include year fixed effects in the regression models. To reduce the impact of outliers, we winsorize all continuous variables at the 1st and 99th percentiles. The results are shown in Table 2.3. In parentheses are  $p$ -values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. In model (1), the estimate for the foreign director indicator is -0.091 and is significant at the 10% level, suggesting that firms with foreign independent directors have lower Tobin's Q than firms with only domestic independent directors. In model (2), the foreign director indicator is replaced with the percentage of independent directors who are from foreign countries. The coefficient of the foreign director percentage is negative and significant with a  $p$ -value of

0.023. These findings are consistent with the conjecture that foreign independent directors are related to lower firm value.

As shown in Table 2.3, both the magnitude and statistical significance of the parameter estimates for the control variables across the four specifications are fairly stable and generally consistent with the findings in prior studies. For board characteristics, we find that the percentage of busy independent directors is significantly and negatively related to Tobin's Q. Board size is also negatively related to Tobin's Q and is significant in two of the specifications. CEO/Chairman duality has a negative effect on Tobin's Q, though it is statistically insignificant. Finally, the percentage of independent directors is not significantly related to Tobin's Q.

For the ownership variables, both the linear and cubic terms for insiders' stock ownership have positive and significant coefficients, while the estimate of the quadratic term is negative and significant. The estimated coefficients of these three terms indicate that firm value is at first increasing in insiders' share holdings up to 16%. Between 16% and 32%, firm value is negatively related to insiders' ownership, suggesting the entrenchment effect starts to dominate the alignment effect. Above 36%, insider holdings have a positive effect on firm value again. This pattern is generally consistent with the nonlinear relation between board ownership and firm value documented by Morck et. al. (1998), except that the inflection points they find are 5% and 25% respectively. The results in Table 2.4 also show that the aggregate stock ownership held by independent director blockholders is significantly and positively associated with Tobin's Q. Finally, among firm characteristics, firms with better operating performance (ROA) have significantly higher Tobin's Q, while firms with higher levels of foreign operations have significantly lower firm value. CapEx has a significant and positive coefficient, suggesting that firms with more growth options have higher market values.

To test whether foreign independent directors play a positive advisory role among firms with foreign operations, we construct interaction terms between the two foreign director variables and the foreign operation measure. The regression results are presented in column (3) and (4) of

Table 2.3. In model (3), the coefficient of the interaction between the foreign director indicator and the foreign operation measure is positive and significant at the 10% level. More interestingly, the foreign director indicator is still negative and becomes more significant after controlling for the interaction term. The evidence suggests that the negative effect of foreign directors on firm value is partially mitigated if the firm has foreign operations. However, the parameter estimates suggest that only when a firm has more than 60% of total sales from foreign operations can the positive effect of foreign independent directors' advisory services outweigh the negative impact of their weak monitoring. Since the mean of foreign operations in the entire sample is only 19%, the total effect of foreign independent directors on firm value, on average, is still negative. Furthermore, if a firm has no foreign operations, the negative incremental effect of foreign independent directors on firm value is much larger than that documented in model (1) of Table 2.3.

Similarly, in regression (4), the coefficient of the interaction term between the percentage of foreign independent directors and foreign operations is positive and significant. At the same time the coefficient on the percentage of foreign independent directors remains negative and becomes more significant ( $p$ -value decreases from 0.023 to 0.009). In summary, we uncover evidence that foreign independent directors can play a valuable advisory role in firms with substantial foreign operations, which potentially mitigates the negative impact of foreign directors on firm value.<sup>19</sup>

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<sup>19</sup> Compustat classifies firms' geographic segments into seven regions, i.e. Europe, Asia, Africa, Pacific, South America, Middle East, North America, and Other Foreign. We group a foreign director's home country into one of these seven regions and find that if a firm has a foreign independent director and at the same time operating activities in foreign countries, in 93% of the cases, the foreign director comes from the same region where the foreign operations are located. We create a dummy variable for such cases and interact this variable with foreign operations. We find that the estimated coefficient is very similar to that of the interaction between foreign director indicator and foreign operations, both economically and statistically. We choose to use the latter one, because it is possible that even though the foreign director does not come from the same region where the firm's foreign operations are located, he or she may still have expertise and information advantages over domestic directors due to culture and historical reasons. For instance, a director from France may be familiar with the local culture and market conditions of an African country that is a former colony of France.

**Table 2.3. Fixed effects regressions of Tobin's Q**

The sample consists of 7,533 firm-year observations from 1998 to 2003. The dependent variable is the firm's Tobin's Q. Variable definitions are in Appendix 2.1. In parentheses are *p*-values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. All regressions control for firm fixed effects and year fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)	(4)
<u>Key Explanatory Variables:</u>				
Foreign director	-0.091 <sup>c</sup> (0.077)		-0.167 <sup>b</sup> (0.022)	
Percentage of foreign independent directors		-0.556 <sup>b</sup> (0.023)		-0.866 <sup>a</sup> (0.009)
(Foreign director * Foreign operations)			0.266 <sup>c</sup> (0.100)	
(Percentage of foreign independent directors * Foreign operations)				1.086 <sup>c</sup> (0.080)
<u>Other board Characteristics:</u>				
Percentage of independent directors	-0.052 (0.628)	-0.073 (0.499)	-0.046 (0.673)	-0.070 (0.514)
Percentage of independent busy directors	-0.186 <sup>b</sup> (0.040)	-0.188 <sup>b</sup> (0.038)	-0.183 <sup>b</sup> (0.043)	-0.185 <sup>b</sup> (0.041)
CEO/Chair duality	-0.028 (0.213)	-0.027 (0.233)	-0.029 (0.212)	-0.027 (0.237)
Log(board size)	-0.107 (0.121)	-0.115 <sup>c</sup> (0.096)	-0.109 (0.117)	-0.117 <sup>c</sup> (0.091)
<u>Ownership Structure:</u>				
Inside directors' stock holdings	3.030 <sup>a</sup> (0.003)	2.988 <sup>a</sup> (0.004)	3.021 <sup>a</sup> (0.003)	2.980 <sup>a</sup> (0.004)
(Inside directors' stock holdings) <sup>2</sup>	-13.852 <sup>b</sup> (0.014)	-13.693 <sup>b</sup> (0.015)	-13.855 <sup>a</sup> (0.014)	-13.669 <sup>b</sup> (0.015)
(Inside directors' stock holdings) <sup>3</sup>	19.176 <sup>b</sup> (0.016)	19.009 <sup>b</sup> (0.017)	19.195 <sup>b</sup> (0.016)	18.987 <sup>b</sup> (0.017)
Independent director blockholders' holdings	0.402 <sup>c</sup> (0.051)	0.400 <sup>c</sup> (0.053)	0.395 <sup>c</sup> (0.055)	0.391 <sup>c</sup> (0.058)
<u>Firm Characteristics:</u>				
Foreign operations	-0.248 <sup>b</sup> (0.020)	-0.251 <sup>b</sup> (0.018)	-0.314 <sup>a</sup> (0.007)	-0.315 <sup>a</sup> (0.006)
Log(total assets) (in millions)	-0.554 <sup>a</sup> (0.000)	-0.553 <sup>a</sup> (0.000)	-0.552 <sup>a</sup> (0.000)	-0.553 <sup>a</sup> (0.000)
Leverage	-0.246 (0.270)	-0.246 (0.270)	-0.246 (0.270)	-0.246 (0.270)
ROA	1.602 <sup>a</sup> (0.000)	1.603 <sup>a</sup> (0.000)	1.600 <sup>a</sup> (0.000)	1.594 <sup>a</sup> (0.000)
Growth Options	0.746 <sup>a</sup> (0.010)	0.736 <sup>b</sup> (0.011)	0.747 <sup>a</sup> (0.010)	0.740 <sup>b</sup> (0.011)
Firm Age	0.356 (0.498)	0.361 (0.493)	0.350 (0.507)	0.354 (0.502)
Number of Obs.	7,533	7,533	7,533	7,533
Adjusted R <sup>2</sup>	76.68%	76.70%	76.69%	76.71%

#### 2.4. Treating Canadian directors as U.S. directors

In this subsection, we classify Canadian directors as equivalent to U.S. domestic directors. There are two reasons to conduct this additional test. First, Canada is adjacent to the U.S. Since most major Canadian cities are near the U.S. border, the oversight costs due to geographic distance are much less of an issue for Canadian directors than for directors from other countries. Second, Canada shares many similarities with the U.S. in terms of culture, political and economic systems, commercial laws, shareholder protections, and accounting standards. For example, both America and Canada are common-law countries; both countries have the same level of shareholder rights index and similar accounting disclosure quality; and both countries have strong systems of law enforcement (LLSV(1998)). Therefore, it is reasonable to assume directors who come from Canada are as effective in monitoring U.S. managers as domestic directors. After we treat Canadian directors as domestic directors, the proportion of firm-years with at least one foreign independent director sitting on the board drops from 14.6% to 12.5%.

Table 2.4 presents the regression results of this reclassification of Canadian directors. As shown in column (1) and (2) of Table 2.4, the negative relation between the two foreign director variables and Tobin's Q becomes more pronounced, both economically and statistically. For example, the coefficient on the foreign director indicator is -0.144 ( $p$ -value=0.019), compared to -0.091 ( $p$ -value=0.077) in Table 2.3; and the coefficient on the percentage of foreign independent directors is -0.670 ( $p$ -value=0.010), compared to -0.556 ( $p$ -value=0.023) in Table 2.3. In column (3) and (4) of Table 2.4, we also control for the interactions between the two foreign director variables and foreign operations. The coefficient estimates on these interactions are larger in magnitudes and statistically more significant than those presented in Table 2.3. For other control variables, the estimates and significance levels are very similar to those reported in Table 2.3.

In summary, the initial conclusion concerning the effect of foreign directors on firm value is strengthened when Canadian directors are treated as equivalent to U.S. domestic directors. This suggests that directors from Canada share clear similarities with U.S. domestic directors in the

**Table 2.4. Fixed effects regressions of Tobin's Q: Treating Canadian directors as U.S. directors**

The sample consists of 7,533 firm-year observations from 1998 to 2003. The dependent variable is the firm's Tobin's Q. Variable definitions are in Appendix 2.1. In parentheses are *p*-values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. All regressions control for firm fixed effects and year fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)	(4)
<i>Key Explanatory Variables:</i>				
Foreign director	-0.133 <sup>b</sup> (0.019)		-0.237 <sup>b</sup> (0.003)	
Percentage of foreign independent directors		-0.670 <sup>a</sup> (0.010)		-1.156 <sup>a</sup> (0.002)
(Foreign director * Foreign operations)			0.351 <sup>b</sup> (0.039)	
(Percentage of foreign independent directors * Foreign operations)				1.487 <sup>b</sup> (0.030)
<i>Other board characteristics:</i>				
Percentage of independent directors	-0.062 (0.583)	-0.074 (0.495)	-0.041 (0.703)	-0.062 (0.583)
Percentage of busy independent directors	-0.186 <sup>b</sup> (0.040)	-0.188 <sup>b</sup> (0.038)	-0.181 <sup>b</sup> (0.045)	-0.184 <sup>b</sup> (0.043)
CEO/Chair duality	-0.028 (0.221)	-0.027 (0.242)	-0.028 (0.222)	-0.026 (0.254)
Log(board size)	-0.105 (0.130)	-0.115 <sup>c</sup> (0.090)	-0.106 (0.126)	-0.117 <sup>c</sup> (0.090)
<i>Ownership Structure:</i>				
Inside directors' stock holdings	3.040 <sup>a</sup> (0.003)	2.983 <sup>a</sup> (0.004)	3.035 <sup>a</sup> (0.003)	2.969 <sup>a</sup> (0.004)
(Inside directors' stock holdings) <sup>2</sup>	-13.896 <sup>b</sup> (0.014)	-13.674 <sup>b</sup> (0.015)	-13.930 <sup>a</sup> (0.013)	-13.631 <sup>a</sup> (0.015)
(Inside directors' stock holdings) <sup>3</sup>	19.230 <sup>b</sup> (0.016)	18.991 <sup>b</sup> (0.017)	19.293 <sup>b</sup> (0.015)	18.952 <sup>b</sup> (0.017)
Independent director blockholders' holdings	0.399 <sup>c</sup> (0.052)	0.405 <sup>b</sup> (0.050)	0.387 <sup>c</sup> (0.060)	0.396 <sup>c</sup> (0.055)
<i>Firm Characteristics:</i>				
Foreign operations	-0.246 <sup>b</sup> (0.021)	-0.249 <sup>b</sup> (0.019)	-0.325 <sup>a</sup> (0.005)	-0.336 <sup>a</sup> (0.004)
Log(total assets) (in millions)	-0.553 <sup>a</sup> (0.000)	-0.552 <sup>a</sup> (0.000)	-0.552 <sup>a</sup> (0.000)	-0.550 <sup>a</sup> (0.000)
Leverage	-0.246 (0.270)	-0.246 (0.270)	-0.246 (0.270)	-0.247 (0.270)
ROA	1.604 <sup>a</sup> (0.000)	1.607 <sup>a</sup> (0.000)	1.599 <sup>a</sup> (0.000)	1.598 <sup>a</sup> (0.000)
Growth Options	0.746 <sup>a</sup> (0.010)	0.730 <sup>b</sup> (0.012)	0.747 <sup>a</sup> (0.010)	0.731 <sup>b</sup> (0.012)
Firm Age	0.356 (0.498)	0.361 (0.492)	0.349 (0.508)	0.352 (0.504)
Number of Obs.	7,533	7,533	7,533	7,533
Adjusted R <sup>2</sup>	76.70%	76.71%	76.71%	76.73%

effectiveness of monitoring management. Treating them in the same way as other foreign directors lowers the power to detect the effect of foreign directors on firm value. On the other hand, this evidence also reinforces our hypothesis that higher oversight costs due to large distance and lack of strong governance skills or awareness appear to undermine foreign directors' ability to effectively monitor U.S. managers.

