

Humphery-Jenner, Mark; Sautner, Zacharias; Suchard, Jo-Ann

Working Paper

Cross-Border Mergers and Acquisitions: The Role of Private Equity Firms

Tinbergen Institute Discussion Paper, No. 12-031/2/DSF32

Provided in Cooperation with:

Tinbergen Institute, Amsterdam and Rotterdam

Suggested Citation: Humphery-Jenner, Mark; Sautner, Zacharias; Suchard, Jo-Ann (2012) : Cross-Border Mergers and Acquisitions: The Role of Private Equity Firms, Tinbergen Institute Discussion Paper, No. 12-031/2/DSF32, Tinbergen Institute, Amsterdam and Rotterdam

This Version is available at:

<http://hdl.handle.net/10419/87438>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Duisenberg school of finance – Tinbergen Institute Discussion Paper

TI 12-031 /2/DSF32

Cross-Border Mergers and Acquisitions: The Role of Private Equity Firms

Mark Humphery-Jenner^{1,2}

Zacharias Sautner³

Jo-Ann Suchard¹

¹ *University of New South Wales;*

² *Tilburg University;*

³ *Faculty of Economics and Business, University of Amsterdam, Duisenberg school of finance.*

Tinbergen Institute is the graduate school and research institute in economics of Erasmus University Rotterdam, the University of Amsterdam and VU University Amsterdam.

More TI discussion papers can be downloaded at <http://www.tinbergen.nl>

Tinbergen Institute has two locations:

Tinbergen Institute Amsterdam
Gustav Mahlerplein 117
1082 MS Amsterdam
The Netherlands
Tel.: +31(0)20 525 1600

Tinbergen Institute Rotterdam
Burg. Oudlaan 50
3062 PA Rotterdam
The Netherlands
Tel.: +31(0)10 408 8900
Fax: +31(0)10 408 9031

Duisenberg school of finance is a collaboration of the Dutch financial sector and universities, with the ambition to support innovative research and offer top quality academic education in core areas of finance.

DSF research papers can be downloaded at: <http://www.dsf.nl/>

Duisenberg school of finance
Gustav Mahlerplein 117
1082 MS Amsterdam
The Netherlands
Tel.: +31(0)20 525 8579

Cross-Border Mergers and Acquisitions: The Role of Private Equity Firms

This draft: March 06, 2012

Abstract:

We study the role of private equity firms in cross-border mergers and acquisitions. We find that private equity-owned firms are more likely to become targets in cross-border M&A transactions. This effect is particularly strong in transactions where the target or its shareholders actively reach out for an acquirer. On average, cross-border deals with private equity-involvement are not associated with higher announcement returns. However, announcement returns are higher if the acquirer is owned by a private equity firm *and* the target is from a country with poor corporate governance. We provide evidence indicating that the international networks and connections that result from prior cross-border deals can explain why private equity firms create value in such deals. Our findings suggest that private equity firms can help to reduce information asymmetries in certain cross-border M&A deals. We perform several tests to address possible endogeneity concerns.

“Blackstone is one of a limited number of private equity firms with access to a full range of cross-regional opportunities. We believe our global reach helps us to better assist our portfolio companies in dealing with developments across various regions of the world, sourcing add-on acquisition opportunities, entering new markets and outsourcing operations to reduce costs.”

Blackstone Private Equity
(Investment Approach 2011)

1. Introduction

Cross-border takeovers have become increasingly important, comprising, in terms of deal value, 31% of all global mergers and acquisitions (M&A) in 2010 (Bloomberg (2010)). It is likely that cross-border deals will become even more important as firms find ways to compete in an increasingly globalized world. Compared to domestic transactions, cross-border deals feature increased information asymmetries as acquirers need to navigate different legal regimes, languages, accounting standards, or corporate cultures, all with the hindrance of geographic distance (e.g., Erel, Liao, and Weisbach (2011), Ellis, Moeller, Schlingemann, and Stulz (2011), Ahern, Daminelli, and Fracassi (2011)). All these factors make it difficult for acquirers to accurately estimate and assess the value and risks of targets in cross-border transactions. Given the importance of cross-border deals, and the difficulties associated with executing them, it is therefore important to understand the channels through which such deals can be facilitated and the problems of information asymmetries reduced.

To identify and understand one of these potential channels, we analyze a sample of 17,409 M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries and targets being publicly listed or private firms.¹ Motivated by Blackstone’s asserted investment approach (see above), we investigate whether

¹ Including private firms in such an analysis is important as the majority of M&A deals include private targets.

private equity firms that own equity stakes in potential acquirers or targets increase the likelihood of cross-border transactions due to their “access to a full range of cross-regional opportunities”.² We further analyse whether such private equity-backing increases the value that is created in cross-border M&A deals. Out of all M&A transactions in our sample, 25.6% are cross-border M&A deals and in 6.4% of these cross-border deals private equity firms are involved as owners of targets or acquirers.

Private equity firms could be helpful in facilitating cross-border transactions for a set of reasons. Private equity firms, especially those that partake in international deals, typically have wide international networks of contacts and connections (e.g., Hochberg, Ljungqvist, and Lu (2007, 2010)). In addition to their own investment professionals, these networks include international accounting firms, law firms, consultancy firms and other private equity firms, but also other companies that they know about because of current or past transactions. Naturally, such networks can be useful to reduce information asymmetries in potential M&A transactions.

From an acquirer’s perspective, these connections might help a private equity-backed firm to identify, and more accurately assess, promising cross-border targets and to raise financing for such deals.³ In the words of Blackstone, they could provide their portfolio firm with the “global reach [...] to better assist [...] portfolio companies in dealing with developments across various regions of the world” such as “acquisition opportunities”.

From a prospective target’s perspective, a private equity-backer might be able to match the firm with a suitable international acquirer as part of an exit plan, using the global reach to find and convince potential buyers. As private equity firms are repeat players in selling portfolio firms, they may also have reputational incentives to

² We consider both venture capitalists and leveraged buyout funds as private equity firms.

³ This is similar to the idea that private equity firms’ connections give the private equity firm access to deal flow and financing (Lerner (1994), Hochberg, Ljungqvist, and Lu (2007, 2010)).

provide accurate and additional information to potential acquirers, thereby also reducing information asymmetries and facilitating cross-border transactions (e.g., Ivashina and Kovner (2011) or Demiroglu and James (2010)).

If private equity ownership in potential targets or acquirers helps ameliorating information asymmetries, their presence should relate to both the likelihood of cross-border transactions and the value that such transactions create. The benefits of private equity-backing should be especially important if targets are located in countries with weak corporate governance as such environments expose acquirers to increased problems of disclosure and information asymmetry.

Consistent with these predications, we find evidence suggesting that private equity firms help to ameliorate information asymmetries in cross-border M&A deals. First, we document that, after controlling for various firm-level, deal-level, and country-level variables, firms are 55% more likely to become a target in a cross-border M&A transaction if they are owned by a private equity firm.⁴ We find the effect of private equity firms to be particularly strong in transactions that are solicited, i.e., transactions where the target or its shareholders actively reach out for an acquirer, possibly through the network of the private equity-owner. Such firms are 74% more likely to be involved in a cross-border transaction compared with firms that have no private equity-backing.

Second, we find that, on average, cross-border deals with private equity involvement in either the target or acquirer are *not* associated with higher acquirer

⁴ Our data source, SDC Platinum, does not provide reliable data on the stake that private equity firms hold in acquirers or targets. However, private equity investments are usually characterized by relatively large stake in their portfolio firms, suggesting that they are able and incentivized to actively support their portfolio firms. For example, Lerner (1994) reports that the average venture capital syndicate owns 33.9% of the portfolio company after the first round, and Barry et al (1990) reports that the lead venture capitalist normally owns 19% of a portfolio company, with the total holding of all venture capital firms totalling 34%. Similarly, the European Venture Capital Association (p. 15, 2007) states that “private equity investors are also often majority stakeholders...”.

announcement returns, which we use as a measure of value creation.⁵ However, we find that private equity-ownership seems to be important under specific and economically important circumstances. Specifically, we find that acquirer announcement returns are substantially higher if the acquirer is private equity-backed *and* the target is located in a country with poor corporate governance (i.e., a country where information asymmetries are probably larger and more important). Taken together, these findings support the view that private equity firms can help to facilitate certain cross-border transactions by ameliorating problems of information asymmetries, especially in transactions where such information asymmetries are likely to be large.

To investigate more closely the role of private equity firms and the economic channel behind our prior results, we study both the international business relationships and the prior cross-border deal experience of the private equity firms that are backing acquirers. We find that announcement returns in private equity-backed acquisitions are substantially larger if the involved private equity backers can rely on a larger international network of relationships that stem from their prior involvement in other cross-border deals. Moreover, we find that acquisitions of targets in poor information environments especially create value if the private equity firms that are backing the acquirers have been involved in many prior cross-border transactions, suggesting that their experience and the resulting contacts and connections can create value.

A concern with our analysis is that private equity-backing and takeover announcement returns may be endogenously determined. Such endogeneity could arise either because causality may run from (expected future) announcement returns to private equity-backing (reverse causality or selection effects) or because firms with

⁵ We focus on acquirer returns because the majority of the targets in our sample are unlisted.

and without private equity-backing may be systematically different from each other. We perform several tests to mitigate these concerns, exploiting both subsamples where endogeneity problems are less likely to be present and analyses using propensity score techniques.

First, we focus on a subsample of deals that exclude any private equity-backed acquirer who received private equity-backing up to 4 years prior to the acquisition announcement. The rationale behind this analysis is that it is unlikely that a private equity-backer could foresee an acquisition several years in advance, making it unlikely that the prospect of a profitable future acquisition would drive the observed private equity-backing. We show that our results are robust if we only use acquirers that received private equity-backing several years before their acquisitions, suggesting that selection effects are unlikely to drive our results.

Second, we create additional subsamples to identify a set of acquisitions where it is plausible to assume that private equity involvement in the acquirer does not primarily stem from the need to finance an anticipated profitable acquisition. We create these subsets using the following rationale: If an acquirer faces a situation where it is unable to finance a deal even though it might create value, then a private equity-backer is more likely to provide ‘mere’ financing without really contributing to value-creation through facilitating an acquisition via its network and connections. To the contrary, an acquirer that can finance a deal it is less likely to obtain private equity-backing for mere purposes of financing (as opposed to value-added services such as facilitating a cross-border acquisition). Thus, endogeneity concerns from selection issues are less likely to hold for the set of acquirers that can finance acquisitions themselves. We assume that an acquirer is more likely to be able to finance a deal itself if it is large in absolute terms or relative to the size of the target.

Our results hold for the subset of transactions in which private equity-backed acquirers are large in absolute or relative terms, again mitigating concerns that selection rather than influence effects are driving our valuation results.

Third, we document that our results are robust to using different propensity score techniques that account for the possibility that that acquirers with and without private equity-backing may differ systematically. We will discuss the details of these approaches in Section 5.

Given the importance of cross-border M&A and the problems that arise in executing them, some prior studies have examined the role of specific investor-types in cross-border takeovers, suggesting that this is an interesting avenue of research to pursue. Karolyi and Liao (2011) show that sovereign wealth funds (SWFs) can influence the nature of cross-border deals. They show that SWFs are comparatively less sensitive to the quality of the regulatory and accounting standards in target countries, implying that SWF involvement might also function to ameliorate problems arising from information asymmetries and poor disclosure. Focusing on publicly listed acquirers and targets, Ferreira, Massa, and Matos (2010) show that institutional investors can help to overcome problems of information asymmetries that arise in cross-border transactions. Institutional investors appear to be especially beneficial if the target is located in a poor governance environment.

For a set of reasons, the role of private equity firms in cross-border M&A warrants separate examination. First, private equity firms constitute a separate investor-type, which is in itself of significant size and economic importance. Prequin (2011), for example, reports that in the third quarter of 2011 alone, private equity firms finalized capital raising totalling USD 44.8bn. In terms of assets under

management, the size of the private equity sector is estimated to be around USD 2.4tn globally (see The CityUK Private Equity Report 2011).

Second, governments have recently tried to attract international investments by private equity firms due to their ability to provide funding for domestic firms and to increase value within their portfolio companies. For example, Australia has implemented a scheme of matching private equity funding dollar-for-dollar in investments in innovative start-ups (e.g., Cumming (2007) or Humphery-Jenner (2012)).

Third, while institutional investors are usually attracted to relatively well governed firms with lower information asymmetries (e.g., Leuz, Lins, and Warnock (2009), McCahery, Sautner, and Starks (2011)), the types of firms that receive private equity-backing or investments by portfolio firms of private equity investors may differ from those that receive investments by institutional investors.⁶ Moreover, private equity firms often seem to take a more ‘active’ role in managing firms than other institutional investors, which could be due to differences in their governance structures and in the size of their investments (e.g., Kaplan and Strömberg (2009), Bottazzi, Da Rin, and Hellman (2008), or Cotter and Peck (2001)). Private equity firms, for example, usually provide very strong monetary incentives to their fund managers and they are frequently actively involved in the strategy and operations of their portfolio firms. Similarly, the average stake of a private equity firm is usually relatively large, also encouraging a more active role in their portfolio firms.⁷ This makes it interesting to study whether the effects of private equity firms in cross-border

⁶ In fact, it is often argued that private equity firms like to invest in firms with governance problems as this leaves room for value creation from improving governance through their active involvement (e.g., Kaplan and Strömberg (2009)).

⁷ As illustrated above, private equity firms usually have stakes that are above 30%. This contrasts with the size of an institutional investor’s stake, which would usually be much lower than this figure (given that 20% is the takeover threshold in many markets). For example, in McCahery, Sautner, and Starks (2011), the average institutional investor holds an equity stake of only 0.13%.

deals differ from those of other institutional investors, thereby reflecting the differences in the investment and governance approaches.

Fourth, a focus on private equity firms enables us to analyse both publicly listed and unlisted targets, while a focus on institutional investors typically restricts the analysis to publicly listed firms (e.g., Ferreira, Massa, and Matos (2010)). While publicly listed firms are a very important subsample of firms, acquisitions of unlisted firms have important differences in terms of the potential monitoring benefits that can accrue to the acquirer (Chang (1998), Fuller, Netter, and Stegemoller (2002), Harford, Humphery-Jenner, and Powell (2012)).⁸

The structure of this paper is as follows. Section 2 presents the hypotheses that we test and Section 3 provides the data. Section 4 contains the empirical analysis and results and Section 5 addresses endogeneity concerns. Section 6 concludes.

