ESSAYS IN INTERNATIONAL FINANCIAL MANAGEMENT

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By

Chuan (Rose) Liao, B.S.

Graduate Program in Business Administration

The Ohio State University

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Dissertation Committee:

Professor G. Andrew Karolyi, Co-Advisor

Professor Michael S. Weisbach, Co-Advisor

Professor Ruediger Fahlenbrach

Professor Isil Erel

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ABSTRACT

The first essay in the dissertation examines the motives for and the consequences of corporate block acquisitions around the world. I propose and test a number of competing explanations for why corporations purchase (sell) equity stakes from (to) other firms. Using a broad sample of 24,143 minority block acquisitions by corporations from 43 countries, I find that the relief of financial constraints is the primary motive for the sale of equity stakes. Corporate block acquirers often have expertise in the targets' industry, thereby helping to certify the investment opportunities of target firms and so allowing them to raise additional capital. There is little evidence in support of competing theories that corporate block acquirers lower contracting costs in the product market, that they effectively monitor insiders or that they capitalize on their overvalued stocks.

The second dissertation essay examines the motives for and consequences of 5,317 failed and completed cross-border acquisitions constituting $619 billion of total activity that were led by government-controlled acquirers over the period from 1990 to 2008. We find that government-led deal activity is relatively more intense for geographically-closer countries than that of corporate acquirers, but also relatively less sensitive to differences in the level of economic development of the acquirer's and target's home countries, in the quality of their legal institutions and accounting standards, and to how stringent are restrictions on FDI flows in their countries. Government-led acquirers are more likely to

pursue larger targets with greater growth opportunities and more financial constraints than corporate acquirers. But, the share-price reactions to the announcements of such acquisitions are not different from those led by corporations. Among those deals involving government-controlled acquirers, we do find important differences involving sovereign wealth funds (SWFs). SWF-led acquisitions are less likely to fail, they are more likely to pursue acquirers that are larger in total assets and with fewer financial constraints, and the market reactions to SWF-led acquisitions, while positive, are statistically and economically much smaller.

The third essay studies the motives for cross-border mergers by corporations. Despite the fact that one-third of worldwide mergers involve firms from different countries, the vast majority of the academic literature on mergers studies domestic mergers. What little has been written about cross-border mergers has focused on public firms, usually from the United States. We provide an analysis of a sample of 73,015 cross-border mergers occurring between 1990 and 2007. We first characterize the patterns of who buys whom: Geography matters, with firms being much more likely to purchase firms in nearby countries than in countries far away. Purchasers are usually but not always from developed countries and they tend to purchase firms in countries with lower investor protection and accounting standards. A significant factor in determining acquisition patterns is currency movements; firms tend to purchase firms from countries

relative to which the acquirer's currency has appreciated. In addition a country's stock market returns lead to acquisitions as well. Both the currency and stock market effect could reflect either misvaluation or wealth explanations. Our evidence is more consistent with the wealth explanation than the misvaluation explanation.

DEDICATION

To my Father and Mother, Minggang Liao and Li Li: thank you for the constant encouragement and support.

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VITA

2002…….B.S. Economics, Shandong Institute of Economics, P.R.China

2002-2004…...Graduate Associate, Accounting and Finance, University of Manitoba, Canada

2004-2009...Graduate Associate, Department of Finance, The Ohio State University

2009-present...Instructor, Finance and Economics, Rutgers University

PUBLICATIONS

"Testing for the Elasticity of Corporate Yield Spread" (with Gady Jacoby and Jonathan Batten), *Journal of Financial and Quantitative Analysis*, 2009, v44(3), 641-656.

"A (Partial) Resolution of the Chinese Discount Puzzle: The 2001 Deregulation of the B-share Market" (With G. Andrew Karolyi and Lianfa Li), *Journal of Financial Economic Policy*, 2009, V1(1), 80-106.

FIELDS OF STUDY

Major Field: Business Administration

Concentration: Finance

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CHAPTER 1

INTRODUCTION

In the past decade, the volume of cross-border acquisitions has been growing worldwide, from 30 percent of the total merger volume in 1998 to 45 percent in 2007. Even more surprisingly, between 1990 and 2007, 14 percent of public firms around the world were targets in a minority block acquisition, with the fraction of acquired equity averaging 16%[1]. Furthermore, there is growing participation of government-controlled firms in the market for cross-border acquisitions. These growing trends in the world market of mergers and acquisitions have prompted the popular press and academics alike to ask and investigate the motives for and consequences of these transactions. This dissertation seeks to answer these questions by examining a comprehensive dataset of merger and acquisition deals between 1990 and 2007.

Chapter 2 of the dissertation considers a broad sample of 24,143 completed minority block acquisitions by corporations from 43 countries announced between 1990 and 2005. Unlike the world's majority control acquisitions, in which 65 percent of the target firms are domiciled in the United States, less than 25 percent of the world's

[1] A minority block acquisition is one in which the acquirer purchases more than 5 percent and less than 50 percent of the target's shares.

minority block acquisitions involve U.S. target firms. These block acquisitions are often accompanied by private equity placements or rights offering from the target firms to outside corporations. Despite the prevalence of minority block acquisitions around the world, little is known regarding the motivation of the parties involved in these transactions, nor of their consequences.

I test a number of explanations offered by existing research. Overall, my findings are most supportive of the financing explanation for the observed purchase and sale of minority equity stakes between firms. Compared to financially non-constrained firms, financially constrained firms are more likely to be targets in minority block acquisitions and experience larger returns upon the announcement of the acquisition. In addition, these firms increase their operating cash flows, sales and investment expenditures subsequent to the sale of their minority block. Additionally, I find that most of the acquirers operate in industries related to the targets, which I interpret as evidence that minority block purchases help to certify the investment opportunities of the targets. On average, the net external financing doubled for the target firm subsequent to the acquisition. Specifically, within two years of the acquisition, 27% of target firms issue new equity and ten percent issue new debt. These new issuances raise 24% and 27% of the median target firm's market capitalization, for debt and equity issuances, respectively.

For other interpretations, I find either little or mixed evidence. Though firms from weak law countries are more likely to be targets in corporate block acquisitions, they experience lower announcement returns and are less likely to raise equity subsequent to the minority block acquisition. Though contracting theory predicts that partial equity

stakes increase with the degree of asset specificity and/or in the presence of non-contractible decisions, I find that target firms do not operate in R&D-intensive sectors and that the target firms in high R&D sectors do not earn abnormally high returns or experience better operating performance ex post. There is also little evidence in support of the market-timing theory. Target firms are not concentrated in countries that undergo currency depreciation or lower market returns. Though public acquirers have high stock returns prior to the acquisition, only 43% of the acquirers are public firms. Further, targets experience higher increases in their stock prices at the announcement when purchased by acquirers with higher prior stock returns. Capitalizing on over-valued stocks is unlikely to be the motive of block acquisitions.

This essay contributes to three strands of literature. First, the growing literature on corporate investors has emphasized their strategic interaction with the target firms (Allen and Phillips (2000), Fee et al. (2006) and Barclay et al. (2008)), their monitoring role in the targets (Kang and Kim (2008a, 2008b)), and their impact (or lack of) on dividend policy of the targets (Barclay et al. (2008)). I examine corporate investors around the globe and find that corporate investors are most useful in relieving the financial constraints of the target firms by mitigating information asymmetry between target firms and outside shareholders. Second, my findings also add to the law and finance literature that has discovered differences in laws and enforcement are correlated with the development of capital markets, the ownership structure of firms, and the cost of capital (see, e.g., La Porta et al. (1997, 1998)). I find that corporate minority block acquisitions are more prevalent in weak law countries and that they do not represent as effective

governance mechanisms as do mergers and acquisitions. Last but not least, this study helps to explain how financially constrained firms fund their growth opportunities. Previous studies documented several channels such as cash (Almeida et al. (2004)), lines of credit (Sufi (2007)), trade credit (Petersen and Rajan (1997)), ADR listing (Reese and Weisbach (2002) and Lins et al. (2005)), or managerial ownership (Fahlenbrach and Stulz (2008)) for firms to overcome capital market frictions for funding future projects. I find that equity stake sales to outside corporations also help to relieve financial constraints and are frequently used by financially constrained firms around the world.

CHAPTER 3 of the dissertation examines the motives for and consequences of 5,317 failed and completed cross-border acquisitions constituting $619 billion of total activity that were led by government-controlled acquirers over the period from 1990 to 2008. Despite the increased media attention and the growing concerns about the expanded role of governments in global capital markets in general, of foreign block acquisitions led by government agencies in particular, financial economists have devoted relatively little attention to their study. We seek to answer the following questions. First, do government-controlled acquirers pursue targets domiciled in countries that differ from cross-border acquisitions led by private corporations as acquirers from the same home country. If so, do they arise from restrictions imposed by the target's country or do they stem from preferences revealed in country attributes of the acquirer firm, such as the level of economic, institutional or financial development? Are the characteristics and attributes of the target firms different for government-led acquirers? Are the target firm's

share-price reactions around the announcement of a government-led block acquisition different than those of a corporate acquisition?

The analysis in CHAPTER 3 yields three important and unique results. First, there is significant cross-country variation in the cross-border activity that is led by government acquirers in terms of the country of domicile of the acquirers and of the host targets. However, when we test for the hypothesis that the overall cross-country determinants of cross-border acquisition flow from domicile of acquirer and to that of target are different for government-led deals than they are for corporate deals, we find economically small differences. Second, when we turn our attention to deal-level analysis, we show that there are few, if any, firm attributes of the target and acquirer that affect the likelihood of a cross-border deal led by a government acquirer any differently than a corporate acquirer. Finally, we show that the median cumulative abnormal market-adjusted returns (CMARs) around announcements (with a three-day investment horizon) of cross-border deals by corporate acquirers are 5.8% for those seeking majority stakes and 1.4% for minority stakes while those of government acquirers are only 2.1% and 1.0%, respectively. In cross-sectional tests, we are unable to detect any differences statistically once we control for various country-level and firm-specific factors and the resulting differences are economically small.

This essay contributes to the existing literature in a number of ways. First, our empirical design allows us to test the theoretical models of the resource misallocation in public enterprises due to political bargaining over control rights, agency problems in bureaucracies or the pursuit of broader social objective, despite their diffuse predictions.

One of the challenges in implementing tests of these theoretical models is that no specific alternative hypotheses arise and none can thus be rejected in favor of the null that the decisions of public and private corporations are similar. All of this limits the power of the tests. As a result, we build our sample of government-led cross-border acquisitions involving majority and minority stakes in target firms around the world by culling it from the broader sample of all cross-border acquisitions by corporate acquirers, so that we can anchor our inferences and tests with an appropriate benchmark. This benchmarking exercise allows us to benefit from an existing literature on corporate-led cross-border acquisitions that has advanced specific hypotheses as to why firms pursue them and has tested them empirically.

Second, our experimental design allows us to contribute in an important way to the recent literature focusing on sovereign wealth funds (SWFs) and their investment strategies around the world. An important challenge for these existing studies is how to define the appropriate benchmark against which to judge these investment decisions. Most studies exploit the cross-section of SWFs by governance or transparency scores of Truman (2008), by the extent to external managers or politicians are involved in investment decisions, by whether the acquisitions are domestic or cross-border and only one – Chhaochharia and Laeven (2009) – calibrates the country allocations of SWFs against those of other global investors, specifically U.S. mutual funds. Our study contributes to this emerging literature on SWFs by widening the lens on not just SWF acquisitions, but also those by government-controlled corporations and agencies that are not SWFs (and which include government-controlled entities that are owned and

controlled by SWFs). Moreover, in our experiments, we are able to calibrate the cross-border acquisition choices of SWFs against non-SWF government acquirers as well as those of corporate acquirers. Our sample of government-led acquisitions is also by definition larger than most of these other studies which provides helpful statistical power for our basic inferences. Of course, we do only focus on acquisition blocks that exceed 5% of the target firm's shares, so we are not able to compare our findings to those of Fernandes (2009), in which the sample exceeds 21,000 acquisitions, but for which the median size of the SWF investment stake in the target firm is only 0.25%.

CHAPTER 4 of the dissertation addresses an intrinsically connected question to both chapter 2 and chapter 3: what factors determine the patterns of cross-border acquisitions. We provide an analysis of a sample of 73,015 cross-border mergers occurring between 1990 and 2007. We first characterize the patterns of who buys whom: Geography matters, with firms being much more likely to purchase firms in nearby countries than in countries far away. Purchasers are usually but not always from developed countries and they tend to purchase firms in countries with lower investor protection and accounting standards. One particularly important factor in international merger decisions is valuation differences between acquiring and target firms. Differences in valuation between potential acquirers and targets have been documented to be one motive for domestic mergers. These valuation differences are likely to be even more important in an international context since movements in country-level stock markets and currencies provide additional sources of valuation differences.

Our results suggest that valuation differences between acquirers and targets significantly affect the likelihood of a merger. Prior to a cross-border merger, the acquiring firm is more likely to be from a country whose currency has appreciated relative to the target's currency and whose country's stock market has outperformed the target firm's country's market. In addition, if the companies are public, the acquirer's firm-specific abnormal performance is likely to be better than the target's. The estimated effects are fairly large: Our estimates imply that a 100% difference in country-level stock returns between two countries leads to a 17.4% increase in the expected number of acquisitions by the better-performing country's firms of the worse performing country's firms. Similarly, a 75% appreciation of one country's currency relative to another's leads to a 50.4% increase in the number of acquisitions of firms in countries with relatively depreciated currency.

When considering the types of mergers for which stock-market and currency valuation differences appear to be the most important motives, we find that currency movement predicts mergers mostly for within-region country-pairs and also appear to be most important when the acquiring country is wealthier than the target. This pattern is consistent with the view that firms in wealthier countries purchase firms in poorer nearby countries because they are relatively inexpensive following currency depreciation. We also find that valuation differences in country-level stock market predict mergers mostly when the acquiring country is wealthier than the target, consistent with the view that firms in wealthier countries purchase foreign firms following a decline in the poorer country's stock market. We then examine two potential (though not mutually exclusive)

explanations for the preacquisition stock return differences between acquirer and targets. First, the returns can affect changes in the relative wealth of the two countries. Second, the returns can reflect differential divergence from fundamentals. We use an approach suggested by Baker et al. (2009) to differentiate the two explanations. We find evidence consistent with the wealth effect, which is strong in magnitude and persistent across different sub-samples, rather than the mispricing effect.

Finally, we examine at the deal level whether valuation differences drive cross-border M&As controlling for firm-specific factors. We find that differences in US dollar firm returns predict higher likelihood of cross-border deal compared to domestic deals. Furthermore, when we decompose valuation differences between acquiring and target firms to three components, we find that acquiring firms in cross-border mergers not only come from countries with appreciating currencies and booming stock market, but also outperform their domestic capital market.

This essay contributes to a very important literature currently with very few studies. What little has been written about cross-border mergers has focused on public firms, usually from the United States. We find that 80% of completed cross-border deals between 1990 and 2007 targeted a non-US firm, while 75% did not involve a US firm as an acquirer. The majority of acquirers are from 'developed' countries, while the remainder is from 'developing' countries. A surprisingly large number of cross-border transactions involve firms in Eastern Europe (2,115 deals), Asia (7,009 deals), South America (2,587 deals), Africa (853 deals), Central America (810 deals), and Middle East (617 deals). Most importantly, the vast majority of cross-border mergers involve private

firms as either bidder or target: 96% of the deals involve a private target, 26% involve a private acquirer, and 97% have either private acquirers or targets. Hence, the inclusion of private firms in our analysis is important, especially since most other studies use samples of publicly-traded firms or lump private acquisitions in with other investments as foreign direct investment (FDI).

CHAPTER 2

CORPORATE BLOCK ACQUISITIONS AROUND THE WORLD

2.1. Introduction

Between 1990 and 2005, 14% of public firms around the world were targets in a minority block acquisition, with the fraction of acquired equity averaging 16%.[1] Unlike the world's majority control acquisitions, in which 65% of the target firms are domiciled in the United States, less than 25% of the world's minority block acquisitions involve U.S. target firms.[2] These block acquisitions are often accompanied by private equity placements from the target firms to outside corporations. One-third of these private equity placements occur across country borders. Despite the prevalence of minority block acquisitions around the world and their distinct differences from mergers and acquisitions (M&As), little is known regarding the motivation of the parties involved in these transactions, nor of their consequences.[3] Why do firms sell equity stakes to other corporations? Why do corporations purchase partial equity stakes in other firms? Do

[1] A minority block acquisition is one in which the acquirer purchases more than 5 percent and less than 50 percent of the target's shares.

[2] Majority control transactions are ones in which the acquirer purchases more than 50 percent of the target's shares.

[3] Minority block acquisitions differ from M&As in that corporate control does not necessarily change from the hands of existing shareholders to those of new shareholders. Therefore the classic M&A theories are unlikely to explain the motives and impact of minority block acquisitions.

cross-country legal and regulatory differences influence the motives and the consequences of corporate block acquisitions?

Existing research offers a number of possible explanations for the observed purchase and sale of minority equity stakes between firms. For example, equity can play a key role in lowering contracting costs by bonding business partners (see Allen and Phillips (2000) and Fee et al. (2006)). In addition, large multinational firms could use partial acquisitions for strategic reasons. By gaining access to local advantages possessed by local firms, these large firms could increase profitability in local markets (Dunning (1992)). Alternatively, financially constrained target firms could use block equity placements with informed corporations to raise capital directly or to "certify" the target's investment opportunities to the capital market or other capital providers (Myers and Majluf (1984) and Holmstrom and Tirole (1997)). Others propose that corporate blockholders can effectively monitor or share control with large shareholders (Shleifer and Vishny (1986), Gomes and Novaes (2006) and Kang and Kim (2008b)). Finally, corporations potentially acquire blocks of other firms as a way of capitalizing a strong currency or overvaluation of their own stock (Froot and Stein (1991) and Baker et al. (2007)).

This paper examines the extent to which these various theories can explain corporate block acquisitions. Existing studies focus on a particular country and/or test a specific theory.[4] I consider a broad sample of 24,143 completed minority block

[4] Allen and Phillips (2000) examine a sample of 402 large block acquisitions in the U.S. from 1981 to 1990 and emphasize the contracting motive. Fee et al. (2006) consider only 300 equity stakes in their customer-supplier pairs. Kang and Kim (2008) examine a sample of 799 partial acquisitions in the U.S. during the 1990 and 1999 period and find strong support for the monitoring role of corporate blockholders.

acquisitions by corporations from 43 countries announced between 1990 and 2005. Of these 24,143 block acquisitions 4,399 are U.S. domestic deals, 13,389 are domestic deals in non-U.S. countries, and 7,355 are cross-border deals. I find that both public and privately held firms are frequent targets of corporate block acquisitions. Furthermore, the prevalence of corporate block acquisitions varies from as low as five percent of public firms in South Korea to as high as 33% of public firms in Spain and Portugal.

Overall, my findings are most supportive of the financing explanation for the observed purchase and sale of minority equity stakes between firms. Compared to financially non-constrained firms, financially constrained firms are more likely to be targets in minority block acquisitions and experience larger returns upon the announcement of the acquisition. In addition, these firms increase their operating cash flows, sales and investment expenditures subsequent to the sale of their minority block. These findings are robust to numerous proxies for the financing constraints of target firms.[5] Additionally, I find that most of the acquirers operate in industries related to the targets, which I interpret as evidence that minority block purchases help to "certify" the investment opportunities of the targets. On average, the net external financing doubled for the target firm subsequent to the acquisition. Specifically, within two years of the acquisition, 27% of target firms issue new equity and ten percent issue new debt. These new issuances raise 24 and 27% of the median target firm's market capitalization, for debt and equity issuances, respectively.

[5] Proxies for target firm financing contraint include dividend payments, an index based on a structural model of capital investment by Whited and Wu (2006), an index composed of firm size and age by Hadlock and Pierce (2008), an index composed of firm size, age, operating cash flows and leverage by Hadlock and Pierce (2008), and a financial flexibility index designed for international studies by Doidge et al. (2008).

I find mixed evidence for improved governance as a motive for target firms offering minority blocks to acquirers. Consistent with the prediction that corporate blockholders play a role in mitigating agency problems, I find that firms from weak law countries are more likely to be targets in corporate block acquisitions. Moreover, target firms raise large quantities of equity in the immediate aftermath of corporate block acquisitions, consistent with the prediction that the firm-level governance improves subsequently. Inconsistent with the predictions of the governance theory, target firms from weak law countries experience lower announcement returns and are less likely to raise equity subsequent to the minority block acquisition.,. One explanation for this finding is that firm-level corporate governance is less effective in weak law countries (see Doidge et al. (2007)). I examine further whether announcement returns and subsequent equity issuances are affected by acquirers' monitoring ability and costs (see Kang and Kim (2008a)), by using both the proximity of the acquirer to the target and strength of the acquirer country's legal system as a proxy for the acquirers ability to effectively monitor the target. Using these proxies, I find no evidence for the governance hypothesis. In addition, I find that target firms with exchange-listed ADRs do not have significantly higher announcement returns or equity issuances subsequent to the minority block sale. This finding is in contrast to the bonding hypothesis of GKS.

I find little evidence for either the contracting or the market-timing theories. The contracting theory predicts that partial equity stakes increase with the degree of asset specificity and/or in the presence of non-contractible decisions. Thus target firms are more likely to be in sectors with high research and development expenses (R&D), where

property rights are blurry and contracting is difficult (see Aghion and Tirole (1994)). In contrast to the predictions of the contracting theory, I find that target firms do not operate in R&D-intensive sectors and that the target firms in high R&D sectors do not earn abnormally high returns or experience better operating performance ex post. There is also little evidence in support of the market-timing theory. Target firms are not concentrated in countries that undergo currency depreciation or lower market returns. Though public acquirers have high stock returns prior to the acquisition, only 43% of the acquirers are public firms. Further, targets experience higher increases in their stock prices at the announcement when purchased by acquirers with higher prior stock returns. Capitalizing on over-valued stocks is unlikely to be the motive of block acquisitions.

The findings that financially constrained target firms in minority block acquisitions experience higher announcement returns and raise larger quantities of capital subsequent to their minority block acquisitions paints a clear picture that corporate block acquisitions help to relieve the financial constraints of target firms. Using a subsample of minority block acquisitions, including only U.S. firms, I find evidence consistent with prior studies that use only U.S. data. In particular, I find that corporations purchase equity stakes in other firms to lower contracting costs in high R&D industries, such as chemicals and pharmaceuticals. However, when I include the data for the rest of the world, this finding is no longer significant. This discrepancy could be due to the fact that fewer firms operate in high R&D industries outside of the U.S. Equally likely, non-U.S. firms may have more difficulties in raising external capital compared to the U.S. firms.

My paper contributes to the growing literature on corporate investors. Prior studies that examine this specific type of investor emphasize their strategic interaction with the target firms (Allen and Phillips (2000), Fee et al. (2006) and Barclay et al. (2008)), their monitoring role in the targets (Kang and Kim (2008a, 2008b)), and their impact (or lack of) on dividend policy of the targets (Barclay et al. (2008)). I examine corporate investors around the globe and find that these explanations do not have much power for the broader sample. My results suggest that corporate investors are most useful in relieving the financial constraints of the target firms by mitigating information asymmetry between target firms and outside shareholders.

My findings also add to the law and finance literature. Previous studies on corporate governance show that differences in laws and enforcement are correlated with the development of capital markets, the ownership structure of firms, and the cost of capital (see, e.g., La Porta et al. (1997, 1998)). Rossi and Volpin (2004) find that the volume of mergers and acquisitions activity is significantly lower in weak law countries, consistent with the view that high market frictions, such as agency and transaction costs, prevent efficient transfer of control. I find that corporate minority block acquisitions are more prevalent in weak law countries and that they do not represent as effective governance mechanisms as do mergers and acquisitions.

Finally, this study helps to explain how financially constrained firms fund their growth opportunities. Previous studies documented several channels through which financial constraints are alleviated. For example, firms could use cash (Almeida et al. (2004)), lines of credit (Sufi (2007)), or trade credit (Petersen and Rajan (1997)) to

overcome capital market frictions for funding future projects. Firms could also use an ADR listing to improve access to capital (Reese and Weisbach (2002)), especially when facing higher barriers to access capital (Lins et al. (2005)). Managers sometimes increase their ownership when firms are financially constrained because they may be the cheapest providers of external funding (Fahlenbrach and Stulz (2008)). This paper finds that equity stake sales to outside corporations also help to relieve financial constraints and are frequently used by financially constrained firms around the world.

This paper is organized as follows. Section 2 discusses possible determinants and consequences of corporate block acquisitions. Section 3 presents data and deal statistics. Section 4 examines whether proxies for the benefits of block acquisitions are systematically related to the presence of equity stakes in target firms. Section 5 presents results on announcement returns of target firms. Subsequent new equity issuances are examined in Section 6, followed by analysis of the target firms' investment expenditures, sales and operating profitability in Section 7. Section 8 concludes the paper.

2.2. Potential Explanations for Corporate Block Acquisitions

In this section, I discuss possible reasons for minority block acquisitions by corporations. In each sub-section, I discuss predictions of existing theories, review findings of empirical studies and derive testable hypotheses.

2.2.1. Product Market Relationships and the Contracting Motive

In the context of a product market relationship, equity stakes can be regarded as a form of partial integration between two firms. There is extensive theoretical discussion of

the factors that influence full or shared ownership between trade partners.[6] Earlier studies focus on explaining full integration as one way to organize a trading relationship and generally regard partial ownership to be suboptimal (Williamson (1979), Klein et al. (1978), and Grossman and Hart (1986)). Subsequent work identifies circumstances in which joint ownership could be optimal, including settings with incomplete information (see Aghion and Tirole (1994)). An alternative view of partial ownership is that it mitigates the underinvestment problem without diluting the target's incentives too much. The underinvestment problem occurs when one party does not want to invest in actions that help the other party (e.g. Mathews (2006)).

These theories predict that partial equity stakes increase with business relationships that are characterized by a high degree of asset specificity and/or in the presence of noncontractible decisions. Further, equity stakes encourage more relationship-specific investment and more stable partnerships. An empirical proxy for an incomplete-contracting environment could be the level of research and development (R&D) expenses in a sector. As argued by Aghion and Tirole (1994), many times property rights are not well defined for R&D activities. R&D activities of one party can benefit another party in ways outside of any contracting scope. In addition, when business partners share knowledge when collaborating, it is hard to write all contingencies in contracts.

Prior U.S. studies have found a number of results consistent with the contracting motive. Firms are more likely to sell equity stakes to their customer in high R&D sectors

[6] In the foreign direct investment (FDI) literature, the question faced by multinational firms in choosing full versus shared ownership of foreign affiliates is coined "entry mode". Theoretical considerations in that literature all stem from similar work on transaction costs and contract theory discussed here.

(Fee et al. (2006)), exhibit larger increases in announcement returns and improvements in operating performance in high R&D sectors especially when they have joint ventures or alliances with their corporate acquirers (Allen and Phillips (2000)), and have higher success rates when they have a strategic overlap with their corporate venture parent (Gompers and Lerner (2000)). In the context of foreign direct investment, existing empirical work suggests that firms select ownership levels that economize on transaction costs (see Asiedu and Esfahani (2001)), facilitate the coordination of pricing and production decisions (Kant (1990)), learn from their local partners (Kogut (1991)) and curry favors with host governments (Henisz (2000)). Desai et al. (2004) find a marked decline in the use of partial ownership by multinational firms over the last 20 years and conclude that the forces of globalization appear to have diminished the use of shared ownership.

In this study, I examine predictions of the contracting motive on the characteristics, the announcement returns, subsequent operating performance, and investment expenditures of target firms. I use a high R&D industry dummy as a proxy for high contracting costs and a dummy indicating the presence of joint ventures or alliances as a proxy for product market relationship.

Section 2.2.2. Financial Constraints and the Financing Motive

An alternative reason for partial equity stakes is that firms lacking financial slack sell equity to a well-informed corporation. Firms facing high asymmetric information problem in the capital markets often seek financing from intermediaries, such as commercial banks (Fama (1985) and James (1987)), private placement investors (Hertzel

and Smith (1993)), and venture capitalists (Chan (1983)) that can conduct intensive ex-ante due-diligence and ex-post monitoring. However these due-diligence and monitoring activities are often costly to the intermediaries and therefore they charge higher rates to compensate these costs. In contrast, an outside corporation might already possess substantial knowledge and experience in an industry that makes it a cheaper provider of external finance (see Petersen and Rajan (1997) for trade partnerships and Lerner et al. (2003) for alliance agreements).

A few predictions follow from the financing motive. First, firms facing difficulties in raising capital should be more likely to sell equity stakes to other corporations. Second, targets should experience higher announcement returns and larger increases in their operating profitability when they are ex-ante financially constrained. Last, compared to financially unconstrained targets, financially constrained targets are more likely to issue equity subsequently and to raise larger amount of capital.

With the exception of Allen and Phillips (2000), Pablo and Subramaniam (2004) and Fee et al. (2006), prior studies of partial equity stakes largely ignore the role of financial frictions. The findings of the studies that examine the financing motive are mixed. As well put by Fee et al. (2006), "the types of financial frictions and the mechanism by which they lead to partner financing are quite murky."

In this paper, I examine implications of the financing motive for target firm characteristics, announcement returns, subsequent operating performance, investment expenditures, and equity issuances. Many proxies for financial constraints have been proposed by the literature and the best measure is still under debate (see Almeida et al.

(2004)). Thus, I include six widely used proxies. These proxies include a dummy variable that equals one if the firm does not pay dividends (see Fazzari et al. (1988)), a composite index of financial constraints based on a standard intertemporal investment model augmented to account for financial frictions (see Whited and Wu (2006)), an index proposed by Hadlock and Pierce (2008) incorporating firm size and age only, a composite index proposed by Hadlock and Pierce (2008) incorporating firm size, age, operating cash flows and leverage, a financial flexibility index designed for international studies by Doidge et al. (2008), and finally, a dummy variable which equals one if the firm has no public debt in the five years prior to the acquisition.

Section 2.2.3. Investor Protection and the Governance Motive

The corporate governance literature has emphasized the monitoring role of outside shareholders (e.g., Shleifer and Vishny (1986), Pagano and Roell (1998), and Bloch and Hege (2001)). Yet, monitoring does not necessarily assure value-maximizing policies (see Grossman and Hart (1986) for a model of under-monitoring and Burkart et al. (1997) for a model of excessive monitoring by large shareholders). Recent studies emphasize shared control among multiple large shareholders, especially in closely-held firms, as an effective governance mechanism that could increase firm value (see Bennedsen and Wolfenzon (2000) and Gomes and Novaes (2006)).

These theoretical models of large blockholders can be very specialized. Thus, it is hard to interpret them as literal descriptions of typical multi-dimensional corporate blockowners. Nonetheless, this work suggests that corporate blockholders could play a role in an environment characterized by severe agency problems. In addition, target firms

experience higher announcement returns and larger increases in their operating profitability when they face more severe agency problems. Empirically, insider ownership is often used as a proxy for the agency cost in the target firm (see Faccio and Lang (2002) and Doidge et al. (2008)). Weak Law and poor legal protection can also be used as a proxy for severe agency problems due to market frictions; these market frictions limit access to information and result in ineffective corporate control market (see La Porta et al. (1997) and Rossi and Volpin (2004)).

Existing empirical studies have focused on the effect of multiple blockholders on firm value. A number of papers show that multiple blockholders increase firm value by cross-monitoring.[7] Other studies show that the effect of multiple blockholders on firms varies across countries depending on whether blockholders cross-monitor or cooperate with each other to expropriate outside minority shareholders (see Redding (1995) and Faccio et al. (2001)). However, this literature has been silent on the identity of multiple blockholders except for the family blockholders. Few studies examine corporate blockholders and find mixed results. For example, Allen and Phillips (2000) find no evidence that corporate blockholders effectively monitor target firms whereas Kang and Kim (2008b) find that corporate blockholders, especially those geographically close to targets, can actively pursue post-acquisition governance activities in target firms including board representation and replacing poorly performing target management.

[7] See Lehmann and Weigand (2000) for German firms, Volpin (2002) for Italian firms, Maury and Pajuste (2005) for Finnish firms, and Gutiérrez and Tribo (2004) for Spanish firms; for cross-country studies, see Laeven and Levine (2008) for publicly listed firms in Western Europe, Doidge et al. (2008) for foreign firms' cross-listing choices.

In this study, I examine implications of the governance motive for corporate blockholders for the target firm characteristics, announcement returns, subsequent operating performance, investment expenditures, and equity issuances. To proxy for the agency problems of target firms, I use their insider ownership, whether they have an exchange-listed ADR and their country's law and legal protection proxied by a newly assembled anti-self dealing index (see Djankov et al. (2007)). Following Kang and Kim (2008b), I also examine whether acquirers' monitoring costs (e.g. geographic distance) and their monitoring ability (e.g. similar legal origin) affect cross-sectional variation in the consequences of corporate block acquisitions.

Section 2.2.4. Market Conditions and the Timing Motive

Market conditions can also influence firms' decision to be involved in a minority block acquisition. Recent theories on M&As predict that misvaluation drives mergers (see Rhodes-Kropf and Viswanathan (2004), Shleifer and Vishny (2003) and Dong et al. (2006)). In the cross-border context, not only stock market valuation but also currency valuation can affect the decision to be an acquirer in the M&As (see Froot and Stein (1991), Baker et al. (2007) and Desai et al. (2008)).

These theories predict that firms that are likely to become targets in a minority block acquisition by other corporations have cheaper capital or an overvalued currency. Furthermore, unlike previous hypotheses, target firms do not necessarily benefit or lose from these acquisitions if the medium of the transaction is cash.

Existing studies on M&As find that high market to book ratios coincide with periods of intense merger activity, especially in stock-financed deals. Multinational firms

engage in cross-border arbitrage. Specifically, FDI flows increase sharply with source country market valuations (see Baker et al. (2007)) and multinational firms increase their investments in countries that undergo currency depreciation episodes (see Desai et al. (2008)).

In this paper, I examine implications of the market-timing motive for the characteristics of both target firms and acquirer firms. Further, I examine whether announcement returns, subsequent operating performance and equity issuance activities of target firms differ depending on whether acquirers have higher stock returns prior to the acquisition. I use both target and acquirer firm prior stock returns as well as exchange-rate returns as proxies for market conditions.

2.3. Data and Sample Statistics

I use Security Data Corporation's (SDC) Mergers and Corporate Transactions database to collect data on partial-equity-stake acquisitions announced during the period of 1990 to 2005 and completed by the end of 2007. As defined in SDC, partial equity acquisitions are transactions in which the acquirer owns less than 49.99 percent in the target company. I therefore exclude deals that are mergers or majority control acquisitions, LBOs, spin-offs, recapitalizations, self-tender, exchange offers, repurchases, acquisitions of remaining interest, and privatizations.

Starting with all partial equity purchases reported in SDC, I first eliminate those observations in which the acquirer owns less than 5 percent after the deal.[8] Then I exclude deals targeting firms from countries with no stock market or from countries that involve less than 50 targets during the sample period. I also filter out deals that either lack information on the percentage of the target acquired or has this information but is inconsistent with the percentage held before and after by more than one percentage point. In addition, I exclude deals with the following criteria from my sample:

(a) The target and acquirer have the same parent company: 1,870 deals.

(b) The acquirer is a government agency: 2,246 deals.

(c) The target is owned by a government: 1,163 deals.

(d) The target operates in regulatory industries[9]: 5,365 deals.

(e) The target operates in the financial industry: 8,418 deals.

After applying these filters, I have a sample of 28,793 minority block acquisitions in 46 countries involving 22,303 target firms with the total transaction value of $737 billion.[10,11]

Table 1 summarizes the distribution of these block acquisitions across the 46 target countries in my sample. More than half of the targets in block purchases are from Continental Europe or Asia. Less than 20% of the targets are from the U.S. and only 6%

[8] For most countries in my sample, firms are required to report new shareholders with more than five percent ownership. In nine countries, the trigger for ownership disclosure is ten percent or non-existent. I would like to thank Peter Pham and Jason Zein for sharing the list of countries.

[9] Foreign ownership in regulatory industries in many countries is restricted. Regulatory industries include (2-digit sic): water transportation (44), air transportation (45), pipelines (46), transportation services (47), communications (48), and electric, gas and sanitary services (49).

[10] In total, these excluded deals represent 36 percent of the sample in number and 60 percent in value, most of which targeted firms either in financial or regulatory industry.

[11] $737 billion underestimates the total value of the equity stakes since only 16,170 out of 28,793 acquisitions have non-missing deal value.

of the firms are from the U.K. Public targets are about half of the sample. Almost one-third of deals are cross-border in nature.[12] Financial firms, such as private equity or venture capital firms, acquired only 17% of the partial equity stakes in corporations. Moreover, 21% of the acquirers are in related industries as target firms.[13] Almost three quarter of the targets in these equity stake acquisitions do not operate in high R&D industries, suggesting that these transactions are not motivated by incomplete contracting environment.[14]

There are substantial differences across geographic regions. Sixty-seven percent of target firms in Australia, New Zealand and the U.S. are public versus only 30% in the Latin America and Continental Europe. About 80% of the U.S. firms are purchased by domestic acquirers, in sharp contrast to only 33% of the Latin American firms. Financial acquirers are involved in 25% of European targets, but only in 12% of Asian targets. More than a third of targets in Latin America are acquired by firms in related industries, whereas only 16% in the United States. Finally, the U.S. target firms are more likely to be in high R&D industries compared to the rest of the world (except Israel and Taiwan).

The patterns for large minority block acquisitions are quite different from those of M&As in the same time period.[15] I use SDC's Mergers and Corporate Transactions database to collect reports of all the mergers announced during the period of 1990 to 2005 and completed by the end of 2007. As defined in SDC, mergers are majority control

[12] For deals occurred post 1999 within EU countries, I classify them as domestic. 608 cross-border deals within the EU are classified as domestic.
[13] Related industry dummy equals to one when the target's 2-digit SIC code overlaps with that of the acquirer.
[14] Following Allen and Phillips (2000), I define high R&D industries to be the upper quartile of R&D expenditures among all nonfinancial four-digit SIC industries on Compustat.
[15] The table is available under request.

acquisitions in which the acquirer owns more than 50% in the target company. I also use similar filters as those applied to minority block acquisitions. Compared to minority block acquisitions, public target firms are rare in M&A deals (5 percent) and U.S. targets are the most popular (as large as 65% of all M&As).

I match my SDC sample with DataStream, which provides daily returns for bidders and targets as well as the market index return in each country. Accounting and ownership data are from WorldScope. Among 8,177 public targets from SDC, 5,262 firms have return information for target firms (comprising 6,631 events). The matching results are similar to studies that match SDC M&A database with Worldscope database (e.g. Kim (2008)).[16]

Table 2 reports the corporate block acquisition activities in public target firms by year. Cumulatively from 1990 to 2005, 16% of all publicly traded firms were targets in a minority block acquisition by other corporations. Forty-three percent of these targets are purchased by public acquirers. Similar to the full sample reported in Table 1, financial acquirers, foreign acquirers, and related-industry acquirers purchase respectively 21%, 28 percent, and 68 percent of all public target firms. In addition, most of the acquirers are friendly, purchase their blocks through private negotiations and use cash as the

[16] To examine whether there is systematic difference between target firms that are matched with WorldScope and those unmatched, I analyze both deal characteristics between the two samples and the percentage of matched firms by country and by year. In general, I do not find significant difference in deal characteristics between matched and unmatched deals. The only noticeable difference is that the percentage of matched firms is higher after 1998, which could reflect a better coverage by Worldscope. In my empirical analysis, I report results only for the full sample but discuss results using only the post-1998 sample if these robustness results are different.

transaction medium.[17] The size of the equity stakes is predominantly smaller than 20 percent.[18]

One concern with the current definition of minority block acquisition is that it is possible that the purchasing corporation gained majority control even with less than 50 percent ownership of the target firm. Recent research on ownership and control structures of firms around the world has chosen 20 percent as a critical cutoff for defining effective control (LLS(1999), Faccio and Lang (2002) and Claessens et al. (2000)).[19] Nevertheless, to address these potential concerns, I examine the sensitivity of my results to different ownership cutoff levels in all subsequent analysis. A related concern is that the purchasing corporation can still be control-motivated and use the minority block as its toehold in the target firm, resulting in transitory block positions. Since strategies of successful/failed takeovers are not within the scope of this study, I eliminate 178 deals in which the firm is subsequently merged with the blockholder during a two-year period following the equity purchase.[20] I also eliminate 140 deals in which the acquiring corporation subsequently sold its shares during a two-year period.

Using Worldscope, I calculate various firm characteristics, namely size, operating performance, growth opportunities, leverage, investment and ADR listing.[21] Firm size is

[17] Cash dummy is equal to 1 if SDC indicates that the deal is paid entirely in cash. Only 48 percent of the target firms in M&As are paid in cash (see Rossi and Volpin (2004)).

[18] When SDC reports voting ownership of the stakes, I use voting ownership instead of cash flow ownership. Only 53 events have differential cash flow ownership and voting ownership.

[19] Regulatory authorities in many countries regard 30 percent ownership as a critical cutoff for effective control. According to Dyck and Zingales (2004), the median threshold that triggers a mandatory tender offer of remaining shares is 30 percent. The typical example is U.K. City Code on Takeovers and Mergers.

[20] For robustness check, I have do all analyses dropping 220 (231) deals in which the firm is subsequently merged with the blockholder during a five-year (ten-year) period.

[21] Observations that have lower than $1 million in book value of assets or have negative book value of equity are discarded. Financial and utility firms are also excluded.

measured in millions of U.S. dollars. Return on assets is calculated as earnings before interest, taxes, depreciation and amortization (EBITDA) divided by book value of total assets. Book leverage is the ratio of long-term debt to book value of total assets. Sales growth is the one-year inflation-adjusted growth in sales. Market-to-book is calculated as the book value of total assets subtracting the book value of equity and adding the market value of equity and divided by the book value of total assets. Investment expenditures are calculated as the sum of capital expenditures, R&D expenditures and net assets from acquisitions. An ADR dummy indicates whether the firm has an ADR listing in the year under consideration.

Table III provides a comparison of these summary statistics for target firms and non-target firms. For each target firm of a given year, I benchmark it with non-target firms in the same country to mitigate impact of cross-country differences in financial reporting practices.[22] Firms that are ultimately targets in the minority block acquisitions are included in the non-target category in all years except the announcement year.[23] Compared to a typical firm in the same country, the target firm in minority block acquisitions is smaller. However, the size difference is mainly driven by U.S. targets; non-U.S. targets are about the same size, or a little larger, than the average firm in their country. Target firms have higher leverage than non-targets. In terms of operating performance, target firms have lower EBITDA than non-targets. That target firms have higher leverage and lower profitability could indicate that they are in financial distress;

[22] I have also used two alternative benchmarks and find similar results. First, I compare target firms with rest of the world. Second, I compare target firms with those in the same industry.

[23] In merging SDC event data with Worldscope and Datastream, I associate accounting variables in the fiscal year prior to the announcement date with the acquisition dummy.

however, their sales growth is significantly higher than non-targets and their investment expenditures are similar to non-targets. Target firms are also more likely have an ADR listing than non-target firms.

I also include key variables used in testing implications of various motives. For the contracting motive, I construct a high R&D dummy, which is equal to one if the firm operates in the upper tercile of all industries by their median firm R&D expenses.[24] I find that targets are less likely to operate in high R&D industries than the typical firm in their country. This univariate statistic suggests that the contracting motive for partial equity purchases does not hold up in the sample.

For the financing motive, I include six dummies measuring financial constraints. A zero-dividend dummy is equal to one if the firm pays no dividend in that year and zero otherwise. The second dummy is based on an index documented in Whited and Wu (WW, 2006) and is equal to one if the firm's Whited and Wu index (WW index) is in the upper tercile of all Worldscope firms in that year. The WW index is a composite index of financial constraints based on a standard intertemporal investment model augmented to account for financial frictions. The third dummy variable is based on a new index recommended by Hadlock and Pierce (2008) who find that "firm size and age are particularly useful predictors of constraints". The high Hadlock and Pierce index (HP index) is equal to one if the firm's HP size and age index is in the upper quartile of all WorldScope firms in the year under consideration. The fourth dummy variable is based

[24] I also construct an alternative dummy variable to proxy for high R&D industries as those in the upper quartile of R&D expenditures divided by total net assets among all four digit SIC industries on Compustat (see Allen and Phillips (2000). For all dummy variables used as proxies of various motives, I use methods such as quartiles or quintiles for robustness checks and find similar results.

on an index recommended by Hadloack and Pierce (2008) that incorporates Whited and Wu variables, firm size, and age. For lack of a better name, I refer to it as high HP index 2 that equals to one if the firm's composite index incorporating operating cash flows, leverage, firm size and age is in the upper quartile of all Worldscope firms in the year under consideration. The fifth dummy variable is based on an index proposed by Doidge et al. (DKLMS, 2008) for non-U.S. firms ("Financial flexibility index"). The Financial flexibility index is constructed as a count variable by adding one point for a firm with high cash and liquid assets, one point for high dividends, and on point for low capital expenditures. A firm is classified as having high cash and liquid assets if its cash and liquidity asset holdings are in the upper quartile of all firms within their country. A similar rule is applied to both dividends and capital expenditures. I refer to the fifth dummy as DKLMS low flexibility index, which equals to one if the firm's Financial flexibility index is equal to 0 or 1. The last dummy for financial constraints is called no public debt dummy, which equals to 1 for those firms that have not issued public debt in the 5 years prior to the acquisition. All measures of financial constraints except no public debt dummy are higher for target firms than non-targets, which is consistent with the predictions of the financing motive.[25]

For the governance motive, I also use two dummies measuring governance problems. The high closely-held shares dummy is set to one if the firm's insider

[25] No public debt dummy is a questionable proxy for financial constraint because firms with the most financing needs likely tab the public debt market the most. For example, Microsoft has no public debt and is not likely to be financial constrained by all measures.

ownership is in the upper tercile of all Worldscope firms in that year.[26] The low anti-self dealing index (ASDI) dummy is equal to one if the country's ASDI is lower than the world median (see Djankov et al. (2007)). Univariate test suggests that target firms have lower insider ownership, which is the opposite of the predication of the governance motive; however target firms are more likely from countries with a low ASDI index, consistent with the prediction of the governance motive.[27]

Finally, for the market-timing motive I examine firm-level stock returns, country-level stock returns and exchange-rate returns. The dummy variable indicating low country-level returns in the prior year is equal to one if the firm's country-level cumulative 12 month stock market return is lower than the world median in that year. The currency depreciation dummy equals one if the real exchange rate increases by over 25 percent compared to the value of the exchange rate one year earlier. I also include public acquirers' 12 month cumulative stock returns both prior to the acquisition and after the acquisition. Univariate test suggests that target firms have lower prior stock returns than non-target firms and public acquirers have high stock returns in the year prior to the acquisition, consistent with the market timing motive.

[26] Worldscope defines closely-held shares as shares held by insiders, which include senior corporate officers and directors, and their immediate families, shares held in trusts, shares held by another corporation (except shares held in a fiduciary capacity by financial institutions), shares held by pension/benefit plans, and shares held by individuals who hold five percent or more of shares outstanding. In Japan, closely-held shares represent the holdings of the ten largest shareholders. For firms with more than one class of shares, closely-held shares for each class are added together. This measure is far from perfect since it relies on information disclosed by firms and this disclosure is often voluntary. For detailed discussions of the reliability of this variable, see Kho et al. (2008).

