Enforcement Quality and the Use of Earnouts in M&A Transactions: International Evidence

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Abstract

Earnouts are contractual agreements in merger and acquisition (M&A) deals that link part of the acquisition price to the future performance of the target company. These contracts seem to be a panacea for adverse selection and valuation risk issues in M&As. However, earnouts are not very popular. A likely reason for their limited diffusion is that earnouts have their origin in disagreement and in disagreement they may end: given the complexity of the verification of their outcome and the risk of moral hazard by the bidder, litigation at the time of their payout is far from uncommon. Absent effective legal protection for earnout holders, the potential benefits of these contracts could turn out to be empty promises, thus limiting incentives to include them in acquisition deals. Using an international sample of 37,228 deals completed between 2000 and 2015, we show that the inclusion of these contracts in M&As is significantly related to a country's enforcement quality. Furthermore, we show that a similar relation holds for the proportion of earnout payments with respect to total consideration. Our results hold after controlling for other determinants of earnout suggested by prior literature and for other institutional factors that could affect the use of earnouts.

Keywords: International M&As, earnouts, investor protection, enforcement quality, litigation risk.

JEL codes: G15, G34, K22, K41

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1. INTRODUCTION

Earnouts are contractual clauses used in mergers and acquisitions (M&As) that link part of the acquisition price (i.e., consideration) to the future performance of the target company. Previous studies suggest that earnouts help reduce adverse selection and valuation risk in M&As (Kohers and Ang, 2000; Datar et al., 2001). First, earnout clauses act as a self-selection mechanism for the target, because only if the target's shareholders believe in the future profitability of their company will they be willing to accept a contingent payment, thus reducing adverse selection (Myers and Majluf, 1984). Second, earnouts make it easier for the parties to reach an agreement and close the deal, even when there is significant divergence of opinions on the target's future prospects, because part of the uncertainty related to the latter will be resolved at the time the payment is due. Consistent with this line of reasoning, previous empirical studies (Kohers and Ang, 2000; Datar et al., 2001; Ragozzino and Reuer, 2009; Cain et al., 2011) show that earnouts are used the most in deals characterized by higher uncertainty about the target's value, such as when the target is a subsidiary or a private company (for which no market price can be used as a benchmark), when the target operates in the service or high-tech industries (both characterized by the high uncertainty of future prospects), when the bidder has fewer information-gathering resources, or when the target's managers are key in developing the business and it is important that they remain motivated to ensure a successful transition to the new owners.

Although potentially beneficial for the conclusion of M&A deals, earnouts are not very common in practice.[1] Such limited diffusion is likely due to the terms of such contracts being complex to define (Kohers and Ang, 2000; Cain et al., 2011).[2] The negotiation needed to define the terms of earnouts could be costly and deter their use, limiting their inclusion to acquisitions characterized by more severe information asymmetries. The limited diffusion of earnouts can also be explained by considering the risk faced by the sellers. Datar et al. (2001) claim that, by accepting an earnout, the sellers remain subject to the risk associated with the target's future prospects, coupled with the uncertainties related to the competence of the acquiring company in managing the target's operations.

Another likely reason for the limited diffusion of earnouts is that their implementation is problematic due to measurement issues related to the target's performance and the acquirer's potential moral hazard problems, which increase the risk faced by the sellers. Indeed, earnouts are often based on accounting figures[3] that are subject to measurement issues and discretion.

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[1] In the international sample employed in this study, only 8.92% of the deals include an earnout clause.

[2] In the case of an earnout, the parties are required to agree on its structure. For example, they need to agree on the performance measure on which the earnout is based (e.g., gross profits and EBIT as well as EBITDA) or its duration. Since these elements could have a relevant impact on future payments, the negotiation between the bidder and the sellers can be complicated.

[3] Cain et al. (2011), focusing on US deals in 1994–2003, report that, out of a sample of 498 earnouts, 86% were based on accounting measures, 12.2% were structured on non-financial milestones, 1.2% were linked to stock prices, and 0.6% were linked to other parameters.

They could therefore be managed by the bidder to reduce the final payment. In addition, the effort exerted by the bidder in boosting the acquired business can be crucial for the business to reach the level of performance that triggers contingent payments. In this respect, the interests of the bidder and sellers might not be perfectly aligned, since the former could have incentive to reduce efforts and avoid contingent payments. Given that the sellers often lose direct control and monitoring power over the sold business, they may not be able to verify its actual performance over the earnout period. If the conditions that trigger the earnout payments are not (fully) met, the sellers could object to the numbers reported by the bidder and take the case to court to file claims.

Anecdotal evidence shows that the risk of litigation related to earnouts is indeed significant. Trevis Laster, a judge who had to rule on a dispute over an earnout payment, once said, "An earnout often converts today's disagreement over price into tomorrow's litigation over outcome."[4] A survey conducted by the law firm Morrison & Foerster LLP (2012) on a sample of over 300 M&A professionals—mainly from the high-tech industry, where earnouts are used more frequently[5]—shows that almost three-quarters of respondents claimed that such clauses led to subsequent disputes or litigation and nearly one-fifth of the respondents estimated there had been post-deal conflicts over earnouts up to half of the time.

The role of litigation risk in the choice to use earnouts in M&A deals has been neglected so far by the literature.[6] We contribute to the literature by testing the relation between a country's enforcement quality and the use of earnouts in an international setting. We suggest that, due to the high litigation risk that characterizes such clauses, the quality of a country's enforcement system is associated with the sellers' decision to accept an earnout. Although we cannot directly test causality, we suggest that, absent an effective enforcement system, the sellers might be less prone to accept earnouts as part of the deal's consideration in the first place. The incentive and usefulness of the sellers going to court in case of a dispute is likely related to the quality of the enforcement system, that is, to the ability of the parties involved (including the judges) to shed light on the actual performance of the target, to reveal the bidder's potential misconduct, and to impose the court's decision on the bidder. Said differently, in case of disagreement on the targets' performance and/or the bidder's alleged misbehavior, the target's former shareholders could seek the protection of the court. An effective and efficient enforcement system that is able to defend their claims could induce sellers to be more willing to accept earnout agreements. Therefore, we hypothesize that earnouts are more frequent in countries where the quality of the enforcement system is higher. Furthermore, we hypothesize

[4] Airborne Health, Inc. and Weil, Gotshal & Manges LLP v. Squid Soap, LP, C.A. No. 4410-VCL (Del. Ch. Nov. 23, 2009). Airborne acquired Squid Soap in 2007 with an upfront payment of $1 million and an earnout capped at $26.5 million.

[5] Datar et al. (2001) report that earnouts in the high-tech sector comprise more than one-third of total earnouts.

[6] To the best of our knowledge, no academic article has directly addressed this issue so far, although it is well known to practitioners. For example, Crimmins et al. (2010), Fox and Wolf (2010), and Shannon and Reilly (2011) recognize that earnouts are complex to design and prone to end in litigation.

that the quality of the enforcement system is positively related to the relative proportion of earnout payments on total consideration.

However, other factors could explain cross-country differences in the use of earnouts. Complex to structure, these contracts could be used more frequently in countries with a large M&A market, where it is more likely that consulting firms develop the appropriate expertise to design and implement earnouts. Economic growth could also explain the use of earnouts. Since these contracts are helpful in reducing valuation risk in M&A deals, they could be more frequently used when the economy is sluggish, since this could increase the uncertainties of the target's future prospects. For analogous reasons, other sources of uncertainty, such as political instability, could play a similar role with respect to the inclusion of earnouts in M&A deals. As in all cross-country studies, we cannot rule out the possibility that the country's enforcement quality is correlated with other country-related attributes that could be linked to the use of earnouts, although we try to control for alternative explanations that could challenge our hypotheses.

Our hypotheses are built based on prior theoretical finance work. Gennaioli (2013) shows that, in a judicial state verification model, the mere presence of factual ambiguity about a project's outcome (e.g., uncertainty about the actual performance of the target company in an M&A transaction) does not prevent the parties involved in the transaction (e.g., bidder and target) from writing fully contingent contracts. Such contingent contracts can be optimally chosen when the parties feel protected by a judicial system in which judges are able to obtain information on the project in an unbiased manner and it allows them to decide fairly on disputes that could arise between the parties on the actual performance of the project. On the contrary, when the judicial system is inefficient such that the judge could be prevented from obtaining a clear and unbiased picture of the project's performance, the parties are induced to avoid contingent contracts. We empirically test these predictions using a large international sample of M&A deals. We expect that contingent contracts, such as contracts that include an earnout, are used more frequently in countries with an effective enforcement system and less so in countries where the judicial system is less effective.

The concept of the quality of an enforcement system is complex and influenced by many different features. Therefore, we employ several measures to proxy for enforcement quality. Our first measure is the anti–self-dealing index developed by Djankov et al. (2008b). This index is a country-based measure of investor protection built as the average score of several variables related to financial disclosure requirements, disclosure-related liability, and the ability of judges to access evidence that can prove wrongdoing in disputes involving investors. In short, this index is a proxy for the ability of judges to overcome information asymmetry and obtain information relevant to their decision. With reference to the earnout case, such a measure can be considered a proxy for the ability of a judge to obtain information on how the target company was managed by the bidder and on how the performance metric that triggers the earnout payment was computed.

As a second proxy, we use the Rule of Law Index developed by the World Bank, which captures citizens' and firms' subjective perceptions of the quality of the legal environment. This

proxy captures, among other things, the perceived quality of rules, contract enforcement, police, and courts functioning. In the earnout case, this index can be considered a proxy for the quality of the enforcement system as perceived by the parties involved in the M&A deal. We expect that the extent to which the parties trust the protection offered by the enforcement system plays a role in the decision to use an earnout.

To capture, at the same time, both the objective quality of the enforcement system and its subjective perception by the parties involved in the deal, we build an additional proxy based on the principal component analysis (PCA) of the two aforementioned proxies.

To further validate our hypotheses, we use a fourth proxy: the strength of legal rights index developed by the World Bank in the framework of the Doing Business reports. This index measures the ability of the legal and judicial system to protect the rights of creditors. In the case of an earnout, the target's sellers find themselves in the position of creditors versus the acquirer. Therefore, we believe that the level of protection offered to creditors may be relevant to the sellers' decision to accept an earnout clause.

Finally, as the last proxies, we use two of the country-based factors developed by Isidro et al. (2016; hereafter INW Factors). Such factors are the result of a factor analysis based on 72 institutional variables. The first factor groups, among others, several measures related to the quality of a country's legal and governance systems, such as regulatory quality, rule of law, and legal rights. The second factor captures variables related to the quality of creditor and investor rights, securities regulation, capital market size, and legal origin. Both factors comprise legal and enforcement-related variables and can therefore be considered suitable proxies for the quality of the enforcement system and for the protection it can offer earnout claimants.

We test our hypotheses using a sample of 37,228 M&A deals that took place in 40 countries between 2000 and 2015. To the best of our knowledge, our paper is the first cross-country study on the determinants of the use of earnouts. Our results corroborate, in an international setting, prior findings of the literature on the topic (Kohers and Ang, 2000; Datar et al., 2001; Ragozzino and Reuer, 2009; Cain et al., 2011; Barbopulos and Sudarsanam, 2012). We find that earnout clauses are mainly used when the target is a private company or a subsidiary or if it operates in the service or high-tech sector, confirming that the likelihood of using earnouts is higher when the uncertainty on the target's value and future prospects is higher. Moreover, an increase of the relative size of the target with respect to the bidder has a positive impact on the likelihood of including an earnout in the deal, due to the bidder's higher misvaluation risk. We also find support for the hypothesis formulated by Datar et al. (2001), but not confirmed in their sample, that the likelihood of using contingent payments is positively related to cross-border acquisitions, where information asymmetry is higher.

We contribute to the literature on the determinants of the use of earnouts by empirically showing that the quality of a country's enforcement system relates significantly to the decision to use earnouts. Furthermore, using Tobit and linear models, we show that the proportion of earnout payments with respect to the total consideration is positively associated with the enforcement quality variables. This association suggests that the lower the quality of the enforcement system, the higher the proportion of the total consideration that the seller will ask

to be paid upfront. Consistently with any cross-country empirical analysis, we cannot definitively ascribe causality to our results, since it is possible that a country's enforcement/legal regime characteristics are correlated with some other (unidentified) country characteristic that leads to the associations we document. In our empirical analyses, we attempt to overcome this concern through controls for 1) M&A expertise, 2) financial development, 3) economic growth, 4) political stability, and 5) tax haven status. Furthermore, when we include in our regressions the four latent institutional factors proposed by Isidro et al. (2016), we implicitly control for the spectrum of country attributes they consider. Still, we cannot rule out the possibility that some other unobserved country characteristic is correlated with the enforcement/legal regime.

Our paper contributes to the finance literature by showing that legal and institutional factors may play a role in M&A markets and the design of financial contracts. Previous literature has shown that an efficient legal framework increases the number of M&A deals in a country and facilitates cross-border transactions (Rossi and Volpin, 2004). Earnouts are contracting mechanisms through which this can occur.

Additionally, we indirectly contribute to the theoretical finance literature on the valuation of earnouts (e.g., Bruner 2001, 2004; Arzac 2005; Caselli et al. 2006; Lukas et al., 2012). Our findings suggest that litigation risk coupled with a poor enforcement system can significantly decrease the value of an earnout from the seller's point of view by increasing the risk of not receiving earnout payments. Therefore, valuation models of earnouts should consider such risk factors.

The paper proceeds as follows. Section 2 reviews the relevant literature. Section 3 develops our hypotheses and Section 4 describes the data. The results are discussed in Section 5. Section 6 presents additional analyses and robustness checks. The final section draws our conclusions and indicates venues for further research.

2. LITERATURE REVIEW

Our paper is positioned at the intersection of two main research streams, that is, the stream that focuses on the use of earnouts in M&As and the stream which analyzes the association between the legal system and the financial environment, with particular focus on the design of financial contracts.

Within the first research stream, several papers analyze the determinants of the use of earnouts in M&As. The seminal paper of Kohers and Ang (2000) focuses on acquisitions of US targets that took place between 1984 and 1996. The authors report that earnouts are mainly used to overcome information asymmetries between the parties and to share the risks related to the target's future prospects. In particular, these contracts are used the most when the target is a private company or a subsidiary, since no market price is available to serve as a benchmark for its value, or when the target belongs to the service or the high-tech industries, which are strongly affected by uncertainties related to intangible assets, growth opportunities, and human capital. In addition, Kohers and Ang report that the size of the bidder (target) impacts negatively

(positively) on the choice to use earnouts: they claim that smaller buyers may seek the extra protection provided by earnouts to compensate for their lesser information-gathering resources and to reduce valuation error, whose relevance is positively associated with the target size. A subsequent paper by Datar et al. (2001), studying international acquisitions from 1990 to 1996, confirms the previous findings, except for the target size, which was found to be weakly negatively associated with the likelihood of using earnouts. The authors also hypothesize that earnouts are more frequent in cross-border acquisitions, since these transactions tend to be characterized by stronger information asymmetries; however, they do not find evidence to support this hypothesis.

The results of Kohers and Ang (2000) and Datar et al. (2001) were later confirmed by Ragozzino and Reuer (2009), who focus on the acquisitions of privately held targets in the United States between 1993 and 2000, and by Barbopulos and Sudarsanam (2012), who study takeovers announced by UK firms between 1986 and 2008. Focusing on a sample of US deals for which detailed contracts were publicly available, Cain et al. (2011) provide evidence on the features of earnouts and their determinants. Consistent with the hypothesis that these contracts are meant to reduce the valuation risk in a deal, they show that the choice of the performance metric is meant to maximize its capability to track the value of the acquired company and the effort exerted to boost its business. Moreover, the length of the horizon over which the target's performances are measured increases with the importance of research and development and decreases with the volatility of returns in the target's industry. Furthermore, the size of the earnout increases with the magnitude of managerial effort to develop the target's business, while it decreases with the precision with which the effort can be measured.