2. Hypothesis Development

This section outlines the hypotheses that we test in this paper. First, we discuss the possible impact of private equity-backing on the likelihood of a cross-border M&A deal. Second, we discuss the possible impact of private equity-backing on acquisition returns in cross-border M&A deals. As discussed in the Introduction, the M&A literature highlights significant impediments to cross-border M&A transactions (e.g., Erel, Liao, and Weisbach (2011), Ellis, Moeller, Schlingemann, and Stulz (2011), Ahern, Daminelli, and Fracassi (2011)). It is argued that such transactions are complicated due to information asymmetries between acquirers and targets, arising from different legal regimes, languages, accounting standards, or corporate cultures,

⁸ For example, the use of stock to acquire an unlisted firm has the potential to create a large blockholder, which might subsequently enhance monitoring and corporate governance. This arises because the acquirer gives a large parcel of stock to a small number of new shareholders (the old shareholders of the unlisted target). By contrast, when acquiring a publicly listed target, the acquirer often spreads that stock-parcel across many dispersed shareholders.

all with the hindrance of geographic distance. We will discuss a set of potential channels through which private equity firms may help facilitating cross-border transactions by ameliorating such problems of information asymmetries.

2.1 Private Equity-Backing and the Likelihood of Cross-Border M&A

Private equity firms are investors that often invest their funds internationally.⁹ The Carlyle Group, for example, a major private equity investor, reports that it has investment managers working in more than thirty offices across six continents to identify and manage investments in Africa, Asia, Australia, Europe, Latin America, the Middle East and North America. As a result of such an international orientation, private equity firms, especially those that partake heavily in international deals, often have wide international networks of contacts and connections (e.g., Hochberg, Ljungqvist, and Lu (2007, 2010)).

Apart from their own investment managers, these networks include international accounting firms, law firms, consultancy firms and other private equity firms, in addition to companies with whom they have had contact because of current or past transactions. Naturally, such networks can be useful to reduce information asymmetries in international M&A transactions. A related argument has been provided by Ferreira, Massa, and Matos (2010), who argue that foreign institutional investors build bridges between firms internationally and that their presence as shareholders of corporations facilitates cross-border M&A activity.

From an acquirer's perspective, these international connections and networks might help a private equity-backed firm to identify and evaluate valuable cross-border

⁹ The motivation for such international investments is variously to achieve diversification benefits, search of mis-valuations of firms in less developed markets, and take advantage of growth opportunities in emerging markets (e.g., Mayer, Schoors, and Yafeh (2005), Wright, Pruthi, and Lockett (2005), Aizenman and Kendall (2008), or Cumming and Walz (2010)).

targets, and to raise financing for such cross-border deals. Moreover, convergence in investment patterns and returns in developed private equity markets, as suggested by Megginson (2004), may induce a preference of private equity firms to invest internationally. This may subsequently permeate into their portfolio companies and encourage (or facilitate) international acquisitions by them.

From a prospective target's perspective, a private equity-backer might be able to match a portfolio firm with a suitable international acquirer as part of the exit plan, using the international network to identify and convince an international buyer. As private equity firms are repeated players in selling targets, they may also have reputational incentives to provide accurate and additional information to potential acquirers, thereby also facilitating cross-border transactions.¹⁰

Thus, private equity-backed targets should be more likely to receive an international bid than other targets, and private equity-backed acquirers should be more likely to acquire internationally. Our first two hypotheses are therefore:

Hypothesis 1: Private equity-backed acquirers are more likely to acquire foreign targets than non-private equity-backed acquirers.

Hypothesis 2: Private equity backed targets are more likely to receive a bid from foreign acquirers than non-private equity backed targets.

These two hypotheses are tested against the null hypothesis that private equity-ownership in a company is unrelated to the propensity to perform a cross-border transaction.

¹⁰ Similarly, it has been argued that reputational incentives of private equity firms can affect, by reducing information asymmetries, the cost of debt and the financing structure of private equity investments (e.g., Ivashina and Kovner (2011) or Demiroglu and James (2010)).

2.2 Private Equity-Backing and the Value of Cross-Border M&A

If ownership by private equity firms in a target or acquirer can help to ameliorate information asymmetries, it should eventually not only be related to the likelihood of a cross-border transaction but also to its value creation. For example, there is related evidence that sovereign wealth funds (Karolyi and Liao (2011)) and institutional investors (Ferreira, Massa, and Matos (2010)) can influence acquisition returns, a measure for value creation, possibly by also ameliorating issues of information asymmetry. Moreover, there is evidence suggesting that acquirers from good governance countries gain more when they acquire targets from bad governance countries, i.e., targets from countries where information asymmetry problems are probably more severe, possibly suggesting a synergy gain from improving governance in the target (Ellis, Moeller, Schlingemann, and Stulz (2011), John, Freund, Nguyen, and Vasudevan (2010), Rossi and Volpin (2004)). Such synergies should be particularly large if private equity firms are involved as shareholders of the acquirers, given that private equity firms usually take a more active role in managing portfolio firms and their acquisitions than other institutional investors (see above).

Thus, we predict that the private equity-backer's key value-add in cross-border deals is that they can help with the acquisition of targets in poor information environments. This induces the following hypotheses:

Hypothesis 3: In cross-border deals, takeovers that involve private equity-backed targets and private equity-backed acquirers perform better than do other acquisitions.

Hypothesis 4: In cross-border deals, private equity-backing on the acquirer side especially creates value if the target is in a poor information environment.

These two hypotheses are tested against the null hypothesis that private equity-ownership in a company is unrelated to value creation in a cross-border transaction.

We then focus more closely on the economic channel and the possible role of networks and connections of private equity firms for creating value in M&A deals. Private equity-backers that have large international networks of business relationships and that have been involved in many prior cross-border deals probably have accumulated not only experience but also more contacts and connections. Prior experience and a greater network may subsequently also be useful for overcoming information problems in future cross-border deals. This induces the following hypothesis:

Hypothesis 5: In M&A deals, especially those with targets in poor information environments, private equity-backers create value if they can rely on a large network of international relationships and on experience from prior cross-border transactions.

This hypothesis is test against the null hypothesis that prior relationships of private equity-backers and their experience with prior cross-border transactions are unrelated to value creation.

3. Data

Our sample includes 17,409 M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries and targets being either publicly listed or private firms. Our data source is Security Data Corporation's (SDC) Platinum Mergers and

Corporate Transaction database. Consistent with prior literature (e.g., Masulis, Wang, and Xie (2007), Harford, Humphery-Jenner, and Powell (2012)), to be included in our sample, we require that a deal is completed, the acquirer is publicly listed, that a deal is for 100% ownership, and that the deal value is at least USD 1m.

SDC contains data on whether a private equity firm has been involved on the target and/or acquirer side. Based on this information, we create three dummy variables. The first dummy variable equals one if there is private equity-backing on the acquirer side, the second dummy variable equals one if there is private equity-backing on the target side, and the third dummy variable equals one if there is private equity-backing on either the acquirer or target side.¹¹

We also use SDC to create a dummy variable that indicates whether an M&A deal is cross-border or domestic, with a cross-border deal being defined as a transaction where the acquirer and target are located in different countries. Next to this variable, we create a related dummy variable that takes the value one if a deal is both cross-border and is solicited. We deem a transaction to be solicited if SDC records that the target actively seeks a buyer. We also collect data from SDC on deal-related control variables such as the method of payment, deal size, or whether the deal is diversifying.

We match the SDC data with the Worldscope database, which we use to collect financial variables for the acquirers (e.g., assets, capital expenditures, or debt).¹² We also collect data on country-level variables from the World Bank's World

¹¹ As explained in the introduction, SDC does not contain reliable data on the precise stakes that private equity firms hold in either the acquirer or target.

¹² As more than half of the target firms are private firms without Worldscope coverage, we do not restrict our sample by requiring for our subsequent regression analysis the availability of firm-level financials for the target firms. This is similar to the approach in Masulis, Wang, and Xie (2007) and Harford, Humphery-Jenner, and Powell (2012) who also do not include firm-level variables for the targets. If we were to restrict the sample to publicly listed targets we would (a) omit many of the acquisitions that have private equity-backing, and (b) potentially incur a sample construction bias due

Development Indicators data set (e.g., on trade imbalances), the World Bank's Governance Indicators data set, the International Country Risk Guide (ICRG), and from La Porta et al. (1997, 1998) as well as Spamann (2010).¹³ We have country-level data for both acquirers and targets. For each M&A deal in our sample we require that the acquirer firm has data coverage in Worldscope and the country-level databases. Appendix A-1 provides definitions of all variables used in the empirical analysis.

Table I reports summary statistics of our sample. We provide figures for the full sample of M&A deals, and for subsamples related to whether the acquirer or target is private equity-backed. The table reports the firm-level and country-level variables at the acquirer level.

As illustrated in Table I, out of all 17,409 transactions in our sample, a total of 4,452 transactions or 25.6% are cross-border transactions. The table shows that private equity firms are involved in about 5% of all M&A transactions, either as an owner of the acquirer (1.4% of the deals) or as an owner of the target (3.2% of the deals). The table also suggests that private equity firms are more likely to be involved in cross-border deals, an interesting observation that we will analyse in more depth in the next section. Compared to domestic deals, acquirers in cross-border deals seem to be larger, have lower leverage, higher cash holdings, and lower investment spending. These observations are consistent with those reported in prior literature (Moeller and Schlingemann (2005) or Erel, Liao, and Weisbach (2011)).

The table further suggests that M&A deals with private equity-backing are more likely to involve multiple bidders and deals that are executed using cash

to the possibility of systemic differences between acquisitions of unlisted targets and listed targets (e.g., Chang (1998) or Fuller, Netter, and Stegemoller (2002)).

¹³ The World Development Indicators data set is available at <http://data.worldbank.org/> and the World Bank's Governance Indicators data set is available at <http://info.worldbank.org/governance/wgi/index.asp>.

payments. Deals with private equity-backing are less likely to involve tender offers and they are less likely to be friendly.¹⁴

The country distribution of the acquirers in our sample is reported in Appendix A-2.¹⁵ As expected, the majority of the acquiring firms come from the US (49% of the sample firms) and the UK (18%), with a relatively large number of deals coming from Australia (8% of the sample) and Canada (7%). The number of observations in each country over the sample period is consistent with the number of deals reported in prior studies.¹⁶ Of the countries with a relatively large number of transactions, cross-border deals are 12.4% of all US acquisitions, 34.2% of UK acquisitions, and 22.2% of Australian acquisitions.

4. Empirical Results

4.1 Determinants of Cross-Border M&A Deals

In a first step, we examine the impact of private equity-backing on the likelihood of a cross-border M&A deal. As hypothesized above, we predict that the presence of private equity firms in the acquirer increases the likelihood of a cross-border deal. We also predict that private equity-backed targets are more likely to successfully search for an international buyer, thereby increasing the likelihood of a cross-border deal. To test these predictions, we estimate two types of logit regressions

¹⁴ The proportion of deals that are friendly appears to be relatively high. However, this is consistent with prior literature (see, e.g., Moeller, Schlingemann, and Stulz (2004), Moeller and Schlingemann (2005), Humphery-Jenner and Powell (2011) and Harford, Humphery-Jenner and Powell (2012)).

¹⁵ The appendix shows that some countries are not represented in our sample. A notable example is the lack of data on acquisitions by German firms. This is because we require country-level governance data from ICRG and we do not have this data for Germany. However, this should not significantly bias results as German transactions are not very frequent. Ferreira, Massa, and Matos (2010), for example, report only 73 German M&A transactions in their sample and we count only 164 German M&A transactions if we relax the need for ICRG data.

¹⁶ We examine data from 1996 onwards as we can only obtain all relevant governance variables from this year onwards. This implies that our sample period and sample size are smaller than those in Erel, Liao, and Weisbach (2011). Our sample contains more M&A deals than the sample used by Ferreira, Massa, and Matos (2010), likely because their analysis requires data on institutional holdings.

in which the dependent variable is either a dummy variable that equals one if an M&A deal is cross-border, or a dummy that equals one if a deal is both cross-border and solicited by the target. As described above, a solicited transaction is a deal where the target (or a target shareholder) has successfully sought a buyer. We analyze this variable as it should reflect more accurately the networking efforts of private equity firms to find an acquirer. Our main independent variables are dummy variables that variously equal one if there is private equity-backing on (i) the acquirer side, (ii) the target side, or (iii) on either the acquirer or the target side.

We follow the related literature to control for other variables that may explain why M&A transactions are cross-border or domestic. At the acquirer-firm level, we control for acquirer size (Moeller, Schlingemann, and Stulz (2004, 2005), Humphery-Jenner and Powell (2011)), leverage (Maloney, McCormick, and Mitchell (1993)), cash holdings (Harford (1999)), free cash flow (i.e., EBITDA over assets), and capital expenditures. Next to these variables, we control for deal-specific variables, namely the size of the transaction (relative to the size of the acquirer) and whether or not the deal is diversifying (Moeller and Schlingemann (2005)).

We include a set of country-level governance variables that aim to capture the quality of the disclosure and investor protection regime in an acquirer's or target's country. We capture these aspects by including an index of the World Bank Governance Indicators, the ICRG Country Risk index, and the La Port et al. (1997, 1998) index as updated in Spamann (2010).¹⁷ Finally, we include additional country-level variables that have been used in the cross-border M&A literature. We control for the level of financial development by controlling for the market capitalization of all companies in a country and we capture the general level of access to capital by

¹⁷ To proxy for country-level governance, the ICRG country risk index has also been used by Pinkowitz, Stulz, and Williamson (2006) or Bruno and Claessens (2010), and the World Bank governance index by Ellis, Moeller, Schlingemann, and Stulz (2011).

including a country's stock market turnover. We include the level of foreign direct investment (FDI) in a country to capture the general investment level of foreign corporations in a country. We also control for a country's level of unemployment and its trade imbalance. These country-level variables are calculated for the home countries of both the acquirers and the targets. We include year dummies to account, for example, for cyclicalities in cross-border M&A deals, and country dummies to control for unobserved heterogeneity at the country level. Standard errors throughout the paper are robust and clustered by industry.¹⁸

Table II contains the regression results. The regression estimates in column 1 and 4 show that firms with private equity-backing are more likely to be involved in cross-border M&A deals. It seems that this effect is driven by private equity-ownership in target firms as the regressions in columns 3 and 6 show that firms are more likely to become a target in a cross-border M&A transaction if they are owned by a private equity firm. The results in columns 9 and 12 suggest that the role of private equity firms is particularly pronounced in transactions that are solicited, i.e., transactions where the target or the target shareholders actively reach out for an acquirer. It is likely that this reaching-out is performed or, at least, facilitated by the private equity-owners, possibly using their network or connections.