## 2.5. Other sensitivity tests

As a robustness check, we use a different calculation of Tobin's Q. Following Smith and Watts (1992), we compute the numerator, which represents the market value of total assets, as the book value of total assets (Compustat item 6) plus the market value of common stock (item 25\*item 199) less the book value of common stock (item 60). The regression results are very similar to those presented in Table 2.4. We also use industry-adjusted Q and the results are qualitatively similar.<sup>20</sup>

As an alternative measure of firm performance, we also consider accounting based measures. Specifically, we use the annual return on assets (ROA), which is defined as EBITDA (item 13) over the book value of total assets (item 6), as the dependent variable. However, the estimated coefficients for the foreign director indicator and the percentage of foreign independent directors are not significant. The *t*-statistics are never greater than one. We also use different definitions of ROA, including the ratio of EBIT over total assets, net income over total assets, and their industry-adjusted forms. These alternative measures also yield insignificant results for foreign director variables. One possible explanation for the lack of significance in the ROA regressions is that accounting numbers are very short-term in nature and more vulnerable to managerial manipulation. In section 4, we do find that firms with foreign independent directors are more likely to misstate their earnings, which is consistent with this concern.

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<sup>20</sup> A firm's industry-adjusted Q is defined as its raw Q minus the median Q in the firm's Fama-French (48) industry in the observation year.

Finally, the negative relation between Tobin's Q and foreign directors is robust to: (i) measuring firm size by net sales (item 12) or market value of assets; (ii) measuring growth options by R&D over total assets; (iii) replacing aggregate stock ownership held by all independent director blockholders with the number of independent director blockholders or with an indicator variable that is one if there is at least one independent director blockholder; (iv) excluding firms in financial and utility industries; (v) replacing the CEO/Chair duality indicator variable with another indicator that is equal to one if a non-employee serves as Chairman of the board, and zero otherwise; (vi) replacing the level of foreign operations with an indicator that is equal to one if the firm has foreign operations, and zero otherwise.

## 2.6. Endogeneity

The firm-level fixed effects regression only controls for potential omitted variables. However, another form of endogeneity problem, reverse causality, is still left unaddressed. An alternative explanation for the prior results is that poorly performing managers appoint ineffective monitors, such as foreign directors, to entrench themselves. If this is the case, then the conclusion should be that it is a lower Tobin's Q that leads to the appointment of foreign directors to the board. To address this possibility, we use a logit model to examine which factors contribute to the appointment of foreign independent directors.

The IRRC database provides the year in which the director begins his or her board service. Using this information, we examine 5,810 independent director appointments from 1998 to 2003. Among these newly appointed independent directors, 181 (approximately 3%) come from foreign countries. The null hypothesis is that poor performance measured by past Tobin's Q is associated with more foreign director appointments. In the logit regression model, the dependent variable is one if a foreign independent director is appointed and zero if a domestic independent director is appointed.



**Table 2.5. Probability of foreign independent director appointments**

Model (1) uses 5,810 independent director appointments in which the appointing firm has available financial data. Model (2) uses 3,579 independent director appointments in which the appointing firm also has board data during the year before the appointment. The dependent variable is 1 if a foreign independent director is appointed, 0 if a domestic independent director is appointed. Other variable definitions are in Appendix 2.1. In parentheses are  $p$ -values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. All regressions control for year fixed effects and Fama-French industry fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)	(4)
<u>Firm Characteristics:</u>				
Q t-1	-0.005 (0.857)	-0.06 (0.827)	-0.017 (0.649)	-0.023 (0.538)
Q t-2		0.002 (0.939)		0.009 (0.774)
Log(total assets) (in millions)	0.273 <sup>a</sup> (0.000)	0.273 <sup>a</sup> (0.000)	0.128 (0.118)	0.128 (0.119)
Leverage	-0.813 (0.115)	-0.812 (0.116)	-0.319 (0.552)	-0.313 (0.562)
Foreign operations	1.352 <sup>a</sup> (0.001)	1.352 <sup>a</sup> (0.001)	2.107 <sup>a</sup> (0.000)	2.105 <sup>a</sup> (0.000)
Firm Age	0.004 (0.362)	0.004 (0.362)	0.012 <sup>b</sup> (0.015)	0.012 <sup>b</sup> (0.015)
<u>Appointee's Characteristics:</u>				
CEO	0.050 (0.782)	0.050 (0.782)	-0.109 (0.649)	-0.108 (0.651)
Old director	-0.692 (0.330)	-0.692 (0.330)	-0.131 (0.854)	-0.129 (0.856)
Number of other IRRC board memberships	-0.417 <sup>a</sup> (0.001)	-0.417 <sup>a</sup> (0.001)	-0.312 <sup>b</sup> (0.020)	-0.312 <sup>b</sup> (0.020)
<u>Board Characteristics:</u>				
Percentage of independent directors			-1.085 <sup>c</sup> (0.089)	-1.085 <sup>c</sup> (0.089)
Percentage of busy independent directors			1.250 <sup>b</sup> (0.048)	1.248 <sup>b</sup> (0.048)
CEO/Chair duality			-0.264 (0.210)	-0.264 (0.210)
Log(board size)			0.152 (0.693)	0.157 (0.685)
<u>Ownership Structure:</u>				
Inside directors' stock holdings			-0.732 (0.579)	-0.733 (0.579)
Independent director blockholders' holdings			0.144 (0.713)	0.144 (0.712)
Number of Obs.	5,810	5,810	3,579	3,579
Peudo-R <sup>2</sup>	8.47%	8.47%	11.29%	11.29%

The explanatory variables in the logit model include the appointing firm's financial characteristics and governance structure for the year before the appointment, and the appointee's personal characteristics at the time of appointment. Firm financial characteristics include firm size, leverage, foreign operations, and, most importantly, Tobin's Q, all measured in the year prior to the appointment year. The governance variables are the same as those in the Tobin's Q regressions in Table 2.3. Finally, the foreign director's personal characteristics may also affect the probability that a new board membership is offered and accepted. For example, if a foreign director is as busy as a domestic director, i.e. they have the same number of other board memberships, the domestic director is more likely to be favored over the foreign director. This follows because the foreign director has to spend more time and energy on the cross-border trips, making the position more costly to perform from the foreign director's perspective. Other director characteristics that we control for are: (i) a "senior" director indicator (directors who are 70 or more years old); (ii) and an indicator if the director is CEO of another firm.

The logit model estimates are reported in Table 2.5. Model (1) and (2) use data on all the independent director appointments. Model (3) and (4) present regression results based on a subsample in which board structure information for the recruiting firm is available during the 12 months prior to when the new director joins the board. This second restriction reduces the sample size to 3,579 new appointments, among which 111 (approximately 3%) are appointments of foreign independent directors. In both regressions, we control for year and Fama-French 48 industry dummies.

In the first two specifications, we only include the Tobin's Q of the fiscal year preceding the appointment, i.e.  $Q_{t-1}$ . In regression (3) and (4), we also control for  $Q_{t-2}$ . As shown in Table 2.6, neither  $Q_{t-1}$  nor  $Q_{t-2}$  has a significant coefficient estimate in any of the four specifications. Therefore, prior performance does not appear to contribute to the appointment of a foreign independent director. In all the regressions, the coefficient estimates of foreign operations are

positive and highly significant, suggesting that firms hire foreign directors because of their expertise on foreign operations.

Among other firm characteristics, firm size also has a positive and significant coefficient in the first two regressions. For the appointee's characteristics, we find that the number of other IRRC board memberships reduces a foreign director's chance of joining the board. This is consistent with the conjecture that higher oversight costs make a busy foreign director unattractive. Alternatively, busy foreign directors may be reluctant to join a U.S. board due to time commitment. Finally, the results from the last two specifications show that a board with a lower percentage of independent directors and a higher percentage of busy directors is more likely to hire a foreign director.

As a robustness check, we use alternative measures of a firm's past performance, including industry-adjusted Tobin's Q, raw ROA, and industry-adjusted ROA. None of these measures has a significant coefficient. We also classify Canadian directors as U.S. domestic directors and re-estimate the logit regressions. Again, past performance measures do not have significant coefficients. In summary, it is unlikely that poor prior performance leads to the appointment of foreign independent directors, i.e. the negative relation between foreign independent directors and firm value is unlikely to be the result of reverse causality.

We also recognize a specific endogeneity issue associated with firm fixed effects models, i.e. within-firm board composition changes might be endogenous. For example, when a U.S. firm successfully acquires a relative large foreign target, some directors from the target board normally join the board of the U.S. firm. If the addition (or reduction) in the numbers of foreign independent directors is due to large foreign acquisitions, then the negative effects documented in the previous sections may just reflect the impact of these acquisitions on firm performance. To rule out this alternative explanation, we obtain a list of bidders from SDC that acquired at least one foreign target during our sample period. We also require that deal value exceeds 5% of the bidder's size, so that some target board members are likely to be appointed to the board of the

combined firm. There are a total of 167 acquiring firms during 1998 to 2003. We exclude these companies from our sample firms and re-estimate the Q regressions in Table 2.3 and obtain very similar results (unreported, but available on request). Therefore, the negative relation between foreign independent directors and firm performance is unlikely to be the result of large foreign acquisitions.

### **3. Board meeting attendance**

In this section, we conduct another more direct test to assess whether foreign independent directors are effective monitors. Specifically, we focus on directors' attendance records at board meetings. Foreign directors conceivably have information disadvantages over domestic directors, because when they join the board of a U.S. firm, they must face different market conditions, unfamiliar accounting standards, and U.S. laws and regulations. One way for foreign directors to alleviate the asymmetric information problem and more effectively fulfill their duties to monitor management is to regularly attend board meetings. However, the long geographic distance substantially increases the time and energy spent by a foreign director commuting to the meetings. This higher transportation cost creates a disincentive for foreign directors to regularly attend board meetings and undermines their ability to closely monitor senior management. Indeed, a director's attendance record has been used by institutional investors to evaluate a director's performance. Directors who are unable to attend regular board meetings are often criticized as being ineffective monitors by institutional shareholders and other business commentators.

U.S. publicly listed firms are required to disclose a director's board meeting attendance record in their annual proxy filings. However, firms are only required to list the directors who attended less than 75 percent of board meetings during the past fiscal year. This information is also recorded in the IRRC director database. We focus on the attendance records of all

independent directors and create a variable that is one if the independent director attended *less* than 75 percent of board meetings during the fiscal year, and zero otherwise. We use this indicator as the dependent variable and conduct a logit regression. The key explanatory variable is an indicator for foreign independent directors. We also include an indicator variable for directors from Canada. The unit of observation for the logit regressions is director-firm-year. We exclude any directors who have recently joined the board within the last 12 months. These newly appointed directors inevitably miss some board meetings within the appointment year even though they may attend all meetings after joining the board. By requiring firms to also have financial data available from Compustat, we further reduce our sample to 44,660 director-firm-year observations.

In Panel A of Table 2.6, we first present a comparison of the characteristics of foreign independent directors and domestic independent directors. As shown in the first row, 7% of foreign independent directors attend less than 75% of board meetings, while 3% of domestic independent directors fall into this category. The difference is significant at 1% level. We also assess the differences in other director characteristics, including director age, number of IRRC board memberships, CEO director, and director stock ownership. The table shows that there is no significant difference in director age. However, on average, foreign directors are more likely to be the CEOs of other firms, though economic difference is rather small (21% of domestic directors compared to 23% of foreign directors). In addition, U.S. directors on average hold 0.3 more IRRC directorships than foreign directors. Finally, foreign directors' stock ownership is significantly less than that of domestic directors.<sup>21</sup>

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<sup>21</sup> This difference may be due to the difference in firm size. Large firms tend to hire foreign directors and directors in large firms hold less stock than directors in small firms because of wealth constraints. We also compare the foreign directors' stock ownership to that of domestic directors sitting on the same board. The difference is not significantly different from zero, both for the mean and median test.

**Table 2.6. Probability of attendance at board meetings**

The sample consists of 44,660 director-firm-year observations from 1998 to 2003. Panel A presents the characteristics comparison between foreign independent directors and domestic director. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on tests of difference in means or medians. Panel B presents the results of the logit regression analysis of determinants of board meeting attendance. Model (1) uses all the 44,660 director-firm-year observations. Model (2) uses 33,776 director-firm-year observations which the firm has board structure information during the past year. The dependent variable is 1 if the independent director attended less than 75 percent of board meetings during the fiscal year, 0 otherwise. Other variable definitions are in Appendix 2.1. In parentheses are *p*-values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. All regressions control for year fixed effects and Fama-French industry fixed effects, whose coefficient estimates are suppressed for brevity.