More recently, another determinant of the use of earnouts has been reported in the accounting literature, but with mixed results. Allee and Wangerin (2015) report a decrease in the use of earnouts in the United States after 2008, when a new accounting standard requiring clearer disclosure on contingent payments in M&As was adopted. However, Cadman et al. (2014) provide conflicting evidence showing that the percentage of deals including earnouts did not change significantly since the adoption of the new standard.

Within the first research stream, another strand of studies focuses on the consequences of earnouts in terms of market reactions to M&A deal announcements, providing mixed results. While Kohers and Ang (2000) and Barbopulos and Sudarsanam (2012) find that acquisitions that involve earnouts are associated with higher announcement period returns, McNichols and Subben (2015) and Barbopulos and Adra (2016) do not find a significant relation between the use of earnouts and bidders' returns upon announcement. More recently, Barbopoulos et al. (2017) show, for a sample of deals announced by US firms between 1986 and 2013, that the relation between announcement returns and the use of earnouts is significantly negative. Such mixed results suggest that, from the investors' perspective, the advantages of earnouts in terms of lower adverse selection risk tend to be counterbalanced by the uncertainty that earnouts bring to future cash flows or by their associated risk of litigation.

The second research stream related to our study focuses on legal systems and their effects on the design of financial contracts and on the financial environment. This research

stream finds its roots in the works of La Porta et al. (1997, 1998, 2000). In their seminal papers, the authors relate the origins of legal systems to the level of investor protection, showing that common law countries offer a more favorable environment for investors than civil law countries and that investor protection positively influences the size of capital markets and negatively affects the level of ownership concentration. Subsequent papers delve deeper into different aspects and implications of enforcement quality. For example, Djankov et al. (2003) build an index of procedural formalism of dispute resolution and show that it is associated with longer judicial proceedings; greater corruption; reduced consistency, honesty, and fairness in judicial decisions; and inferior access to justice. Djankov et al. (2008a) study the quality of debt enforcement around the world and how it influences the development of debt markets. Djankov et al. (2008b) construct a measure of minority shareholders protection against self-dealing transactions that benefit controlling shareholders and show that it performs better in predicting financial development than other anti-director variables do.

The enforcement quality indices developed in the above-mentioned papers are used in subsequent research to show how they impact the contracting and reporting behaviors of firms and institutions (Leuz et al., 2003; Wurgler, 2000; Dittmar et al., 2003; Weisbach, 2002; Esty and Megginson, 2003; Qian and Strahan, 2007). Particularly close to the focus of our analysis are the papers of Rossi and Volpin (2004) and Bris and Cabolis (2008), who study the impact of laws and regulations on M&A transactions. The former show that the volume of M&A activity and the use of cash as a form of payment are higher in countries with better accounting standards and stronger shareholder protection. In addition, cross-border deals frequently involve targets located in countries with poorer investor protection than in their acquirers' countries, suggesting that acquisitions could help improve the degree of investor protection within target firms. Bris and Cabolis (2008) build on this intuition, showing that the merger premium is higher when shareholder protection and accounting standards in the acquirer's country are more effective in reducing financial statement opacity than in the target's country. Taking an approach that is somewhat different from previous papers, Isidro et al. (2016) claim that the correlation between countries' institutional, political, and social characteristics leads one to believe that these characteristics most likely emerge from a few underlying (and unobservable) variables. To pin down these underlying variables, Isidro et al. carry out a PCA on 72 country attributes used in the financial and accounting literature to explain economic outcomes. They show that the first four factors emerging from their analysis significantly predict different reporting qualities at the international level and that these factors have stronger explanatory power compared to the individual use of country-specific institutional variables.

Our paper contributes to the literature in two ways. First, it identifies a new possible determinant of the use of earnouts, that is, the quality of the enforcement system. We suggest that earnouts are contracts that have their origin in disagreement and in disagreement they can end, due to the complexity of the verification of their outcome. The quality of the enforcement system could therefore play a relevant role in the decision to implement them. Second, our paper contributes to the literature that links M&A activity to the characteristics of the legal and judicial systems. We suggest that earnouts are contracting mechanisms that can help

understand how, in practice, the legal and judicial systems could affect the structure of financial contracts.

3. HYPOTHESIS DEVELOPMENT

From the seller's point of view, an earnout agreement is beneficial because it reduces the adverse selection risk for the target firm, thus allowing a higher consideration to be negotiated. However, this benefit comes at a cost, since the seller bears not only the risk that the acquired company will not meet the earnout requirements after the closing of the deal, but also the risk that the acquirer will behave strategically with the intent to reduce or even avoid the contingent payment. Such strategic behavior can be implemented by either exercising discretion in reporting the accounting results or reducing the effort made to reach the target's benchmarks.

From a strictly rational perspective, since the bidder obtains control of the target's business at the deal's closing, the bidder could have an incentive to avoid paying the contingent consideration by constraining the target's profitability (e.g., through a delay of sales, an increase in discretionary costs, or using other accounting policies). In most cases, the seller has no direct leverage to align the interest of the bidder with its own. If the seller suspects that the accounting metrics to which the earnout is linked were not reported correctly or that the bidder did not exert best efforts in running the acquired company over the earnout period, the only option the seller has to defend its claim is to go to court. We therefore expect that, when deciding whether to accept an earnout as part of a deal's consideration, sellers will likely consider the level of the protection granted by the judicial system. When this protection is deemed weak, in the case of disagreement about the earnout payment, the seller can expect to recover only a small fraction (if any) of its claim. Thus, the seller might be reluctant to include earnout clauses in an acquisition contract. On the other hand, if such protection is strong, in the case of disagreement about the earnout payment, the seller will feel more confident that it will obtain what is due. Sellers might therefore be more willing to use an earnout in a deal. This hypothesis is based on the assumption that the enforcement quality is expected to shed light on the actual performance of the target in case of disagreement and reduce the bidder's moral hazard in running the acquired firm in the post-acquisition period. In other words, we assume that an effective enforcement system provides disincentives for management against managing earnings or reducing the effort exerted to produce earnings in order to reduce earnout payments.

Our hypothesis development is in line with recent theoretical work by Gennaioli (2013), who shows that, in a judicial state verification model, the mere presence of ambiguity regarding a project's outcome (e.g., in the case of uncertainty on the actual performance of the target company in an M&A transaction) does not prevent the parties (e.g., bidder and target) from writing contingent contracts. Such contingent contracts can be optimally chosen when the parties feel protected by a judicial system in which judges are able to obtain information on the project in an unbiased manner, allowing judges to decide fairly on disputes on the project's outcome that could arise between the parties. On the contrary, when the judicial system is inefficient such that judges could be prevented from obtaining a clear and unbiased picture of the project's outcome, a fair decision on the dispute is impeded. In this case, the parties are

induced to avoid contingent contracts. Based on this line of reasoning, we formulate our first hypothesis as follows.

H1: The likelihood of using an earnout in an acquisition agreement is positively associated with the quality of the enforcement system of the country where the acquisition takes place.

We believe that the risk of litigation could be related not only to the decision of whether to use earnouts in acquisitions, but also to the magnitude of earnout payments with respect to total consideration, which we call *earnout materiality*. If a country's legal protection is weak, the parties (particularly the seller) could prefer to have a limited portion of the consideration affected by litigation risk. This hypothesis is based on the assumption that, in case of disagreement due to the bidder's opportunistic behavior in the post-acquisition period, the seller will resort to litigation to impose the payment on the bidder. Therefore, our second hypothesis is formulated as follows.

H2: Earnout materiality in a deal is positively associated with the quality of the enforcement system of the country in which the acquisition takes place.

To capture a country's enforcement quality, which is a multifaceted concept, we rely on several proxies borrowed from the literature. Such proxies are discussed in the following section, where we describe the data and the methodology employed to test our hypotheses.

4. DATA AND DESCRIPTIVE STATISTICS

(i) Sample Description

Our sample consists of completed acquisitions announced between January 1, 2000, and December 31, 2015, that took place in 40 countries, as detailed in Table 1. The source of the data is SDC, provided by Thomson Financial. Since the amount of the contingent payment is missing for some deals that include earnouts, we augmented our dataset by hand-collecting this specific information.

We focus on transactions that involve the acquisition of the majority interest in a company. To be included in our sample, the acquirer must own less than 50% of the target company before the deal and at least 90% afterward. The reason for this choice is twofold. On one hand, we aim to study acquisitions characterized by a clear change in the target's control. On the other hand, as pointed out by Rossi and Volpin (2004), the identification of transfers of minority stakes could be affected by cross-country differences in disclosure requirements. By

requiring a minimum transfer of 40% of shares, we aim to minimize this source of bias, since sizable deals are more likely to face reporting obligations. For similar reasons, we limit our attention to deals in which the acquirer is a public company. We exclude observations for which the form of the consideration paid, the value of the transaction, and the value of the bidder four weeks prior to the deal are not available. Finally, we exclude markets that are too inactive from the point of view of M&As; thus we consider only observations for countries in which at least 15 deals were completed during the period of the analysis.

Since our aim is to relate the likelihood of using an earnout in an acquisition to the quality of the enforcement system, we have to relate each deal to a specific nationality. For domestic deals, that is, acquisitions in which both the target and the bidder are incorporated in the same country, the choice is relatively simple; that is, the nationality of the deal is the country of the parties involved. For cross-country acquisitions, it is uncertain which jurisdiction is elected by the parties to decide on potential disputes arising from the deal. The parties could favor the country of the acquirer, the country of the target, or even choose as governing law that of yet another country. To prevent this source of uncertainty from biasing our results, in our main analysis, we limit our attention to domestic deals. However, focusing on domestic deals could raise the concern that our results are driven by the motivation to acquire a domestic company (instead of a foreign one) rather than by the quality of the enforcement system across countries. In Section 6, as a robustness test, we check whether our results hold when we extend our analysis to cross-border deals.

The final sample comprises 37,228 deals completed in 40 different countries. Of these deals, 3,321 (about 9% of the total) involve an earnout.[7] The majority of the sample acquisitions refer to the United States, Canada, United Kingdom, Japan, Australia, and China.

<insert table 1 about here>

Panel A of Table 1 shows, for each country, the total number of acquisitions, the number of deals that involve an earnout, and the earnout ratio, that is, the ratio between these two values. The countries in which contingent payments are used the most are the United Kingdom and Ireland, the former with an earnout ratio of 27.71% and the latter a ratio of 32.61%. As we will show, these countries have the highest investor protection and are among the best with respect to the quality of the enforcement system. North American and Northern European

[7] Since our study focuses on completed deals, one could wonder whether any relation between enforcement quality and the use of earnout emerges only because we do not consider deals that fail to close. In other words, earnouts could be part of the consideration offered in unsuccessful deals and the frequency of these observations could be higher in countries with low-quality enforcement. We checked for this issue and this is not the case: the proportions of unsuccessful deals that included an earnout across countries are in line with those regarding completed deals. The results are not tabulated here but are available upon request.

countries include these contracts in a significant number of deals. The United States, for instance, shows an earnout ratio of 10.36%. The opposite holds for some Asian countries, South America, and Southern Europe. For example, earnouts were almost never used among sample acquisitions in countries such as Japan, Portugal, Greece, and Argentina. As reported later, these countries are characterized by a lower-quality enforcement system compared to those listed above.

While these results indicate that, in line with what is hypothesized, there seems to be some correlation between the level of enforcement quality and the frequency of earnouts, the percentage of deals including an earnout is relatively low, even in countries characterized by a higher-quality enforcement system. This evidence is consistent with the literature. Earnouts are not widespread likely because they are complex to structure and are therefore limited to deals with severe information asymmetry (Kohers and Ang, 2000; Cain et al., 2011). In addition, earnouts are not popular because they alter the risk faced by the sellers, due to uncertainties related to the bidder's decisions in the post-acquisition period (Datar et al., 2001). The limited diffusion of earnouts could also be because the litigation risk itself deters the parties from the wide use of earnout clauses: despite the efficiency of the enforcement system, potential litigation would be costly and time-consuming for both parties.

Panel A of Table 1 also compares countries by the average sizes of bidders and targets that use earnout agreements versus the average sizes of bidders and targets that do not. In the vast majority of countries included in the sample—although with variable differences across countries—the bidders that use contingent payments tend to be significantly smaller than those that do not, consistent with prior literature that suggests that smaller bidders have fewer information-gathering resources and tend to use earnouts to reduce misevaluation risk (Kohers and Ang, 2000; Datar et al., 2001). The same relation holds for target companies. This is probably because earnouts tend to be used for the acquisition of private companies and/or startups, which are affected by relevant uncertainties regarding their value and are characterized, on average, by a smaller size.

In Panel A of Table 1, one can also note countries that stand out with respect to different dimensions. The United States largely surpass other countries in terms of the level of M&A activity. The United Kingdom and Ireland instead show an earnout frequency that is significantly higher than those of other countries. This evidence could raise the concern that the presence of these countries in the sample is driving the results. To check if this is the case, as a robustness test, we perform our analyses after excluding these countries from the sample. Moreover, to ensure that none of the sample countries is driving our results, we perform our analyses on subsamples that exclude each of the countries individually. Another potential concern is that the distribution of M&A deals and earnouts among the sample countries could be influenced by the filters applied to ensure the availability of the needed data. In our robustness section, we cover this potential issue by performing our analyses in an extended sample with reduced data requirements.

Panel B of Table 1 reports the annual distribution of total acquisitions and earnout deals across countries. The statistics show that, for most countries, the number of deals reported in

the earliest years in our database is lower compared to the most recent years, perhaps due to more limited coverage by the source database. The statistics also show, for some countries, that the number of deals tends to vary from year to year or over specific subperiods. For example, for a few countries, the number of deals increases between 2004 and 2007 (e.g., the United States, Canada, the United Kingdom, Japan, Australia), while, for others, the increase occurs in later years (e.g., China, South Korea, Sweden). However, we do not observe unusual trends in the number of earnouts relative to the number of deals by country over time. Despite that, to control for time patterns, we include year fixed effects in our regressions. In addition, as a robustness test, we perform our analyses after dividing the sample into different subperiods. An alternative explanation for the observed time trends is related to economic cycles. To make sure that our results are not driven by such cycles, in our analyses we control for the economic growth of each country, as well as for other institutional factors.

(ii) Proxies for the Quality of the Enforcement System

The concept of the quality of an enforcement system is complex and influenced by many different features. Therefore, as mentioned earlier, we use several proxies borrowed from the literature to measure such quality. Our first measure is the anti–self-dealing index developed by Djankov et al. (2008b). This index (AntiSelfDealing) is a proxy for investor protection and tries to capture the ability of corporate insiders to expropriate outside shareholders through related-party transactions. Djankov et al. develop this index at the country level by averaging the value of several variables related to financial disclosure requirements, disclosure-related liability, and the ability of judges to access evidence that can prove wrongdoing in disputes involving investors. In short, this index focuses on enforcement mechanisms that can reduce or reveal the existence of related-party transactions and it is a proxy for the ability of judges to overcome information asymmetry and obtain information relevant to their decisions. We believe that this index is particularly suitable to proxy for those aspects of a country's judicial and enforcement system that matter for earnout holders. Indeed, after the closing of an acquisition that includes an earnout, the seller holds a claim to the earnout payment that could be triggered by the performance of the company it sold, which is under the bidder's control. This makes the seller's position similar to that of outside shareholders and, similar to the latter, the seller is exposed to the bidder's opportunistic behavior. In an earnout context, such a measure can be considered a proxy for the ability of judges to obtain information on how the target company was managed by the bidder and how the performance metric that triggers the earnout payment was computed.