The regression estimates are not only statistically significant but also economically large. The estimates in column 6, for example, suggest that private equity-backed targets have a 55% higher probability of being involved in a cross-border acquisition than their non-private equity-backed counterparts.¹⁹ Further, the results in column 12 indicate that private equity-backed targets have a 74% higher

¹⁸ The results reported in the paper are also robust to clustering standard errors by country or acquirer. For brevity, we do not report these results.

¹⁹ The economic effect is calculated, using the logit regression estimates, as $\exp(0.220)/(1+\exp(0.220))=55\%$.

probability of a solicited cross-border deal than their non-private equity-backed counterparts. These estimates are obtained after controlling for a wide range of firm-level, country-level, and deal-level variables. Consistent with prior literature, we find that larger firms, firms with larger cash holdings, and firms with less debt are more likely to perform cross-border deals. Importantly, the regressions reported in columns 4 to 6 and 10 to 12 show that our results are also robust to controlling for various country-level characteristics of the target firms.

Overall, these results support the hypothesis that the presence of a private equity firm increases the likelihood of an international deal. This appears to be particularly important for M&A targets and for solicited transactions. These findings are consistent with the notion that private equity firms assist in searching for an interested acquirer for the firms in which they have invested. This is in line with the idea that private equity firms facilitate cross-border transactions by using their international connections to match targets with appropriate buyers. We will provide more evidence that supports this notion in the next sections.

4.2 Determinants of Takeover Returns in Cross-Border M&A Deals

Having explored the role of private equity firms in facilitating cross-border mergers and acquisitions, we next study whether such cross-border deals create more value. As outlined above, we hypothesize that private equity-backing improves returns in cross-border deals and that this is especially the case when targets are in poor information environments.

To examine acquisition performance, we examine the stock market's reactions to takeover announcements of the acquirers. More specifically, we calculate for each transaction the acquirer returns by examining the cumulative abnormal return (CAR) that accrues over the 11 days surrounding the announcement. The CARs are

calculated at the acquirer level and estimated from five days before to five days after the takeover announcement.²⁰ We estimate the CARs by using an OLS estimation of the market model, estimated over the period from 11-days to 210-days before the takeover. We focus on acquirer CARs, rather than target CARs, because many targets, particularly those that are subject to private equity involvement, are unlisted and thus do not have stock return data.

Table III provides an initial view on the effects of private equity firms on value creation in cross-border M&A deals and reports univariate statistics of announcement returns. The table reports average CARs for the whole sample as well as separately for cross-border and domestic M&A deals. Moreover, it separates the sample based on: (i) whether or not either the target or the acquirer was backed by a private equity firm; (ii) whether or not the acquirer was backed by a private equity firm; and (iii) whether or not the target was backed by a private equity firm.

The table allows for several interesting observations. First, the announcement returns in cross-border deals are, on average, above those of domestic deals, suggesting that such deals may be associated with more value creation once they are completed. This pattern seems independent of whether private equity firms are involved in a transaction or not. Second, we have some evidence that the announcement returns in cross-border deals are larger when private equity firms are involved in the target or acquirer (interestingly, this pattern seems reversed in domestic deals). However, we note that the difference between cross-border deals with and without private equity involvement are not statistically significant.

To formally explore the effects of private equity firms on announcement returns in cross-border deals further, Table IV provides OLS regression of the

²⁰ Using this methodology, we follow the M&A literature to capture the market's view on whether a deal will create value (see Moeller, Schlingemann, and Stulz (2004), Masulis, Wang, and Xie (2007) or Harford, Humphery-Jenner, and Powell (2012)).

determinants of cumulative abnormal returns in cross-border M&A deals. As in Table III, CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. In these CAR regressions, we investigate both the average effect of acquirer or target private equity-backing, and the effects of private equity-backing conditional on the governance environment in a target's country. We again proxy for private equity-backing by including three separate dummy variables that capture whether an acquirer, target, or one of the two is owned by a private equity firm.

To test whether the effects of private equity-backing vary with the governance environment of the target country, we include a dummy that captures a target's country-level governance, and an interaction of this dummy variable with the private equity dummy. We use two variables to capture a target's country-level governance, one based on the ICRG index and one based on the World Bank governance index. To identify targets from countries with poor governance, we create for each of the two indices a dummy variable that takes the value one if a target's country has an index value that is in the bottom 25% of the sample ("Low Target ICRG Gov." and "Low Target WB Gov."). As in Pinkowitz, Stulz, and Williamson (2006), Bruno and Claessens (2010) or Ellis, Moeller, Schlingemann, and Stulz (2011), we focus on the ICRG and the World Bank indices because these indices capture the opacity, investor protection, and regulatory weaknesses in target countries. Especially, we hypothesize that information asymmetries are larger in countries with weaker governance, as proxied by these indices. This is based on the idea that poorer legal enforcement and greater corruption enables worse corporate disclosure. Further, these indices all create uncertainty about the government's regulatory approach to a takeover. An additional

feature of these indices is that they show some variation over time, thereby enabling us to account for improvements in governance in some countries.²¹

We again control for a wide range of acquirer-level and country-level variables that may be related to the announcement returns in M&A deals. Apart from the deal variables used in Table II, we now also control for the existence of multiple bidders, whether the deal proceeds by way of a tender offer, or whether the deal is friendly or hostile. We also control for the method of payment and include indicators for whether the target is a private or publicly listed target (see Chang (1998), Fuller, Netter, and Stegemoller (2002)).²²

The regression estimates in columns 1 to 3 in Table IV suggest that private equity firms have positive yet, on average, not statistically significant effects on announcement returns in cross-border deals. This is consistent with the findings in Table III. However, we find some strong effects once we allow the effects of private equity-backing to vary with the corporate governance in the country of the target. In particular, we find in columns 5 and 8 that the announcement returns of acquirer firms in cross-border deals are statistically significantly higher if the acquirer firm is owned by a private equity firm *and* the target is from a country with poor corporate governance (i.e., a country where information asymmetries are probably larger and more important).

Our regression estimates are again also economically significant. Using the regression estimates from column 5, we find that the effect of private equity-ownership in the acquirer is negative and economically meaningful (-2.02%) if the

²¹ While the time variation in these variables is not large, it does allow us to capture some changes in country-level governance that have occurred after the Asian Financial Crisis. By contrast, the anti-director rights index does not vary over time and may not fully reflect changes in laws. Further, the anti-director rights index captures a specific type of legal regulation, rather than the opacity of the government and the degree of corruption.

²² We can include both the I(Public Target) and the I(Private Target) dummy in our regressions as there also exists a third category, namely the possibility that a target is a subsidiary of another firm. The two indicators therefore do not add up to one (see also the summary statistics in Table I).

target is located in a country with good corporate governance. To the contrary, the corresponding economic effect of private equity-backing on announcement returns is positive and economically large ($5.71-2.02=3.69\%$) if the target is in a poor governance country. These results hold independently of whether we use the ICRG or the World Bank governance index to proxy for the governance and information environment in a country.

Taken together, these results yield three interesting findings. First, private equity-backing on either the bidder or the target side does not, on average, appear to influence acquisition returns in cross-border deals. Second, if the target is in a poor governance environment, then acquirer-side private equity-backing improves acquisition returns. These findings support the hypothesis that private equity firms can add value by helping acquirers to navigate information asymmetries associated with the target's environment. They suggest that one comparative advantage of private equity firms could be the ability to reduce information asymmetries through their international connections and networks. Conversely, if the target is private equity-backed but in a strong governance environment, then there is less room for private equity firms to add value (by mitigating issues of information asymmetry), so private equity-backing is less beneficial than if the target is in a weak governance environment.

4.3 Takeover Returns in M&A Deals: Prior Relationships and Experience of Private Equity Firms in Cross-Border M&A Deals

Our results so far suggest that private equity firms can play a role in overcoming information asymmetries in cross-border M&As, especially in transactions where information problems are likely to be large. We hypothesized that this role may stem from the international networks and connections of private equity

firms. To investigate more closely the function of these networks and the economic channel behind our prior results, we perform two types of analyses.

The first analysis exploits a measure of the relationships that were created by private equity-backers through their involvement in prior cross-border deals. Ideally, we would like to measure the overall number of all prior business relationships that could help overcoming information asymmetries in future transactions (i.e., relationships with international accounting firms, law firms, consultancy firms and other private equity firms). While we do not have data on relationships with accounting, law or consultancy firms, we are able to measure the relationships that were created with other private equity firms. To do this, we first calculate for each cross-border deal ('d') with private equity-backing over the period 1990 to 2010 the total number of the involved private equity firms on both acquirer or target sides ('n'). We focus on cross-border transactions as such deals are more likely to result in international networks of contacts and connections, as opposed to domestic deals where mostly local networks and expertise can be used. Second, we calculate for each private equity backer 'j' the total number of prior relationships across all prior deals to get an estimate of the total number of collaborations of private equity-backer 'j'. We sum all relationships that occurred two, three or five years prior to a deal, respectively. Third, for each private-equity backed acquisition, we then calculate the average number of all relationships across all private equity firms backing the acquirer. This measure captures for each private equity-backed acquisition the average scope of the international networks of all involved private equity firms.

Using this measure, we test whether the announcement effects of new acquisitions are larger if the private equity-backers of the acquirers can rely on a large

network of many international relationships.²³ Table V provides OLS regressions for all deals for which we observe private equity-backing on the acquirer side.²⁴ As our main independent variables, we now include our measures of the scope of the prior relationships of private equity-backers owning an acquirer. Across all three measures of prior relationships, we find that the announcement returns in private equity-backed acquisitions are larger if the involved private equity firms can rely on a larger network of connections that stem from their prior involvement in other cross-border deals.

The second analysis looks more directly at the average number of prior cross-border transactions in which the private equity firms that are backing an acquirer have been involved in. This captures the idea that more experienced private equity firms might create more value for their portfolio companies. For each private equity-backer, we measure the number of prior cross-border transactions in which the backer has been involved in over the past two, three or five years prior to an acquisition. As before, we calculate averages across all private equity firms backing an acquirer. Again, we focus on cross-border transactions rather than domestic deals as they are more likely to result in international networks of contacts and connections. We assume that private equity firms that have been involved in many prior cross-border deals not only have more experience with such deals but also, as a result, a larger network of contacts and connections. We therefore test whether prior experience and the resulting greater network of contacts and connections may be useful for overcoming information problems in future deals of acquirers which they back.

²³ As this variable is skewed we run regressions with both the logarithm of the variable.

²⁴ To study the role of prior experience from cross-border deals in private equity-backed acquirers, this analysis includes all M&A deals as a sample using only cross-border deals with private equity-backing would leave us with only 79 observations. The documented effects hold independently of whether we look at cross-border or domestic deals. This suggests that the prior relationships of private equity firms that back an acquirer not only help in cross-border deals but also have positive spillover effects for domestic transactions.

To test this notion empirically, Table VI provides again OLS regressions for all deals for which we observe private equity-backing on the acquirer side. As in the previous analysis, the dependent variables in these regressions are acquirer announcement returns. As our main independent variables, we now include our measures of the average prior experience of the private equity-backers owning an acquirer and interactions of these variables with measures for the governance and information environment in target countries.

Interestingly, the results show that a larger number of prior cross-border deals itself is negatively related to acquirer announcement returns, suggesting that our prior results on private equity-relationships do not simply proxy for the extent of their cross-border deal involvement. However, prior experience seems to be positively related to announcement returns if the target is from a country where problems of information asymmetries are likely to be large and, consequently, where connections and networks from prior transactions may be more valuable.²⁵ In terms of economic magnitude, the regressions in column 2, for example, suggest that an increase in the number of prior cross-border deals over the last 3 years by one standard deviation (4.53) increases announcement returns by $((3.084 * \ln(4.53) * 1) - (1.473 * \ln(4.53))) = 2.43\%$ if a target is in a country with low corporate governance. This compares to a negative announcement return of -2.22% if a target is not located in a country with low governance. This substantial difference suggests that it is the combination of prior cross-border experience and target location in a low governance country that is associated with value creation (rather than value destruction) if private equity firms are involved.

²⁵ The effects are economically similar but statistically weaker if we use the ICRG index instead of the World Bank governance index.

Overall, the results in this section suggest that private equity firms can play a role in overcoming information asymmetries in cross-border M&As, especially in transactions where information problems are likely to be large. They further suggest that it is probably prior experience and a network of international relationships from previous cross-border deals that provide the economic channel behind our results.

5. Endogeneity Concerns

A concern to our analysis is that private equity-backing and takeover announcement returns may be endogenously determined. Such endogeneity could arise either because causality may run from (expected future) announcement returns to private equity-backing (reverse causality) or because firms with and without private equity-backing may be systematically different from each other. We perform several tests to mitigate these concerns and to strengthen our empirical identification.

5.1 Reverse Causality: Selection versus Influence

One concern to our analysis is that the possibility of profitable future M&A deals might attract private equity-backers to ‘cherry-pick’ certain companies in which they invest in. Thus, the potential for profitable future acquisitions may drive private equity-backing through a selection effect, rather than private equity-backing driving the undertaking of profitable acquisitions through an influence effect (e.g., through the connections of the private equity firms). We address the importance of selection relative to influence effects by examining two types of subsamples.

The first set of subsamples drops any private equity-backed acquirer who received private equity-backing within 2, 3, or 4 years prior to the acquisition announcement. The rationale is that it is unlikely that a private equity-backer could

foresee an acquisition several years in advance, making it unlikely that the prospect of a profitable future acquisition would drive private equity-backing (the selection effect). The results reported in Table VII show that our main findings are robust to excluding acquirers who obtained ‘recent’ private equity-backing. That is, the main results are unlikely to merely reflect the possibility that private equity-backers self-select into portfolio companies simply to take advantage of the possibility of an upcoming acquisition.

The second set of subsamples is created based upon (i) an acquirer’s size and (ii) an acquirer’s size relative to that of the target. We create these subsamples to identify a set of acquisitions where it is plausible to assume that private equity involvement in the acquirer does not primarily stem from the need to finance an anticipated profitable acquisition (which would also be a manifestation of a selection rather than influence effect).