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Panel A: Director characteristics comparison

		<u>Domestic</u> <u>directors (1)</u>	<u>Foreign</u> <u>directors</u> <u>(2)</u>	<u>Difference</u> <u>(2)-(1)</u>
Missing board meetings (=1 if the director attends less than 75% of the board meetings during the fiscal year)	Mean	0.03	0.07	0.04 <sup>a</sup>
	Median	0.00	0.00	0.00
Director Age	Mean	60.02	59.80	-0.22
	Median	60.00	60.00	0.00
Total directorships in IRRC firms	Mean	1.81	1.51	-0.30 <sup>a</sup>
	Median	1.00	1.00	0.00
CEO director (=1 if the director is the CEO of another firm)	Mean	0.21	0.23	0.02 <sup>b</sup>
	Median	0.00	0.00	0.00
Director stock ownership in the firm	Mean	0.17%	0.08%	-0.09% <sup>b</sup>
	Median	0.02% <sup>b</sup>	0.01%	-0.01% <sup>a</sup>

**Table 2.6. (cont'd)**

<u>Panel B: logit regression</u>		
	(1)	(2)
<i><u>Independent Director's Characteristics:</u></i>		
Directors from foreign countries	1.254 <sup>a</sup> (0.000)	1.170 <sup>a</sup> (0.000)
Directors from Canada	-0.896 (0.107)	-0.914 <sup>c</sup> (0.100)
Old director	-0.030 (0.774)	-0.067 (0.563)
Number of IRRC board memberships	0.122 <sup>a</sup> (0.000)	0.105 <sup>a</sup> (0.004)
CEO director	0.415 <sup>a</sup> (0.000)	0.361 <sup>a</sup> (0.000)
Director stock ownership	0.633 (0.690)	0.095 (0.968)
<i><u>Firm Characteristics:</u></i>		
Log(total assets) (in millions)	-0.078 <sup>b</sup> (0.011)	-0.209 <sup>a</sup> (0.000)
Leverage	0.242 (0.286)	0.459 <sup>c</sup> (0.069)
Tobin's Q	-0.002 (0.858)	-0.012 (0.542)
ROA	-0.379 (0.295)	-0.292 (0.496)
Firm age	-0.007 <sup>a</sup> (0.002)	-0.010 <sup>a</sup> (0.000)
<i><u>Board Characteristics:</u></i>		
Percentage of independent directors		0.339 (0.232)
Percentage of busy independent directors		0.252 (0.261)
CEO/Chair duality		-0.035 (0.700)
Log(board size)		1.380 <sup>a</sup> (0.000)
<i><u>Ownership Structure:</u></i>		
Inside directors' stock holdings		0.810 <sup>a</sup> (0.003)
Independent director blockholdings		-0.822 (0.458)
Number of Obs.	44,660	33,776
Peudo-R <sup>2</sup>	2.89%	4.12%

Panel B of Table 2.6 presents logit model estimates. In model (1) we use the entire sample, i.e. all the 44,660 director-firm-year observations in which firm financial data is available for the fiscal year when the director's attendance is recorded. Model (2) is based on 33,776 director-firm-year observations in which the firm also has available board data. In both specifications, the estimated coefficients of the indicator for directors from foreign countries are positive and highly significant, suggesting that foreign directors are more likely to miss board meetings than domestic directors. However, among foreign directors, directors from Canada are less likely to miss board meetings, as indicated by the negative and significant coefficient of Canadian director indicator in column (2). For directors' other characteristics, we find that directors who are also CEOs of other firms and directors who have a higher number of other board memberships are more likely to miss board meetings. This is consistent with the argument that CEO-directors may be more distracted by the day-to-day operations in their own firms (Booth and Deli (1996)) and directors sitting on several boards are more likely to over-commit their time, which undermines their ability to closely oversee senior management (Fich and Shivdasani (2005)).<sup>22</sup>

Among firm characteristics, we observe that independent directors in large firms and/or older firms have better attendance records than those in small and/or young firms. Large and/or older firms are subject to more scrutiny from news media, security analysts and institutional investors and thus, the reputation costs of missing regular board meetings for individual directors are higher.<sup>23</sup> Alternatively, large and old firms may have the ability to attract better independent directors, who commit to consistently showing up at regular board meetings. The estimated coefficient of leverage is insignificant in the full sample, but is positive and significant for the

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<sup>22</sup> We discover one source of costs of hiring a CEO-director or a director sitting on multiple boards. On the other hand, CEO-directors might be valuable because of their unique expertise and talents (Fich (2005)). Busy directors might also benefit the firm if the number of directorships measures a director's experience and reputation (Fama (1980), Fama and Jensen (1983), Ferris, Jagannathan, and Pritchard (2003)).

<sup>23</sup> These costs include a higher probability to be dismissed and the lost meeting fees which tend to be much higher in large firms than in small firms.



smaller sample. A possible explanation for the positive coefficient is that leverage acts as another governance mechanism and it is a substitute for intensive monitoring by independent directors. Of the board characteristics and ownership structure variables included in model (2), only board size and aggregate stock ownership held by insiders have significant coefficients. Specifically, independent directors sitting on large boards have a higher propensity to miss board meetings than those sitting on small boards. This result complements prior evidence that the free-riding problem is more acute on large boards than on small boards (Lipton and Lorsch (1992), Jensen (1993), Yermack (1996), Eisenberg, Sundgren, and Wells (1998)). The coefficient estimate for aggregate insider stock ownership is positive and significant at the 1% level, suggesting that senior managers with greater stock ownership are more aligned with shareholders and hence require less intensive board monitoring.

Finally, we recognize that attending regular board meeting is not a sufficient condition for an independent director to be an able monitor. This is especially true when the CEO controls the flow of information before and during board meetings. Of course, independent directors can seek more information by visiting the company headquarters and meeting with other senior managers (Lerner (1995)). However, these actions represent substantial oversight costs, especially for foreign directors who face much more travel time to the firm's headquarters, as suggested by the poor board meeting attendance records.

#### **4. Foreign directors and earnings restatements**

As a further test of the monitoring effectiveness of foreign directors, we next examine whether the presence of foreign directors increases a firm's propensity to misreport earnings. Managers have incentives to overstate earnings to meet or beat analysts' forecasts, increase the value of their stock and stock option holdings, and avoid being fired due to bad performance.

We obtain a list of firms that have recently restated their financial statements from a report compiled by The General Accounting Office (GAO).<sup>24</sup> The GAO report lists 919 restatement announcements by all U.S. companies for the period from January 1997 to June 2002. Firms in this list restated their financial reports due to accounting irregularities. Burns and Kedia (2005) extend this list for S&P 1500 firms through the end of 2002. The GAO report provides the names of restating firms and the year during which the restatements are announced. We obtain the fiscal years and quarters that were misreported and the direction of the restatements from Burns and Kedia (2005).<sup>25</sup> We match the restatement sample with the IRRC director database to obtain 195 firm-years with misreported earnings. This approximately represents 3% of the 6,004 firm-years, which is similar to the percentage of misstatement firm-years reported by Burns and Kedia (266 misreporting firm-years out of a sample of 8,208 firm-years).

To examine what factors have impacts on misreporting, we use a logit model and present the regression results in Table 2.7. The dependent variable is one if a firm misreported earnings during the firm-year, and zero otherwise. In model (1), the key explanatory variable is the foreign director indicator. Its coefficient is positive and highly significant. In model (2), the foreign director indicator is replaced with the percentage of foreign independent directors. The estimated coefficient for this variable is also positive and significant. These results suggest that firms with foreign independent directors sitting on boards are more likely to misreport earnings.

In model (3), we construct a second indicator variable that is one if at least one foreign independent director sits on the audit committee at the time of misstatement and zero otherwise. The primary function of the audit committee is to oversee a firm's financial reporting process. Therefore, a foreign director sitting on the audit committee may have a greater impact on misreporting. As shown in column (3), the foreign audit committee indicator also has a positive

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<sup>24</sup> For a detailed discussion of the GAO data, please refer to Burns and Kedia (2005). Burns and Kedia examine the effect of CEO's equity-based compensation on misreporting and obtain their restatement sample primarily from the GAO report.

<sup>25</sup> We thank Natasha Burns and Simi Kedia for kindly sharing their data.

coefficient that is significant at the 1% level. Finally, in model (4) we control for the percentage of audit committee members who are foreign independent directors. The estimated coefficient of this variable is 1.766 and is significant at below the 5% level.

To measure audit committee independence, we include an additional indicator variable that equals one if all the audit committee members are independent directors, and zero otherwise. The Sarbanes-Oxley Bill, passed in October 2002, specifically requires U.S. public firms to have their audit committees comprised entirely of independent directors. However, consistent with Agrawal and Chadha (2005), the estimated coefficient for the audit committee independence indicator is not significant in any of the four specifications. This may reflect the fact that independence is not closely correlated with accounting expertise and monitoring intensity.<sup>26</sup>

The remaining control variables are identical to those included in previous regressions. Ownership variables and other board characteristics are not significantly related to the likelihood of a firm misstating its earnings. For firm characteristics, we find that larger firms, older firms and firms with higher debt levels have a higher propensity to misreport.<sup>27, 28</sup>

In summary, firms with foreign independent directors and firms with foreign independent directors on their audit committees are more likely to misreport their earnings. This additional evidence supports the hypothesis that foreign directors are associated with lax monitoring of senior management and a failure to prevent aggressive accounting reporting practices.

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<sup>26</sup> Agrawal and Chadha (2005) find that firms whose boards or audit committees have an independent director with financial expertise are less likely to restate earnings.

<sup>27</sup> Firms with higher leverage have incentives to overstate their earnings to avoid violating debt covenants.

<sup>28</sup> Misreporting does not necessarily mean overstating earnings. Firms may also understate their earnings, e.g., for tax purposes. Consistent with Burns and Kedia (2005), we find around 7% of the restatements involve understating earnings. Excluding these understatements does not result in statistically significant changes for the estimates of foreign director variables.

**Table 2.7. Probability of earnings restatements and foreign independent directors**

The sample consists of 6,004 firm-years, 195 of which are restating-firm-years. The dependent variable is 1 if the firm misreported earnings during fiscal year, and 0 otherwise. Other variable definitions are in Appendix 2.1. In parentheses are *p*-values based on standard errors adjusted for heteroskedasticity (White (1980)) and firm clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively. All regressions control for year fixed effects and Fama-French industry fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)	(4)
<i>Board Characteristics:</i>				
Foreign director	0.563 <sup>b</sup> (0.013)			
Percentage of foreign independent directors		1.662 <sup>b</sup> (0.017)		
Foreign independent director on audit committee			0.604 <sup>b</sup> (0.031)	
Percentage of audit committee members who are foreign independent directors				1.766 <sup>b</sup> (0.020)
100% independent audit committee	0.238 (0.222)	0.240 (0.220)	0.228 (0.240)	0.220 (0.259)
Percentage of independent directors	-0.538 (0.342)	-0.373 (0.508)	-0.447 (0.427)	-0.414 (0.461)
Percentage of busy independent directors	-0.560 (0.414)	-0.563 (0.404)	-0.538 (0.431)	-0.508 (0.454)
CEO/Chair duality	-0.099 (0.566)	-0.108 (0.531)	-0.107 (0.536)	-0.103 (0.550)
Log(board size)	-0.484 (0.221)	-0.401 (0.313)	-0.421 (0.286)	-0.406 (0.304)
<i>Ownership Structure:</i>				
Inside directors' stock holdings	-1.170 (0.136)	-1.112 (0.154)	-1.115 (0.155)	-1.093 (0.162)
Independent director blockholdings	1.317 (0.253)	1.375 (0.250)	1.430 (0.246)	1.390 (0.258)
<i>Firm Characteristics:</i>				
Log(total assets) (in millions)	0.147 <sup>c</sup> (0.071)	0.159 <sup>b</sup> (0.048)	0.158 <sup>c</sup> (0.051)	0.164 <sup>b</sup> (0.043)
Leverage	0.746 <sup>c</sup> (0.085)	0.755 <sup>c</sup> (0.083)	0.752 <sup>c</sup> (0.082)	0.751 <sup>c</sup> (0.084)
Tobin's Q	-0.005 (0.831)	-0.002 (0.928)	-0.004 (0.860)	-0.003 (0.880)
ROA	0.226 (0.767)	0.236 (0.760)	0.202 (0.792)	0.238 (0.759)
Foreign operations	-0.000 (0.509)	-0.000 (0.493)	-0.000 (0.453)	-0.000 (0.356)
Firm age	0.013 <sup>b</sup> (0.022)	0.014 <sup>b</sup> (0.019)	0.013 <sup>b</sup> (0.027)	0.013 <sup>b</sup> (0.023)
Number of Obs.	6,004	6,004	6,004	6,004
Pseudo-R <sup>2</sup>	7.74%	7.58%	7.62%	7.62%

## 5. Conclusion

This paper examines how the presence of foreign independent directors influences the effectiveness of monitoring by board of directors. We document the frequent presence of foreign independent directors on the boards of the S&P 1500 firms from 1998 to 2003. Specifically, we find that foreign independent directors are present in about 14.6% of the firm-years. Boards with foreign directors on average have one fifth of all their independent directors drawn from foreign countries. We find evidence that foreign directors are associated with lower firm value and weaker monitoring of management.

Foreign directors appear to be less effective monitors of management for several reasons. They face substantial oversight costs that are associated with the long travel distances and they are likely to lack adequate knowledge and understanding of U.S. accounting standards, laws and regulations. Using firm-level fixed effects regressions, we find that companies with foreign independent directors exhibit weaker firm performance, measured by Tobin's Q and our firm performance measure is decreasing in the percentage of independent directors drawn from foreign countries. However, the negative relation between foreign directors and Tobin's Q is mitigated when firms have foreign operations, suggesting that foreign directors can play a valuable advisory role when these firms have significant foreign operations. We also find that prior poor performance of these firms does not contribute to the appointment of foreign directors, suggesting that the negative relation between foreign directors and Tobin's Q is unlikely to be a result of reverse causality.

We further examine the potential causes for the weak performance of firms with foreign independent directors. We show that foreign directors have a higher probability of missing a significant portion of board meetings than domestic directors, which is consistent with these directors monitoring senior management less consistently or intensely. Furthermore, firms with foreign directors, and especially when they sit on the audit committees, are more likely to

misreport earnings. Taken as whole, this evidence suggests that foreign directors are less effective monitors of management and are less effective shareholder representatives, at least when firms lack substantial foreign operations.

## Appendix 2.1: Variable Definitions

Variable	Definitions
<i><u>Panel A: Board characteristics</u></i>	
Percentage of foreign independent directors	The percentage of independent directors who comes from foreign countries.
Foreign director (dummy variable)	1 if the board has at least one foreign independent director, and 0 otherwise.
Board size	The number of directors sitting on board.
Percentage of independent directors	The percentage of directors who are independent.
CEO/Chairman duality (dummy variable)	1 if CEO is also the Chairman of the board, and 0 otherwise.
Percentage of busy independent directors	The percentage of independent directors who hold 3 or more other directorships in the IRRC universe firms.
<i><u>Panel B: Ownership Structure</u></i>	
Inside directors' stock holdings	The aggregate percentage ownership held by all executives who sit on the board.
Independent director blockholder (dummy variable)	1 if an independent director is also a blockholder, and 0 otherwise. Blockholders are investors with at least 5% share ownership in the firm.
Independent director blockholdings	Aggregate share ownership percentage held by all individual blockholders who are also independent directors. Blockholders are investors with at least 5% share ownership in the firm.
Number of independent director blockholders	The number of individual blockholders who are also independent directors. Blockholders are investors who have at least 5% ownership of the firm.
<i><u>Panel C: Firm Characteristics</u></i>	
Tobin's Q	Market value of asset over book value of asset: (Compustat item 6 - item 60 + item 25 * item 199) / item 6.
Firm size	Log of total assets (in millions).
Leverage	Book value of debts over book value of total assets: (item 34 + item 9) / item 6.
ROA	Operating income before depreciation (item 13), scaled by book value of total assets (item 6).
Growth options	Capital Expenditures (item 128), scaled by book value of total assets (item 6).
Foreign operations	Proportion of net sales that come from the operations in foreign countries. The data is from the Compustat Segment database.
Firm Age	Number of years since the first date appearing in CRSP.
<i><u>Panel D: Director characteristics</u></i>	
CEO (dummy variable)	1 if the director is the CEO of some other firm, 0 otherwise.
Director's age	Director's age at proxy statement date.
Old director (dummy variable)	1 if the director is over 70, 0 otherwise.