[27] Other proxies for the country-specific governance problems include shareholder protection, creditor protection and legal origin (La Porta et al. (1998)). They yield similar results as the anti-self dealing index.

2.4. Which Firms Have Corporate Blockholders?

In this section, I examine which firms are likely to be targets in corporate block acquisitions. Logit models are estimated where the dependent variable is set to one if the firm is the target in a minority block acquisition. Firm size, GDP per capita and stock market capitalization to GDP are used as control variables but their coefficients not reported for all regressions. All specifications include year fixed effects with heteroscedasticity-robust standard errors clustered by a firm's two-digit SIC code. Table IV reports marginal effects of logit regression results.

Columns (1) through (6) incorporate various proxies of financial constraints one at a time. All key variables for the different theoretical motives are included.[28] Four out of six financial constraint dummy variables are significantly positively related to the probability of being a target in a minority block acquisition. The probability of being a target as a firm becomes financially constrained increases between 0.2 percent and 0.5 percent depending on the proxy for financial constraint. For example, the probability of a firm selling equity stakes to another corporation increases 0.5 percent when the firm is a non-dividend payer. This is equivalent to a 17 percent increase for the average firm with 3 percent probability of being a target in a minority block acquisition in a given year.

Turning to other motives, the high R&D industry dummy is not significant, suggesting that the contracting motive does not explain which firms are more likely to be targets in corporate block acquisitions. The two proxies of governance problems suggest opposite results. On one hand, firms with higher insider ownership are less likely to be

[28] In unreported tables, I incorporate key variables of various motives one at a time; they yield qualitatively similar results as the comprehensive regression models.

targets in a block acquisition; on the other, the coefficient on low ASDI dummy is significantly negative, indicating that firms in weak law countries are more likely to be targets. There is also mixed evidence for the cheap-capital motive, target firm's stock returns are significantly negative, suggesting that acquirers purchase equity stakes when the target firm's stocks are relatively cheap; however target firm's exchange-rate returns are not significant, opposite to the prediction of the cheap currency motive. Furthermore, target firm's prior stock returns are likely to be correlated with whether it is financially constraints. Though the univariate analysis suggests that public acquirers have much higher stock returns in the year prior to the partial equity acquisition, acquirers' stock returns could also be a proxy for their growth opportunities. I examine target announcement returns in the next section, in hopes to better differentiate between these two effects.

Because both the SDC sample and the matched SDC-Worldscope sample are likely to be biased towards U.S. firms, it is possible that my findings are driven mainly by U.S. firms. Therefore as a robustness check, I examine non-U.S. firms and the post-1998 sample, since, as discussed earlier, the coverage in Worldscope for non-U.S. firms is much better after 1998.[29] Using only non-U.S. firms, I find that four out of six financial constraint dummies are both statistically and economically significant. After incorporating all firm-level controls, the probability of a zero-dividend firm receiving equity stakes in the non-U.S. sample is 0.7 percent higher than a dividend payer. It is a 30 percent increase for an average firm that has an average 2.5 percent probability of receiving equity stakes. For other motives, the results in the non-U.S. sample are similar

[29] The tables of these results are omitted but available under request.

to the whole sample. Considering the sample period after 1998, three out of six financial constraint dummies are statistically significant. For other motives, high R&D industry dummy is still not significant. Low ASDI index and high closely-held shares have the same sign as before. However, currency depreciation dummy now becomes significantly negative, which is opposite of the prediction of the market timing motive.

The results in this section show strong support for the financing motive. Firms that are financially constrained are more likely to be targets in partial equity acquisitions. For the contracting motive, I do not find supporting evidence, i.e. firms in high R&D industries are not more likely to be targets. For both the governance and the cheap-capital motive, I find mixed evidence. Target announcement returns analyzed in the next section can shed further light.

2.5. The Announcement Effects of Corporate Block Acquisitions

In this section, I examine the excess returns for both the target and the acquirer at the announcement of the partial block acquisition. The analysis in the last section reveals that financially constrained firms are most likely to sell partial equity stakes to other corporations. The reliability of such analysis depends critically on the assumption that the sample of equity stakes is unbiased. This section examines market reaction to the acquisitions, which is not sensitive to omission of unobserved equity stakes. I first summarize the excess returns at the announcement and the premium paid for the partial equity stake in the univariate analysis. Then I examine the determinants of announcement returns in multivariate tests, followed by further tests to incorporate the effects of

acquirer information advantages. Lastly, I run alternative tests using other proxies of key variables.

Section 2.5.1. Univariate Analysis

To assess the valuation effects of partial equity acquisitions, I compute cumulative market adjusted buy-and-hold returns over a 21 day period (-10, +10) centered at announcement date. I use a long window because of the possibility that announcements of this type may not be reported until several days after the actual purchase (see Allen and Phillips (2000)).[30] Table V presents the announcement-period excess stock returns to target firms, purchasing firms and the combined excess returns of both target firms and corporate blockowners. The premium for these blocks, calculated as the price paid over the target firm's stock price 1 week prior to the acquisition, is also included in the analysis. However, only about one third of the sample has premium information.

For the full sample, an average target firm earns statistically significant 8 percent cumulative abnormal return during the announcement period. It is within the range of excess returns found in existing studies.[31] The purchasing firm also experiences an average 1.2 percent wealth gain over a 21 day period (-10, +10) centered at the announcement date, economically much smaller than the target firm. Since the average purchasing firm is much larger than the target firm (the median acquirer is about 13 times the target firm), the combined return is also economically much smaller than the target

[30] I also examine mean excess returns over different event windows such as (-5, +5), (-2, +2) as well as (-20, +20). The result holds robust.

[31] Kang and Kim (2008) find 9 percent abnormal returns in their out-of-state partial equity acquisition and Allen and Phillips (2000) find 6.9 percent in their full sample of minority block acquisition.

return, but most of these returns are still statistically significant. This result for the purchasing firm is different from what Allen and Phillips (2000) find in their sample of 402 minority block purchases in the U.S. firms during 1980s. They find a mere 0.02 percent for the combined returns.[32] The average premium paid for these blocks over the target stock price one week prior to the acquisition is eight percent.[33] Following the existing studies, I focus the discussion below on returns of target firms.

For the subgroup analysis, I find significantly higher target returns when they operate in high R&D industries, are financially constrained, are from strong law countries, and sell equity stakes to acquirers in the upper quartile of prior stock returns.[34] Whether the target firm has high insider ownership or whether the acquiring firm is foreign does not affect target announcement returns. These univariate comparisons are consistent with the predictions of the contracting motive and the financing motive but opposite to the predictions of the governance motive and the timing motive. That target firms experience more value gains when acquirers have high prior stock returns suggests that prior returns of purchasing corporations are a proxy of their growth opportunities rather than overvalued capital. Furthermore, public acquirers with higher prior stock returns pay significantly less, opposite to the prediction that acquirers overpay target firms with overvalued stocks. I find no evidence that the value gains of financially

[32] The difference could be due to: (1) firm size, as target firms in my sample are much larger than other studies or (2) event study methodology, as I use market-adjusted returns rather than employ the traditional event study methodology using a market model because of the cross-country nature.

[33] The median premium paid is 3 percent, smaller than the 8 percent median premium of block acquisitions documented by Allen and Phillips (2000). And in 40 percent of the cases, stakes are sold at a discount to the market value. Hertzel and Smith (1993) argue that private equity placement should be sold at a discount due to illiquidity of large blocks and search costs incurred by block purchasers.

[34] I report results for the financing motive using only the high HP index 2 dummy from now on. But all other proxies yield qualitatively similar results, except the no public debt dummy.

constrained targets or targets in high R&D industries are driven by overpaid stakes. Finally, the premium paid for partial equity stakes in weak law countries and cross-border deals is almost 6 to 10 percent higher than that in strong law countries and domestic deals. That blocks are traded at a higher premium in weak law countries suggests that corporate blockholders are willing to pay a higher price for equity blocks that allow them to extract private benefits of control (see Dyck and Zingales (2004) for a cross-country comparison of block premiums).

Section 2.5.2. Multivariate Analysis

To gain more insights into the determinants of excess returns of target firms at the announcement, I examine factors that could influence target returns in a multivariate setting. I estimate regression models using target cumulative excess returns during (-10, +10) centered at the announcement. The independent variables include a high R&D dummy, a high HP index 2 dummy, a high closely-held shares dummy, a cross-border dummy, a high ASDI dummy and finally a high acquirer prior stock return dummy. The definitions and statistics of these variables are summarized in section 3. All specifications control for firm size, GDP per capita and stock market capitalization per GDP. Year fixed effects are included with heteroscedasticity-robust standard errors. Table VI summarizes the results. Column (1) through column (6) examines various theoretic motives using the full sample. Column (7) through column (9) includes all key variables using various sub-samples: non-U.S. sample, the sample of deals with block size smaller than 20 percent and the post-1998 sample.

The multivariate results in Table VI are consistent with the univariate results in Table V. There is strong evidence for the financing motive. Coefficients on the financial constraint dummy are always statistically significant and economically large. After I control for high R&D industries, insider ownership, cross-border deals, target country's legal protection and acquirers' high prior stock returns, financially constrained targets always earn a significant 3.6 percent higher return.

For the contracting motive, the high R&D dummy becomes not significant once I control for other factors. For the governance motive, the coefficients on high insider ownership dummy and the cross-border deal dummy are not significant. The low ASDI dummy is significantly negative, suggesting that outside investors benefit less from corporate blockholders in weak law countries. For the market timing motive, target firms earn higher returns when acquirers experience higher prior stock returns, which suggests that these acquirers bring more benefit rather than simply trying to capitalize on their overvalued stocks.

The regression results for various alternative samples are similar to those of the full sample. These alternative samples are chosen to mitigate concerns that my sample of partial equity stakes is not representative of the world or that the large equity stake leads to changes in control. In particular, I examine the sample of deals with block size smaller than 20 percent for two reasons. First, it is unlikely that control has changed hands with lower than 20 percent ownership. Secondly, for all countries, which require the bidder to implement a mandatory tender offer for the remaining shares, 20 percent is the lowest threshold for the size of the block (for example Dyck and Zingales (2004) document 30

percent in U.K. City Code on Takeovers and Mergers). The automatic trigger in tender offers affects the terms of the deal pricing as well as target firm's stock returns. Therefore, it is important to check that results are not affected by mandatory tender offer rules.

I omit detailed discussions for each motive because the results in all of the sub-sample analysis are consistent with those in the full-sample. The financing motive finds strong support in the sub-samples. On average, financially constrained targets experience 2.7 percent to 3.2 percent higher returns than non-constrained. There is no evidence for the contracting motive, the governance motive or the timing motive.

Section 2.5.3. Acquirer Information Advantage

If target firms sell equity stakes to outside corporations to raise cheaper capital, corporate acquirers must have information that other shareholders or debtholders do not have. In this subsection, I test whether any acquirer information advantage leads to higher announcement returns for target firms. The acquirer's information advantage about the target firm's investment opportunities is expected to be higher if the acquirer possesses operating expertise in the target industry. Alternatively if the acquirer is a business partner with the target firm, it may have information that outsiders do not have. Thus I construct three measures of acquirer's information advantage. The first measure is a dummy variable indicating the presence of joint ventures or alliances between the target and the acquirer. About ten percent of target firms have joint ventures or alliances with the acquirer firm. This measure will likely underestimate the extent of the interaction between the target firm and the acquirer since many of business relationships exist in the

form of customer-supplier (see Fee et al. (2006)). The second measure is a dummy variable indicating whether target firms operate in the same industries as the acquirer (using the two-digit SIC code). About 30 percent of target firms operate in the same industry. However, this measure will not measure how vertically integrated two industries are. To incorporate vertical integration, I construct the third measure based on the U.S. input-output account and define related industries as the ones between which the total requirement coefficients are in the upper quartile of all industries. Based on this measure, 70 percent of target firms operate in related industries as acquirers.

To construct the dummy indicating the presence of joint ventures or alliances, I rely on the SDC Joint Venture/Alliance (JVAs) Database to detect the presence of any form of partnership between the target and the purchasing corporation. These partnerships are in many different forms including joint ventures, agreements and alliances. A joint venture (JV) creates a separate legal entity where the firms involved invest assets or hold equity interests in the venture. Agreements and alliances are explicit contracts to supply products or services, manufacture products, market or distribute products, license the rights to product or distribute of product, conduct research and development activities, and share existing technologies or methods.

Table VII summarizes the results. Column (1) through column (3) incorporates the acquirer information advantage dummy one at a time. Column (4) through column (6) includes all other control variables, including a high R&D industry dummy, a high HP index 2 dummy, a high closely-held shares dummy, a cross-border dummy, a low ASDI index dummy, and a high prior acquirer stock returns dummy.

I find that the presence of joint ventures or alliances is significantly positively related to target announcement returns but the joint venture or alliance dummy loses its significance when other controls are included. Both the same industry dummy and the related industry dummy are significantly positive even after including other controls. On average, the target firm experiences 2.2 (1.6) percent higher announcement returns if the acquirer operates in the same (related) industry. Therefore, acquirers with more information are likely to have a higher certification effect for the target firm's investment opportunities. Inferences for other variables are qualitatively similar to the findings before.

Section 2.5.4. Robustness Checks

This subsection further tests whether the contracting motive and the governance motive explain the announcement returns. For the contracting motive, I construct alternative proxies of high R&D industries and use various subsamples. For the governance motive, I examine the cross-border sample to exploit differences in the legal protection between the target and acquirer country.

Previous studies have found that target firms in high R&D industries that are acquired by their business partners experience high returns (see Allen and Phillips (2000) and Fee et al. (2006)), consistent with the contracting motive. In the above subsections, I have found that firms in high R&D industries are not more likely to be targets in partial equity acquisitions and do not experience significantly higher announcement returns. In the panel A of Table VIII, I first examine whether a different high R&D proxy for the contracting environment led to a different result than what has been found by existing

studies that focus on the U.S. firms. I construct an alternative dummy variable to proxy for high R&D industries as those in the upper quartile of R&D expenditures divided by total net assets among all four digit SIC industries on Compustat. I find that the dummy for high R&D industry becomes insignificant once I include other controls. Then in columns (2) and (4), I include a dummy variable indicating whether the target firm and the purchasing corporation have joint ventures or alliances (JVAs) in the two year periods centered at the announcement date, using the SDC Joint Venture/Alliances Database.[35] The contracting motive predicts that target firms that have a product market relation with the purchasing corporation and operate in high contracting cost environment (proxied by R&D expenses) benefit the most from corporate equity blocks. The dummy variable indicating the JV/Alliance presence is positive but not significant once other controls are included. In column (5), I examine whether excluding financial acquirers changes results. And I find no such evidence. As a final effort for the contracting motive, I examine a sample of deals that involve only U.S. firms as targets. In the U.S. sample, the dummy variables indicating a high R&D industry and joint ventures or alliances are both significant even after I include other controls, which is consistent with the previous U.S. studies (Allen and Phillips (2000)). This result is consistent with the finding in Table 1 that U.S. targets are more likely in high R&D industries compared to the rest of the world. It is important to emphasize that the financial constraint dummy is always significantly positive regardless of the specification and sample I use.

[35] For the U.S., seven percent of my sample firms have JVs in the two year period and ten percent in the six year period. For the non-U.S. sample, five percent of my sample firms do in the two year period and seven percent in the six year period. The regression results are similar whether I use two, four or six year window.

Panel B of Table VIII reports results for the cross-border sample only to exploit differences in the legal protection between the target and the acquirer. Recent cross-border M&A studies have found that firms in weak law countries are more likely to be targeted by firms in strong law countries and their valuation increases when acquired by firms from strong law countries (see Rossi and Volpin (2004), Bris et al. (2007), and Bris and Cabolis (2007)). If the governance motive holds and cross-border M&As can help target firms to rent good governance from the acquirer country, then target firms acquired by those from better law countries will experience higher announcement returns. However, if countries with the same legal origins have similar legal structures in relation to governance activities and this similarity reduces information asymmetries that foreign investors face in the host country, then target firms acquired by those that are from similar legal and law protection countries will experience higher announcement returns (see Kang and Kim (2008a)).

I examine both possibilities in relation to the governance motive in the context of cross-border minority block acquisitions. First, I construct two variables that allow for asymmetric effects between acquirers from stronger law countries and those from weaker law. They are respectively “Increase in protection” and “Decrease in protection”. They are equal to the difference in country-level corporate governance index between the acquirer and the target if the acquirer’s governance index is greater (smaller) than the target and 0 otherwise. Second, I calculate the absolute difference in country-level governance index between the acquirer and the target. I use four country specific corporate governance indices as proxies for the legal protection from La Porta et al.

(1998) and Djankov et al. (2006), respectively shareholder protection, creditor protection, anti-self dealing index and common law dummy.

The results in Panel B show that the level of legal protection in target country positively relates to announcement returns. Consistent with the full sample, targets in strong law countries experience higher returns, opposite to the predictions of the governance motive. Furthermore, there is no evidence that acquirer's legal protection or the similarity in the legal protection between the target and the acquirer affects announcement returns. The financial constraint dummy is significantly positive in all regression models.

Overall, I find strong support for the financing motive. Financially constrained targets experience higher announcement returns. Moreover, target firms benefit the most when the purchasing corporation has superior information about the investment opportunities of the target firm through partnership. The evidence for the contracting motive, the governance motive and the market timing motive is weak or mixed at best.

2.6 New Issuances

This section further tests the financing motive by examining equity issuance activities of target firms. If target firms are financial constrained because they face severe information problems in the capital market, then positive stock price reactions of block acquisitions in the above section could reflect resolution of asymmetric information about target firm value.[36] Larger target stock price increases when acquired by firms from related industries or by business partners provides further evidence that an

[36] Hertzel and Smith (1993) examine private equity placement and find positive stock price reactions.

informed party could convey more positive information compared to an uninformed one. With the resolution of asymmetric information, target firms are likely to raise capital subsequently and increase the amount of their capital issuances.

New issues are obtained from Securities Data Corporation (SDC). SDC contains the dates of issues, the market in which the security was issued and the proceeds from each issue. I collect both equity and debt issuances by all target firms between 1990 and 2007. I then compare the acquisition announcement date with the issue date to determine the number of prior and subsequent equity (debt) offerings and their proceeds. To avoid double counting, I lump multiple tranches or simultaneous offerings in multiple markets as one issue.

Panel A of Table IX summarizes the volume of equity offerings concurrent with and in the two years subsequent to the minority block acquisition.[37] These data show that there is a high incidence of equity offerings subsequent to the acquisition. For the entire sample of 6,631 minority block acquisitions, 1,815 firms issued subsequent equity on 3,112 separate occasions within 2 years after announcement. These equity issuances raised $187 billion in total, which is 17 percent of total market capitalization of all issuing firms. Twenty-seven percent of target firms subsequently raised equity, of which the average firm raised 1.7 times. To gauge the quantity of these issues, I use two benchmarks. First, I compare them to the period prior to the acquisition for the same firm. During the two years prior to the acquisition, the entire sample of issuing firms has only 550 offerings and raised $38 billion, about 17 percent of the total amount raised

[37] For ease of discussion, I consider all equity issued at and after the acquisition date to be subsequent issues. About 25 percent of all subsequent new equity issuances are coincident with the partial equity acquisition.

subsequent to the acquisition. Second, I compare the target firm with a size-matched industry peer.[38] During the two-year period subsequent to the acquisition announcement, only 1,139 industry peers issued subsequent equity and raised $112 billion in total. The target firms raised 70 percent more capital than their industry-size matched peers.

I also compare the percentage of target firms issuing subsequent equity and median proceeds to market capitalization across subgroups of target firms. Univariate analysis shows that ex-ante financially constrained targets are significantly more likely to issue equity and raise larger amount of equity than those unconstrained firms. There is also a significant difference in equity issuances across countries with different levels of investor protection. Target firms from strong law countries are much more likely to issue equity and raise larger amount of equity in the two years subsequent to the acquisition compared to those in weak law countries. This finding is consistent with those of existing studies in the law and finance literature (see La Porta et al. (1997)).

Panel B of Table IX summarizes the volume of debt offerings. These data show a lower incidence but higher amount of proceeds from debt offerings than equity. For the entire sample of 6,631 minority block acquisitions, 651 firms issued subsequent debt and raised $250 billion in total within 2 years after announcement. Unlike equity offerings, there is no significant difference in debt issuances between ex-ante financially constrained targets and those unconstrained firms. There is also no significant difference in debt issuances across countries with different levels of investor protection. In

[38] The industry peer for each sample firm is constructed using the firm closest in size to the target firm within the same four-digit SIC industry. If five firms are not available with matching four-digit SIC, I use three-digit, two-digit and one-digit in turn to find matching firms until at least five firms excluding the target firm are present in the target industry.

unreported tables, I find that target firms with debt issues prior to the acquisition are six times more likely to issue debt subsequent to the acquisition than those with no prior debt issues. This evidence suggests that firms that have issued debt before are likely to continue issuing debt.

To check the robustness of the capital issuances, I use cash flow statements to construct net debt issuances and net equity issuances from WorldScope in the period (-2, +2) centered at the acquisition year.[39] I find that patterns of new issues based on cash flow statements are consistent with SDC data. Prior to the acquisition, the mean net equity issues are five to seven percent of firm total assets. Subsequent to the acquisition, the mean net equity issues are 14 to 15 percent of firm total assets. Net debt issues have also increased, but with a smaller magnitude, from two to three percent before the acquisition and four to six percent after the acquisition.

Table X examines the determinants of subsequent equity issuances. Column (1) through column (6) estimates a logit model on the probability that a target firm in the minority block acquisition will issue new equity in the subsequent two years of minority block acquisitions. Column (7) through (12) estimates a Tobit model using the total proceeds from new equity issuances within two years of minority block acquisitions scaled by market capitalization. All specifications control for firm size, GDP per capita,

[39] There are advantages and disadvantages of using cash flow statements of Worldscope. The advantage of the cash flow data is that net external financing include all forms of financing, such as bank loans. There are two disadvantages. First, it is difficult to control for the cross-country differences in accounting practices. Second, the aggregate data include amounts received from the conversion (exchanges) of debentures or preferred stocks, shares issued for acquisitions and proceeds from stock options, which are not necessarily related to the corporate block acquisitions.

and stock market capitalization to GDP. Year fixed effects are included with heteroskedasticity-robust standard errors. Marginal effects are reported.

I find evidence consistent with the financing motive. The probability of equity issuance increases seven percent when the target firm has high HP index 2. Furthermore, financially constrained targets raise significantly more equity subsequent to the block acquisition. There is again no evidence for the contracting and the market timing motive. The amount of proceeds raised subsequent to the partial equity stakes does not depend on whether the firm operates in high R&D industry, has high insider ownership, acquired by foreign corporations or by public corporations with high prior stock returns.

The larger increase in new equity issuance compared to new debt issuance can also be consistent with the governance motive. However, multivariate tests show that firm in weak law countries, i.e. those that presumably improve governance the most, are 14 percent less likely to issue equity. Since it could also be that target firms in weak law countries have already had good governance in place through exchange-listed ADRs, I examine whether target firms in weak countries differ in their subsequent equity issuances between those with exchange-listed ADRs and those without.[40] I do not find any significant differences in their equity issuances.

Overall, target firms raise substantial equity and debt capital in the immediate 2 years subsequent to the corporate block acquisition. Those ex-ante financially constrained target firms are most likely to raise new equity and when they do, they raise large

[40] Exchange-listed ADRs subjects a non-US firm to a number of provisions of US securities law, and requires the firm to conform to US GAAP. A number of studies have shown that non-US firms cross-list in the United States to increase protection of their minority shareholders (see Doidge et al. (2004) and Reese and Weisbach (2002)).

quantities of new equity. Therefore relieving financial constraints is likely one of the most important motivations behind the large volume of minority block purchases by corporations. There is also evidence that target firms in weak law countries are less likely to issue new equity and to raise smaller amount, opposite to the prediction of the governance motive.

2.7 The Longer-Run Impact of Corporate Blockholders on Target Firms

In this section, I provide further evidence on the motives of block acquisitions by examining changes in operating performance, sales and investment expenditures of target firms. To discriminate among various theories proposed in section 2, I design tests based on identifying, ex ante, the transactions most likely to be associated with each theoretical motive. For example, the contracting motive predicts that equity stakes in the target firm will encourage more relationship-specific investment and longer and more stable product market relation. Therefore target firms, especially those concerned with contracting costs ex-ante (e.g. those operating in high R&D industries), are likely to experience higher increases in their investment, sales and operating performance.

Section 2.7.1. Univariate Analysis

I measure operating performance by changes in operating cash flows.[41] Investment is measured as the sum of capital expenditures, R&D expenses and net assets from acquisitions.[42] Changes in operating performance, sales and investment expenditures are scaled by average book value of assets during the three year period

[41] Operating cash flow is calculated as earnings before interest, taxes, depreciation and amortization (EBITDA).
[42] Whenever R&D expenses or net assets from acquisitions are missing, they are set to zero.

around the purchase year.[43] I include both R&D expenses and net assets from acquisitions in investment expenditures. The statistics are group means adjusted by a sample of size-matched firms in the same industry of the target firm.[44] Industry portfolios for each sample firm are constructed using five firms matched by industry (using four-digit SIC code) that are closest to the target firm in total assets excluding the target firm. If five firms are not available with matching four-digit SIC, I use three-digit, two-digit and one-digit, in turn, to find matching firms until at least five firms excluding the target firm are present in the target industry.

Table X finds positive and significant increases in operating cash flows for the full sample through the third year following block purchases by corporations.[45] Financially constrained targets experienced 4.4 percent increase in their operating cash flows, about 3.4 percent higher than unconstrained firms. Target firms in high R&D industries experienced 1.7 percent increase in their operating cash flows, though not significantly different from those in low R&D industries. There is no significant difference in operating cash flows between firms with high insider ownership and those with low insider ownership, between firms acquired by foreign corporations and those by domestic corporations, between firms in strong law countries and those in weak law countries and between firms acquired by corporations with high prior returns and others.

The patterns for sales growth reinforce the findings for operating cash flows. Overall, an average target firm experienced 16 percent increases in its sales through the

[43] All variables are winsorized at 1 percent and 99 percent level to mitigate outliers.
[44] Group medians yield similar results with smaller economic magnitudes.
[45] Note that without industry adjustment, the increases in operating performance and investment expenditures are larger.

third year following block purchases by corporations. Firms in high R&D industries experience higher increases in their sales but insignificantly different from those in low R&D industries. Financially constrained targets experience 37 percent increases in their sales through the third year whereas sales of unconstrained targets only increased 8 percent. These differences are both economically large and statistically significant.

For changes in investment expenditures, I find that investment spending for an average target firm increased 6 percent through the third year over and above its industry peers. Again, financially constrained targets experience 14 percent increases in their investment expenditures, almost 11 percent higher than unconstrained targets. For other groupings, I find insignificant differences across groups except for the low ASDI index dummy. Firms in weak law countries experienced two percent increase in their investment expenditures, almost five percent lower than those in strong law countries.

2.7.2 Multivariate Cross-sectional Evidence

To gain more insights into changes in operating performance and investment expenditures, I examine determinants of these changes in a multivariate setting. I estimate the regression models using (-1, +3) industry-adjusted changes in operating cash flows, sales growth and investment expenditures calculated above. The independent variables are the same as those in the univariate analysis. All specifications control for firm size, GDP per capita, and stock market capitalization to GDP. Year fixed effects are included with heterscedasticity robust standard errors.

Table XII summarizes the regression specifications for industry-adjusted changes in operating cash flows, sales and investment expenditures. For changes in operating cash

flows scaled by total assets, financially constrained firms are four percent higher than those unconstrained firms. It is equivalent to a 50 percent increase in an average firm's operating profitability. I obtain similarly significant results when examining changes in sales and investment expenditures. Turning to the other motives, except for the low ASDI dummy, no other variable is significant. The multivariate results confirm the findings in the univariate analysis. Whether the target firm is financially constrained is the most significant determinant of its changes in investment spending, sales and operating cash flows following corporate block purchases.

When I include an alternative high R&D dummy and the JV/alliance dummy (not reported), results are qualitatively similar. I also examine the non-U.S. sample, the sample excluding financial institutions as acquirers, the sample excluding acquisitions prior to 1998. The coefficient on financial constraint variable is always positive and reliably significant. Coefficients on other variables remain insignificant determinants of investment spending, sales, and operating performance changes in target firms following corporate block purchases.

Overall, operating cash flows, sales and investment expenditures increase for target firms, and there is strong evidence that financially constrained targets benefit the most from corporate block holdings. I find economically large and statistically significant differences between financially constrained targets and unconstrained ones in their subsequent increases in operating cash flows, sales and investment. When I examine whether financially constrained firms underperform their industry peers prior to the acquisition (not reported), I find that they have better operating performance than their

industry peers and importantly do not under-invest. As for other motives such as contracting, governance and market timing, I find little supporting evidence in analyzing operating cash flows, sales and investment.

2.8 Conclusion

I study minority block acquisition in a large panel of 18,939 firms in 43 countries. I seek to answer three questions: Why do firms sell equity stakes to other corporations?, why do corporations purchase partial equity stakes in other firms?, and do cross-country differences in law and regulation influence the motives and the consequences of corporate block acquisitions?

Contrary to the U.S. evidence that most minority block purchases can be explained by high contracting costs in product market relationships, I find that the relief of financial constraints is a primary motive for the sale of equity stakes. Targets of minority block transactions are mostly financially constrained firms with high growth opportunities. Compared to unconstrained targets, financially constrained target firms experience higher announcement returns. Subsequent to the acquisition, target firms issue significantly more new equity and debt than comparable firms that were not part of a minority block transaction. The relief of financial constraints allows targets to increase their operating cash flows, sales and investment expenditures.

Corporations purchase partial equity stakes because they may be attracted by the high growth opportunities of the target firms. Furthermore, I find evidence that many corporate blockholders have expertise in the targets' industry. When firms have expertise,

I document more pronounced effects. For example, target firms experience higher announcement returns when acquired by firms operating in related industries, if they have formed joint ventures, or if they are partners in an alliance.

I propose and test alternative hypotheses for the motives of minority block purchases. I find no consistent evidence for a contracting motive, a governance motive and a market timing motive.

This study leaves some issues unresolved. First, the result that target firms do not tend to operate in high R&D industries and do not earn abnormally high returns when operating in high R&D industries is intriguing (see Allen and Phillips (2000) and Fee et al. (2006) for the U.S. evidence). Even after I control for the product market relationship using the existence of joint venture and alliances between the target firm and the purchasing firm, the high R&D dummy is still insignificant. Though for the U.S. subsample, the high R&D dummy is significant. Future work could shed light on why the motives for corporate block acquisitions differ between the U.S. and the rest of the world.

Second, I fail to find evidence for a governance motive when I measure governance at the country level, but corporate blockholders could improve governance of targets at the firm level. For the large international sample I use, there is unfortunately no reliable data source to identify governance activities that corporate blockholders may undertake (such as managerial turnover (e.g., Kang and Kim (2007) or obtaining directorships). Future work with richer data on firm governance activities could lead to additional results related to the governance motive.

CHAPTER 3

WHAT IS DIFFERENT ABOUT GOVERNMENT-CONTROLLED ACQUIRERS IN CROSS-BORDER ACQUISITIONS?

"A signal event of the past quarter-century has been the sharp decline in the extent of direct state ownership of business as the private sector has taken ownership of what were once government-owned companies. Yet governments are now accumulating various kinds of stakes in what were once purely private companies through their cross-border investment activities…Governments are very different from other economic actors. Their investments should be governed by rules designed with that reality very clearly in mind."

Lawrence Summers, July 30, 2007[1]

3.1. Introduction

The significant and growing participation of government-controlled firms in the market for cross-border acquisitions has drawn much attention in the media. Prominent deals include the failed $19.5 billion investment (18% stake) by Chinalco, China's state-owned metals group, in Rio Tinto, the U.K. and Australian dual-listed mining company, in 2009 and the acquisition attempt by Dubai World Ports, a ports management company owned by the government of the United Arab Emirates (UAE) to acquire Peninsular & Oriental Steam Navigation Company for $6.8 billion in 2006. Though some of the largest deals involving sovereign acquirers gaining the most attention did indeed fail, many have been successfully completed. During the two years 2007-2008 alone, over $230 billion

[1] "Sovereign funds shake the logic of capitalism," in *The Financial Times* (July 30, 2007).

across 886 cross-border mergers and acquisition deals (with at least a 5% stake in the target company) involved a government-controlled entity as acquirer and this activity comprised more than 10% of the total (constant dollar) value of all cross-border acquisitions during this period (see Figure 1 from Securities Data Company) and more than one-third of the total of all government-led acquisitions initiated over the period from 1980 through 2008. Some sovereign acquirers involve large sovereign wealth funds, like the Abu Dhabi and Kuwaiti Investment Authority, Singapore's Temasek Holdings and the China Investment Corporation, but the vast majority of the deals involve state-controlled corporations and agencies, like Malaysia's Petronas ($2.5 billion acquisition of Australia's Santos in 2008) and Sweden's Vattenfall AB ($600 million purchase of Poland's Grupa Energetyczna in 2008).

There are serious and growing concerns about the expanded role of governments in global capital markets in general, of foreign block acquisitions (minority and majority stakes) led by government agencies in particular, and financial economists have devoted relatively little attention to their study. The main goal of this paper is to remedy this deficiency with a comprehensive global study of government-led cross-border acquisitions over the past two decades. We seek answers to the following specific questions. Do government-controlled acquirers pursue targets domiciled in countries that differ from cross-border acquisitions led by private corporations as acquirers from the same home country? If so, do they arise from restrictions imposed by the target's country or do they stem from preferences revealed in country attributes of the acquirer firm, such as the level of economic, institutional or financial development? Are the characteristics

and attributes of the target firms different for government-led acquirers? Are the target firm's share-price reactions around the announcement of a government-led block acquisition different than those of a corporate acquisition? How is the longer-run financial and operating performance of the target firm of a government-controlled acquisition different?

Target firms become, at least, partially state-owned in such transactions and, as such, a major concern is that they become less efficient or less profitable than if they remained privately-owned firms following the acquisition. Indeed, there is a large literature that rationalizes how public enterprises are inefficient with excess employment and wages and with goods production that is closer to the needs of self-interested politicians or bureaucrats than any consumers. This inefficiency outcome arises naturally in a model of bargaining (through subsidies and bribes) between politicians and managers in Shleifer and Vishny (1994) and through agency problems in the internal organization of governments between bureaucrats and politicians and among bureaucrats themselves, what Tirole (1994) calls "dissonant objectives" in the division of labor within government entities (due to information problems or incentive contracts). These two views are very different from that which regards public enterprise objectives as one of maximizing social welfare, curing market failures, and improving on the decisions of private enterprises when monopoly power or externalities introduce divergence between private and social objectives (Atkinson and Stiglitz, 1980). But, whichever of these perspectives on government-controlled enterprises one accepts, there is an understanding that the financial and operating decisions differ from those of private enterprises and

there is supportive empirical evidence in the relatively poor performance of state-owned banks and banking systems (by, among others, Berger, Clarke, Cull, Klapper and Udell, 2005; Mian, 2006; Micco, Panizza, and Yanez, 2007; and, Taboada, 2008) and of existing state-owned and newly-privatized firms (such as, Boyko, Shleifer and Vishny, 1993; Megginson, Nash and Randenborgh, 1994; and, Dewenter and Malatesta, 1997, 2001).

What motivates us to examine the motives for and consequences of cross-border acquisition activities of government-led acquirers is not only the significant increase in the activity in recent years, but also the heightened regulatory concerns that are now globally widespread. Consider, for example, the Dubai World Ports deal that was originally blocked by the U.S. Congress in March 2006 as it involved the potential transfer to a foreign government agency eleven terminals in six U.S. ports. One year later, Congress passed the Foreign Investment and National Security Act (FINSA) of 2007 that gave legal status to the little-known Committee on Foreign Investment in the U.S. (CFIUS), a multi-agency group formed in 1975 to monitor U.S. policy on foreign investments that may have any effect on national security.[2] In August 2008, China formed a committee to review foreign acquisitions of local companies for national security concerns as an outgrowth of its 2006 Regulations on Mergers and Acquisitions

[2] H.R. 556 Foreign Investment and National Security Act of 2007 was first introduced by Rep. Carolyn Maloney on January 18, 2007 and signed into law by President Bush on July 26, 2007. The Act intends "to ensure national security while promoting foreign investment and the creation and maintenance of jobs, to reform the process by which such investments are examined for any effect they may have on national security, to establish the Committee on Foreign Investment in the United States, and for other purposes." The full text of the legislation is available at http://thomas.loc.gov/cgi-bin/bdquery/z?d110:h556. CFIUS was created in 1975 in the Exon-Florio Amendment to the Defense Production Act of 1950 in which, as the designee of the President, authority was granted to conduct an investigation into the possible impact on national security of acquisitions involving "foreign persons which could result in foreign control of persons engaged in interstate commerce in the United States" (Title 50, U.S. Code § Appendix 2170(a)).

of Domestic Enterprises by Foreign Investors.[3] In March 2009, Germany's Federal Council approved an amendment to the German Foreign Trade and Payments Act to allow the German Federal Ministry of Economics and Technology to prohibit investors from outside Europe from buying German enterprises (or voting stakes of 25% or more) if such acquisitions constitute a threat to security or public policy.[4] If government-led acquirers do pursue different kinds of targets and if target firms' shareholders react differently to the announcements of such acquisitions, the knowledge of how these deals differ in type and in terms and conditions can provide useful guidance on what kind of economic consequences such regulatory restrictions might have. Of course, if no differences are measurable, then one might wonder about the real value of such regulatory actions at all.

We are further motivated to pursue this question by a potential advantage of our empirical design.[5] One of the challenges in implementing tests of the theoretical models of resource misallocation in public enterprises due to political bargaining over control rights, agency problems in bureaucracies or the pursuit of broader social objectives is that the predictions are diffuse. No specific alternative hypotheses arise and none can thus be

[3] "China forms committee to review foreign acquisitions, citing security," (*Wall Street Journal*, August 26, 2008).

[4] See "Germany Establishes National Security Review of Foreign Investments" (*Gibson, Dunn & Crutcher LLP Publications*, April 17, 2009 and http://www.bmwi.de/BMW/Redaktion/PDF). On August 4, 2009, Australia's Treasurer Wayne Swan announced an easing of certain foreign investment rules to a higher threshold of 15% worth A$219 million or more (Media Press Release No. 089, http://ministers.treasury.gov.au). A February 2008 Report of the U.S. Government Accountability Office, entitled "Laws and Policies Regulating Foreign Investment in 10 Countries," provides a useful comparison of foreign investment review procedures in different countries (GAO-08-320, Table 3).

[5] This experimental design is similar to that advocated by Bargeron, Schlingemann, Stulz and Zutter (2008) in which they show that private acquirers pay a 63% lower premium to target shareholders compared to public acquirers. The power of their tests stems from cross-sectional regressions of target returns and bid premiums, dummy variables for the type of acquirer (private or public entity) and a number of control variables associated with alternative hypotheses that motivate acquisitions.

rejected in favor of the null that the decisions of public and private corporations are similar. All of this limits the power of the tests. As a result, we build our sample of government-led cross-border acquisitions involving majority and minority stakes in target firms around the world by culling it from the broader sample of all cross-border acquisitions by corporate acquirers, so that we can anchor our inferences and tests with an appropriate benchmark. This benchmarking exercise allows us to benefit from an existing literature on corporate-led cross-border acquisitions that has advanced specific hypotheses as to why firms pursue them and has tested them empirically. For example, there is considerable work on cross-border mergers - linked with other international investments as foreign direct investment (FDI) - that focuses on the role of internal factors, including corporate synergies, relative labor costs, tax incentives, research and development (R&D) or technology advantages, to explain why a foreign firm would value domestic assets more highly than a domestic firm (see, among many others, Caves, 1971; Williamson, 1979; Dunning, 1981, Cushman, 1987; Morck and Yeung, 1991; and, Graham and Krugman, 1995, for a survey). More recent studies of FDI flows and cross-border merger activity advocate the importance of external factors, such as unexpected exchange rate shocks (Froot and Stein, 1991; Klein and Rosengren, 1994; Dewenter, 1995; Klein, Peek and Rosengren, 2002; and, Baker, Foley and Wurgler, 2009), tariffs on trade, capital controls and taxes (Buckley and Casson, 1976; Desai, Foley and Hines, 2004a, 2004b, 2006), of geography and stock market valuation differences (Erel-Koksal, Liao and Weisbach, 2009), differences in corporate governance and legal systems (Rossi and Volpin, 2004; Antras, Desai and Foley, 2007; Bris and Cabolis, 2008; and Bris,

Brisley and Cabolis, 2008), the role of institutional investors (Ferreira, Massa and Matos, 2009) and differences in market-wide capital scarcity (Chari, Chen and Dominguez, 2009).

The arguments for each of these potential drivers of cross-border activity guide us to specific alternative hypotheses for the government-led acquisitions. For example, Froot and Stein argue that wealth effects matter in cross-border deals because information problems in financial contracting cause external financing to be more costly than internal financing. When a firm's value increases (such as from an unexpected exchange rate appreciation in the currency of their home country), then the potential foreign acquirer can bid more aggressively for domestic assets than a domestic rival. Self-interested politicians, bureaucracies encumbered by agency problems or even those with broader social objectives that influence or control government agencies that might consider such overseas acquisition would be relatively less positively influenced by a real currency appreciation than an equivalent corporate acquirer domiciled in the same country. This constitutes a well-defined and specific testable alternative hypothesis that can be rejected in favor of the null that government- and corporate-led acquisitions are no different. To pursue the most robust and powerful tests, we evaluate a number of these alternative hypotheses and in terms of country-level factors that impact the overall level of cross-border activity across markets, in terms of the characteristics and attributes of target firms that government- and corporate-led acquirers pursue, and, finally, in terms of the share-price reactions to announcements of acquisitions by the two types of acquirers.

It turns out that government-led cross-border acquisitions are much more likely to involve minority stakes in the target firms (involving more than 5% but less than 50% of target firm's shares). Though less attention has been paid in the literature on minority block acquisitions – and especially on cross-border minority block acquisitions – we are usefully guided by studies by Allen and Phillips (2000), Fee, Hadlock and Thomas (2006), Kang and Kim (2008, 2009) and Liao (2009). Allen and Phillips examine 400 corporate minority block acquisitions in the U.S. and find that firms purchase equity stakes in other firms as a form of partial integration between trade partners. Equity stakes solidify such product-market relationships, they argue, to ensure stable partnerships because otherwise incomplete contracting problems, particularly in high R&D expense industries, can make property rights blurry (Aghion and Tirole, 1994). An alternative reason for minority or partial equity stakes is to relieve financial constraints in firms lacking enough financial slack. Firms with high asymmetric information problems often seek financing from market intermediaries, such as commercial banks (Fama, 1985; James, 1987), private placement investors (Hertzel and Smith, 1993) or venture capitalists (Chan, 1983) who conduct needed due diligence and ex post monitoring, but an outside corporation might already possess substantial knowledge and experience in an industry and serve as a cheaper form of external financing. Fee, Hadlock and Thomas (2006) examine 10,000 customer-supplier relationships in the U.S. and show that partial equity stakes, though still rare between trading partners even in high R&D expense industries, are more likely to occur for financially-constrained suppliers. Liao (2009) broadens this analysis around the world and shows that financial constraints are even

more important in other countries and especially in cross-border partial equity acquisitions. Kang and Kim (2008) study 700 block acquisitions in the U.S. and find that blockholders tend to invest in geographically-close firms and are more likely to pursue post-acquisition governance activities as a result; Kang and Kim (2009) examines 268 partial block acquisitions of U.S. target firms by foreign corporate acquirers and show that proximity matters here not only in terms of geographic distance, but also in terms of language, culture and similarity of legal systems. We propose and test each of these three specific alternative hypotheses in our paper. Are government-led acquirers, in fact, any less likely than corporate-led acquirers to take minority equity stakes in foreign targets in similar industries, in industries with high R&D expenses, in those with financial constraints or in those that are more proximate geographically or otherwise?

Finally, our experimental design allows us to contribute in an important way to the recent literature focusing on sovereign wealth funds (SWFs) and their investment strategies around the world. Studies by Kotter and Lel (2008), Bernstein, Lerner and Schoar (2009), Chhaochharia and Laeven (2009), Dewenter, Han and Malatesta (2009), Fernandes (2009), Fotak, Bortolotti, Megginson and Miracky (2009), Knill, Lee and Mauck (2009) each examine a list of SWFs from the Sovereign Wealth Fund Institute (www.swfinstitute.org) or other related sites and compile data on equity investments for each SWF using a variety of sources.[6] Most of these studies examine only investments in publicly traded firms (except Bernstein, Lerner and Schoar who also consider private

[6] SWFs are broadly defined as public investment agencies which manage part of the foreign-currency assets of national states and are typically funded by commodity export (e.g. oil) revenues or the transfer of assets directly from official foreign exchange reserves. Useful background studies on SWFs as a growing force in global capital markets and their legal and organizational structures include Butt, Shivdasani, Stendevad and Wyman (2008), Jory, Perry and Hemphill (2008), Balding (2008) and a new book by Saw and Low (2009).

targets), almost all evaluate the share price reactions to their announcements and some consider longer-run consequences (including Kotter and Lel, Bernstein, Lerner and Schoar), and most differentiate between different SWFs by their varying levels of quality of governance and transparency as guided by a scoring index developed by Edwin Truman (2007). Most of these studies find a positive and statistically significant share price reaction around the announcement of an SWF acquisition in a public target (e.g. 0.8% in Fotak, Bertolotti, Megginson and Miracky), but also negative longer-run buy-and-hold returns; Bernstein, Lerner and Schoar show that the price-to-earnings ratios of the industry peers of the firms in which SWFs invest decline by over the year; and, while Dewenter, Han and Malatesta uncover evidence of active monitoring by SWFs after the investment, Kotter and Lel show no evidence that operating performance or corporate governance changes.

An important challenge for each of these studies is how to define the appropriate benchmark against which to judge these investment decisions. Most studies exploit the cross-section of SWFs by governance or transparency scores of Truman (2008), by the extent to external managers or politicians are involved in investment decisions, by whether the acquisitions are domestic or cross-border and only one – Chhaochharia and Laeven – calibrates the country allocations of SWFs against those of other global investors, specifically U.S. mutual funds (they find that SWFs strongly prefer investments in closer proximity geographically, and by language, ethnicity, and culture).

Our study contributes to this emerging literature on SWFs by widening the lens on not just SWF acquisitions, but also those by government-controlled corporations and

agencies that are not SWFs (and which include government-controlled entities that are owned and controlled by SWFs). Moreover, in our experiments, we are able to calibrate the cross-border acquisition choices of SWFs against non-SWF government acquirers as well as those of corporate acquirers. Our sample of government-led acquisitions is also by definition larger than most of these other studies which provides helpful statistical power for our basic inferences. Of course, we do only focus on acquisition blocks that exceed 5% of the target firm's shares, so we are not able to compare our findings to those of Fernandes (2009), in which the sample exceeds 21,000 acquisitions, but for which the median size of the SWF investment stake in the target firm is only 0.25%.

We use Thomson Reuters Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database to collect data on 155,696 announced cross-border acquisitions between 1990 and 2008 with a total (constant dollar) transaction value equal to $10.7 trillion. Government-controlled acquirers are identified as those in which the acquirer or acquirer's ultimate parent is flagged as a government entity, and these include corporations or "financial buyer" (which is usually a sovereign wealth fund). We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and we exclude acquirers from overseas territories of the U.K. and Netherlands that are tax havens, including the Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man, Jersey and Netherland Antilles. We are ultimately left with a sample of 5,317 failed and completed government-led deals constituting over $619 billion over the period from 1990 to 2008.