We create these subsets using the following rationale: If an acquirer faces a situation where it is unable to finance a deal even though it might create value, then a private equity-backer is more likely to provide ‘mere’ financing without really contributing to value-creation through facilitating a cross-border acquisition via its network and connections. To the contrary, if the acquirer can finance the deal, then the acquirer is less likely to obtain private equity-backing for mere purposes of financing (as opposed to value-added services such as facilitating a cross-border acquisition). Thus, endogeneity concerns from selection issues are less likely to hold for the set of acquirers that can finance acquisitions themselves. Building on this logic, we assume that an acquirer is more likely to be able to finance the deal itself if (i) it is large or (ii) it is large relatively to the size of the target. Thus, selection effects

are less plausible for the set of large acquirers and/or the set of relatively ‘small’ deals (i.e., deals where the target is small relative to the acquirer).

The results from models using these subsamples are reported in Table VIII. The estimates show that the interaction term of acquirer private equity-backing times target country-governance is positive in all and statistically significant in most subsamples. As outlined above, this mitigates concerns that our results are driven by private equity firms cherry-picking cash-poor firms to enable them to pursue a profitable acquisition they could not otherwise afford.

Taken together, our subsample analyses suggest that endogeneity problems due to selection effects are unlikely to drive our main results.

5.2 Systematic Differences Across Acquirers

A further concern to our analysis is that private equity-backed acquirers (“treatment firms”) might systemically differ from non-private equity-backed acquirers (“control firms”). We try to address this concern in two ways.

First, we use a propensity score approach that aims at adjusting for differences between acquirers and non-acquirers. To this end, we estimate a first-stage model to predict the likelihood that an acquirer receives private equity-backing (see Table IX). We try to include independent variables that are related to the propensity of an individual firm to receive private equity-backing and that are as exogenous as possible to announcement returns in specific cross-border acquisitions (e.g., country-wide and industry-wide levels of private equity-backing). Using this model, we calculate the propensity scores of each firm as the predicted values from this model. For the set of private equity-backed acquirers we then construct a distribution of propensity scores and we exclude any non-private equity-backed acquirer whose propensity score is in

the top 10% or bottom 10% tail of this propensity score distribution. We do this to exclude those non-private equity-backed acquirers (“control firms”) from sample that might be systematically different from those with private equity-backing (“treatment firms”). Table X reports results that use such a restricted sample of “control firms” based upon our propensity score approach. The table shows that our results are consistent with the previous results on acquirer private equity-backing and announcement returns.

Second, we use a weighting method and weight the covariance matrix by the likelihood that a firm receives private equity-backing (see Frölich (2004) and Nichols (2007)). We do this to put more weight on observations from “control firms” that are similar to our “treatment firms”. First, we estimate the first stage regression reported in Table IX and obtain the predicted values from this regression. Second, we calculate a weighting variable which is defined as $\text{Weight} = \text{Prob}(\text{Acquirer PE Backing}) / (1 - \text{Prob}(\text{Acquirer PE Backing}))$, where $\text{Prob}(\cdot)$ is the probability (propensity score) that an acquirer is private equity-backed, estimated using the first stage regression model. Third, we weight the covariance matrix using the weights calculated in the previous step if an observation is an acquirer that is not backed by a private equity firm (we only weight observations from control group firms). We thereby give more weight to non-private equity-backed firms that are “similar” to those that are private equity-backed. The results using this weighting estimator are reported in Table XI and support the main results vis-à-vis acquirer private equity-backing and CARs.

6. Conclusions

Cross-border M&A has become increasingly important. Subsequently, we aim to contribute to the understanding of the ways in which cross-border transactions can be facilitated, and the mechanisms through which the inherent problems of

information asymmetry can be reduced. In our analysis, we focus on one possible channel, namely the role of private equity firms. We find that firms that are private equity-owned are more likely to become targets in cross-border M&A transactions. Interestingly, we find that private equity presence is particularly strong in cross-border transactions that are solicited, i.e., transactions where the target or the target shareholders actively reach out for an acquirer. It is likely that this reaching-out is performed or, at least, facilitated by the private equity-owners.

When we study the valuation effects of private equity firms in cross-border transactions, we find that, on average, cross-border deals with private equity involvement in either the target or the acquirer are not associated with higher announcement returns. However, we find that announcement returns of acquirers in cross-border deals are higher if the acquirer is owned by a private equity firm and the target is from a country with a poor information environment. Moreover, we find that announcement returns are higher if private equity-backers have larger international networks and if they have been involved in many prior cross-border deals.

Taken together, our findings suggest that private equity firms can help reducing information asymmetries in cross-border M&A deals. We perform several analyses to mitigate the concern that endogeneity issues are driving our results.

References

- Ahern, K.R., Daminelli, D., Fracassi, C., 2011, Lost in translation? The effect of cultural values on mergers around the world, *Journal of Financial Economic*, forthcoming.
- Aizenman, J., Kendall, J., 2008, The internationalization of venture capital and private equity, Working Paper, NBER.
- Barry, C.B., Muscarella, C.J., Peavy, J.W., Vetsuypens, M.R., 1990, The role of venture capital in the creation of public companies: Evidence from the going-public process, *Journal of Financial Economics* 27, 447-471.
- Bloomberg, 2010, Cross-border M&A increases MergerID traffic, Bloomberg Press Release
- Bottazzi, L., Da Rin, M., Hellman, T., 2008, Who are the active investors? Evidence from venture capital, *Journal of Financial Economics* 89, 488-512.
- Bruno, V., Claessens, S., 2010, Corporate governance regulation: Can there be too much of a good thing?, *Journal of Financial Intermediation* 19, 461-482.
- Chang, S., 1998, Takeovers of privately held targets, method of payment, and bidder returns, *Journal of Finance* 53, 773-784.
- Cumming, D., 2007, Government policy towards entrepreneurial finance: Innovation investment funds, *Journal of Business Venturing* 22, 193-235.
- Cumming, D., Walz, U., 2010, Private equity returns and disclosure around the world. *Journal of International Business Studies* 41, 727-754.
- Cotter, J., Peck S., 2001, The structure of debt and active equity investors: The case of the buyout specialist, *Journal of Financial Economics* 59, 101-147.
- Demiroglu, C., James, C., 2010, The role of private equity group reputation in LBO financing, *Journal of Financial Economics* 96, 306-330.

- Ellis, J.A., Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2011, Globalization, governance, and the returns to cross-border acquisitions, Working Paper, NBER.
- Erel, I., Liao, R.C., Weisbach, M.S., 2011, Determinants of cross-border mergers and acquisitions, *Journal of Finance*, forthcoming.
- European Venture Capital Association, 2007, Guide on private equity and venture capital for entrepreneurs, EVCA Special Paper.
- Ferreira, M.A., Massa, M., Matos, P., 2010, Shareholders at the gate? Institutional investors and cross-border mergers and acquisitions, *Review of Financial Studies* 23, 601-644.
- Frölich, Markus, 2004, Finite-sample properties of propensity-score matching and weighting estimators, *Review of Economics and Statistics* 86, 77-90.
- Fuller, K., Netter, J., Stegemoller, M., 2002, What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions, *Journal of Finance* 57, 1763-1794.
- Harford, J., 1999, Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969-1997.
- Harford, J., Humphery-Jenner, M.L., Powell, R.G., 2012, The sources of value destruction in acquisitions by entrenched managers, *Journal of Financial Economics*, forthcoming.
- Hochberg, Y.V., Ljungqvist, A., Lu, Y., 2007, Whom You Know Matters: Venture Capital Networks and Investment Performance, *Journal of Finance* 62, 251-302.
- Hochberg, Y.V., Ljungqvist, A., Lu, Y., 2010, Networking as a Barrier to Entry and the Competitive Supply of Venture Capital, *Journal of Finance* 65, 829-859.
- Humphery-Jenner, M.L., 2012, Stimulating innovation through government investment in venture funds, Working Paper University of New South Wales.

- Humphery-Jenner, M.L., Powell, R.G., 2011, Firm size, takeover profitability and the effectiveness of the market for corporate control: Does the absence of anti-takeover provisions make a difference? *Journal of Corporate Finance* 17, 418-437.
- Ivashina, V., Kovner A., 2011, The private equity advantage: Leveraged buyout firms and relationship banking, *Review of Financial Studies* 24, 2462-2498.
- John, K., Freund, S., Nguyen, D., Vasudevan, G.K., 2010, Investor protection and cross-border acquisitions of private and public targets, *Journal of Corporate Finance* 16, 259-275.
- Kaplan, S., Strömberg, P., 2009, Leveraged buyouts and private equity, *Journal of Economic Perspectives* 23, 121-146.
- Karolyi, G.A., Liao, R., 2011, What is different about government-controlled acquirers in cross-border deals?, Working paper, Ohio State University.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131-1150.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R.W., 1998, Law and finance, *Journal of Political Economy* 106, 1113-1155.
- Lerner, J., 1994, The syndication of venture capital investments, *Financial Management* 23, 16-27.
- Leuz, C, K. Lins, and F. Warnock, 2009, Do foreigners invest less in poorly governed firms?, *Review of Financial Studies* 22, 3245-3285.
- Loughran, T. and J.R. Ritter, 2002, Why don't issuers get upset about leaving money on the table in IPOs?, *Review of Financial Studies* 15, 413-443.
- Maloney, M.T., McCormick, R.E., Mitchell, M.L., 1993, Managerial decision making and capital structure, *Journal of Business* 66, 189-217.

- Masulis, R.W., Wang, C., Xie, F., 2007, Corporate governance and acquirer returns, *Journal of Finance* 62, 1851-1889.
- Mayer, C., Schoors, K., Yafeh, Y., 2005, Sources of funds and investment activities of venture capital funds: Evidence from Germany, Israel, Japan and the United Kingdom. *Journal of Corporate Finance* 11, 586-608.
- McCahery, J., Sautner, Z., Starks, L., 2011, Behind the scenes: The corporate governance preferences of institutional investors, Working Paper University of Amsterdam.
- Meggison, W., 2004, Towards a global model of venture capital, *Journal of Applied Corporate Finance* 16, 89-107.
- Moeller, S.B., Schlingemann, F.P., 2005, Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions, *Journal of Banking and Finance* 29, 533-564.
- Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2004, Firm size and the gains from acquisitions, *Journal of Financial Economics* 73, 201-228.
- Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2005, Wealth destruction on a massive scale? A study of acquiring-firm returns in the recent merger wave, *Journal of Finance* 60, 757-782.
- Nichols, A, 2007, Causal inference with observational data, *The STATA Journal* 7: 507-541.
- Pinkowitz, L., Stulz, R., Williamson R., 2006, Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis, *Journal of Finance* 61, 2725-2751.
- Prequin, 2011, The Prequin quarterly: Private equity, Prequin Research Report.

Rossi, S., Volpin P., 2004, Cross-country determinants of mergers and acquisitions, *Journal of Financial Economics* 74, 277-304.

Spamann, H., 2010, The “Antidirector Rights Index” revisited, *Review of Financial Studies* 23, 467-486.

Wright, M., Pruthi, S., Lockett, A., 2005, International venture capital research: From cross-country comparisons to crossing borders, *International Journal of Management Reviews* 7, 135-165.

Table I
M&A Transactions: Descriptive Statistics

This table provides summary statistics of 17409 M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries. The table reports sample averages calculated at the acquirer-level. To be included in the sample, we require that a deal is completed, the acquirer is publicly listed, the deal is for 100% control, and that the deal value is at least USD 1m. The data source is SDC Platinum. The table reports statistics also for different subsamples. We separate the sample based on (i) whether a deal was a cross-border M&A deal or a domestic M&A deal; (ii) whether or not the target or acquirer were backed by a private equity firm; (iii) whether or not the acquirer was backed by a private equity firm; (iv) whether or not the target was backed by a private equity firm. The firm- or country-level variables reported are calculated at the level of the acquirer. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Sample	Whole Sample	Cross-Border M&A	Domestic M&A	Difference	Any PE Backing	No Acquirer or Target PE Back.	Difference	Acquirer PE Backing	No Acquirer PE Backing	Difference	Target PE Backing	No Target PE Backing	Difference
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
				= [2]-[3]			= [5]-[6]			= [8]-[9]			= [11]-[12]
Deal Characteristics													
I(Cross-Border M&A)	0.256	1.000	0.000	1.000	0.356	0.251	0.105***	0.315	0.255	0.060**	0.371	0.252	0.120***
I(Solicited Cross-Border M&A)	0.092	0.358	0.000	0.358***	0.216	0.086	0.130***	0.108	0.091	0.016	0.266	0.086	0.180***
I(Any PE Backing)	0.046	0.064	0.040	0.024	1.000	0.000	1.000	1.000	0.032	0.968	1.000	0.014	0.986
I(Acquirer PE Backing)	0.014	0.018	0.013	0.004**	0.315	0.000	0.315	1.000	0.000	1.000	0.045	0.013	0.031***
I(Target PE Backing)	0.032	0.047	0.027	0.020***	0.704	0.000	0.704	0.100	0.031	0.068***	1.000	0.000	1.000
I(Diversifying)	0.672	0.667	0.673	-0.006	0.705	0.670	0.035**	0.689	0.671	0.018	0.713	0.670	0.042**
I(Multiple Bidders)	0.007	0.008	0.007	0.001	0.004	0.008	-0.004	0.004	0.008	-0.004	0.002	0.008	-0.006
I(Tender Offer)	0.044	0.062	0.038	0.024***	0.031	0.045	-0.013*	0.036	0.044	-0.008	0.029	0.045	-0.016*
I(Friendly Deal)	0.985	0.980	0.987	-0.006***	0.937	0.987	-0.050***	0.980	0.985	-0.005	0.914	0.987	-0.073***
I(Cash Payment)	0.260	0.315	0.241	0.073***	0.324	0.257	0.067***	0.283	0.260	0.023	0.334	0.258	0.076***
I(Stock Payment)	0.139	0.082	0.159	-0.077***	0.079	0.142	-0.063***	0.127	0.140	-0.012	0.059	0.142	-0.083***
I(Public Target)	0.127	0.119	0.130	-0.011*	0.101	0.128	-0.028	0.127	0.127	0.001	0.084	0.128	-0.044***
I(Private Target)	0.532	0.511	0.539	-0.029***	0.309	0.543	-0.234***	0.534	0.532	0.002	0.205	0.543	-0.337***
I(Target Gov Owned)	0.007	0.010	0.006	0.005***	0.011	0.007	0.005	0.012	0.007	0.005	0.011	0.007	0.004
I(Acquirer Gov Owned)	0.005	0.010	0.003	0.007***	0.008	0.005	0.003	0.004	0.005	-0.001	0.011	0.005	0.006**
Firm-Level Variables													
Assets (2009 USDm)	2743557	4296362	2210016	2086346***	4026651	2682078	1344573	2151440	2752219	-600779	4919812	2671226	2248586***
Market Cap (2009 USDm)	5644	11671	4008	7,663***	6608	5594	1014	1576	5712	-4136	8899	5529	3,370
Deal Value/Market Capitalization	0.339	0.360	0.332	0.029	0.286	0.342	-0.056	0.287	0.340	-0.053	0.285	0.341	-0.056
EBITDA/Assets	0.037	0.105	0.014	0.091	0.102	0.034	0.068	0.085	0.036	0.049	0.109	0.034	0.075
Debt/Assets	0.250	0.227	0.258	-0.030***	0.278	0.249	0.030***	0.285	0.249	0.036**	0.279	0.249	0.030***
Cash/Assets	0.146	0.156	0.142	0.014***	0.139	0.146	-0.008	0.168	0.146	0.022**	0.125	0.147	-0.022***
CAPEX/Sales	0.066	0.057	0.070	-0.013***	0.055	0.067	-0.012***	0.069	0.066	0.003	0.050	0.067	-0.017***
Country-Level Variables													
LLSV index	3.065	3.527	2.906	0.621***	3.176	3.060	0.116***	3.247	3.062	0.185***	3.164	3.062	0.103**
WB Governance	0.891	0.891	0.891	0.001	0.881	0.891	-0.010***	0.874	0.891	-0.017***	0.883	0.891	-0.008***
ICRG Governance	0.815	0.820	0.813	0.007***	0.805	0.815	-0.011***	0.806	0.815	-0.009***	0.803	0.815	-0.012***
Market Cap/GDP	0.013	0.013	0.013	0.000***	0.013	0.013	-0.001***	0.013	0.013	-0.001*	0.013	0.013	-0.001***
Turnover	1.059	0.978	1.087	-0.109***	1.195	1.052	0.143***	1.175	1.057	0.117***	1.208	1.054	0.154***
FDI/GDP x 1000	0.276	0.000	0.000	0.000***	0.265	0.276	-0.012	0.265	0.276	-0.011	0.263	0.276	-0.013
Unemployment (%)	5.627	6.244	5.415	0.829***	5.716	5.623	0.094	5.876	5.623	0.253**	5.659	5.626	0.033
Trade Imbalance	0.054	0.021	0.066	-0.046***	0.066	0.054	0.013***	0.053	0.055	-0.002	0.072	0.054	0.018***
Obs.	17409	4452	12957		796	16613		251	17158		560	16849	