As a second proxy, we use the Rule of Law Index (RuleOfLaw)—developed within the framework of the World Bank's Worldwide Governance Indicators (WGI) project—which captures the perceptions of a wide variety of agents, including firms and households, of the quality of the legal and enforcement system.[8] This proxy captures, among other things, the perceived quality of regulation, contract enforcement, police activities, and court function.

[8] See also Kaufmann et al. (2010) for additional details on this indicator.

Based on subjective perceptions, this indicator offers a different perspective on enforcement quality than the previous index, which, instead, tries to assess objectively the quality of the enforcement system and the effectiveness of its procedures. This different perspective can prove useful, since trust in the efficiency of the enforcement system is likely to play a role in agents' contractual decisions. In the earnout case, this index can be considered a proxy for the quality of the enforcement system as perceived by the parties involved in the M&A deal. We expect that the extent to which the parties trust the protection offered by the enforcement system plays a role in the decision to use an earnout.

To capture, at the same time, both the objective quality of the enforcement system and its subjective perception by the parties involved in the deal, we build an additional proxy based on the PCA of the two aforementioned proxies (IndPCA). To compute this composite index, we perform a PCA analysis that captures the underlying commonality of the two indicators. The first principal component is then used as an estimate of the quality of the enforcement system.[9]

Furthermore, we use a fourth proxy: the strength of legal rights index developed by the World Bank in the framework of the Doing Business reports. This index (CreditInd) measures the ability of the legal and judicial systems to protect the rights of creditors. In the case of an earnout, the sellers become the creditors of the acquirers as soon as the conditions triggering the contingent payments are met. Therefore, we believe that the level of protection offered to creditors could be relevant to sellers' decisions to accept an earnout clause. This index is available starting from 2004; therefore, when we use this index, our analyses are limited to 2004–2015.

Finally, we use two of the country-based underlying factors suggested by Isidro et al. (2016). Such factors are the result of a factor analysis based on 72 institutional variables. The first factor (INW Factor 1) includes, among others, several measures related to the quality of a country' legal and governance systems, such as regulatory quality, rule of law, and legal rights. The second factor (INW Factor 2) captures variables related to the quality of creditor and investor rights, securities regulation, capital market size, and legal origin. Both factors comprise legal and enforcement-related variables and, therefore, can be considered suitable proxies for the quality of the enforcement system and for the protection that such a system can offer earnout claimants.

Isidro et al. (2016) identify two additional underlying factors that group other institutional characteristics. In particular, the third factor (INW Factor 3) groups several measures that refer to the political process and to characteristics of the financial and tax reporting systems. The fourth factor (INW Factor 4) refers to the openness or closeness of that country's society, particularly in relation to external investment. While not directly related to the quality of the enforcement system, these two additional factors will be used as control

[9] We also computed the sum of ranks related to the anti–self-dealing index and the Rule of Law index of the countries in our analysis. Using this proxy provides results that are qualitatively similar to those obtained with the average of the two indicators or their first principal component. These results are not tabulated here for the sake of brevity.

variables together with the former two factors to control for other country-level characteristics that could be indirectly associated with the use of earnouts. Controlling for these and other institutional factors will allow us to better isolate the association between the level of enforcement quality and the use of earnouts.

The Appendix provides a more detailed description of the enforcement variables in our analyses.

Table 2 provides information on the quality of the judicial system, as captured by our proxies, in the countries in which we carried out our analysis.[10]

<insert table 2 about here>

The ranking in terms of enforcement quality tends to vary for the different proxies, which confirms that such proxies are capturing different facets of the enforcement quality concept. Among the countries that tend to be ranked consistently higher for more than one proxy are New Zealand, Singapore, the United Kingdom, Hong Kong, Ireland, the Scandinavian countries, and the United States. Several of these countries are also among those with the highest percentages of deals using earnouts (see Table 1, Panel A). This evidence provides preliminary support for H1, although conclusions cannot be drawn without controlling for other well-known determinants of earnouts.

Panel B of Table 2 reports the correlations between the enforcement quality variables. The Rule of Law Index and the anti–self-dealing index show a low level of correlation. The PCA index is, by construction, highly correlated with both the Rule of Law Index and the anti–self-dealing index. The credit protection index seems to be significantly correlated with all the other variables. By construction, the four INW Factors are uncorrelated. The first factor seems to be uncorrelated with the anti–self-dealing index, while it is correlated with the Rule of Law Index, the PCA index, and the credit protection index; INW Factor 2 shows a strong correlation with all the variables taken from other sources, while INW Factors 3 and 4 are not significantly correlated with any of the other variables, which confirms that they are capturing different institutional characteristics.

5. EMPIRICAL ANALYSES

(i) Impact of Enforcement Quality on the Likelihood of Using Earnouts

To test our first hypothesis on the relation between the likelihood of earnout agreements and the quality of the enforcement system, we first perform a univariate analysis by

[10] For the sake of completeness, in Table 2, we also report the last two factors identified by Isidro et al. (2016).

relating the earnout ratio, that is, the percentage of deals involving earnouts with respect to the total, to each indicator of the quality of the enforcement system across the 40 countries in our main sample.

<insert table 3 about here>

The results illustrated in Table 3 show that the coefficients of all the enforcement quality variables are in line with expectations. The use of earnouts is positively related with the level of enforcement quality, as proxied by the anti–self-dealing index, the Rule of Law Index, and the creditor protection index. In addition, the PCA index and the INW factors show a positive and strongly significant relation with the use of earnouts. However, as discussed in Section 2, prior studies suggest other elements are related to the characteristics of the deal and of the companies that are associated with the use of earnouts. The relative presence of these elements in the deals completed in each country could affect the univariate results. Therefore, we perform a multivariate analysis to control for these additional determinants.

To select our control variables, we refer to prior literature. Kohers and Ang (2000), Datar et al. (2001), and Barbopulos and Sudarsanam (2012) show that the use of earnouts is positively related to the size of the deal and negatively related to the value of the bidder. If the target operates in the service or high-tech sector, earnouts are used more frequently, due to greater growth opportunities and greater uncertainties related to the relevance of human capital (Kohers and Ang, 2000; Datar et al., 2001; Ragozzino and Reuer, 2009). Similarly, earnouts are more likely in the acquisition of private companies and subsidiaries (Kohers and Ang, 2000; Datar et al. 2001; Barbopulos and Sudarsanam, 2012), which are significantly affected by information asymmetry issues. A toehold in the target company, instead, reduces the probability of observing an earnout, presumably due to lower information asymmetry (Choi, 1991; Adra and Barbopoulos, 2018).

In addition to the above-mentioned controls, which are deal specific, we control for country-specific factors that could drive the decision to use earnouts. Indeed, one could argue that the enforcement quality is related to other institutional characteristics that could actually drive the results. To isolate, as much as possible, the relation between enforcement quality and earnout likelihood, we control for additional institutional factors. First, we control for the level of development of the financial environment. Indeed, a more developed financial environment could incentivize agents to use more sophisticated contractual clauses such as earnouts. In particular, we control for the M&A expertise of each country, which we proxy for by using the natural logarithm of the number of deals in a given country each year, and for the development of the financial market, which we proxy for by using the ratio of stock market capitalization to the gross domestic product (Rossi and Volpin, 2004; Bris and Cabolis, 2008).[11] We also control

[11] We retrieve this variable from the World Bank. To avoid confounding factors related to the financial crisis, for each country, we keep this ratio constant for the years following 2007.

for the economic and political conditions of the countries included in our sample[12] using gross domestic product (GDP) growth, a dummy variable—Blacklist, obtained from the Organisation for Economic Co-operation and Development (OECD)—that takes the value of one if the country is a tax haven, and the index of political stability taken from the World Bank.[13] Finally, when using the INW factors, we also include as control variables the two additional INW factors (INW Factor 3 and INW Factor 4) that summarize many other institutional characteristics.

Since the presence of an earnout agreement in a deal is a dichotomous variable, inquiries on the use of these contracts are best addressed by binary response models. In line with previous research (Kohers and Ang, 2000; Cain et al., 2011; Barbopulos and Sudarsanam, 2012), we use a logit model to link both deal characteristics and enforcement quality variables to the likelihood of including an earnout in a deal.[14]

We estimate the following logit equation:[15]

$$\text{Logit}(\text{Prob}(\text{Earnout}_{it} = 1)) = \beta_0 + \beta_1 \text{Mv}_{it} + \beta_2 \text{Tv}_{it} + \beta_3 \text{Priv}_{it} + \beta_4 \text{Sub}_{it} + \beta_5 \text{Toehold}_{it} + \beta_6 \text{TarSR}_{it} + \beta_7 \text{TarHT}_{it} + \beta_8 \text{Exp}_{it} + \beta_9 \text{MktGDP}_{it} + \beta_{10} \text{GDPgrowth}_{it} + \beta_{11} \text{PolStab}_{it} + \beta_{12} \text{Blacklist}_{it} + \beta_{13} \text{EnfQual}_{it} + \varepsilon_{it} \quad (1)$$

where

Earnout is a dummy variable that takes the value of one if an earnout agreement is used in the deal;

Mv is the natural logarithm of the market value, expressed in dollars, of the bidder four weeks prior to the acquisition;[16]

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[12] We are grateful to the discussant and the participants of the JBFA Capital Market Conference 2017 for suggesting this.

[13] In additional analyses, we also control for the level of corruption and the importance of religion across countries. Due to data availability, including these controls implies dropping out a few countries. However, these results (untabulated), including these additional controls, are qualitatively similar to our main results. Given the inverse relation between corruption and trust reported in previous literature (Uslaner, 2004, 2013), by controlling for corruption, we indirectly control also for trust, a cultural feature that could influence the differences in earnout use across countries.

[14] However, our results remain robust to the use of the probit model instead of the logit model.

[15] As an alternative, we replace the variables Tv and Mv with their ratio, which is used as a different specification of deal materiality. The results are robust to this specification.

[16] We consider that the market price of the bidder four weeks prior to the deal announcement provides a valuation of the bidder that is unlikely to be influenced by information spillover on the deal itself.

Tv is the natural logarithm of the value of the deal, measured as the value of the consideration received by the seller in the deal;

Priv is a dummy that takes the value of one if the target company is private;

Sub is a dummy that takes the value of one if the target is a subsidiary;

Toehold is a dummy that takes the value of one if the bidder owned a fraction of the shares in the target company before the acquisition;

TarSR is a dummy that takes the value of one if the target is in the service industry;

TarHT is a dummy that takes the value of one if the target is in the high-tech sector;

Exp is the natural logarithm of the number of deals that take place in each country each year;

MktGDP is the ratio between a country's market capitalization and its GDP;

GDPgrowth is a country's GDP growth;

PolStab is the World Bank index of political stability in a country;

Blacklist is a dummy variable that takes the value of one if the country is a tax haven according to the OECD; and

EnfQual is one of the (set of) enforcement quality variables discussed in Section 4.

In all specifications, we include year fixed effects.

<insert table 4 about here>

Our results are reported in Table 4. We start by retracing the steps of previous work on the use of earnouts. Model 1 includes variables that are related to the use of earnouts in the literature and excludes enforcement quality and country-specific variables. Target characteristics such as being a private company or a subsidiary or operating in the service or high-tech industry is positively and significantly related to the likelihood of including an earnout in a deal. The variable Toehold has a negative and significant coefficient, meaning that having a stake in the target company before the deal reduces the information asymmetry and is therefore negatively related to the likelihood of using earnouts. The value of the deal shows a positive correlation with this likelihood, while the market value of the acquirer has a negative and significant coefficient. These results are in line with the evidence of Kohers and Ang (2000), Datar et al. (2001), and Barbopulos and Sudarsanam (2012) and consistently hold across other specifications of the model in which we include the country-specific variables of enforcement quality. Across all models, we control for the country-specific characteristics previously outlined, such as expertise in M&A deals (Exp), development of the financial sector (MktGDP),

GDP growth (GDPgrowth), political stability (PolStab), and tax haven status (Blacklist). The growth of the GDP seems to be negatively and significantly correlated to the use of earnouts. A possible explanation is that risk-sharing mechanisms are perceived to be of less use when the economy is growing and more beneficial in times of economic downturns. The political stability index is negative in some specifications. This result could be related to the fact that political instability is a source of risk for the economy as well, which makes risk-sharing mechanisms such as earnouts more beneficial.

In Models 2 to 6, we introduce our measures of enforcement quality. In Model 2, we introduce the anti–self-dealing index. As argued in the previous section, this is, in our opinion, the measure that better fits the earnout case. The bidder, having already obtained control of the target company, could have an incentive to reduce the payment related to the earnout, possibly managing the actual or reported performance metrics on which the earnout is structured. The ability of an enforcement system to reduce ex ante information asymmetry related to the target's performance and to allow judges to access evidence ex post to prove wrongdoing can encourage sellers to accept an earnout agreement. The anti–self-dealing index was originally meant to capture enforcement quality from the point of view of minority/outside shareholders. However, as discussed in the previous sections, after the closing of the deal, the position of an earnout holder is very similar to that of an outside shareholder. In an earnout context, the anti–self-dealing measure can be considered a proxy for the ability of a judge, in case of dispute, to obtain information on how the target company was managed by the bidder and how the performance metric that triggers the earnout payment was computed. In Model 2, the anti–self-dealing index has a positive and significant coefficient, indicating that higher values of this index, which indicate better enforcement quality, are associated with an increase in the odds of using earnouts contracts. This result is consistent with the idea that legal protection matters in decisions to include an earnout in a deal.

In Model 3, the Rule of Law Index is used as a proxy for the subjective perception of the enforcement quality. Indeed, the decision to use an earnout agreement in a deal could depend on what the involved parties perceive to be the quality of the legal protection they can rely on in case of disputes. Unlike the anti–self-dealing index, this variable is not as focused on issues related to corporate disputes, but it captures more broadly the confidence of citizens and firms in the various aspects of their country's legal system. Model 3 in Table 4 shows that the Rule of Law Index is significantly and positively associated with the use of earnouts: the higher the perceived quality of the legal environment, the more likely contingent payments will be observed in M&As. The results of Model 4 show that the PCA index, which combines the previous two indexes, is also positively and significantly associated with the use of earnouts.

In Model 5, we use the creditor protection index developed by the World Bank. The effectiveness of the enforcement procedures related to creditors could be a relevant variable for sellers when deciding to include an earnout in an M&A deal. In case of disputes on the earnout payments, it is important for sellers to be confident that they can lay their claims before a court and obtain effective protection. Model 5 shows a positive association between the creditor

protection index and the use of earnouts.[17] In Model 6, we employ the INW factors. The first two factors—which are associated with the efficiency and effectiveness of a country's legal and governance systems and creditor and investor rights indices, respectively—appear to be positively correlated with the use of earnouts. However, the two additional INW factors, which proxy for numerous other institutional characteristics, do not have significant coefficients.

Although we cannot ascribe causality, since it is possible that a country's enforcement/legal regime characteristics are correlated with some unidentified country characteristic that could lead to the associations described, our results support the proposition that earnout agreements are part of an efficient contracting framework, in that they are most used when they are most likely to be enforced and moral hazard is most likely to be reduced by an efficient enforcement system.

In the sample used in our main analyses, the largest number of observations relates to the United States. To rule out concerns that our results are driven by this one country, we also perform our analysis after excluding US observations.