We find significant cross-country variation in the cross-border activity that is led by government acquirers in terms of the country of domicile of the acquirers and of the host targets. China's government-controlled corporations represent the largest contingent having initiated $115 billion worth of acquisitions over this period, and is followed closely by those from France ($94 billion), Singapore ($69 billion) and Saudi Arabia ($23 billion). As a fraction of the total dollar value of cross-border activity, Venezuela, UAE, China and Saudi Arabia lead with over 70% comprising government-led deals. Among countries that represent the prime targets for these government-led acquisitions, the U.S. is the largest in absolute terms ($124 billion), followed by the U.K. ($91 billion), Hong Kong ($66 billion) and Australia ($27 billion), but, relative to the flow of corporate cross-border acquisitions that target their countries, the leaders are UAE (44%), Hong Kong (40%), Malaysia (20%), Finland (20%) and the Slovak Republic (20%). We test the hypothesis that the overall cross-country determinants of cross-border acquisition flow from domicile of acquirer and to that of target are different for government-led deals and find that it is relatively more intense for geographically-closer countries, but also relatively less sensitive to differences in the level of economic development of the acquirer and target, of the quality of its legal institutions and accounting standards, and how stringent are the restrictions on foreign direct investment (FDI) flows in the acquirer's country. However, overall differences in the determinants of government-controlled and corporate acquisition flows are economically small.

When we turn our attention to a deal-level analysis, we show that there are few, if any, firm attributes of the target and country-level attributes of the target and acquirer

that affect the likelihood of a cross-border deal led by a government acquirer any differently than a corporate acquirer. There is some evidence that government-led acquirers are more likely to pursue larger targets with greater growth opportunities (market-to-book ratios), and more financial constraints, but the explanatory power of these logistic regression models are generally quite low. We are able to reject almost all of the specific alternative hypotheses that we explore in favor of the null that these government-led acquisitions are no different than corporate acquisitions in the types of deals they pursue, so we interpret this evidence in the cross-border acquisition market as not supportive of the predictions of theories about resource misallocation due to political bargaining, agency problems or the mandate of social objectives. Interestingly, SWF acquisitions tend to be less likely to fail than other government-led acquisitions and they are more likely to pursue targets that are larger in total assets and with fewer financial constraints. There is considerable more explanatory power in these supplementary tests on SWFs than in those comparing all government-led and corporate-led acquisitions.

Finally, we show that the median cumulative abnormal market-adjusted returns (CMARs) around announcements (with a three-day investment horizon) of cross-border deals by corporate acquirers are 5.8% for those seeking majority stakes and 1.4% for minority stakes while those of government acquirers are only 2.1% and 1.0%, respectively. In cross-sectional tests, we are unable to detect any differences statistically once we control for various country-level and firm-specific factors and the resulting differences are economically small. The CMARs using longer horizon investment windows around the announcements are larger (up to 26% for 21 day window), reliably

positive statistically, but still insignificantly different for government-led and corporate-led cross-border acquisitions. The three-day CMARs are positive and statistically significant for both SWF-led and non-SWF-led government cross-border acquisitions, but there is reliable evidence that the former's stock price reactions are statistically significantly lower (median 1.32% for non-SWFs instead of 0.88% for SWFs only).[7] Our novel calibration exercise of SWF investments relative to other government-led acquisitions thus lends an important new perspective on how much – or, more importantly, how little - the market reacts to SWF announcements.

The plan of the remainder of this paper is as follows. In the next section, we outline how we built our data and provide preliminary statistics on the level of cross-border activity that is led by government-controlled acquirers. Section 3 presents cross-sectional regression analysis of the determinants of the aggregate level of cross-border acquisition activity across countries by government-led and corporate acquirers, including a discussion of the alternative hypotheses that we explore and the country-level variables we use to test them. In Section 4, we shift to a deal-level analysis using a logistic regression analysis of government-led versus corporate-led deals. Our analysis of the share price reactions to the deal announcements follow in Section 5 and we end the paper with some concluding remarks.

[7] Our mean share-price reactions equal 1.52% to the 181 SWF acquisitions (1.41% for the 77 deals excluding financial services and utilities firms as targets) are very close in magnitude to the 1.52% and 2.15% 3-day market-model-adjusted returns in Dewenter, Han and Malatesta (2009) and Kotter and Lel (2008), respectively, but larger than the 0.82% 5-day market-model-adjusted returns in Chhaochharia and Laeven (2009), and 0.81% volatility- and market-adjusted 3-day returns in Fotak, Bortolotti, Megginson and Miracky (2009).

3.2. Data and Descriptive Statistics

3.2.1. The Sample of Cross-Border Deals

We use Thomson Reuters Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database to collect data on 155,696 announced cross-border acquisitions between 1990 and 2008 with a total (constant dollar) transaction value equal to $10.6 trillion. We collect a number of data items, including the announcement date, whether it was completed, failed or was withdrawn, the target's name, its status (subsidiary, joint venture partner, private, government-owned or publicly-listed company), its 4-digit Standard Industrial Classification (SIC) code and country of domicile, the name of the acquirer, its SIC code and country of domicile, its intermediate and ultimate parent firm's name, status (if either relevant), and the deal value, if disclosed, and the fractional stake in the target that the deal represents. We only consider deals in which the fractional stake in the target exceeds 5% and classify the deal as a minority block acquisition if the fractional stake in the target is less than 50%. We also collected other deal characteristics, including the medium of exchange (cash/stock payment), whether the shares were purchased on the open market or through private negotiation and the 4-week premium paid for the shares acquired of the offer price relative to the 4-week trailing price of the target's shares. We convert all deal values reported into U.S. dollars using national exchange rates from the WM/Reuters prevailing at the time of the deal (WMR quotes are based on 4:00pm London (Greenwich Mean Time) in U.K. Pound Sterling, which are, in turn, converted into U.S. dollars at the same

U.S. dollar/Pound Sterling national exchange rate and we further report them in Constant 2000 U.S. dollar terms using the U.S. Consumer Price Index.

We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and we exclude acquirers from overseas territories of the U.K. and Netherlands that are tax havens, including the Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man, Jersey and Netherland Antilles. This filter on cross-border acquirers from overseas territories excluded 10,962 corporate deals worth cumulatively $353 billion (in Constant 2000 U.S. dollars) or 6% of the sample count and 3% of the value of the entire sample.

Government-controlled acquirers are identified as those in which the acquirer or acquirer's ultimate parent is flagged as a government entity, and these include corporations or "financial buyers" (which usually signals an SWF). The variable of interest is "AUPPUB" and whether it identifies the ultimate parent as government-owned, which SDC defines as one in which 50% or more of the shares outstanding are government owned. We are ultimately left with a sample of 5,317 failed and completed cross-border deals constituting over $619 billion over the period from 1990 through 2008. We proceeded to double-check the ultimate parent's ownership status at the time of the deal's announcement by hand using a variety of company annual reports, regulatory filings, on-line news reports and other resources. We sorted from highest to lowest all of the government-led acquirers by cumulative total U.S. dollar Constant 2000 value (again using the U.S. Consumer Price Index and WMR exchange-rate quotes from Datastream) across all deals in which they were involved. We confirmed by hand the government-

controlled status of the top 72 acquirers which ultimately represented 78% of the cumulative cross-border deal value ($461 billion) and over 526 of the deals. Consider, for example, that the EDF (Electricité de France) Group of France, which was 100% government-controlled until 2004 and is still 84%-owned by the government, initiated 19 acquisition deals between 1992 and 2008 cumulatively totaling $42.3 billion in Constant 2000 U.S. dollars and its targets included Constellation Energy Group (U.S., $4.5 billion), Delmagyarorszagi Aramsolgalta (Hungary, $3.6 billion) and PowerGen plc (U.K., $3.4 billion).

We also screened financial acquirers to be those firms whose primary SIC codes range between 6000 and 6999. We double-check the name of the acquirer, its intermediary and ultimate parent against the list of names supplied on the SWF Institute website (www.swfinstitute.org) to confirm its status as an SWF. The largest SWFs in our data sample of cross-border acquisitions included Singapore's Temasek Corporation, which was involved in 167 deals cumulatively totaling $39.8 billion, Singapore's Government Investment Corporation (GIC; 81 deals, $19.8 billion), Saudi Arabia's SABIC (4 deals, $12.3 billion), Dubai World (39 deals, $17.2 billion), China Investment Corporation (7 deals, $7.4 billion) and the Abu Dhabi Investment Authority (22 deals, $8.7 billion). It is noteworthy that collectively SWFs are prominent among the largest cross-border acquirers, but they comprise less than $141 billion of the cumulative deal value, or one-quarter of our total of all government-led acquisition activity. But this relatively low cumulative value may arise from the difficulty of defining exactly what a SWF is, an important point which Fotak, Bertolotti, Megginson and Miracky (2009) so

aptly point out (see their Panels A and B, Table I comparing SWF classifications by Truman (2007) and by the SWF Institute).[8]

3.2.2. Summary Statistics

Table 1 presents summary statistics – overall and by year - on the number and cumulative value of cross-border acquisition deals involving at least a 5% stake in a target corporation. In Panel A, we report those associated with government-controlled acquirers and, in Panel B, those with corporate acquirers. In each panel, we present the total number of deals, only those in which transaction values are reported, the cumulative and average per deal value across all those for which data is reported, the number of failed deals (rejected or withdrawn), those involving minority stakes (less than 50% of target shares), those involving financial acquirers and the number of targets that are publicly-listed corporations. As noted above, our overall sample across all years constitutes 5,317 deals cumulatively totaling $619 billion in value, which represents about 3.5% of all corporate-led acquisitions (150,379) and 6% of their cumulative value ($10.1 trillion). Figure 1 already demonstrated that a significant increase in government-led acquisition activity occurred in 2007 and 2008, particularly in terms of cumulative deal value. Almost 17% of all government-led acquisition deals and 37% of the cumulative value were concentrated in those two years. Corporate-led acquisition activity

[8] By comparison, Bernstein, Lerner and Schoar (2009) identify 1752 deals by SWFs averaging $351 million per deal implying about $615 billion in cumulative SWF activity, but these are not inflation adjusted and the sample runs from 1983 to 2007. Fotak, Bertolotti, Megginson and Miracky (2009) in their SDC sample evaluate 141 deals at $572 million per deal or cumulatively $80.6 billion. Their Bureau van Dijk "Zephyr" sample is much larger at 314 deals at €1.253 billion per deal or $1.57 trillion over 1997-2008. Beck and Fidora (2008) report $91.5 billion of deal activity in 2007 and 2008 alone, which, in turn, dwarfs any of the other samples. A quick check of their Table 2 of the "major" investments with our sample confirms that we have most of their largest deals.

was also heightened during 2007-2008, but not as intensely in terms of cumulative value of all deals ($2.26 trillion, or only 22%).

Only 1,812 of the 5,317, or about one-third of the government-led acquisition deals report deal values which implies that many deals involve subsidiaries, plants or joint venture transactions in which the deal value is too small to report, there are differences across countries in disclosure requirements or the parties to the transaction, both companies themselves and their advisors, simply choose not to do so. The third explanation is most likely as the proportion of corporate deals for which values are disclosed is much higher at 46% (69,877 deals reported out of 150,379 in total). The average deal value involving a government-controlled acquirer is twice the size of corporate acquirers ($238 million versus $137 million) and this difference has widened in recent years ($572 million versus $137 million in 2008) with the large SWF-led acquisition deals in major financial institutions. The most prominent examples include GIC of Singapore's $9.8 billion stake in UBS, GIC and Abu Dhabi Investment Council's $6.9 billion and $7.6 billion stakes in Citigroup, China Investment Corporation's $5 billion in Morgan Stanley and Singapore's Temasek Holdings and the Kuwaiti Investment Authority's $5 billion and $3.7 billion investment in Merrill Lynch. As a fraction of the total number of deals initiated by government-controlled acquirers, more than one-third fail (1,926 out of 5,317); by contrast, only 26% of the sample of corporate-led acquisition deals fail.

Another major difference between the government-led and corporate-led acquisitions is the proportion of them that involve minority stakes in the target firm; over

63% of government-led deals involve stakes below 50%, while only 41% of corporate deals do. The finance literature proposes that the motives behind these two types of transactions differ, so we will separate out the majority control and minority stake deals for both government and corporate acquirers in most of our analysis. A large fraction (26%) of the government-led deals involve financial acquirers (designated by SIC codes 6000 to 6999); many of these are identified as SWFs or financial holding companies for which the intermediary parent is a SWF. Finally, more than one-third of the sample of targets among government-led deals involves a publicly-traded firm, a much higher fraction than for corporate deals (only 17,845 out of 150,379 or 11%). This is an important constraint for our analysis at the deal level for which we will need to obtain financial statement information to evaluate by which attributes the targets of government and corporate acquirers differ.

3.3. Determinants of Cross-Border Acquisition Activity Led by Government-Controlled Acquirers

3.3.1. Measuring the Level of Cross-Border Acquisition Activity by Type of Acquirer

Our next goal is to measure whether the level of cross-border acquisition activity led by government-controlled acquirers differs from that of corporate acquirers by the country of the acquirer and the target firms. Does deal activity that is led by government-controlled acquirers emanate from some countries more intensely than others? Are government-controlled acquirers more likely to pursue targets in certain countries over

others? If so, in either case, what are the country-level attributes or market conditions of those countries that dominate government-led cross-border acquisition activity and which determine the target markets that attract this activity? In order to answer these questions, we need to compute two kinds of cross-border ratios of deal counts and cumulative deal value (in 2000 Constant U.S. dollars): the first measures the fraction of all cross-border acquisition activity emanating from a given country *i* which involves government-led acquirers and the second measures the fraction of all acquisition activity that targets a particular country *j* which involves government-led acquirers. In order to measure these fractions in a reasonable way, there must be sufficient activity overall to justify its consideration, so we exclude countries in which there are fewer than 50 cross-border acquisitions, whether led by government-controlled or corporate acquirers.[9]

In Table 2, we report the countries in rank order by those which have the highest fractions of government-led activity measured by cumulative deal value by acquirer country (Panel A) and by target country (Panel B). The acquirer countries in which government-led deals dominate all cross-border activity include Venezuela (85% of deal value, 47% of deal counts), UAE (77%, 48%), China (72%, 39%), Saudi Arabia (70%, 50%), the Czech Republic (68%, 17%), Khazakhstan (65%, 17%) and Kuwait (62%, 18%). By raw cumulative deal value, however, China leads the list with 833 deals and $114 billion of deal activity, both statistics that far exceed any other countries in the sample (interestingly, France is second with 717 deals and $93 billion). Many of the countries at the top of the list are those that are typically identified with large SWFs built

[9] This constraint has only a modest impact on the overall sample. The overall count of cross-border deals fall from 5,317 to 4,759 and the cumulative deal value drops from $619 billion to $592 billion.

up with accumulated foreign currency reserves due to oil exports and export-driven trade, but it is not exclusively so (e.g. France, Italy, Japan, Sweden each represent more than $20 billion of government-led deal activity).

The leading target countries for government-led cross-border acquisition activity are somewhat more surprising. UAE has the highest fraction by cumulative deal value (44%), but its fraction by the count of deals is low (3%) indicating that several large deals dominate their market. Hong Kong is second by the fraction of cumulative deal value (40%), first by fraction of deal count (16%), and is by far the largest target market in absolute terms (583 deals, $66 billion) on the list. Much of this activity stems from the government-led deals emanating from China, as seen in Panel A. But, in fact, the U.S. and U.K. are both larger target markets in both instances at $125 billion and $90 billion, respectively. Because the fraction of the activity that targets the U.S. and U.K. with government-led acquirers is so low (less than 4%), they are both reported in the "Others" category and dominate it almost exclusively. The other countries that are primary targets for government-led cross-border acquisitions include Malaysia (20% of deal value, 4% of deal count), Finland (20%, 4%), the Slovak Republic (20%, 6%), Egypt (17%, 7%) and Indonesia (17%, 13%).

Though it is relatively easy to connect the dominant presence of China's government-led acquirers in Hong Kong as the primary target market, it is more complex to discern it for the broader level of activity around the world. We will develop another more refined measure of the proportion of government-led activity by pairs of acquirer and target countries next, but Figure 2 offers a preliminary look by region. In Panel A, we

report the countries in declining rank by raw cumulative deal value led by government-controlled acquirers and indicate which regions they target for their activity. For China's $114 billion of deal activity, the largest target component is Developed Asia (about $65 billion, almost all of which targets Hong Kong), followed by the U.S./Canada (about $25 billion) and Developed Europe (about $10 billion). France's $90 billion of government-led acquisitions mostly target Developed Europe, then the U.S./Canada, whereas Singapore's acquisitions are evenly split between Developed Asia and Europe. UAE's and Saudi Arabia' s government-led acquirers total about $65 billion each, but UAE's prefer Developed Asia and Europe whereas Saudi Arabia's tilt their acquisitions toward Developed Europe and the U.S./Canada.

The U.S. is the largest target country for government-led acquisitions ($125 billion) and, in Panel B, we note that the dominant acquirer countries are surprisingly from the EMEA region (Emerging Europe, Middle East and Africa), followed by Developed Europe and then Emerging Asia. The $90 billion in government-led acquisition activity targeting the U.K. arises from Developed Europe, Developed Asia and then the EMEA region. For Hong Kong, the dominance of Emerging Asia (mostly all China) in its $65 billion of deal activity is quite apparent. Cross-border activity involving government-controlled acquirers targeting Australia almost exclusively come from Emerging and Developed Asia.

3.3.2. Evaluating Alternative Hypotheses for Cross-Border Acquisition Activity

We next disaggregate our measure of cross-border activity due to government-controlled acquirers into country pairs. But, in order to do this, we need to benchmark the

activity to construct fractions and in two different ways: first, by the total government-led activity that emanates from the acquirer's home country and, second, by the total government-led activity that selects the target firm's country. That is, when evaluating by acquirer country, we divide the total number of deals (or cumulative deal value) involving government-controlled acquirers from country *i* that targets country *j* by all government-led acquisition activity emanating from country *i* over the period. When evaluating by target country, we compute the fraction of total number of deals (or cumulative deal value) involving government-led acquirers that targets country *j* from country *i* to the total activity by government-led acquirers that target country *j*.

One important advantage of our experimental design is that we can perform the exact same computations for all corporate-led cross-border acquisition activity between country pairs. Even more importantly, we can compute the differences between the fraction of government-led activity that takes place between countries *i* and *j* and the fraction of corporate-led activity that takes place between those same two countries.[10] In this way, we are able to determine whether government-led acquirers from country *i* disproportionately identify targets in country *j* relative to corporate acquirers that come from country *i* and whether government-led acquirers that target country *j* do so from acquirer countries that are different from corporate acquirers that target firms in country *j*. Our approach represents a natural benchmarking experiment that is similar in spirit to that employed by Rossi and Volpin (2004), Erel, Liao and Weisbach (2009), and others to benchmark cross-border acquisition activity between country pairs relative to domestic

[10] We have also calculated other proxies to measure these differences. For example, we compute the ratios of the fraction of government-led activity that takes place between countries *i* and *j* relative to the fraction of all government and corporate-led activity that takes place between those same two countries.

acquisition activity in one of the countries. In order that the calculation of this ratio is sensible, we further impose the restriction that the total number of cross-border deals by government-controlled acquirers from a given acquirer country exceeds 30 over the period of our analysis (in addition to the constraint that the total number of all cross-border deals must exceed 50 over the period).[11]

What country-level factors determine toward which target countries government-led acquirers tilt their acquisition activity? Are these country-level factors the same as those that influence the decisions of corporate acquirers? Which factors, if any, can explain differences in the patterns of cross-border acquisitions by government-led and corporate acquirers? We propose a number of possible explanations for these cross-country acquisition patterns as drawn from prior literature.

- *Valuation Differences Between Target and Acquirer Firms*. Differences in valuations between target and acquirer firms can affect merger and acquisition propensities through two channels. Froot and Stein (1991) argue that differences in wealth that occur because of exchange rate or other shocks provide a financing advantage, lowering the cost of a potential acquisition. A wealthier country effectively has a lower cost of capital, leading its firms to purchase assets outside the country, including other companies. The second channel through which valuations can drive mergers and acquisitions is if these valuations diverge from fundamentals (Shleifer and Vishny, 2003).[12] Given misvaluation, managers of a relatively overvalued firm will have incentives to purchase undervalued assets,

[11] With 64 countries represented in our overall sample of cross-border acquisitions, the potential number of country-pair observations is the square of the number of countries (64 × 63 or 4032). The effect of these screens is to limit the number of observations to include about 40 countries. We explored a number of alternative screens and, in fact, our cross-sectional regression analysis shows the sensitivity of our inferences to different screens based on the explanatory variables we include in the various specifications.

[12] For evidence of valuation drivers of domestic merger activity, see Moeller, Schlingemann and Stulz (2005), Dong, Richardson, Hirshleifer and Teoh (2006), Rhodes-Kropf and Viswanathan (2004), and, in terms of FDI flows, see Baker, Foley and Wurgler (2008).

especially if they can use their overvalued stocks as a means of payment. Erel, Liao and Weisbach (2009) find differences in real stock market returns and in real exchange rate changes explain much of the level cross-border merger activity between country pairs and argue that it can stem from overall differences in investor sentiment and from currency movements that are more than warranted by changing underlying economic conditions. In a closely related effort to ours, Bernstein, Lerner and Schoar (2009) find that SWFs do choose foreign investments that are in industries with relatively low P/E ratios, so, for such types of government-controlled acquirers at least, valuation differences matter. We predict that stock return differences of the country indices (average annual local-currency real stock market returns) and the relative appreciation of the two countries' currencies (the average annual real exchange rate return) over the sample period will be associated with more acquisition activity between country pairs and, under our central null hypothesis, activity led by government-controlled and corporate acquirers would be no differently affected by these valuation differences. Details on our construction of the stock market returns and exchange rate changes are in Appendix Table A1 and summary statistics are in Table A2.

- *The Role of Corporate Governance*. In a world of perfect markets, corporate assets would be channeled toward their best possible use. Mergers and acquisitions facilitate this process by reallocating control over companies. However, frictions such as transactions costs, information problems, and agency conflicts can prevent efficient transfers of control. Recent studies of corporate governance employ measures of the quality of the legal and regulatory environment within a country as proxies for some of these frictions and show that differences in legal systems, regulation, accounting and disclosure requirements correlate with the development of capital markets, the ownership structure of firms, the cost of capital and in the intensity and the pattern of merger and acquisition activity around the world.[13] Rossi and Volpin (2004), Starks and Wei

[13] Important contributions that support these inferences, among many others, include La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997, 1998), Hail and Leuz (2006).

(2004), Antras, Desai and Foley (2007), Bris and Cabolis (2008) and Bris, Brisley and Cabolis (2008) find that cross-border mergers and acquisition activity between two countries increases the greater the difference in the quality of investor protections and accounting standards between the acquirer's and target's countries.[14] Liao (2009) shows, however, that cross-border minority block acquisitions are much less affected by differences in legal systems, regulation or accounting and disclosure requirements. Studies of investment decisions by SWFs do emphasize governance-related motives, but most focus on fund-related measures of transparency (based on scoring system of Truman (2007)) or on political affiliations of SWF board members (Bernstein, Lerner and Schoar, 2009) and not of the country of domicile. We also consider a related measure of the autocratic control or democratic nature of the government as a proxy for the risk of agency conflicts that stem from politicians or bureaucracies pursuing their self interests (Stulz, 2005). We predict that larger positive differences in investor protection (using the anti-self dealing index of Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)), democracy of the political system (using the PolityIV scores of democracy/autocracy) and in accounting standards (using the Center for International Financial Analysis and Research scores in La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)) will be associated with more acquisition activity between country pairs and, under our central null hypothesis, activity led by government-controlled and corporate acquirers would be no differently affected by these governance and disclosure differences. Details on these variables are also in Appendix Table A1 with summary statistics in Table A2.

- *Geographic Proximity*. The empirical literature on trade and FDI flows emphasizes the important role that geography plays (among others, see the gravity models of Anderson, 1979; Portes and Rey, 2005; and, Anderson and Wincoop, 2003). The arguments are based indirectly on the role of transactions costs, tariffs

[14] These studies also show that the takeover premiums are smaller and the fraction of the deal financed with cash is lower, the higher the quality of the foreign bidding firm's home country governance.

and barriers that are linked to bilateral geographical distance, although they can similarly be linked to commonness of culture, language, ethnicity and religion (Stulz and Williamson, 2003). Coeurdacier, De Santis and Aviat (2009) emphasize that geographic distance is a primary force driving cross-border mergers and acquisitions, especially among developing countries, and there is additional support in Rossi and Volpin (2004) and Erel, Liao and Weisbach (2009) though they do not emphasize these findings. Kang and Kim (2009) examines 268 partial equity block acquisitions of U.S. target firms by foreign corporate acquirers and show that proximity matters here not only in terms of geographic distance, but also in terms of language, culture and similarity of legal systems. Chhaochharia and Laeven (2009) show that foreign equity holdings of SWFs are most importantly explained by geographic distance, ethnicity, language and religion. We predict that closer geographic proximity (using great circle distance, see Tables A1 and A2) will be associated with more acquisition activity between country pairs and, under our central null hypothesis, activity led by government-controlled and corporate acquirers would be no differently affected by geographic distance.

- *Control Variables*. We examine a number of other variables that have been proposed as a potential driver of cross-border merger and acquisition flows in the literature. We include differences in the logarithm of Gross Domestic Product (GDP) per capita, as a measure of the country's wealth, and in average real GDP growth as a proxy for the change in macroeconomic conditions. Rossi and Volpin (2009), Chari, Chen and Dominguez (2009), and Erel, Liao and Weisbach (2009) show that developed countries' firms are, in fact, more likely to acquire less developed countries' firms. Couerdacier, De Santis and Aviat (2009) show that the European integration process – through joining the European Union (EU) and/or the Euro bloc – led to a doubling of merger and acquisition activity towards their members and away from the rest of the world, so we include a dummy variable for those country pairs that involve both as members of the EU. We also create a dummy variable if the target country is a tax haven, as

designated by the International Monetary Fund's List of Countries, Territories and Jurisdictions with offshore financial centers (see Table A1). We include a measure of correlation of returns between the national indexes of the two countries to evaluate the importance of risk diversification as a motive. The lower the returns correlation between countries, the more important the risk diversification motive for the acquirer. Finally, for a subset of OECD countries, Golub (2003) devised a scoring system for the overall restrictiveness on inward FDI for each country, based foreign ownership limits on equity, mandatory screening, licensing and approval, nationality restrictions on board members, and input and operational restrictions. Government-controlled acquirers are, after all, more likely to be impacted by FDI restrictions because of political concerns related to threats to national security and excessive political influence (Graham and Krugman, 1995).

3.3.3. Country-Level Results

Table 3 presents the results of our cross-sectional regressions of the level of government-controlled acquisitions across country pairs. In Panel A, we show the results by acquirer country in which the number of cross-border deals between two countries is divided by the total cross-border activity emanating from the country of the acquirer, and, in Panel B, we show the results by target country in which the divisor is the total cross-border activity attracted to the country of the target. Most of the specifications (Models 1 to 10) are for government-controlled acquirers, but results are also presented for corporate acquirers (Models 11 to 14) and for the difference between the two (Model 15). Models 9 and 13 focus on government-led and corporate acquisition activity only in terms of deals that involve a minority stake in the target firm, whereas Models 10 and 14 measure only cross-border majority-control merger deal activity for the two types of

acquirers. The models are all estimated using ordinary least squares (OLS) with robust standard errors correcting for heteroscedasticity.

For the results by acquirer country in Panel A, Model 1 shows that there is a valuation effect, but it has low explanatory power (R2 less than 1%) and it only involves the exchange rate return. Surprisingly, the negative coefficient implies that government-controlled firms from countries whose currencies have appreciated over the period are less likely to be acquirers of firms whose currencies depreciated. This result is not reliable, and, in fact, disappears in the all-inclusive Model 7. Interestingly, when we measure the acquisition activity by the value of the deals (in Constant 2000 U.S. dollars) in Model 8, the exchange rate effect takes on the expected positive sign. The equivalent specifications for corporate acquisitions are in Models 11 (for number of deals) and 12 (for value of deals). The valuation effects are somewhat more reliably positive for the corporate deals, but these differences are economically small. In fact, in Model 15 for the ratio of government-controlled to corporate acquisitions by acquirer country, there is no reliable difference statistically.

Differences in the level of economic development do matter, but surprisingly with the wrong sign. Acquirers from better economically developed countries are less likely to acquire firms in less developed countries and this finding is reliable for the multiple regression Models 7 and 8 for government-controlled acquirers and corporate acquirers (Models 11 and 12). It may arise from the large number of SWFs located in less-developed countries, but this would not explain why the results are similar for corporate acquirers. Model 15 performs the regression with the difference between government-

controlled and corporate acquisition activity and shows that this wealth effect is statistically indistinguishable between the two types. Average GDP growth differences between target and acquirer countries do not have any explanatory power.

Geographic proximity matters. The closer are the two countries, the higher the level of government-controlled acquisition activity between them. Moreover, the market correlation measure is also statistically reliably different from zero, but with a positive sign. Government-controlled acquirers are more likely to pursue targets in countries that are less likely to diversify their risks. Both coefficients are positive and significant in the simple and multiple regressions. Interestingly, they are similarly so and with same magnitude of coefficients for corporate acquirers. There is a good chance that the market correlation measure proxies for the same kind of proximity measures that other cross-border merger studies have uncovered associated with regional blocs, religion, culture or language.

The governance, democracy and accounting standards variables are generally not reliable in the specification for government-led acquisition activity (Models 5 and 6). The coefficient on accounting standards is negative implying acquirers from countries with better standards are less likely to pursue targets in countries with weaker standards, which is not what we would expect. An exception is Golub's measure of FDI restrictiveness of the country of the target for which the coefficient is negative and significant, as expected. Government-controlled acquirers are less likely to pursue targets in countries with more FDI restrictions. Though not shown in the table, the coefficients on accounting standards

and on FDI restrictiveness are of the same sign and magnitude for the corporate acquisitions.

Overall, the findings in Panel A indicate that the country drivers of cross-border acquisitions led by government-controlled acquirers are similar to those led by corporate acquirers, at least from the perspective of the acquirer. Overall, the R2 in Model 15 of the ratio of government-led to corporate acquisitions across country pairs is less than 1%. The only variable that is significant, and only weakly so, is that associated with the tax haven dummy control variable. The motives for acquisitions, at least, are indistinguishable for government and corporate acquirers.

The results in Panel B for acquisition activity between countries by target country are different. The perspective in this case is taken from that of the target firm in terms of which attributes and market conditions in the country of the government-led acquirer matter. Models 1 and 7 (multiple regression), as well as those exclusively for minority stakes (Model 9) and majority control acquisitions (Model 10) show that valuation differences matter and in a way we expect. Target firms are more likely to attract government acquirers from countries with higher stock market valuations and more favorable exchange rate movements over the period. The effect is weaker for corporate acquisitions (see Model 11 for deal count and 12 by deal value) and the differences are, in fact, statistically significant (see Model 15). The economic magnitude of the difference is not trivial, however. Consider that the coefficient on the real exchange rate change is 0.09 for government-led deals and is 0.02 for corporate deals. A one-standard-deviation increase in the real exchange rate for a given country pair (or 12.7%) is associated with

an increase of 1.1% (0.09 × 0.127) in cross-border government acquisitions, which is a 55% increase relative to its unconditional mean (average level of cross-border acquisitions between country pairs is 2%) and about 16% of its unconditional standard deviation (cross-sectional standard deviation in level of acquisitions between country pairs is 7.1%). The equivalent exchange-rate impact associated with corporate acquisitions is 0.3% (0.02 × 0.127), which is only a 23% increase relative to its unconditional mean and only about 8% of its unconditional standard deviation. Similar differences in economic magnitude pertain to stock market return differences.

We also see that there are important differences among drivers of government-led and corporate acquisitions in terms of the level of economic development and the role of geographic proximity and market correlation. Model 15 shows that, from the target's perspective, knowing that an acquirer is from a better developed country matters more for corporate than government acquirers. Acquisitions from geographically close and between markets with higher correlations are more likely in both cases, but the risk motive matters less for government-led acquisitions. There is some weak evidence that cross-border deals within the EU involving corporate acquirers are less likely than those involving government-led acquirers. Although not shown in the tables, the governance motive for cross-border acquisitions is much weaker for corporate deals than for government-led deals. The negative and significant coefficients on anti-self dealing (Model 4) and on democracy (Model 5) for government acquirers, both of which run the opposite of what we would expect based on Rossi and Volpin (2004) and others, is indistinguishable from zero for corporate acquirers. The negative coefficient on the FDI

restrictiveness variable of Golub (2003) is very similar in precision and magnitude for both government-controlled and corporate acquirers.

Overall, the results in Panel B point to some discernible differences in the importance of country factors for government-controlled and corporate acquirers. But it is important to note that the overall explanatory power of these models is quite low. The best specification to explain government-controlled acquisition activity is 11% (Model 7) and that for the corporate acquisition activity is 16% (Model 11). It is quite likely that there are important unobservable factors for both target and acquirer countries. In fact, comparable studies by Rossi and Volpin (2004) and Erel, Liao and Weisbach (2009) include target and acquirer fixed effects and obtain adjusted R2 around 50% for similar samples of corporate cross-border acquisitions. We expect that many of the differences we see in Table 3 associated with each of these specific alternative hypotheses (differences in market valuations, in governance, and geographic proximity) would likely diminish with the inclusion of country fixed effects. We also performed a number of robustness tests in terms of the composition of the sample. When we consider only developed countries or only OECD countries (per the Golub (2003) sample), the number of country pairs drops to a third of its original size (around 556 from 1500). Many of the results for both government-controlled and corporate acquirer deal activity – whether from the perspective of the acquirer country (Panel A) or target country (Panel B) – are statistically more reliable and economically more important, but the differences between types of acquirers are even weaker still.

3.4. What Factors Drive Government-Controlled Acquirers in Cross-Border Deals?

3.4.1. Logistic Regression Analysis

We have documented so far that valuation and governance factors and geographic proximity as country-level factors appear to play a role in determining which firms are likely to merge with or acquire stakes in other firms across borders. What we have also shown is that the statistical and economic differences between acquisitions led by government-controlled acquirers and those led by corporate acquirers are small. One of the problems with this analysis is that it is aggregated activity at the level of country pairs for our sample period. Consequently, it fails to account for firm-level and deal-specific factors that potentially affect the decision to acquire. There is a substantial literature that shows that the likelihood of being a merger target or even that involving a minority stake is affected importantly by the target firm's own financial and operating conditions, ownership structure, governance, those of the acquirer, as well as the terms and conditions of the deal. Unfortunately, to control for firm-level factors, we must consider only the subsample of target firms for which we have public data. This subsample is necessarily unrepresentative of the overall sample of mergers and acquisitions. In fact, in Table 1, and as discussed earlier, the number of public targets of government-controlled acquirers falls by half (5,317 to 2,261 deals) and those for corporate deals falls by 88% (150,379 to 17,845 deals). The sample erodes because we exclude target firms in the financial services and utilities sectors and even further depending on what firm-specific variables are readily available in Thomson Reuters' Worldscope database, our primary source, and the impact of this constraint may be disproportionate for targets in emerging

markets where Worldscope's coverage may be more limited. The key for our analysis, however, is whether the impact of these data constraints and consequences are different for those deals involving government-controlled acquirers than corporate acquirers.

With these cautions in mind, we perform the following experiment. We estimate a logistic regression (logit) model to predict whether an observed cross-border acquisition is initiated by a government-controlled acquirer (dependent variable equals one) or a corporate acquirer (equals zero). Intuitively, this approach presumes that corporate-led acquisitions represent a reasonable benchmark through which we can understand the nature of government-controlled acquirers. All specifications include country (acquirer) and year fixed effects with robust standard errors controlling for heteroscedasticity. The coefficients are all reported in terms of marginal effects to allow for economic interpretation. Given that such a large proportion of government-controlled acquisitions involve minority stakes in the targets, we test our models for minority and majority-control deals separately.

3.4.2. Evaluating Alternative Hypotheses for Deal Determinants

Our central null hypothesis is that government-controlled acquirers are not any more likely to occur than corporate acquirers in cross-border acquisition deals and that the firm-level and deal-specific determinants are not different for the two types of deal. To give power to our tests of this null, we need to identify firm-level and deal-specific variables associated with specific alternative hypotheses that we might be able to reject in favor of the null. Some of these alternative hypotheses carry over from our analysis at the country level in the previous section. Valuation differences can matter at the deal level in cross-border transactions due to unexpected changes in exchange rates or market returns

or due to deviations of those valuations from fundamentals. In deal-specific setting, we evaluate valuations in a more timely way using the trailing 12-month market and exchange rate returns in the target country.

We evaluate the governance motive, not by use of the anti-self dealing, accounting standards or PolityIV democracy indexes, but rather by employing a variable related to the ownership structure of the target. The corporate governance literature has emphasized the monitoring role of outside shareholders (Shleifer and Vishny, 1986; Pagano and Roell, 1998). Yet, greater monitoring by large blockholders does not necessarily assure value maximizing policies (see, among others, Grossman and Hart, 1986; Burkart, Gromb and Panuzzi, 1997; and, Bennedsen and Wolfenzon, 2000). Whether target firms have large blocks of shares held closely by institutions, corporate directors or managers could play a role in an environment characterized by agency problems. Indeed, the fraction of closely-held shares is often used as a proxy for agency costs (Faccio and Lang, 2002; Doidge, Karolyi, Lang, Lins and Stulz, 2008) and Leuz, Lins and Warnock (2009) show that a large block of closely-held shares can deter foreign investment in the firm. We use a proxy for closely-held share ownership from Worldscope.[15] Specifically, we create a dummy variable for those target firms that lie in the highest quartile of all Worldscope firms in terms of closely-held shares. We predict, under our null hypothesis, that government-controlled acquirers are no more likely to pursue a target in another country with a higher fraction of shares closely-held by institutions and insiders than are corporate acquirers.

[15] See Kho, Stulz and Warnock (2009) for a useful discussion about the problems and limitations associated with the Thomson Reuters' Worldscope variable "Closely-held Shares" (Worldscope data item WS08021, see Table A1).

We also investigate two additional alternative hypotheses that arise from the literature on minority or partial block acquisitions and also include a series of firm-level control variables.

- *Product Market Relationships and the Contracting Motive.* Product market relationships between customers and suppliers are often strengthened by a partial integration of the two firms. Studies by Williamson (1979), Grossman and Hart (1986) and Aghion and Tirole (1994) have rationalized circumstances in which full integration (merger) versus partial integration (partial equity stakes) might be optimal with specific regard to information environments in which incomplete contracting arises. We explore two variables related to product market relationships and contracting problems. The first is a dummy variable is a proxy for whether product market relationship might exist and it simply identifies deals in which the acquirer and target are in the same industry (based on the first three digits of the firm's Standard Industrial Classification (SIC) code). Aghion and Tirole argue that property rights become blurry and contracting more complex when it comes to research and development (R&D) activities, so firms that partner and share knowledge in such industries can easily benefit or hurt the other party in ways outside the scope of any contract. Our second variable measures whether the target firm operates in a global industry (four-digit SIC code) which is in the upper quartile of all U.S. firms by ratio of R&D expenses to total assets. Target firms in high R&D expense industries and circumstances in which target and acquirer are in the same industry are more likely to involve a minority or majority stake, but, under our null hypothesis, we predict that government-controlled acquirers are not more likely than corporate acquirers to pursue cross-border deals with such circumstances.
- *Financial Constraints and the Financing Motive.* Another reason for at least partial equity stakes is that target firms are financially constrained. Firms facing high asymmetric information problems seek financing from intermediaries, such as banks (Fama, 1985), private placement investors (Hertzel and Smith, 1993) and

venture capitalists (Chan, 1983) who conduct ex-post monitoring. Another corporation, however, may also possess sufficient knowledge or experience in the industry of the target so that an equity stake can furnish cheaper forms of external capital than other means. Firms facing difficulties in raising capital are more likely to sell partial equity stakes to other firms and empirical studies of the U.S. markets by Allen and Phillips (2000) and Fee, Hadlock and Thomas (2006) provide support for this idea. Liao (2009) shows that financial constraints are even more important in other countries and especially in cross-border partial equity acquisitions. We use several proxy variables for financial constraints including one based on a composite index from an intertemporal investment model by Whited and Wu (2006), two proposed by Hadlock and Pierce (2008) incorporating firm size, firm age, operating cash flows and leverage (and based on previous work of Kaplan and Zingales (1997, 2000)), and a simple dummy variable if the firm pays no dividend. In the case of the Whited-Wu, and two Hadlock-Pierce variables, we create dummy variables of financial constraints for those in the upper quartile of all Worldscope firms. See Table A1 for details on variable construction and summary statistics in Table A2. All are computed based on information in the year prior to the deal. Our null hypothesis specifies that government-controlled acquirers in minority stake or majority control cross-border acquisitions are no more likely than corporate acquirers to pursue targets that are financial constrained.

- *More Control Variables.* Important attributes of a deal can matter. We obtain information from SDC as to whether the deal failed or was withdrawn, and in the case of majority control transactions, whether the offer was all cash and the fraction of shares in the target the acquirer was after. We also include target firm-specific control variables from the year prior to the deal including the (logarithm of) total assets, return on assets, leverage (long-term debt to assets), and sales growth (preceding year in real terms).

3.4.3. Deal-Level Results

The results of the logit regressions are presented in Table 4. We present three model specifications for acquisitions involving minority stakes (Models 1 to 3) and three others for majority control acquisitions (Models4 to 6). Coefficients are reported as marginal effects, both country and year fixed effects are included, pseudo-R^2 and the number of observations are presented at the bottom of the table and the standard errors are robust to heteroscedasticity. With the data constraints that we impose above, our sample of minority acquisition targets includes 5,736 observations, of which 4.44% are government-controlled acquisitions, and that of majority acquisition targets includes 2,396 observations of which 2.83% are government-controlled acquisitions. The lower actual number of observations in each of the specifications is dictated by the combination of explanatory variables we choose.

For minority acquisition stakes, we find that several variables are statistically reliable predictors of government-controlled relative to corporate acquisitions. The zero-dividend proxy in Model 1 for financial constraints is significantly positive coefficient (of 0.015) which implies that government-controlled acquirers are more likely to pursue financially-constrained targets. About 47% of target firms do not pay dividends, but we find that they are associated with a 1.50% higher likelihood of a government-controlled acquisition, which is sizeable compared to the unconditional mean likelihood. The Whited-Wu proxy, which is a dummy variable mostly based on low cash flows, low dividend payout, high leverage, low total assets and high past sales growth (about 21% of our sample firms are so classified) is also positive and significant in Model 2 (coefficient

of 0.012). The Hadlock-Pierce financial constraint variable in Model 3 is not significant (nor is the simpler variant from Hadlock and Pierce (2008) based on just a firm's size and age). So, there is statistical support for the alternative hypothesis that the financing motive emphasized by Allen and Phillips (2001), Fee, Hadlock and Thomas (2006) and Liao (2009), but, in economic terms, it is not a large effect.

The valuation motive, for which we found some support in the previous section on acquisition flows, also plays a role in the logit model. In each of the three models, the coefficient on the trailing 12-month market returns in the country of the target is significant and negative. The coefficient of -0.026 implies that a one-standard deviation in annual market returns (about 31% on a unconditional mean of 14.5%) is less likely to be associated with a government-controlled acquirer by 0.81%, which is a smaller effect than those of the financial constraint proxies. The 12-month trailing exchange rate returns variable is never significant. Again, while we are unable to reject the alternative hypothesis that valuation factors matter, the economic effects are small.

There is no evidence that the contracting motive matters, as the related industry dummy has no explanatory power in any specification. In unreported tests, we also found that our dummy variable for the high R&D expense industry membership was insignificant. We also find that the closely-held shares variable has no explanatory power. There is no evidence that government-controlled acquirers in cross-border deals are deterred the fact by more shares of the target are held closely by institutions or insiders than corporate acquirers. In other tests, we replace the closely-held shares

variable with the anti-self-dealing country variable with no different outcome, but this variable is likely to be hampered by the country fixed effects.

Among the control variables, there is positive, but weak, evidence that government-controlled acquirers are more likely to fail (or be withdrawn) relative to corporate acquirers. Government-controlled acquirers are also more likely to be associated with larger target firms, given the positive and significant coefficient on total assets, target firms with more growth opportunities (weak positive coefficient on market-to-book ratio) and faster-growing targets (positive sales growth coefficient in Models 2 and 3). Overall, the low pseudo-R^2 coefficients in these models are noteworthy for any of these alternative hypotheses we examine. They are even more remarkably low given that we include country and year fixed effects.

For the logit models of majority-control transactions in Models 4 to 6, the sample sizes are smaller again by half. The Whited-Wu financial constraint dummy variable shows some explanatory power in Models 1 and 3, but its economic effect is similar to that for the minority deals. The related-industry dummy for the contracting motive is weak and the closely-held shares dummy variable, which we associate with the governance motive, is also weak. Interestingly, none of the control variables on the size of the firm, its growth opportunities, or leverage seem to explain any variation. We include two variables related to majority control transactions, such as the terms of payment and the size of the acquisition stake. It turns out that cross-border acquisition deals that involve majority control in our sample (on average 86% of shares of target acquired) involve exclusively cash and no stock 76% of the time. Indeed, government-

controlled acquirers are more likely to use cash only, but this again is not a large economic effect. The higher pseudo-R^2 for majority control transactions likely arise from the smaller sample available to us and likely the greater importance of unobservable country and market conditions factors picked up by the country and year fixed effects.

In Table 5, we perform an additional analysis of the government-controlled acquisitions that are led by SWFs and those by other government-controlled entities. That is, the dependent variable equals one if the acquisition is led by a SWF and zero, otherwise. We define those which are SWF-led, as discussed above, according to whether SDC identifies the acquirer, or the acquirer's intermediary parent, as one of the listed SWFs on the SWF Institute's website.

We believe this is an important exercise because it helps to calibrate the findings in a number of the recent studies of SWF investments. For example, Chhaochharia and Laeven (2009, their Table 9) present a matched-sample analysis of 76 SWF equity investments in which the benchmark firms are drawn from the same country, industry and are similar in size (total sales), but are not necessarily the targets of other similarly-motivated entities. They find that SWF's do not seek out targets with unusual growth opportunities (Tobin's q ratio) or leverage, but do so for those that are more financial constrained (using Kaplan and Zingales' (1997, 2000) indexes). Fernandes (2009, his Table V) performs cross-sectional regressions of over 7,000 SWF investments - though most of which involve very small stakes in the targets (median less than 0.25%) – and finds that there are preferences toward larger, more profitable firms and those with lower dividend yields and leverage. But again, he benchmarks against the population of all

Worldscope firms and not necessarily those that are involved as targets of other entities' acquisitions. Kotter and Lel (2008, their Table 4) present firm characteristics of targets, but they do not benchmark them at all, though they are employed in cross-sectional regressions of the share-price reactions to the investment announcements.