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## CHAPTER III

### CORPORATE GOVERNANCE TRANSFER AND SYNERGISTIC GAINS FROM MERGERS AND ACQUISITIONS

#### 1. Introduction

Do acquisitions of poorly managed targets by well managed bidders create more value than others? The question is central to one of the most important sources of synergistic gains from mergers and acquisitions, i.e., the benefits of changes in control. Yet previous research does not provide us with a definitive answer. Early studies by Lang, Stulz, and Walkling (1989) and Servaes (1991) present evidence consistent with an affirmative answer – that the synergy of an acquisition is increasing in the bidder's Tobin's Q and decreasing in the target's Tobin's Q – with the premise that Q can be interpreted as a measure of how well a firm is run. However, results from recent academic endeavors suggest otherwise. For example, Bhagat, Dong, Hirshleifer, and Noah (2005) find that the bidder's Q has a negative effect while the target's Q has no impact on acquisition synergy, and Moeller, Schlingemann, and Stulz (2004) and Dong, Hirshleifer, Richardson, and Teoh (2005) find that the bidder's Q and its close surrogates such as the market-to-book ratio have negative effects on bidder returns.

In light of the conflicting evidence, we approach the opening question in an alternative way by employing a measure that is more fundamental than Tobin's Q to capture how well a firm is managed. As Dong et al. (2005) point out, Tobin's Q is subject to the influences of (i) agency problems, (ii) investment opportunities, and (iii) market misvaluation.<sup>29</sup> Therefore, it is important to isolate the agency component from the other two in order to have a clean examination of the

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<sup>29</sup> Lang, Stulz, and Walkling (1989) also recognize that Tobin's Q may reflect market misvaluation. Accounting-based performance measures will be jointly affected by the first two factors.

above question, especially when the investment-opportunity interpretation has the same prediction regarding the effect of Tobin's Q on acquisition synergy as the agency perspective does.<sup>30</sup> We use corporate governance metrics to proxy for the strength of managerial incentives or the severity of agency problems. For reasons discussed later, we focus on the shareholder rights or anti-takeover provisions (ATPs) adopted by each firm and stipulated in its charter/bylaws. Recent research finds that firms with stronger shareholder rights or fewer ATPs are associated with higher market value (Gompers, Ishii, and Metrick (2003, GIM), Bebchuk, Cohen, and Ferrell (2004, BCF), and Bebchuk and Cohen (2004, BC)) and better operating performance (Core, Guay, and Rusticus (2005)). A hypothesis that GIM propose for these findings is that anti-takeover provisions cause agency costs "through some combination of inefficient investment, reduced operational efficiency, or self-dealing", which is supported by a number of studies examining the effects of ATPs on investment profitability (Masulis, Wang, and Xie (2006)), operational efficiency (Bertrand and Mullainathan (2003)), and executive compensation (Borokhovich, Brunarsky, and Parrino (1997), Bertrand and Mullainathan (2001), and Fahlenbrach (2004)).<sup>31</sup>

In a merger or acquisition that is accompanied by a change in control, the acquirer's shareholder rights will apply to the combined company, in effect replacing the target's shareholder rights. Therefore, after the transaction the target's assets will be controlled by managers governed by the acquirer's shareholder rights. When the acquirer has stronger shareholder rights than the target, the change in control will result in an improvement in corporate

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<sup>30</sup> When a bidder with good investment opportunities acquires a target with poor investment opportunities, the combination may create value because after the transaction, the target's assets will be used to exploit the better investment opportunities available to the bidder. To the extent that growth opportunities can be both industry-specific and firm-specific, industry-adjusted Q is not immune to this criticism.

<sup>31</sup> Masulis, Wang, and Xie (2006) find that managers protected by more ATPs make acquisitions that destroy bidder shareholder value, a major form of empire building and investment inefficiency. Bertrand and Mullainathan (2003) find that the passage of state-level anti-takeover legislations leads to higher employee wages, slowdown of new plant opening and old plant closing, and declines in overall productivity and profitability at firms incorporated in law-passing states, evidence of reduced efficiency. Borokhovich, Brunarsky, and Parrino (1997), Bertrand and Mullainathan (2001) and Fahlenbrach (2004) show that the pay setting process at firms with more ATPs tends to favor executives at the expense of shareholders.

governance at the target. Such an acquisition leads to a better use of target assets and creates more value.<sup>32</sup> The reverse is true when the acquirer has weaker shareholder rights than the target. Therefore, we expect the synergy or the total value generated by an acquisition to be an increasing function of the difference in the strength of shareholder rights between the acquirer and the target. In other words, the stronger the acquirer's shareholder rights relative to the target's, the higher the acquisition synergy, *ceteris paribus*.

The evidence from a sample of 396 completed domestic acquisitions by U.S. firms between 1990 and 2004 supports our conjecture. We use the corporate governance index constructed by GIM as our primary measure of the strength of a firm's shareholder rights, and find that the difference in the strength of shareholder rights between the acquirer and the target has a positive effect on acquisition synergy, calculated as the announcement-period abnormal return of a value-weighted portfolio of the acquirer and the target following the methodology of Bradley, Desai, and Kim (1988). This result holds for alternative shareholder-rights indices we consider and it is robust to controlling for other determinants of acquisition synergy. We also find that both the target's and the acquirer's abnormal returns increase with the difference in shareholder rights, suggesting that target shareholders and acquirer shareholders share the benefits of changes in control, or more precisely, the valuation effects of changes in corporate governance.

We also examine the operating performance change of the acquirer and the target as a combined company from prior to an acquisition to after an acquisition. We find that the shareholder-rights difference has a significant and positive effect on the operating performance change of the combined company. This is consistent with our abnormal stock return-based evidence and further supports our hypothesis.

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<sup>32</sup> A better use of target assets can take the form of making profitable investments, improving the operating efficiency of existing assets, or reducing managerial self-dealing behavior or expropriation of shareholder wealth.

Our paper makes two contributions to the literature. First, we provide a more definitive answer to the question whether takeovers of poorly managed targets by well run acquirers generate more synergies. By focusing on one aspect of a firm's corporate governance system rather than Tobin's Q, we are able to better identify the effect of agency problems separately from the confounding effects of investment opportunities and market misvaluation. Our evidence suggests that one possible source of synergistic gains from mergers and acquisitions is the improvement in corporate governance effected by changes in control. In this sense, our paper also contributes to the discussions on how mergers and acquisitions generate synergy. It is well received in the literature that takeovers of the 1980s create value by addressing the agency problem and eliminating managerial inefficiencies. Our results suggest that the M&A activities in the 1990s and the first half of this decade are capable of generating efficiency gains in a similar fashion through corporate governance transfers from acquirers to targets.

Second, our paper represents an alternative approach to investigating the valuation effect of shareholder rights. Most studies in this area such as GIM, BCF, and BC rely on cross-sectional or within-firm time-series variations in shareholder rights. Since such variations could be endogenous, it is difficult to establish causality based on the evidence from these studies. Our tests can be interpreted as examining how changes in firms' shareholder rights affect firm value, and more specifically, how changes in *target* shareholder rights affect *target* firm value. The changes that we exploit result from targets being taken over by other companies, and thus represent exogenous shocks to targets. This exogenous nature helps us circumvent the endogeneity problem and allows us to draw causality inferences from our evidence. Our findings of positive effects of target governance changes on acquisition synergy and takeover premium/target abnormal returns indicate that stronger shareholder rights indeed lead to higher firm value, reinforcing the evidence in GIM, BCF, and BC.

Our analysis is the first attempt to examine in a domestic setting how differences in corporate governance between targets and acquirers affect the value creation by mergers and

acquisitions. Two recent papers by Bris and Carbolis (2005) and Starks and Wei (2004) link country-level corporate governance to the wealth effects of cross-border M&A transactions. These two studies differ in their hypothesis, sample selection and experimental design, and perhaps not surprisingly, report different results. Bris and Carbolis find that takeover premiums in cross-border deals are increasing (decreasing) in the level of shareholder protection and the quality of accounting standards in the acquirer's (target's) country and that the pattern holds only when target nationality changes. In contrast, Starks and Wei fix target country-level corporate governance by using a sample of acquisitions of U.S. targets by foreign acquirers, and find that the better the foreign acquirer's country-level corporate governance, the lower the takeover premium.<sup>33</sup> Our sample of domestic acquisitions by U.S. firms enables us to remove any difference in country-level governance between acquirers and targets and to cleanly identify the effect of differences in firm-level corporate governance, an element that has been missing from the aforementioned papers in the international context. We also focus our hypothesis and analysis on the total returns or synergy of an acquisition, since neither target returns nor acquirer returns can fully capture the valuation effects of corporate governance differences if the effects are shared by targets and acquirers.

Before we move on to the empirical part of the paper, it is important that we explain why we focus on shareholder rights. Our choice is driven by the observation that acquirers' shareholder rights provisions do not change during acquisitions, and will apply to the combined companies as a result of the transactions. This is not the case for other aspects of firms' corporate governance system. For example, both the board size and the board composition of acquirers prior to acquisitions could be substantially different from those of the combined companies,

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<sup>33</sup> Two papers that are somewhat related to Bris and Carbolis (2005) and Starks and Wei (2004) are Kuipers, Miller, and Patel (2003) and Chari, Ouimet, and Tesar (2005). Like Starks and Wei, Kuipers, Miller, and Patel also look at a sample of acquisitions of U.S. targets by foreign acquirers, but their focus is on how acquirer country's legal environment mitigates the manager-shareholder agency problem at acquirers. Chari, Ouimet, and Tesar study acquisitions of emerging-market targets by developed-market acquirers, but they do not bring country-level corporate governance into their analysis.



especially for large acquisitions. The managerial equity ownership at acquirers could also change as a result of the transactions, since acquirers often issue new shares to finance their purchases.<sup>34</sup> In other words, the post-acquisition corporate governance along these dimensions at the combined companies is a function of deal characteristics. Therefore, potential attempts to examine the valuation effects of changes in targets' corporate governance along these dimensions from pre-acquisition to post-acquisition would be fraught with endogeneity bias.

The remainder of the paper is organized as follows. Section 2 describes the data source and sample construction. Section 3 presents the empirical results. Section 4 concludes.

## 2. Sample description

We extract our acquisition sample from the Securities Data Corporation's (SDC) U.S. Mergers and Acquisitions database. A total of 396 acquisitions between January 1, 1990 and December 31, 2004 meet the following criteria:

- (1) The acquisition is completed.
- (2) The bidder controls less than 50% of the shares of the target prior to the announcement and owns more than 50% of the target after the transaction.<sup>35</sup>
- (3) The deal value disclosed in SDC is more than \$1 million and is at least 1% of the acquirer's market capitalization measured on the 6th trading day prior to the announcement date.<sup>36</sup>

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<sup>34</sup> This is especially true for acquisitions in our sample, 88% of which are at least partially financed with stock.

<sup>35</sup> This criterion ensures that the acquisitions in our sample result in changes in control. We find very similar results using several lower change-in-control thresholds, as we discuss in more detail in the sensitivity tests.

<sup>36</sup> We borrow the \$1 million deal value threshold from Moeller, Schlingemann, and Stulz (2004). But this constraint is not binding, since the targets in our sample are from the IRRC universe, which consists mostly of large companies (see Table 1 for the summary statistics on the target's market capitalization).

(4) Both the bidder and the target have annual financial statement information available from COMPUSTAT and daily stock return data (210 trading days prior to acquisition announcements) from CRSP.

(5) Both the bidder and the target are included in the Investor Responsibility Research Center (IRRC) database of anti-takeover provisions.<sup>37</sup>

There have been seven IRRC publications (1990, 1993, 1995, 1998, 2000, 2002, and 2004). They include detailed information on the anti-takeover provisions at approximately 1,500 firms in each of the 7 publication years, with more firms added in recent publications. As GIM point out, these firms are large companies from the S&P 500 and annual lists of the largest corporations compiled by Fortune, Forbes, and BusinessWeek. The IRRC expanded the sample in 1998 to include smaller firms and firms with high levels of institutional ownership. Following GIM, we assume that during the years between two consecutive publications, firms have the same anti-takeover provisions as in the previous publication year. We obtain very similar results (unreported, but available upon request) when we use the shareholder rights in the post-acquisition publication year for the bidders or when we require that bidders have the same shareholder rights in both the pre-acquisition publication year and the post-acquisition publication year.<sup>38</sup>

In Table 3.1 we present the distribution by announcement year of our sample of acquisitions. Starting from the early 1990s, the number of acquisitions in each year increases steadily until it reaches its highest levels in 1998 and 1999. Then it drops off significantly before rebounding in 2003. This trend is generally consistent with the trend of overall acquisition activities documented by Moeller, Schlingemann, and Stulz (2004). Table 3.1 also reports the annual mean and median bidder and target market capitalizations prior to the acquisition, and the ratio of the target market capitalization to the bidder market capitalization. Since we require that

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<sup>37</sup> GIM, BCF, and BC all exclude firms with dual-class shares from their studies, which we do as well.

<sup>38</sup> For targets, we have to use their shareholder rights in the pre-acquisition publication year, since they will drop out of the IRRC coverage after being acquired.

both the bidder and the target are in the IRRC database, the market values of both parties are much higher than those reported in Moeller, Schlingemann, and Stulz (2004). The average (median) ratio of the target's size to the acquirer's size is about 1/3 (1/5).

**Table 3.1. Sample distribution by announcement year**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the bidder and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. Both the acquirer market capitalization and the target market capitalization are measured at the 6<sup>th</sup> trading day prior to the announcement date.