<insert table 5 about here>

The results provided in Table 5 show that our results are robust to the exclusion of US observations. All the enforcement quality variables maintain the same signs and significance levels. As in the previous table, the higher the anti–self-dealing index, the higher the likelihood of observing earnouts. Similar results hold for the Rule of Law Index and the PCA index. The likelihood of using earnouts in an M&A deal is positively related to the creditor protection index and the first two INW factors as well.

To check that no other specific country is driving our results, we repeat this exercise for every country, that is, we rerun our regressions excluding each individual country, one at a time. The results remain qualitatively similar in each subsample. We also exclude from the sample, at the same time, the United States and the two countries with the highest frequency of earnouts, that is, the United Kingdom and Ireland. The results remain qualitatively similar to those reported in our main analyses.[18]

[17] The number of observations in this model is lower compared to the others because the creditor protection index is available for the period 2004–2015. Therefore, only a subset of the entire dataset is used in the regression.

[18] To address the potential concern that our results could be driven by the United States, Canada, and France, we rerun our analyses after excluding this group of countries. We find the results to be qualitatively unchanged.

Finally, to check whether a different distribution of industries across countries is driving our results, we perform our analyses using industry fixed effects (after removing the two industry-related control variables). The main results (untabulated) do not change qualitatively.

Overall, the results support our hypothesis that a high-quality enforcement system makes earnout agreements more attractive for the parties involved in an acquisition, since they are less costly to enforce in case of disputes.

(ii) Relation between Enforcement Quality and Earnout Materiality

As a next step, we check if a similar relation holds when we look at earnout materiality, that is, the relevance of earnout payments on the total consideration paid, measured as the sum of upfront payments and earnout payments, as posited in H2. Out of 3,321 deals that include an earnout, we were able to obtain detailed payment information for 3,172, that is, approximately 95%. The dataset provided by Thomson has information on earnout payments for approximately 85% of the deals including an earnout. We hand-collected the missing data for 10% of the observations. Table 6 provides descriptive statistics, aggregated at the country level, on earnout materiality. Excluding countries in which fewer than 10 deals including earnouts are observed, it seems that the mean and median earnout materiality ratios are less dispersed than the incidence of earnout deals on total acquisitions presented in Table 1. In the United States, for example, such a ratio is, on average, about 33%, while it is about 40% in the United Kingdom.

<insert table 6 about here>

To assess if earnout materiality is affected by the quality of the enforcement system, we use a Tobit model, since the dependent variable is censored at zero.[19] In all specifications, we include the same control variables used in the logit regression.[20]

We estimate the following equation:[21]

[19] The value of earnout materiality is higher than zero only for deals that include an earnout. However, the decision to not include this kind of contract in a deal carries valuable information for the question at hand. We therefore run the regression on both deals that include an earnout and deals that do not. For the latter, earnout materiality is equal to zero.

[20] Since they proxy for the presence of higher information asymmetries and greater valuation risk, it is reasonable to assume that they could influence not only the decision to use contingent payments, but also their relevance with respect to the total consideration.

[21] In addition, in this case, as an alternative, we replace the variables Tv and Mv with their ratio. The results are robust to this specification.

$$EarnMateriality_{it} = \beta_0 + \beta_1 Mv_{it} + \beta_2 Tv_{it} + \beta_3 Priv_{it} + \beta_4 Sub_{it} + \beta_5 Toehold_{it} + \beta_6 TarSR_{it} + \beta_7 TarHT_{it} + \beta_8 Exp_{it} + \beta_9 MktGDP_{it} + \beta_{10} GDPgrowth_{it} + \beta_{11} PolStab_{it} + \beta_{12} Blacklist_{it} + \beta_{13} EnfQual_{it} + \varepsilon_{it} \quad 2)$$

<insert table 7 about here>

Table 7 shows that enforcement quality positively affects earnout materiality. The weight given to contingent payments on the total consideration increases with investor protection and the perceived quality of the legal environment, as proxied by the anti–self-dealing index and the Rule of Law Index, respectively. Similar results hold when these proxies are considered together, using the PCA index. Earnout materiality is also positively associated with the creditor protection index and the first two INW factors. As for the logit regression, we performed the same analysis excluding US deals. The results (untabulated but available upon request) are robust to this exclusion.[22]

Since we include deals that use contingent payments as well as deals that do not, the analysis presented above is an unconditional assessment of the determinants of earnout materiality, which considers both the decision of using an earnout and the weight assigned to it by the parties with respect to total payments. It would be interesting to also check if the quality of the enforcement system influences earnout materiality *given that* the parties have decided to use contingent payments in their deal. To do so, we need to focus only on deals that include earnouts. However, to prevent our results from being affected by countries with a limited number of earnout deals (which could poorly depict the relation we want to address), we exclude countries with fewer than 10 acquisitions involving contingent payments.[23]

A total of 11 countries are eventually included in the analysis: the United States, the United Kingdom, Canada, Sweden, Ireland, Australia, China, Germany, Norway, South Africa, and New Zealand. As for the main sample, the United States and the United Kingdom are the countries in which earnouts are used the most. The country with the highest mean and median earnout materiality is the United Kingdom, which is also a country with very high level of enforcement quality. Table 8 presents the results of ordinary least squares (OLS) regressions structured on the same models we used for the Tobit analysis.[24]

[22] Similar results hold when we exclude any other country instead of the United States.

[23] The results, available upon request, are qualitatively similar if we remove this constraint or if we increase the threshold.

[24] Our results remain robust when we use a Tobit model instead of OLS.

<insert table 8 about here>

While the dummies for private targets, subsidiaries, or toehold lose significance, the target being a high-tech or service company plays a significant role in determining earnout materiality. Apparently, the higher the uncertainties related to the acquisition due to growth opportunities or the relevance of human capital, the higher the portion of contingent payments. Regarding the enforcement quality variables, we can see that—notwithstanding the smaller sample size and lower variance in the sample—the anti–self-dealing index, the PCA index, and the creditor protection index are strongly associated with earnout materiality. The Rule of Law Index and the first two INW factors seem to be insignificant. This result could be due to the smaller sample size. However, the lack of significance of the Rule of Law Index could be also explained by the fact that this proxy captures enforcement quality in a broader sense than the others do, since it measures the perception of the quality of the legal environment in general and is thus not as close as the other two main variables to the specific area of the judicial system we would like to capture. Similar reasons can be found for the first two INW factors: since they are principal components of a relevant number of variables, some of which are not related to enforcement quality, their ability to capture effectively the efficiency of the judicial system might be more limited.[25]

Overall, our results support the hypothesis that the quality of the enforcement system is associated not only to the decision to use earnouts in acquisition agreements, but also to their materiality with respect to the total deal consideration, although to a lesser extent than in the former case.

6. ADDITIONAL ANALYSES AND ROBUSTNESS TESTS

(i) Including Cross-Border Deals

In our main analysis, to avoid the uncertainty related to the relevant jurisdiction in cross-border acquisitions, we focused our attention on domestic deals. In this section, we extend our investigation to cross-border deals to understand if the likelihood of including earnout agreements is higher for these acquisitions.

Datar et al. (2001) hypothesize that the likelihood of using earnouts is positively associated with cross-border acquisitions because they entail stronger information asymmetries and higher costs of due diligence. Their analysis, however, does not find support for their claim. The international framework of our study allows us to test this hypothesis as well. To do so, we include cross-border deals in our original sample. As discussed in Section 4, for such deals, the jurisdiction elected to solve possible disputes is uncertain. However, to carry out our analysis, we need to assign a specific jurisdiction to cross-border deals. For this purpose,

[25] In addition, it should be noted that the main loading on the first of the INW factors is the Rule of Law Index, which increases the likelihood of the two proxies having similar predictive power.

we choose the country of the target. Indeed, absent a specific provision in the contract, the location of the assets of the target company could drive the choice of the relevant jurisdiction according to the principle of *lex situs,* which states that, in case of conflict of law, the relevant jurisdiction is decided in relation to the geographical location of the object of the dispute. Moreover, extensive discussions with law firms point out that the parties might find it convenient to choose as the relevant jurisdiction that of the target's country, because, in case of disputes, it is easier for the local court to obtain documents and to conduct direct examinations without the burden of international requests for evidence.[26] Table 9 reports for each country the total number of acquisitions, the number of those that include an earnout, and the ratio of the two. The same information is provided for the subsets of domestic deals and cross-border deals.

<insert table 9 about here>

In the vast majority of countries in our sample, the frequency of earnout agreements with respect to total deals is higher for cross-border deals than for domestic deals. For instance, in the United States, the earnout ratio in domestic deals is 11.23%, while that in cross-border deals is 16.01%.

On this extended sample, we run the same logit model as discussed in the previous section, including, among the regressors, a dummy that takes the value of one if the deal is transnational (DiffNat) and zero otherwise. This variable is also interacted with the enforcement quality measures in order to understand whether the relation between enforcement quality and the use of earnouts is stronger or weaker in cross-border deals. The results of this analysis are presented in Table 10.

<insert table 10 about here>

It is worth noting that all the enforcement quality variables retain the same signs and levels of significance in this extended sample as well. This finding shows that our results on the relation between enforcement quality and the use of earnouts are robust to the inclusion of cross-border deals in the sample acquisitions. The direction of the variable DiffNat is, however, in principle, uncertain. The effect of this variable on the likelihood of using earnouts is likely to

[26] We can provide anecdotal evidence supporting our choice. For example, the trial meant to settle the dispute on the payment of the earnout stipulated for the acquisition of Acolyte Biomedica, a UK-based company, by 3M, incorporated in Delaware in the United States, was held in the United Kingdom. As another example, the contract for the acquisition of Playfish, a London-based social gaming startup, by Electronic Arts, located in the United States, elects as governing law that of the United Kingdom.

be the result of two conflicting incentives. On one hand, cross-border acquisitions are associated with more severe information asymmetry, which earnouts can help reduce. On the other hand, structuring an earnout is more complex, given differences in legal systems, and more costly to enforce, given the necessity of one party being before a court in a foreign country, as suggested by Datar et al. (2001), who, however, did not find support for their evidence in the data. Controlling for enforcement quality across countries could help disentangle the two effects, adding to the contribution of our paper. The results reported in Table 10 suggest that cross-border deals are associated with a higher likelihood of using earnouts, in line with the idea that they are used to reduce the greater information asymmetry. The enforcement quality variables are confirmed to be positively associated with the likelihood of using earnouts. However, the negative sign on the interaction between the quality of the enforcement system and the cross-border deal dummy indicates that the former matters less in cross-border deals.

To better understand whether the enforcement quality of the target country is in fact associated with the decision to employ an earnout in a cross-border acquisition, we run our regressions only on the subsample of cross-border deals.

<insert table 11 about here>

The results reported in Table 11 indicate that, despite being of smaller magnitude compared to domestic acquisitions, the association between enforcement quality and the use of earnouts is still significant when we consider the majority of the enforcement quality variables. The similarity of the results between the domestic and cross-border M&A samples suggests that our results are not driven by the motivation to acquire a domestic rather than a foreign company.

To address concerns that our results could be driven by specific features of cross-border deals, we perform additional tests. A first test tries to address the concern that tax incentives could drive the decision to perform a cross-border acquisition or to use an earnout agreement. To check whether this is the case, we control for the difference between the tax rates in the target's country and the acquirer's country, to capture the fiscal advantage of acquiring companies abroad. Including this control reduces the sample size, since tax rates are available from the OECD only for 26 of the countries in our study.[27] Our results (untabulated here for brevity) show that a higher tax rate in the target's country has a positive effect on the likelihood of using earnouts, likely due to the seller's tax benefits in case of a postponement of the payment terms. With respect to the enforcement quality variables, our results are robust to the inclusion of this additional control.

[27] The countries included in this additional analysis are Australia, Belgium, Canada, Chile, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

As a further test, we employ propensity score matching techniques to ensure the similarity between the domestic and cross-border deals in our analysis, to address the concern that our results could be related to intrinsic differences between the two types of acquisitions. For each country in the sample, we match cross-border deals to domestic deals on the following variables: the value of the deal, the value of the bidder, the industry, and the percentage of shares acquired. We restrict the analysis to the subsample of matched deals. We rerun our main analyses on three samples including matched domestic and cross-border deals, only matched domestic deals, and only matched cross-border deals, respectively. The results (untabulated here for the sake of brevity) are in line with our main results: the quality of the enforcement system seems to be significantly associated with the use of earnouts, for both domestic and cross-border deals, despite a smaller magnitude for the latter.

(ii) Deal Announcement Returns and Enforcement Quality

Our results suggest that a country's enforcement quality plays a role in the decision to use earnouts. In particular, sellers seem to be aware of the risk of litigation and to recognize the role played by enforcement quality and are thus more inclined to accept an earnout clause when the enforcement system is more efficient. While enforcement quality seems to be beneficial for sellers in the case of an earnout, a new question arises: to what extent is higher enforcement quality beneficial for the bidders? A possible way to answer this question is to analyze the bidder's returns around the M&A announcement and to test whether and how, in the case of an earnout, such returns are affected by the quality of the enforcement system. Ex ante, the answer to this question is not clear.

On the one hand, in countries with an efficient enforcement system, bidders could be less likely to engage in opportunistic behavior with respect to the payments due in relation to the earnout agreement. This could imply that, all else being equal, the expected payments related to the earnouts could be higher, which could be reflected in lower returns for bidders at the deal's announcement in countries with a more efficient enforcement system. On the other hand, a more efficient enforcement system could lower expected litigation costs, leading to a positive effect on bidders' gains. In addition, the market could well be aware that, in countries where the enforcement system is less efficient, earnouts are set in place less frequently and, then, only when the risk of litigation is perceived as lower. These arguments make the direction of the relation between enforcement quality and bidders' gains uncertain, as confirmed by the mixed results reported in prior literature (Kohers and Ang, 2000; Barbopulos and Sudarsanam; 2012; McNichols and Subben, 2015; Barbopulos and Adra, 2016; Barbopoulos et al., 2017).

To substantiate this issue, we collected data from Datastream to compute abnormal returns around the dates of deal announcements and related it to the quality of enforcement across countries. The announcement period normal returns are estimated using the market model (MacKinlay, 1997), by controlling for the correlation of the stock with the market return:

$$RET_{it} = \beta_{0,i} + \beta_i MKTret_t + \varepsilon$$

Abnormal returns are then estimated as the difference between realized returns and estimated normal returns:

$$AR_{it} = RET_{it} - \overline{RET}_{it}$$

The return of the market is computed using the Datastream country index, so each stock is paired with the appropriate reference stock market. The estimation window spans 60 days, ending 30 days prior to the announcement, that is, [-30; -90]. The cumulative excess return is the sum of abnormal returns over a five-day window [-2; +2] surrounding the day of announcement of the acquisition (e.g., Barbopulos and Sudarsanam, 2012; Barbopulos and Adra, 2016; Barbopoulos et al., 2017):

$$CAR_{it} = \sum_{t=-2}^{+2} AR_{it}$$

We regress cumulative abnormal returns (CARs) on the variables associated with the use of earnouts, since the use of these contracts in contexts where they are more appropriate could also influence market reactions.[28] In addition, we also include variables that previous literature has related to the magnitude of abnormal returns, such as the method of payment (Chang, 1998; Fuller et al., 2002), the target's public status (Faccio et al., 2006), firm age (Zhang, 2006), and leverage (Uysal, 2011). The model we employ is the following:

$$\begin{aligned} CAR_{it} = {} & \beta_0 + \beta_1 Mv_{it} + \beta_2 Tv_{it} + \beta_3 Priv_{it} + \beta_4 Sub_{it} + \beta_5 Toehold_{it} + \beta_6 Focus_{it} + \beta_7 Age_{it} + \beta_8 BMV_{it} \\ & + \beta_9 Stock_{it} + \beta_{10} Cash_{it} + \beta_{11} Leverage_{it} + \beta_{12} Public_{it} + \beta_{13} Exp_{it} + \beta_{14} MktGDP_{it} + \\ & \beta_{15} GDPgrowth_{it} + \beta_{16} PolStab_{it} + \beta_{17} Blacklist_{it} + \beta_{18} Earnout_{it} + \beta_{19} Mv \times Earnout_{it} + \beta_{20} Tv \times \\ & Earnout_{it} + \beta_{21} Priv \times Earnout_{it} + \beta_{22} EnfQual_{it} + \beta_{23} EnfQual_{it} \times Earnout_{it} + \varepsilon_{it} \end{aligned} \quad (3)$$

where

Focus is a dummy that takes the value of one if the target and bidder operate in the same industry, as defined by two digit Standard Industrial Classification (SIC) codes;

Age is the logarithm of the number of years since the initial public offering;

Leverage is the ratio of debt to total assets;

[28] For a discussion of these variables, see Section 5.