We present two sets of tests in Table 5, Models 1 to 3 in which we include targets of government-controlled acquirers in the financial services and utilities sectors (they were excluded in Table 4) and Models 4 to 6, in which they are excluded. The sample sizes for the latter set of tests drop by half. The variables are identical to those in Table 4 with country and year fixed effects, also as before. Several interesting findings arise. First, there is some evidence that the financial constraints motive matters. The zero dividend dummy is negative and reliably significant in Models 1 and 4, though the Whited-Wu and Hadlock-Pierce variables are not in Models 2 or 5 and 3 or 6, respectively. This implies that SWFs are less likely to pursue financially constrained targets than other government-controlled acquirers. More reliable is the related-industry dummy with negative coefficients in each of the six model specification. SWFs are less likely to pursue targets in the same industry than other government-controlled entities. We need to apply caution here as a related-industry definition for the SWFs is the financial services sector (with SIC codes between 6000 and 6999), but remember that we also associate SWF investments in terms of acquirers which are controlled by SWFs as intermediary parents, so there is some integrity to this variable when financial services firms are excluded (Models 4 to 6). Whether it relates to the contracting motive or not, non-SWF government entities engaged in cross-border deals as acquirers are clearly more

likely to be influenced by product market considerations. SWF investments are less likely to fail than other government-led entities, especially when financial services and utilities sectors are excluded.

SWFs are more likely to be influenced by market valuations relative to other government-led acquirers. The coefficients on trailing 12-month market returns are positive and significant in Models 4 to 6. These findings are consistent with the primary inferences in Bernstein, Lerner and Schoar (2009). We offer only weak evidence that other firm-specific variables matter, such as size (SWFs more likely to seek out firms with higher total assets in Models 2 and 3) and leverage (SWFs more likely to pursue highly-levered targets). Unlike Fernandes (2009) and Chhaochharia and Laeven (2009), our findings on the importance of these firm-specific variables are very weak. We argue then that how one benchmarks these SWF investments does matter.

3.5. Market Reactions to Announcements of Cross-Border Deals Led by Government-Controlled Acquirers

We next examine how shareholders react to the announcements of cross-border deals led by government-controlled acquirers. As we have done throughout this study, we benchmark the magnitude of these reactions to minority and majority stake acquisitions led by corporate acquirers. Under the central null hypothesis that government-controlled and corporate cross-border acquirers are not different, we predict that the shareholders' reactions to the announcements of such deals should also be indistinguishable. Further, we test a number of alternative hypotheses that have been proposed in the literature to try

to rationalize the motives for minority and majority cross-border acquisitions to give additional power to our approach. The motives are similar to those which we presented in previous sections.

The challenge that we face with this additional analysis is that we need to collect stock returns data from Datastream for the sample of public targets and this will adversely impact the sample sizes. For majority acquisitions, our sample of government-controlled and corporate acquirers falls to 3,516 observations and, for minority deals, our sample includes 8,361 observations. Financial services and utilities sector target firms are excluded. We compute the cumulative market-adjusted returns for varying-length windows around deal announcements obtained from SDC, report the average reactions for government-controlled and corporate acquisitions, and perform cross-sectional tests of the reactions using variables that are related to the different alternative hypotheses as well as control variables.

We also do a supplementary analysis of the market reactions to cross-border deal announcements comparing those involving SWFs and other government-controlled entities as acquirers. Our sample here includes 490 observations with financial and utilities sector targets excluded and 954 observations with them included. Our goal is again to calibrate the findings in other recent studies of share price reactions of SWF investments, but specifically using non-SWF government acquisitions and corporate acquisitions as benchmarks.

3.5.1. Cumulative Market-Adjusted Returns (CMARs)

To measure the share price reactions, we compute cumulative market-adjusted buy-and-hold returns (CMARs) over three different windows around the deal announcements: 21 days (from 10 days before announcement to 10 days after, denoted "(-10, +10)"), 11 days ("(-5, +5)"), and 3 days ("(-1, +1)"). The market index returns are those based on market-capitalization-weighted index for each country from Datastream.

Table 6 presents summary statistics of the CMARs. In Panel A, we compare the CMARs for government-controlled and corporate led cross-border acquisitions separately for minority and majority stakes and, in Panel B, we do so for the SWF and non-SWF government-controlled acquisitions for target samples separately that include and exclude financial services and utilities sectors. The means and medians and the numbers of observations are presented for each of the three investment windows around deal announcements. We also report the *p*-values associated with paired two-tailed *t*-statistics for tests of the differences of the means and Wilcoxon rank-sum *z*-statistics for differences in the medians between the comparisons of interest.

For majority acquisitions, the target firm's CMARs for our sample of corporate acquirers in majority control transactions average around 26% for the 21-day window and 16%, for the 3-day window. Both of these means are statistically significantly different from zero. The sample is skewed significantly by some large positive reactions as the equivalent median returns are 12% and 6%, respectively. Both medians are also statistically significantly different from zero based on Wilcoxon-rank-sum tests. The sizes of these reactions are comparable to those in other recent studies of cross-border

mergers. For example, in Bris and Cabolis (2008) for their sample of 420 target firms, they find a positive and statistically significant 14% cumulative abnormal return (CAR) for a 5-day window and a further 11% CAR for up to 10 days following the announcement window. Starks and Wei (2004) report a statistically-significant 28.24% CAR for their 11-day window in cross-border mergers. When we cull out the government-controlled acquirers, we find CMARs of 21% for the 21-day window and 12% for the 3-day window. The equivalent medians are also smaller in magnitude at 11% and 2%, respectively. These are somewhat smaller than for the corporate-led acquisitions, but in each case, the *p*-values for the tests on the means and medians reject that they are different.

We also examine a larger sample of minority stake acquisitions. The corporate cross-border acquisitions average 17% for the 21-day window and only 6% for the 3-day window; the associated median reactions are smaller at only 4% and 1.4% for the respective windows. Again, we can compare these reactions to other studies. Kang and Kim (2008) find 9% CARs in their out-of-state partial equity acquisitions and Allen and Phillips (2000) uncover a 6.9% reaction for their full sample of minority block acquisitions. Both studies use long windows (close to 21-day horizon) but focus on U.S. firms and domestic transactions only. Liao (2009) compares minority block acquisitions that are domestic and cross-border around the world and finds that her 4,780 domestic deals (in 49 countries around the world) have an average CMAR of 8.7% for a 21-day horizon and 7.42% for her 1.851 cross-border deals. The CMARs in our minority-stake sample involving government-controlled acquirers are smaller than the corporate deals

and, at least for the longer windows around announcement, significantly so. Reactions are only 8.5% for the 21-day window on average (1.99% median), both of which are half as large as for the corporate acquisitions. Both *p*-values for mean and median differences are significant. The comparisons for the 11-day and 3-day horizons also show the reactions to government-controlled acquirers are more muted, but these simple differences are typically not significant.

In Panel B, we perform the same kind of comparisons of market reactions to government-controlled cross-border acquisitions, but this time compare those led by SWFs to those led by non-SWF government-controlled entities. Whether financial services or utilities targets are included or not, the differences are large and significant statistically. On average, reactions to SWF acquisitions are only 1.41% for the 3-day horizon and 0.69% for the 21-day horizons; the equivalent reactions to non-SWF acquisition announcements are 8.05% and 12.52%. The magnitude of the differences in medians is smaller (0.88% for SWFs versus 1.32% for non-SWFs in the 3-day window, for example, with *p*-value of 10% in this case), but the differences are larger for longer horizons, even with medians. The magnitude of the reactions to SWF acquisitions when financial services and utilities targets are included are larger (1.52% for 3-day horizon compared to only 1.41%), but almost all of our inferences comparing reactions to SWFs and to non-SWFs remain.

By comparing the share price reactions of SWF investment announcements to those of non-SWF government-controlled acquisitions, we get a very different perspective than from those of other recent studies of SWF investments. For example,

Fotak, Bortolotti, Megginson and Miracky (2009, their Table 7, Panel B) find a statistically significant average CMAR of 0.46% (0.81% on volatility-adjusted basis) for the equivalent 3-day window for their 212 SWF investment announcements. Kotter and Lel (2008, their Table 3) find 3-day CARs of 2.15% for their sample of 163 SWF investment announcements. Chhaochharia and Laeven (2009, Table 7) find an average 0.82% CAR for a 5-day horizon around their 89 investment announcements.[16] What we learn is that these reactions, though reliably positive (which we acknowledge as important), are actually smaller than what one might expect if comparing to those of other non-SWF government-controlled acquirers and corporate-led cross-border acquisitions. Of course, in both sets of comparisons (government-controlled versus corporate deals or SWF versus non-SWF government-controlled deals), it is important to ascertain whether these reactions are significantly different even after controlling for a variety of country-level, deal- and firm-specific factors.

3.5.2. Cross-Sectional Test Results

Table 7 reports results from cross-sectional regressions of the 21-day CMARs of cross-border acquisition announcements on country-level and firm-specific variables. These variables are the same as what we included in our logit models in the previous section and we line them up with the various hypotheses that have been put forward to motivate such deals. In each of the model specifications in Panel A, we include a dummy variable for those which are government-controlled acquirers. In Panel B, the sample includes only the government-controlled acquirers and each specification here includes a

[16] None of the studies by Fotak, Bertolotti, Megginson and Miracky (2009), Kotter and Lel (2008) or Chhaochharia and Laeven (2009) indicate how many of the announcements are associated with cross-border acquisitions and which are only domestic by the SWFs, so a direct comparison is difficult.

dummy variable for those involving SWFs. These models are estimated with ordinary least squares and robust standard errors for the coefficients are computed with corrections for heteroscedasticity. We include year fixed effects in all specifications.

In Model 1 of Panel A, we confirm the finding in Table 6 that CMARs of government-controlled acquirers are indistinguishably different from those of corporate acquirers, though this time with robust standard errors and year fixed effects. In each of the additional specifications that we consider (Models 2 to 9) with different combinations of control variables, this finding does not change. The next four models evaluate individual proxies for high industry R&D expenses associated with the contracting motive and for financial constraints associated with the financing motive. These specifications have varying impact on the number of observations in the regressions, but typically reduce it by 30%. Firms with high R&D expenses are not associated with different market reactions. As in the logit regression results of Table 4, the zero-dividend and Hadlock-Pierce dummy variables have explanatory power, while the Whited-Wu dummy does not. Firms with greater financial constraints that are targets of cross-border acquisition are associated with a statistically-significant and economically-large additional 3.7% or 8.2%, which is about 10% and 20%, respectively, of the unconditional standard deviation of 21-day CMARs. In Models 6 to 9, we retain the zero-dividend dummy and in three of those models, it remains positive and statistically significant though its magnitude varies somewhat.

We also include additional variables in those four models associated with the governance and valuation motives outlined in the previous section. We see that target

firms with a higher fraction of shares closely-held by institutions and insiders do not experience different market reactions, but the coefficients on the anti-self-dealing index (ASDI) of Djankov, La Porta, Lopez-de Silanes and Shleifer (2008) are positive, statistically reliable and economically large. The average country score on ASDI is 0.61 and its cross-sectional standard deviation is 0.24. A one-standard deviation higher ASDI score (going from a low to high legal protection country) is associated with a 3.6% higher 21-day CMARs around a cross-border acquisition announcement, which is still sizeable relative to the unconditional mean CMAR of 9.6%. The trailing 12-month market returns for the target firm have no explanatory power. Among the control variables, total assets, return on assets and market-to-book ratios have negative coefficients, so larger, more profitable target firms with more growth options are associated with lower CMARs, all else being equal.

Overall, we confirm that targets in cross-border acquisitions involving government-controlled acquirers experience no different market reactions to their announcements than those involving corporate acquirers. The finding is robust to a number of control variables, some of which have useful explanatory power for the cross-section of CMARs. Generally, the explanatory power of the models we investigate is quite low (around 2%).

In Panel B, we examine only the sample of cross-border acquisitions involving government-controlled acquirers and include in each model specification a dummy variable for SWF acquirers. The number of observations average around 800 events, but are as few as 236 in our largest model specification (Model 9). Several results are

noteworthy. First, the early indication in Table 6 that market reactions to SWF-led acquisitions are lower than those for other government-controlled acquirers is confirmed here and in a way that is robust to inclusion of almost all combinations of control variables. The coefficient on the SWF acquirer dummy averages around -0.06 and is statistically significant for each except Model 8. A 6% lower CMAR in this sample is economically large relative to the unconditional mean of around 7.8% and represents about 22% of the cross-sectional standard deviation in CMARs for this smaller set of observations (about 28%). Second, there is some empirical support for the financing and governance motives in this sample of only government-controlled acquirers. The coefficient on the Hadlock-Pierce financial constraint dummy variables is positive and significant, but those for the other two financing motive proxies are not. In three of four models with the ASDI variable, the coefficient is statistically significant and averages around 18%. A one-standard deviation higher ASDI score is associated with a 5% higher CMAR in this sample of government-led cross-border acquisitions, a much higher level of sensitivity than for the broader sample that includes the corporate acquirers. The closely-held shares dummy variable again has no predictive power. In this smaller sample of government-led acquirers, we also find no evidence that the contracting motive (through the high R&D expense dummy) or valuation motive (12-month market returns) matter. Among the control variables, we find that larger target firms (total assets) and those with higher growth opportunities (market-to-book ratio) are associated with lower CMARs, as in the larger sample with corporate acquirers, but the magnitude and precision of these relationships are much weaker.[17]

[17] Among the SWF studies that measure market reactions to their investment announcements, Kotter and

The key finding in these regressions is that, though SWF cross-border investments are indeed associated with positive and statistically significant market reactions (in Table 6), they are actually much smaller than those of other government-controlled acquirers and corporate acquirers. The differences are economically large and robust to many different control variables that seek to capture different possible motives for initiating such transactions.

3.6. Concluding Remarks

In this study, we examine the motives for and consequences of 5,317 failed and completed cross-border acquisitions constituting $619 billion of total activity that was led by government-controlled acquirers over the period from 1990 to 2008. We benchmark this activity at the aggregate country level and also at the deal-specific level relative to cross-border acquisitions involving corporate acquirers over the same period and uncover several important findings.

First, we test whether the cross-country determinants of cross-border acquisition activity are different for government-controlled and corporate acquirers and find that government-led deals are relatively more intense for geographically-closer countries, but also relatively less sensitive to the level of financial development of the acquirer's home country, the quality of its legal institutions and accounting standards, and to how

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Lel (2008, their Table 5) provide some useful comparisons for our findings. They find in their sample of 124 investments that target firm characteristics have little or no explanatory power compared to those associated with the type of SWFs (level of transparency and governance, per Truman (2007) scoring index). Only the level of institutional ownership is associated with higher 2-day CARs, but the economic magnitudes are difficult to determine. They show that whether target firms' market reactions are not affected by the legal environment, but those from better developed markets (market capitalization to GDP ratio) experience higher CARs. The explanatory power of their models is high (around 50%) but they also include industry controls.

stringent are restrictions on FDI flows in their country. Overall, however, we find that the differences in the determinants of the two types of acquisition flows are economically small.

Second, we examine whether firm-specific and country-level attributes of the target firms have any different influence on the likelihood of a cross-border acquisition led by a government-controlled than a corporate acquirer. We uncover some evidence that government-led acquirers are more likely to pursue larger targets with greater growth opportunities and more financial constraints, but the overall explanatory power of these tests are generally quite low. We are able to reject a number of alternative hypotheses related to product-market relationships, financial constraints, corporate governance, or market-timing motives for such acquisitions that might allow us to differentiate government-led and corporate-led acquisitions. When we examine only the subset of deals involving government-controlled acquirers that involve sovereign wealth funds (SWFs) and benchmark them, in turn, by those led by other non-SWF government-controlled agencies and corporations, however, we do find some differences. SWF-led acquisitions are less likely to fail and they are more likely to pursue acquirers that are larger in total assets and with fewer financial constraints.

Thirdly, we show that the cumulative market-adjusted returns (CMARs) around announcements of cross-border acquisitions led by government-controlled and corporate acquirers are large, positive (median reaction around 6% for a 3-day announcement-day window) and indistinguishably different for the two types. This result holds up even when we control for different possible motives for such acquisitions based on country-

level, deal- and target firm-specific attributes. An important difference in market reactions we do find, however, is between government-controlled acquisitions led by SWFs and those of other government agencies. Though both are positive and statistically significant reactions, the CMARs for SWF-led acquisitions are statistically and economically much smaller and these differences also hold up in cross-sectional regressions that control for a variety of country-level and target firm-specific attributes.

These findings are important not only because of the large and growing amount of cross-border acquisition activity that involves government-controlled acquirers, but also because of the heightened regulatory concern about such deals in many countries around the world. The Foreign Investment and National Security Act of 2007 in the U.S. has instituted much tougher scrutiny of potential foreign acquirers that involve a government entity, and similar legislation is in place or forthcoming in China, Australia and Germany, among many other countries. Our findings suggest that these concerns may be unwarranted for most government-led acquisitions. Greater attention on SWFs as a particular type of acquirer may indeed be worthy of further scrutiny, but the vast majority of government-led foreign acquirers in terms of deal count and cumulative value of deal activity appears to be motivated no differently than corporate-led cross-border deals and the economic consequences appear to be indistinguishably different.

Our study also makes an important contribution to the literature on the operational and financial performance of state-owned enterprises. A number of scholars have argued why and how government firms are less efficient or less profitable due to the natural conflicts that arise from self-interested politicians and bureaucrats and there is

considerable evidence that government-controlled firms are indeed associated with poorer operational and financial performance. Our study involves a special experiment to examine these questions that focuses on transactions in which the target firm becomes, at least partially, a state-owned enterprise. We exploit a natural benchmark in terms of corporate-led deal activity and also existing theoretical and empirical research that guides us to different possible motives for such transactions. These motives furnish testable alternative hypotheses to the null hypothesis that acquisitions by government-led and corporate acquirers are not different and thus allow us more powerful tests. We also offer an important new perspective on findings in the recent growing literature focused on SWF acquisitions by benchmarking their decisions and outcomes relative to acquisitions led by other government-controlled entities. We find that the attributes and characteristics of targets and SWFs are somewhat different and, though the market reactions are positive to SWF investment announcements (as other studies have shown), they are significantly smaller than those associated with other government-controlled acquirers.

There are still many open questions. We readily admit that there are several possible alternative explanations for government-led acquisitions that we have not yet considered. For example, we have not yet tried to identify characteristics of the different types of government agencies that represented these acquirers. We have also not tried to separate out the types of SWFs by governance and transparency attributes, as the other studies of SWFs have done. Our study only examines the short-term reactions to these government-controlled acquirers. Indeed, there are likely important longer-term operational and financial consequences from their newly-acquired stakes and even in

terms of financial investment returns and risks from the perspectives of the acquirers. Another form of analysis that we have largely ignored is at the policy level. A number of countries have instituted rules and legislation for foreign investment reviews and we have not evaluated what, if any, are the consequences of those rule changes for cross-country acquisition activity or for terms and conditions at the deal level. Finally, we have not evaluated any positive or negative externalities of cross-border government-led deal activity for other social and economic objectives. After all, decision-makers that influence the government-controlled acquirers that we study likely have a broader set of concerns than which targets are chosen and how shareholders react to their announcement.

CHAPTER 4

WORLD MARKETS FOR MERGERS AND ACQUISITIONS

4.1. Introduction

The volume of cross-border acquisitions has been growing worldwide, from 30 percent of the total merger volume in 1998 to 45 percent in 2007. Some of these cross-border mergers occur for exactly the same reasons as domestic mergers, e.g., synergies, market power, and/or managerial preferences. Yet, in an international context, there are a number of additional reasons for mergers, such as cross-country differences in macroeconomic conditions, legal regimes, political systems, culture, regulatory environments, and tax systems all could potentially affect cross-border mergers.[1] One particularly important factor in international merger decisions is valuation differences between acquiring and target firms. Differences in valuation between potential acquirers and targets have been documented to be one motive for domestic mergers.[2] These valuation differences are likely to be even more important in an international context

[1] The extent to which a number of these factors explain cross-border mergers has been explored in previous work. In particular, Graham and Krugman (1995) summarized earlier literature on macroeconomic conditions, Dewenter (1995) and Froot and Stein (1991) examine relative wealth effects, Rossi and Volpin (2004) examine why corporate governance proxied by legal regimes can affect cross-border M&A patterns, Chakrabarti, Jayaraman and Gupta-Mukherjee (2005) find that culture disparity leads to better outcome in cross-border M&As, Desai, Foley and Hines (2004)find that US multinationals move capital toward low-tax locations.

[2] See Shleifer and Vishny (2003), Rhodes-Kropf and Viswanathan (2004), Dong, Hirshleifer, Richardson and Teoh (2006), and Harford (2005).

since movements in country-level stock markets and currencies provide additional sources of valuation differences.

This paper considers the extent to which valuation differences and other international factors motivate cross-border mergers and acquisitions. Valuation differences between acquirers and targets can be broken into three components: Differences in country-level stock market movements, differences in firm-specific stock price movements relative to country-level indices, or appreciation or depreciation of the currencies in which acquirers' and targets' securities are traded. Each of these components potentially reflects an alternative source of valuation difference that could motivate mergers. We estimate the effect of these factors on merger propensities using a sample of 56,978 cross-border mergers occurring between 1990 and 2007.

In contrast to most of the prior literature that focuses on mergers of public acquirers and targets involving U.S. firms, our sample better reflects the universe of cross-border mergers, the majority of which involve private firms, mostly from outside of the U.S. In our sample, 80% of completed cross-border deals between 1990 and 2007 targeted a non-US firm, while 75% did not involve a US firm as an acquirer. The majority of acquirers (90%) are from 'developed' countries, while the remainder is from 'developing' countries. A surprisingly large number of cross-border transactions involve firms in Eastern Europe (2,115 deals), Asia(7,009 deals), South America (2,587 deals), Africa (853 deals), Central America (810 deals), and Middle East (617 deals). Furthermore, the vast majority of cross-border mergers involve private firms as either bidder or target: 96% of the deals involve a private target, 26% involve a private

acquirer, and 97% have either private acquirers or targets. Hence, the inclusion of private firms in our analysis is important, especially since most other studies use samples of publicly-traded firms or lump private acquisitions in with other investments as foreign direct investment (FDI).

Our results suggest that valuation differences between acquirers and targets significantly affect the likelihood of a merger. Prior to a cross-border merger, the acquiring firm is more likely to be from a country whose currency has appreciated relative to the target's currency and whose country's stock market has outperformed the target firm's country's market. In addition, if the companies are public, the acquirer's firm-specific abnormal performance is likely to be better than the target's. The estimated effects are fairly large: Our estimates imply that a 100% difference in country-level stock returns between two countries leads to a 17.4% increase in the expected number of acquisitions by the better-performing country's firms of the worse performing country's firms. Similarly, a 75% appreciation of one country's currency relative to another's leads to a 50.4% increase in the number of acquisitions of firms in countries with relatively depreciated currency.

Differences in valuation can affect merger propensities through two main channels. Froot and Stein (1991) argue that differences in wealth that occur because of exchange rate or other shocks provide a financing advantage, lowering the cost of a potential acquisition. A wealthier country effectively has a lower cost of capital, leading its firms to purchase assets outside the country, including other companies. More

generally, international acquisitions provide a way in which newly wealthier shareholders can increase their exposure internationally without purchasing foreign stocks.

In addition, valuations can drive mergers if these valuations diverge from fundamentals (see Shleifer and Vishny (2003), Dong et al. (2006), Rhodes-Kropf and Viswanathan (2004), and Baker, Foley and Wurgler (2009)). Given misvaluation, managers of a relatively overvalued firm will have incentives to purchase relatively undervalued assets, especially if they can use their overvalued stocks as a means of payment. In an international context this divergence from fundamentals could occur for two reasons: First, overall investor sentiment could vary across countries, creating a wedge in firm values in the local-currency across countries. Second, the currencies that the companies are trading in can appreciate or depreciate more than is warranted by changes in underlying economic conditions, leading the companies to be relatively misvalued.

We focus on measures of relative valuation between bidders and targets at the country level, and, when possible, at the firm level. We consider the relative stock market performance of the countries of the acquiring and target firms prior to the mergers, broken up into local currency and exchange rate components. We also analyze a country-level 'market-to-book' measure, similar to that used by Baker et al. (2009). Further, we examine the relative firm-level stock performance as well as the market-to-book ratios of the subsample of mergers between public acquirers and targets.

Based on univariate comparisons of pre-merger performance between bidders and targets, acquirers outperform targets by all measures. The local-currency return of the

acquirer is 0.3% higher during the 12 months, 0.92% the 24 months, and 2.12% during the 36 months before the deal occurs. Similarly, the exchange rate of the acquirer tends to appreciate relative to that of the target before the deal, 1.12%, 2.13% and 3.43% in the 12, 24 and 36 months, respectively. Given these results, not surprisingly, the market-to-book ratio of the acquirers' countries is 9.93% higher at the time of the deal. This pattern is true for both private and public acquirers and targets.

When we restrict ourselves to public acquirers and targets so that we can compare the firm-level returns, we again find that acquirers outperform targets prior to the acquisitions. The difference in local-currency returns is 10.38%, 19.34%, and 23.36% for 12, 24 and 36 months prior to the acquisition respectively. In addition, the average market to book ratio is higher for acquirers than for targets, mirroring for domestic mergers what has previously been documented for U.S. acquisitions (see Rhodes-Kropf and Viswanathan (2004)).

We next evaluate the possibility that valuation could motivate cross-border mergers in a multivariate context. We first estimate models predicting the number of deals in a particular country-pair as a function of relative market conditions in the two countries. We find that differences in local currency returns as well as exchange rate returns predict the volume of mergers between particular country pairs. In addition, differences in country-level market to book ratios predict cross-border merger volume as well. These findings are consistent with the view that the difference in valuation is an important driver of cross-border merger activity.

We consider the types of mergers for which stock-market and currency valuation differences and currency movement appear to be the most important motives. Our results suggest that currency movement predicts mergers mostly for within-region country-pairs and also appear to be most important when the acquiring country is wealthier than the target. This pattern is consistent with the view that firms in wealthier countries purchase firms in poorer nearby countries because they are relatively inexpensive following currency depreciation. We also find that valuation differences in country-level stock market predict mergers mostly when the acquiring country is wealthier than the target, consistent with the view that firms in wealthier countries purchase foreign firms following a decline in the poorer country's stock market.

There are two potential (though not mutually exclusive) explanations for the preacquisition stock return differences between acquirer and targets. First, the returns can affect changes in the relative wealth of the two countries. Second, the returns can reflect differential divergence from fundamentals. We use an approach suggested by Baker et al. (2009) to differentiate the two explanations. In particular, we estimate an equation predicting a country's market to book ratio using future returns. Baker et al. (2009) suggest that the fitted values from such a regression should reflect overvaluation while the residuals reflect a wealth effect. We find evidence consistent with the wealth effect, which is strong in magnitude and persistent across different sub-samples, rather than the mispricing effect.

We then examine at the deal level whether valuation differences drive cross-border M&As controlling for firm-specific factors. We find that differences in US dollar

firm returns predict higher likelihood of cross-border deal compared to domestic deals. Furthermore, when we decompose valuation differences between acquiring and target firms to three components, we find that acquiring firms in cross-border mergers not only come from countries with appreciating currencies and booming stock market, but also outperform their domestic capital market.

The remainder of the paper proceeds as follows: Section 2 discusses the previous literature on cross-country mergers, including some relevant papers on FDI. Section 3 describes the data. Section 4 presents the results while Section 5 concludes.

4.2. Prior literature on Cross-Border Mergers and Acquisitions

Despite the fact that a large proportion of worldwide merger activity involves firms from different countries, the voluminous literature on mergers has focused almost exclusively on domestic deals.3 While this literature is also relevant to understanding international mergers as well, it does not address a number of factors related to country-based differences between firms. Nonetheless, there has been some work on cross-border mergers, which either lumps together mergers with other international investments as FDI or concentrates on mergers between public firms only.

Much of earlier work has focused on synergies, marketing ability, or technological advantages to explain why a foreign firm would value domestic assets more highly than would a domestic firm (see Graham and Krugman (1995) for a summary). Other factors including relative labor costs and tax incentives have been used to explain

[3] See Jensen and Ruback (1983), Jarrell, Brickley and Netter (1988) or Andrade, Mitchell and Stafford (2001)for surveys.

the general pattern that FDI flows from developed to less developed countries (e.g. Cushman (1987) and Swenson (1989)).

However, none of these studies provide theoretical justification for a relation between currency movements and cross-border mergers or other components of FDI. Froot and Stein (1991) suggest one such story, in which wealth effects matter because information problems in financial contracting cause external financing to be more costly than internal financing. When a firm's value increases, so does its access to capital relative to alternative bidders whose value did not increase by as much. Consequently, when a potential foreign acquirer's value increases, for example through unhedged exchange rate changes or stock market fluctuations, then the potential foreign acquirer can bid more aggressively for domestic assets than domestic rival bidders. In equilibrium, relative value changes lead to an increase in cross-border acquisitions by firms in the relatively wealthy country. The prediction that FDI increases following exchange rate movements has been tested by Klein and Rosengren (1994), Dewenter (1995) and Klein, Peek and Rosengren (2002), all of whom focus on FDI inflows and outflows from the United States.

A different reason for the relation between price levels and mergers is that cross-border mergers are caused by the mispricing of stocks. Shleifer and Vishny (2003) develop a model in which overvaluation can lead to mergers. In their model, managers of an overvalued acquirer issue shares at inflated prices to buy less-overpriced assets. This transaction transfers value to the shareholders of the acquiring firm by arbitraging the price difference between the acquiring firm's stock price and fundamentals. Their

model seems particularly applicable in an international setting, since differences in valuation are likely to occur because of either exchange rate or stock price movements. Using a sample of U.S. domestic mergers, Rhodes-Kropf, Robinson and Viswanathan (2005) provide empirical support for the implications of this theory.

Baker et al. (2009) provide a direct test of the Froot and Stein (1991) wealth hypothesis and the Shleifer and Vishny (2003) mispricing hypothesis. These authors consider the way in which relative price levels affect FDI inflows and outflows to the United States. An important issue in this analysis is the fact that most FDI purchases are of real assets or private companies, which are not directly affected by stock price valuations. Baker et al. (2009) argue that the mispricing channel could nonetheless operate, even without new public equity issuances. If overvalued equity reduces the cost of debt by its effects on perceived collateral values and through widely-used credit-rating models, then an overpriced stock market could increase private firms' access to capital. Using data on U.S. FDI, Baker et al. (2009) find support for both the wealth and mispricing hypotheses.

Until recently, few studies use deal-level analysis to examine factors that affect the intensity and pattern of cross-border M&As. Rossi and Volpin (2004) construct country-pair samples based on deals involving public firms and find that differences in investor protection affect the incidence of cross-border deals. Firms in countries with weaker protection tend to be targets of firms from countries with stronger protection, presumably because the better investor protection provides an incremental source of value. Ferreira, Massa and Matos (2009) also focus on public firms involved in cross-

border M&A deals. These authors find that foreign institutional ownership is positively associated with the intensity of cross-border M&A activity worldwide, which could occur for a number of reasons, including foreign ownership facilitating the transfer, foreign ownership being correlated with more professionally managed companies, or foreign owners being more likely to sell to foreign buyers than local owners.

4.3. Data

Our analysis relies on Security Data Corporation's (SDC) Mergers and Corporate Transactions database for data on mergers and acquisitions announced between 1990 and 2007 and completed by the end of 2007. We exclude LBOs, spin-offs, recapitalizations, self-tender, exchange offers, repurchases, partial equity stake purchases, acquisitions of remaining interest, and privatizations as well as deals in which the target or the acquirer is a government agency, or in the financial or utilities industry.[4] We end up with 187,841 mergers with the total transaction value of $7.54 trillion, 56,978 of which are cross-border with total transaction value of $2.21 trillion.

We use Datastream for data on monthly firm-level and country-level stock returns as well as for exchange rate quotes.[5] We then deflate these return indices using 1990 constant consumer price index[6] and calculate real returns for stocks in both local currency and U.S. dollars. When calculating real returns for E.U. countries, we use Euro post1999

[4] We only include countries which have consistent stock market data during 1990 and 2007. The number of deals (value) dropped due to lack of information on stock market return is 4,061 ($145 billion), approximately 2% (1.9%) of the sample.

[5] Since U.K. has the widest Datastream coverage for the quoted exchange rates, we use National Exchange Rates for the U.K. and manually convert these currency quotes to get the quotes for the U.S.

[6] For Australia and New Zealand, we only have quarterly price level. When extrapolating to monthly level information using Natural (or simple) Spline Fitting method (to smooth out the prices), we assume that the price level represents the end of month/quarter.

and deflate it using corresponding E.U. CPI. For country-level market-equity-to-book-equity ratio, we follow Fama and French (1998) and sum the market value of all firms within a country and divide it by the sum of book value.

We use various data sources for country-level controls. We obtain each country's legal origin (LLSV), ratings on the disclosure of accounting information reported by the Center for International Financial Analysis and Research, rule of law and anti-director rights as proxies for the level of investor protection in each country (LLSV), and a newly assembled anti-self dealing index (Djankov, McLiesh and Shleifer (2007)). We also include culture variables: language (English, Spanish or others) and religion (Protestant, Catholic, Muslim, Buddhist or Others) based on Stulz and Williamson (2003). We obtain annual Gross National Product (in US dollars) normalized by population and annual real growth rate of the Gross Domestic Product from the World Development Indicator report.

For the public firms in our M&A sample, we obtain accounting and ownership information from Worldscope. In particular, Worldscope provides firm-level data on firm size (book value of total assets), book leverage (long-term debt divided by total assets), cash ratio (cash holdings divided by total assets), two-year geometric sales growth, and return on equity as well as the market-to-book ratio of the equity.

4.4. Results

4.4.1. Stylized Facts about Cross-Border Mergers.

Mergers involving acquirers and targets from different countries are substantial, both in terms of absolute number, and the value of deals as a fraction of worldwide M&A activity. Panel A of Figure 1 plots the quantity of cross-border deals over our sample period. As with domestic deals, the volume of cross-border mergers increases throughout the 1990s peaking in 2000, declines after the stock market crash of 2000 and increase again from 2002 until 2007. Panel B plots the quantity and value of cross-border deals as a fraction of total deals. Cross-border mergers are typically between 20 and 40 percent of worldwide merger volume. The fraction of cross-border deals follows the overall level of the stock market; the fraction drops in the early 1990s, increases in the later 1990s to a peak in 2000, and then increases again with the stock market between 2004 and 2007.

One fact that is clearly evident in the data is that most cross-border mergers do *not* involve U.S. firms. Figure 2 graphs the fraction of U.S. acquirers and targets over time, both weighting each deal equally and by deal size. In most years, between 12 and 28 percent of acquirers are from the U.S. and between 20 and 37 percent of the targets are from the U.S. When we weigh by deal size, the fraction of U.S. deals grows somewhat but still the overwhelming majority of deals do not involve U.S. firms.

Table 1 characterizes the pattern of cross-country acquisitions in our sample. The columns represent the countries of the acquiring companies while the rows represent those of the target companies. The diagonal entries of the matrix are therefore the number domestic mergers for a particular country and the off-diagonal entries are the

number of deals in a particular country pair. The totals exclude domestic mergers and hence represent the number of cross-border mergers to and from a particular country. The country with the largest number of acquisitions is the U.S.; U.S. firms were acquirers in 15,034 cross-border mergers and were targets in 11,886 mergers, which is substantial but certainly do not represent the majority of the 56,978 cross-border mergers.

A casual glance at Table 1 indicates that geography clearly matters. Domestic mergers are by far the largest in number for all countries. Of the cross-border mergers, there is a large tendency to purchase companies in nearby countries. For example, of the 226 cross-border acquisitions by New Zealand companies, over two-thirds, 145, were Australian companies. By far the largest target of Hong Kong based companies were Chinese companies (214 of 633 cross-border acquisitions of Hong Kong companies), and aside from the U.S., the vast majority of German cross-border acquisitions were from other European companies.

Table 2 characterizes the target firms by country, documenting the numbers that are bought by domestic firms, foreign firms, and the industry breakdown of these firms. This table indicates that the domestic/cross-border breakdown varies substantially across countries. In large countries there tends to be many more domestic targets than cross-border ones; for example in the U.S., the number of U.S. firms that are targets of cross-border acquisitions is only about 15% of the targets of the domestic ones. In contrast, in a number of smaller countries there are actually more cross-border targets than domestic ones. This pattern is not surprising since there are more potential domestic acquirers in large countries than in small ones.

4.4.2. Cross-Sectional Determinants of Cross-Border Mergers

To analyze the cross-sectional patterns among acquirers and targets formally, we use a multivariate regression framework. We consider all (ordered) country pairs, and construct a variable that equals the number of acquisitions by firms in one country of firms in the second at any point during the sample period, normalized by the total number of domestic acquisitions in the target country. This variable provides a measure of the propensity of firms of one country to acquire firms of another one. In a similar fashion, we construct the intensities of cross-border deals separately using only public target and acquirers and private target and acquirers.

We then estimate equations predicting this variable as a function of the characteristics of the countries. Since each observation is a "country pair", the total number of observations is the square of the number of observations ($37 \times 36 = 1332$). We include the stock return difference of the country indices (average annual local real stock market return) and the relative appreciation of the two countries' currencies (the average annual real exchange rate return) over the entire sample period because, as we have argued above, changes in relative valuation are likely to lead to acquisitions. Regulatory and legal differences between countries are potential causes of cross-border acquisitions (Rossi and Volpin (2004)), so we include the difference in the LLSV measures of accounting quality (an index created by the Center for International Financial Analysis and Research to rate the quality of 1990 annual reports on their disclosure of accounting information) and legal protection (the product of rule of law and anti-director rights) as independent variables. To capture the regional effect discussed above, we include Great

Circle Distance between the capital cities of two countries[7]. To evaluate if a common culture makes mergers more likely, we include variables indicating whether the target and acquirer's primary religion, are the same and whether their primary language (English, Spanish or others) are the same (Stulz and Williamson (2003)). To reflect the differences in wealth between any pair of countries as well as the change in this difference, we include the difference in the log of gross national product in 1990 (in US dollars) divided by the population and the average annual real growth rate of the gross domestic product from 1990 to 2007 (source: WDI report). To control for the effects of trade, we include bilateral trade flow calculated as the value of imports by destination country from origin country as a percentage of total imports by destination country (source: United Nation Commodity Trade database). Finally, each equation contains dummies for each country (so that each observation has two dummy variables, one of the acquirer and one for the target country).

Table 3 contains estimates of this equation. There are a number of patterns among acquirers and targets. First, the regional effect discussed above is evident; holding other things constant, being in the same region substantially increases the likelihood that there are acquisitions from one country to another. Second, there is a currency effect. Firms from countries whose currencies appreciated over the sample period tended to be purchasers of firms whose currency tended to depreciate. Third, consistent with Rossi and Volpin (2004), having a better legal protection of minority

[7] We obtain latitude and longitude of capital cities of each country from http://www.mapsofworld.com/utilities/world-latitude-longitude.htm. We then apply the standard formula: 3963.0 * arcos [sin(lat1) * sin(lat2) + cos (lat1) * cos (lat2) * cos (lon2 - lon1)], where lon and lat are the longitudes and latitudes of the acquirer and the target country locations, respectively.

shareholders' rights and having higher quality accounting disclosure system each increase the likelihood that firms from a country will be purchasers of firms from another country. Finally the likelihood that a firm from one country purchases a firm from another increases when the two countries share a common language. There is no evidence that sharing a common religion has any impact on merger propensities.

4.4.3. Differences in Valuation Using Country-Level Panel Data: Univariate Evidence

Table 4 summarizes the valuation differences between acquirers and targets. As measures of valuation, we report differences in market to book, differences in exchange rate returns, and differences in local-currency stock returns prior to the acquisition, both at the country and firm levels. We report the country-level stock returns, the firm-level stock returns, and currency returns each for 1, 2 and 3 years intervals prior to the acquisition.

The first column presents these return differences for the entire sample of cross-border mergers. For both the level of valuation (the market to book ratio) and the recent change in valuation (both through local stock market returns and by change in the exchange rate), acquirers are valued higher than targets. The market-to-book ratio averages almost 10% higher for acquiring countries than for target countries. In addition, the average local stock market returns are higher for acquiring firm countries than target firm countries, by 0.3% in the first year before the merger, 0.92% in the two years prior to the merger and by 2.12% over the three years prior to the merger. Finally, the exchange rate of acquiring companies appreciates relative to that of the target companies,

by 1.12% in the year prior the acquisition, by 2.13% in the two years and 3.43% of the three years prior to the acquisition. All these results are consistent with the view that firms purchase firms when they are relatively highly valued, either because of a wealth effect or to take advantage of overvaluation.

For the subsample of mergers for which the acquirers and targets are both publicly traded and hence have observable stock returns, acquirers substantially outperform targets prior to the acquisitions. The differences are much larger than the country-level differences, about 10% in the year prior to the acquisition, 19% in the two-year period prior to the acquisition and 23% in the three-year period prior to the acquisition. This relation is again consistent with the valuation arguments and similar to what others have found for domestic acquisitions (see Rhodes-Kropf and Viswanathan (2004), Dong et al. (2006), and Harford (2005)).

This pattern can be clearly seen in Panel A of Figure 3. Prior to month 0, the month of the acquisition, both the local currency return and exchange rate return differences are positive, meaning that the acquirer's country's stock market outperformed the target's and that the acquirer's currency appreciated relative to the targets during the 3 years prior to the acquisition. Subsequent to the acquisition, however, the local currency return difference disappears, meaning that the target country outperforms the acquirer's during the 3 years subsequent to the acquisition. However, the acquirer's currency continues to appreciate, leaving the common-currency returns in the two countries' stock markets approximately the same following the acquisitions.

We break down the pre-acquisition returns by characteristics of the deals in the remaining columns of Table 4. The second through fifth columns consider deals by whether the acquirer and target are from developing or developed countries, using the World Bank definition of "high income" economies.[8] The pre-acquisition local return differences are positive for each category although they are substantially larger when a developed acquirer buys a developed target and when a developing acquirer buys a developed target (12.79% and 9.54% differences for the two categories for the three years prior to the acquisition). However the currency movements prior to the deal go in opposite directions for these two categories. When a developing acquirer buys a developed target the acquirer's currency actually depreciates prior to the acquisition. On the other hand, when a developed acquirer buys a developing target, it generally follows a period of strong relative appreciation. This pattern could reflect a general appreciation of developed currencies relative to developing ones over our sample period and suggests that we should control for these effects econometrically (as we do below).

In Columns 6-9 of Table 4, we break down the preacquisition valuation differences by the legal regime prevailing in the acquiring and target countries.[9] In general, weak law target countries are associated with higher preacquisition differences, in terms of market to book ratios, local currency returns and exchange rate returns, especially when the acquirer is from a strong law country. This pattern suggests that

[8] It is not obvious how one should define countries as developing or developed. We have used alternative definitions of developing and developed and the pattern of preacquistion returns is similar to what report here. Besides world bank definition of 'high income' countries, we also use the "developed" definition in DemirgucKunt and Levine (2001). If claims on private sector by deposit money banks as a share of GDP and the total value traded on the stock market as a share of GDP in a given country are both below period mean, the country is flagged as "developing".

[9] If the shareholder protection index computed as the product of rule of law and antidirector rights (source: La Porta et al. (1998) is below median, the country is categorized as weak-law.

governance-driven cross-border acquisitions characterized by Rossi and Volpin (2004) tend to occur during times when the target company's country is doing relatively poorly. The potential governance improvements from the stronger legal protection appear to be supplemented by a valuation effect.

In the final four columns of Table 4, we break down the valuation differences by whether the acquirer and target are from the same region of the world, and also by whether they are related or diversifying mergers.[10] In general the valuation metrics are similar regardless of whether the acquirer and target are in the same or different regions. However, the valuation differences tend to be somewhat larger for related than for diversifying mergers for most of the measures of valuation we use.

4.4.4. Differences in Valuation Using Country-Level Panel Data: Multivariate Evidence

To formally evaluate the hypothesis that relative valuation can affect merger propensities, we rely on a multivariate framework that controls for other potentially relevant factors. It is not obvious, however, what the most natural approach is to address this question. One possibility is to use deal level data on the acquirer's and target's market valuations. This approach has the advantage of utilizing the most accurate measure of firm values in the comparison. However, it has the disadvantage of only being usable for subsample of public acquirers and public targets. As discussed above, the vast majority of cross-border acquisitions have either private acquirers or targets (or both), so using deal level data necessitates discarding the vast majority of the sample. An

[10] If target and acquirer's countries are from the same broadly defined continent (Africa, America, Asia, and Europe), the deal is flagged as 'same region' (Source: World Atlas 1995). The deal is flagged as 'related' if the target firm and the acquiring firm's 3-digit SIC overlap.

alternative approach relies on country-level data. This approach has the disadvantage of ignoring firm-level information (where available) but has the advantage of being able to utilize the entire sample of deals. In addition, a number of hypotheses of interest, in particular those concerning currency movements and country-level stock market movements, are testable using country level data. Since each approach has both advantages and disadvantages, we use both: We first estimate equations using the entire sample of deals using country-level data on market indices, valuation levels, and exchange rates. We then estimate similar equations with deal-level data on the smaller sample of deals involving public acquirers and targets.

We use a specification in which the dependent variable is the number of deals for a particular country pair in a specified year, normalized by the total number of deals for that target country in that year. Our sample consists of country pairs with one observation per year for each pair, for a total of 16,524 observations. To control for the cross-sectional factors discussed above as well as long-term trends in currency movements that affect merger propensities (Table 3), we include country-pair fixed effects.[11] This specification allows us to exploit time-series variation in relative valuations while controlling for cross-country differences. We estimate the equation using OLS and calculate standard errors correcting for heteroskedasticity.

[11] Note that the pairs are ordered, so that, for example, there would be a U.S.-Canada dummy variable as well as a Canada-U.S. dummy variable in each equation.

Table 5 presents estimates of this equation. The stock return and currency differences are measured over the 12 months prior to the year in question.[12] "Δ*Currency R12*" is the difference in the past 12-month real exchange-rate return between acquirer and target country. *"*Δ*Market R12*" is the difference in the past 12-month local real stock-market return between acquirer and target country. And "Δ*Market MTB*" is the difference in the value-weighted market-to-book equity ratio between acquirer and target country. All equations also include differences in the log of GDP and the differences in GDP growth rates as well as year and country-pair dummies. Columns 1-6 include all deals, columns 7-12 restrict the sample to deals involving private acquirers and targets, while columns 13-18 include only public acquirers and targets.[13]

Columns 1, 7 and 13 present the basic regression for each group of deals. Except the public firm sample, the coefficients on the return and currency differences, as well as the GDP and growth differences, are positive and statistically significantly different from zero. These positive coefficients on the valuation differences imply that when valuations are higher in one country than another, the expected number of acquisitions by the first country's firms of the second country's firms increases. To interpret the magnitudes of these coefficients, it is convenient to calculate the percentage increase in expected acquisitions for a country pair implied by a given return differential. Interpreted this way, the coefficients in Panel A of Table 5 imply that for 100% difference in local

[12] We have also estimated these equations using 24 and 36 month windows for measuring stock and currency returns prior to the acquisition with similar results. In addition, we have estimated these equations on U.S. and non-U.S. subsamples, again with results similar to those reported in Table 5.

[13] We restrict the sample to those country-pairs with at least one merger at some point during the sample period. We have estimated these equations using samples including all country pairs, as well as only those country pairs with at least 10 mergers over the entire sample. In each case the results are similar to those reported in Table 5.

currency returns leads to a 17.4% increase in the expected number of acquisitions for a particular country pair.[14] Similarly, a 75% difference in exchange rate returns implies a 50.4% increase in acquisitions.[15] These effects appear to be fairly large, implying that the effects of valuation on merger probabilities are substantial.