Table II
Determinants of Cross-Border M&A Deals: The Role of Private Equity Firms

This table looks at the determinants of cross-border M&A deals. The dependent variable in columns 1 to 6 takes the value one if an M&A deal was a cross-border deal, and zero otherwise. The dependent variable in columns 7 to 12 takes the value one if an M&A deal was a cross-border deal that was solicited by the target, and zero otherwise. The sample includes M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries. To be included in the sample, we require that the deal is completed, the acquirer is publicly listed, the deal is for 100% control, and that the deal value is at least USD 1m. The data source is SDC Platinum. The firm- or country-level variables reported are calculated at the level of the acquirer unless indicated differently. The regressions are estimated using logit models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample of M&A deals used:	I(Cross-Border M&A)						I(Solicited Cross-Border M&A)					
	All Deals						All Deals					
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
I(Any PE Backing)	0.253** [0.023]			0.225* [0.061]			0.832*** [0.000]			0.781*** [0.000]		
I(Acquirer PE Backing)		0.171 [0.537]			0.137 [0.644]			-0.073 [0.810]			-0.256 [0.489]	
I(Target PE Backing)			0.253*** [0.009]			0.220** [0.037]			1.086*** [0.000]			1.066*** [0.000]
ln(Assets)	0.239*** [0.000]	0.242*** [0.000]	0.239*** [0.000]	0.239*** [0.000]	0.241*** [0.000]	0.239*** [0.000]	0.266*** [0.000]	0.273*** [0.000]	0.261*** [0.000]	0.271*** [0.000]	0.276*** [0.000]	0.265*** [0.000]
EBITDA/Assets	0.018 [0.224]	0.018 [0.226]	0.018 [0.223]	0.017 [0.263]	0.017 [0.264]	0.017 [0.262]	-0.002 [0.450]	-0.002 [0.481]	-0.002 [0.512]	-0.003 [0.268]	-0.002 [0.291]	-0.002 [0.314]
Debt/Assets	-0.651*** [0.003]	-0.645*** [0.004]	-0.647*** [0.003]	-0.708*** [0.001]	-0.702*** [0.002]	-0.706*** [0.002]	0.061 [0.723]	0.089 [0.581]	0.067 [0.692]	0.028 [0.885]	0.058 [0.754]	0.03 [0.878]
Cash/Assets	1.171*** [0.000]	1.176*** [0.000]	1.175*** [0.000]	1.106*** [0.000]	1.110*** [0.000]	1.109*** [0.000]	0.298 [0.259]	0.326 [0.221]	0.314 [0.236]	0.256 [0.348]	0.287 [0.305]	0.274 [0.318]
CAPEX/Sales	-1.802*** [0.000]	-1.820*** [0.000]	-1.801*** [0.000]	-1.825*** [0.000]	-1.837*** [0.000]	-1.824*** [0.000]	-0.57 [0.119]	-0.637* [0.076]	-0.543 [0.136]	-0.453 [0.229]	-0.492 [0.186]	-0.428 [0.255]
Deal Value/Market Capitalization	0.012 [0.205]	0.013 [0.203]	0.012 [0.205]	0.019 [0.119]	0.019 [0.117]	0.019 [0.119]	-0.015 [0.440]	-0.014 [0.452]	-0.016 [0.433]	-0.01 [0.576]	-0.01 [0.572]	-0.011 [0.572]
I(Diversifying)	-0.065 [0.368]	-0.063 [0.385]	-0.064 [0.373]	-0.074 [0.365]	-0.073 [0.376]	-0.074 [0.369]	0.008 [0.917]	0.024 [0.746]	0.008 [0.913]	0.014 [0.861]	0.027 [0.731]	0.013 [0.863]
LLSV Index	0.962*** [0.000]	0.963*** [0.000]	0.960*** [0.000]	1.281*** [0.000]	1.283*** [0.000]	1.280*** [0.000]	0.787*** [0.000]	0.785*** [0.000]	0.780*** [0.000]	0.949*** [0.000]	0.948*** [0.000]	0.946*** [0.000]
WB Governance	-4.328** [0.012]	-4.354** [0.011]	-4.276** [0.013]	-5.809** [0.013]	-5.840** [0.013]	-5.762** [0.014]	-1.319 [0.549]	-1.207 [0.585]	-1.008 [0.644]	-3.698 [0.167]	-3.597 [0.178]	-3.366 [0.208]
ICRG Governance	-1.744 [0.238]	-1.763 [0.234]	-1.749 [0.237]	6.282** [0.016]	6.285** [0.016]	6.286** [0.016]	0.058 [0.973]	-0.053 [0.975]	0.085 [0.960]	6.401** [0.030]	6.378** [0.029]	6.459** [0.029]

Table II (continued)

Target LLSV Index				-0.527***	-0.529***	-0.528***				-0.261***	-0.267***	-0.266***
				[0.000]	[0.000]	[0.000]				[0.007]	[0.006]	[0.006]
Target WB Governance				1.483	1.5	1.466				1.297	1.295	1.173
				[0.204]	[0.197]	[0.211]				[0.369]	[0.367]	[0.420]
Target ICRG Governance				-11.521***	-11.545***	-11.533***				-10.825***	-10.940***	-10.886***
				[0.000]	[0.000]	[0.000]				[0.000]	[0.000]	[0.000]
Market Cap/GDP	29.882**	29.388**	29.675**	87.078***	86.721***	86.952***	-7.549	-10.402	-7.837	-4.966	-7.668	-4.859
	[0.031]	[0.034]	[0.032]	[0.000]	[0.000]	[0.000]	[0.635]	[0.511]	[0.625]	[0.802]	[0.697]	[0.807]
Market Turnover	0.298***	0.293***	0.298***	-0.127	-0.132	-0.127	0.176	0.154	0.183	0.009	-0.018	0.021
	[0.002]	[0.002]	[0.002]	[0.387]	[0.369]	[0.387]	[0.132]	[0.185]	[0.114]	[0.962]	[0.925]	[0.913]
FDI/GDP	78.3	78.828	77.434	-154.24	-154.817	-154.965	76.904	79.528	72.206	24.596	28.017	17.555
	[0.438]	[0.436]	[0.442]	[0.222]	[0.220]	[0.219]	[0.375]	[0.361]	[0.398]	[0.826]	[0.801]	[0.874]
Unemployment	0.101***	0.102***	0.102***	0.08	0.08	0.08	-0.006	-0.006	-0.007	-0.006	-0.007	-0.006
	[0.003]	[0.003]	[0.003]	[0.118]	[0.117]	[0.118]	[0.876]	[0.872]	[0.866]	[0.903]	[0.885]	[0.888]
Trade Imbalance	1.534	1.556	1.544	5.584***	5.609***	5.604***	1.717	1.857	1.749	3.711*	3.894**	3.790*
	[0.268]	[0.262]	[0.263]	[0.003]	[0.003]	[0.003]	[0.237]	[0.194]	[0.225]	[0.061]	[0.046]	[0.055]
Target Market Cap/GDP				-95.902***	-96.079***	-95.863***				-29.618*	-29.718*	-28.958*
				[0.000]	[0.000]	[0.000]				[0.093]	[0.085]	[0.099]
Target Market Turnover				0.659***	0.661***	0.660***				0.422***	0.439***	0.417**
				[0.000]	[0.000]	[0.000]				[0.009]	[0.007]	[0.010]
Target FDI/GDP				846.742***	848.320***	847.968***				485.604***	485.470***	490.546***
				[0.000]	[0.000]	[0.000]				[0.001]	[0.002]	[0.001]
Target Unemployment				0.097***	0.097***	0.097***				0.044	0.044	0.044
				[0.005]	[0.005]	[0.005]				[0.110]	[0.104]	[0.112]
Target Trade Imbalance				-5.973***	-5.986***	-5.989***				-5.111***	-5.244***	-5.187***
				[0.000]	[0.000]	[0.000]				[0.001]	[0.001]	[0.001]
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	17,406	17,406	17,406	16,843	16,843	16,843	17,398	17,398	17,398	16,835	16,835	16,835
Pseudo R-Squared	18.04%	18.00%	18.03%	21.52%	21.49%	21.51%	12.76%	12.17%	12.98%	14.51%	14.03%	14.76%

Table III
Takeover Returns in Cross-Border M&A Deals: The Role of Private Equity Firms

This table provides univariate statistics of cumulative abnormal returns (CARs) in M&A deals. The CARs are calculated as averages at the acquirer level and estimated from five days before to five days after the takeover announcement. The sample includes M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries. The data source is SDC Platinum. The table reports CARs for the whole sample as well as separately for cross-border and domestic M&A deals. Moreover, it separates the sample based on (i) whether or not the target or acquirer were backed by a private equity firm; (ii) whether or not the acquirer was backed by a private equity firm; and (iii) whether or not the target was backed by a private equity firm. The table also reports the number of observations (Obs.) for each subcategory. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

CAR		All Deals	Cross-Border Deals	Domestic Deals	Difference
		[1]	[2]	[3]	[4]
All Deals	[1]	1.904***	2.165***	1.815***	0.350**
<i>Obs.</i>		17409	4452	12957	
Any PE Backing	[2]	1.730***	2.585***	1.258***	1.327**
<i>Obs.</i>		796	283	513	
No PE Backing	[3]	1.913***	2.136***	1.838***	0.298**
<i>Obs.</i>		16613	4169	12444	
Difference	[4]	-0.183	0.448	-0.580	1.028*
Acquirer PE Backing	[5]	1.933***	3.021***	1.433**	1.588
<i>Obs.</i>		251	79	172	
No Acquirer PE Backing	[6]	1.904***	2.149***	1.820***	0.329**
<i>Obs.</i>		17158	4373	12785	
Difference	[7]	0.029	0.872	-0.387	1.258
Target PE Backing	[8]	1.477***	2.335***	0.969***	1.366**
<i>Obs.</i>		560	208	325	
No Target PE Backing	[9]	1.919***	2.156***	1.838***	0.318**
<i>Obs.</i>		16849	4244	12605	
Difference	[10]	-0.442	0.179	-0.869**	1.048

Table IV
Takeover Returns in Cross-Border M&A Deals: Regression Analysis

This table looks at the determinants of cumulative abnormal returns (CARs) in cross-border M&A deals. The CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. The sample includes cross-border M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries. The data source is SDC Platinum. The firm- or country-level variables reported are calculated at the level of the acquirer unless indicated differently. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample of M&A deals used:	CAR								
	All Cross-Border Deals								
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
I(Any PE Backing)	0.405 [0.416]			-0.300 [0.605]			-0.198 [0.725]		
I(Acquirer PE Backing)		0.618 [0.561]			-2.018* [0.098]			-2.218* [0.074]	
I(Target PE Backing)			0.171 [0.741]			0.125 [0.855]			0.275 [0.680]
I(Any PE Backing) x I(Low Target ICRG Gov.)				1.895** [0.036]					
I(Acquirer PE Backing) x I(Low Target ICRG Gov.)					5.706*** [0.003]				
I(Target PE Backing) x I(Low Target ICRG Gov.)						0.163 [0.868]			
I(Low Target ICRG Gov.)				0.046 [0.879]	0.053 [0.853]	0.183 [0.546]			
I(Any PE Backing) x I(Low Target WB Gov.)							1.971** [0.039]		
I(Acquirer PE Backing) x I(Low Target WB Gov.)								6.339*** [0.001]	
I(Target PE Backing) x I(Low Target WB Gov.)									-0.272 [0.800]
I(Low Target WB Gov.)							0.175 [0.526]	0.161 [0.546]	0.317 [0.246]
WB Governance	8.242 [0.441]	8.191 [0.446]	8.443 [0.432]	8.375 [0.435]	8.262 [0.441]	8.526 [0.428]	8.481 [0.424]	8.884 [0.400]	8.722 [0.417]
ICRG Governance	-4.828 [0.473]	-4.888 [0.468]	-4.904 [0.466]	-4.848 [0.469]	-4.575 [0.493]	-5.012 [0.457]	-5.035 [0.452]	-4.802 [0.471]	-5.323 [0.430]
LLSV Index	1.769 [0.380]	1.773 [0.380]	1.751 [0.385]	1.758 [0.381]	1.758 [0.381]	1.774 [0.376]	1.773 [0.374]	1.711 [0.392]	1.78 [0.372]
ln(Assets)	-0.530*** [0.000]	-0.526*** [0.000]	-0.530*** [0.000]	-0.530*** [0.000]	-0.526*** [0.000]	-0.531*** [0.000]	-0.532*** [0.000]	-0.525*** [0.000]	-0.532*** [0.000]