BMV is the book-to-market ratio;

Stock is a dummy variable that takes the value of one when the upfront payment includes shares;

Cash is a dummy variable that takes the value of one when the upfront payment includes cash; and

Public is a dummy variable that takes the value of one when the target is a public company.

The enforcement quality variables are interacted with the earnout dummy to see if the quality of the enforcement plays an additional role when earnouts are used.

<insert table 12 about here>

Table 12 shows that CARs are positively related to the size of the deal and negatively related to the size of the acquirer. Cash deals are associated with lower returns, while the association between the inclusion of stocks in the upfront payment and CARs is insignificant. This evidence is similar to that of Chang (1998) and Fuller et al. (2002), who report a lower average CAR when payment for the target is in cash than when it is in stocks. The target being a public company is negatively related, however, to the magnitude of CARs in relation to the greater risk of overpayment (Faccio et al., 2006). In line with the free cash flow hypothesis (Jensen, 1986), which suggests that the managers of underleveraged firms could make negative net present value investment choices for personal gain, leverage plays a positive role on the bidder's abnormal returns. Among the country-specific variables, the only one that seems to play a role is financial development, captured by the ratio of market capitalization to GDP.

The inclusion of earnouts in M&A deals seems to not be associated with any increase or decrease in abnormal returns for the bidder. This evidence is in line with the mixed results that characterize prior literature (Kohers and Ang, 2000; Barbopulos and Sudarsanam, 2012; McNichols and Subben, 2015; Barbopulos and Adra, 2016; Barbopoulos et al., 2017).

The enforcement quality variables do not seem to have a significant effect on the CARs. The anti–self-dealing index seems to be unrelated to abnormal returns considering both non-earnout deals and earnouts deals, since the coefficient of the variable and of the interaction between the anti–self-dealing index and the earnout dummy are not significant. We obtain similar results for the PCA index and the creditor protection index. Looking at the Rule of Law Index, we find mild evidence of a positive effect of earnouts on acquirer gains, since the coefficient of the interaction between the enforcement variable and the earnout dummy is significant at the 10% level. If we consider the measures developed by Isidro et al. (2016), we can see that the first factor, related to the efficiency and effectiveness of a country's legal and governance systems, seems to play a positive role on CARs considering deals that do not include

earnouts and a slightly stronger one with respect to earnout deals. The second factor, instead, seems to have a weakly negative effect on CARs for non-earnout deals. The interpretation of these coefficients, however, given the fact that they aggregate many different institutional variables, is more complex.

Overall, we find no univocal evidence of a significant relation between the bidder's abnormal returns and the quality of the enforcement system of the country in which the deal takes place. In short, the market seems to be aware that the quality of the enforcement system can be both beneficial and detrimental for the bidder.

(iii) Reducing Filters in Our Sample Selection

To verify that our results are not driven by the sample selection procedure, we rerun our logit model after including acquisitions for which the payment method was undisclosed and acquisitions with no available data on the market value of the acquirer or the consideration paid. We rerun our analysis, still maintaining a focus on transactions in which the acquirer is a public company that owns less than 50% of the target company before the deal and at least 90% afterward, but removing all other filters. This implies that we do not have enough data to compute the variables that describe the materiality of the deal. However, we still have enough information on the target's characteristics, which are a proxy for the information asymmetry and the valuation risk that affect the deal and that have been proven, in our previous results and in the literature, to be the most important drivers of the decision to use an earnout in a deal. Our results (untabulated) hold in this expanded data set. The relation between the use of earnouts and enforcement quality remains strong and significant for all the enforcement quality variables considered.

(iv) Controlling for Different Time Periods

As discussed in the literature review, Allee and Wangerin (2015) show that the issuance of revised accounting standards on business combinations could have reduced the incentive to use earnouts.[29] As of the fiscal year beginning after December 15, 2008, revised US accounting standards on business combinations require valuing contingent payments at their fair value, thus increasing the cost for companies to include earnouts in contracts. Similar requirements were introduced by the revised International Financial Reporting Standards (IFRS) 3. To verify that our results are not driven by the change in accounting rules, we perform our analyses by dividing the sample in two time partitions: the period before 2009 and the period beginning in 2009. Our results (untabulated) are consistent across these two partitions.[30]

[29] This evidence, however, is in contrast with the findings of Cadman et al. (2014).

[30] We also divided the 2000–2008 period in two, one considering the time between 2000 and 2005 and the other the time between 2006 and 2008, a period surrounding the financial crisis, which could have been affected by specific market conditions (such as liquidity). The results (untabulated) are consistent across the three different time partitions.

7. CONCLUSIONS

Earnouts allow the parties involved in an acquisition to close a deal more easily by relating part of the consideration to the target's future performance. Although beneficial for the conclusion of the deal, these contracts are quite complex to implement. Indeed, they are affected by litigation risk, since verification of the target company's performance is not straightforward. Additionally, the accounting metrics on which earnouts are usually structured could be managed and the effort made by the bidder in boosting the target's business cannot be directly observed. In case of bidder misbehavior, actual or alleged, the holder of an earnout contract could seek the protection of the court. Having an efficient enforcement system may thus be reassuring and could induce sellers to be more willing to accept these contracts.

Our paper focuses on the relation between enforcement quality and the use of earnouts from an international perspective. We show that earnouts are used more frequently in countries with a higher-quality enforcement system, where different proxies are used to measure such quality. Similar (although slightly weaker) relations hold for earnout materiality, that is, the ratio of the contingent payment to the total consideration; therefore, enforcement quality seems to be positively associated not only with the choice to include these clauses in the contract, but also with their proportion with respect to the total payment. Despite controlling for other concurrent country-specific factors, however, we cannot rule out the possibility that we are omitting some relevant variable correlated with enforcement, given the wide variety of countries' institutional, political, and social characteristics and the fact that these characteristics tend to show little variation over time. We are therefore unable to claim a causal relation between enforcement quality and the use of earnouts. Nevertheless, our results suggest that earnout compensation agreements are part of an efficient contracting framework, in that they are most used when they are most likely to be enforced and moral hazard is most likely to be reduced.

Our paper contributes to the finance literature by showing that legal and institutional factors could play a role in the design of financial contracts. Earnouts are contracting mechanisms through which this can occur. Additionally, we indirectly contribute to the theoretical finance literature that deals with the valuation of earnouts (e.g, Bruner 2001, 2004; Arzac 2005; Caselli et al. 2006; Lukas et al., 2012). Indeed, our findings suggest that litigation risk coupled with a poor enforcement system could significantly decrease the value of an earnout from the seller's point of view by increasing the risk of not receiving earnout payments. Therefore, the valuation models of earnouts should consider such risk factors.

Additional research remains to be done in this area. Apart from the decision to use earnout agreements, it would be interesting to check whether the quality of the enforcement system shapes the design of these contracts, such as by inducing the use of metrics that are less subject to manipulation or shorter horizons for the measurement period. We leave these avenues to future research.

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APPENDIX

DESCRIPTION OF THE ENFORCEMENT QUALITY VARIABLES

AntiSelf

This variable is the *anti-self-dealing index* developed by Djankov et al. (2008b). It is a measure of the legal protection of minority shareholders against expropriation by corporate insiders and it is calculated for 72 countries based on the legal rules prevailing in 2003. This measure is based on a questionnaire administered to attorneys from Lex Mundi, an association of international law firms with members in 108 countries. The questionnaire was based on a case related to a hypothetical self-dealing transaction between two firms controlled by the same entity. The case considered a situation in which the controlling entity made choices that could benefit itself at the expense of other investors but which was in line with current local regulations. Regarding the hypothetical self-dealing transaction, the lawyers were asked to provide an evaluation of 1) the transaction's disclosure requirements; 2) the duties of officers, directors, and controlling shareholders; 3) the options available to challenge the transaction's validity; 4) the causes of legal action available to protect those who suffered damages; 5) the parties having standing to sue under each cause of legal action; 6) the availability of direct and derivative suits; 7) ease of access to information and discovery rights; and 8) fines and sanctions. A score ranging from zero to one (with higher scores indicating the enforcement system's stronger effectiveness) was attributed for every aspect described above. The anti–self-dealing index was calculated as the average of these scores.

RuleOfLaw

The variable *Rule of Law* is one of the WGIs developed by the World Bank. It captures the perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. It is calculated each year for 215 countries. WGIs rely exclusively on perception-based governance data sources, which include surveys of firms and households and subjective assessments of a number of commercial business information providers, non-governmental organizations, and different multilateral organizations and public sector bodies. These different sources help gather information on several aspects of the rule of law, such as the fairness of the judicial process, the timeliness of judicial

decisions, judicial independence, the efficiency of legal means to protect property rights in the event of conflict between private stakeholders, the degree of enforcement of court orders, and the enforcement of contracts. This index ranges from -2.5 to 2.5, with higher scores indicating a more positive perception of the enforcement system's efficiency and effectiveness.

CreditInd

This variable is the *strength of legal rights index* taken from the Doing Business report of the World Bank, which captures the protection of the rights of borrowers and lenders through collateral laws and the protection of secured creditors' rights through bankruptcy laws. The variable is calculated each year for 189 countries.[31] The data on the legal rights of borrowers and lenders are gathered through a survey based on hypothetical secured transactions and administered to financial lawyers. The survey is meant to 1) establish if, in a given country, secured transactions are governed by a unified legal framework; 2) determine the flexibility allowed in the definition of financing contracts; 3) evaluate the extent of the protection offered by the law to secured creditors, for example, by allowing creditors to access information on collateralized assets (e.g., to verify if an asset being considered for a collateral is clean of any prior liens). The survey also measures how the law protects secured creditors in case of debtor default and in bankruptcy proceedings. The strength of legal rights index ranges from zero to 12, with higher values indicating stronger creditor protection.

INW Factors

The INW factors are taken from Isidro et al. (2016). The authors show that the vast majority of country attributes tend to be correlated with each other and, therefore, it is difficult to relate economic outcomes to country-specific features. Under the assumption that country attributes capture a set of underlying latent factors, the authors perform PCA on 72 country attributes frequently used in the accounting and finance literature (describing institutional, political, and social characteristics for 47 countries) aimed at capturing the common source of their variation. The authors identify four main latent factors that explain about 60% of the variation in country attributes. These four factors can be considered the underlying determinants of the attributes considered. The first factor is mainly related to the efficiency and effectiveness of countries' legal and governance systems, economic welfare, and legal rights. The second factor summarizes the variance associated with creditor and investor rights indices, securities regulation, capital market size, and legal origin. The

[31] This number refers to Doing Business 2015. The number of countries considered in the survey tends to grow over time.

third factor is related to measures referring to the political process and financial and tax reporting system characteristics. The fourth factor captures the openness or closeness of the country's society, particularly in relation to external investment.

Table 1: Descriptive statistics on the number of acquisitions, frequency of earnouts and size of bidders and targets

This table shows the acquisitions included in our sample, which were announced between 2000 and 2015 and completed by June 2016 and that took place in one of the 40 countries listed. Only domestic acquisitions are considered. The acquirer must not have held less than 50% of the shares of the target prior to the acquisition and participation after the deal must be at least 90%. Only acquisitions by public companies are considered and the information on the form of payment, the value of the transaction, and the market value of the acquirer must be available. In Panel A, the first three columns describe the total number of acquisitions, the acquisitions that involved an earnout, and the percentage of earnouts in the total number of deals. The remaining columns provide descriptive statistics on the mean value of bidders and targets across countries. The value of the bidder is defined as its market value four weeks prior to the acquisition. The value of the deal is the total consideration paid in the acquisition, including the earnout if such a clause is used. Information is provided separately for deals that do not involve an earnout (no earnout) and those that do (earnout). The difference, as a percentage, between the average values of the bidders belonging to these two groups is computed for each country in which at least one deal that uses an earnout agreement took place. The significance of these differences is assessed via t-tests that allow for heterogeneous variances, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively. Bidder and deal values are in millions of dollars. Panel B provides details on the distribution of acquisition across time and countries, reporting the total number of deals and the number of deals involving an earnout.

Panel A

Country	Acquisitions Total	Earnout deals	% of earnouts deals	Mean Acquiror Value - No earnout	Mean Acquiror Value - earnout	Difference (%)		Mean Target Value - No earnout	Mean Target Value - earnout	Difference (%)	
United States	17,063	1,750	10.36%	53,860	4,370	-91.89%	**	450	130	-71.10%	***
Canada	3,958	144	3.76%	892	343	-61.54%	***	94	50	-47.06%	**
United Kingdom	3,428	946	27.71%	6,034	1,830	-69.67%		152	25	-83.90%	***
Japan	3,168	2	0.06%	2,108	27,039	1182.54%		112	419	274.66%	
Australia	2,860	271	9.90%	1,305	368	-71.84%	***	95	28	-70.44%	***
China	1,592	14	0.88%	1,747	3,298	88.82%		298	102	-65.81%	***
South Korea	718	0	0.00%	1,315				102			
Malaysia	466	2	0.43%	569	227	-60.03%	*	64	5	-92.74%	***
Sweden	435	45	10.57%	858	619	-27.85%		77	54	-29.62%	
France	276	8	2.90%	6,552	1,971	-69.92%	***	820	2,931	257.29%	**
Singapore	267	6	2.25%	677	90	-86.77%	***	119	72	-39.68%	*
Hong Kong	251	3	1.20%	3,227	126	-96.09%	***	329	62	-81.14%	***
India	249	3	1.20%	2,480	6,574	165.08%		146	491	235.50%	
Brazil	247	10	4.05%	15,913	1,926	-87.89%	***	620	316	-49.09%	*

Italy	195	5	2.56%	5,627	558	-90.09%	***	737	117	-84.07%	***
Germany	167	12	7.19%	8,556	336	-96.07%	***	889	14	-98.37%	***
Norway	152	13	8.55%	2,494	226	-90.92%	***	354	16	-95.59%	**
South Africa	150	14	9.33%	1,199	264	-77.98%	***	156	31	-79.92%	***
Spain	143	9	6.29%	7,319	1,894	-74.12%	***	406	98	-75.97%	***
Thailand	137	0	0.00%	1,189				129			
Poland	134	5	3.73%	839	152	-81.87%	***	63	5	-92.42%	***
New Zealand	125	12	9.60%	425	228	-46.48%	**	43	27	-37.72%	**
Russian Fed	114	2	1.75%	61,112	652	-98.93%	***	378	723	91.10%	
Finland	102	7	6.86%	909	69	-92.38%	***	70	13	-80.90%	***
Mexico	86	2	2.33%	5,523	681	-87.68%	***	878	120	-86.33%	***
Turkey	73	1	1.37%	1,087	23	-97.90%		39	3	-92.02%	
Indonesia	72	0	0.00%	1,158				81			
Philippines	70	0	0.00%	1,096				77			
Netherlands	64	8	12.50%	4,907	3,263	-33.51%		388	482	24.28%	
Israel	60	1	11.67%	542	750	38.46%		90	44	-51.12%	**
Belgium	60	7	1.67%	2,200	174	-92.09%		626	7	-98.88%	
Greece	57	0	0.00%	1,347				105			
Denmark	56	1	1.79%	1,556	115	-92.61%		264	39	-85.27%	
Switzerland	49	2	4.08%	15,942	19,692	23.52%		3,701	390	-89.46%	***
Ireland-Rep	46	15	32.61%	463	332	-28.33%		74	22	-70.82%	***
Chile	37	0	0.00%	1,927				173			
Argentina	33	0	0.00%	1,599				81			
Peru	26	0	0.00%	1,238				118			
Portugal	24	0	0.00%	1,954				187			
Colombia	18	1	5.56%	1,484	228	-84.61%		216	270	24.96%	
Total	37228	3321	8.92%								