Columns 2, 8 and 14 of Table 5, break up the local market and currency returns by a dummy variable which equals 1 if the GDP per capita in the acquirer country is larger than that in the target country, while Columns 3, 9 and 15 perform a similar decomposition for regional differences. The findings in these columns indicate that both the stock return and currency differences have the largest impact on merger propensities when firms from wealthier countries are considering purchasing firms from poorer countries. The regional decomposition indicates that the currency effect is largest for country-pairs in the same region. However, the stock market effect is positive and statistically significantly different from zero for out-of-region deals and equals zero for mergers within a region.[16]

Columns 4, 10 and 16 consider how country-level differences in market-to-book ratios affect merger likelihoods. The coefficients on the market to book differences are again positive and statistically significantly different from zero. To interpret the

[14] The average ratio of cross-border merger to domestic mergers for a given country-pair in a given year is 0.0461. Using the coefficient of the country-level 12 month real stock returns in column (1) of Table 5, we can calculate the percentage change in the ratio for an average country pair: (0.008*100%)/0.0461=17.4%. We emphasize that 100% country-level 12 month stock return difference between target and acquirer is not a rare event. In our sample, 55 country-pairs had a return difference at least this large.

[15] Similar to our calculation for country-level stock market returns, the percentage change in the number of cross-border merger when there is a 75% difference in exchange rate returns, is (0.031*75%)/0.0461=50.4%. Note also that 75% difference between target and acquirer in currency movement is not a rare event. 95 country-pairs had such experience in the past 15 years, mostly due to currency depreciation in target countries, e.g. Turkey and Brazil (1994), and Argentina and Peru (1990).

[16] For deals within region, the effect is the sum of the coefficient on Δ*Market R12* plus the coefficient on this variable interacted with the "Same Region" dummy variable. Since the sum of these coefficients equals zero, the net effect of stock market returns for within region mergers is zero.

magnitude of the coefficient on market to book ratios from the equation in Column 4, keeping all other variables constant, the model implies that a difference of one in market-to-book ratios leads to an expected increase of 7% increase in the volume of cross-border mergers. [17]

We break down the impact of country-level market to book ratio differences on mergers by the relative wealth of the countries and by the regional differences in the remaining columns of Table 5, Panel A. These results suggest that, consistent with the results using returns and currencies, valuation differences are most important when firms from wealthier countries purchase firms from nearby poorer countries. These results suggest that valuation effects in cross-border mergers are most important for firms from wealthier countries, who are likely to purchase firms from poorer countries following currency depreciation or a decline in the poorer country's stock market.

4.4.4.1. Interpreting the Relation between Valuation and Merger Propensities.

There are two possible explanations for the relation between valuation and merger propensities. Increases in relative valuation, either through stock price increases or currency appreciation, could reflect real increases in wealth, leading to improved firms' abilities to finance acquisitions (Froot and Stein (1991)). Alternatively, the changes in relative valuation could reflect errors in valuation, in which case firms should rationally take advantage of this misvaluation to purchase relatively cheap assets, i.e., firms in another country that are not as overvalued (Shleifer and Vishny (2003)). The

[17] Notice that a difference of one (or larger) in country-level market-to-book ratios is not uncommon. For example market-to-book ratios for the U.K. and Belgium in 1997 are respectively 2.7 and 1.7 for a difference of one, while market-to-book ratios for the U.S. and South Korea in 1998 are respectively 2.6 and 0.6,which is a difference of two.

overvaluation argument applies mainly to public acquirers who can either issue equity or make stock acquisitions to take advantage of the high valuation, but as Baker et al. (2009) argue, it could potentially apply to private acquirers as well if the overvalued equity market lowers the cost of capital in a country for private firms.

A prediction of the incorrect relative valuation argument is that subsequent to acquisitions by relatively overvalued firms, there should be a price reversal and acquirers should underperform relative to targets. In particular, the overvaluation argument implies that if an acquirer purchases a target to arbitrage differences in the price levels across countries, these differences should narrow subsequent to the acquisition. To evaluate this possibility, we include future return differences in Panel A of Table 6. The results are somewhat ambiguous, but seem to indicate that, if anything, the difference in currency returns tends to persist following the acquisition. This pattern is inconsistent with the notion that overvaluation explains the impact of valuation on merger decisions.

To test this hypothesis formally, we follow an approach developed by Baker et al. (2009). These authors argue that the market to book ratio can be broken into two components: the component due to real expected wealth and the component due to over or under reaction by the market to news. To estimate the magnitude of each component, Baker et al. (2009) estimate equations where the market to book ratio is a function of future stock returns. To the extent that the market to book ratio reflects overvaluation at the time of acquisitions, periods of high acquisitions should be followed by periods of poor returns. The "fitted" component of market to book should represent that component

arising from overvaluation while the "residual" component comes from real wealth effect.

In the first-stage equation, where country-level market-to-book ratios are predicted using future returns, the coefficients on future returns are negative. This finding is consistent with the literature and suggests that higher country-level market-to-book ratios do lead to lower future stock returns in that country. However, when we break down the market to book differences between countries into "fitted" and "residual" components (see Panel B of Table 6), for most specifications only the residual is positively related to acquisitions, as predicted by the wealth-effect hypothesis. Only in the sample of acquisitions of private firms, for which stock market misvaluation is least likely to affect acquisitions, is the difference of the fitted values statistically significant.[18] In the sample of deals involving public targets and acquirers, the coefficient on the difference in fitted components is actually negative and statistically significant, which is the opposite of what the overvaluation hypothesis predicts. Consequently, this evidence suggests that the valuation effect occurs because of the wealth effect described by Froot and Stein (1991) rather than the mispricing effect discussed by Shleifer and Vishny (2003).

4.4.5. Valuation Using Deal-Level Panel Data

We have documented that valuation appears to play an important role in determining which firms are likely to merge. Acquirers tend to be valued relatively highly compared to targets, using prior returns or market to book ratios as measures of

[18] The "private sample" includes all acquisitions with either a private acquirer or target, so that the "public sample" includes just the deals for which both acquirer and target are public.

valuation. This difference in valuation between acquirers and targets appears to occur due to both stock market and currency effects. Yet, the results presented so far are all done at the country level. Consequently, they do not control for firm-level factors that potentially affect the decision to merge, including the firm's own valuation.

To control for firm-level factors, we consider the subsample of firms for which we have public data on both acquirers and targets. Unfortunately, this subsample is both relatively small and unrepresentative of the overall sample of mergers, because firms in this subsample are much more likely to be from developed rather than developing countries. Of the 56,978 cross-border mergers in our sample, only 911 have both public acquirers and targets, and also have data available on firm level variables we use to control for other factors that potentially affect mergers. Of these 911 mergers, 877 have acquirers from developed countries and 780 targets are from developed countries. While these mergers are interesting in their own right, they are not representative of cross-border mergers in general.

To estimate the factors that affect mergers, one would ideally like to consider every possible pair of firms that could conceivably merge and estimate the likelihood that any two of them actually do merge. Unfortunately, this approach would be infeasible as the number of possible combinations would be extremely large relative to the number of actual mergers. Instead, we adopt two alternative approaches designed to infer the factors leading one firm to buy another.

4.4.5.1. Cross-Border vs. Domestic Mergers.

We first consider the sample of all mergers of publicly traded firms (including domestic ones), and estimate the characteristics of the firms involved with the merger that are associated with it being a cross-border that lead a particular merger to be either cross-border or domestic. We estimate logit models that predict whether an observed merger is domestic or cross-border as a function of deal characteristics. Intuitively, this approach presumes that domestic mergers can provide a benchmark through which we can understand the nature of cross-border mergers.

We present estimates of these equations in Table 7. The first two columns include the difference in the acquirer and target returns, converted to U.S. dollars, as an explanatory variable. Both coefficients are positive and in the second column, which controls for whether the two firms are in the same industry and the sizes of the targets and acquirers, the coefficient is statistically significantly different from zero. The positive coefficient indicates that cross-border acquisitions tend to have larger return differences between acquirers and targets.

In Columns 3 and 4 we break up the return differences into three components, the differences in local stock market indices, the differences in firm-level excess returns relative to the market, and the currency return between the two countries' currencies.[19] The coefficients on all three variables are positive, but often insignficant. The positive coefficients on currency differences and differences in local market returns are consistent

[19] For the domestic deals, the differences in the local market returns and the currency returns will be identically zero.

with the valuation arguments and suggest that differences in these variables are determinants of cross-border mergers.

4.4.5.2. Predicting the identity of target and acquirers

Another way to evaluate the motives for cross-border mergers is to characterize the attributes of the firms involved as targets and acquirers relative to each other. If the underlying reason for the merger is to take advantage of valuation differences, then one ought to be able to predict which firms will be acquirers or targets using measures of valuation. Consequently, we consider the sample consisting of all firms involved in a public/public cross-border merger and estimate equations predicting whether a particular firm is a target or acquirer. Because the dependent variable is dichotomous, we estimate the equations by logit and present the results in Table 8. We estimate these equations for both domestic and cross-border mergers; the domestic mergers are in Columns 1-4 while the cross-border ones are in 5-8.

The results in Table 8 indicate that for both domestic and cross-border mergers, acquirers outperform targets prior to the acquisition. This finding is consistent with prior literature on domestic mergers suggesting that acquirers typically have higher valuations than targets. In Columns 7 and 8, we break down each return for the cross-border sample into 3 components, reflecting the local stock market index (in local currency), the local firm-specific residual and the currency return (relative to U.S. dollars). The results indicate that only the firm specific component of returns is related to whether a firm is an acquirer or a target, not the local stock-,market return or the currency return. These results are somewhat different from what we found at the country level but similar to the

deal-level regressions in Table 7 using the domestic/cross-border specification. This difference between country-level results and deal-level results is somewhat puzzling and could potentially reflect the fact the sample of public cross-border deals is relatively small and concentrated in developed countries, for which preacquisition currency differences are very small (see Table 4).

4.5. Conclusion

About one-third of worldwide mergers combine firms from two different countries. As the world's economy becomes increasingly integrated, cross-border mergers are likely to become even more important in the future. Yet, in the voluminous academic literature on mergers, the vast majority of research has studied domestic deals. Moreover, what little work that has been done on cross-border mergers has focused on public and/or U.S. based firms. Understanding the patterns and motivations for cross-border mergers is consequently an important and understudied research topic.

In contrast to the presumptions of the academic literature, most cross-border mergers *do not* involve U.S. firms and *do* involve privately-held firms. In our sample of 56,978 cross-border mergers that occurred between 1990 and 2007, 97% involved a private firm as either acquirer or target, while 53% did not involve a U.S. firm. Geography matters; the odds of acquiring a firm in a nearby country are substantially higher than the odds of acquiring a firm in a country far away. In addition, higher economic development, better legal protection and better accounting quality are all associated with the likelihood of being an acquirer rather than a target.

A major factor determining the pattern of cross-border mergers is currency movements. Over the entire sample period, countries whose currencies have appreciated are more likely to have acquiring firms while countries whose currencies have depreciated are more likely to have targeted firms. Controlling for these overall time trends econometrically, short-term movements between two countries' currencies increase the likelihood that firms in the country with the appreciating currency purchase firms in the country with the depreciating currency.

In addition, the relative stock market performance between two countries affects the propensity of firms in these countries to merge. Our estimates indicate that the greater the difference in stock market performance between the countries, the more likely that firms in the superior-performing country purchase firms in the worse-performing country.

The impacts of currency movements and of stock market performance on merger propensities are likely symptomatic of a more general valuation effect, in which more highly valued firms tend to purchase lower-valued firms. This effect has been documented for domestic acquisitions of U.S. firms in a number of studies, and has been generally attributed to misvaluation arguments (Shleifer and Vishny (2003), Rhodes-Kropf and Viswanathan (2004)). Yet in an international context, there is an additional reason why higher-valued firms would purchase lower-valued firms; firms from wealthier countries will have a tendency to purchase firms from poorer countries because of a cost of capital effect described by Froot and Stein (1991). We evaluate both the mispricing

and wealth explanations econometrically and find support for the wealth explanation rather than the mispricing explanation.

With the increasing integration of the world economy, it is likely that more mergers will involve firms from different countries. We have provided a preliminary analysis of the patterns and reasons for cross-border mergers. Some of these mergers undoubtedly occur for the same synergistic reasons as domestic mergers. Yet others appear to reflect country-level factors such as currency appreciation and macroeconomic performance. The extent to which each type of factor affects the likelihood of firms to purchase one another is an important topic for future research.

CHAPTER 5

CONCLUSION

This dissertation presents three essays and seeks to examine motives for and consequences of cross-border mergers and acquisitions. CHAPTER 2 of this dissertation provides evidence that the observed purchase and sale of minority equity stakes between firms are mostly driven by target firms' financial needs. This is a meaningful contribution because, despite the prevalence of minority block acquisitions around the world, to date, little empirical evidence exists regarding the motivation of the parties involved in these transactions, nor of their consequences. The results have substantial implications for the growing literature on corporate investors. In addition to their strategic interaction with the target firms, their monitoring role in the targets and their impact on dividend policy of the targets, corporate minority block investors help to mitigate information asymmetry between target firms and outside shareholders and to relieve financial constraints of the targets. The results also help to explain how financially constrained firms around the globe fund their growth opportunities. Besides using cash, line of credit, trade credit, international cross-listings, and even adjusting managerial ownership, financially constrained firms can overcome capital market frictions by frequently seeking funding from corporations, often strategic partners, to fund their projects.

CHAPTER 3 examine the motives for and consequences of 5,317 failed and completed cross-border acquisitions constituting $619 billion of total activity that was led by government-controlled acquirers over the period from 1990 to 2008. We benchmark this activity at the aggregate country level and also at the deal-specific level relative to cross-border acquisitions involving corporate acquirers over the same period and uncover several important findings. First, we test whether the cross-country determinants of cross-border acquisition activity are different for government-controlled and corporate acquirers. We find that the differences in the determinants of the two types of acquisition flows are economically small. Second, we examine whether firm-specific and country-level attributes of the target firms have any different influence on the likelihood of a cross-border acquisition led by a government-controlled than a corporate acquirer. We find that overall explanatory power of these tests is generally quite low. However, when we examine differences between government-controlled acquirers that involve sovereign wealth funds (SWFs) and those led by other non-SWF government-controlled agencies and corporations, SWF-led acquisitions are less likely to fail. They are more likely to pursue acquirers that are larger in total assets and with fewer financial constraints. Finally, we show that the cumulative market-adjusted returns (CMARs) around announcements of cross-border acquisitions led by government-controlled and corporate acquirers are large, positive (median reaction around 6% for a 3-day announcement-day window) and indistinguishably different for the two types. An important difference in market reactions we do find, however, is between government-controlled acquisitions led by SWFs and those of other government agencies. Though both are positive and statistically significant reactions, the CMARs for SWF-led acquisitions are statistically and economically much smaller and these differences also hold up in

cross-sectional regressions that control for a variety of country-level and target firm-specific attributes.

CHAPTER 4 of the dissertation seeks to understand the patterns and motivations for cross-border mergers, an important and understudied research topic. In contrast to the presumptions of the academic literature, most cross-border mergers do not involve U.S. firms and do involve privately-held firms. In our sample of 56,978 cross-border mergers that occurred between 1990 and 2007, 97% involved a private firm as either acquirer or target, while 53% did not involve a U.S. firm. Geography matters; the odds of acquiring a firm in a nearby country are substantially higher than the odds of acquiring a firm in a country far away. In addition, higher economic development, better legal protection and better accounting quality are all associated with the likelihood of being an acquirer rather than a target. A major factor determining the pattern of cross-border mergers is currency movements. Controlling for overall time trends, short-term movements between two countries' currencies increase substantially the likelihood that firms in a country with an appreciating currency purchase firms in a country with a depreciating currency. In addition, the relative stock market performance between two countries affects the propensity of firms in these countries to merge. Our estimates indicate that the greater the difference in stock market performance between the countries, the more likely that firms in a superior-performing country purchase firms in a worse-performing country.

Taken together, this dissertation contributes to a very important field in international corporate finance—cross-border mergers and acquisitions. By examining a comprehensive dataset of merger and acquisition deals between 1990 and 2007, we not only uncover new facts and understand the patterns of these transactions, but also propose and test various hypotheses

and explanations for the occurrence and intensity of the deal activity. With the increasing integration of the world capital markets, it is likely that more mergers will involve firms from different countries. Undoubtedly there are possible alternative explanations yet to be discovered, which will be an important topic for future research.

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APPENDIX A

VARIABLE DEFINITIONS USED IN CHAPTER 3

Variable	Definition
Government-controlled (corporate) acquirer deal ratio between countries *i* and *j*	The ratio of the number of deals in which the target is from country i and the acquirer is a government-controlled corporation (non-government-controlled) from country j (where i ≠ j) to the total number of cross-border deals with government-controlled (non-government-controlled) acquirers from country j (Source: SDC Mergers and Corporate Transactions database).
Government-controlled (corporate) acquirer deal ratio between countries *i* and *j* (minority stakes only)	The ratio of the number of minority block acquisitions in which the target is from country i and the acquirer is a government-controlled (non-government-controlled) corporation from country j (where i ≠ j) to the total number of cross-border minority block acquisitions with government-controlled (non-government-controlled) acquirers from country j (Source: SDC Mergers and Corporate Transactions database).
Government-controlled (corporate) acquirer deal ratio between countries *i* and *j* (majority stakes only)	The ratio of the number of majority control acquisitions in which the target is from country i and the acquirer is a government-controlled (non-government-controlled) corporation from country j (where i ≠ j) to the total number of cross-border majority control acquisitions with government-controlled (non-government-controlled) acquirers from country j (Source: SDC Mergers and Corporate Transactions database)
Average Annual Exchange Rate Return Difference	Difference in the average annual real bilateral U.S. dollar exchange rate return from 1990 to 2007 between acquirer and target country. We use national exchange rates from Datastream from WM/Reuters. WMR quotes are based on 4:00pm London (Greenwich Mean Time).We obtain National Exchange Rates for the U.K. Pound Sterling and manually convert these currency quotes to get the quotes for the U.S. dollar. These indices are then deflated using the 2000 constant dollar Consumer Price Index (CPI) to calculate real exchange rate returns (in U.S. dollars).
Average Annual Exchange Rate Return Acquirer (Target)	Average annual real bilateral U.S. dollar exchange rate return from 1990 to 2007 of the acquirer (target) firm's country of domicile. See above.

Continued

Table A.1 Variable Descriptions

Table A.1 continued

Variable	Definition
Average Annual Real Stock Market Return Differences	Difference in the average annual local real stock market return from 1990 to 2007 between acquirer and target country. We obtain country-level stock return indices in local currency (Datastream code: RI) and deflate these indices using the 2000 Constant Price Index (CPI) to calculate real stock returns. (Source: Datastream)
Average Annual Real Stock Market Return	The average annual local real stock market return from 1990 to 2007 of the acquirer (target) firm's country of domicile (Source: Datastream).
Average Log GDP per capita Differences	Difference between target and acquirer firm's country of domicile in the average logarithm of Gross Domestic Product (in US$) divided by the average population from 1990 to 2007 (Source: World Bank Development Indicators)
Average Log GDP per capita Acquirer (Target)	The average Gross Domestic Product (in US$) divided by the population of the acquirer (target) firm's country of domicile from 1990 to 2007 (Source: World Bank Development Indicators)
Average GDP Growth Differences	The difference between acquirer and target in the average annual real growth rate of the gross domestic product from 1990 to 2007 (Source: World Bank Development Indicators)
Average GDP Growth Acquirer (Target)	The average annual real growth rate of the gross domestic product of the acquirer (target) country from 1990 to 2007 (Source: World Bank Development Indicators)
Accounting Disclosure Index Differences	The difference between acquirer and target in the index created by the Center for International Financial Analysis and Research to rate the quality of 1990 annual reports on their disclosure of accounting information (Source: LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1997, 1998)).
Accounting Disclosure Index Acquirer (Target)	The index created by the Center for International Financial Analysis and Research to rate the quality of 1990 annual reports on their disclosure of accounting information of the acquirer (target) firm's country of domicile (Source: LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1997, 1998)).
Anti-Self Dealing Index Differences	The difference between acquirer and target in the anti-self dealing index (Source: Djankov,La Porta, Lopez-de-Silanes and Shleifer (2008)).
Anti-Self Dealing Index Acquirer (Target)	The anti-self dealing index of the acquirer (target) firm's country of domicile (Source: Djankov,La Porta, Lopez-de-Silanes and Shleifer (2008)).
Geographic Proximity	The negative of the great circle distance between the capitals of countries i and j. We obtain latitude and longitude of capital cities of each country. We then apply the standard formula: 3963.0 * arcos [sin(lat1) * sin(lat2) + cos (lat1) * cos (lat2) * cos (lon2 - lon1)], where lon and lat are the longitudes and latitudes of the acquirer ("1" suffix) and the target country ("2" suffix) locations, respectively. (Source: http://www.mapsofworld.com/utilities/world-latitude-longitude.htm)
Market Correlation	The correlation coefficient using monthly country-level stock index returns denominated in US dollars (Datastream code: RI) from Datastream between 1990 and 2000.

Continued

Table A.1 continued

Variable	Definition
PolityIV Democracy Differences	The difference between acquirer and target in the measure of regime democracy and/or autocracy, ranging from -10 (high autocracy) and +10 (high democracy). The PolityIV Project is led by Monty Marshall (George Mason University), Keith Jaggers (Colorado State) and was founded originally by Ted Robert Gurr (University of Maryland) (Source: http://www.systemicpeace.org/polity/polity4.htm)
PolityIV Democracy Acquirer (Target)	The measure of regime democracy and/or autocracy, ranging from -10 (high autocracy) and +10 (high democracy) of the acquirer (target) firm's country of domicile (Source: http://www.systemicpeace.org/polity/polity4.htm).
FDI Restrictiveness Differences	The difference between acquirer and target in the proxy that quantifies discrimination against foreign firms regarding right of establishment, ranging from 0 (least restrictive) to 1 (most restrictive) (Source: Golub (2003)).
FDI Restrictiveness Acquirer (Target)	The proxy that quantifies discrimination against foreign firms regarding right of establishment, ranging from 0 (least restrictive) to 1 (most restrictive) of the acquirer (target) firm's country of domicile (Source: Golub (2003))
European Union Dummy	Equals 1 if both target and acquirer belongs to the European Union
Tax Haven Dummy Target (Acquirer)	Equals 1 if the target (acquirer) country is classified as an "offshore financial center" (OFC) by International Monetary Fund's definition (Source: IMF Background Paper, Monetary and Exchange Affairs Department, June 23, 2000, List of Countries, Territories and Jurisdictions with OFCs at http://www.imf.org/external/np/mae/oshore/2000/eng/back.htm#table1)
Bilateral Trade (Annual)	Value of imports by target firm's country of domicile from acquirer firm's country of domicile as a percentage of total imports by target country by year (Source: http://comtrade.un.org/db/)
Developed Country Dummy	Equals 1 for developed countries (Source: Standard & Poor's Emerging Market Database)
Government Acquirer dummy	Equals 1 if acquirer's ultimate parent is ultimately controlled by government and 0 otherwise (Source: SDC Mergers and Corporate Transactions database).
Related Industry Dummy	Equals 1 if the target firm's Standard Industrial Code (SIC) overlaps with that of the acquirer at three-digit level (Source: SDC Mergers and Corporate Transactions database).
All Cash Payment Dummy	Equals 1 if the deal is 100% paid in cash and 0 otherwise; when the payment is unknown, it is set to missing (Source: SDC Mergers and Corporate Transactions database).
Failed Deals Dummy	Equals 1 if the deal is announced but not completed (Source: SDC Mergers and Corporate Transactions database).
Percent of Shares Acquired	The percentage of shares of the target ultimately owned by the acquirer (Source: SDC Mergers and Corporate Transactions database).

Continued

Table A.1 continued

Variable	Definition
Total Assets (log)	Book value of total assets in millions of constant 2000 US dollars (Source: WORLDSCOPE item WC07230)
Return on Assets	(Net Income before Preferred Dividends + ((Interest Expense on Debt - Interest Capitalized) * (1-Tax Rate))) / Average of Last Year's and Current Year's (Total Capital + Last Year's Short Term Debt & Current Portion of Long Term Debt) * 100 (WORLDSCOPE item WC08376)
Market-to-Book	(Book value of total assets (WORLDSCOPE item WC02999)-book value of equity (WC05491*WC05301)+ market value of equity (WC08001))/book value of assets (WC02999)
Long-term Debt/Assets	Ratio of long-term debt to book value of assets (WORLDSCOPE items WC03251/WC02999)
Sales Growth	One-year local country CPI inflation-adjusted sales growth (WORLDSCOPE item WC01001)
12-month Stock Market Returns	12-month cumulative real stock returns in US dollars at the country level. We obtain country-level stock return indices in US dollars from Datastream (Datastream code: RI) and deflate these indices using the 2000 Constant Price Index (CPI) to calculate real stock returns for the trailing 12-month period up to the target acquisition announcement..
High R&D Industry	Equals 1 if the firm operates in the upper quartile of R&D expenditures divided by total net assets among all 4-digit SIC industries on Compustat. (Source: WORLDSCOPE item 07021)
Zero-dividend dummy	Equals 1 if the firm pays no dividends (Source: WORLDSCOPE item WC04551)
High Whited and Wu Index	Equals 1 if the firm's Whited and Wu (WW, 2006) index is in the upper quartile of all WORLDSCOPE firms. We calculate for each firm WW index as -.091*EBITDA (WC18198/WC02999)-0.062*Positive Dividend Dummy (WC04551) +0.02*Long-term debt ratio (WC03251/WC02999)-0.04*log of total assets (WC02999)+0.102*Industry sales growth (WC01001).
High HP2 Index	Equals 1 if the firm's Hadlock and Pierce (HP, 2008) size, age, operating cash flows, and leverage index is in the upper quartile of all WORLDSCOPE firms. The index is constructed for each firm as HP2=-0.352*log of total assets (WC02999)-0.025*age (calendar year-WC18273)-0.584*EBITDA (WC18198/WC02999)+1.747*Long-term debt (WC03251/WC02999)
DKLMS High Flexibility Index	Equals 1 if the firm's Doidge, Karolyi, Lins, Miller and Stulz (DKLMS, 2009) financial flexibility index equals to 0 or 1; The index ranges from 0 to 3 and is constructed as a count variable by adding one point for a firm with high cash and liquid assets (WC02001/WC02501), one point for high dividend (WC04551/WC02501), and one point for low capital expenditures (WC04601/WC02501). A firm is classified as having high cash and liquid assets if its cash and liquidity asset holdings are in the upper quartile of all firms within their country. A similar rule is applied to both dividends and capital expenditures.

Continued

Table A.1 Continued

Variable	Definition
High Closely-Held Shares Dummy	Equals 1 if the firm's insider ownership is in the upper quartile of all WORLDSCOPE firms (WC08021)
SWF Acquirer Dummy	Equals 1 if the firm is targeted by a sovereign wealth fund (SWF); 0 if the firm is targeted by a non-SWF government acquirer (Source: SDC and SWF institute website, fund identified as financial acquirer in Securities Data Corporation under ACQUIROR_TYPE data item and matched by name AN to list of SWFs at http://www.swfinstitute.org/funds.php)
Minority Block Acquisition Dummy	Equals 1 if the deal is a minority block purchase (less than 50% of target firm's shares) and 0 if the deal is majority control acquisition (Source: SDC Mergers and Corporate Transactions database)
CARs (-10, +10), CARs (-5, +5), CARs (-1, +1)	Market-adjusted cumulative returns for the (-10, +10) interval centered around announcement date (Source: SDC Mergers and Corporate Transactions database and Datastream). Similar for (-5,+5) day and (-1,+1) day intervals around announcement date.

APPENDIX B

SUMMARY STATISTICS ON VARIABLES USED IN CHAPTER 3

Variables	Obs	Mean	Std. Dev.	Min	Max
Table 3					
Government-controlled acquirer deal ratio between countries *i* and *j*	2,352	0.021	0.070	0.000	1.000
Government-controlled acquirer dollar ratio between countries i and j	2,352	0.020	0.094	0.000	1.000
Government-controlled acquirer deal ratio between countries *i* and *j* (minority stakes only)	2,352	0.021	0.075	0.000	1.000
Government-controlled acquirer deal ratio between countries *i* and *j* (majority stakes only)	2,352	0.020	0.078	0.000	1.000
Corporate acquirer deal ratio between countries *i* and *j*	2,352	0.021	0.051	0.000	0.621
Corporate acquirer dollar ratio between countries i and j	2,352	0.021	0.068	0.000	0.725
Corporate acquirer deal ratio between countries *i* and *j* (minority stakes only)	2,352	0.021	0.050	0.000	0.553
Corporate acquirer deal ratio between countries *i* and *j* (majority stakes only)	2,352	0.021	0.055	0.000	0.669
(Government deal ratio - Corporate deal ratio)	2,352	0.000	0.053	-0.438	0.967
Average Annual Exchange Rate Return Difference	1,640	0.000	0.128	-0.346	0.346
Average Annual Real Stock Market Return Differences	1,640	0.000	0.058	-0.200	0.200
Average Log GDP per capita Differences	1,980	0.000	1.680	-4.562	4.562
Average GDP Growth Differences	2,070	0.000	0.031	-0.108	0.108
Geographic Proximity	2,256	-4.472	3.034	-12.351	-0.062
Market Correlation	1,640	0.343	0.163	-0.081	0.781
Anti-Self Dealing Index Differences	1,260	0.000	0.363	-0.908	0.908
Accounting Disclosure Index Differences	1,122	0.000	0.179	-0.590	0.590
PolityIV Democracy Differences	1,722	0.000	6.897	-20.000	20.000
FDI Restrictiveness Acquirer (Target)	552	0.174	0.073	0.064	0.352
European Union Dummy	2,352	0.047	0.211	0.000	1.000
Tax Haven Dummy Target (Acquirer)	2,352	0.102	0.303	0.000	1.000
Table 4					
Government Acquirer dummy (Minority Deals)	5,736	0.044	0.206	0.000	1.000
Government Acquirer dummy (Majority Deals)	2,396	0.028	0.166	0.000	1.000
Related Industry Dummy	5,715	0.332	0.471	0.000	1.000
Zero-dividend dummy	4,521	0.471	0.499	0.000	1.000
High Whited and Wu Index	5,736	0.210	0.408	0.000	1.000
High HP2 Index	5,736	0.204	0.403	0.000	1.000
High Closely-Held Shares Dummy	5,736	0.140	0.347	0.000	1.000
Anti-Self Dealing Index (target)	5,427	0.624	0.234	0.092	1.000
12-month Stock Market Returns	5,616	0.181	0.306	-0.838	2.934
Total Assets (log)	4,798	5.253	2.087	-1.961	10.093
Market-to-Book	4,602	1.996	2.318	0.401	29.603
Return on Assets	4,507	-0.036	0.386	-3.403	0.613
Long-term Debt/Assets	4,793	0.136	0.160	0.000	0.837
Sales Growth	4,155	0.304	0.925	-0.772	7.462
Failed Deals Dummy	5,736	0.418	0.493	0.000	1.000
Average Annual Exchange Rate Return (target)	5,731	0.008	0.114	-0.825	0.291
Table 5					
SWF Acquirer Dummy(Financials and Utilities excluded)	628	0.185	0.388	0.000	1.000
SWF Acquirer Dummy (Financials and Utilities included)	922	0.211	0.409	0.000	1.000
Related Industry Dummy	880	0.407	0.492	0.000	1.000
Zero-dividend dummy	585	0.403	0.491	0.000	1.000
High Whited and Wu Index	751	0.237	0.426	0.000	1.000

Continued

Table B.1 Summary Statistics on Variables

Table B.1 continued

Variables	Obs	Mean	Std. Dev.	Min	Max
Table 5					
High HP2 Index	751	0.138	0.346	0.000	1.000
High Closely-Held Shares Dummy	751	0.144	0.351	0.000	1.000
12-month Stock Market Returns	722	0.196	0.316	-0.722	1.558
Total Assets (log)	611	6.741	2.400	0.573	11.391
Market-to-Book	554	1.874	2.213	0.392	21.665
Return on Assets	550	0.020	0.299	-2.671	0.641
Long-term Debt/Assets	611	0.175	0.185	0.000	0.889
Sales Growth	512	0.419	1.191	-0.772	7.462
Failed Deals Dummy	922	0.443	0.497	0.000	1.000
Average Annual Exchange Rate Return (target)	812	-0.003	0.107	-0.650	0.291
Table 7 (Panel A)					
CAR (-10, +10)	7,351	0.096	0.428	-0.912	10.671
Government Acquirer dummy	8,374	0.048	0.215	0.000	1.000
High R&D Industry	5,668	0.247	0.431	0.000	1.000
Zero-dividend dummy	4,600	0.461	0.499	0.000	1.000
High Whited and Wu Index	5,668	0.212	0.409	0.000	1.000
High HP2 Index	5,668	0.199	0.400	0.000	1.000
High Closely-Held Shares Dummy	5,668	0.141	0.348	0.000	1.000
Anti-Self Dealing Index (target)	5,398	0.622	0.237	0.092	1.000
12-month Stock Market Returns	5,560	0.175	0.305	-0.722	2.934
Total Assets (log)	4,871	5.324	2.101	-1.961	10.093
Return on Assets	4,596	-0.039	0.381	-3.403	0.613
Market-to-Book	4,697	1.957	2.239	0.401	29.603
Long-term Debt/Assets	4,867	0.138	0.160	0.000	0.837
Sales Growth	4,220	0.284	0.886	-0.772	7.462
Table 7 (Panel B)					
CAR (-10, +10)	839	0.078	0.276	-0.756	2.635
SWF Acquirer Dummy	954	0.190	0.392	0.000	1.000
High R&D Industry	363	0.209	0.407	0.000	1.000
Zero-dividend dummy	303	0.512	0.501	0.000	1.000
High Whited and Wu Index	363	0.298	0.458	0.000	1.000
High HP2 Index	363	0.207	0.405	0.000	1.000
High Closely-Held Shares Dummy	363	0.152	0.359	0.000	1.000
Anti-Self Dealing Index (target)	348	0.707	0.249	0.172	1.000
12-month Stock Market Returns	360	0.188	0.288	-0.625	1.480
Total Assets (log)	311	5.744	2.193	0.573	10.093
Return on Assets	292	-0.001	0.334	-3.403	0.545
Market-to-Book	302	2.150	3.019	0.515	29.603
Long-term Debt/Assets	311	0.137	0.153	0.000	0.834
Sales Growth	264	0.387	1.107	-0.772	6.714

APPENDIX C

TABLES

Minority block acquisitions by target country 1990-2005. I obtain initial sample of block acquisitions from Thomson Financial's Security Data Corporation (SDC) Platinum Mergers and Acquisitions (M&A) database. I exclude deals that are mergers, acquisitions of majority control, LBOs, spin-offs, recapitalizations, self-tender, exchange offers, repurchases, acquisitions of remaining interest, and privatizations. Deals that lack information on percentage of ownership acquired or have the information inconsistent with the percentage held before and after by more than one percentage point are excluded. I also exclude all deals in which the target and the acquirer has the same ultimate parent or the acquirer firm already had more than 20 percent equity in the target firm. Acquisitions with less than 5 percent blocks are also excluded. Finally, acquisitions involving either target or bidder or both from outside of La Porta et al. (1998) 49 countries are deleted. Anti-self dealing index and civil law dummy are from Djankov et al. (2006). Total value of transactions is based on 2005 dollars. Sub-samples include public targets, cross-border deals, financial acquirers (such as buyout firm, Venture Capital Company, merchant bank, commercial bank, etc.), related industry (when the total requirement coefficients between target and acquirer industries are in the upper quartile of all industries in the U.S. input-out accounts), and targets in high R&D industries. High R&D industries are defined as those in the upper quartile of R&D expenditures divided by total net assets among all four-digit SIC industries on Compustat. For cross-border deals occurred after 1998 within European Union, they are classified as domestic.

Table C.1: Minority block acquisitions by target country (continued)

Table C.1 Minority block acquisitions by target country (continued)

Target Nation	Total Firms	Total Deals	Total Value of Transactions ($mil)	Sub-sample: Public Target	Cross-border	Financial Acquirer	Related Industry	High R&D Industry	Country Characteristics: Anti-self Dealing	Civil Law Dummy
Continental Europe										
Austria	152	174	1,578	46	51	34	45	132	0.21	1
Belgium	147	183	12,279	63	64	57	42	141	0.54	1
Denmark	144	162	1,291	58	47	42	36	100	0.46	1
Finland	220	279	6,100	96	82	41	87	210	0.46	1
France	909	1,137	56,738	378	341	286	262	800	0.38	1
Germany	991	1,176	40,954	297	315	290	299	914	0.28	1
Greece	170	188	673	56	15	18	59	134	0.22	1
Ireland-Rep	116	142	1,753	45	62	51	20	101	0.79	0
Italy	642	769	32,240	167	217	217	196	517	0.42	1
Netherlands	283	344	19,430	116	110	101	83	254	0.2	1
Norway	224	285	6,892	127	115	31	105	203	0.42	1
Portugal	130	171	3,881	77	38	36	42	125	0.44	1
Spain	745	980	33,611	211	248	370	217	596	0.37	1
Sweden	324	411	18,074	232	149	116	83	296	0.33	1
Switzerland	178	203	9,096	62	107	49	58	163	0.27	1
Turkey	55	65	1,356	19	35	12	21	43	0.43	1
Total	5,430	6,669	245,948	2,050	1,996	1,751	1,655	4,729	0.39	0.94
Australia/New Zealand										
Australia	1,172	1,692	31,135	1,174	610	271	452	1,197	0.76	0
New Zealand	199	303	3,805	175	156	79	50	207	0.95	0
Total	1,371	1,995	34,939	1,349	766	350	502	1,404	0.85	0
UK	1,360	1,639	56,163	767	666	359	410	1,326	0.95	0
US	4,207	5,498	225,048	3,618	1,099	873	1,055	3,871	0.65	0

Table C.1 Minority block acquisitions by target country (continued)

Table C.1 (continued)

Target Nation	Total Firms	Total Deals	Total Value of Transactions ($mil)	Sub-sample					Country Characteristics	
				Public Target	Cross-border	Financial Acquirer	Related Industry	High R&D Industry	Anti-Self Dealing	Civil Law Dummy
Asia										
Hong Kong	464	600	18,269	355	218	61	477	160	0.96	0
India	539	653	9,790	391	258	182	433	178	0.58	0
Indonesia	121	143	10,922	53	98	14	93	15	0.65	1
Japan	1,508	2,074	61,720	1,038	263	272	1,564	520	0.5	1
Malaysia	392	487	11,486	237	100	27	344	50	0.95	0
Pakistan	11	11	34	2	11	.	9	2	0.41	0
Philippines	124	164	4,972	64	101	21	124	18	0.22	1
Singapore	348	457	8,148	215	186	69	345	80	1	0
South Korea	269	329	16,188	149	108	47	243	97	0.47	1
Sri Lanka	21	28	89	17	11	.	18	1	0.39	0
Taiwan	111	121	3,642	35	63	7	93	57	0.56	1
Thailand	289	347	6,406	125	137	63	232	37	0.81	0
Total	4,197	5,414	151,666	2,681	1,554	763	3,975	1,215	0.63	0.42
Latin America										
Argentina	155	197	11,112	38	139	30	157	7	0.34	1
Brazil	244	283	19,389	91	175	60	216	29	0.27	1
Chile	75	96	3,877	30	65	5	68	3	0.63	1
Colombia	35	38	866	11	30	6	30	3	0.57	1
Mexico	140	160	11,217	54	111	17	128	11	0.17	1
Peru	22	24	1,409	10	21	3	20	2	0.45	1
Total	671	798	47,870	234	541	121	619	55	0.41	1
Others										
Canada	1,183	1,528	31,148	1,135	491	335	1,016	259	0.64	0
Egypt	29	32	408	3	17	3	21	4	0.2	1
Israel	170	200	5,037	87	98	37	157	98	0.73	0
South Africa	294	340	11,948	119	102	51	253	55	0.81	0
Venezuela	27	30	316	4	25	4	25	1	0.09	1
Total	1,703	2,130	48,857	1,348	733	430	1,472	417	0.5	0.4
World Total	18,939	24,143	810,490	12,047	7,355	4,647	17,396	5,420	0.51	0.65

Year	Total Publicly Traded Firms in WorldScope	Targets in Minority Block Acquisitions	Public Acquirers	Cross-border Acquisitions	Financial Acquirers	Related Industry	Cash as a Single Payment	Private Negotiation	Non-US Targets	<20% Blocks
1990	11,437	294	127	79	74	203	98%	101	164	246
1991	12,294	251	97	65	31	189	96%	133	145	195
1992	13,025	233	95	64	41	155	98%	123	145	168
1993	14,172	300	123	82	53	206	97%	177	187	225
1994	15,415	379	128	99	81	250	97%	178	172	314
1995	16,537	453	131	106	100	301	99%	186	211	373
1996	18,385	553	179	110	99	352	98%	234	269	447
1997	19,817	461	191	126	75	295	95%	270	282	327
1998	20,642	427	200	144	89	302	95%	227	280	317
1999	21,736	492	258	159	106	350	96%	318	349	339
2000	22,512	485	245	172	114	332	91%	333	380	335
2001	22,311	412	214	129	80	288	93%	322	365	278
2002	22,037	383	183	97	93	253	91%	323	338	256
2003	21,784	550	224	132	158	363	99%	502	525	409
2004	21,975	479	221	128	109	311	97%	424	455	347
2005	21,895	479	245	159	113	341	96%	436	459	332
Total	32,679	5,262(6,631)	2,861	1,851	1,416	4,491	96%	4,287	4,726	4,908

This table reports characteristics of minority block acquisitions from Thomson Financial's Security Data Corporation (SDC) Platinum M&A database. Only completed deals that have target information on Worldscope are included. The number of total publicly traded firms, that of targeted firms, and that of target firms with certain characteristics are reported. These characteristics include public acquirers, foreign acquirers, financial acquirers (such as buyout firm, Venture Capital Company, merchant bank, commercial bank, etc.), related industry (when the total requirement coefficients between target and acquirer industries are in the upper quartile of all industries in the U.S. input-out accounts), cash as a single payment method (transactions of unknown type are omitted from this column), private negotiation, non-U.S. targets, less than 20 percent blocks. Total is calculated as the number of unique target firms and unique worldscope firms during 1990 to 2005 sample period; i.e. when the same firm is targeted in different fiscal year, it is only counted once.

Table C.2 Corporate block acquisition activities by year

This table presents characteristics of target and non-target firms taken from Datastream and WorldScope between 1989 and 2005 to match the availability of the SDCdata. Financial and utility firms are dropped. Target observations are firms on the SDC targeted in a completed minority block acquisition. Non-target observations are firms in the same country as the target observation. All observations are required to have book value of assets larger than $1 million and positive book value of equity and sales. Return on assets is measured as the ratio of EBITDA to book value of assets. Leverage is measured as the ratio of long term debt to book value of assets. Market value of assets is calculated as calculated as (the book value of total assets - the book value of equity + the market value of equity). Market-to-book is market value of assets divided by the book value of assets. Sales growth is the one-year inflation-adjusted sales growth. Investment expenditures are the sum of capital expenditures, research and development (R&D) expenditures and net assets from acquisitions scaled by book value of total assets. ADR dummy equals to one if the firm has an ADR listing in the year under consideration. High R&D industry equals to one if the firm operates in the upper tercile industry of all industries ranked by their R&D expenses. High Whited and Wu index equals to one if the firms' Whited and Wu (2006) index is in the upper tercile of all WorldScope firms in the year under consideration. High HP index equals to one if the firm's Hadlock and Pierce (2008) size and age index is in the upper quartile of all WorldScope firms in the year under consideration. High HP index 2 equals to one if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms in the year under consideration. DKLMS low financial flexibility equals to one if the firm's DKLMS financial flexibility index equals to 0 or 1. The DKLMS financial flexibility index ranges from 0 to 3 and is constructed as a count variable by adding one point for a firm with high cash and liquid assets, one point for high dividends, and one more point for low capital expenditures. No public debt dummy equals to one for those firms that have not issued any public debt in the 5 years prior to the acquisition based on SDC new issues database. High closely-held shares is equal to one if the firm's insider ownership is in the upper tercile of all worldscope firms in that year. Low ASDI index equals to one if the firm is from a country whose anti-self dealing index is lower than the world median. The currency depreciation dummy equals to one if the country's real exchange rate increased by over 25 percent compared to the value of the exchange rate one year earlier. The low country market return dummy equals to one if the firm's country-level cumulative 12 month stock market return is lower than the world median in that year.

Table C.3 Characteristics of target firms prior to the minority block acquisition (continued)

Table C.3 (continued)

	World Sample			Non-U.S. World Sample		
	Non-block	Block	p(diff)	Non-block	Block	p(diff)
Firm characteristics						
Book value of assets ($mil)	885.20	764.60	<.01	784.81	836.88	
Return on assets	0.11	0.09	<.01	0.11	0.09	0.02
Book leverage	0.13	0.15	<.01	0.12	0.14	<.01
Market/book	1.72	1.69		1.56	1.56	
Sales growth	0.23	0.25	0.09	0.22	0.23	
Investment (% total assets)	0.22	0.15	0.01	0.14	0.10	<.01
ADR dummy	0.04	0.05	<.01	0.06	0.07	<.01
Empirical proxies						
High R&D industry dummy	0.37	0.35	0.02	0.33	0.31	0.02
Zero-dividend dummy	0.40	0.47	<.01	0.33	0.39	<.01
High Whited and Wu index	0.30	0.31	0.06	0.27	0.28	
High HP index	0.24	0.27	<.01	0.21	0.24	<.01
High HP index 2	0.22	0.29	<.01	0.18	0.25	<.01
DKLMS low flexibility	0.19	0.22	<.01	0.13	0.17	<.01
No public debt dummy	0.05	0.05		0.04	0.04	0.02
High closely-held share dummy	0.24	0.20	<.01	0.28	0.23	<.01
Low ASDI index	0.18	0.20	<.01	0.26	0.27	0.03
Low country mkt ret in prior year	0.53	0.48	<.01	0.55	0.50	<.01
Currency depreciation dummy	0.01	0.01		0.01	0.01	
Stock return in prior year	0.20	0.16	<.01	0.20	0.15	<.01
Acquirer stock return in prior year	.	0.29	.	.	0.27	.
Acquirer stock return in post year	.	0.17	.	.	0.18	.

This table presents marginal Effects of logit regressions examining the probability of a publicly traded firm to be the target in a minority block acquisition. The dependent variable equals to one if the firm in question is a target in a completed minority block acquisition. Independent variables include a dummy variable indicating high R&D industry if the firm operates in the upper tercile industry of all industries ranked by their R&D expenditures, one-year sales growth rate, a dummy variable indicating high insider ownership if the firm's insider ownership is in the upper tercile of all Worldscope firms, a dummy variable indicating low ASDI index if the firm is from a country whose anti-self dealing index is lower than the world median, firm cumulative 12-month stock returns, and a dummy variable indicating currency depreciation. Six financial constraint dummies are included one at a time. They are respectively a zero-dividend dummy if the firm pays no dividend in the previous year, a dummy indicating high Whited and Wu index if the firm's WW index is in the upper tercile of all WorldScope firms, a dummy indicating high HP index if the firm's Hadlock and Pierce (2008) size and age index is in the upper quartile of all WorldScope firms, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy indicating low financial flexibility if the firm's DKLMS financial flexibility index equals to 0 or 1 and a no public debt dummy if the firm did not issued any public debt in the 5 years prior to the acquisition based on SDC new issues database. GDP per capita and stock market capitalization to GDP are from the World Bank WDI Database. Firms with total assets smaller than $1 million and negative book value of equity and sales are dropped. All specifications include year, industry and country fixed effects with heterskedasticity robust standard errors clustered by country and firms' two-digit SIC codes. Other firm controls include firm size and leverage.