Table IV (continued)

Deal Value/Market Capitalization	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.031
	[0.280]	[0.281]	[0.279]	[0.283]	[0.280]	[0.279]	[0.282]	[0.280]	[0.278]
EBITDA/Assets	0.159***	0.159***	0.159***	0.159***	0.159***	0.158***	0.159***	0.159***	0.158***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Debt/Assets	1.448*	1.449*	1.472*	1.459*	1.508*	1.462*	1.429*	1.506*	1.473*
	[0.078]	[0.080]	[0.072]	[0.073]	[0.067]	[0.073]	[0.082]	[0.067]	[0.073]
Cash/Assets	-0.678	-0.674	-0.666	-0.709	-0.69	-0.694	-0.736	-0.683	-0.693
	[0.392]	[0.397]	[0.401]	[0.371]	[0.381]	[0.384]	[0.353]	[0.384]	[0.382]
CAPEX/Sales	-0.543	-0.62	-0.546	-0.651	-0.866	-0.57	-0.679	-0.952	-0.559
	[0.756]	[0.724]	[0.755]	[0.710]	[0.629]	[0.745]	[0.698]	[0.594]	[0.750]
I(Diversifying)	0.096	0.101	0.098	0.095	0.097	0.094	0.092	0.093	0.089
	[0.665]	[0.650]	[0.662]	[0.669]	[0.664]	[0.673]	[0.680]	[0.678]	[0.688]
I(Multiple Bidders)	-0.077	-0.081	-0.087	-0.129	-0.105	-0.092	-0.116	-0.117	-0.093
	[0.950]	[0.947]	[0.944]	[0.916]	[0.931]	[0.940]	[0.924]	[0.924]	[0.940]
I(Tender Offer)	0.855	0.848	0.845	0.882	0.86	0.875	0.915	0.863	0.9
	[0.251]	[0.254]	[0.256]	[0.237]	[0.249]	[0.240]	[0.225]	[0.256]	[0.231]
I(Friendly Deal)	-0.856	-0.952	-0.922	-1.011	-1.026	-0.952	-0.945	-1.041	-0.929
	[0.379]	[0.309]	[0.332]	[0.301]	[0.287]	[0.320]	[0.336]	[0.278]	[0.331]
I(Cash Payment)	-0.077	-0.08	-0.076	-0.083	-0.084	-0.075	-0.072	-0.085	-0.075
	[0.779]	[0.769]	[0.781]	[0.760]	[0.759]	[0.785]	[0.793]	[0.755]	[0.783]
I(Stock Payment)	-0.473	-0.473	-0.476	-0.47	-0.471	-0.47	-0.464	-0.448	-0.463
	[0.360]	[0.359]	[0.357]	[0.363]	[0.361]	[0.365]	[0.375]	[0.388]	[0.375]
I(Public Target)	-1.687***	-1.710***	-1.693***	-1.707***	-1.719***	-1.706***	-1.723***	-1.707***	-1.698***
	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.003]	[0.002]	[0.003]	[0.003]
I(Private Target)	-0.957***	-0.987***	-0.971***	-0.959***	-0.981***	-0.971***	-0.972***	-0.987***	-0.969***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Market Cap/GDP	-7.978	-8.089	-8.826	-7.776	-11.183	-6.891	-4.701	-6.623	-6.038
	[0.927]	[0.926]	[0.919]	[0.929]	[0.897]	[0.937]	[0.957]	[0.940]	[0.944]
Market Turnover	-0.798	-0.797	-0.804	-0.807	-0.772	-0.808	-0.818	-0.784	-0.825
	[0.127]	[0.127]	[0.123]	[0.121]	[0.138]	[0.121]	[0.119]	[0.135]	[0.115]
FDI/GDP	-329.011	-325.744	-327.279	-325.358	-343.027	-329.161	-326.522	-351.61	-333.449
	[0.383]	[0.388]	[0.385]	[0.389]	[0.364]	[0.384]	[0.385]	[0.351]	[0.376]
Unemployment	-0.054	-0.054	-0.055	-0.044	-0.037	-0.047	-0.038	-0.03	-0.043
	[0.704]	[0.706]	[0.704]	[0.763]	[0.799]	[0.744]	[0.790]	[0.839]	[0.766]
Trade Imbalance	9.05	9.01	9.051	9.375	9.096	9.409	9.638	9.482	9.566
	[0.136]	[0.137]	[0.137]	[0.123]	[0.132]	[0.122]	[0.112]	[0.116]	[0.116]
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452	4,452
R-squared	4.50%	4.40%	4.40%	4.50%	4.70%	4.40%	4.50%	4.70%	4.50%

Table V**Takeover Returns in M&A Deals: Prior Relationships of Private Equity Firms from Cross-Border Deals**

This table looks at the determinants of cumulative abnormal returns (CARs) in M&A deals with private equity-backing on the acquirer side. The CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. The main independent variables (# Prior CB Relationships Last X Years) measure the average number of prior relationships with other private equity firms that the private equity firms that are backing an acquirer have been established over the past 2, 3, and 5 years prior to an acquisition, respectively. We create these variables in the following way. First, we calculate for each cross-border deal ('d') over the period 1990 to 2010 with private equity backing the total number of the involved private equity firms on the acquirer or target side ('n'). Private equity-backer 'j' thus forms 'n-1' relationships in deal 'd'. Second, we sum for each private equity firm 'j' the total number of prior relationships across all prior deals to get total number of collaborations for backer 'j'. We sum all the relationships that occurred two, three or five years prior to a deal, respectively. Third, for each deal 'd', we then calculate the average number of all relationships across all private equity firms involved in an acquirer firms. The variables averages (standard deviations) are 16.3, 17.5, and 20.4 (25.6, 26.2, and 26.8), respectively. The sample includes M&A deals with private equity-backing in the acquirer between 1996 and 2008. The variables contain the same set of controls as the regressions in Table IV. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent variable Sample of M&A deals used	CAR		
	All Deals with Acquirer PE Backing		
	[1]	[2]	[3]
ln(# Prior CB Relationships Last 2Y)	0.052*** [0.005]		
ln(# Prior CB Relationships Last 3Y)		0.054*** [0.002]	
ln(# Prior CB Relationships Last 5Y)			0.045** [0.036]
Control Variables as in Table IV	YES	YES	YES
Year Fixed Effects	YES	YES	YES
Country Fixed Effects	YES	YES	YES
Observations	237	237	237
R-squared	29.80%	30.10%	29.40%

Table VI

Takeover Returns in M&A Deals: Prior Experience of Private Equity Firms in Cross-Border Deals

This table looks at the determinants of cumulative abnormal returns (CARs) in M&A deals with private equity-backing on the acquirer side. The CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. The main independent variables (# Prior CB Deals Last X Years) measure the average number of prior cross-border M&A deals that the private equity firms that are backing the acquirers have been involved in over the past 2, 3, and 5 years prior to an acquisition, respectively. The variables averages (standard deviations) are 0.24, 0.35, and 0.44 (3.02, 4.53, and 6.24), respectively. The three variables are interacted with a dummy variable that takes the value one if a target’s country has an index value which is in the bottom 25% of the World Bank governance index (“Low Target WB Gov.”). For robustness, we also report results with the logarithm of “# Prior CB Deals Last X Years”. The sample includes M&A deals with private equity-backing in the acquirer between 1996 and 2008. The variables contain the same set of controls as the regressions in Table IV. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample of M&A deals used	CAR			
	All Deals with Acquirer PE Backing			
	[1]	[2]	[3]	[4]
ln(# Prior Deals)	-0.923*			
	[0.067]			
ln(# Prior Deals) x I(Low Target WB Gov.)	1.239*			
	[0.083]			
ln(# Prior CB Deals Last 2Y)		-1.851**		
		[0.014]		
ln(# Prior CB Deals Last 2Y) x I(Low Target WB Gov.)		3.517**		
		[0.020]		
ln(# Prior CB Deals Last 3Y)			-1.473*	
			[0.072]	
ln(# Prior CB Deals Last 3Y) x I(Low Target WB Gov.)			3.084**	
			[0.047]	
ln(# Prior CB Deals Last 5Y)				-0.987
				[0.271]
ln(# Prior CB Deals Last 5Y) x I(Low Target WB Gov.)				1.384
				[0.391]
I(Low Target WB Gov.)	-0.612	0.089	0.781	2.328
	[0.792]	[0.962]	[0.656]	[0.175]
Control Variables as in Table IV	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES
Observations	241	251	251	251
R-squared	30.60%	32.80%	32.80%	30.60%

Table VII
Selection versus Influence: Sample Restricted by Year of First Private Equity Investment

This table looks at the determinants of CARs in cross-border M&A deals. The CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. This table restricts the set of acquirer private equity-backed deals based upon the year of first investment by a private equity firm. Here, we drop any acquirer who first received private equity-backing within 2, 3, or 4 years of the acquisition announcement. For example, in Column 1, we drop any private equity-backed acquirers who first received private equity-backing within 2 years of the acquisition announcement. The firm- or country-level variables reported are calculated at the level of the acquirer unless indicated differently. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample of M&A deals used: First PE investment at least this many years ago:	CAR					
	All Cross-Border Deals					
	2 Years	3 Years	4 Years	2 years	3 years	4 years
	[1]	[2]	[3]	[4]	[5]	[6]
I(Acquirer PE Backing)	-3.289*** [0.008]	-3.612*** [0.004]	-3.584** [0.015]	-3.306*** [0.006]	-3.622*** [0.004]	-3.599** [0.012]
I(Low Target ICRG Gov.)	0.037 [0.898]	0.04 [0.888]	0.037 [0.899]			
I(Acquirer PE Backing) x I(Low Target ICRG Gov.)	6.627*** [0.001]	7.170*** [0.000]	7.963*** [0.000]			
I(Low Target WB Gov.)				0.137 [0.607]	0.139 [0.602]	0.138 [0.605]
I(Bidder PE Backing) x I(Low Target WB Gov.)				6.927*** [0.001]	7.498*** [0.000]	8.361*** [0.000]
LLSV Index	1.73 [0.389]	1.736 [0.387]	1.759 [0.380]	1.679 [0.401]	1.679 [0.400]	1.697 [0.395]
WB Governance	7.945 [0.461]	7.93 [0.462]	7.708 [0.475]	8.635 [0.417]	8.678 [0.414]	8.51 [0.422]
ICRG Governance	-3.543 [0.601]	-3.615 [0.593]	-3.516 [0.603]	-3.949 [0.558]	-4.046 [0.548]	-3.971 [0.555]
ln(Assets)	-0.518*** [0.000]	-0.519*** [0.000]	-0.521*** [0.000]	-0.517*** [0.000]	-0.519*** [0.000]	-0.521*** [0.000]
Deal Value/Market Capitalization	-0.03 [0.278]	-0.03 [0.277]	-0.03 [0.277]	-0.03 [0.278]	-0.03 [0.277]	-0.03 [0.277]
EBITDA/Assets	0.160*** [0.000]	0.160*** [0.000]	0.159*** [0.000]	0.159*** [0.000]	0.159*** [0.000]	0.158*** [0.000]
Debt/Assets	1.678** [0.042]	1.677** [0.042]	1.644** [0.049]	1.662** [0.045]	1.659** [0.045]	1.623* [0.053]
Cash/Assets	-0.606 [0.440]	-0.633 [0.424]	-0.662 [0.402]	-0.608 [0.436]	-0.634 [0.420]	-0.663 [0.398]
CAPEX/Sales	-0.901 [0.620]	-0.913 [0.617]	-1.022 [0.574]	-0.965 [0.596]	-0.983 [0.589]	-1.102 [0.543]
I(Diversifying)	0.086 [0.709]	0.082 [0.722]	0.072 [0.755]	0.081 [0.724]	0.077 [0.738]	0.066 [0.773]
I(Multiple Bidders)	-0.043 [0.972]	-0.036 [0.977]	-0.028 [0.982]	-0.048 [0.969]	-0.041 [0.973]	-0.034 [0.978]
I(Tender Offer)	0.87 [0.243]	0.869 [0.245]	0.879 [0.238]	0.892 [0.238]	0.89 [0.239]	0.902 [0.232]
I(Friendly Deal)	-1.074 [0.270]	-1.08 [0.269]	-1.046 [0.287]	-1.083 [0.262]	-1.089 [0.261]	-1.055 [0.279]
I(Cash Payment)	-0.075 [0.783]	-0.077 [0.777]	-0.088 [0.748]	-0.077 [0.775]	-0.08 [0.768]	-0.092 [0.738]
I(Stock Payment)	-0.497 [0.335]	-0.497 [0.334]	-0.508 [0.324]	-0.49 [0.344]	-0.491 [0.344]	-0.502 [0.334]
I(Public Target)	-1.807*** [0.001]	-1.803*** [0.001]	-1.801*** [0.001]	-1.815*** [0.001]	-1.811*** [0.001]	-1.810*** [0.001]
I(Private Target)	-0.948*** [0.000]	-0.947*** [0.000]	-0.937*** [0.001]	-0.950*** [0.000]	-0.950*** [0.000]	-0.940*** [0.001]
Market Cap/GDP	-8.965 [0.918]	-8.985 [0.917]	-7.796 [0.928]	-3.275 [0.971]	-2.908 [0.974]	-1.033 [0.991]
Market Turnover	-0.748 [0.150]	-0.749 [0.149]	-0.746 [0.149]	-0.76 [0.147]	-0.762 [0.145]	-0.759 [0.146]
FDI/GDP	-351.132 [0.351]	-355.42 [0.346]	-365.368 [0.335]	-360.305 [0.337]	-365.244 [0.331]	-376.56 [0.319]
Unemployment	-0.019 [0.895]	-0.019 [0.897]	-0.02 [0.891]	-0.016 [0.916]	-0.015 [0.918]	-0.016 [0.912]
Trade Imbalance	9.44 [0.117]	9.461 [0.116]	9.319 [0.122]	9.818 [0.102]	9.852 [0.101]	9.739 [0.104]
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	4,435	4,431	4,424	4,435	4,431	4,424
R-squared	4.70%	4.70%	4.70%	4.70%	4.70%	4.80%