Panel B

Country		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TotalDeals
United States	Nr acquisitions	1601	1101	1106	1101	1303	1431	1386	1268	884	646	811	876	914	898	1115	622	17063
	Nr earnouts	101	94	130	98	127	156	134	150	123	80	84	107	102	77	107	80	1750
Canada	Nr acquisitions	2	2	136	153	267	324	341	388	329	373	356	332	274	275	267	139	3958
	Nr earnouts	0	0	9	7	8	15	11	11	9	5	11	16	9	12	14	7	144
United Kingdom	Nr acquisitions	18	12	163	257	366	388	397	399	244	130	216	163	145	188	226	116	3428
	Nr earnouts	2	2	51	53	91	99	114	133	85	29	53	40	40	55	53	46	946
Japan	Nr acquisitions	100	122	158	168	277	305	293	315	248	210	171	173	165	186	173	104	3168
	Nr earnouts	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Australia	Nr acquisitions	71	108	119	201	243	254	298	338	219	154	187	142	130	128	187	81	2860
	Nr earnouts	5	8	6	11	21	19	20	16	17	11	26	17	17	12	41	24	271
China	Nr acquisitions	1	8	11	20	17	15	34	73	102	96	125	122	147	198	315	308	1592
	Nr earnouts	0	0	0	0	1	1	1	3	1	3	3	1	0	0	0	0	14
South Korea	Nr acquisitions	4	16	13	4	8	19	53	88	97	82	79	67	43	53	58	34	718
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	Nr acquisitions	15	27	33	52	30	20	37	41	33	28	26	29	36	30	21	8	466
	Nr earnouts	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
Sweden	Nr acquisitions	0	0	9	19	34	29	40	47	35	27	53	38	40	25	14	25	435
	Nr earnouts	0	0	0	0	2	2	6	3	4	4	2	3	6	4	3	6	45
France	Nr acquisitions	2	2	3	16	19	28	32	40	21	19	20	24	9	15	17	9	276
	Nr earnouts	0	0	0	0	2	0	1	1	2	0	0	0	0	1	1	0	8
Singapore	Nr acquisitions	12	10	13	16	15	18	20	27	13	15	14	24	12	19	29	10	267
	Nr earnouts	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	2	6
Hong Kong	Nr acquisitions	13	14	18	17	21	17	16	18	21	20	19	29	3	6	13	6	251
	Nr earnouts	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3

India	Nr acquisitions	6	7	11	12	12	26	23	17	23	18	28	12	16	10	17	11	249
	Nr earnouts	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	3
Brazil	Nr acquisitions	0	0	3	8	12	10	16	31	54	22	32	22	13	13	10	1	247
	Nr earnouts	0	0	0	0	0	0	1	2	3	0	0	2	1	1	0	0	10
Italy	Nr acquisitions	0	1	9	25	15	21	16	21	23	10	11	14	4	8	14	3	195
	Nr earnouts	0	0	0	0	1	0	0	0	1	0	1	1	0	0	1	0	5
Germany	Nr acquisitions	0	3	6	6	9	19	16	22	7	6	11	12	15	7	16	12	167
	Nr earnouts	0	0	0	0	0	0	0	0	2	2	2	2	1	1	1	1	12
Norway	Nr acquisitions	0	0	4	8	11	15	19	24	10	11	13	12	4	5	11	5	152
	Nr earnouts	0	0	0	0	0	1	2	5	1	1	0	1	0	2	0	0	13
South Africa	Nr acquisitions	0	0	0	11	4	5	5	10	13	12	21	14	22	14	18	1	150
	Nr earnouts	0	0	0	0	0	1	0	2	1	2	1	0	3	1	2	1	14
Spain	Nr acquisitions	0	0	3	10	7	13	17	19	5	8	16	8	5	6	18	8	143
	Nr earnouts	0	0	0	0	1	2	0	1	0	0	2	0	0	1	2	0	9
Thailand	Nr acquisitions	2	1	6	13	16	9	8	11	4	13	15	13	6	8	10	2	137
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	Nr acquisitions	1	1	1	4	4	6	7	3	20	9	15	8	8	15	22	10	134
	Nr earnouts	0	1	0	0	0	0	0	0	3	0	0	0	0	0	1	0	5
New Zealand	Nr acquisitions	0	6	6	9	16	16	9	12	2	6	6	8	10	5	8	6	125
	Nr earnouts	0	1	0	0	1	2	0	0	1	0	1	2	1	1	0	2	12
Russian Fed	Nr acquisitions	1	0	0	3	3	4	9	16	9	5	16	20	13	7	7	1	114
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
Finland	Nr acquisitions	0	0	2	4	13	14	10	15	4	8	7	2	6	11	2	4	102
	Nr earnouts	0	0	0	0	1	1	0	2	0	0	0	0	1	0	1	1	7
Mexico	Nr acquisitions	0	0	0	0	4	3	3	2	1	3	7	6	2	24	25	6	86
	Nr earnouts	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
Turkey	Nr acquisitions	0	0	0	0	1	2	1	3	2	3	8	13	9	14	10	7	73

	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Indonesia	Nr acquisitions	0	1	2	0	3	3	1	8	8	9	20	8	2	6	1	0	72
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Philippines	Nr acquisitions	3	3	2	3	3	6	4	5	8	4	2	6	7	5	7	2	70
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	Nr acquisitions	1	0	1	2	5	2	14	12	2	3	7	6	4	2	1	2	64
	Nr earnouts	0	0	0	0	1	1	2	1	0	0	0	1	1	1	0	0	8
Belgium	Nr acquisitions	0	2	1	0	5	7	6	8	4	6	6	11	1	1	0	2	60
	Nr earnouts	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Israel	Nr acquisitions	0	0	0	4	6	7	2	7	3	5	5	6	5	4	3	3	60
	Nr earnouts	0	0	0	0	1	1	0	0	0	0	1	1	0	1	0	2	7
Greece	Nr acquisitions	0	0	3	6	1	3	5	6	3	6	5	6	4	4	4	1	57
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denmark	Nr acquisitions	0	0	0	7	2	1	4	4	4	4	4	6	6	7	5	2	56
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Switzerland	Nr acquisitions	0	0	3	4	3	7	2	0	2	6	2	2	5	3	9	1	49
	Nr earnouts	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Ireland-Rep	Nr acquisitions	0	0	3	3	3	4	14	5	3	2	1	1	1	0	4	2	46
	Nr earnouts	0	0	1	0	1	3	4	2	2	0	0	0	0	0	0	2	15
Chile	Nr acquisitions	0	0	1	6	2	2	3	3	2	1	2	1	5	5	2	2	37
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Argentina	Nr acquisitions	0	0	0	3	3	0	2	5	3	2	1	5	3	4	2	0	33
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peru	Nr acquisitions	0	0	1	1	0	1	0	0	2	0	5	3	6	2	4	1	26
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portugal	Nr acquisitions	0	0	2	2	0	1	2	6	4	2	1	1	1	1	1	0	24
	Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colombia	Nr	0	1	0	1	1	5	0	0	0	2	2	2	1	2	0	1	18

acquisitions																	
Nr earnouts	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1

Table 2: descriptive statistics on enforcement variables

Panel A of this table describes the enforcement quality variables by country. The source of these variables is described in the appendix. We have yearly data for the variables for the Rule of Law Index for the years between 2000 and 2015. For those variables for which we also have a time series dimension, we provide the average values along with their standard deviations (in italics). Panel B provides the correlations between the enforcement quality variables.

Panel A: mean and standard deviations of country indicators

Country	AntiSelfDealing	RuleOfLaw	IndPCA	CreditInd	INW Factor1	INW Factor2	INW Factor3	INW Factor4
New Zealand	0.95	1.865	1.999	10.33	0.79	0.986	0.582	0.68
		0.077	*0.058*	*0.78*				
Singapore	1.00	1.644	1.983	9.67	0.16	2.804	-1.859	0.01
		0.183	*0.137*	*0.78*				
United Kingdom	0.95	1.691	1.869	9.50	0.70	1.560	0.905	-0.42
		0.080	*0.060*	*1.17*				
Hong Kong	0.96	1.463	1.735	9.58	0.66	2.822	-1.827	0.42
		0.298	*0.223*	*1.00*				
Ireland-Rep	0.79	1.663	1.367	8.67	0.99	1.081	-0.716	2.12
		0.110	*0.083*	*0.78*				
Australia	0.76	1.765	1.347	9.50	0.62	1.197	1.192	0.26
		0.060	*0.045*	*0.80*				
Canada	0.64	1.753	0.994	7.33	0.52	1.243	1.933	0.20
		0.069	*0.051*	*0.78*				
Malaysia	0.95	0.501	0.977	9.50	-1.08	1.856	-1.054	-0.95
		0.092	*0.069*	*1.17*				
United States	0.65	1.562	0.889	9.33	0.32	1.152	2.267	-0.29
		0.053	*0.039*	*0.78*				
Israel	0.73	0.936	0.631	8.50	0.06	0.789	-0.207	1.46
		0.108	*0.081*	*1.17*				

Chile	0.63	1.297	0.603	4.50	0.26	-0.036	-1.716	1.45
		0.058	*0.044*	*0.90*				
Finland	0.46	1.962	0.599	7.83	1.56	-0.215	-0.335	0.17
		0.059	*0.045*	*0.39*				
Denmark	0.46	1.927	0.590	8.67	1.32	0.109	0.681	0.27
		0.080	*0.060*	*0.49*				
Norway	0.42	1.923	0.462	5.83	1.37	-0.670	1.489	-0.31
		0.068	*0.051*	*0.39*				
Belgium	0.54	1.340	0.395	4.83	0.84	-0.729	-0.333	-0.28
		0.076	*0.057*	*0.39*				
South Africa	0.81	0.096	0.263	6.67	-0.79	0.840	0.950	0.31
		0.050	*0.037*	*0.78*				
Japan	0.50	1.323	0.245	5.58	0.88	-0.541	-0.765	-2.62
		0.112	*0.084*	*0.79*				
Thailand	0.81	0.024	0.209	4.67	-1.14	0.612	-1.075	-1.44
		0.260	*0.195*	*0.78*				
Sweden	0.33	1.900	0.183	7.17	1.41	-0.443	0.937	-0.16
		0.080	*0.060*	*0.83*				
France	0.38	1.414	-0.043	4.42	0.73	-0.564	0.169	-0.92
		0.070	*0.052*	*0.79*				
Switzerland	0.27	1.862	-0.044	7.67	1.46	0.096	0.101	-0.34
		0.084	*0.063*	*0.78*				
Portugal	0.44	1.109	-0.077	2.83	0.47	-1.053	-0.846	0.59
		0.109	*0.082*	*0.39*				
South Korea	0.47	0.924	-0.144	5.83	0.05	-0.421	-0.797	-1.56
		0.075	*0.056*	*0.39*				
Germany	0.28	1.667	-0.144	7.17	1.17	-1.140	0.741	-0.81
		0.079	*0.059*	*0.72*				
Spain	0.37	1.138	-0.267	5.83	0.40	-0.586	0.087	0.12
		0.137	*0.103*	*0.39*				

China	0.76	-0.422	-0.275	4.25	-0.58	-0.055	-0.744	-1.83
		0.072	*0.054*	*0.87*				
Netherlands	0.20	1.788	-0.290	5.42	1.18	-0.256	0.738	0.42
		0.080	*0.060*	*1.16*				
India	0.58	0.045	-0.472	7.25	-1.26	0.674	0.839	-0.03
		0.132	*0.099*	*0.97*				
Italy	0.42	0.480	-0.619	2.83	0.34	-0.926	0.099	-0.62
		0.174	*0.131*	*0.39*				
Indonesia	0.65	-0.673	-0.790	4.92	-1.65	-0.196	-0.746	-1.11
		0.160	*0.120*	*0.29*				
Turkey	0.43	0.049	-0.917	4.67	-0.82	-0.925	-0.419	-0.26
		0.076	*0.057*	*0.78*				
Poland	0.29	0.603	-0.925	8.25	0.05	-0.800	-0.415	0.18
		0.158	*0.118*	*0.75*				
Colombia	0.57	-0.554	-0.940	6.17	-0.96	-0.501	-0.391	1.21
		0.231	*0.173*	*2.72*				
Greece	0.22	0.661	-1.093	3.83	0.10	-1.398	-0.756	-0.39
		0.211	*0.158*	*0.39*				
Peru	0.45	-0.636	-1.368	6.50	-1.05	-0.424	-0.625	1.54
		0.083	*0.062*	*1.68*				
Russian Fed	0.44	-0.871	-1.573	5.00	-0.59	-0.519	-1.012	-0.63
		0.128	*0.096*	*0.43*				
Brazil	0.27	-0.259	-1.612	2.83	-0.65	-1.190	0.374	0.95
		0.158	*0.118*	*0.39*				
Argentina	0.34	-0.653	-1.704	3.67	-0.52	-1.150	-0.783	1.79
		0.202	*0.151*	*0.78*				
Philippines	0.22	-0.473	-1.947	3.83	-1.59	-0.138	0.248	0.32
		0.090	*0.067*	*0.39*				
Mexico	0.17	-0.496	-2.092	5.92	-0.53	-1.115	-0.871	1.78
		0.099	*0.074*	*1.56*				

Panel B: Correlations

	AntiSelfDealing	RuleOfLaw	IndPCA	CreditInd	INW Factor1	INW Factor2	INW Factor3	INW Factor4
AntiSelfDealing	1							
RuleOfLaw	0.167							
IndPCA	0.766***	0.993***	1					
CredIndMRG	0.576***	0.708***	0.718***	1				
INW Factor1	-0.0931	0.612***	0.524***	0.321*	1			
INW Factor2	0.847***	0.721***	0.773***	0.750***	0.0307	1		
INW Factor3	-0.138	0.183	0.139	0.212	0.292	-0.00469	1	
INW Factor4	-0.0733	-0.0952	-0.0958	0.121	-0.0254	0.0224	-0.0268	1

Table 3: Earnout ratio

This table reports the regression results of each country's earnout ratio, that is, the number of deals that include an earnout divided by the total number of deals, on different enforcement quality variables. Standard errors are provided in parentheses, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

	Expected sign	(1)	(2)	(4)	(5)	(5)
AntiSelfDealing	+	0.0797*				
		(0.0455)				
RuleOfLaw	+		0.0311***			
			(0.0109)			
IndPCA	+			0.0285***		
				(0.00925)		
CreditInd	+				0.0108**	
					(0.00405)	
INWFactor1	+					0.0302***
						(0.0110)