Year	Number of acquisitions	Percentage of sample	Mean acquirer market cap (\$mil) (Median)	Mean target market cap (\$mil) (Median)	Mean market cap ratio (Median)
1990	8	2.02	6,732.34 (2,133.30)	1,001.13 (459.59)	0.19 (0.17)
1991	14	3.54	3,004.47 (2,041.99)	637.40 (264.94)	0.24 (0.13)
1992	13	3.28	4,168.09 (2,821.70)	453.21 (489.56)	0.14 (0.11)
1993	9	2.27	3,370.97 (3,159.56)	1,246.07 (680.87)	0.38 (0.32)
1994	20	5.05	5,763.20 (3,033.56)	932.64 (361.72)	0.34 (0.22)
1995	28	7.07	6,918.40 (4,893.96)	1,801.84 (1,231.04)	0.40 (0.35)
1996	21	5.30	10,848.03 (5,948.40)	3,567.93 (1,163.24)	0.33 (0.27)
1997	35	8.84	13,652.68 (5,487.32)	2,331.75 (10,89.00)	0.30 (0.18)
1998	63	15.91	18,282.46 (7,708.17)	6,051.94 (1,694.90)	0.41 (0.30)
1999	63	15.91	19,371.27 (5,264.96)	3,753.58 (974.85)	0.33 (0.21)
2000	40	10.10	23,468.90 (9,405.25)	3,617.94 (1,106.48)	0.30 (0.10)
2001	26	6.57	17,055.07 (6,000.35)	3,462.67 (1,395.63)	0.31 (0.17)
2002	10	2.53	67,875.79 (14,254.98)	6,119.03 (1,108.29)	0.14 (0.04)
2003	23	5.81	24,408.51 (7,135.65)	3,194.20 (1,194.93)	0.28 (0.18)
2004	23	5.81	17,512.33 (6,608.39)	4,421.35 (1,452.07)	0.35 (0.28)
Total	396	100.00	16,647.44 (5,484.02)	3,405.36 (1,059.25)	0.32 (0.21)

### 3. Empirical results

#### 3.1. Variable construction

In the next three subsections, we discuss the measurement of three categories of variables: acquisition synergy, target return/takeover premium, and acquirer return as our dependent variables, the difference in shareholder rights between the acquirer and the target as our key explanatory variable, and bidder-, target- and deal-specific characteristics as control variables.

##### 3.1.1. Dependent variables

We measure acquisition synergy in percentage returns using the methodology developed by Bradley, Desai, and Kim (1988). For each acquisition, we form a value-weighted portfolio of the bidder and the target, with the weights based on their respective market capitalizations at the 6<sup>th</sup> trading day prior to the initial announcement of the acquisition. We adjust the target's weight by subtracting from the target's market capitalization the value of target equity held by the bidder prior to the acquisition announcement. The acquisition synergy is defined as the portfolio's cumulative abnormal return during an event window. We measure the portfolio abnormal returns by market-model adjusted returns around initial acquisition announcements. We obtain the announcement dates from SDC's U.S. Mergers & Acquisitions database. We use the CRSP value-weighted return as the market return and estimate the market model parameters over the period from event day -210 to event day -11, where event day 0 is the acquisition announcement date. Finally, following Bradley et al. (1988) and Lang, Stulz, and Walkling (1989), we compute 11-day portfolio cumulative abnormal returns (PCAR) over the event window (-5, +5). We also separately calculate the 11-day cumulative abnormal returns for the target (TCAR) and the acquirer (ACAR). For 391 acquisitions in our sample, we are able to obtain from SDC the

takeover premium (PREM), which is defined as the ratio of offer price to the target's stock price one week prior to the initial acquisition announcement minus one.

As shown in Panel A of Table 3.2, the average 11-day PCAR for the whole sample is 0.97%, significantly different from zero at the 5% level. Recent studies such as Andrade, Mitchell, and Stafford (2001), Bhagat et al. (2005), and Moeller et al. (2004) also document positive combined returns. The mean 11-day CARs for the target and the acquirer are 21.52% and -2.91%, respectively, both highly significant. This is consistent with existing evidence that M&A transactions are value-increasing for target shareholders (Bradley et al. (1988), Lang et al. (1989), and Dong et al. (2005)) and value-decreasing for acquirer shareholders when the targets are public companies (Fuller, Netter, and Stegemoller (2001) and Moeller et al. (2004)). On average PREM is higher than TCAR, which is similar to what Hartzell, Ofek, and Yermack (2004) find. The most likely reason is that target returns incorporate the probability of an acquisition falling through. In the ensuing analysis, we use both target returns and takeover premiums to measure target shareholder gains.

### 3.1.2. Shareholder-rights differences

The IRRC publications cover 24 unique anti-takeover provisions, from which GIM construct a shareholder-rights index by adding one point for each provision that enhances (weakens) managerial power (shareholder rights). Firms with higher GIM indices are viewed as having weaker shareholder rights since it is more difficult and costly for shareholders to remove managers at these firms. GIM find that firms with higher indices or weaker shareholder rights are associated with lower firm value. BCF build on GIM and create a more parsimonious index based on six key anti-takeover provisions, which include staggered boards, limits to shareholder bylaw amendments, limits to shareholder charter amendments, supermajority requirements for mergers, poison pills, and golden parachutes. Finally, BC focus on whether a firm has a staggered board and find that the market assigns lower valuations to firms with staggered boards.

**Table 3.2. Summary statistics**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the bidder and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. PCAR is the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and target return around the announcement date. TCAR is the 11-day target cumulative abnormal return around the announcement date. PREM is the premium of offer price to target trading price 1 week prior to the announcement date. ACAR is the 11-day acquirer cumulative abnormal return around the announcement date. Other variable definitions are in the Appendix 3.1. In Panel A, <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Variable	<u>Mean</u>	<u>Standard deviation</u>	<u>Q1</u>	<u>Median</u>	<u>Q3</u>
<i>Panel A: Total returns, target returns/premiums, and acquirer returns</i>					
PCAR (%)	0.97 <sup>b</sup>	8.27	-3.80	0.56 <sup>b</sup>	6.08
TCAR (%)	21.52 <sup>a</sup>	21.65	7.55	17.88 <sup>a</sup>	31.60
PREM (%)	32.84 <sup>a</sup>	25.76	16.02	29.74 <sup>a</sup>	46.55
ACAR (%)	-2.91 <sup>a</sup>	8.20	-7.79	-2.78 <sup>a</sup>	2.53
<i>Panel B: Shareholder-rights difference</i>					
Bidder GIM	9.71	2.68	8	10	12
Target GIM	9.41	2.81	7	10	12
GIM difference (Target GIM – Bidder GIM)	-0.30	3.72	-3	0	2
<i>Panel C: Bidder characteristics</i>					
Log(bidder's market cap)	8.75	1.38	7.81	8.61	9.66
Bidder's Q	2.01	1.51	1.14	1.51	2.32
Bidder's leverage	0.25	0.16	0.14	0.23	0.34
Bidder's return on assets (ROA)	0.13	0.09	0.05	0.13	0.19
<i>Panel D: Target characteristics</i>					
Log(target's market cap)	7.03	1.40	5.99	6.97	7.94
Target's Q	1.66	1.08	1.09	1.29	1.77
Target's leverage	0.25	0.18	0.10	0.25	0.38
Target's return on assets (ROA)	0.11	0.11	0.04	0.12	0.16
<i>Panel E: Deal characteristics</i>					
Market cap ratio (target/bidder)	0.32	0.35	0.08	0.21	0.46
Tender offer (dummy)	0.16	0.37	0	0	0
Diversifying acquisition (dummy)	0.26	0.44	0	0	1
All cash deal (dummy)	0.12	0.32	0	0	0
Competed (dummy)	0.06	0.23	0	0	0
Hostile (dummy)	0.04	0.19	0	0	0
Merger of equals (dummy)	0.06	0.23	0	0	0
High-tech combination (dummy)	0.15	0.36	0	0	0

Our key explanatory variable is the difference in shareholder rights between the acquirer and the target calculated using the GIM index.<sup>39</sup> More precisely, it is computed as the target's GIM index minus the acquirer's GIM index. The difference is positive when the acquirer's GIM index is lower than the target's, or equivalently, when the acquirer's shareholder rights are stronger than the target's. The higher the difference, the stronger the acquirer's shareholder rights relative to the target's, and the more efficiency the acquirer would be able to squeeze out of the target's assets. Therefore, we expect the shareholder-rights difference to have a positive effect on acquisition synergy. We also examine how the synergistic gains due to shareholder-rights differences are divided between acquirers and targets. Because of the competition among acquirers in the market for corporate control, most of the gains would usually accrue to target shareholders. However, in some deals, there is also competition among targets, and in some other transactions, bilateral negotiations prevail. Therefore, it is possible that acquirers will capture some of the synergistic gains as well.

The summary statistics in Panel B of Table 3.2 indicate that the bidders and the targets in our sample are fairly representative of the IRRC universe in that their mean and median GIM indices are similar to what GIM report for the IRRC universe. The shareholder-rights difference is close to zero at both the mean and the median, but its standard deviation is quite large. The correlation matrix in Table 3.3 shows that the shareholder-rights difference is positively correlated with acquisition synergy (PCAR), target returns (TCAR), takeover premiums (PREM), and acquirer returns (ACAR).

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<sup>39</sup> We obtain very similar results when we compute the shareholder-rights difference based on the BCF or BC index, since the shareholder-rights differences based on the three indices are highly correlated with each other. Pair-wise correlation coefficients are 0.740 for GIM difference and BCF difference, 0.474 for GIM difference and BC difference, and 0.644 for BCF difference and BC difference, all significant at the 0.1% level. These results are available upon request.

**Table 3.3. Correlation matrix**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the bidder and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. PCAR is the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and target return around the announcement date. TCAR is the 11-day target cumulative abnormal return around the announcement date. PREM is the premium of offer price to target trading price 1 week prior to the announcement date. ACAR is the 11-day acquirer cumulative abnormal return around the announcement date. GIM difference is the difference between target GIM index and acquirer GIM index. Variable definitions are also in the Appendix 3.1. *P*-values are in parentheses.

	PCAR	TCAR	PREM	ACAR
TCAR	0.429 (0.000)			
PREM	0.192 (0.000)	0.817 (0.000)		
ACAR	0.863 (0.000)	0.235 (0.000)	-0.011 (0.835)	
GIM difference	0.145 (0.004)	0.091 (0.071)	0.096 (0.057)	0.080 (0.113)

### 3.1.3. Control variables

We build on studies such as Bradley et al. (1988), Lang et al. (1989), Servaes (1991), and Bhagat et al. (2005) and control for a number of bidder, target, and deal characteristics. The bidder and target attributes that we consider are firm size, Tobin's Q, leverage, and ROA, all of which are measured at the fiscal year end prior to an acquisition announcement. The deal characteristics include the method of payment, the industry relatedness of an acquisition, the relative size of the target to the acquirer, whether an acquisition is a tender offer, whether a deal is a merger of equals (MOE), and whether a deal is between two companies from high-tech industries defined by Loughran and Ritter (2004). Appendix 3.1 contains the definitions of these variables, and Table 3.2 presents their summary statistics. Sixteen percent of the acquisitions in our sample are in the form of tender offers, 26% are diversifying, 88% involve at least some stock financing, 6% are competed deals, 4% are hostile, 6% are classified as mergers of equals, and 15% are combinations of high-tech companies.



We have conjectures on the relations between a few explanatory variables and acquisition synergy. In light of the univariate results in Moeller et al. (2004), we expect that larger bidders make acquisitions that generate lower synergy. We also expect a cash-financed acquisition to generate higher total returns than a stock-financed acquisition, because stock being used as M&A currency sends a negative signal to the market about the acquirer's stock and thus drives down the acquirer's stock price (Myers and Majluf (1984) and Travlos (1987)). This negative abnormal return experienced by the acquirer is unrelated to the value creation by the merger, but is nevertheless picked up by the total abnormal returns, which we use to measure acquisition synergy. Therefore, we follow the convention in the literature and control for a deal's method of payment in order to separate the signaling effect from the value created by the transaction. There is some anecdotal evidence suggesting that mergers of equals, e.g., the 1998 merger of Daimler-Benz and Chrysler, often fail to generate much synergy. Combinations of high-tech companies are also likely to generate lower synergy, since it is difficult for technology companies to integrate smoothly due to the importance of human capital and intellectual property at these companies, which are often lost with increased employee turnover (Masulis, Wang, and Xie (2006)).

However, for other control variables, we do not have clear-cut predictions regarding their effects on acquisition synergy. For example, although Lang et al. (1989) find some evidence that acquisition synergy increases with the acquirer's Tobin's Q and decreases with the target's Tobin's Q, our sample of acquisitions in the 1990s may yield quite different patterns given the findings of Bhagat et al. (2005) and Dong et al. (2005). Similarly, acquisitions of related assets or businesses could generate greater synergy because of the potential for cost saving through economies of scale, but recent research on "diversification discount" (see, for example, Campa and Kedia (2002) and Villalonga (2004a, b)) suggests that diversification does not necessarily lead to lower firm value and sometimes is associated with higher firm value.

## 3.2. Main results

### 3.2.1. Acquisition synergies

We present the results from the synergy regressions in Table 3.4. In the first two columns, the only explanatory variables we include are the shareholder-rights difference and the bidder's size. Our objective is to ensure that any identified effect of shareholder-rights difference on acquisition synergy is not driven by the presence of control variables that are potentially endogenously determined, such as Tobin's Q, leverage, and the method of payment. Coefficient estimates show that consistent with our hypothesis, the shareholder-rights difference has a positive effect on acquisition synergy and the effect is significant both statistically and economically. For example, the coefficient estimate of the shareholder-rights difference is 0.320 with a *t*-statistic of 3.10 in column (2). GIM assign firms with an index of 5 or below to a "Democracy" portfolio and firms with an index of 14 or above to a "Dictatorship" portfolio. Given that the difference in the GIM index between a typical "dictatorship" firm and a typical "democracy" firm is about 10, the percentage synergy generated by the acquisition of a "dictatorship" firm by a "democracy" firm will be about 3.20% higher than that generated by the combination of two firms with the same GIM index. We also find that the bidder's size has a significantly negative effect on acquisition synergy, in line with the univariate results of Moeller et al. (2004).

In the third column, we include all explanatory variables regardless of whether they are potentially endogenous. We find that the shareholder-rights difference continues to have a significantly positive effect on acquisition synergy, but neither the bidder's Q nor the target's Q appears to be related to acquisition synergy. Acquisitions made by bidders that are smaller or have better performance measured by ROA generate greater synergy. We also find that purely cash financed acquisitions and tender offers are associated with significantly higher synergy, and mergers of equals and combinations of high-tech companies create significantly lower synergy.