Table C.4 Multivariate estimates of the probability of minority block acquisitions (continued)

Table C.4 continued

	(1)	(2)	(3)	(4)	(5)	(6)
High R&D industry	-0.001	-0.000	-0.001	-0.001	-0.001	-0.000
	(-0.62)	(-0.31)	(-0.76)	(-0.92)	(-0.47)	(-0.17)
Zero-dividend dummy	0.005					
	(6.17)					
High Whited and Wu index		0.002				
		(2.23)				
High HP index			0.001			
			(1.31)			
High HP index 2				0.004		
				(4.47)		
DKLMS low flexibility					0.003	
					(6.35)	
No public debt dummy						-0.003
						(-1.47)
Sales growth	0.000	0.001	0.001	0.001	0.000	0.001
	(1.03)	(1.44)	(1.80)	(1.54)	(0.93)	(1.58)
High closely-held share dummy	-0.007	-0.007	-0.006	-0.006	-0.007	-0.007
	(-8.48)	(-8.45)	(-7.73)	(-7.69)	(-8.51)	(-8.51)
Low ASDI index	-0.149	-0.146	-0.158	-0.155	-0.145	-0.148
	(-5.96)	(-6.00)	(-5.70)	(-5.70)	(-6.02)	(-6.01)
Stock return in prior year	-0.002	-0.002	-0.001	-0.001	-0.001	-0.002
	(-2.70)	(-2.69)	(-2.52)	(-2.41)	(-2.66)	(-2.73)
Currency depreciation dummy	0.008	0.008	0.009	0.009	0.008	0.008
	(1.46)	(1.39)	(1.53)	(1.52)	(1.36)	(1.39)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Clustering by industry and country	Yes	Yes	Yes	Yes	Yes	Yes
N Obs	135441	135441	129614	129614	135441	135441
Adj R-Sq	0.046	0.045	0.043	0.044	0.046	0.045

	# of obs	Targets	Acquirers	Targets+ Acquirers	Premium
Total	6,631	8.07%***	1.20%***	2.13%***	7.98%***
Low R&D	4,079	7.50%	1.08%	2.17%	7.56%
High R&D	2,472	9.14%	1.48%	2.07%	8.76%
		(0.01)	(0.35)	(0.85)	(0.41)
Low HP index 2	5,403	7.40%	1.23%	2.07%	8.02%
High HP index 2	1,228	11.05%	1.05%	2.38%	7.84%
		(<0.01)	(0.76)	(0.68)	(0.92)
Low closely-held shares	4,958	8.58%	1.18%	1.84%	7.83%
High closely-held shares	1,035	7.74%	1.43%	3.10%	6.55%
		(0.31)	(0.65)	(0.05)	(0.54)
Domestic	4,780	8.33%	1.49%	2.68%	6.62%
Cross-border	1,851	7.42%	0.72%	1.25%	13.24%
		(0.17)	(0.07)	(<0.01)	(<0.01)
High ASDI index	5,466	8.69%	1.26%	2.40%	7.39%
Low ASDI index	1,165	5.21%	0.96%	1.34%	17.84%
		(<0.01)	(0.53)	(0.05)	(0.01)
Low acquirer stock return in prior year	6,103	7.87%	1.06%	1.93%	8.48%
High acquirer stock return in prior year	528	10.49%	1.69%	2.83%	1.74%
		(0.04)	(0.21)	(0.16)	(<0.01)

This table presents cumulative average excess stock returns to targets, acquirers and combined targets + acquirers calculated over a 21-day (–10, +10) interval centered on the purchase announcement date. Excess stock returns are cumulative market adjusted buy-and-hold returns in percentage. Combined targets + acquirers returns are weighted using the market capitalization of each firm prior to the acquisition announcement. Premium is the block purchase price to the target firm's stock price 4 weeks before the announcement. The sample is partitioned into subgroups by key variables of each motive. These variables include a dummy variable indicating high R&D industry if the firm operates in the upper tercile industry of all industries ranked by their R&D expenditures, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating high insider ownership if the firm's insider ownership is in the upper tercile of all target firms, a dummy variable indicating cross-border if the acquirer's ultimate parents are foreign, a dummy variable indicating low ASDI index if the firm is from a country those anti-self dealing index is lower than the world median and a dummy variable indicating high acquirer prior stock returns if the acquirer' stock return is in the upper quartile of all purchasing firms. P-values for the mean differences between groups are in parentheses. ***, **, * denotes significance level at 1%, 5% and 10%, respectively.

Table C.5 Excess stock returns to minority block acquisitions

Variables							Non U.S.	<20% Block	Post 1998
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
High R&D industry	0.015*					0.013	0.010	0.011	0.010
	(1.81)					(1.55)	(1.03)	(1.21)	(0.83)
High HP index 2		0.037***				0.036***	0.028**	0.027**	0.032*
		(3.55)				(3.41)	(2.03)	(2.36)	(1.83)
High closely-held share dummy			-0.005			-0.002	-0.002	0.005	-0.000
			(-0.45)			(-0.19)	(-0.13)	(0.37)	(-0.02)
Cross-border			-0.002			0.000	-0.004	0.007	0.003
			(-0.24)			(0.05)	(-0.33)	(0.66)	(0.22)
High closely-held share × Cross-border			0.007			0.003	0.002	-0.004	0.004
			(0.35)			(0.18)	(0.07)	(-0.16)	(0.14)
Low ASDI index				-0.032***		-0.031***	-0.032***	-0.038***	-0.021*
				(-3.67)		(-3.46)	(-3.47)	(-3.95)	(-1.70)
High prior acquirer stock return					0.018	0.016	0.000	0.011	0.012
					(1.19)	(1.07)	(0.03)	(0.69)	(0.61)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-Sq	0.015	0.018	0.014	0.016	0.014	0.021	0.019	0.019	0.012

This table presents results from regressing target announcement returns on firm/deal/industry/country characteristics. The dependent variable is the cumulative (-10, +10) market adjusted announcement returns summarized in Table V. The independent variables include a dummy variable indicating high R&D industry if the firm operates in the upper tercile industry of all industries ranked by their R&D expenditures, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating high insider ownership if the firm's insider ownership is in the upper tercile of all target firms, a dummy variable indicating cross-border if the acquirer's ultimate parent is foreign, a dummy variable indicating low ASDI index if the firm is from a country whose anti-self dealing index is lower than the world median, and a dummy variable indicating high acquirer prior stock returns if the acquirer' stock return is in the upper quartile of all purchasing firms. All specifications include year fixed effects, natural log of GDP, stock market capitalization to GDP and firm size with heterscedasticity robust standard errors. The last three columns examine three alternative samples: non-U.S. firms, deals of block size smaller than 20 percent of target firms, post-1998 sample. ***, **, * denotes significance level at 1%, 5% and 10% respectively. The sample period is from 1990 to 2005.

Table C.6 Target announcement returns: multivariate analysis

	(1)	(2)	(3)	(4)	(5)	(6)
JV/alliances	0.018*			0.011		
	(1.70)			(1.00)		
Same industry		0.024***			0.022**	
		(2.96)			(2.52)	
Related industry			0.014**			0.016***
			(2.55)			(2.67)
High HP index 2				0.032***	0.031***	0.033***
				(3.33)	(3.30)	(3.46)
High R&D industry				0.011	0.012*	0.013*
				(1.57)	(1.70)	(1.85)
High closely-held share dummy				-0.007	-0.006	-0.007
				(-0.64)	(-0.58)	(-0.65)
Cross-border				-0.007	-0.008	-0.009
				(-0.88)	(-1.01)	(-1.05)
High closely-held share × Cross-border				-0.000	-0.001	-0.001
				(-0.01)	(-0.06)	(-0.06)
High prior acquirer stock return				0.029**	0.026*	0.026*
				(2.15)	(1.95)	(1.92)
Low ASDI index				-0.039***	-0.040***	-0.040***
				(-5.41)	(-5.53)	(-5.56)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-Sq	0.0101	0.0110	0.0106	0.0162	0.0172	0.0174

This table presents results from regressing target announcement returns on firm, deal, industry, and country characteristics. The dependent variable is the cumulative (-10, +10) market adjusted announcement returns summarized in table 5. Three dummy variables indicating acquirer information advantage are included, respectively a dummy variable indicating the presence of JV/alliances between the target and the acquirer, a dummy variable indicating whether the target and acquirer operate in the same industry (3-digit SIC codes), and a dummy variable indicating related industry when the total requirement coefficients between target and acquirer industries are in the upper quartile of all industries in the U.S. input-out accounts. Other independent variables are the same as those in Table VI, including a dummy variable indicating high R&D industry if the firm operates in the upper tercile industry of all industries ranked by their R&D expenditures, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating high insider ownership if the firm's insider ownership is in the upper tercile of all target firms, a dummy variable indicating cross-border if the acquirer's ultimate parents are foreign, a dummy variable indicating low ASDI index if the firm is from a country whose anti-self dealing index is lower than the world median and a dummy variable indicating high acquirer prior stock returns if the acquirer' stock return is in the upper quartile of all purchasing firms. All specifications include year fixed effects, GDP per capita, stock market capitalization to GDP and firm size with heterscedasticity robust standard errors. ***, **, * denotes significance level at 1%, 5% and 10% respectively .The sample period is from 1990 to 2005.

Table C.7 Target Announcement Returns and Acquirer Information Advantage

Panel A: Contracting

	(1)	(2)	(3)	(4)	No Financial Acquirer (5)	U.S. Sample (6)
High R&D industry (Compustat)	0.017**	0.017**	0.012	0.013	0.016	0.035***
	(2.24)	(2.08)	(1.52)	(1.47)	(1.62)	(3.56)
JV/alliances		0.032*		0.025	0.011	0.096***
		(1.82)		(1.35)	(0.64)	(5.40)
High R&D × JV/alliances		-0.010		-0.013	-0.008	-0.085***
		(-0.36)		(-0.45)	(-0.27)	(-2.91)
High HP index 2			0.032***	0.032***	0.029***	0.038***
			(3.34)	(3.35)	(2.77)	(3.61)
High closely-held share dummy			-0.008	-0.008	-0.002	-0.012
			(-0.78)	(-0.81)	(-0.16)	(-0.99)
Cross-border			-0.008	-0.009	0.002	-0.042***
			(-0.96)	(-1.10)	(0.21)	(-4.30)
Low ASDI index			-0.039***	-0.039***	-0.033***	0.000
			(-5.53)	(-5.43)	(-3.72)	(0.00)
High prior acquirer stock return			0.029**	0.028**	0.032**	0.054***
			(2.19)	(2.11)	(2.16)	(3.63)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-Sq	0.0106	0.0112	0.0161	0.0165	0.0144	0.0393

This table presents results from regressing target announcement returns on firm, deal, industry, and country characteristics with different sample/variables. High R&D industries are defined as those in the upper quartile of R&D expenditures divided by total net assets among all four digit SIC industries on Compustat. An interaction term between the high R&D dummy using Compustat industries and the joint venture/alliances dummy is included. The last two columns run model (4) for the sample where financial acquirers are dropped and for the sample where only U.S. target firms are included. All regressions include the following variables: a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating high insider ownership if the firm's insider ownership is in the upper tercile of all target firms, a dummy variable indicating cross-border if the acquirer's ultimate parents are foreign, a dummy variable indicating low ASDI index if the firm is from a country whose anti-self dealing index is lower than the world median and a dummy variable indicating high acquirer prior stock returns if the acquirer' stock return is in the upper quartile of all purchasing firms. All specifications include year fixed effects, GDP per capita, stock market capitalization to GDP and firm size with heterscedasticity robust standard errors. ***, **, * denotes significance level at 1%, 5% and 10% respectively. The sample period is from 1990 to 2005.

Table C.8 Robustness checks: High R&D industry and joint venture/alliances (continued)

Table C.8 (continued)

Panel B: Cross-border Sample

	ASDI		Shareholder Protection		Creditor Protection		Common Law Dummy	
Target law	0.123***	0.093***	0.000	0.000	0.016**	0.005	0.051***	0.043***
	(3.88)	(4.03)	(0.77)	(0.81)	(2.12)	(1.05)	(3.45)	(3.47)
(Acquirer-Target Law)$_+$	0.064		0.000		0.017**		0.018	
	(1.51)		(0.08)		(2.39)		(1.04)	
(Acquirer-Target Law)$_-$	0.012		0.000		0.004		-0.000	
	(0.31)		(0.07)		(0.52)		(-0.02)	
|Acquirer-Target Law|		0.021		-0.000		0.008		0.008
		(0.65)		(-0.01)		(1.43)		(0.61)
High R&D industry	0.007	0.006	0.002	0.002	0.003	0.003	0.004	0.003
	(0.54)	(0.42)	(0.18)	(0.18)	(0.26)	(0.21)	(0.29)	(0.26)
High HP index 2	0.034*	0.035*	0.039**	0.039**	0.039**	0.042**	0.032*	0.032*
	(1.85)	(1.90)	(2.13)	(2.13)	(2.12)	(2.29)	(1.76)	(1.75)
High closely-held share dummy	-0.012	-0.013	-0.009	-0.009	-0.011	-0.012	-0.006	-0.006
	(-0.88)	(-0.92)	(-0.64)	(-0.64)	(-0.80)	(-0.85)	(-0.43)	(-0.44)
High prior acquirer stock return	0.020	0.021	0.022	0.022	0.018	0.020	0.020	0.020
	(0.86)	(0.90)	(0.94)	(0.94)	(0.79)	(0.86)	(0.88)	(0.86)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R-Sq	0.0296	0.0284	0.0213	0.0213	0.0259	0.0229	0.0274	0.0271

This table summarizes new equity and debt issue activities simultaneously with and in the two years subsequent to minority block acquisitions using Thomson Financial's SDC Platinum New Issues database. The announcement date of the acquisition is compared with the issue date to determine the number of subsequent offerings. Equity (debt) issuances with multiple tranches or having simultaneous offerings are lumped together to avoid double counting. Statistics reported are respectively the number (percentage) of target firms issuing equity or debt, total (average) number of issues by target firms raising new equity or debt, total (average) proceeds from all equity or debt issues and total proceeds as a percentage of the target firm's market value at the time of acquisition (all proceeds by target firms as a percentage of all target firm's market value). These statistics are further grouped by a dummy variable indicating whether the target operates in high R&D industries, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating whether the target firm has high insider ownership, whether the acquisition is cross-border, whether the target firm is in countries with low ASDI index and whether the acquirer has high stock returns prior to the acquisition. Panel A summarize equity offerings and Panel B reports debt offerings.

Table C.9 Equity and debt offerings accompanying minority block acquisitions (continued)

Table C.9 (continued)

Panel A Equity offerings:

	Number (Percentage) of Firms Issuing Equity[a]	Total (Average) Number of New Issues	Total (Average) Proceeds of Targets $US Mil	Median (Average) Proceeds (% MCAP)
Total	1,815[b]	3,112	187,304[c]	27%
	[27%]	[1.7]	[60.2]	[18%]
Low R&D	1,113	1,981	107,751	30%
	[27%]	[1.8]	[54.4]	[17%]
High R&D	682	1,089	77,176	25%
	[28%]	[1.6]	[70.9]	[19%]
Low HP index 2	1,402	2,276	172,109	26%
	[26%]	[1.6]	[75.6]	[18%]
High HP index 2	413	836	15,194	31%
	[34%]	[2.0]	[18.2]	[24%]
Low closely-held Shares	1,362	2,379	134,637	27%
	[27%]	[1.7]	[56.6]	[18%]
High closely-held Shares	283	450	35,148	27%
	[27%]	[1.6]	[78.1]	[16%]
Domestic	1,304	2,227	110,449	29%
	[27%]	[1.7]	[49.6]	[19%]
Cross-border	511	885	76,854	25%
	[28%]	[1.7]	[86.8]	[17%]
High ASDI index	1,617	2,866	132,795	28%
	[30%]	[1.8]	[46.3]	[22%]
Low ASDI index	198	246	54,509	21%
	[17%]	[1.2]	[221.6]	[13%]
Low acquirer stock return in prior year	1,651	2,859	162,156	27%
	[27%]	[1.7]	[56.7]	[18%]
High acquirer stock return in prior year	164	253	25,148	27%
	[31%]	[1.5]	[99.4]	[20%]

Continued

[a] All target firms: 6,631

[b] Among issuing firms, 550 issued new equity in the two years prior to the announcement. Among 6,631 industry size-matched firms, 1,139 [17%] issued new equity.

[c] Issuing firms raised $US 38,317 million in the two years prior to the announcement. Industry size-matched firms raised $US 112,089 million in the two year window. The median difference between target firms and industry sized matched firms is

Table C.9 (continued)

Panel B Debt offerings:

	Number (Percentage) of Firms Issuing Debt	Total (Average) Number of New Issues	Total (Average) Proceeds of Targets $US Mil	Median (Average) Proceeds (% MCAP)
Total	651	1,286	249,617	24%
	[10%]	[2.0]	[194.1]	[23%]
Low R&D	443	837	152,250	25%
	[11%]	[1.9]	[181.9]	[25%]
High R&D	203	443	96,836	22%
	[8%]	[2.2]	[218.6]	[20%]
Low HP index 2	557	1,164	237,399	22%
	[10%]	[2.1]	[204.0]	[22%]
High HP index 2	94	122	12,217	41%
	[8%]	[1.3]	[100.1]	[49%]
Low closely-held Shares	498	1,039	211,882	26%
	[10%]	[2.1]	[203.9]	[23%]
High closely-held Shares	99	134	20,376	23%
	[10%]	[1.4]	[152.1]	[18%]
Domestic	482	866	164,716	27%
	[10%]	[1.8]	[190.2]	[22%]
Cross-border	169	420	84,900	22%
	[9%]	[2.5]	[202.1]	[23%]
High ASDI index	546	990	146,743	29%
	[10%]	[1.8]	[148.2]	[26%]
Low ASDI index	105	296	102,874	16%
	[9%]	[2.8]	[347.5]	[19%]
Low acquirer stock return in prior year	599	1,193	226,877	25%
	[10%]	[2.0]	[190.2]	[23%]
High acquirer stock return in prior year	52	93	22,740	16%
	[10%]	[1.8]	[244.5]	[18%]

Empirical variables	Probability of issuing equity						Proceeds from issuing equity					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
High R&D industry	0.001					-0.002	0.198					-0.202
	(0.02)					(-0.06)	(0.17)					(-0.21)
High HP index 2		0.057				0.066		2.736				3.172
		(3.78)				(3.75)		(2.28)				(2.36)
High closely-held share dummy			-0.014			-0.009			-1.019			-1.163
			(-0.71)			(-0.44)			(-1.34)			(-1.59)
Low ASDI index				-0.131		-0.140				-9.545		-8.279
				(-5.89)		(-6.20)				(-3.73)		(-2.92)
High prior acquirer stock return					0.018	0.009					-1.705	-1.896
					(1.03)	(0.46)					(-1.38)	(-1.44)
Size + Country controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N Obs	6551	6631	5993	6631	6631	5923	6549	6629	5991	6629	6629	5921
Pseudo R-sq	0.037	0.039	0.033	0.049	0.037	0.050	0.033	0.037	0.035	0.050	0.034	0.057

Multivariate estimates of new equity issuances. The first six columns use logit models to examine the probability that a target firm in the minority block acquisition will issue new equity either simultaneously with or in the subsequent two years of the acquisition. The last six columns use Tobit models to investigate the determinants of proceeds from target firm's new equity issues (scaled by their market capitalization) in the subsequent two years of the acquisition. Independent variables include a dummy variable indicating high R&D industry if the firm operates in the upper tercile industry of all industries ranked by their R&D expenditures, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating high insider ownership if the firm's insider ownership is higher than the world median, a dummy variable indicating deals of cross-border nature, a dummy variable indicating low ASDI index if the firm is from a country those anti-self dealing index is lower than the world median and a dummy variable indicating high acquirer stock return if the purchasing firm's stock return in the year prior to the acquisition is in the upper quartile of all acquiring firms. All specifications include year fixed effects, GDP per capita, stock market capitalization to GDP and firm size with heterskedasticity robust standard errors clustered by firms' two-digit SIC codes. Marginal effects are reported.

Table C.10 Determinants of new equity issuances subsequent to the minority block acquisition

	Δ Operating Cash Flows	Δ Sales	Δ Investment Expenditures
Total	1.83%***	16.58%**	5.95%***
Low R&D	1.90%	17.76%	5.60%
High R&D	1.68%	14.39%	6.69%
	(0.86)	(0.49)	(0.56)
Low HP index 2	0.82%	8.44%	2.99%
High HP index 2	4.44%	37.55%	13.62%
	(0.03)	(<0.01)	(<0.01)
Low closely-held shares	1.74%	16.31%	5.49%
High closely-held shares	2.16%	17.59%	7.69%
	(0.77)	(0.84)	(0.33)
Domestic	1.92%	16.76%	6.30%
Cross-border	1.58%	16.11%	5.10%
	(0.79)	(0.90)	(0.54)
High ASDI index	1.62%	13.90%	7.18%
Low ASDI index	2.49%	25.35%	2.34%
	(0.42)	(0.03)	(<0.01)
Low acquirer stock return in prior year	1.92%	16.52%	5.99%
High acquirer stock return in prior year	0.40%	17.54%	5.44%
	(0.55)	(0.91)	(0.89)

Changes in operating cash flows, sales and investment expenditures during the period (-1, +3) around the acquisition announcement. Comparison portfolios for each target firm are constructed using related industry (four-digit SIC) size matched firms from WorldScope. If five matching firms are not available at the four-digit SIC level, three-digit or two-digit levels are used to obtain a minimum of five firms. Mean statistics are reported after subtracting industry median for the comparison groups. Δ operating cash flows is the industry-adjusted changes in earnings before interest, taxes, depreciation and amortization divided by average total net assets. Δ Sales is the industry adjusted changes in sales scaled by average total net assets. Δ investment expenditures is the industry adjusted capital expenditures + R&D expenditures + net assets from acquisitions divided by average net assets. To avoid survivorship bias, we require targets to have WorldScope data available in each comparison year over the interval (-1,+3). Sample statistics are reported by a dummy variable indicating whether the target operates in high R&D industries, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating whether the target firm has high insider ownership, whether the acquisition is cross-border, whether the target firm is in countries with low ASDI index and whether the acquirer has high stock returns prior to the acquisition. P-value is in parenthesis. ***, **, * denotes significance level at 1%, 5% and 10% respectively.

Table C.11 Changes in Operating Performance, Sales and Investment

Variables	Δ Operating Cash Flows	Δ Sales	Δ Investment Expenditures
	(1)	(2)	(3)
High R&D industry	-0.011	-0.086*	-0.013
	(-0.87)	(-1.72)	(-0.67)
High HP index 2	0.044***	0.335***	0.105***
	(2.67)	(5.49)	(4.20)
High closely-held shares	0.010	0.068	0.027
	(0.52)	(0.82)	(0.99)
Cross-border	0.002	0.051	0.001
	(0.14)	(0.88)	(0.03)
High closely-held shares × Cross-border	-0.014	-0.178	-0.003
	(-0.47)	(-1.52)	(-0.07)
Low ASDI index	0.015	0.180***	-0.029*
	(1.35)	(3.48)	(-1.71)
High prior acquirer stock returns	-0.009	0.026	-0.002
	(-0.37)	(0.28)	(-0.05)
Size + Country controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Adj R-Sq	0.019	0.033	0.039

Ordinary least square regression of industry-adjusted changes in operating cash flow (EBITDA) divided by average net assets, sales growth and changes in investment expenditures during the (-1, +3) year interval relative to corporate block equity purchases. Comparison portfolios for each target firm are constructed using related industry (four-digit SIC) size matched firms from WorldScope. If five matching firms are not available at the four-digit SIC level, three-digit or two-digit levels are used to obtain a minimum of five firms. Median statistics for the comparison groups are subtracted from the target measures. Regressors include a dummy variable indicating whether the target operates in high R&D industries, a dummy indicating high HP index 2 if the firm's Hadlock and Pierce (2008) size, age, operating cash flows and leverage index is in the upper quartile of all WorldScope firms, a dummy variable indicating whether the target firm has high insider ownership, whether the acquisition is cross-border, whether the target firm is in countries with low ASDI index and whether the acquirer has high stock returns prior to the acquisition. *, **, *** denotes significance level at 1%, 5% and 10% respectively. All regressions include year fixed effects.

Table C.12 Determinants of Changes in Operating Performance, Sales and Investment

This table presents summary statistics on cross-border block acquisitions involving at least a 5% stake in the target corporation announced during the period of 1990 to 2008. The data are obtained from Thomson Reuter's Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database. We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and deals in which acquirers are domiciled in overseas territories of the U.K. (Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man) and the Netherlands (Netherland Antilles). The acquirer's ultimate parent public status is used to identify government controlled acquirers, which is defined as at least 50% cash flow ownership. We collect announcement dates, their public status, percentage of shares acquired, the medium of payment, open market or private negotiation, premium paid. By year, we report the total number of deals, the subset with disclosed values, the average deal value (measured in millions of constant US dollars as of 2000), the cumulative deal value, the number of failed or withdrawn deals, the number involving minority stakes (less than 50%), the number involving a financial acquirer (including a sovereign wealth funds and those with SIC codes between 6000 and 6999), and the number of publicly-traded target firms.

Table C.13 Summary Statistics (continued)

Table C.13 (continued)

Year	Total No.of Deals	No. of Deals with Values Disclosed	Average Deal Value (Constant 2000 US$ millions)	Cumulative Deal Value (Constant 2000 US$ millions)	No. of Failed Deals	No. of Minority Acquisitions	No. of Financial Acquirers	No. of Public Targets
Panel A: Government-Controlled Acquirers								
1990	214	84	$ 441	$ 37,082	72	118	42	102
1991	256	77	$ 171	$ 13,198	83	158	64	94
1992	209	59	$ 118	$ 6,976	57	112	49	79
1993	223	78	$ 121	$ 9,418	88	157	68	98
1994	212	73	$ 43	$ 3,146	66	139	57	81
1995	209	69	$ 96	$ 6,649	68	126	45	68
1996	207	72	$ 145	$ 10,432	65	126	40	72
1997	238	123	$ 166	$ 20,421	60	156	67	106
1998	222	91	$ 280	$ 25,502	66	128	55	96
1999	295	110	$ 278	$ 30,533	70	164	43	93
2000	388	168	$ 194	$ 32,632	104	200	73	141
2001	302	140	$ 193	$ 27,015	97	157	49	117
2002	250	136	$ 230	$ 31,269	70	132	58	95
2003	281	125	$ 110	$ 13,796	102	150	66	114
2004	285	127	$ 150	$ 19,067	113	171	82	106
2005	319	157	$ 356	$ 55,920	108	173	101	120
2006	321	149	$ 320	$ 47,616	127	190	102	125
2007	436	203	$ 543	$ 110,208	194	285	136	186
2008	450	208	$ 572	$ 119,006	202	294	143	202
Total	5,317	1,812	$ 238	$ 619,886	1,926	3,353	1,434	2,261
Panel B: Corporate Acquirers								
1990	3,501	1,613	$ 134	$ 216,797	731	1,488	800	1,287
1991	4,124	1,537	$ 69	$ 105,328	1,031	1,905	935	1,460
1992	3,761	1,459	$ 76	$ 111,269	943	1,669	866	1,458
1993	4,249	1,702	$ 74	$ 126,407	1,136	1,965	924	1,560
1994	5,307	2,142	$ 76	$ 163,753	1,374	2,545	1,227	1,854
1995	6,309	2,476	$ 99	$ 244,657	1,561	2,732	1,372	2,153
1996	6,700	2,714	$ 107	$ 291,619	1,534	2,763	1,394	2,309
1997	7,198	3,151	$ 124	$ 391,184	1,374	2,571	1,539	2,448
1998	8,634	3,696	$ 183	$ 675,740	1,854	3,133	1,830	2,923
1999	10,024	4,152	$ 311	$ 1,289,934	2,135	3,836	2,197	3,412
2000	12,110	5,139	$ 209	$ 1,076,562	2,904	5,000	2,548	3,996
2001	9,029	3,727	$ 142	$ 527,995	2,256	3,591	1,971	3,307
2002	6,981	3,080	$ 97	$ 297,468	1,919	2,811	1,700	2,741
2003	7,377	3,224	$ 87	$ 279,079	2,140	3,157	2,034	3,052
2004	8,244	3,883	$ 118	$ 456,499	2,254	3,325	2,219	2,877
2005	9,492	4,439	$ 144	$ 640,520	2,237	3,327	2,592	3,138
2006	11,507	5,372	$ 172	$ 926,168	3,309	4,665	3,234	3,700
2007	13,631	6,395	$ 241	$ 1,541,320	4,252	6,088	4,177	4,011
2008	12,201	5,317	$ 137	$ 726,242	4,075	5,900	3,401	3,686
Total	150,379	69,877	$ 137	$ 10,088,541	39,019	62,471	36,960	17,845

This table presents the number of deals and the cumulative deal value (in 2000 Constant US$ millions) of cross-border block acquisitions led by government-controlled and corporate acquirers involving at least a 5% stake in the target corporation announced over the period from 1990 to 2008. The data are obtained from Thomson Reuter's Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database. We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and deals in which acquirers are domiciled in overseas territories of the U.K. (Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man) and the Netherlands (Netherland Antilles). We exclude countries in which there are fewer than 50 cross-border acquisitions, whether led by government-controlled or corporate acquirers, over the 1990-2008 period. The acquirer's ultimate parent public status is used to identify government controlled acquirers, which is defined as at least 50% cash flow ownership. The results are reported by country in order of the fraction of total cumulative deal value that government-led acquirers comprise for leading acquirer countries (Panel A) and for the leading target countries (Panel B).

Table C.14 Intensity of Cross-Border Acquisition Activity Led by Government-Controlled Acquirers by Country of Acquirers and Targets (continued)

Table C.14 (continued)

Panel A: By Acquirer Country

Acquirer	Number of Deals			Cumulative Deal Value (2000 Constant US$ millions)		
	Govt	Corp	Fraction	Govt	Corp	Fraction
Venezuela	28	38	47.4%	$2,068	$354	85.4%
UAE	185	204	48.0%	$66,902	$20,101	76.9%
China	833	841	38.8%	$114,224	$45,240	71.6%
Saudi Arabia	37	170	50.2%	$23,149	$9,906	70.0%
Czech Republic	20	100	17.4%	$2,007	$932	68.3%
Kazakhstan	8	35	16.7%	$1,297	$687	65.4%
Kuwait	58	136	17.8%	$14,177	$8,693	62.0%
Singapore	390	3109	11.2%	$68,865	$84,881	44.8%
Colombia	4	47	18.8%	$876	$1,296	40.3%
Estonia	6	26	7.4%	$84	$126	40.0%
Qatar	28	37	43.1%	$8,834	$21,917	28.7%
Norway	280	1638	15.0%	$21,138	$55,915	27.4%
Liechtenstein	4	47	9.1%	$470	$1,781	20.9%
Portugal	47	470	10.8%	$6,946	$26,627	20.7%
Thailand	21	270	3.7%	$946	$4,810	16.4%
Malaysia	79	2119	7.2%	$10,869	$57,390	15.9%
Finland	241	1754	12.6%	$12,495	$70,088	15.1%
Poland	19	168	10.2%	$478	$2,804	14.6%
Chile	7	153	4.3%	$643	$4,642	12.2%
Sweden	202	4333	9.1%	$21,404	$164,585	11.5%
France	717	8164	4.3%	$93,687	$839,185	10.0%
Slovenia	12	44	21.4%	$45	$460	8.8%
India	49	1285	4.7%	$4,326	$48,471	8.2%
Italy	122	2821	3.7%	$22,441	$267,016	7.8%
Japan	46	5357	9.0%	$21,393	$266,348	7.4%
Austria	132	1416	2.5%	$3,480	$46,174	7.0%
South Korea	31	723	4.1%	$2,226	$34,686	6.0%
Taiwan	16	641	0.8%	$992	$16,778	5.6%
Brazil	33	310	10.2%	$3,462	$58,825	5.6%
Croatia	1	29	3.3%	$21	$374	5.3%
Hong Kong	2	4135	7.0%	$4,898	$105,403	4.4%
Denmark	24	2019	0.0%	$2,093	$52,415	3.8%
Others	1077	97912	1.1%	$55,792	$7,503,019	0.7%
All	4759	140551	3.3%	$592,725	$9,821,927	5.7%

Panel B: By Target Country

Target	Number of Deals			Cumulative Deal Value (2000 Constant US$ millions)		
	Govt	Corp	Fraction	Govt	Corp	Fraction
UAE	6	219	2.7%	$2,613	$3,324	44.0%
Hong Kong	583	3053	16.0%	$66,138	$100,921	39.6%
Malaysia	57	1519	3.6%	$6,435	$25,335	20.3%
Finland	75	1790	4.0%	$12,277	$49,270	19.9%
Slovak Rep	21	307	6.4%	$1,040	$4,307	19.5%
Egypt	88	1224	6.7%	$7,426	$36,556	16.9%
Indonesia	32	224	12.5%	$4,764	$23,626	16.8%
Kazakhstan	22	184	10.7%	$2,238	$13,422	14.3%
Argentina	40	1555	2.5%	$10,997	$81,016	12.0%
Taiwan	21	726	2.8%	$3,012	$24,814	10.8%
Austria	63	1400	4.3%	$4,869	$40,658	10.7%
Singapore	61	2133	2.8%	$7,597	$66,060	10.3%
Hungary	73	979	6.9%	$3,187	$28,536	10.0%
Thailand	81	1880	4.1%	$10,139	$97,934	9.4%
Norway	64	1239	4.9%	$2,352	$22,799	9.3%
Russian Fed.	56	1558	3.5%	$6,948	$70,119	9.0%
Spain	218	6145	3.4%	$27,366	$289,329	8.6%
Australia	5	44	10.2%	$107	$1,223	8.0%
Bahrain	140	3875	3.5%	$23,800	$284,771	7.7%
Ireland Rep.	4	79	4.8%	$61	$746	7.6%
Saudi Arabia	88	1732	4.8%	$5,136	$63,077	7.5%
Denmark	31	1182	2.6%	$3,348	$42,373	7.3%
Sweden	58	2569	2.2%	$11,644	$152,085	7.1%
Italy	164	3899	4.0%	$23,218	$313,220	6.9%
Switzerland	13	377	3.3%	$2,049	$28,248	6.8%
Greece	9	238	3.6%	$3,067	$43,905	6.5%
Mexico	27	1700	1.6%	$5,817	$84,162	6.5%
India	115	3162	3.5%	$4,931	$78,099	5.9%
Bermuda	36	1416	2.5%	$3,362	$53,447	5.9%
Portugal	192	3200	5.7%	$11,857	$205,102	5.5%
South Africa	383	13743	2.7%	$91,205	$1,638,613	5.3%
Colombia	29	846	3.3%	$1,534	$30,228	4.8%
Others	1904	76354	2.4%	$222,191	$5,824,602	3.7%
All	4759	140551	3.3%	$592,725	$9,821,927	5.7%

This table presents cross-sectional regressions of country-level determinants on the cumulative number (or deal value in constant 2000 US$ millions) of cross-border block acquisition deals led by government-controlled or corporate acquirers from country *i* in a target corporation in country *j* announced over the period from 1990 to 2008. The dependent variable is the cumulative number (or value) of deals between country *i* and *j* divided by the total number (value) of all deals involving acquirers in country *i* (Panel A) or all those involving targets in country *j* (Panel B). See Table 1 for data sources, identification of type of acquirer and exclusions by type of deal. We exclude activity between country pairs (*i*,*j*) in which there are fewer than 50 (30) cross-border acquisition deals involving corporate and government-controlled (government-controlled only) acquirers over the 1990-2008 period. Models 1 to 10 include only government-controlled acquirers, Models 11 to 14, only corporate acquirers, and Model 15 is the ratio of the fraction of deals led by government-controlled acquirers between countries *i* and *j* per all government acquirers from country *i* relative to the fraction of deals led by corporate acquirers between countries *i* and *j* per all corporate acquirers from country *i*. Models 8 and 12 measure activity by the cumulative total constant-dollar deal activity, Models 9 and 13 consider only those minority stake deals that involve between 5% and 50% block purchases in targets and Models 10 and 14 consider only deals with majority stakes (greater than 50% of target shares). See Table A1 for details on variable construction and Table A2 for summary statistics. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels using robust standard errors and associated *t*-statistics are in parentheses below the coefficients.

Table C.15 Cross-Country Determinants of Cross-Border Acquisition Activity Led by Government-Controlled Acquirers (continued)

Panel A: By Acquirer Country

	Government-Controlled Acquirers Only										Corporate Acquirers Only				Ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
							Total No. of Deals	Total Value of Deals	Minority Deals Only	Majority Deals Only	Total No. of Deals	Total Value of Deals	Minority Deals Only	Majority Deals Only	Fraction of Govt Deals
Average Annual Exchange Rate Return Differences	-0.028**						-0.007	0.051**	-0.020	0.022	0.014	0.049**	0.010	0.019	-0.022
	(-2.07)						(-0.35)	(2.03)	(-0.79)	(0.93)	(1.00)	(2.29)	(0.72)	(1.30)	(-1.38)
Average Annual Real Stock Market Return Differences	0.039						0.057*	0.060	0.040	0.050	0.047*	0.069*	0.037	0.056**	0.011
	(1.43)						(1.71)	(1.38)	(1.09)	(1.15)	(1.88)	(1.93)	(1.52)	(2.11)	(0.41)
Average Log GDP per capita Differences		-0.003***					-0.003*	-0.007***	-0.002	-0.006***	-0.004***	-0.007***	-0.003**	-0.005***	0.001
		(-3.17)					(-1.79)	(-2.82)	(-1.07)	(-3.35)	(-3.01)	(-4.50)	(-2.30)	(-3.52)	(0.69)
Average GDP Growth Differences		0.080*					-0.017	-0.058	0.011	-0.101	-0.074	-0.076	-0.096*	-0.052	0.058
		(1.90)					(-0.21)	(-0.56)	(0.13)	(-1.36)	(-1.42)	(-1.17)	(-1.91)	(-0.94)	(0.93)
Geographic Proximity			0.004***				0.004***	0.003***	0.004***	0.004***	0.004***	0.003***	0.004***	0.004***	0.000
			(6.35)				(6.74)	(4.11)	(6.11)	(6.20)	(8.33)	(4.37)	(8.20)	(7.88)	(0.64)
Market Correlation			0.076***				0.092***	0.104***	0.084***	0.097***	0.099***	0.117***	0.088***	0.107***	-0.007
			(5.16)				(5.46)	(4.61)	(4.82)	(5.28)	(7.83)	(7.87)	(7.43)	(7.90)	(-0.64)
Anti-Self Dealing Index Differences				0.001											
				(0.21)											
Accounting Disclosure Index Differences				-0.038**											
				(-2.55)											
PolityIV Democracy Differences					-0.005										
					(-0.78)										
FDI Restrictiveness Target					-0.129***										
					(-2.59)										
European Union Dummy						0.027**	-0.007	-0.013	-0.004	-0.020**	-0.013*	-0.025***	-0.012*	-0.014*	0.006
						(2.57)	(-0.62)	(-1.02)	(-0.30)	(-2.50)	(-1.95)	(-3.98)	(-1.84)	(-1.94)	(0.56)
Tax Haven Dummy Target						-0.012***	-0.025***	-0.025***	-0.024***	-0.030***	-0.019***	-0.025***	-0.017***	-0.020***	-0.007*
						(-3.60)	(-4.89)	(-3.52)	(-4.25)	(-5.29)	(-4.50)	(-5.89)	(-4.12)	(-4.62)	(-1.93)
Constant	0.024***	0.023***	0.016***	0.027***	0.059***	0.021***	0.014**	0.006	0.016***	0.014**	0.010***	0.001	0.014***	0.008**	0.004
	(12.73)	(13.82)	(2.61)	(11.42)	(6.48)	(13.65)	(2.56)	(0.75)	(2.66)	(2.24)	(2.81)	(0.21)	(3.80)	(1.98)	(0.89)
Observations	1640	1980	1640	1122	552	2352	1482	1482	1482	1482	1482	1482	1482	1482	1482
Adjusted R-squared	0.00	0.01	0.06	0.01	0.02	0.01	0.08	0.05	0.07	0.08	0.15	0.10	0.14	0.15	0.00

Table C. 15 Cross-Country Determinants of Cross-Border Acquisition Activity Led by Government-Controlled Acquirers (continued)

Table C.15 (Continued)

Panel B: By Target Country

	Government-Controlled Acquirers Only										Corporate Acquirers Only				Ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
							Total No. of Deals	Total Value of Deals	Minority Deals Only	Majority Deals Only	Total No. of Deals	Total Value of Deals	Minority Deals Only	Majority Deals Only	Fraction of Govt Deals
Average Annual Exchange Rate Return Differences	0.065***						0.090***	0.084***	0.088***	0.092***	0.022	0.033**	0.024*	0.021	0.068***
	(6.97)						(4.71)	(2.84)	(4.40)	(4.11)	(1.59)	(1.99)	(1.74)	(1.49)	(3.16)
Average Annual Real Stock Market Return Differences	0.075***						0.117***	0.039	0.100***	0.144***	-0.083***	-0.081***	-0.087***	-0.079***	0.200***
	(3.13)						(3.89)	(0.81)	(3.27)	(4.29)	(-3.42)	(-2.73)	(-3.55)	(-3.24)	(6.32)
Average Log GDP per capita Differences		0.002**					0.000	0.000	-0.000	0.001	0.006***	0.006***	0.006***	0.007***	-0.006***
		(2.05)					(0.17)	(0.10)	(-0.21)	(0.46)	(4.65)	(3.94)	(4.38)	(4.86)	(-3.11)
Average GDP Growth Differences		0.134***					0.140**	0.188*	0.127*	0.165**	-0.003	-0.049	-0.016	0.007	0.143*
		(2.88)					(2.09)	(1.87)	(1.75)	(2.37)	(-0.06)	(-0.84)	(-0.30)	(0.13)	(1.84)
Geographic Proximity			0.004***				0.004***	0.004***	0.004***	0.004***	0.003***	0.003***	0.003***	0.003***	0.001**
			(9.18)				(7.96)	(4.92)	(7.50)	(7.63)	(7.03)	(5.13)	(7.13)	(6.70)	(1.98)
Market Correlation			0.060***				0.063***	0.066***	0.060***	0.064***	0.101***	0.100***	0.098***	0.103***	-0.038**
			(4.87)				(4.55)	(4.04)	(4.44)	(4.10)	(7.70)	(7.37)	(7.66)	(7.75)	(-2.40)
Anti-Self Dealing Index Differences				-0.010**											
				(-2.00)											
Accounting Disclosure Index Differences				0.057***											
				(5.24)											
PolityIV Democracy Differences					-0.012***										
					(-3.20)										
FDI Restrictiveness Acquirer					-0.205***										
					(-4.51)										
European Union Dummy						0.044***	0.014	-0.001	0.017	0.013	-0.012*	-0.004	-0.010	-0.013**	0.026***
						(4.02)	(1.27)	(-0.05)	(1.41)	(1.12)	(-1.87)	(-0.45)	(-1.46)	(-2.07)	(2.69)
Tax Haven Dummy Acquirer						-0.003	-0.016***	-0.004	-0.015**	-0.019***	-0.019***	-0.021***	-0.017***	-0.021***	0.003
						(-0.50)	(-2.73)	(-0.35)	(-2.49)	(-2.72)	(-4.85)	(-4.90)	(-4.33)	(-5.22)	(0.50)
Constant	0.023***	0.021***	0.024***	0.023***	0.068***	0.019***	0.022***	0.017***	0.022***	0.024***	0.008**	0.006	0.008**	0.007*	0.015***
	(13.96)	(14.51)	(5.89)	(11.91)	(7.02)	(14.57)	(4.95)	(2.76)	(4.61)	(4.58)	(1.97)	(1.22)	(2.09)	(1.83)	(2.99)
Observations	1640	1980	1640	1122	552	2352	1482	1482	1482	1482	1482	1482	1482	1482	1482
Adjusted R-squared	0.02	0.00	0.08	0.02	0.04	0.02	0.11	0.05	0.10	0.10	0.16	0.13	0.16	0.15	0.06

This table presents logistic regressions of the probability that a firm is targeted by a government-controlled acquirer in a given year. The dependent variable equals one if the firm is targeted by a government-controlled acquirer in any given year between 1990 and 2008 and zero, if it is targeted by a corporation. Financials and utilities as target firms are excluded as are firms with total assets smaller than US$1 million (in 2000 constant dollars) and with negative book values of equity. See Table 1 for data sources, identification of type of acquirer and exclusions by type of deal. Models 1 to 3 present results for minority stake acquisitions (above 5% but below 50% of target firm's shares acquired) and Models 4 to 6, for majority control transactions (above 50% of target firm's shares acquired). Firm variables include a dummy variable indicating whether target and acquirer firms are in the same industry ("Related Industry Dummy"), three proxies for firm financial constraints ("Zero-dividend Dummy," "High Whited and Wu Index," "High Hadlock and Pierce Index II"), a proxy for high levels of closely-held share by insiders ("High Closely-held Share Dummy"), the cumulative 12-month market and U.S. dollar exchange-rate returns for the domicile of the target ("12-month Market Returns," "12-month Exchange Rate Returns," respectively), log of total assets ("Total Assets"), profitability ("Return on Assets"), leverage ("Long-term Debt'Assets"), a dummy variable for withdrawn or failed deals ("Failed Deals Dummy") and trailing one-year sales growth ("Sales Growth"). For majority-stake acquisitions, two deal-level variables are included: a dummy variable for deals paid entirely in cash ("All Cash Payment Dummy") and percentage of shares owned by acquirer ("Percentage of Shares Acquired"). See Table A1 for details on variable construction and Table A2 for summary statistics. Coefficients are reported as marginal effects. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels using robust standard errors that allow country and year fixed effects and associated *t*-statistics are in parentheses below the coefficients.