Table VIII
Selection versus Influence: Analysis for Acquirer Size and Relative Deal Size Sub-Samples

This table looks at the determinants of CARs in cross-border M&A deals. The CARs are calculated at the acquirer level and estimated from five days before to five days after the takeover announcement. The table contains regressions that examine the impact of acquirer-side private equity-backing for sub-samples of deals based on acquirer size or relative deal size. Specifically, we separate the sample into sub-samples based on whether the acquirer's asset value is in the top half or bottom half of the sample, and on whether the relative deal size (transaction value scaled by the acquirer's assets) is in the top 50% or bottom 50% of the sample. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample of M&A deals used: Sub-sample used:	CAR							
	All Cross-Border Deals							
	Acq. Size Bottom 50%	Acq. Size Top 50%	Rel. Size Bottom 50%	Rel. Size Top 50%	Acq. Size Bottom 50%	Acq. Size Top 50%	Rel. Size Bottom 50%	Rel. Size Top 50%
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
I(Acquirer PE Backing)	-1.685 [0.508]	-2.112*** [0.006]	-1.734*** [0.001]	-1.663 [0.601]	-1.829 [0.474]	-2.187*** [0.004]	-1.445*** [0.007]	-2.614 [0.407]
I(Low Target ICRG Gov.)	0.499 [0.353]	-0.256 [0.438]	-0.309 [0.374]	0.496 [0.311]				
I(Acquirer PE Backing) x I(Low Target ICRG Gov.)	5.206 [0.209]	6.015*** [0.002]	5.018*** [0.001]	6.289 [0.111]				
I(Low Target WB Gov.)					0.541 [0.254]	-0.119 [0.713]	0.019 [0.956]	0.526 [0.328]
I(Acquirer PE Backing) x I(Low Target WB Gov.)					6.125 [0.150]	6.153*** [0.002]	4.547*** [0.007]	8.138** [0.035]
LLSV Index	2.959 [0.118]	2.196 [0.296]	0.309 [0.810]	2.013 [0.338]	2.96 [0.115]	2.133 [0.308]	0.395 [0.759]	1.832 [0.381]
WB Governance	27.524 [0.155]	3.331 [0.775]	-7.019 [0.577]	35.707** [0.028]	27.699 [0.149]	4.228 [0.713]	-6.882 [0.588]	37.666** [0.019]
ICRG Governance	-20.416 [0.122]	2.025 [0.808]	3.665 [0.689]	-19.689 [0.118]	-20.475 [0.122]	1.519 [0.855]	3.188 [0.729]	-20.618 [0.102]
ln(Assets)	-0.639*** [0.009]	-0.549*** [0.000]	-0.262*** [0.006]	-0.557*** [0.001]	-0.636*** [0.010]	-0.550*** [0.000]	-0.265*** [0.005]	-0.563*** [0.001]
Deal Value/Market Capitalization	-0.031 [0.280]	0.362 [0.448]	9.832 [0.144]	-0.038 [0.164]	-0.031 [0.284]	0.369 [0.440]	10.024 [0.138]	-0.038 [0.165]
EBITDA/Assets	0.141*** [0.000]	1.14 [0.158]	0.253 [0.851]	0.134*** [0.000]	0.141*** [0.000]	1.121 [0.167]	0.29 [0.830]	0.133*** [0.000]
Debt/Assets	0.49 [0.727]	1.935** [0.040]	-0.41 [0.678]	1.438 [0.277]	0.506 [0.717]	1.910** [0.043]	-0.465 [0.637]	1.467 [0.268]
Cash/Assets	-0.865 [0.465]	-1.395 [0.273]	-1.917** [0.045]	1.048 [0.497]	-0.86 [0.461]	-1.385 [0.280]	-1.943** [0.043]	1.078 [0.486]
CAPEX/Sales	-1.839 [0.494]	-0.577 [0.822]	0.526 [0.824]	-2.34 [0.320]	-1.908 [0.474]	-0.614 [0.810]	0.407 [0.864]	-2.497 [0.295]
I(Diversifying)	0.452 [0.204]	-0.107 [0.752]	-0.168 [0.540]	0.342 [0.388]	0.428 [0.231]	-0.11 [0.746]	-0.181 [0.512]	0.335 [0.400]
I(Multiple Bidders)	0.247 [0.931]	0.041 [0.972]	0.05 [0.968]	-0.049 [0.979]	0.301 [0.917]	0.04 [0.973]	0.041 [0.974]	-0.115 [0.951]
I(Tender Offer)	0.409 [0.853]	0.562 [0.430]	-0.299 [0.724]	1.234 [0.223]	0.344 [0.878]	0.585 [0.417]	-0.242 [0.778]	1.198 [0.240]
I(Friendly)	-4.195** [0.019]	0.502 [0.675]	-1.26 [0.326]	-0.577 [0.668]	-4.222** [0.018]	0.461 [0.698]	-1.271 [0.321]	-0.583 [0.663]
I(Cash Payment)	-0.366 [0.371]	0.125 [0.722]	0.03 [0.922]	0.025 [0.960]	-0.369 [0.366]	0.124 [0.727]	0.035 [0.912]	0.016 [0.974]
I(Stock Payment)	0.288 [0.693]	-1.562** [0.043]	0.606 [0.347]	-1.491* [0.067]	0.31 [0.673]	-1.548** [0.047]	0.601 [0.349]	-1.476* [0.067]
I(Public Target)	-2.077 [0.119]	-1.409** [0.039]	-0.882 [0.224]	-2.639*** [0.000]	-1.97 [0.138]	-1.437** [0.036]	-0.906 [0.212]	-2.580*** [0.001]
I(Private Target)	-1.159*** [0.008]	-0.760** [0.028]	-0.427 [0.200]	-1.544*** [0.003]	-1.152*** [0.009]	-0.767** [0.027]	-0.416 [0.210]	-1.594*** [0.002]
Market Cap/GDP	127.018 [0.497]	-57.147 [0.545]	71.745 [0.507]	-126.249 [0.308]	118.253 [0.523]	-51.044 [0.590]	80.635 [0.465]	-126.658 [0.306]
Market Turnover	-0.341 [0.738]	-0.823 [0.145]	-0.133 [0.839]	-1.334* [0.094]	-0.408 [0.689]	-0.818 [0.147]	-0.134 [0.839]	-1.392* [0.078]
FDI/GDP	-1,179.19 [0.158]	12.931 [0.971]	-510.977 [0.165]	-30.564 [0.967]	-1,160.18 [0.164]	4.803 [0.989]	-499.813 [0.176]	-125.384 [0.865]
Unemployment	-0.142 [0.631]	0.073 [0.653]	0.175 [0.328]	-0.303 [0.196]	-0.125 [0.678]	0.074 [0.650]	0.183 [0.311]	-0.286 [0.224]
Trade Imbalance	3.844 [0.723]	11.436 [0.101]	8.39 [0.203]	12.899 [0.161]	4.059 [0.707]	11.828* [0.088]	8.996 [0.170]	13.093 [0.160]
Year Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,925	2,527	2,498	1,954	1,925	2,527	2,498	1,954
R-squared	5.10%	6.90%	4.30%	7.40%	5.10%	7.00%	4.30%	7.50%

Table IX: Systematic Differences Across Firms: First Stage Propensity Score Model

This table contains the first-stage of a propensity score model. The model predicts the likelihood that an acquirer receives private equity-backing. The sample includes M&A deals between 1996 and 2008. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable:	I(Acquirer PE Backing)
Sample of M&A deals used:	All Deals
In(Assets)	0.022 [0.227]
I(Acquirer Tech Industry)	0.301** [0.010]
EBITDA/Assets	0.010 [0.160]
Debt/Assets	0.191** [0.016]
Cash/Assets	0.269 [0.288]
CAPEX/Sales	0.493 [0.149]
Industry Average PE Backing	9.110*** [0.000]
Nation Average PE Backing	9.956*** [0.000]
Year Fixed Effects	YES
Country Fixed Effects	YES
Observations	17,409
Wald Statistic	463.14
Pseudo R-Squared	21.22%

Table X: Propensity Score Model: Second Stage

This table contains regression models that use propensity score techniques to adjust for possible systematic differences between private equity-backed acquirers and non-private equity-backed acquirers. First, we estimate the first stage model reported in Table IX to obtain propensity scores from this model. Second, we exclude any non-private equity-backed acquirer whose propensity score is in the top 10% or bottom 10% of the distribution of propensity scores for private equity-backed acquirers. The regressions are estimated using OLS models. Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample	CAR					
	All Cross-Border Deals Adjusted Using Propensity Score Method					
	[1]	[2]	[3]	[4]	[5]	[6]
I(Target PE Backing)	0.122 [0.814]		0.058 [0.930]		0.268 [0.691]	
I(Acquirer PE Backing)		1.001 [0.372]		-1.681 [0.206]		-1.858 [0.176]
I(Target PE Backing) x I(Low Target ICRG Gov.)			0.197 [0.839]			
I(Low Target ICRG Gov.)			0.055 [0.891]	-0.391 [0.362]		
I(Acquirer PE Backing) x I(Low Target ICRG Gov.)				5.859*** [0.004]		
I(Target PE Backing) x I(Low Target WB Gov.)					-0.447 [0.689]	
I(Low Target WB Gov.)					0.289 [0.470]	-0.027 [0.949]
I(Acquirer PE Backing) x I(Low Target WB Gov.)						6.462*** [0.002]
LLSV Index	0.602 [0.741]	1.168 [0.740]	0.623 [0.735]	1.074 [0.759]	0.702 [0.705]	1.085 [0.755]
WB Governance	0.77 [0.958]	22.414 [0.277]	0.803 [0.956]	21.552 [0.293]	0.805 [0.956]	24.039 [0.232]
ICRG Governance	13.56 [0.255]	1.525 [0.921]	13.403 [0.259]	2.717 [0.859]	12.866 [0.281]	1.636 [0.915]
ln(Assets)	-0.521*** [0.000]	-0.558*** [0.000]	-0.522*** [0.000]	-0.552*** [0.000]	-0.523*** [0.000]	-0.552*** [0.000]
TV/Mktcap	0.075 [0.139]	0.016 [0.429]	0.075 [0.139]	0.474 [0.437]	0.076 [0.131]	0.015 [0.466]
EBITDA/Assets	0.642 [0.328]	0.156*** [0.000]	0.644 [0.327]	0.159*** [0.000]	0.658 [0.318]	0.158*** [0.000]
Debt/Assets	1.214 [0.286]	0.249 [0.840]	1.212 [0.287]	0.442 [0.702]	1.211 [0.285]	0.445 [0.714]
Cash/Assets	-0.622 [0.594]	0.469 [0.703]	-0.64 [0.587]	0.442 [0.720]	-0.629 [0.588]	0.377 [0.764]
CAPEX/Sales	0.01 [0.997]	2.585 [0.187]	-0.008 [0.997]	2.094 [0.317]	0.028 [0.990]	1.881 [0.376]
I(Diversifying)	0.24 [0.530]	0.729* [0.064]	0.238 [0.533]	0.727* [0.068]	0.229 [0.551]	0.714* [0.084]
I(Multiple Bidders)	-0.022 [0.985]	1.366 [0.364]	-0.026 [0.983]	1.43 [0.333]	-0.036 [0.976]	1.383 [0.346]
I(Tender Offer)	1.02 [0.181]	0.368 [0.784]	1.031 [0.183]	0.25 [0.854]	1.069 [0.167]	0.323 [0.816]
I(Friendly)	-1.291 [0.260]	-1.902 [0.223]	-1.319 [0.253]	-1.987 [0.224]	-1.31 [0.254]	-2.061 [0.203]
I(Cash Payment)	-0.3 [0.396]	-0.024 [0.955]	-0.301 [0.394]	-0.028 [0.947]	-0.306 [0.386]	-0.045 [0.914]
I(Stock Payment)	-1.173 [0.244]	-0.001 [0.999]	-1.173 [0.244]	-0.033 [0.970]	-1.165 [0.249]	0.05 [0.955]
I(Public Target)	-1.694** [0.015]	-1.779** [0.050]	-1.700** [0.015]	-1.760* [0.053]	-1.702** [0.015]	-1.771* [0.050]
I(Private Target)	-0.44 [0.255]	-1.653*** [0.001]	-0.44 [0.256]	-1.638*** [0.002]	-0.44 [0.257]	-1.668*** [0.002]
Market Cap/GDP	-321.315** [0.013]	19.418 [0.934]	-320.932** [0.013]	-3.936 [0.987]	-320.086** [0.013]	21.088 [0.928]
Market Turnover	-2.009*** [0.008]	0.35 [0.735]	-2.009*** [0.008]	0.468 [0.653]	-2.022*** [0.007]	0.476 [0.642]
FDI/GDP	-454.59 [0.289]	-1118.266 [0.237]	-453.896 [0.289]	-1133.434 [0.234]	-454.993 [0.285]	-1134.989 [0.233]
Unemployment	-0.098 [0.698]	-0.036 [0.917]	-0.096 [0.705]	-0.042 [0.904]	-0.091 [0.719]	-0.026 [0.940]
Trade Imbalance	11.403 [0.287]	3.587 [0.744]	11.569 [0.280]	2.62 [0.814]	11.871 [0.268]	4.627 [0.668]
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	1995	1396	1995	1396	1995	1396
R-squared	7.00%	7.20%	7.00%	7.90%	7.00%	8.10%

Table XI: Weighting Estimator

This table contains the results of regressions that use a weighted covariance matrix approach to control for systemic differences between private equity-backed acquirers and non-private equity-backed acquirers. First, we estimate the first stage regression reported in Table IX and obtain the predicted values from this regression. Second, we calculate a weighting variable which is defined as $Weight = Prob(\text{Acquirer PE Backing}) / (1 - Prob(\text{Acquirer PE Backing}))$, where $Prob(\cdot)$ is the probability (propensity score) that an acquirer is private equity-backed, estimated using the first stage regression model. Third, we weight the covariance matrix using the weights calculated in the previous step if an observation is an acquirer that is not backed by a private equity firm (we only weight observations from control group firms). Constants were included but are not reported. Standard errors (p-values reported in brackets) are robust and clustered by industry. Variable definitions are reported in Appendix A-1. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.