**Table 3.4. Regression analysis of acquisition synergies**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the bidder and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. The dependent variable is PCAR, the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and the target around the announcement date. Definitions of the independent variables are in the Appendix 3.1. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for calendar year-fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)
<u>Shareholder-rights difference:</u>			
(Target index – bidder index)	0.298 <sup>a</sup> (2.80)	0.320 <sup>a</sup> (3.10)	0.341 <sup>a</sup> (3.30)
<u>Bidder characteristics:</u>			
Log(market cap)		-0.975 <sup>a</sup> (-3.12)	-1.293 <sup>c</sup> (-1.93)
Tobin's Q			-0.157 (-0.28)
Leverage			-1.753 (-0.68)
Return on assets (ROA)			11.054 <sup>c</sup> (1.72)
<u>Target characteristics:</u>			
Log(market cap)			0.901 (1.36)
Tobin's Q			-0.704 (-1.10)
Leverage			2.152 (0.97)
Return on assets (ROA)			2.639 (0.62)
<u>Deal characteristics:</u>			
Market cap ratio			-0.001 (-0.00)
Tender offer			2.574 <sup>b</sup> (2.14)
Diversifying acquisition			2.149 (1.52)
All cash deal			2.653 <sup>b</sup> (2.09)
Merger of equals			-3.863 <sup>b</sup> (-2.13)
High-tech combination			-2.975 <sup>a</sup> (-3.16)
Number of Obs.	396	396	396
Adjusted R <sup>2</sup>	3.7%	6.8%	13.3%

We also investigate whether our results are driven by acquisitions clustering within a particular time period. We re-estimate model (3) in Table 3.4 on subsamples of acquisitions from 1990 to 1994 (64 transactions), from 1995 to 1999 (210 transactions), and from 2000 to 2004 (122 transactions), respectively. The shareholder-rights difference has a positive effect on acquisition synergy in each subsample regression. Its coefficient is 0.323 with a t-statistic of 1.51 (significant at the 10% level based on a one-sided test) for the period from 1990 to 1994, 0.341 with a t-statistic of 2.72 for the period from 1995 to 1999, and 0.553 with a t-statistic of 2.43 for the period from 2000 to 2004. Therefore, our results appear to hold up well through the entire sample period.

We conduct additional analyses to rule out the possibility that we obtain our results simply because Tobin's Q does not enter the synergy regression in the correct form. As alternatives to the acquirer's and the target's raw Qs that we include as explanatory variables in Table 3.4, we experiment with a number of Q-based variables such as (i) industry-median adjusted Qs, (ii) both industry-median Qs and industry-adjusted Qs, (iii) the difference in raw Q between the acquirer and the target, and (iv) the difference in industry-adjusted Q between the acquirer and the target. None of these variables has a significant effect on acquisition synergy, regardless of whether the shareholder-rights difference is included as a regressor. Replacing the raw Qs of the target and the acquirer with these variables hardly changes the magnitude and significance level of the coefficient of the shareholder-rights difference (unreported but available upon request). This suggests that the shareholder-rights difference clearly has incremental explanatory power over Tobin's Q.

We also replace the contemporaneous Qs in Table 3.4 with historical average Qs measured over the period from 1980 to 1985. Lehn, Patro, and Zhao (2005) find that once they control for a firm's historical average Q from 1980 to 1985, the contemporaneous relation between shareholder rights and firm value documented by GIM and BCF for the period from 1990 to 2003 disappears. We restrict our analysis to the 223 acquisitions in which both the

acquirer and the target have at least one year of COMPUSTAT data between 1980 and 1985 so that we can construct a historical average Q over that period for the acquirer and the target, respectively. We find that the coefficient of neither historical average Q is significant, while the shareholder-rights difference continues to have a significant and positive effect on synergy (coefficient: 0.287; t-statistic: 2.08).

Overall, the evidence reported in this section supports our hypothesis that acquisitions of firms with poor corporate governance by firms with good corporate governance generate more efficiency gains. We next examine the division of these efficiency gains between target shareholders and acquirer shareholders, i.e., the effects of the shareholder-rights difference on takeover premiums/target returns and acquirer returns.

### 3.2.2. Target and acquirer returns

We present results from regressions of target returns, acquisition premiums, and acquirer returns in Table 3.5. The explanatory variables are the same as in Table 3.4. We find that the shareholder-rights difference has significantly positive effects on target returns, takeover premiums, and bidder returns, reinforcing the evidence in the preceding section and lending further support to our hypothesis that acquisitions of poorly governed targets by well governed acquirers create more value. These results also suggest that target shareholders and acquirer shareholders share the valuation effects of changes in corporate governance.<sup>40</sup>

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<sup>40</sup> This finding leads to an interesting question, i.e., why don't target managers voluntarily change their firms' governance structure so that target shareholders capture all the valuation effects. The reason is that only a tiny portion of the valuation effects will accrue to target managers because of their typically low percentage ownership of their companies (the percentage stock and stock option ownerships are about 0.4% and 0.8%, respectively, for the median CEO in the 1992-2003 *ExecuComp* database), but target managers bear the full cost of improving corporate governance in the form of reduced private benefits of control, which could be substantial. Therefore, target managers usually do not have enough incentives to voluntarily change the governance structure at their firms. This incentive problem is solved in the context of mergers and acquisitions where acquirers make sizable side payments to target managers as documented by Hartzell, Ofek, and Yermack (2004) so that target managers are willing to give up control of their companies.

**Table 3.5. Regression analysis of target returns, takeover premiums and bidder returns**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the bidder and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. The dependent variable in column (1) is TCAR, the 11-day target cumulative abnormal return around the announcement date. The dependent variable in column (2) is PREM, the premium of offer price to target trading price 1 week prior to the announcement date. The dependent variable in column (3) is ACAR, the 11-day acquirer cumulative abnormal return around the announcement date. Definitions of the independent variables are in the Appendix 3.1. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for calendar year-fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)
	TCAR	PREM	ACAR
<i>Shareholder-rights difference:</i>			
(Target index – bidder index)	0.836 <sup>a</sup> (3.48)	1.001 <sup>a</sup> (3.31)	0.222 <sup>b</sup> (2.10)
<i>Bidder characteristics:</i>			
Log(market cap)	2.084 (1.25)	1.608 (0.73)	0.773 (1.15)
Tobin's Q	-0.543 (-0.57)	-0.269 (-0.25)	-0.287 (-0.53)
Leverage	-10.512 <sup>c</sup> (-1.71)	-3.157 (-0.33)	-1.943 (-0.70)
Return on assets (ROA)	35.827 <sup>a</sup> (2.66)	11.923 (0.72)	9.784 (1.48)
<i>Target characteristics:</i>			
Log(market cap)	-3.985 <sup>b</sup> (-2.48)	-4.057 <sup>c</sup> (-1.94)	-0.892 (-1.34)
Tobin's Q	-0.114 (-0.10)	1.658 (1.23)	-0.713 (-1.44)
Leverage	-1.101 (-0.17)	-5.345 (-0.68)	2.487 (1.12)
Return on assets (ROA)	-12.927 (-1.20)	-7.137 (-0.49)	2.358 (0.56)
<i>Deal characteristics:</i>			
Market cap ratio	-5.770 (-1.59)	-6.752 (-1.23)	-0.159 (-0.07)
Tender offer	9.859 <sup>b</sup> (2.55)	9.332 <sup>b</sup> (2.15)	1.982 <sup>c</sup> (1.71)
Diversifying acquisition	3.873 (1.50)	2.861 (0.99)	0.997 (1.05)
All cash deal	2.022 (0.44)	-0.370 (-0.07)	2.612 <sup>b</sup> (2.15)
Merger of equals	-9.446 <sup>a</sup> (-3.99)	-13.915 <sup>a</sup> (-3.94)	1.645 (0.42)
High-tech combination	0.042 (0.01)	4.483 (1.20)	-2.916 <sup>a</sup> (-2.89)
Number of Obs.	396	391	396
Adjusted R <sup>2</sup>	21.6%	14.6%	7.5%

For the control variables, most of the parameter estimates are qualitatively similar to what other authors find (see, e.g., Huang and Walkling (1987), Servaes (1991), Schwert (2000), Officer (2003), Moeller et al. (2004), Dong et al. (2005), and Masulis et al. (2006)). In particular, we observe that target returns or takeover premiums are significantly lower when targets are larger, significantly higher in tender offers, and significantly lower in mergers of equals, and that bidder returns are significantly higher in purely cash financed transactions and tender offers, and significantly lower in deals combining high-tech companies.

### 3.3. Additional analyses

#### 3.3.1. Efficiency vs. censoring

One potential concern about our findings is that they could be driven by a censoring problem. The reason is that targets with more ATPs (weaker shareholder rights) are more difficult to acquire. Therefore, it is possible that an acquisition involving a target with strong takeover protection will only happen when the acquisition's synergy is high enough to be worth the trouble for a potential bidder to overcome the difficulty presented by target ATPs and eventually take over the target. This censoring-based hypothesis predicts a positive relation between acquisition synergy and the *target's* shareholder-rights index. However, our efficiency-based hypothesis predicts a positive relation between acquisition synergy and the shareholder-rights *difference*. To see which prediction prevails, we re-estimate the regressions of acquisition synergy, takeover premium, target returns and acquirer returns in Tables 3.4 and 3.5, with the target's shareholder-rights index included as an additional regressor. Table 3.6 presents the estimation results. In all four regressions, the shareholder-rights difference continues to have a positive and significant coefficient, while the coefficient of the target's shareholder-rights index never turns out significant. We conclude that the censoring problem does not appear to be responsible for our findings.

**Table 3.6. Efficiency vs. censoring**

The sample consists of 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. The dependent variable in column (1) is PCAR, the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and the target around the announcement date. The dependent variable in column (2) is TCAR, the 11-day target cumulative abnormal return around the announcement date. The dependent variable in column (3) is PREM, the premium of offer price to target trading price 1 week prior to the announcement date. The dependent variable in column (4) is ACAR, the 11-day acquirer cumulative abnormal return around the announcement date. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for year-fixed effects.

	(1)	(2)	(3)	(4)
	PCAR	TCAR	PREM	ACAR
<i>Shareholder-rights difference:</i>				
(Target index – bidder index)	0.308 <sup>b</sup> (2.14)	0.567 <sup>c</sup> (1.74)	0.866 <sup>b</sup> (2.03)	0.283 <sup>b</sup> (2.01)
Target index	0.063 (0.30)	0.488 (1.03)	0.262 (0.40)	-0.119 (-0.60)
<i>Bidder characteristics:</i>				
Log(market cap)	-1.281 <sup>c</sup> (-1.91)	2.604 (1.57)	1.651 (0.75)	0.753 (1.12)
Tobin's Q	-0.142 (-0.25)	-0.546 (-0.58)	-0.211 (-0.20)	-0.315 (-0.59)
Leverage	-1.785 (-0.69)	-8.724 (-1.50)	-3.288 (-0.34)	-1.888 (-0.68)
Return on assets (ROA)	10.839 <sup>c</sup> (1.69)	33.035 <sup>b</sup> (2.50)	11.070 (0.66)	10.186 (1.54)
<i>Target characteristics:</i>				
Log(market cap)	0.876 (1.31)	-4.159 <sup>a</sup> (-2.63)	-4.153 <sup>c</sup> (-1.95)	-0.848 (-1.27)
Tobin's Q	-0.700 (-1.08)	-0.061 (-0.05)	1.674 (1.24)	-0.720 (-1.46)
Leverage	2.112 (0.94)	-0.909 (-0.16)	-5.519 (-0.70)	2.562 (1.15)
Return on assets (ROA)	2.669 (0.62)	-12.731 (-1.11)	-7.058 (-0.49)	2.313 (0.55)
<i>Deal characteristics:</i>				
Market cap ratio	0.048 (0.02)	-5.072 (-1.41)	-6.577 (-1.18)	-0.241 (-0.10)
Tender offer	2.564 <sup>b</sup> (2.15)	10.299 <sup>a</sup> (2.69)	9.276 <sup>b</sup> (2.13)	2.006 <sup>c</sup> (1.73)
Diversifying acquisition	2.122 (1.49)	2.614 (1.13)	2.840 (0.98)	1.005 (1.06)
All cash deal	2.672 <sup>b</sup> (2.09)	2.616 (0.62)	-0.284 (-0.06)	2.573 <sup>b</sup> (2.12)
Merger of equals	-3.877 <sup>b</sup> (-2.14)	-8.370 <sup>a</sup> (-3.44)	-13.967 <sup>a</sup> (-3.95)	1.668 (0.82)
High-tech combination	-2.940 <sup>a</sup> (-3.06)	1.118 (0.38)	4.624 (1.24)	-2.982 <sup>a</sup> (-2.95)
Number of Obs.	396	396	391	396
Adjusted R <sup>2</sup>	13.1 %	22.4%	14.4%	7.3%



### 3.3.2. Changes in operating performance

Our evidence based on abnormal stock returns around acquisition announcements is consistent with the hypothesis that acquisitions of poorly governed targets by well governed acquirers generate more efficiency gains. However, it is interesting to see whether the stock market's expectations in fact materialize and through what channels the efficiency gains are achieved. Toward that end, we examine the effect of the shareholder-rights difference on the change in operating performance of the combined company from pre-acquisition to post-acquisition.

Ideally, we would like to study the operating performance changes of target companies alone. However, the lack of post-acquisition data on target companies does not allow us to carry out such an analysis. The lack of data also prevents us from examining changes in perhaps more salient features of targets such as investment and executive compensation policies. The shareholder wealth effects of these more isolated yet significant corporate decisions do not necessarily manifest themselves through operating performance. For example, overly generous stock option grants awarded to executives do not reduce a company's reported earnings until very recently, and the sometimes staggering amount of money that shareholders lose because their managers overpay for acquisitions (Moeller, Schlingemann, and Stulz (2005)) are not reflected in financial statements, either. All this will bias against us finding significant results by examining operating performance changes of combined companies.

We measure operating performance as return on assets (ROA), i.e., the ratio of operating incomes to the book value of total assets (item 13/item 6). To identify operating performance changes due to mergers alone, we select control companies for acquirers and targets based on industry classification (2-digit SIC) and pre-merger operating performance to filter out the effects of industry-wide factors and the well-known mean reversion of accounting performance measures. Barber and Lyon (1996) show that performance matching is especially important if sample companies have abnormal pre-event performance. This happens to be the case for the

acquirers in our sample; their mean and median industry-adjusted ROAs for the year prior to an acquisition announcement are 0.054 and 0.024, both significant at the 1% level.