Table C.16 Logistic Regression Analysis of Probability of Firm Targeted by Government-Controlled Acquirer (continued)

Table C.16 (continued)

	Minority Stake Acquisitions			Majority Stake Acquisitions		
	(1)	(2)	(3)	(4)	(5)	(6)
Related Industry Dummy	-0.003	-0.004	-0.004	-0.004	-0.004	-0.003
	(-0.67)	(-0.82)	(-0.95)	(-0.80)	(-0.74)	(-0.60)
Failed Deals Dummy	0.009*	0.009*	0.009*	0.005	0.006	0.004
	(1.89)	(1.86)	(1.87)	(0.27)	(0.27)	(0.24)
Zero-dividend Dummy	0.015***					
	(2.60)					
High Whited and Wu Index		0.012**		0.013*	0.008	0.013*
		(2.14)		(1.70)	(0.91)	(1.67)
High Hadlock and Pierce Index II			0.014			
			(1.43)			
All Cash Payment Dummy					0.013**	
					(2.19)	
Percentage of Shares Acquired						-0.000
						(-1.53)
High Closely-held Shares Dummy	-0.005	-0.006	-0.006	-0.001	-0.003	0.000
	(-0.99)	(-1.20)	(-1.13)	(-0.11)	(-0.50)	(0.03)
12-month Market Returns	-0.026**	-0.025**	-0.025**	0.015	-0.012	0.013
	(-2.05)	(-2.07)	(-2.04)	(0.95)	(-0.58)	(0.88)
12-month Exchange Rate Returns	0.011	0.004	0.004	-0.041	-0.021	-0.042
	(0.33)	(0.12)	(0.12)	(-1.15)	(-0.43)	(-1.20)
Total Assets (log)	0.009***	0.008***	0.009***	0.003	0.003	0.003*
	(6.47)	(6.24)	(5.97)	(1.61)	(1.22)	(1.70)
Market-to-book	0.002*	0.002*	0.002*	0.001	0.001	0.001
	(1.93)	(1.81)	(1.77)	(0.80)	(1.06)	(0.76)
Return on Assets	0.000	-0.002	0.001	-0.008	-0.007	-0.008
	(0.04)	(-0.29)	(0.07)	(-1.50)	(-0.85)	(-1.48)
Long-term Debt/Assets	0.003	0.006	-0.001	-0.003	-0.018	-0.002
	(0.24)	(0.41)	(-0.04)	(-0.14)	(-0.72)	(-0.10)
Sales Growth	0.003	0.004*	0.004**	-0.000	0.003	-0.000
	(1.59)	(1.87)	(2.08)	(-0.05)	(1.17)	(-0.13)
Country fixed effects?	yes	yes	yes	yes	yes	yes
Year fixed effects?	yes	yes	yes	yes	yes	yes
Observations	3175	3320	3320	1384	914	1384
Pseudo R-squared	0.151	0.145	0.143	0.270	0.263	0.276

	Financial Services and Utilities Included			Financial Services and Utilities Excluded		
	(1)	(2)	(3)	(4)	(5)	(6)
Related Industry Dummy	-1.313***	-1.252***	-1.238***	-1.286*	-1.132*	-1.154*
	(-2.93)	(-2.86)	(-2.83)	(-1.77)	(-1.75)	(-1.80)
Failed Deals Dummy	-0.606	-0.813*	-0.812*	-1.339**	-1.244**	-1.249**
	(-1.43)	(-1.96)	(-1.95)	(-2.00)	(-2.07)	(-2.08)
Zero-dividend Dummy	-1.201**			-2.632***		
	(-2.43)			(-3.25)		
High Whited and Wu Index		0.197			-0.086	
		(0.43)			(-0.13)	
High Hadlock and Pierce Index II			0.469			-0.365
			(0.67)			(-0.41)
High Closely-held Shares Dummy	-0.886*	-0.800	-0.836*	-0.788	-0.872	-0.836
	(-1.71)	(-1.58)	(-1.65)	(-1.06)	(-1.31)	(-1.24)
12-month Market Returns	1.071	0.575	0.623	4.426**	2.852*	2.867*
	(1.02)	(0.58)	(0.63)	(2.12)	(1.67)	(1.68)
12-month Exchange Rate Returns	-0.562	-1.068	-1.252	4.550	-0.457	-0.418
	(-0.20)	(-0.39)	(-0.45)	(0.73)	(-0.08)	(-0.08)
Total Assets (log)	0.135	0.235**	0.273**	-0.089	0.159	0.120
	(1.14)	(2.05)	(2.12)	(-0.44)	(0.89)	(0.59)
Market-to-book	-0.197	-0.288	-0.296	-0.042	-0.138	-0.131
	(-0.97)	(-1.33)	(-1.37)	(-0.15)	(-0.56)	(-0.55)
Return on Assets	0.003	0.012	0.013	-0.001	0.009	0.008
	(0.34)	(0.94)	(1.02)	(-0.05)	(0.64)	(0.52)
Long-term Debt/Assets	0.972	0.092	-0.082	4.773**	1.068	1.278
	(0.81)	(0.08)	(-0.07)	(2.09)	(0.61)	(0.70)
Sales Growth	0.001	0.000	0.000	0.002	-0.000	-0.000
	(0.58)	(0.31)	(0.24)	(0.88)	(-0.20)	(-0.24)
Country fixed effects?	yes	yes	yes	yes	yes	yes
Year fixed effects?	yes	yes	yes	yes	yes	yes
Observations	296	310	310	156	161	161
Pseudo R-squared	0.377	0.363	0.364	0.416	0.341	0.342

This table presents logistic regressions of the probability that a firm is targeted by a sovereign wealth fund (SWF) as one type of government-controlled acquirer in a given year. The dependent variable equals one if the firm is targeted by a SWF in any given year between 1990 and 2008, and zero if it is targeted by any other type of government-controlled acquirer. Firms with total assets less than US$1 million (in 2000 constant dollars) and with negative book values of equity are excluded. See Table 1 for data sources, identification of type of acquirer and exclusions by type of deal. Models 1 to 3 present results with financial services and utilities firms included and Models 4 to 6, those in which they are excluded. We only include non-SWF led acquisitions by government-controlled firms that involve minority stake acquisitions (above 5% but below 50% of target firm's shares acquired). Firm variables include a dummy variable indicating whether target and acquirer firms are in the same industry ("Related Industry"), three proxies for firm financial constraints ("Zero-dividend Dummy," "High Whited and Wu Index," "High Hadlock and Pierce Index II"), a proxy for high levels of closely-held share by insiders ("High Closely-held Share Dummy"), the cumulative 12-month market and U.S. dollar exchange rate returns for the domicile of the target ("12-month Market Returns," "12-month Exchange Rate Returns," respectively), log of total assets ("Total Assets"), profitability ("Return on Assets"), leverage ("Long-term Debt'Assets"), a dummy variable for withdrawn or failed deals ("Failed Deals Dummy") and trailing one-year sales growth ("Sales Growth"). See Table A1 for details on variable construction and Table A2 for summary statistics. Coefficients are reported as marginal effects. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels using robust standard errors that allow country and year fixed effects and associated *t*-statistics are in parentheses below the coefficients.

Table C.17 Logistic Regression Analysis of Probability of Firm Targeted by Sovereign Wealth Fund (SWF) as Acquirer.

Panel A: Government-Controlled versus Corporate Cross-border Acquisitions

		No. of Announcements	CMARs (-10, +10)	CMARs (-5, +5)	CMARs (-1, +1)
Differences in Means					
Majority Stakes	Corporate acquirer	3,431	25.67%**	19.87%**	15.76%**
	Government acquirer	85	20.71%**	18.35%**	11.56%**
	Diff (p-value)		(0.38)	(0.69)	(0.13)
Minority Stakes	Corporate acquirer	7,956	16.86%**	13.27%**	5.34%***
	Government acquirer	405	8.49%***	7.26%***	6.02%***
	Diff (p-value)		(0.09)	(0.20)	(0.59)
Differences in Medians					
Majority Stakes	Corporate acquirer	3,431	11.72%**	9.37%***	5.79%***
	Government acquirer	85	10.58%**	6.41%***	2.09%***
	Diff (p-value)		(0.90)	(0.89)	(0.22)
Minority Stakes	Corporate acquirer	7,956	3.76%***	3.17%***	1.41%***
	Government acquirer	405	1.99%***	1.31%***	1.00%***
	Diff (p-value)		(0.02)	(0.01)	(0.11)

This table reports the cumulative market adjusted buy-and-hold returns (CMARs) in percentage around the announcement dates of cross-border acquisitions led by government-controlled and corporate acquirers. See Table 1 for data sources, identification of type of acquirer and exclusions by type of deal. Buy-and-hold returns are cumulated over three different returns horizons around the announcement date (t=0), including from days t=-10 to t=+10 ("CMARs(-10,+10)"), days t=-5 to t=+5 ("CMARs(-5,+5)"), and days t=-1 to t=+1 ("CMARs(-1,+1)"). In Panel A, results are reported separately for acquisitions that involve a minority stake in the target firm (more than 5% but less than 50% of shares) and a majority stake (greater than 50% of shares). Financial services and utilities target firms are excluded. In Panel B, differences in means and medians in CMARs are reported between government-led acquisitions that involve sovereign wealth funds (SWF) as acquirers and those that do not. A SWF is identified as a financial acquirer in Securities Data Corporation under ACQUIROR_TYPE data item and matched by name (SDC data item AN) to a list of SWFs at the SWF Institute website, http://www.swfinstitute.org/funds.php). Mean and median values are reported with *p*-values for the *t-statistics* associated with differences in means and Wilcoxon rank-sum tests associated with differences in medians between groups are presented in parentheses. ***, **, and * denote statistical significance at the 1%, 5% and 10% levels.

Table C.18 Cumulative Market-Adjusted Returns (CMARs) to Announcements of Cross-Border Acquisitions Led by Government-Controlled Acquirers, including Sovereign Wealth Funds, and Corporate Acquirers (continued)

Table C.18 (continued)

Panel B: Sovereign Wealth Funds versus Other Government-Controlled Acquisitions

		No. of Announcements	CMARs (-10, +10)	CMARs (-5, +5)	CMARs (-1, +1)
Differences in Means					
Financial Services and Utilities Firms Excluded	Other Non-SWF Government-Controlled acquirer	413	12.52%**	10.70%**	8.05%***
	Sovereign Wealth Funds (SWFs) only	77	0.69%	1.49%	1.41%**
	Diff (p-value)		(<0.01)	(<0.01)	(<0.01)
Financial Services and Utilities Firms Included	Other Non-SWF Government-Controlled acquirer	773	8.93%***	7.93%***	6.10%***
	Sovereign Wealth Funds (SWFs) only	181	2.73%**	2.01%*	1.52%***
	Diff (p-value)		(<0.01)	(<0.01)	(<0.01)
Differences in Medians					
Financial Services and Utilities Firms Excluded	Other Non-SWF Government-Controlled acquirer	413	3.76%***	2.58%***	1.32%***
	Sovereign Wealth Funds (SWFs) only	77	(0.46%)	(0.03%)	0.88%**
	Diff (p-value)		(<0.01)	(<0.01)	(0.10)
Financial Services and Utilities Firms Included	Other Non-SWF Government-Controlled acquirer	773	2.81%***	2.28%***	1.09%***
	Sovereign Wealth Funds (SWFs) only	181	0.60%**	0.72%*	0.85%***
	Diff (p-value)		(0.03)	(0.01)	(0.22)

Panel A: CMARs around Acquisition Announcements of All Government-Controlled and Corporate Acquirers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Government-Controlled Acquirer Dummy	-0.003	0.011	0.001	0.010	0.012	-0.003	0.012	0.006	0.013
	(-0.17)	(0.52)	(0.03)	(0.45)	(0.58)	(-0.15)	(0.57)	(0.29)	(0.53)
High R&D Industry Dummy		0.010				0.021	0.021	0.014	0.007
		(0.68)				(1.18)	(1.19)	(0.80)	(0.45)
Zero-dividend Dummy			0.037***			0.034***	-0.002	0.019*	0.026**
			(2.97)			(2.84)	(-0.17)	(1.77)	(2.16)
High Whited and Wu Index				0.013					
				(0.83)					
High Hadlock and Pierce Index II					0.082***				
					(4.03)				
High Closely-held Shares Dummy						0.010	0.006	0.012	0.018
						(0.54)	(0.34)	(0.58)	(0.79)
Ant-Self Dealing Index						0.085***	0.048***	0.078***	0.080***
						(5.09)	(2.92)	(4.61)	(4.56)
12-month Market Returns						-0.022	-0.022	-0.011	-0.013
						(-1.16)	(-1.18)	(-0.58)	(-0.66)
Total Assets (log)							-0.019***		
							(-5.24)		
Return on Assets								-0.001**	
								(-2.51)	
Market-to-book									-0.008***
									(-3.00)
Long-term Debt/Assets									-0.047
									(-1.40)
Sales Growth									0.000
									(0.95)
Year fixed effects?	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	7351	5531	4487	5531	5531	4309	4302	4070	3592
Pseudo R-squared	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.02	0.02

This table reports the results for cross-sectional regressions of cumulative market adjusted buy-and-hold returns (CMARs) around the announcement dates of cross-border acquisitions led by government-controlled and corporate acquirers on a variety of firm-specific and country-level variables. See Table 1 for data sources, identification of type of acquirer and exclusions by type of deal. Buy-and-hold returns are cumulated around the announcement date (t=0) for days t=-10 to t=+10 ("CMARs(-10,+10)"). In Panel A, results are reported for acquisitions that involve a minority (more than 5% but less than 50% of shares) of the target firm for acquisitions led by government-controlled and corporate acquirers. Financial services and utilities target firms are excluded. Panel B presents results for only acquisitions (involving minority or majority stakes above 50% in the target) led by government-controlled acquirers, including those of sovereign wealth funds (SWFs, denoted "SWF Acquirer Dummy"). Financial services and utilities firms are included in these regressions. See Table 5 for identification of SWF acquirers. Firm variable names are defined in Tables 4 and 5 and Table A1 presents details on variable construction and Table A2 for summary statistics. We include a variable "High R&D Industry" which is a dummy variable that equals one if the target firm operates in an industry that is in the upper quartile of R&D expenditures divided by total net assets among all 4-digit SIC industries in the U.S. on Compustat. Country variables include the Anti-Self Dealing Index of Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008). ***, **, and * denote statistical significance at the 1%, 5% and 10% levels using robust standard errors that allow year fixed effects and associated t-statistics are in parentheses below the coefficients.

Table C.19 Regression Analysis of Cross-section of Cumulative Market-Adjusted Returns (CMARs) to Announcements of Cross-Border Acquisitions Led by Government-Controlled Acquirers, including Sovereign Wealth Funds, and Corporate Acquirers. (Continued)

Table C.19 (continued)

Panel B: CMARs around Acquisition Announcements of Only Government-Controlled Acquirers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
SWF Acquirer Dummy	-0.066***	-0.077***	-0.070**	-0.071**	-0.062**	-0.066**	-0.055*	-0.055	-0.081*
	(-3.88)	(-2.69)	(-2.34)	(-2.42)	(-2.20)	(-1.99)	(-1.75)	(-1.64)	(-1.71)
High R&D Industry Dummy		0.000				0.038	0.045	0.046	0.039
		(0.01)				(0.73)	(0.87)	(0.92)	(0.72)
Zero-dividend Dummy			0.019			0.014	-0.027	-0.016	0.047
			(0.48)			(0.36)	(-0.62)	(-0.41)	(0.95)
High Whited and Wu Index				0.043					
				(0.96)					
High Hadlock and Pierce Index II					0.152**				
					(2.52)				
High Closely-held Shares Dummy						0.072	0.070	0.045	0.072
						(1.13)	(1.10)	(0.71)	(1.10)
Ant-Self Dealing Index						0.158**	0.120	0.182**	0.202**
						(2.09)	(1.62)	(2.53)	(2.52)
12-month Market Returns						0.115	0.090	0.162*	0.165
						(1.19)	(0.93)	(1.68)	(1.60)
Total Assets (log)							-0.022**		
							(-2.31)		
Return on Assets								-0.002	
								(-1.53)	
Market-to-book									-0.024*
									(-1.88)
Long-term Debt/Assets									0.210
									(0.72)
Sales Growth									-0.000
									(-0.98)
Year fixed effects?	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	839	356	297	356	356	285	285	268	236
Pseudo R-squared	0.05	0.07	0.06	0.07	0.10	0.09	0.10	0.14	0.18

Initial sample of block acquisitions from Thomson Financial's Security Data Corporation (SDC) Platinum Mergers and Acquisitions (M&A) database. We exclude deals that are LBOs, spin-offs, recapitalizations, self-tender, exchange offers, repurchases, acquisitions of remaining interest, minority stake purchases and privatizations as well as deals in which the target or the acquirer is a government agency, or in the financial or utilities industry.

Table C.20 Number of Mergers and Acquisitions across country-pair. (continued)

Table C.20 (continued)

Origin Country

Destination	AR	AS	AU	BL	BR	CA	CC	CE	CH	CO	CT	CY	DN	FN	FR	GR	HK	HU	ID	IN	IR	IS	IT	JP
Argentina(AR)	201	1	4	4	30	42		13		1			5		57	1	1			2	6		17	4
Austria(AS)		341	4	8		19	1						19	7	35	3	1	2		2	7	1	25	7
Australia(AU)		3	4,875	7	2	145			1				20	7	62		43		5	16	24	6	8	69
Belgium(BL)		7	13	494		12							21	12	169	4	1			9	16	2	17	24
Brazil(BR)	40	3	14	9	565	48		15		4			14	6	94		3			6	8	8	41	18
Canada(CA)	1	10	59	14	7	6,220	1		8				12	11	112	2	16		3	11	13	9	19	58
Czech Republic(CC)		31	1	9	1	10	143				1		14	6	38	1	1	8		5	6	1	7	3
Chile(CE)	6		14	1	4	39		101					1	1	8			1		1	1		4	1
China(CH)	1	2	36	14	1	43			513				9	10	31	2	214		3	9	1	2	13	53
Colombia(CO)	1		2		3	17		3		37				1	8					1				4
Croatia(CT)		12									26		3		7	1		5		1		1	4	1
Cyprus(CY)						1						37			1	7								
Denmark(DN)		5	4	10		9			1		1	1	889	39	39	1	2			3	11	3	11	8
Finland(FN)		9	7	7		16							69	1,614	34		2	1		2	22	2	11	23
France(FR)	1	20	28	236	7	116			4				68	38	4,837	8	13	2		12	27	13	164	97
Greece(GR)			1	3		4						6			6	339							7	1
Hong Kong(HK)			28	1		22			42				10	4	20	3	348		2	1		4	2	30
Hungary(HU)		28		4		3	2				2		2	5	28	3		136		2	2	4	11	5
Indonesia(ID)			10	1		15								1	2	1	9		98	4			1	16
India(IN)		5	24	3		15			1				5	2	39		8		1	764	1	2	12	16
Ireland-Rep(IR)		1	5	4		8							6	1	18	2	2			4	354	1	3	5
Israel(IS)			2	2		10							3		8		1			1	1	160	2	1
Italy(IT)		24	17	23	6	24			3				24	19	236	13	10	1	1	10	9	9	1,633	29
Japan(JP)			1	5		6			4				4	2	31	3	12		2	1	1	3	1	5,698
Luxembourg(LX)		1		16											8	2							3	
Malaysia(MA)			17			6							6	2	7		17		2	2		1	1	19
Mexico(MX)	2		4	3	6	116		4	1	2			8	2	24	3	4				4		6	7
Norway(NO)		3	4	5	2	8						1	102	55	27	1				1	2	2	5	3
Netherlands(NT)		16	26	95	5	44		2	1			1	36	27	122	3	9	1		9	60	9	29	39
New Zealand(NZ)		2	302	1		41			2				4	3	8		5		1	2	7			19
Peru(PE)	1		2	1	3	54		6		1						1	1							
Philippines(PH)			10			9									6		5							11
Poland(PL)		9	1	11		12	4				2		26	16	45	3		5		6	12	3	19	2
Portugal(PO)		1	3	5	5	5		1					8	1	44	1	1	2		2	2		11	2
Russian Fed(RU)		4	2	7		24	2					8	9	23	10	5		3		2	2		11	3
South Africa(SA)			36	2		35							4	4	23	2	3			7	3	1	7	11
Singapore(SG)			28	1		7			1			1	7	4	16		35		10	22		2	5	25
South Korea(SK)		2	3	4		10			1				4	1	27		4			2		4		30
Spain(SP)	2	6	8	32	4	27		5		2	1		44	8	296	8	3			7	10	4	121	29
Sweden(SW)		9	10	14		24							176	198	67	3	5			4	10	4	11	23
Switzerland(SZ)		43	9	31		20			1		1		38	15	122		5	1		7	10	15	36	16
Thailand(TH)			5	2		2			1				2	1	9		10		1	7			1	36
Turkey(TK)		1	1	6		4						1	2	3	16	5	1	2			2	2	10	2
Taiwan(TW)			4			5							2	1	5		11					1		13
United Kingdom(UK)		29	177	91	2	305	3		1		2	4	158	66	485	17	60	2	2	82	410	20	92	173
United States(US)	10	36	392	121	35	2,752	1	8	34	6	1		128	130	719	28	95	1	10	179	316	169	146	827
Venezuela(VE)	1			1	4	22		1					2		11								5	
Germany(WG)		234	42	105	6	80	5	2	5		1		124	134	454	13	20	3	2	29	38	16	128	111
Total	66	557	1,360	919	133	4,236	19	60	112	16	12	23	1,199	866	3,634	150	633	40	45	473	1,044	324	1,027	1,874

Destination	LX	MA	MX	NO	NT	NZ	PE	PH	PL	PO	RU	SA	SG	SK	SP	SW	SZ	TH	TK	TW	UK	US	VE	WG	Total
Argentina(AR)			16	1	28	3		1				2			54	5	14	1			58	243	4	22	640
Austria(AS)	8		1	7	25				2	1		2	1		5	19	33		1		52	84		255	637
Australia(AU)	2	51	1	10	64	145		5		1	1	58	75	5	5	40	47	2	1	2	430	812		63	2,238
Belgium(BL)	5			9	206	1			1	3	1	6	1		9	30	18		1		148	197		79	1,022
Brazil(BR)	6		19	9	28	3				35		4	5		52	16	22		1	1	58	388		60	1,038
Canada(CA)	11	4	4	13	54	5	1	3			1	9	1	3	6	34	56			4	328	2,516	1	80	3,500
Czech Republic(CC)	3			9	25				8		6	1			8	16	23				47	77		76	442
Chile(CE)			7	6	10	5	3		1	2					21	3	1			1	13	82	1	8	246
China(CH)	1	27	1	6	19	3		3				2	120	34	6	11	10	4		19	58	301		22	1,091
Colombia(CO)	2		10		1	1	2					2			13	3	4				6	35	1	1	121
Croatia(CT)					2										1	1	2				8	4		6	59
Cyprus(CY)											1						1				2	1			14
Denmark(DN)	2	1		94	38				1		1	1	4		4	198	28				117	173		80	890
Finland(FN)	4			53	24						7	1	5		11	281	31	1	2	1	60	147		41	874
France(FR)	28	1	1	22	209					8	2	6	5	2	87	116	154	2		1	708	970		434	3,610
Greece(GR)	2			1	6					1	2					3	5				15	18		9	90
Hong Kong(HK)		73			6			2				4	80	8	2	4	7	3	1	4	67	170		14	614
Hungary(HU)	2			4	42				5		2		2		2	11	14		1	1	26	69		52	334
Indonesia(ID)		19		2	4			1				2	24	8		2	7	4	1		26	32		7	199
India(IN)		17		5	19			1	1		3	6	11	7	6	19	28	3			101	233		43	637
Ireland-Rep(IR)	1	1	1	6	10				1	1	3	3	2		2	5	5	1	1		265	172		15	555
Israel(IS)					3							3	1	1		3	3		1	1	26	171		12	256
Italy(IT)	16	2		7	98	1				2	5	5	2		38	60	65		1		233	428		164	1,585
Japan(JP)		1			16			1			1	2	1	12	2	11	8	1		9	46	259		42	488
Luxembourg(LX)	8				5	1								1	1	4	2				12	13		14	83
Malaysia(MA)		1,711	1	2	7	4		4			1	2	123	1	2	2	8			4	28	43		9	321
Mexico(MX)	1		188	1	18	3	1	1					2	1	35	10	8			1	33	320	1	18	650
Norway(NO)	4	2	1	688	30			1		1	1	2	1		2	193	21				103	130		26	739
Netherlands(NT)	9	4	2	18	1,512	2			2	2	1	9	3		16	66	47	1	2	3	441	436		228	1,826
New Zealand(NZ)		13		2	14	570		1				6	13	2		5	7	3			71	140		6	680
Peru(PE)		2	3		2		39								5		3				7	30		1	123
Philippines(PH)		10	2		1			115					12	1	1	2	2				13	32		2	119
Poland(PL)	13			16	39				227	4	2	2	1	2	13	23	10				57	76		63	497
Portugal(PO)	1		1	4	13					246					72	12	12				51	40		20	320
Russian Fed(RU)	9			14	18	1			6		526				4	25	15		3		59	83		30	382
South Africa(SA)	4	5		2	11	2		1		2	1	790	3	1		15	15			1	170	113		36	520
Singapore(SG)		98		10	8	1		1				3	614	2	1	9	7	9		6	42	116		15	492
South Korea(SK)		2	1	2	10						1	1	6	631	2	3	8			2	27	107		30	294
Spain(SP)	2		6	15	133				1	60	1	1	1		1,896	60	35				271	287		169	1,659
Sweden(SW)	9	1		182	65				1		1	2	3		2	1,558	31			2	218	288	1	99	1,463
Switzerland(SZ)	6	3		8	49				1	2	5	4	6		4	45	794			2	103	261		311	1,180
Thailand(TH)	1	23		1	6	2		1	1			2	37	1		3	2	194		4	22	40		9	232
Turkey(TK)		1			9					1	4	1			3	4	2		72		27	33		27	170
Taiwan(TW)		2			2								21	5		4	1	2		130	10	82		10	181
United Kingdom(UK)	21	21	2	89	313	14		1	2	8	10	86	42	9	43	206	126	7	2	5	15,196	3,122		443	6,753
United States(US)	28	24	73	86	453	28		13	1	5	21	75	104	54	91	351	358	9	5	68	3,073	66,948	5	817	11,886
Venezuela(VE)	1		2		2										7		5				8	49	16	1	122
Germany(WG)	40	8	5	42	443	1		10	6	3	5	18	11	11	37	194	375	1	5	3	724	1,611	1	5,771	5,106
Total	242	416	160	758	2,588	226	7	51	41	142	90	333	729	171	675	2,127	1,686	54	29	145	8,468	15,034	15	3,969	56,978

			Industries					
Target	# of	# of	Agriculture	Mining &	Manufacturing	Transportation	Trade	Services
Argentina	201	640	9	93	275	63	72	127
Austria	341	637	2	17	305	61	93	159
Australia	4,875	2,238	22	247	740	195	261	768
Belgium	494	1,022	4	28	388	103	152	346
Brazil	565	1,038	28	71	556	90	102	190
Canada	6,220	3,500	27	397	1,313	224	385	1,151
Czech Republic	143	442	4	24	211	39	58	104
Chile	101	246	8	60	79	37	23	39
China	513	1,091	9	62	656	80	64	212
Colombia	37	121		32	48	15	10	16
Croatia	26	59	2	4	32	4	6	11
Cyprus	37	14	1	1	5		4	3
Denmark	889	890		33	390	87	143	237
Finland	1,614	874	6	52	334	92	124	264
France	4,837	3,610	28	74	1,841	213	471	979
Greece	339	90		7	41	14	11	17
Hong Kong	348	614		32	201	83	97	201
Hungary	136	334	3	19	169	42	31	70
Indonesia	98	199	11	55	94	12	7	18
India	764	637	5	27	326	41	29	204
Ireland-Rep	354	555	2	22	201	60	82	185
Israel	160	256	2	3	117	14	15	105
Italy	1,633	1,585	4	26	998	106	187	262
Japan	5,698	488	1	4	240	42	75	126
Luxembourg	8	83		3	22	14	10	34
Malaysia	1,711	321	7	15	153	24	62	59
Mexico	188	650	7	126	312	43	66	96
Norway	688	739	6	61	215	104	117	236
Netherlands	1,512	1,826	19	60	769	216	276	486
New Zealand	570	680	10	29	223	70	112	233
Peru	39	123		69	31	10	8	5
Philippines	115	119	2	23	54	8	7	25
Poland	227	497	9	25	287	34	69	68
Portugal	246	320	1	11	144	36	43	84
Russian Fed	526	382	1	95	161	53	21	49
South Africa	790	520	6	114	213	27	52	107
Singapore	614	492	1	27	180	69	61	153
South Korea	631	294	1	1	190	20	28	52
Spain	1,896	1,659	13	53	725	133	254	479
Sweden	1,558	1,463	5	45	632	131	190	460
Switzerland	794	1,180	6	21	597	73	133	348
Thailand	194	232	2	18	127	19	29	37
Turkey	72	170	2	20	88	10	18	32
Taiwan	130	181		1	97	13	26	43
United Kingdom	15,196	6,753	42	306	2,825	490	844	2,231
United States	66,948	11,886	74	874	5,365	655	1,209	3,693
Venezuela	16	122	1	32	59	13	5	12
Germany	5,771	5,106	12	141	2,753	329	663	1,196

The industry classification is by target firm. Agriculture (001~999), Mining and Construction (1000~1999), Manufacturing (2000~3999), Transportation excluding Utilities (4000~4999), Trade (5000~5999), and Services (7000~8999).

Table C.21 Descriptive statistics of cross-border M&As by target country.

Dependent variable is the ratio of the number of deals in which the target is from country i and the acquirer is from country j (where $i \neq j$) to the total number of domestic deals in target country i. Δ (Currency R12)$_{j-i}$ is the difference in the average annual real exchange rate return in US$ from 1990 to 2007 between acquirer and target country. Δ (Market R12)$_{j-i}$ is the difference in the average annual local real stock market return from 1990 to 2007 between acquirer and target country. Δ (Account)$_{j-i}$ is the difference in the index created by the Center for International Financial Analysis and Research to rate the quality of 1990 annual reports on their disclosure of accounting information. Δ (Legal)$_{j=i}$ is the difference in the shareholder protection index computed as the product of rule of law and antidirector rights (LLSV(1998)). Same Language is equal to 1 if target and acquirer's primary language (English, Spanish or others) are the same. Same Religion is equal to 1 if target and acquirer's primary religion (Protestant, Catholic, Muslim, Buddhist or Others) are the same (Stulz and Williamson (2003)). Geographic proximity is minus the great circle distance calculated using the longitudes and latitudes of the capital cities of target and acquirer countries. Average annual real growth rate of the gross domestic product is from 1990 to 2007 and Gross national product divided by the population is in 1990 (in US$), both from the WDI report. We calculate Huber–White standard errors.

Table C.22 Cross-sectional analysis of the intensity of cross-border M&As. (continued)

Table C.22 (continued)

	All Target - All Acquirer				Private Target - Private Acquirer				Public Target - Public Acquirer			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Δ (Currency R12)j-i	0.157***			0.168***	0.086***			0.102***	0.304***			0.268***
	(5.36)			(5.03)	(3.72)			(3.79)	(3.30)			(2.62)
Δ (Market R12)j-i	-0.056			0.026	-0.054			0.013	-0.017			0.010
	(-0.85)			(0.39)	(-1.14)			(0.25)	(-0.15)			(0.09)
Δ (Account)j-i		0.013***		0.009***		0.004*		0.001		0.031***		0.024***
		(4.97)		(3.37)		(1.79)		(0.63)		(4.17)		(3.21)
Δ (Legal)j-i		0.003*		0.000		0.003**		0.001		-0.001		-0.004
		(1.81)		(0.07)		(2.26)		(0.81)		(-0.18)		(-1.06)
Same Language			0.026**	0.020*			0.018**	0.015*			0.051**	0.042
			(2.34)	(1.81)			(2.35)	(1.92)			(2.02)	(1.40)
Same Religion			-0.007	0.003			-0.005	-0.001			-0.002	0.009
			(-1.51)	(0.70)			(-1.64)	(-0.26)			(-0.23)	(1.08)
Geographic Proximity			0.007***	0.006***			0.004***	0.004***			0.008***	0.008***
			(8.55)	(8.08)			(7.42)	(6.94)			(5.22)	(4.86)
Δ (log GDP per capita)j-i	-0.006**	0.000	0.005*	-0.003	-0.003	0.002	0.004*	-0.000	-0.006	0.002	0.013**	-0.006
	(-2.17)	(0.21)	(1.83)	(-1.35)	(-1.40)	(0.97)	(1.81)	(-0.14)	(-0.99)	(0.50)	(2.48)	(-1.01)
Δ (GDP growth)j-i	-0.003*	-0.001	-0.002	-0.001	-0.003**	-0.001	-0.002	-0.002	-0.001	-0.001	0.001	-0.002
	(-1.81)	(-0.48)	(-1.35)	(-1.00)	(-1.96)	(-1.26)	(-1.61)	(-1.61)	(-0.30)	(-0.27)	(0.27)	(-0.81)
Constant	0.040***	0.036***	0.071***	0.060***	0.025***	0.023***	0.044***	0.040***	0.042***	0.039***	0.077***	0.067***
	(18.01)	(21.77)	(12.50)	(13.45)	(15.89)	(17.89)	(10.55)	(10.98)	(11.08)	(12.85)	(7.34)	(7.36)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1036	893	1036	893	1036	893	1036	893	1008	881	1008	881
R-squared	0.39	0.49	0.42	0.56	0.30	0.36	0.33	0.41	0.21	0.27	0.21	0.31

R12, R24, R36 represent respectively past 12 months, 24 months, 36 months real returns. MTB is the market-equity-to-book-equity ratio of equity. For market MTB, we follow Fama and French (1998) and sum the market value of all firms within a country and divide it by the sum of book value. All stock returns (both market and firm) are in local currency. Definition of developed countries is based on World Bank high-income economies. Definition of strong law countries is based on the index of shareholder protection provided by LLSV. Same region is equal to 1 if target and acquirer's countries are from the same broadly defined continent (Africa, America, Asia, and Europe). Related industry is equal to 1 if target and acquirer's 3-digit SIC overlaps.

Table C.23 Summary statistics on valuation differences between target and acquirer. (continued)

Table C.23 (continued)

		Developing Target		Developed Target		Weak Law Target		Strong Law Target					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Total	Developing Acquirer	Developed Acquirer	Developing Acquirer	Developed Acquirer	Weak Law Acquirer	Strong Law Acquirer	Weak Law Acquirer	Strong Law Acquirer	Different Region	Same Region	Diversified	Related Industry
Nobs	51488	311	3853	1056	46268	4300	10591	7565	29032	26000	25488	17734	33754
Market MTB_j – Market MTB_i	9.93%*** [7.25%]***	20.58%*** [31.19%]***	64.74%*** [64.45%]***	(2.90%) [(5.31%)]**	5.59%*** [5.98%]***	16.37%*** [10.43%]***	26.42%*** [13.75%]***	0.13% [1.37%]***	5.52%*** [7.14%]***	11.86%*** [8.39%]***	7.97%*** [6.81%]***	8.50%*** [6.66%]***	10.68%*** [7.46%]***
Market $R12_j$ –Market $R12_i$	0.30%*** [0.33%]***	1.44% [(0.40%)]	0.05% [(3.86%)]**	6.03%*** [8.68%]***	0.20%** [0.44%]***	0.65%** [0.77%]***	(0.18%) [(0.23%)]	0.81%*** [0.60%]**	0.29%*** [0.45%]***	0.21%* [0.29%]***	0.40%*** [0.35%]***	0.13% [0.16%]	0.39%*** [0.45%]***
Market $R24_j$ –Market $R24_i$	0.92%*** [1.10%]***	1.57% [4.88%]	2.13%*** [(1.90%)]	11.09%*** [15.24%]***	0.64%*** [1.08%]***	2.35%*** [2.49%]***	1.75%*** [1.30%]***	0.50% [0.56%]*	0.49%*** [0.93%]***	0.88%*** [0.95%]***	0.96%*** [1.31%]***	0.58%*** [0.83%]***	1.10%*** [1.28%]***
Market $R36_j$ –Market $R36_i$	2.12%*** [2.45%]***	1.44% [3.61%]	12.79%*** [17.06%]***	9.54%*** [18.42%]***	1.22%*** [2.03%]***	5.01%*** [4.67%]***	5.74%*** [4.08%]***	0.20% [0.33%]*	0.81%*** [1.63%]***	2.43%*** [2.40%]***	1.79%*** [2.46%]***	1.36%*** [2.14%]***	2.55%*** [2.59%]***
Currency $R12_j$ –Currency $R12_i$	1.12%*** [0.26%]***	4.57%*** [1.24%]	10.32%*** [6.18%]***	(5.96%)*** [(3.68%)]**	0.46%*** [0.11%]***	2.55%*** [0.06%]	2.80%*** [1.27%]***	0.25% [0.02%]	0.58%*** [0.15%]***	0.88%*** [0.32%]***	1.42%*** [0.22%]***	0.88%*** [0.14%]**	1.25%*** [0.33%]***
Currency $R24_j$ – Currency $R24_i$	2.13%*** [0.47%]***	5.72%** [6.23%]**	21.76%*** [18.28%]***	(13.40%)*** [(8.69%)]**	0.79%*** [0.08%]	5.89%*** [0.22%]***	6.04%*** [2.26%]***	(0.23%) [(0.52%)]**	0.88%*** [0.24%]***	1.65%*** [0.59%]***	2.71%*** [0.36%]***	1.68%*** [0.25%]***	2.38%*** [0.57%]***
Currency $R36_j$ – Currency $R36_i$	3.43%*** [0.91%]***	10.11%*** [16.79%]***	34.22%*** [31.37%]***	(23.32%)*** [(18.75%)]*	1.38%*** [0.14%]	9.45%*** [0.72%]***	10.39%*** [4.76%]***	(1.72%)*** [(1.95%)]**	1.45%*** [0.77%]***	2.77%*** [1.34%]***	4.23%*** [0.71%]***	2.89%*** [0.60%]***	3.73%*** [1.14%]***
Firm MTB_j – Firm MTB_i	28.95%*** [26.23%]***	76.90% [125.7%]**	47.03%** [32.60%]**	17.27% [(20.42%)]	27.50%*** [25.91%]***	(11.37%) [9.39%]	77.40%*** [50.00%]***	(28.68%)* [(6.41%)]	32.49%*** [30.16%]***	44.27%*** [30.52%]***	7.67% [18.87%]***	10.20% [18.84%]***	38.94%*** [30.27%]***
Firm $R12_i$ –Firm $R12_i$	10.38%*** [6.01%]***	25.82%* [27.80%]**	6.59%** [0.25%]	22.36%** [16.88%]***	10.50%*** [5.98%]***	8.07%** [7.73%]**	8.63%*** [4.15%]**	11.40%*** [6.91%]***	11.04%*** [6.00%]***	10.13%*** [5.57%]***	10.75%*** [6.70%]***	9.07%*** [3.09%]*	11.14%*** [7.22%]***
Firm $R24_j$ –Firm $R24_i$	19.34%*** [12.15%]***	35.75% [49.51%]	11.96%** [1.70%]	41.81%** [46.96%]	19.61%*** [12.62%]***	11.45%** [12.06%]*	17.04%*** [10.12%]***	18.44%*** [12.56%]***	21.50%*** [13.12%]***	20.89%*** [11.86%]***	17.11%*** [12.71%]***	16.50%*** [8.69%]***	21.01%*** [15.01%]***
Firm $R36_j$ –Firm $R36_i$	23.36%*** [17.02%]***	115.8%* [116.2%]	20.37%*** [8.98%]*	63.13%*** [52.34%]***	23.02%*** [16.96%]***	19.30%*** [7.78%]*	21.83%*** [15.04%]***	17.79%*** [11.16%]***	26.44%*** [22.33%]***	23.46%*** [18.28%]***	23.20%*** [15.38%]***	18.69%*** [14.33%]***	26.18%*** [20.76%]***

	All Targets-All Acquirers						Private Targets-Private Acquirers						Public Targets-Public Acquirers					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ΔMarket R12	0.008***	0.001	0.012***				0.007**	0.000	0.005				0.005	-0.003	-0.001			
	(2.59)	(0.41)	(3.38)				(2.23)	(0.09)	(1.57)				(0.92)	(-0.58)	(-0.24)			
ΔCurrency R12	0.031***	0.001	0.006				0.025***	0.003	0.012				0.026**	-0.001	0.012			
	(3.54)	(0.35)	(0.76)				(2.84)	(0.81)	(1.36)				(2.07)	(-0.16)	(0.97)			
ΔMarket MTB				0.004***	0.000	0.003***				0.004***	0.000	0.003**				0.003	0.001	0.000
				(5.08)	(0.83)	(3.04)				(4.12)	(0.17)	(2.23)				(1.52)	(0.52)	(0.17)
ΔMarket R12 × I_ GDP capita		0.012**						0.012**						0.017*				
		(2.26)						(2.30)						(1.68)				
ΔCurrency R12 × I_GDP capita		0.051***						0.041***						0.063**				
		(3.35)						(2.58)						(2.22)				
ΔMarket R12 × Same Region			-0.012*						0.003						0.016			
			(-1.89)						(0.52)						(1.49)			
ΔCurrency R12× Same Region			0.084***						0.047**						0.054			
			(3.57)						(1.97)						(1.51)			
ΔMarket MTB × I_ GDP capita					0.007***						0.007***						0.005	
					(4.62)						(4.00)						(1.13)	
ΔMarket MTB × Same Region						0.003*						0.004*						0.009*
						(1.85)						(1.69)						(1.91)
Δ (log GDP per capita)j-i	0.042***	0.041***	0.041***	0.026***	0.026***	0.026***	0.021***	0.021***	0.021***	0.012	0.012	0.012*	0.031*	0.032*	0.031*	0.034	0.034	0.035*
	(5.05)	(4.98)	(4.93)	(3.40)	(3.42)	(3.41)	(3.00)	(2.95)	(2.94)	(1.64)	(1.60)	(1.66)	(1.69)	(1.72)	(1.67)	(1.64)	(1.61)	(1.67)
Δ (GDP growth)j-i	-0.017	-0.017	-0.022	0.039	0.037	0.043*	-0.008	-0.009	-0.006	0.019	0.017	0.024	0.014	0.010	0.023	0.003	0.002	0.010
	(-0.65)	(-0.66)	(-0.84)	(1.60)	(1.53)	(1.75)	(-0.33)	(-0.36)	(-0.26)	(0.83)	(0.73)	(1.00)	(0.32)	(0.23)	(0.52)	(0.08)	(0.06)	(0.23)
Constant	0.084***	0.083***	0.084***	0.050***	0.040***	0.050***	0.047***	0.047***	0.047***	0.027***	0.028***	0.027***	0.019***	0.019***	0.019***	0.054***	0.054***	0.054***
	(12.15)	(12.09)	(12.16)	(13.76)	(12.45)	(13.77)	(8.22)	(8.16)	(8.21)	(8.28)	(7.64)	(8.30)	(2.67)	(2.62)	(2.65)	(5.51)	(5.56)	(5.53)
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country pair dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	16524	16524	16524	16318	16318	16318	15930	15930	15930	15717	15717	15717	8942	8942	8942	8775	8775	8775
R-squared	0.49	0.49	0.49	0.52	0.52	0.52	0.34	0.34	0.34	0.36	0.36	0.36	0.34	0.34	0.34	0.35	0.35	0.35

Dependent variable is the ratio of the number of deals in which the target is from country i and the acquirer is from country j (where $i \neq j$) to the total number of domestic deals in country i. Δ Currency R12 is the difference in the past12-month real exchange rate return between acquirer and target country. Δ Market R12 is the difference in the past 12-month local real stock market return between acquirer and target country. ΔMarket MTB is the difference in the value-weighted market equity to book equity ratio between acquirer and target country. Higher GDP per capital is equal to 1 if acquirer country's GDP per capita is larger than or equal to that of target country.

Table C.24 Analysis of the intensity of cross-border M&As using panel data on country pairs.

Panel A - Direct tests using future returns.

	All Targets-All Acquirers			Private Targets-Private Acquirers			Public Targets-Public Acquirers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ΔMarket FR12	-0.004	-0.001	-0.004	-0.001	-0.000	0.002	0.000	0.007	-0.000
	(-1.32)	(-0.30)	(-1.18)	(-0.30)	(-0.02)	(0.52)	(0.02)	(1.18)	(-0.03)
ΔCurrency FR12	0.019***	0.011***	0.015**	0.015**	0.006	0.015**	0.008	0.003	-0.004
	(3.34)	(2.78)	(2.34)	(2.42)	(1.53)	(2.56)	(0.58)	(0.30)	(-0.26)
ΔMarket FR12 × I_ GDP capita		-0.006			-0.002			-0.014	
		(-0.99)			(-0.29)			(-1.24)	
ΔCurrency FR12 × I_GDP capita		0.014			0.016			0.011	
		(1.30)			(1.40)			(0.34)	
ΔMarket FR12 × Same Region			0.000			-0.007			-0.000
			(0.00)			(-1.12)			(-0.02)
ΔCurrency FR12× Same Region			0.014			-0.002			0.047
			(1.04)			(-0.10)			(1.28)
Δ (log GDP per capita)j-i	0.044***	0.044***	0.044***	0.029***	0.029***	0.030***	0.021	0.021	0.020
	(4.88)	(4.86)	(4.87)	(3.73)	(3.72)	(3.75)	(1.04)	(1.04)	(1.01)
Δ (GDP growth)j-i	0.023	0.023	0.022	0.031	0.031	0.033	0.046	0.045	0.044
	(0.89)	(0.90)	(0.85)	(1.28)	(1.28)	(1.33)	(1.14)	(1.10)	(1.07)
Constant	0.079***	0.078***	0.079***	0.044***	0.043***	0.044***	0.020***	0.020***	0.021***
	(13.01)	(12.79)	(13.00)	(8.44)	(8.27)	(8.42)	(3.06)	(2.97)	(3.10)
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country pair dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	16112	16112	16112	15455	15455	15455	8766	8766	8766
R-squared	0.49	0.49	0.49	0.35	0.35	0.35	0.34	0.34	0.34

Dependent variable is the ratio of the number of deals in which the target is from country i and the acquirer is from country j (where $i \neq j$) to the total number of domestic deals in country i. Δ Currency FR12 is the difference in the next12-month real exchange rate return between acquirer and target country. Δ Market FR12 is the difference in the future 12-month local real stock market return between acquirer and target country. Δ (Fitted MTB) is the difference in the predicted value-weighted market equity to book equity ratio between acquirer and target country, using future 12-, 24-, 36-month local real stock market return and real exchange rate return. Δ (Residual MTB) is the difference in the residuals of value-weighted market equity to book equity ratio between acquirer and target country, using future 12-, 24-, 36-month local real stock market return and real exchange rate return. Fitted MTB=2.017-0.033FR12-0.137FR24-0.299FR36-0.255EXFR12-0.247EXFR24+0.487EXFR36 (N=642, R^2=0.094). Higher GDP per capita is equal to 1 if acquirer country's GDP per capita is larger than or equal to that of target country. Panel A reports regressions using future12-month stock market and exchange rate returns. Panel B reports regressions using decomposed market to book ratio.