INWFactor2	+					0.0190**
						(0.00938)
Constant		0.00794	0.0193	0.0470***	-0.0271	0.0461***
		(0.0268)	(0.0151)	(0.0101)	(0.0310)	(0.00996)
Observations		40	40	40	40	40
R-squared		0.075	0.175	0.200	0.157	0.246

Table 4: Determinants of the use of earnouts, with a focus on domestic deals

This table provides the results of logistic regressions of the use of earnouts on deal-specific and country-specific variables. We focus on domestic deals, that is, deals in which the nationalities of the target and the bidder are the same. The dependent variable takes the value one when the deal involves an earnout and zero in the opposite case. The variable Tv is the log of the deal value, that is, the acquisition price, while Mv is the log of the market value of the bidder four weeks prior to the acquisition; Priv, Sub, TarSR, and TarHT are dummy variables that take the value one if the target is a private company or a subsidiary or operates in the service or high-tech industry, respectively; Toehold is a dummy variable that takes the value one if the bidder owned a fraction of the shares in the target company before the acquisition; Exp is the log of the number of deals that took place in a given country/year; and MktGDP is the ratio of the stock market capitalization over the GDP; ; GDPgrowth is the increase in a country's GDP; PolStab is a political stability index; Blacklist is a dummy that takes value 1 if a country is a tax heaven. The enforcement quality variables are described in appendix. Standard errors (in parenthesis) are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.0672**	0.0903**	0.0622**	0.0908**	0.0651**	0.0759**
		(0.0317)	(0.0375)	(0.0253)	(0.0378)	(0.0331)	(0.0330)
Mv	-	-0.0627*	-0.0536**	-0.0461*	-0.0495*	-0.0599**	-0.0418*
		(0.0334)	(0.0268)	(0.0241)	(0.0253)	(0.0296)	(0.0238)
Priv	+	2.982***	2.974***	3.003***	2.992***	3.013***	3.012***
		(0.202)	(0.186)	(0.208)	(0.194)	(0.214)	(0.203)
Sub	+	2.004***	2.077***	2.096***	2.113***	2.096***	2.147***
		(0.103)	(0.100)	(0.0968)	(0.0983)	(0.101)	(0.104)
Toehold	-	-1.183***	-0.931***	-0.727***	-0.795***	-0.816**	-0.565***
		(0.442)	(0.351)	(0.243)	(0.284)	(0.340)	(0.167)
TarSR	+	0.812***	0.772***	0.750***	0.758***	0.787***	0.760***

		(0.0931)	(0.106)	(0.0947)	(0.101)	(0.101)	(0.102)
TarHT	+	0.965***	1.061***	0.963***	1.065***	1.090***	1.042***
		(0.211)	(0.141)	(0.197)	(0.140)	(0.230)	(0.148)
Exp	?	0.0722	0.108	-0.124*	0.0249	-0.153**	-0.118
		(0.0934)	(0.0912)	(0.0745)	(0.0757)	(0.0626)	(0.140)
MktGDP	?	0.00169	-0.000431	0.000198	-0.000806	-0.000417	-0.00207
		(0.00224)	(0.00156)	(0.00141)	(0.00161)	(0.00126)	(0.00144)
GDPgrowth	?	-0.217**	-0.240***	-0.00282	-0.134**	-0.177***	-0.0178
		(0.0888)	(0.0585)	(0.0693)	(0.0525)	(0.0656)	(0.0516)
PolStab	?	-0.332	-0.0902	-1.893***	-0.639***	-0.348*	-1.415***
		(0.333)	(0.208)	(0.413)	(0.199)	(0.186)	(0.311)
Blacklist	?	-0.544	-0.550	-0.248	-0.590	-0.434	-0.733
		(2.008)	(1.179)	(1.038)	(1.122)	(0.982)	(0.871)
AntiSelfDealing	+		4.134***				
			(0.798)				
RuleOfLaw	+			3.054***			
				(0.709)			
IndPCA	+				1.281***		
					(0.181)		
CreditInd	+					0.438***	
						(0.0711)	
INWFactor1	+						2.167***
							(0.373)
INWFactor2	+						1.062***
							(0.169)
INWFactor3	?						0.237
							(0.196)
INWFactor4	?						0.230
							(0.248)
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes

Observations		37,228	37,228	37,228	37,228	29,896	37,228
pseudo R2		0.11	0.147	0.150	0.159	0.153	0.168

Table 5: Determinants of the use of earnouts, with a focus on domestic deals, excluding the United States

This table provides the results of logistic regressions of the use of earnouts on deal-specific and country-specific variables. Observations related to deals that took place in the United States were excluded from the sample. The variable Tv is the log of the deal value, that is, the acquisition price, while Mv is the log of the market value of the bidder four weeks prior to the acquisition; Priv, Sub, TarSR, and TarHT are dummy variables that take the value one if the target is a private company or a subsidiary or operates in the service or high-tech industry, respectively; Toehold is a dummy variable that takes the value one if the bidder owned a fraction of the shares in the target company before the acquisition; Exp is the log of the number of deals that took place in a given country/year; and MktGDP is the ratio of the stock market capitalization over the GDP; ; GDPgrowth is the increase in a country's GDP; PolStab is a political stability index; Blacklist is a dummy that takes value 1 if a country is a tax heaven. The enforcement quality variables are described in appendix. Standard errors (in parenthesis) are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.125***	0.137***	0.127***	0.137***	0.141***	0.124***
		(0.0336)	(0.0262)	(0.0249)	(0.0234)	(0.0251)	(0.0229)
Mv	-	-0.110**	-0.0984***	-0.0764*	-0.0920***	-0.0934***	-0.0798**
		(0.0545)	(0.0339)	(0.0408)	(0.0332)	(0.0301)	(0.0375)
Priv	+	3.339***	3.279***	3.394***	3.309***	3.303***	3.365***
		(0.363)	(0.356)	(0.322)	(0.349)	(0.432)	(0.315)
Sub	+	2.105***	2.197***	2.317***	2.253***	2.211***	2.337***
		(0.309)	(0.263)	(0.226)	(0.240)	(0.330)	(0.194)
Toehold	-	-1.691***	-1.242***	-1.029***	-1.072***	-1.244***	-0.815***
		(0.474)	(0.403)	(0.335)	(0.338)	(0.375)	(0.220)
TarSR	+	0.891***	0.806***	0.781***	0.766***	0.761***	0.755***
		(0.211)	(0.216)	(0.204)	(0.200)	(0.220)	(0.198)
TarHT	+	0.521***	0.623***	0.549***	0.609***	0.650***	0.570***
		(0.151)	(0.151)	(0.117)	(0.140)	(0.154)	(0.112)
Exp	?	0.236	-0.189	0.0313	-0.272**	0.0127	-0.213
		(0.224)	(0.150)	(0.0983)	(0.135)	(0.126)	(0.159)
MktGDP	?	0.00147	-0.000509	-0.000290	-0.000470	-0.00115	-0.00184
		(0.00202)	(0.00149)	(0.00140)	(0.00147)	(0.00131)	(0.00115)
GDPgrowth	?	-0.276*	-0.220***	-0.00279	-0.101	-0.182***	0.0164

		(0.142)	(0.0690)	(0.0774)	(0.0625)	(0.0694)	(0.0531)
PolStab	?	-0.695	0.263	-2.382***	-0.506**	-0.532**	-1.516***
		(0.605)	(0.306)	(0.462)	(0.214)	(0.270)	(0.308)
Blacklist	?	0.217	-1.490	0.475	-1.532	0.222	-1.244
		(1.700)	(1.271)	(0.980)	(1.191)	(1.045)	(1.092)
AntiSelfDealing	+		5.294***				
			(1.190)				
RuleOfLaw	+			3.198***			
				(0.666)			
IndPCA	+				1.541***		
					(0.252)		
CreditInd	+					0.474***	
						(0.0755)	
INWFactor1	+						2.395***
							(0.390)
INWFactor2	+						1.156***
							(0.227)
INWFactor3	?						0.155
							(0.288)
INWFactor4	?						0.227
							(0.290)
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		20,165	20,165	20,165	20,165	17,742	20,165
pseudo R2		0.146	0.22	0.230	0.241	0.222	0.256

Table 6: Descriptive statistics on earnout materiality

This table shows, across countries, the total number of earnouts included in our sample, the number of these deals for which the information on the earnout payment is available, and the percentage difference between the two. It also provides details on the mean, the median and the standard deviations of earnout materiality for deals that use these contracts and for which the payment information is available.

Country	Nr deals involving earnouts - Total	Nr deals involving earnouts - Info on earnout materiality	% change	Earnout materiality - Mean	Earnout materiality - Median	Earnout materiality - Standard deviation
United States	1750	1631	-6.80%	32.57%	27.40%	22.86%
Canada	144	136	-5.56%	33.92%	27.45%	23.69%
United Kingdom	946	946	0.00%	39.70%	36.77%	24.31%
Japan	2	2	0.00%	37.86%	37.86%	2.85%
Australia	271	254	-6.27%	36.00%	32.75%	23.71%
China	14	13	-7.14%	48.61%	50.00%	22.62%
South Korea	0	0				
Malaysia	2	2	0.00%	16.64%	16.64%	0.01%
Sweden	45	42	-6.67%	36.77%	32.33%	23.37%
France	8	8	0.00%	23.56%	17.43%	21.94%
Singapore	6	6	0.00%	24.15%	20.34%	13.47%
Hong Kong	3	3	0.00%	28.43%	20.97%	18.97%
India	3	3	0.00%	16.96%	15.00%	14.90%
Brazil	10	10	0.00%	41.13%	38.77%	24.10%
Italy	5	5	0.00%	25.47%	13.04%	20.47%
Germany	12	11	-8.33%	27.65%	25.51%	17.26%
Norway	13	13	0.00%	31.51%	27.27%	22.65%
South Africa	14	14	0.00%	36.06%	29.89%	24.62%
Spain	9	9	0.00%	29.03%	27.72%	11.15%
Thailand	0	0				
Poland	5	5	0.00%	36.69%	40.00%	16.28%

New Zealand	12	12	0.00%	32.53%	18.84%	33.38%
Russian Fed	2	2	0.00%	9.42%	9.42%	8.27%
Finland	7	7	0.00%	33.97%	36.14%	15.86%
Mexico	2	2	0.00%	13.26%	13.26%	14.52%
Turkey	1	1	0.00%	37.06%	37.06%	
Indonesia	0	0				
Philippines	0	0				
Netherlands	8	8	0.00%	28.86%	17.19%	31.43%
Israel	7	7	0.00%	39.01%	36.36%	20.53%
Belgium	1	1	0.00%	66.05%	66.05%	
Greece	0	0				
Denmark	1	1	0.00%	15.59%	15.59%	
Switzerland	2	2	0.00%	75.36%	75.36%	1.17%
Ireland-Rep	15	15	0.00%	35.85%	26.38%	26.05%
Chile	0	0				
Argentina	0	0				
Peru	0	0				
Portugal	0	0				
Colombia	1	1	0.00%	11.11%	11.11%	
TOTAL	3321	3172	-4.49%			

Table 7: Determinants of the earnout materiality, with a focus on domestic deals

This table provides the results of Tobit regressions of earnout materiality (payment related to the earnout on the total deal payment) on deal-specific and country-specific variables. The variable Tv is the log of the deal value, that is, the acquisition price, while Mv is the log of the market value of the bidder four weeks prior to the acquisition; Priv, Sub, TarSR, and TarHT are dummy variables that take the value one if the target is a private company or a subsidiary or operates in the service or high-tech industry, respectively; Toehold is a dummy variable that takes the value one if the bidder owned a fraction of the shares in the target company before the acquisition; Exp is the log of the number of deals that took place in a given country/year; and MktGDP is the ratio of the stock market capitalization over the GDP; ; GDPgrowth is the increase in a country's GDP; PolStab is a political stability index; Blacklist is a dummy that takes value 1 if a country is a tax heaven. The enforcement quality variables are described in appendix. Standard errors are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.0224*	0.0293**	0.0209**	0.0290**	0.0193*	0.0241**
		(0.0120)	(0.0119)	(0.00900)	(0.0115)	(0.0116)	(0.00965)
Mv	-	-0.0268**	-0.0214**	-0.0206**	-0.0196**	-0.0243**	-0.0177**
		(0.0128)	(0.00916)	(0.00890)	(0.00848)	(0.00995)	(0.00824)
Priv	+	0.854***	0.820***	0.834***	0.816***	0.822***	0.820***
		(0.0689)	(0.0408)	(0.0542)	(0.0406)	(0.0518)	(0.0431)
Sub	+	0.539***	0.545***	0.547***	0.550***	0.541***	0.558***
		(0.0290)	(0.0246)	(0.0248)	(0.0232)	(0.0214)	(0.0237)
Toehold	-	-0.356***	-0.283***	-0.234***	-0.240***	-0.249***	-0.168***
		(0.128)	(0.101)	(0.0737)	(0.0798)	(0.0948)	(0.0449)
TarSR	+	0.273***	0.258***	0.247***	0.249***	0.254***	0.246***
		(0.0369)	(0.0382)	(0.0311)	(0.0346)	(0.0313)	(0.0336)
TarHT	+	0.332***	0.360***	0.324***	0.357***	0.362***	0.348***
		(0.0733)	(0.0518)	(0.0704)	(0.0520)	(0.0843)	(0.0549)
Exp	?	0.0211	0.0167	-0.0490*	-0.0107	-0.0552**	-0.0448
		(0.0304)	(0.0231)	(0.0260)	(0.0192)	(0.0217)	(0.0421)
MktGDP	?	0.000410	-0.000233	0.000113	-0.000300	-0.000176	-0.000567*
		(0.000599)	(0.000440)	(0.000428)	(0.000414)	(0.000365)	(0.000318)
GDPgrowth	?	-0.0650**	-0.0681***	0.00133	-0.0383***	-0.0460**	-0.00452
		(0.0284)	(0.0160)	(0.0224)	(0.0133)	(0.0205)	(0.0157)
PolStab	?	-0.109	-0.0337	-0.589***	-0.218***	-0.123*	-0.466***
		(0.118)	(0.0697)	(0.141)	(0.0659)	(0.0648)	(0.0990)

Blacklist	?	-0.0278	-0.134	-0.109	-0.180	-0.134	-0.306
		(0.429)	(0.344)	(0.311)	(0.320)	(0.292)	(0.247)
AntiSelfDealing	+		1.299***				
			(0.242)				
RuleOfLaw	+			0.852***			
				(0.185)			
IndPCA	+				0.406***		
					(0.0537)		
CreditInd	+					0.138***	
						(0.0225)	
INWFactor1	+						0.649***
							(0.105)
INWFactor2	+						0.331***
							(0.0506)
INWFactor3	?						0.0510
							(0.0626)
INWFactor4	?						0.0840
							(0.0772)
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		37,079	37,079	37,079	37,079	29,798	37,079
pseudo R2		0.114	0.153	0.154	0.167	0.159	0.177