For the acquirer in an acquisition, we select its control company in the year immediately prior to the acquisition announcement. We first identify all other firms with the same two-digit SIC code as the acquiring company, and then choose the firm whose ROA is the closest to that of the acquirer. The control company for the target in an acquisition is selected in the same manner. The acquirer's (target's) performance-adjusted ROA for the pre-merger year is calculated as its ROA minus its matching company's ROA. For the fiscal year prior to each merger, we construct an imaginary combined company whose performance-adjusted ROA, *Pre\_adj\_ROA*, is the weighted average performance-adjusted ROA of the acquirer and the target, with the weights being the book values of total assets for the two merging companies. We find that the mean and median of *Pre\_adj\_ROA* are 0.001 and 0.000, neither significantly different from zero, attesting to the ability of our performance matching to eliminate pre-event abnormal performance.

We track each acquisition for three years after its completion. For each year, we calculate the weighted average ROA of the acquirer's control firm and the target's control firm, and subtract it from the merged company's ROA. We then compute the three-year average of the resultant performance-adjusted ROAs, and denote it as *Post\_adj\_ROA*. We define the operating performance change of the combined company as the difference between *Pre\_adj\_ROA* and *Post\_adj\_ROA*, denoted as  $\Delta Adj\_ROA$ . The mean (median) of  $\Delta Adj\_ROA$  is 0.014 (0.003), which is significant at the 1% (5%) level. This is consistent with the earlier stock return evidence that the combined abnormal return of the acquirer and the target (PCAR) is on average positive (see Table 3.2).

We regress the operating performance changes of combined companies against the shareholder-rights difference and other explanatory variables included in the synergy regressions. Results in column (1) of Table 3.7 indicate that the shareholder-rights difference has a significant and positive coefficient, implying that acquisitions of poorly governed targets by well governed

acquirers experience greater operating performance improvements. We also repeat the above performance matching procedure and regression analysis using return on sales (ROS, which is equal to item 13/item 12) as an alternative performance measure, and again find a significantly positive coefficient for the shareholder-rights difference (see column (2) of Table 3.7). These findings echo the abnormal return-based evidence we present earlier, and suggest that the stock market anticipates future operating performance changes and reacts to acquisition announcements accordingly.<sup>41</sup>

These results can also help differentiate our hypothesis from potential alternative explanations of our abnormal return-based evidence. For example, it can be argued that acquisitions involving targets with more ATPs (weaker shareholder rights) may be less anticipated by the stock market than acquisitions involving targets with fewer ATPs. As a result, we could observe higher announcement-period abnormal returns for the former group of deals than for the latter, given that on average mergers generate positive abnormal stock returns. This market surprise-based argument may have some power in explaining our stock return evidence, but it has no prediction regarding the relation between the shareholder-rights difference and the operating performance change of a combined company from pre-acquisition to post-acquisition. On the contrary, our efficiency-based hypothesis is able to explain not only the positive relation between the shareholder-rights difference and the total returns of an acquisition, but also the positive relation between the shareholder-rights difference and the operating performance change of the combined company.

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<sup>41</sup> The sample size is reduced by 99 observations for the regressions in Table 6, since we require that for each acquisition, the merged company and control companies of the acquirer and the target have accounting data for the first three years after the completion of the acquisition. Our results from synergy regressions continue to hold in this smaller subsample.

**Table 3.7. Regression analysis of changes in performance-adjusted ROA and ROS**

The sample consists of 297 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. The dependent variable in column (1) is the difference between *Post\_adj\_ROA* and *Pre\_adj\_ROA*. *Post\_adj\_ROA* is the three-year average of the performance-adjusted return on assets (ROA) of the merged company after the acquisition. *Pre\_adj\_ROA* is the weighted average performance-adjusted ROA of the acquirer and the target in the year immediately prior to the acquisition, with the weights being the book values of total assets for the two merging companies. The dependent variable in column (2) is defined in similar manner, except that the operating performance measure is return on sales (ROS). Definitions of the independent variables are in Appendix 3.1. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for calendar year-fixed effects.

	(1)	(2)
	<i>Change in performance-adjusted ROA</i>	<i>Change in performance-adjusted ROS</i>
<u>Shareholder-rights difference:</u>		
(Target index – bidder index)	0.003 <sup>a</sup> (2.73)	0.004 <sup>b</sup> (2.01)
<u>Bidder characteristics:</u>		
Log(market cap)	0.010 (1.37)	0.012 (0.85)
Tobin's Q	0.012 <sup>c</sup> (1.75)	0.014 <sup>c</sup> (1.79)
Leverage	-0.051 (-1.25)	0.101 (1.41)
Return on assets (ROA)	-0.132 (-1.55)	0.002 (0.02)
<u>Target characteristics:</u>		
Log(market cap)	-0.019 <sup>b</sup> (-2.33)	-0.005 (-0.40)
Tobin's Q	0.007 (0.86)	-0.012 (-1.36)
Leverage	-0.042 (-1.04)	-0.043 (-0.73)
Return on assets (ROA)	0.038 (0.57)	-0.182 (-1.36)
<u>Deal characteristics:</u>		
Market cap ratio	0.030 (1.33)	0.073 (1.20)
Tender offer	0.031 <sup>b</sup> (2.42)	0.046 <sup>c</sup> (1.84)
Diversifying acquisition	0.006 (0.54)	0.030 <sup>c</sup> (1.66)
All cash deal	-0.002 (-0.12)	-0.029 (-1.36)
Merger of equals	0.041 (1.22)	-0.003 (-0.05)
High-tech combination	-0.007 (-0.47)	0.010 (0.42)
Number of Obs.	297	297
Adjusted R <sup>2</sup>	11.02%	9.54%

### 3.3.3. Managerial ability as an omitted variable

Although our focus on exogenous governance changes at targets facilitates causality inferences, we need to address another endogeneity-related problem before we are able to conclude that corporate governance changes contribute to the value creation of acquisitions. The concern is that some unobservable factors could be responsible for both the difference in shareholder rights and the total returns of an acquisition. One factor that may have this property is the difference in managerial ability between the acquirer and the target. It is conceivable that incompetent managers run their firms inefficiently and adopt weaker shareholder rights to entrench themselves and that acquisitions of firms with incompetent managers by firms with competent managers generate more value. In other words, the difference in shareholder rights may simply proxy for the difference in managerial ability.

We conduct four tests to address the above concern. In the first test, we construct a proxy for managerial ability similar to the one used by Morck, Shleifer, and Vishny (1990). Specifically, we measure managerial ability by the industry-adjusted return on assets (ROA) averaged over the three years prior to acquisition announcement. We then take the difference in the managerial ability proxy between the acquirer and the target and include it as an additional control variable in the synergy regression.

Results reported in column (1) of Table 3.8 show that the difference in managerial ability has a positive coefficient with a t-statistic of 1.36, which is significant at the 10% level based on a one-sided test. Therefore, there is some evidence that acquisitions of firms with incompetent managers by firms with competent managers generate more value. But more important to our purpose, we find that the shareholder-rights difference continues to have a significantly positive effect on acquisition synergy. Therefore, our earlier findings do not appear to be driven by managerial ability.

In the second test, we limit our attention to a sample of 70 acquisitions for which both the target and the acquirer went public prior to 1990 and both the target's CEO and the acquirer's

CEO at the acquisition announcement took office after 1990.<sup>42</sup> For these acquisitions, the difference in managerial ability between the acquirer and the target at the time of the acquisition announcement is unlikely to drive the difference in shareholder rights. The reason is that for firms that went public prior to 1990, most of their shareholder-rights provisions were adopted in the 1980s (see Gompers, Ishii, and Metrick (2003)), and therefore, CEOs who took office after 1990 can not be responsible for adopting these provisions. We re-run the synergy regression on this subsample, and report the results in column (2) of Table 3.8. Despite the small sample size, the effect of the shareholder-rights difference on synergy is still significantly positive.

Although our sample selection criteria for this subsample ensure that the difference in managerial ability between acquirer and target CEOs at acquisition announcement can not *cause* the difference in shareholder rights, these two variables could still be correlated. The reason is that managers of certain quality could bequest their positions to managers with similar quality. Therefore, the abilities of acquirer and target CEOs at acquisition announcement could be positively correlated with the abilities of their respective predecessors who were in office during 1980s and who potentially shaped the shareholder-rights landscape at their companies. In other words, the managerial ability difference at acquisition announcement and the shareholder-rights difference are correlated because both are influenced by the managerial ability difference in the 1980s. The implication of this possibility is that the regression in column (2) of Table 3.8 still suffers from an omitted variable problem with the omitted variable being the difference in ability between acquirer CEO and target CEO who were in office during the 1980s. To address this issue, we measure the acquirer (target) CEO ability during the 1980s by the acquirer's (target's) average industry-adjusted ROA from 1985 to 1989, and then include the managerial-ability difference in the 1980s as another regressor. The results in column (3) of Table 3.8 indicate that

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<sup>42</sup> We match the acquirers and targets in our sample to the *ExecuComp* database to obtain the information on when a CEO took office.

this additional control does not change our finding; the coefficient of the shareholder-rights difference is significantly positive and not much different from that in column (2).

In our third test, we focus on the six state-level ATPs in the GIM index, and create a difference in state-level ATPs and a difference in firm-level ATPs between the acquirer and the target for each acquisition. We then create a subsample of 178 acquisitions where both acquirers and targets were initially incorporated before 1985 and if they were ever reincorporated, the reincorporation happened before 1985.<sup>43</sup> This restriction, coupled with the fact that nearly all of the second-generation state-level ATPs were adopted between 1985 and 1991 (Bebchuk and Cohen (2003)), ensures that for these acquirers and targets, neither their managers in the 1980s nor their managers at acquisition announcements determine the state-level ATPs that they are subject to. Therefore, the state-level ATP difference is not susceptible to the problem of managerial-ability difference as an omitted variable. We re-estimate the synergy regression with the overall shareholder-rights difference replaced by the state-level ATP difference and the firm-level ATP difference. Results reported in column (4) of Table 3.8 show that the state-level ATP difference has a positive and significant coefficient, evidence that the omitted variable problem is at least not entirely responsible for our findings.

In our fourth test, we circumvent the problem of managerial-ability difference being an omitted variable by focusing on acquisitions in which target CEOs were not removed and instead stayed at the combined companies. For each of the 396 acquisitions in our sample, we read the proxy statement of the combined firm immediately after the deal completion date and search news reports using Lexis-Nexis around the deal announcement and completion dates to identify what happened to the target CEO. We find that the target CEO stayed at the combined company in 244 deals. We eliminate 54 deals in which target CEOs stayed for less than one year, since these CEOs may simply be around to help the transition or integration. We also exclude 47 deals in which target CEOs held non-operational positions such as director and vice chairman. Our

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<sup>43</sup> We use Moody's Manual to find each firm's incorporation date and reincorporation history.

final sample consists of 143 transactions in which target CEO became CEO, Chairman of the Board, President, Vice President, or Chief Operating Officer of the combined company, or became head of a subsidiary that target assets and operations are now part of. We re-estimate the synergy regression in this subsample and present the results in column (5) of Table 3.8. The shareholder-rights difference continues to have a positive and significant effect on acquisition synergy, again suggesting that the managerial ability difference is not driving our findings.

**Table 3.8. Controlling for the difference in managerial ability**

The subsample used for the first regression consists of 373 acquisitions for which both the target and the acquirer have COMPUSTAT data available for the three years prior to the acquisition announcement. The subsample used for the second and third regression consists of 70 acquisitions for which both the target and the acquirer went public prior to 1990 and both the target's CEO and the acquirer's CEO at the acquisition announcement took office after 1990. The subsample used for the fourth regression consists of 178 acquisitions for which both the acquirer and the target were initially incorporated before 1985 and if they were ever reincorporated, the reincorporation happened before 1985. The subsample used for the fifth regression consists of 143 acquisitions for which target CEO became CEO, Chairman of the Board, President, Vice President, Chief Operating Office of the combined company, or became head of a subsidiary that target assets and operations are now part of. All four subsamples are drawn from 396 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. Both the acquirer and the target are covered by the IRRC anti-takeover provision database prior to the acquisition. The dependent variable for all the regressions is PCAR, the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and the target around the announcement date. *Bidder (target) average ROA<sub>-3,-1</sub>* is the bidder's (target's) average industry-adjusted ROA over the three years prior to acquisition announcement. *Bidder (target) average ROA<sub>1985, 1989</sub>* is the bidder's (target's) average industry-adjusted ROA from 1985 to 1989. *State-level ATP difference* is equal to the number of target state-level ATPs minus the number of bidder state-level ATPs. *Firm-level ATP difference* is equal to the number of target firm-level ATPs minus the number of bidder firm-level ATPs. Definitions of other independent variables are in Appendix 3.1. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for calendar year-fixed effects, whose coefficient estimates are suppressed for brevity.