Table C.25 Mispricing vs fundamental: Interpreting the relation between valuation and cross-border mergers. (continued)

Table C.25 (Continued)

Panel B - Decomposing Market-to-book

	All Targets-All Acquirers			Private Targets-Private Acquirers			Public Targets-Public Acquirers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Δ (Fitted MTB)$_{j-i}$	0.001	-0.003	0.003	0.006**	-0.003	0.004	-0.003	-0.003	-0.007
	(0.51)	(-1.46)	(0.94)	(2.23)	(-1.45)	(1.47)	(-0.45)	(-0.43)	(-1.05)
Δ (Residual MTB)$_{j-i}$	0.005***	0.000	0.004***	0.004***	-0.000	0.003**	0.006**	0.003	0.003
	(5.24)	(0.71)	(3.34)	(3.78)	(-0.72)	(2.33)	(2.38)	(1.25)	(0.90)
Δ (Fitted MTB)$_{j-i}$ × I_ GDP capita		0.009			0.015***			-0.001	
		(1.62)			(3.19)			(-0.10)	
Δ (Residual MTB)$_{j-i}$ × I_GDP capita		0.008***			0.009***			0.007	
		(5.09)			(4.38)			(1.39)	
Δ (Fitted MTB)$_{j-i}$ × Same Region			-0.005			0.005			0.014
			(-0.74)			(0.74)			(0.97)
Δ (Residual MTB)$_{j-i}$ × Same Region			0.004*			0.003			0.011*
			(1.70)			(1.19)			(1.95)
Δ (log GDP per capita)j-i	0.016*	0.016*	0.016*	0.006	0.006	0.007	0.017	0.016	0.018
	(1.88)	(1.88)	(1.85)	(0.76)	(0.70)	(0.79)	(0.75)	(0.69)	(0.80)
Δ (GDP growth)j-i	0.058**	0.057**	0.062**	0.045*	0.042*	0.049*	-0.001	-0.003	0.007
	(2.27)	(2.23)	(2.44)	(1.86)	(1.75)	(1.94)	(-0.03)	(-0.06)	(0.17)
Constant	0.038***	0.049***	0.038***	0.022***	0.021***	0.022***	0.053***	0.053***	0.053***
	(10.57)	(14.07)	(10.58)	(6.88)	(6.71)	(6.89)	(5.44)	(5.48)	(5.48)
Year dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country pair dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes
Observations	14099	14099	14099	13548	13548	13548	7811	7811	7811
R-squared	0.52	0.52	0.52	0.35	0.35	0.35	0.38	0.38	0.38

	(1)	(2)	(3)	(4)
ΔFirm USR12	0.012	0.030*		
	(0.85)	(1.83)		
ΔMarket R12			0.321**	0.188
			(2.11)	(1.21)
ΔCurrency R12			0.395	0.449
			(1.28)	(1.39)
ΔFirm USR12-ΔMarket R12-ΔCurrency R12			0.010	0.028*
			(0.75)	(1.82)
Log Firm Size (Target)		-0.011		-0.009
		(-1.62)		(-1.42)
Log Firm Size (Acquirer)		0.056***		0.055***
		(8.23)		(8.13)
Same Industry		-0.009		-0.011
		(-0.33)		(-0.42)
Year Dummies	yes	yes	yes	yes
Country Dummies	yes	yes	yes	yes
Observations	2332	1530	2331	1529
Pseudo R-square	0.339	0.379	0.343	0.381

Dependent variable is equal to 1 if the M&A deal is cross-border. The sample include deals in which both target and acquirer are public. Columns (1) and (2) use the difference in previous year's firm-level stock returns in $US between the acquirer and the target. Columns (3) and (4) decompose the difference in firm-level stock returns in $US into 3 parts: market returns in local currency (ΔMarket R12), currency returns (ΔCurrency R12), and firm residual stock returns in local currency (ΔFirm USR12-ΔMarket R12-ΔCurrency R12). Marginal effects are reported.

Table C.26 Deal-level analysis of the intensity of cross-border M&As.

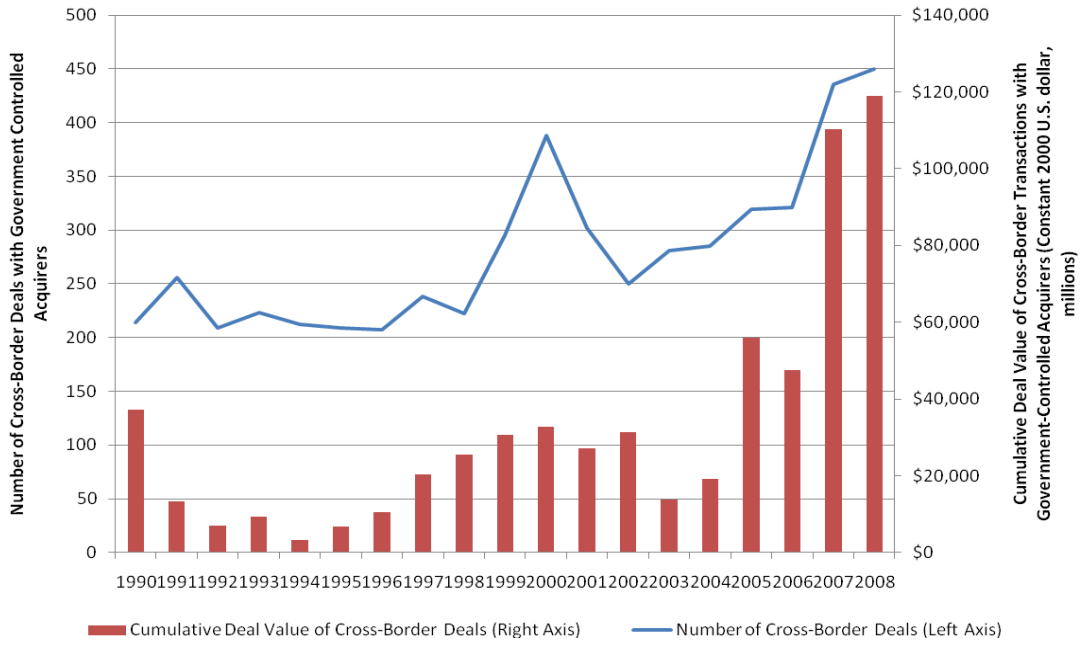
	Domestic Deals				Cross-border Deals			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Firm USR12	0.049***	0.055***			0.062***	0.064**		
	(3.96)	(3.95)			(2.72)	(2.38)		
Market R12							0.098	0.099
							(1.16)	(1.09)
Currency R12							0.108	-0.192
							(0.48)	(-0.80)
Firm USR12-Market R12-Currency R12			0.050***	0.056***			0.059**	0.064**
			(3.91)	(3.90)			(2.48)	(2.35)
Log Firm Size	0.122***	0.136***	0.121***	0.136***	0.132***	0.140***	0.132***	0.141***
	(22.37)	(20.91)	(22.38)	(20.91)	(14.67)	(12.46)	(14.60)	(12.48)
Long-term Debt/Asset		0.027		0.027		0.180		0.181
		(0.36)		(0.36)		(1.08)		(1.09)
Cash/Asset		0.225***		0.222***		0.318***		0.316***
		(3.59)		(3.54)		(2.81)		(2.79)
Sales growth (2-year)		0.004		0.004		0.019		0.020
		(0.93)		(0.92)		(1.42)		(1.45)
Return on Equity		0.126***		0.124***		0.334***		0.335***
		(2.99)		(2.95)		(3.92)		(3.99)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3625	3262	3625	3262	1304	1178	1302	1176
Pseudo R-square	0.145	0.171	0.145	0.171	0.271	0.320	0.271	0.321

Dependent variable is equal to one if the merging firm is the acquirer and to zero if the firm is the target. The sample include deals in which both target and acquirer are public. Panel A contains domestic mergers only while Panel B examines cross-border mergers. First two columns in each panel use the firm-level stock returns in $US (Firm USR12). Last two columns of each panel decompose firm-level stock returns in $US into 3 parts: market returns in local currency (Market R12), currency returns (Currency R12), and firm residual stock returns in local currency (Firm USR12-Market R12-Currency R12). Marginal effects are reported.

Table C.27 Target vs acquirer in domestic and cross-border M&As.

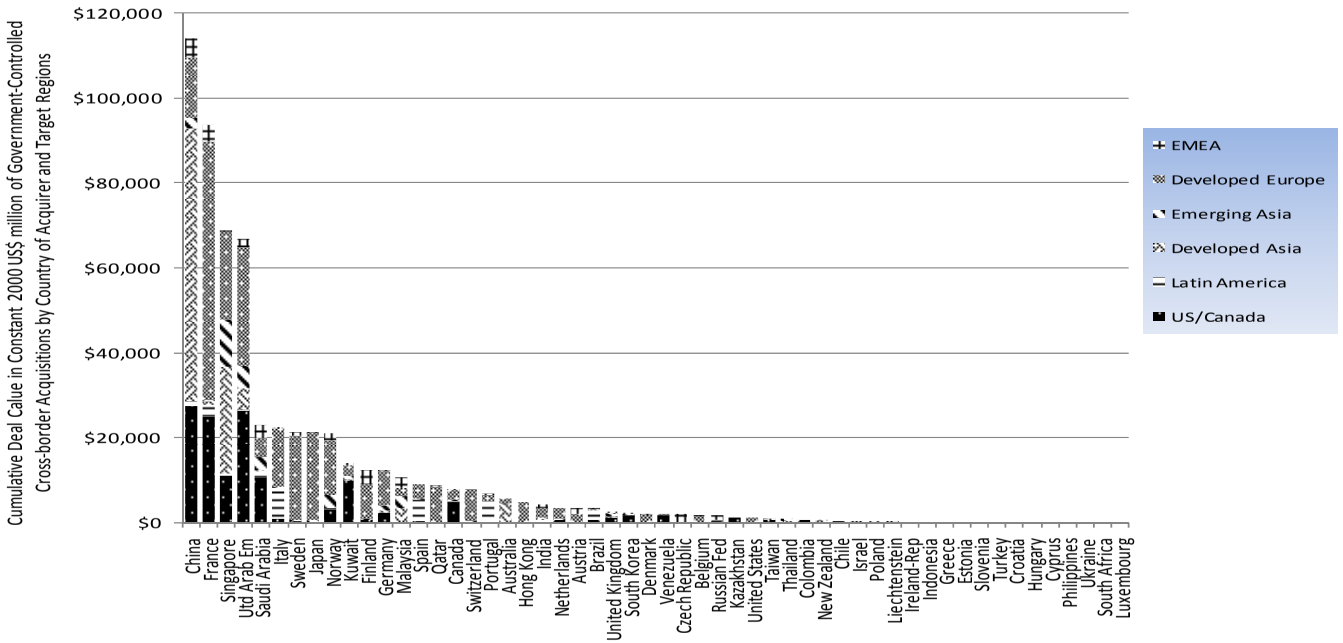
APPENDIX D

FIGURES



This figure exhibits the number of and total cumulative deal value (in 2000 Constant US$ millions) of cross-border block acquisitions led by government-controlled involving at least a 5% stake in the target corporation announced over the period from 1990 to 2008. The data are obtained from Thomson Reuter's Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database. We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and deals in which acquirers are domiciled in overseas territories of the U.K. (Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man) and the Netherlands (Netherland Antilles) and we further exclude countries in which there are fewer than 50 cross-border acquisitions, whether led by government-controlled or corporate acquirers, over the 1990-2008 period. The acquirer's ultimate parent public status is used to identify government controlled acquirers, which is defined as at least 50% cash flow ownership.

Figure D.1 Number of and Total Deal Value of All Cross-Border Acquisitions Led by Government-Controlled Acquirers By Year.

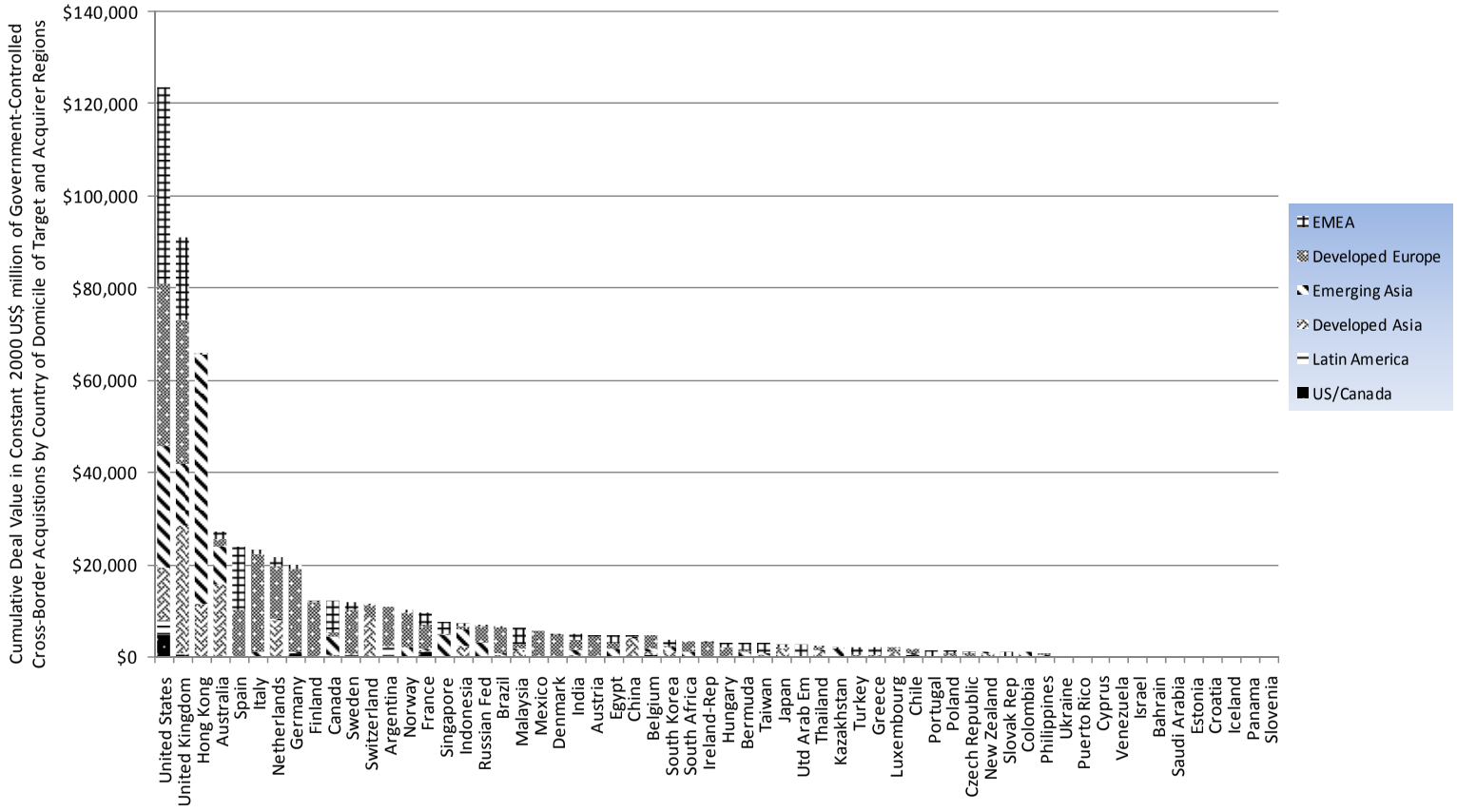


A

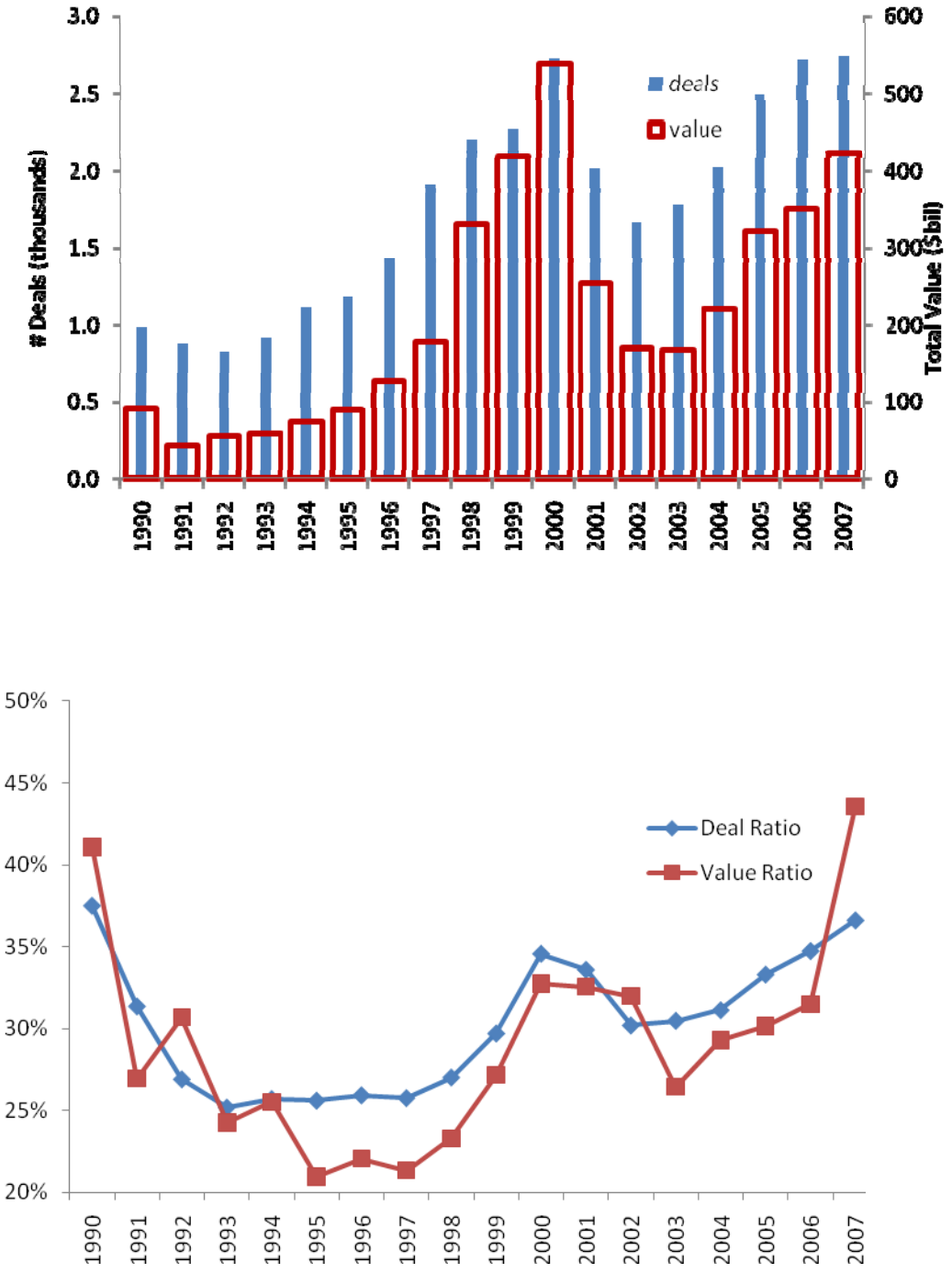
This figure exhibits the cumulative deal value (in 2000 Constant US$ millions) of cross-border block acquisitions led by government-controlled and corporate acquirers involving at least a 5% stake in the target corporation announced over the period from 1990 to 2008. The data are obtained from Thomson Reuter's Security Data Corporation's (SDC) Platinum Mergers and Corporate Transactions database. We exclude leveraged buyouts, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases and privatizations and deals in which acquirers are domiciled in overseas territories of the U.K. (Bahamas, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man) and the Netherlands (Netherland Antilles) and we further exclude countries in which there are fewer than 50 cross-border acquisitions, whether led by government-controlled or corporate acquirers, over the 1990-2008 period. The acquirer's ultimate parent public status is used to identify government controlled acquirers, which is defined as at least 50% cash flow ownership. The results are reported by country in order of total cumulative deal value by government-led acquirers comprise for leading acquirer countries and their target country regions (Panel A) and for the leading target countries and the home country region of their acquirers (Panel B).

Figure D.2 Total Deal Value of All Acquisitions Led by Government-Controlled Acquirers by Country of Acquirer and of Target Firms. (continued)

Figure D.2 (continued)



B



This figure plots the number (value) of cross-border deals between 1990 and 2007. Deals in which acquirer's ultimate ownership is less than 50% or the total deal value less than $1 million are excluded.

Figure D.3 Number (Value) of cross-border mergers and acquisitions.

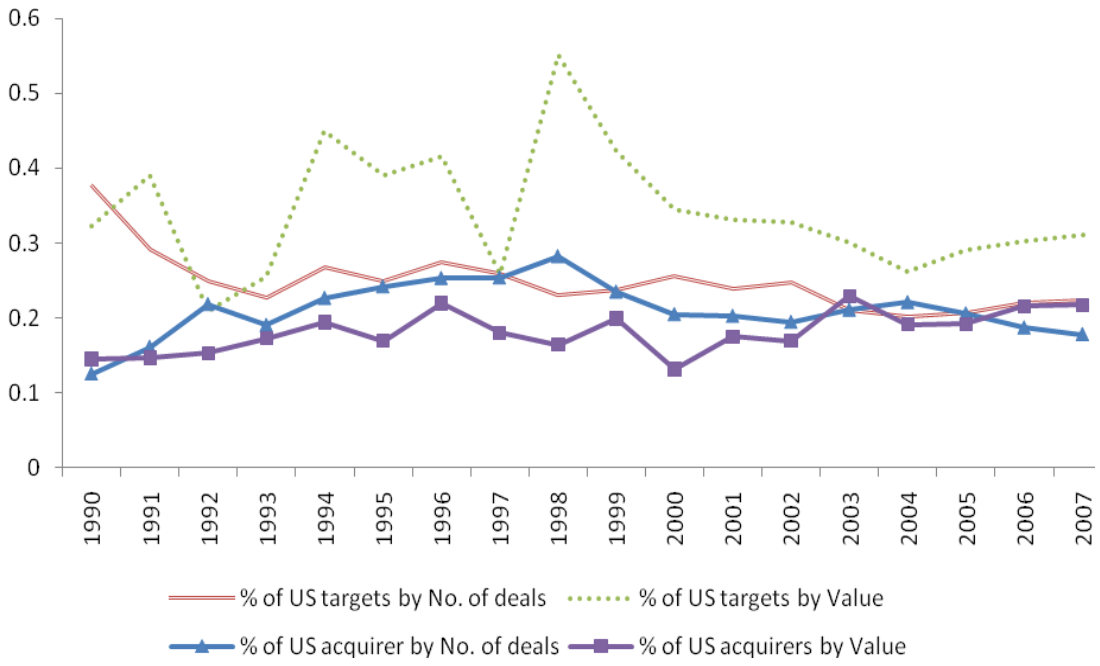
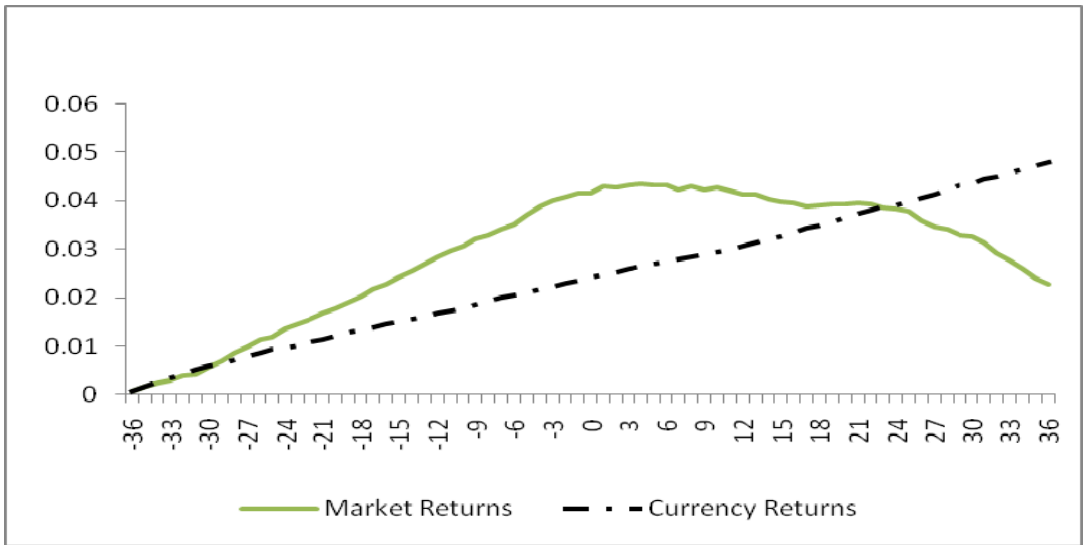
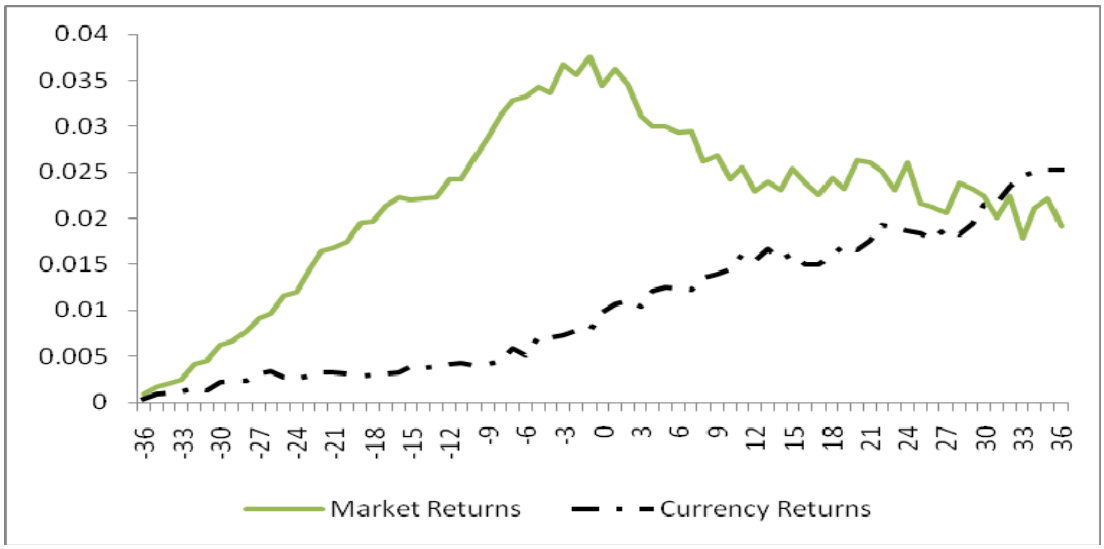


Figure D.4 Percentage of U.S. targets (acquirers) in cross-border M&As.



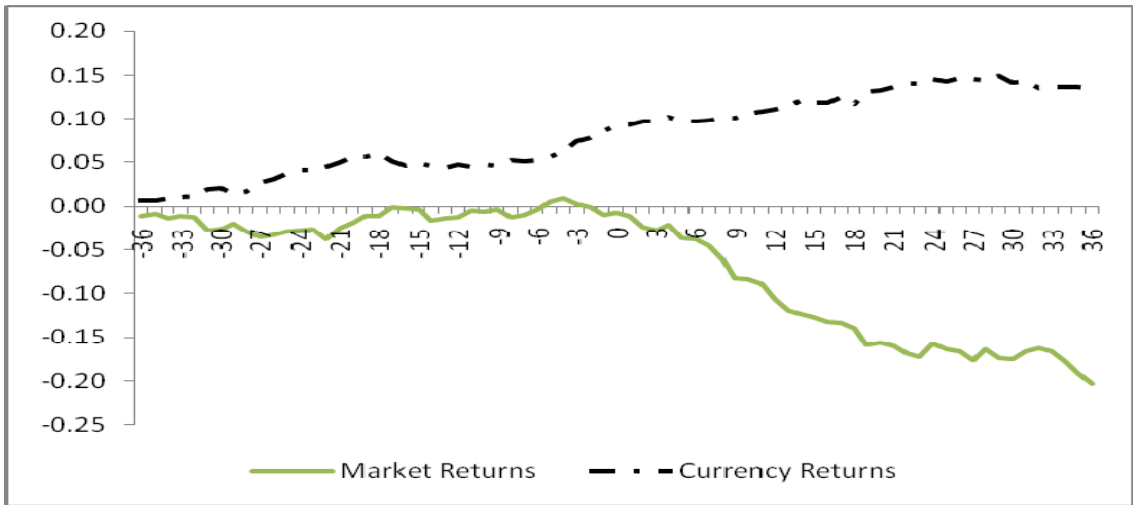
World Sample (Mean)



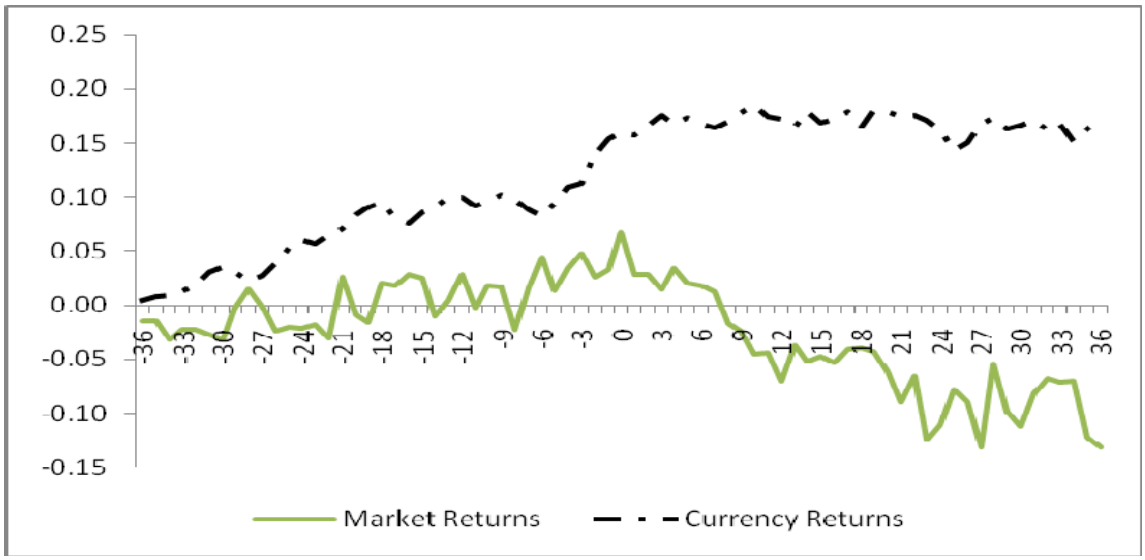
World Sample (Median)

Figure D.5 Geometric Return Differences between Target and Acquirer. (continued)

Figure D.5 (continued)



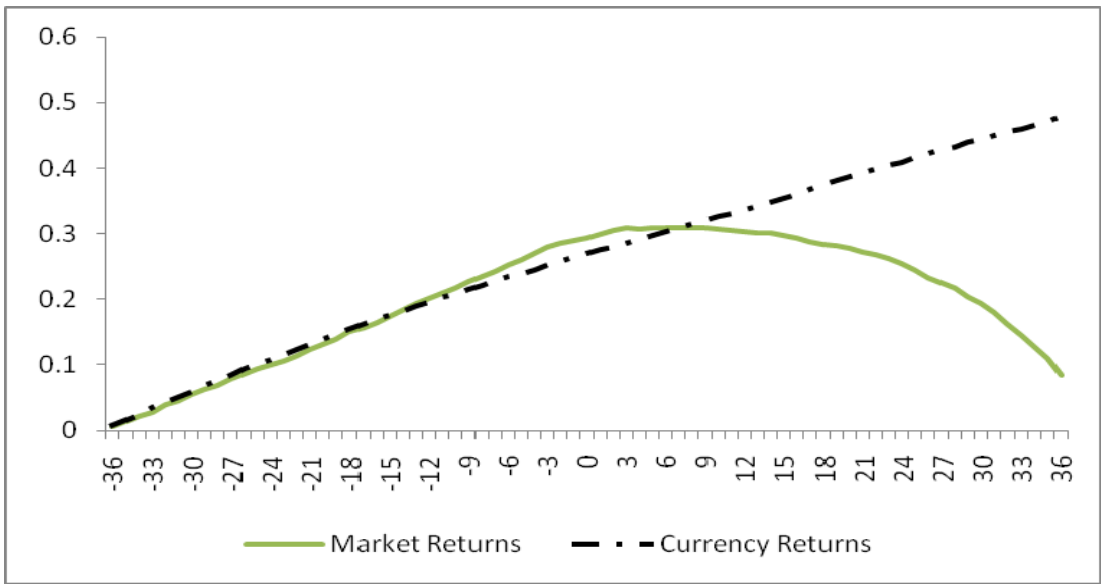
Developing Acquirer, developing target (Mean)



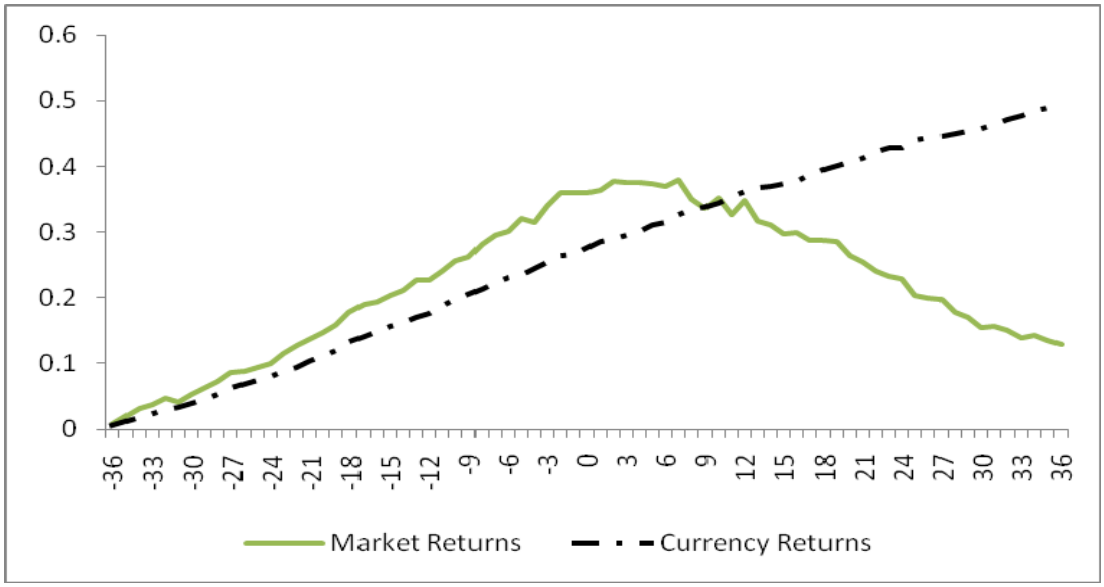
Developing Acquirer, developing target (Median)

Figure D.5 Geometric Return Differences between Target and Acquirer. (continued)

Figure D.5 (continued)



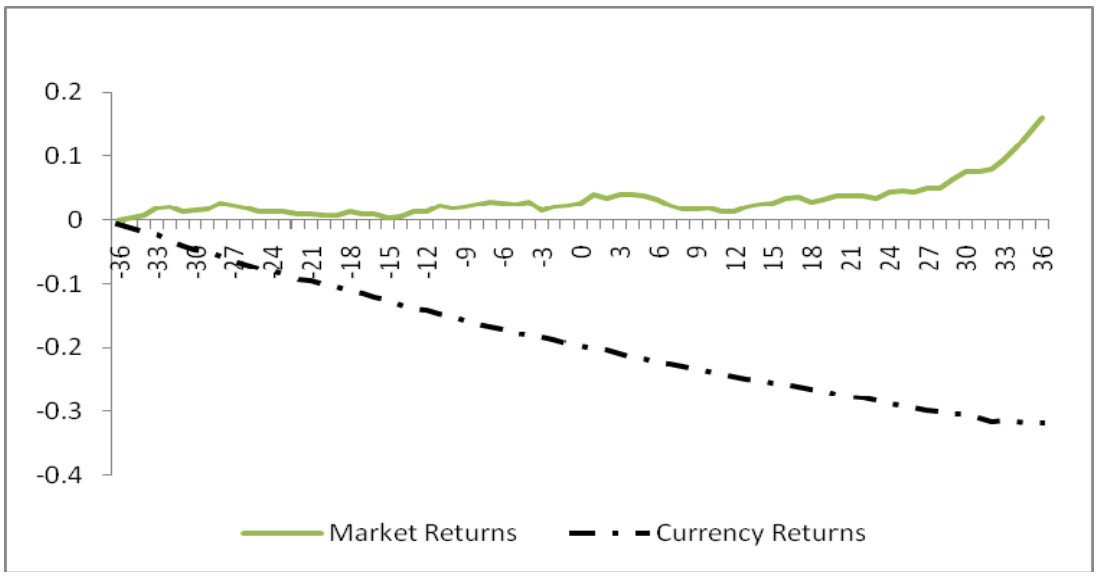
Developed Acquirer, developing target (Mean)



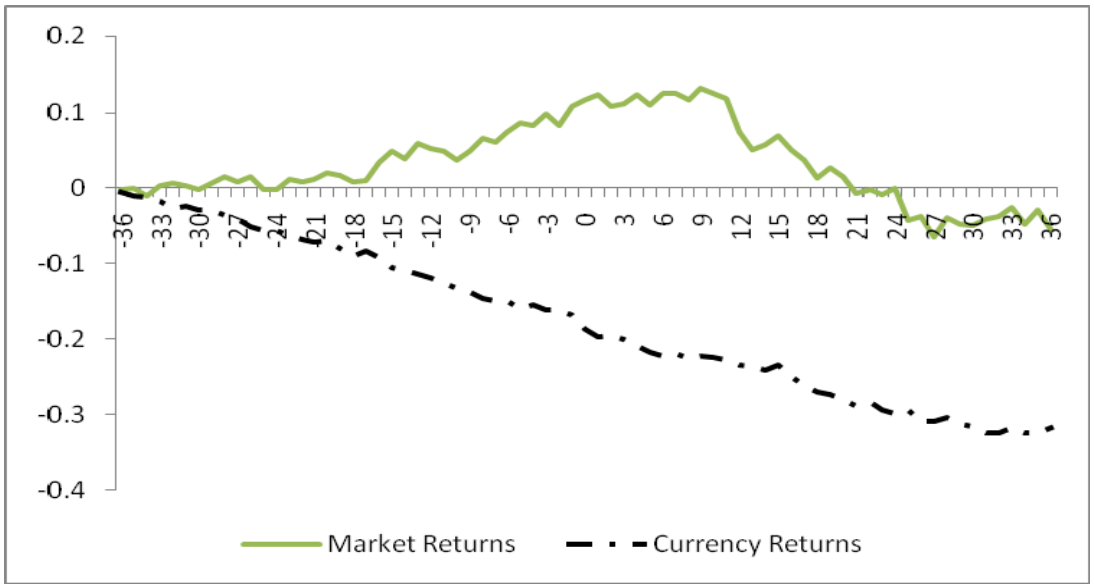
Developed Acquirer, developing target (Median)

Figure D.5 Geometric Return Differences between Target and Acquirer. (continued)

Figure D.5 (continued)



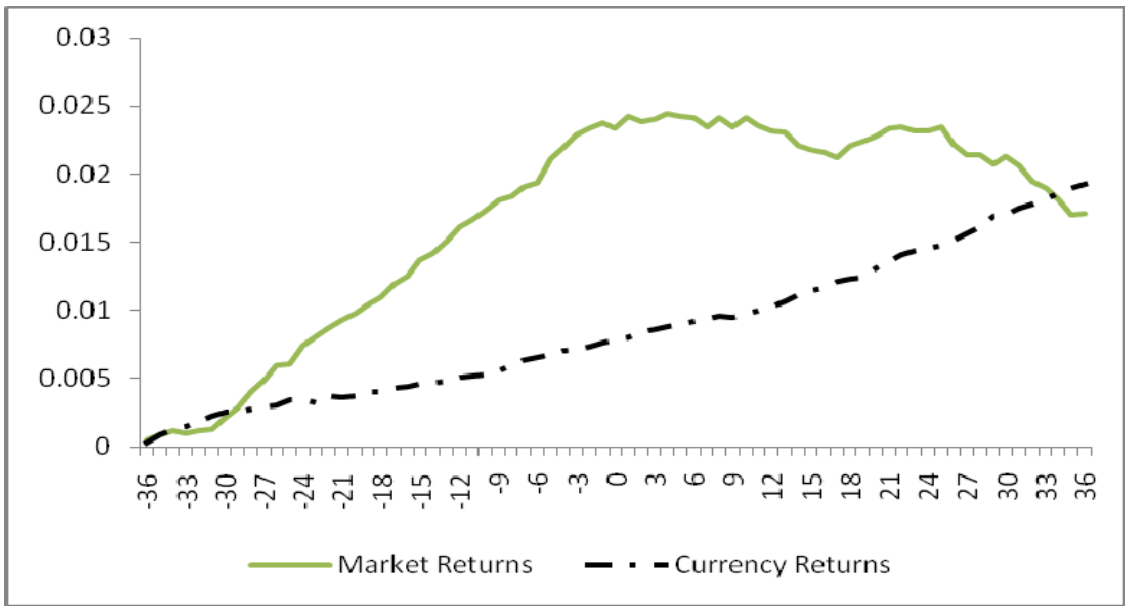
Developing Acquirer, Developed Target (Mean)



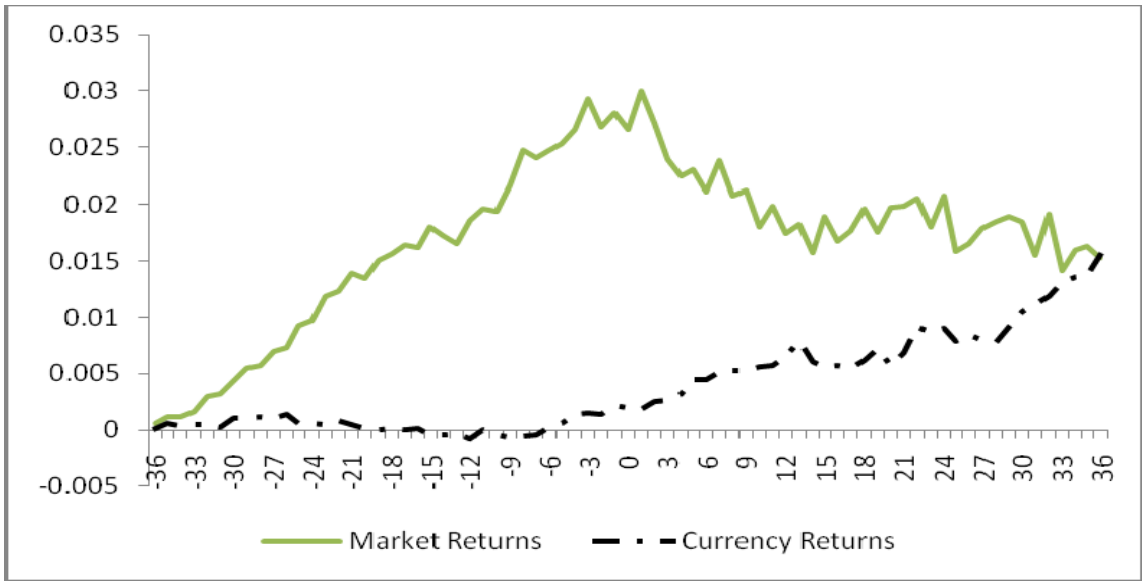
Developing Acquirer, Developed Target (Median)

Figure D.5 Geometric Return Differences between Target and Acquirer. (continued)

Figure D.5 (continued)



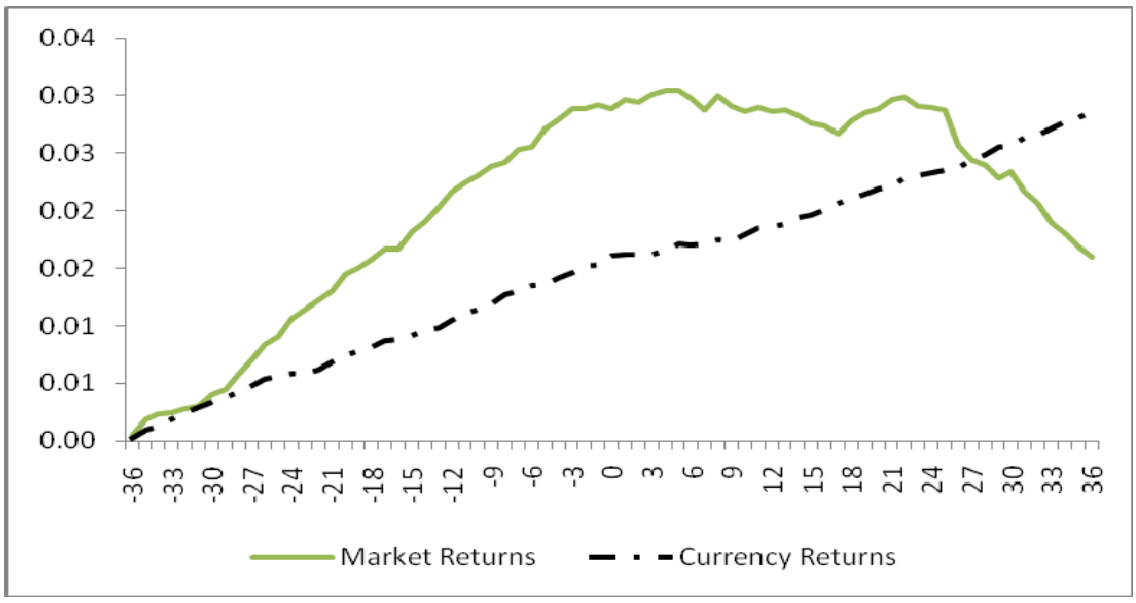
Developed Acquirer, Developed Target (Mean)



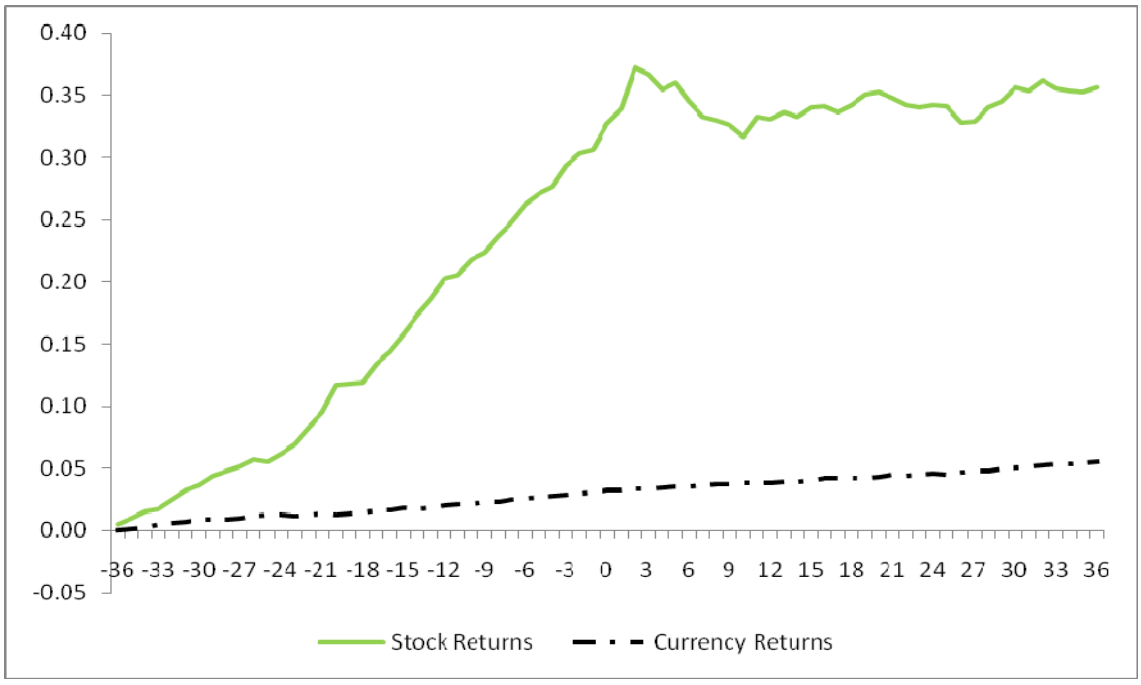
Developed Acquirer, Developed Target (Median)

Figure D.5 Geometric Return Differences between Target and Acquirer. (continued)

Figure D.5 (continued)



World sample mean excluding deals involving U.S. firms.



World sample of public firms.