Dependent Variable: Sample	CAR					
	All Cross-Border Deals					
	Estimated Using Weighting Estimators					
	[1]	[2]	[3]	[4]	[5]	[6]
I(Target PE Backing)	1.012 [0.182]		0.289 [0.713]		0.791 [0.329]	
I(Acquirer PE Backing)		1.067 [0.254]		-2.611*** [0.006]		-2.794*** [0.002]
I(Target PE Backing) x I(Low Target ICRG Gov.)			1.891** [0.041]			
I(Low Target ICRG Gov.)				-1.067 [0.229]		
I(Acquirer PE Backing) x I(Low Target ICRG Gov.)				7.326*** [0.000]		
I(Target PE Backing) x I(Low Target WB Gov.)					0.628 [0.556]	
I(Low Target WB Gov.)					-0.421 [0.615]	0.319 [0.734]
I(Acquirer PE Backing) x I(Low Target WB Gov.)						7.906*** [0.000]
LLSV Index	6.276 [0.131]	1.436 [0.698]	6.069 [0.143]	1.939 [0.556]	6.238 [0.134]	-0.138 [0.965]
WB Governance	-32.922 [0.347]	-5.03 [0.871]	-32.075 [0.362]	-6.436 [0.815]	-33.15 [0.346]	15.076 [0.574]
ICRG Governance	-5.628 [0.822]	-22.573 [0.309]	-5.652 [0.819]	-25.295 [0.248]	-5.485 [0.827]	-30.384 [0.144]
ln(Assets)	-0.690*** [0.002]	-0.312 [0.323]	-0.700*** [0.001]	-0.338 [0.221]	-0.694*** [0.001]	-0.312 [0.259]
TV/Mktcap	0.041 [0.507]	0.029 [0.557]	0.044 [0.479]	0.024 [0.608]	0.04 [0.509]	0.027 [0.573]
EBITDA/Assets	0.209*** [0.000]	0.167*** [0.000]	0.215*** [0.000]	0.181*** [0.000]	0.212*** [0.000]	0.184*** [0.000]
Debt/Assets	2.733 [0.221]	2.575 [0.224]	2.668 [0.229]	3.489* [0.073]	2.693 [0.238]	3.663** [0.036]
Cash/Assets	-4.568 [0.143]	4.336 [0.128]	-4.755 [0.133]	3.124 [0.207]	-4.65 [0.151]	2.568 [0.277]
CAPEX/Sales	-6.643* [0.069]	-1.34 [0.769]	-7.280** [0.049]	-3.736 [0.232]	-6.776* [0.065]	-4.839 [0.107]
I(Diversifying)	0.395 [0.635]	1.424* [0.084]	0.42 [0.607]	1.409** [0.048]	0.397 [0.633]	1.235 [0.112]
I(Multiple Bidders)	-1.707 [0.530]	-1.021 [0.569]	-1.353 [0.610]	-0.902 [0.617]	-1.608 [0.541]	-1.256 [0.469]
I(Tender Offer)	0.831 [0.715]	2.561 [0.256]	0.849 [0.712]	2.416 [0.232]	0.836 [0.716]	2.482 [0.232]
I(Friendly)	-0.242 [0.900]	3.972 [0.256]	-0.404 [0.835]	2.694 [0.496]	-0.264 [0.891]	2.235 [0.586]
I(Cash Payment)	-0.758 [0.300]	-0.216 [0.775]	-0.75 [0.302]	-0.23 [0.763]	-0.735 [0.322]	-0.378 [0.641]
I(Stock Payment)	-0.315 [0.871]	1.428 [0.521]	-0.305 [0.873]	1.068 [0.576]	-0.323 [0.867]	2.178 [0.206]
I(Public Target)	-2.524* [0.063]	-1.524 [0.268]	-2.560* [0.055]	-1.893* [0.060]	-2.547* [0.058]	-1.894** [0.030]
I(Private Target)	0.402 [0.643]	-3.525*** [0.000]	0.328 [0.710]	-3.275*** [0.000]	0.383 [0.662]	-3.246*** [0.000]
Market Cap/GDP	144.18 [0.584]	121.821 [0.639]	141.24 [0.586]	-66.312 [0.779]	141.916 [0.587]	28.667 [0.904]
Market Turnover	-1.183 [0.507]	-4.200*** [0.000]	-1.346 [0.450]	-3.785*** [0.001]	-1.218 [0.496]	-4.450*** [0.000]
FDI/GDP	-321.586 [0.776]	559.317 [0.707]	-305.082 [0.792]	385.396 [0.788]	-313.387 [0.782]	49.785 [0.973]
Unemployment	-0.856 [0.105]	-0.537 [0.217]	-0.829 [0.113]	-0.483 [0.221]	-0.846 [0.107]	-0.281 [0.472]
Trade Imbalance	15.119 [0.484]	-4.491 [0.808]	17.198 [0.433]	-5.006 [0.745]	15.432 [0.481]	6.529 [0.668]
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES	YES	YES
Observations	4380	4452	4380	4452	4380	4452
R-squared	21.20%	22.60%	21.50%	28.00%	21.20%	30.20%

Appendix A-1 Definition of Variables

This table provides definitions of the variables used in the empirical analysis.

Variable Name	Description	Data Source
I(Cross-Border M&A)	A dummy variable that equals one if the acquirer and target are from different countries.	SDC Platinum
I(Solicited Cross-Border M&A)	A dummy variable that equals one if the acquirer and target are from different countries and the target actively seeks a buyer.	SDC Platinum
I(Any PE Backing)	A dummy variable that equals one if the acquirer or target has private equity-backing.	SDC Platinum
I(Acquirer PE Backing)	A dummy variable that equals one if the acquirer has private equity-backing.	SDC Platinum
I(Target PE Backing)	A dummy variable that equals one if the target has private equity-backing.	SDC Platinum
CAR	The cumulative abnormal return (in %) of the acquirer from five days before to five days after the takeover announcement. Abnormal returns are estimated using the market model.	Self-constructed
I(Diversifying)	A dummy variable that equals one if the bidder and target are in different 4-digit SIC industries.	SDC Platinum
I(Multiple Bidders)	A dummy variable that equals one if there is more than one bidder for the target.	SDC Platinum
I(Tender Offer)	A dummy variable that equals one if the acquisition proceeded by way of a tender offer.	SDC Platinum
I(Friendly Deal)	A dummy variable that equals one if the deal attitude is 'friendly'.	SDC Platinum
I(Cash Payment)	A dummy variable that equals one if the acquirer paid for the target using only cash.	SDC Platinum
I(Stock Payment)	A dummy variable that equals one if the acquirer paid for the target using only stock.	SDC Platinum
I(Public Target)	A dummy variable that equals one if the target is listed on a stock exchange (neither privately held nor the subsidiary of another firm).	SDC Platinum
I(Private Target)	A dummy variable that equals one if the target is privately held firm (neither listed on a stock exchange nor the subsidiary of another firm).	SDC Platinum
I(Target Gov Owned)	A dummy variable that equals one if the government has any ownership stake in the target.	SDC Platinum
I(Acquirer Gov Owned)	A dummy variable that equals one if the government has an ownership stake in the acquirer.	SDC Platinum
#Prior CB Relationships Last X Years	The average number of prior relationships with other private equity firms that were created by private equity firms backing an acquirer over the last two, three or five years prior to an acquisition.	SDC Platinum
#Prior CB Deals Last X Years	The average number of prior cross-border transactions in which private equity firms backing an acquirer have been involved in over the last two, three or five years prior to an acquisition.	SDC Platinum
Assets	The acquirer's book assets from the most recent annual report prior to the M&A deal, calculated in 2009 USD millions.	Worldscope
Market Cap	The acquirer's market capitalization from the most recent annual report prior to the M&A deal, calculated in 2009 USD millions.	Worldscope
Deal Value/Market Capitalization	Deal value divided by the acquirer's market capitalization in USD.	Worldscope/SDC Platinum
EBITDA/Assets	The acquirer's EBITDA divided by its book assets.	Worldscope
Debt/Assets	The acquirer's book debt divided by its book assets.	Worldscope
Cash/Assets	The acquirer's cash holdings divided by its book assets.	Worldscope
CAPEX/Sales	The acquirer's CAPEX divided by its sales.	Worldscope
I(Acquirer Tech Industry)	A dummy variable that equals one if an acquirer is from the technology industry as defined in Loughran and Ritter (2002).	Worldscope
LLSV Index	The anti-director rights index proposed in La Porta et al. (1997, 1998) and adjusted by Spamann (2010).	La Porta et al. (1997, 1998) and Spamann (2010)

WB Governance	World Bank country-level governance index. The World Bank assigns for each country a score from 0 to 100 for each of the following measures: accountability, political stability, government effectiveness, regulatory quality, the rule of law, and corruption. We take the average score across these variables to create a governance index. For years in which there is no data, we back-fill the variable from the most receipt prior year.	World Bank
ICRG Governance	International Country Risk Guild (ICRG) index calculated by the Political Risk Services (PRS) Group. The index measures the risk of doing business in a country and comprises measures of financial risk, economic risk, political risk, and a composite risk measure.	ICRG
Low Target WB Gov.	A dummy variable that equals one if a target is from a country which is in the bottom 25% of the World Bank country-level governance index.	World Bank
Low Target ICRG Gov.	A dummy variable that equals one if a target is from a country which is in the bottom 25% of the ICRG governance index.	ICRG
Market Cap/GDP	The total market capitalization for all companies in the acquirer's country scaled by the country's GDP. The variable is calculated for the year preceding the acquisition announcement.	World Bank
Turnover	The total value of shares traded in a country divided by the average market capitalization. The variable is calculated for the year preceding the acquisition announcement.	World Bank
FDI/GDP	The amount of foreign direct investment divided by the country's GDP. The variable is calculated for the year preceding the acquisition announcement.	World Bank
Unemployment	The percentage of unemployment in a country. The variable is calculated for the year preceding the acquisition announcement.	World Bank
Trade Imbalance	The trade imbalance of a country, defined as (imports– exports)/(imports + exports). The variable is calculated for the year preceding the acquisition announcement.	World Bank

Appendix A-2 Country-Distribution of Sample

This table provides an overview of the country-distribution of the acquirers in our sample. The sample includes cross-border M&A deals between 1996 and 2008 with acquirers domiciled in 47 countries. The data source is SDC Platinum. Variable definitions are reported in Appendix A-1.

Acquirer Country	Obs.	Proportion of Sample (%)	I(Cross-Border M&A)	I(Any PE Backing)	I(Acquirer PE Backing)	I(Target PE Backing)	Average CAR (%)	Assets (USD 2009m)	Market Value (USD 2009m)
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Argentina	8	0.050	0.375	0.000	0.000	0.000	3.320	4657	7556
Australia	1408	8.090	0.222	0.023	0.005	0.018	4.180	663	706
Austria	30	0.170	0.767	0.067	0.000	0.067	0.970	3947	2522
Belgium	58	0.330	0.793	0.103	0.034	0.069	2.740	7474	3271
Brazil	69	0.400	0.188	0.116	0.087	0.043	1.020	3322	196136
Canada	1221	7.010	0.423	0.048	0.025	0.022	2.900	2099	1649
Switzerland	84	0.480	0.869	0.060	0.012	0.048	2.300	11500	22359
Chile	13	0.070	0.154	0.000	0.000	0.000	4.710	2174	1611
Colombia	3	0.020	0.667	0.000	0.000	0.000	-0.580	2570	998
Denmark	62	0.360	0.790	0.113	0.032	0.081	3.270	2262	1556
Egypt	2	0.010	0.000	0.000	0.000	0.000	10.040	451	444
Spain	88	0.510	0.500	0.125	0.057	0.068	2.190	9766	8484
Finland	118	0.680	0.737	0.110	0.008	0.085	2.160	3455	2279
France	271	1.560	0.686	0.148	0.089	0.081	2.380	10400	6430
Great Britain	3210	18.44	0.342	0.034	0.004	0.031	2.240	1720	7464
Greece	13	0.070	0.538	0.154	0.000	0.154	2.210	2791	2670
Hong Kong	167	0.960	0.425	0.048	0.036	0.012	3.180	1515	1613
India	37	0.210	0.405	0.027	0.027	0.000	0.800	616	2079
Ireland	140	0.800	0.793	0.021	0.000	0.021	1.220	1825	1682
Israel	65	0.370	0.908	0.031	0.000	0.031	1.910	2872	4583
Italy	94	0.540	0.606	0.074	0.021	0.053	1.720	6197	4166
Japan	604	3.470	0.108	0.081	0.030	0.055	2.490	2304	1650
Korea (South)	95	0.550	0.189	0.032	0.021	0.021	4.300	1483	1115
Mexico	28	0.160	0.750	0.036	0.036	0.000	0.210	9287	13596
Malaysia	189	1.090	0.164	0.005	0.005	0.000	2.220	424	300
Netherlands	125	0.720	0.776	0.080	0.024	0.064	1.860	9004	33139
Norway	132	0.760	0.598	0.068	0.008	0.061	3.560	4326	3885
New Zealand	68	0.390	0.500	0.088	0.000	0.088	1.900	436	405
Peru	6	0.030	0.500	0.000	0.000	0.000	0.950	623	552
Philippines	34	0.200	0.294	0.000	0.000	0.000	1.030	1076	2621
Portugal	15	0.090	0.400	0.133	0.067	0.067	4.280	6118	3821
Singapore	136	0.780	0.478	0.015	0.000	0.015	2.500	593	374
Sweden	247	1.420	0.603	0.121	0.040	0.089	3.340	2308	1681
Thailand	26	0.150	0.231	0.000	0.000	0.000	2.970	234	173
Turkey	4	0.020	0.250	0.020	0.000	0.250	-9.320	295	197
United States	8461	48.60	0.124	0.043	0.014	0.030	1.030	3176	5573
South Africa	78	0.45	0.551	0.013	0	0.013	5.01	1189	2096
Total	17,409	100	0.256	0.046	0.014	0.032	1.9	2744	5644