	(1)	(2)	(3)	(4)	(5)
	PCAR	PCAR	PCAR	PCAR	PCAR
<i>Shareholder-rights difference:</i>					
(Target index – bidder index)	0.301 <sup>a</sup> (2.79)	0.626 <sup>b</sup> (2.03)	0.622 <sup>b</sup> (2.02)		0.496 <sup>a</sup> (2.94)
<i>Managerial-ability difference:</i>					
Bidder average ROA <sub>-3,-1</sub> – target average ROA <sub>-3,-1</sub>	4.366 (1.36)				
<i>Managerial-ability difference:</i>					
Bidder average ROA <sub>1985, 1989</sub> – target average ROA <sub>1985, 1989</sub>			7.600 (0.59)		



**Table 3.8. (cont'd)**

<i>State-level ATP difference</i>				0.567 <sup>c</sup>	
				(1.79)	
<i>Firm-level ATP difference</i>				0.547 <sup>a</sup>	
				(2.90)	
<i>Bidder characteristics:</i>					
Log(market cap)	-1.273 <sup>c</sup>	-0.106	-0.257	-0.813	0.784
	(-1.78)	(-0.06)	(-0.12)	(-0.70)	(0.58)
Tobin's Q	0.042	-1.627 <sup>c</sup>	-1.481 <sup>c</sup>	-0.019	-2.427 <sup>a</sup>
	(0.09)	(-1.82)	(-1.74)	(-0.03)	(-3.65)
Leverage	-1.957	0.822	0.681	-4.801	-18.028 <sup>a</sup>
	(-0.78)	(0.11)	(0.09)	(-0.96)	(-3.10)
Return on assets (ROA)		28.782 <sup>c</sup>	19.167	2.106	25.688 <sup>c</sup>
		(1.70)	(1.39)	(0.22)	(1.88)
<i>Target characteristics:</i>					
Log(market cap)	0.831	-0.948	-0.766	0.061	-1.409
	(1.19)	(-0.47)	(-0.34)	(0.06)	(-0.95)
Tobin's Q	-0.650	0.864	0.757	-0.595	-0.429
	(-0.96)	(1.13)	(0.97)	(-0.55)	(-0.56)
Leverage	3.449	4.599	4.712	2.284	5.325
	(1.53)	(0.75)	(0.72)	(0.66)	(1.27)
Return on assets (ROA)		2.182	5.914	5.443	8.789
		(0.33)	(0.62)	(0.64)	(0.92)
<i>Deal characteristics:</i>					
Market cap ratio	1.237	1.237	0.836	5.914	12.918 <sup>b</sup>
	(0.45)	(0.16)	(0.10)	(1.57)	(2.30)
Tender offer	2.385 <sup>b</sup>	-2.255	-1.649	-1.401	5.300 <sup>b</sup>
	(2.18)	(-0.78)	(-0.57)	(-0.89)	(2.08)
Diversifying acquisition	2.426 <sup>b</sup>	4.087 <sup>c</sup>	4.199 <sup>c</sup>	6.071 <sup>b</sup>	1.363
	(2.29)	(1.68)	(1.71)	(2.36)	(0.83)
All cash deal	3.386 <sup>a</sup>	6.204 <sup>c</sup>	6.657 <sup>c</sup>	3.294 <sup>c</sup>	4.255 <sup>c</sup>
	(2.74)	(1.92)	(1.97)	(1.78)	(1.95)
Merger of equals	-4.563 <sup>b</sup>	1.861	1.805	-2.512	-5.535 <sup>b</sup>
	(-2.36)	(0.35)	(0.32)	(-0.94)	(-2.07)
High-tech combination	-2.157 <sup>b</sup>	-7.410 <sup>b</sup>	-7.326 <sup>b</sup>	-1.360	-0.107
	(-2.12)	(-2.24)	(-2.14)	(-0.83)	(-0.07)
Intercept	4.312	3.799	3.706	5.889	4.147
	(1.18)	(0.43)	(0.39)	(1.36)	(0.82)
Number of Obs.	373	70	70	178	143
Adjusted R <sup>2</sup>	12.9%	34.6%	33.6%	10.6%	26.8%

#### 3.3.4. Bidder shareholder-rights changes

We mentioned in the introduction that acquirers' shareholder rights provisions do not change during acquisitions, and will apply to the combined companies as a result of the transactions. However, this does not mean that a bidder's shareholder rights will stay the same from the pre-acquisition IRRC publication year to the post-acquisition publication year, a period that is at least two years long. Of the 396 acquisitions in our sample, 335 are such that the bidder has IRRC coverage in the two consecutive publication years encompassing the acquisition. We find that there are 155 acquisitions where bidders experience changes in the shareholder-rights index from the pre-acquisition publication year to the post-acquisition one. We randomly select 50 of these deals and read the news reports on the acquiring company in the *Wall Street Journal* around the announcement and completion dates of each acquisition. We do not find any mention of shareholder-rights changes for any of the deals, indicating that the changes do not appear to be driven by acquisitions.

We then limit our sample to the 180 acquisitions where bidders experience no change in the shareholder-rights index between the two consecutive publication years encompassing acquisitions. We re-estimate all our regressions using this subsample and present the results in Table 3.9. We find that the shareholder-rights difference between acquirers and targets continues to have positive effects on acquisition synergy, target return, acquisition premium, and acquirer return, with all but the last relation statistically significant at the 5% or 1% level despite the substantially smaller sample size.

#### 3.3.5. A dummy-variable approach

We also estimate an alternatively specified synergy model in which we replace the shareholder-rights difference with two dummy variables. The first dummy is equal to 1 for acquisitions where the bidder has stronger-than-sample-median shareholder rights and the target has weaker-than-sample-median shareholder rights, or 0 otherwise. The second dummy is equal

**Table 3.9. Subsample regression analysis**

The sample used for the regressions in this table consists of 180 completed U.S. mergers and acquisitions (listed in SDC) between 1990 and 2004. The bidder experiences no change in the shareholder-rights index between the two consecutive IRRC publication years encompassing the acquisition. The dependent variable in column (1) is PCAR, the 11-day cumulative abnormal return for a value-weighted portfolio of the bidder and the target around the announcement date. The dependent variable in column (2) is TCAR, the 11-day target cumulative abnormal return around the announcement date. The dependent variable in column (3) is PREM, the premium of offer price to target trading price 1 week prior to the announcement date. The dependent variable in column (4) is ACAR, the 11-day acquirer cumulative abnormal return around the announcement date. In parentheses are *t*-statistics based on standard errors adjusted for heteroskedasticity (White (1980)) and acquirer clustering. <sup>a</sup>, <sup>b</sup>, and <sup>c</sup> stand for statistical significance at the 1%, 5%, and 10% level, respectively. All regressions control for calendar year-fixed effects.

	(1)	(2)	(3)	(4)
	PCAR	TCAR	PREM	ACAR
<i>Shareholder-rights difference:</i>				
(Target index – bidder index)	0.261 <sup>b</sup> (1.99)	1.029 <sup>a</sup> (3.08)	0.964 <sup>b</sup> (1.98)	0.105 (0.68)
<i>Bidder characteristics:</i>				
Log(market cap)	-1.298 (-1.57)	-1.901 (-0.97)	-2.217 (-0.69)	1.040 (1.11)
Tobin's Q	0.156 (0.25)	0.952 (0.55)	2.327 (1.11)	-0.252 (-0.37)
Leverage	1.616 (0.41)	-9.704 (-0.91)	-0.218 (-0.01)	-1.641 (-0.33)
Return on assets (ROA)	3.766 (0.40)	55.867 <sup>b</sup> (2.56)	24.471 (0.72)	3.599 (0.31)
<i>Target characteristics:</i>				
Log(market cap)	1.096 (1.36)	-0.516 (-0.31)	-1.048 (-0.37)	-1.088 (-1.23)
Tobin's Q	-0.441 (-0.57)	0.434 (0.22)	1.569 (0.59)	-0.460 (-0.55)
Leverage	2.645 (0.77)	-2.050 (-0.21)	-3.739 (-0.30)	4.152 (1.03)
Return on assets (ROA)	1.925 (0.28)	-26.318 <sup>c</sup> (-1.78)	-29.341 (-1.33)	1.109 (0.15)
<i>Deal characteristics:</i>				
Market cap ratio	-0.036 (-0.02)	-14.032 <sup>a</sup> (-3.04)	-14.085 <sup>c</sup> (-1.80)	1.066 (0.37)
Tender offer	2.514 (1.61)	12.344 <sup>a</sup> (2.86)	7.674 (1.42)	1.194 (0.75)
Diversifying acquisition	2.673 <sup>c</sup> (1.70)	1.645 (0.42)	2.126 (0.48)	2.178 (1.36)
All cash deal	2.860 (1.58)	4.757 (0.74)	5.185 (0.69)	2.919 (1.56)
Merger of equals	-7.685 <sup>b</sup> (-2.58)	-8.896 <sup>b</sup> (-2.07)	-15.338 <sup>b</sup> (-2.10)	-3.665 (-1.14)
High-tech combination	-3.653 <sup>b</sup> (-2.39)	0.253 (0.05)	8.296 (1.21)	-3.929 <sup>b</sup> (-2.43)
Number of Obs.	180	180	179	180
Adjusted R <sup>2</sup>	13.0%	24.8%	14.5%	3.5%

to one for acquisitions where the bidder has weaker-than-sample-median shareholder rights and the target has stronger-than-sample-median shareholder rights, or zero otherwise. Regression results (unreported, but available upon request) show that the coefficient estimate of the first dummy is positive with a robust t-statistic of 2.15, and the coefficient of the second dummy is negative with a robust t-statistic of 1.40, significant at the 10% level based on a one-sided test. This is consistent with our earlier evidence that acquisitions of firms with poor (good) governance by firms with good (poor) governance generate more (less) synergy.

### 3.3.6. Corporate governance improvement vs. deterioration

We also explore whether the effect of the shareholder-rights difference on acquisition synergy depends on whether an acquisition results in an improvement in or deterioration of target corporate governance. We create a dummy variable that is equal to one for acquisitions in which the target has stronger shareholder rights than the acquirer, or zero otherwise. We include an interaction term between this dummy variable and the shareholder-rights difference as an additional independent variable in synergy regressions. We find that the shareholder-rights difference itself continues to have a significantly positive effect on synergy, and the coefficient estimate of the interaction term is not statistically significant at any conventional level (unreported, but available upon request). Therefore, the effect of the shareholder-rights difference appears symmetric.

### 3.3.7. Sensitivity tests

Our results are also robust to the following alternative specifications of our empirical tests: (i) we use the BCF index or the BC index to measure a firm's shareholder rights; (ii) we measure abnormal announcement returns over alternative event windows such as (-1, +1) and (-2, +2); (iii) we measure the acquisition synergy in dollar terms instead of percentage terms; (iv) we raise the minimum relative deal size to 5%; (v) we experiment with several change-in-control

ownership thresholds other than 50%, such as 40%, 30%, and 20%;<sup>44</sup> (vi) similar to Lang et al. (1989), we construct four indicator variables based on whether the acquirer's and the target's Q ratios are above or below their respective industry medians and substitute any three of them for the acquirer's and the target's Q ratios. (vii) we control for bidder's pre-acquisition ownership in the target, the percentage of target shares acquired in the transaction, whether a deal is hostile and whether a deal is competed; (viii) in place of the *all-cash* indicator variable, we control for the percentage of deal value paid by stock, which is a continuous variable ranging from 0 to 1; and (ix) we control for both the acquirer's and the target's asset intangibility (item 33/item 6) as a proxy for asset scarcity.

We obtain virtually the same results when we (x) exclude acquisitions made in the “bubble” period, i.e., years 1999 and 2000; (xi) exclude large-loss acquisitions or large-gain acquisitions or both, where we follow Moeller et al. (2005) in defining large-loss (or gain) acquisitions as those that generate more than \$1 billion loss (or gain) for bidder shareholders over the event window; (xii) exclude hostile deals, tender offers, or competed deals, since these deals may have higher uncertainty of completion when first announced and thus, the abnormal returns around announcement may not be able to fully capture the wealth effects of these transactions (Bhagat et al. (2005)); (xiii) exclude mergers of equals; (xiv) exclude 37 acquisitions in which the target's shareholder-rights index is the same as the acquirer's; or (xv) exclude 15 unsolicited deals.

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<sup>44</sup> In most U.S. mergers and acquisitions, the acquirers have very low ownership in the targets prior to acquisition announcements and have full control or close to full control of target shares after the transactions. Therefore, our sample composition does not change much when we alter the ownership threshold.

#### **4. Conclusion**

We provide evidence supporting the hypothesis that acquisitions of poorly managed targets by well-run acquirers create more value than other acquisitions. We focus on an important aspect of a firm's corporate governance, i.e., the shareholder rights, as a proxy for how well a firm is run, and find that the total return of an acquisition increases with the difference in shareholder rights between the acquirer and the target. In other words, the stronger the acquirer's shareholder rights relative to the target's, the higher the acquisition synergy. Further analyses show that the shareholder rights difference has significantly positive effects on both target shareholder gains and bidder shareholder gains, indicating that targets and acquirers share the valuation effects of corporate governance transfers.

We also examine operating performance changes of the acquirer and the target as a combined company from prior to an acquisition to after an acquisition. We find that the shareholder-rights difference has a significant and positive effect on the operating performance changes of the combined company. This echoes our abnormal stock return-based evidence and suggests that the stock market anticipates future efficiency gains and reacts to acquisition announcements accordingly.

### Appendix 3.1. Variable Definitions

Variable	Definitions
<i>Panel A: Total returns, target returns/premiums, and acquirer returns</i>	
PCAR (-5,+5)	11-day cumulative abnormal return (in percentage, calculated using the market model) for a value-weighted portfolio of the bidder and the target. The market model parameters are estimated using the portfolio return data for the period (-210,-11). The weights for the bidder and the target are based on their market capitalizations at the 6 <sup>th</sup> trading day prior to the announcement. The target weight is adjusted for the bidder's toehold.
TCAR (-5,+5)	11-day target cumulative abnormal return (in percentage) calculated using the market model. The market model parameters are estimated using the return data for the period (-210,-11).
PREM	Premium of offer price to target trading price 1 week prior to the original announcement date. This variable is taken from SDC.
ACAR (-5,+5)	11-day acquirer cumulative abnormal return (in percentage) calculated using the market model. The market model parameters are estimated using the return data for the period (-210,-11).
<i>Panel B: Shareholder-rights variables</i>	
GIM index	Taken from GIM (2003), based on 24 anti-takeover provisions. Higher index levels correspond to more managerial power and weaker shareholder rights.
GIM difference	Target GIM index – Bidder GIM index
<i>Panel C: Bidder and target characteristics</i>	
Market capitalization	Number of shares outstanding multiplied by the stock price at the 6 <sup>th</sup> trading day prior to announcement date.
Tobin's Q	Market value of asset over book value of asset: (Compustat item6-item60+item25*item199)/item6.
Leverage	Book value of debts over book value of total assets: (item34+item9)/ item6.
ROA	Operating income before depreciation (item13), scaled by book value of total assets (item6).
<i>Panel D: Deal characteristics</i>	
All-cash deal	Dummy variable: 1 for purely cash-financed deals, 0 otherwise.
Diversifying	Dummy variable: 1 if bidder and target do not share a 2-digit SIC industry, 0 otherwise.
Competed	Dummy variable: 1 if the deal is competed, 0 otherwise.
Hostile	Dummy variable: 1 if the bid is hostile, 0 otherwise.
Tender offer	Dummy variable: 1 for tender offers, 0 otherwise.
Merger of equals	Dummy variable: 1 if the deal is classified as merger of equals by SDC, 0 otherwise.
High-tech combination	Dummy variable: 1 if bidder and target are both from the high-tech industries defined by Loughran and Ritter (2004), 0 otherwise.

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