Table 8: Determinants of earnout materiality - earnout users

This table provides the results of ordinary least squares regressions of earnout materiality (payment related to the earnout on the total deal payment) on deal-specific and country-specific variables. The variable Tv is the log of the deal value, that is, the acquisition price, while Mv is the log of the market value of the bidder four weeks prior to the acquisition; Priv, Sub, TarSR, and TarHT are dummy variables that take the value one if the target is a private company or a subsidiary or operates in the service or high-tech industry, respectively; Toehold is a dummy variable that takes the value one if the bidder owned a fraction of the shares in the target company before the acquisition; Exp is the log of the number of deals that took place in a given country/year; and MktGDP is the ratio of the stock market capitalization over the GDP; GDPgrowth is the increase in a country's GDP; PolStab is a political stability index. The enforcement quality variables are described in appendix. Standard errors are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(2)	(3)	(4)	(5)	(6)
Tv	+	-0.0264***	-0.0269***	-0.0262***	-0.0262***	-0.0264***
		-0.00426	-0.00393	-0.00421	-0.0035	-0.00348
Mv	-	-0.00371	-0.00397	-0.00375	-0.00503	-0.00374
		-0.00596	-0.00601	-0.00597	-0.00394	-0.00286
Priv	+	0.00356	0.00562	0.00285	-0.026	0.00245
		-0.0225	-0.0209	-0.0226	-0.03	-0.044
Sub	+	-8.09E-05	-0.00123	-0.00132	-0.0245	-0.0005
		-0.019	-0.018	-0.0192	-0.0283	-0.0447
Toehold	-	0.0481	0.049	0.0481	0.0610*	0.0468
		-0.0511	-0.0505	-0.051	-0.032	-0.05
TarSR	+	0.0362***	0.0347***	0.0358***	0.0317***	0.0355***
		-0.00654	-0.00648	-0.00652	-0.0037	-0.00929
TarHT	+	0.0790**	0.0735**	0.0782**	0.0775	0.0790***
		-0.0297	-0.0318	-0.03	-0.0433	-0.0125
Exp	?	-0.00374	-0.0153*	-0.00617	-0.0168*	0.0109
		-0.00673	-0.0078	-0.00623	-0.009	-0.0138
MktGDP	?	0.000188	0.000394	0.000287	0.000213	0.000359
		-0.000225	-0.000378	-0.000227	-0.000337	-0.000376
GDPgrowth	?	0.00486	0.00403	0.00629	0.00578	0.00151
		-0.00654	-0.00683	-0.00719	-0.0062	-0.00637
PolStab	?	-0.0321	-0.0734***	-0.0491	-0.0613*	-0.00982
		-0.031	-0.0198	-0.0292	-0.0286	-0.0326

Blacklist	?	0.0145	0.0104	0.0154	-0.0144	0.0773
		-0.0341	-0.0414	-0.0366	-0.0452	-0.106
AntiSelfDealing	+	0.137***				
		-0.0404				
RuleOfLaw	+		0.0279			
			-0.0357			
IndPCA	+			0.0378***		
				-0.0116		
CreditInd	+				0.0149***	
					-0.00389	
INWFactor1	+					-0.00921
						-0.0359
INWFactor2	+					0.0108
						-0.0216
INWFactor3	?					-0.0434*
						-0.0254
INWFactor4	?					-0.031
						-0.0358
Year fixed effects		Yes	Yes	Yes	Yes	Yes
Observations		3,087	3,087	3,087	2,559	3,087
adj-R2		0.0736	0.069	0.0731	0.0686	0.0742

Table 9: Descriptive statistics on the number of acquisitions and frequency of earnouts - Comparison between domestic and cross border deals

This table lists the acquisitions considered in the sample that include transnational acquisitions. The nationality of a deal is defined according to the country of the target. The statistics on the number of deals and the frequency of earnouts is provided with respect to domestic deals, cross border deals, and at aggregate level.

Country	Nr Total Acquisitions	Nr deals involving earnouts - Total	% of deals involving earnouts - Total	Nr Domestic Acquisitions	Nr deals involving earnouts - Domestic	% of deals involving earnouts - Domestic	Nr Cross Border Acquisitions	Nr deals involving earnouts	% of deals involving earnouts - Cross Border
United States	20,149	2,244	11.14%	17,063	1,750	10.26%	3,086	494	16.01%
Canada	4,906	235	4.79%	3,958	144	3.64%	948	91	9.60%
United Kingdom	4,816	1,153	23.94%	3,428	946	27.60%	1,388	207	14.91%
Japan	3,237	6	0.19%	3,168	2	0.06%	69	4	5.80%
Australia	3,413	337	9.87%	2,860	271	9.48%	553	66	11.93%
China	2,029	37	1.82%	1,592	14	0.88%	437	23	5.26%
South Korea	789	2	0.25%	718	0	0.00%	71	2	2.82%
Malaysia	545	4	0.73%	466	2	0.43%	79	2	2.53%
Sweden	708	81	11.44%	435	45	10.34%	273	36	13.19%
France	725	60	8.28%	276	8	2.90%	449	52	11.58%
Singapore	427	19	4.45%	267	6	2.25%	160	13	8.13%
Hong Kong	468	23	4.91%	251	3	1.20%	217	20	9.22%
India	350	11	3.14%	249	3	1.20%	101	8	7.92%
Brazil	438	31	7.08%	247	10	4.05%	191	21	10.99%
Italy	397	29	7.30%	195	5	2.56%	202	24	11.88%
Germany	795	75	9.43%	167	12	7.19%	628	63	10.03%
Norway	322	43	13.35%	152	13	8.55%	170	30	17.65%
South Africa	249	26	10.44%	150	14	9.33%	99	12	12.12%
Spain	354	26	7.34%	143	9	6.29%	211	17	8.06%
Thailand	189	6	3.17%	137	0	0.00%	52	6	11.54%
Poland	205	9	4.39%	134	5	3.73%	71	4	5.63%
New Zealand	295	35	11.86%	125	12	9.60%	170	23	13.53%
Russian Fed	198	7	3.54%	114	2	1.75%	84	5	5.95%

Finland	230	24	10.43%	102	7	6.86%	128	17	13.28%
Mexico	300	9	3.00%	86	2	2.33%	214	7	3.27%
Turkey	120	3	2.50%	73	1	1.37%	47	2	4.26%
Indonesia	151	3	1.99%	72	0	0.00%	79	3	3.80%
Philippines	98	3	3.06%	70	0	0.00%	28	3	10.71%
Netherlands	357	45	12.61%	64	8	12.50%	293	37	12.63%
Belgium	179	14	7.82%	60	1	1.67%	119	13	10.92%
Israel	192	29	15.10%	60	7	11.67%	132	22	16.67%
Greece	76	3	3.95%	57	0	0.00%	19	3	15.79%
Denmark	213	23	10.80%	56	1	1.79%	157	22	14.01%
Switzerland	236	29	12.29%	49	2	4.08%	187	27	14.44%
Ireland-Rep	179	37	20.67%	46	15	32.61%	133	22	16.54%
Chile	119	1	0.84%	37	0	0.00%	82	1	1.22%
Argentina	108	2	1.85%	33	0	0.00%	75	2	2.67%
Peru	94	2	2.13%	26	0	0.00%	68	2	2.94%
Portugal	52	4	7.69%	24	0	0.00%	28	4	14.29%
Colombia	74	5	6.76%	18	1	5.56%	56	4	7.14%

Table 10: Determinants of the use of earnouts, including cross-border deals

This table provides the results of logistic regressions of the use of earnouts on deal-specific and country-specific variables. In these regressions, we include cross-border deals, to check if the likelihood of using earnouts is higher for these acquisitions. The variable of interest is DiffNat, which is a dummy variable that takes the value one if the bidder and the target are incorporated in different countries. As in Table 3, the dependent variable takes the value one when the deal involves an earnout and zero otherwise. Standard errors are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.0784***	0.0925***	0.0733***	0.0954***	0.0733**	0.0780***
		(0.0290)	(0.0287)	(0.0251)	(0.0307)	(0.0302)	(0.0263)
Mv	-	-0.0618***	-0.0559***	-0.0525***	-0.0521***	-0.0642***	-0.0497***
		(0.0236)	(0.0203)	(0.0177)	(0.0185)	(0.0193)	(0.0182)
Priv	+	2.934***	2.932***	2.973***	2.964***	3.004***	2.974***

		(0.179)	(0.166)	(0.192)	(0.175)	(0.195)	(0.183)
Sub	+	1.937***	1.981***	2.019***	2.026***	2.035***	2.047***
		(0.132)	(0.135)	(0.139)	(0.133)	(0.136)	(0.134)
DiffNat	?	0.646	3.113***	1.887***	1.577***	2.985***	1.363***
		(0.424)	(0.811)	(0.571)	(0.336)	(0.697)	(0.367)
Toehold	-	-1.001***	-0.799***	-0.720***	-0.705***	-0.692***	-0.557***
		(0.307)	(0.202)	(0.169)	(0.163)	(0.186)	(0.0866)
TarSR	+	0.866***	0.831***	0.819***	0.830***	0.852***	0.825***
		(0.0733)	(0.0845)	(0.0791)	(0.0838)	(0.0785)	(0.0848)
TarHT	+	0.969***	1.026***	0.956***	1.042***	1.046***	1.002***
		(0.181)	(0.147)	(0.174)	(0.136)	(0.192)	(0.147)
Exp	?	0.0819	0.0962*	-0.0371	0.0513	-0.0679	-0.0612
		(0.0652)	(0.0505)	(0.0612)	(0.0449)	(0.0508)	(0.0462)
MktGDP	?	0.000633	-0.000213	-3.31e-05	-0.000402	-0.000146	-0.000926*
		(0.000762)	(0.000537)	(0.000479)	(0.000536)	(0.000442)	(0.000477)
GDPgrowth	?	-0.140**	-0.155***	-0.0280	-0.0977***	-0.118***	-0.0264
		(0.0586)	(0.0395)	(0.0419)	(0.0275)	(0.0422)	(0.0256)
PolStab	?	-0.133	0.00147	-1.049***	-0.309**	-0.165	-0.849***
		(0.213)	(0.146)	(0.344)	(0.135)	(0.123)	(0.224)
Blacklist	?	0.00935	-0.125	0.169	-0.0951	-0.101	-0.0437
		(0.464)	(0.457)	(0.361)	(0.486)	(0.337)	(0.356)
AntiSelfDealing	+		3.936***				
			(0.851)				
AntiSelfDealing x DiffNat	?		-3.410***				
			(0.993)				
RuleOfLaw	+			2.161***			
				(0.619)			
RuleOfLaw x DiffNat	?			-1.064***			
				(0.386)			
IndPCA	+				1.226***		
					(0.186)		
IndPCA x DiffNat	?				-0.998***		

					(0.207)		
CreditInd	+					0.400***	
						(0.0773)	
CreditInd x DiffNat	?					-0.325***	
						(0.0795)	
INWFactor1	+						1.807***
							(0.388)
INWFactor2	+						0.958***
							(0.241)
INWFactor3	?						0.224**
							(0.0969)
INWFactor4	?						0.114
							(0.267)
INWFactor1 x DiffNat	?						-0.904***
							(0.319)
INWFactor2 x DiffNat	?						-0.718**
							(0.291)
INWFactor3 x DiffNat	?						-0.0330
							(0.146)
INWFactor4 x DiffNat	?						-0.0595
							(0.286)
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		48,780	48,780	48,780	48,780	39,939	48,780
pseudo R2		0.110	0.136	0.134	0.145	0.140	0.149

Table 11: Determinants of the use of earnouts, only cross-border deals

This table provides the results of logistic regressions of the use of earnouts on deal-specific and country-specific variables. In these regressions, we consider only cross-border deals. The variable of interest is DiffNat, which is a dummy variable that takes the value one if the bidder and the target are incorporated in different countries. As in Table 3, the dependent variable takes the value one when the deal involves an earnout and zero otherwise. Standard errors are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.101***	0.101***	0.0959***	0.0990***	0.104***	0.0924***
		(0.0215)	(0.0215)	(0.0209)	(0.0213)	(0.0247)	(0.0213)
Mv	-	-0.0671***	-0.0670***	-0.0674***	-0.0671***	-0.0651***	-0.0675***
		(0.0109)	(0.0109)	(0.0108)	(0.0108)	(0.0129)	(0.0102)
Priv	+	2.850***	2.867***	2.857***	2.871***	2.998***	2.905***
		(0.259)	(0.256)	(0.258)	(0.255)	(0.265)	(0.252)
Sub	+	1.805***	1.826***	1.817***	1.832***	1.930***	1.871***
		(0.292)	(0.288)	(0.291)	(0.287)	(0.287)	(0.284)
Toehold	-	-0.494**	-0.488**	-0.473*	-0.481*	-0.479*	-0.460*
		(0.248)	(0.248)	(0.244)	(0.247)	(0.266)	(0.246)
TarSR	+	0.970***	0.956***	0.936***	0.945***	0.962***	0.933***
		(0.0759)	(0.0758)	(0.0795)	(0.0762)	(0.0755)	(0.0771)
TarHT	+	0.971***	0.977***	0.944***	0.969***	0.989***	0.947***
		(0.147)	(0.144)	(0.149)	(0.143)	(0.151)	(0.145)
Exp	?	0.0600**	0.0432	0.0311	0.0324	0.0377	-0.0243
		(0.0289)	(0.0299)	(0.0303)	(0.0288)	(0.0332)	(0.0256)
MktGDP	?	0.000132	-6.73e-05	4.47e-06	-0.000126	3.70e-05	-6.78e-05
		(0.000239)	(0.000166)	(0.000188)	(0.000151)	(0.000179)	(0.000169)
GDPgrowth	?	-0.0563**	-0.0638***	-0.0348*	-0.0572***	-0.0600***	-0.0302
		(0.0233)	(0.0228)	(0.0207)	(0.0212)	(0.0210)	(0.0209)
PolStab	?	0.100	0.114	-0.143	0.0358	0.0443	-0.0938
		(0.0846)	(0.0803)	(0.0926)	(0.0780)	(0.0760)	(0.110)
Blacklist	?	-0.0463	-0.0423	-0.00371	-0.0285	-0.0420	0.203*
		(0.135)	(0.127)	(0.114)	(0.126)	(0.138)	(0.113)

AntiSelfDealing	+		0.405***				
			(0.144)				
RuleOfLaw	+			0.341***			
				(0.115)			
IndPCA	+				0.147***		
					(0.0397)		
CreditInd	+					0.0336*	
						(0.0182)	
INWFactor1	+						0.207
							(0.127)
INWFactor2	+						0.0868*
							(0.0514)
INWFactor3	?						0.186***
							(0.0316)
INWFactor4	?						0.0408
							(0.0487)
Year fixed effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		11,552	11,552	11,552	11,552	10,043	11,552
pseudo R2		0.112	0.113	0.113	0.113	0.112	0.116

Table 12: Determinants of acquirer's gain

This table provides the results of the regressions of cumulative abnormal returns in the window [-2;+2], centered around the deal's announcement date, on deal-specific and country-specific variables. In line to previous research on this topic, a few variables were added in this regression. Age is the log of the number of years from the IPO, leverage is the ratio between debt and total assets, BMV is the book to market ratio, Stock is a dummy variable that takes value one when the upfront payment includes shares, Cash is a dummy variable that takes value one when the upfront payment includes cash, Public is a dummy variable that takes value one when the target is a public company. Standard errors are clustered at country level, with ***, **, and * indicating significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	Exp.Sign	(1)	(2)	(3)	(4)	(5)	(6)
Tv	+	0.00556***	0.00558***	0.00569***	0.00555***	0.00608***	0.00572***
		(0.00136)	(0.00136)	(0.00139)	(0.00136)	(0.00145)	(0.00137)
Mv	-	-0.0103***	-0.0102***	-0.0105***	-0.0104***	-0.00981***	-0.0103***

		(0.00151)	(0.00149)	(0.00156)	(0.00152)	(0.00200)	(0.00152)
Priv	+	-0.00948	-0.00945	-0.00877	-0.00939	-0.0135	-0.00946
		(0.00935)	(0.00939)	(0.00913)	(0.00926)	(0.0118)	(0.00933)
Sub	+	-0.00806	-0.00795	-0.00796	-0.00818	-0.0143	-0.00853
		(0.0101)	(0.0102)	(0.0100)	(0.0102)	(0.0110)	(0.0102)
Toehold	-	-0.000749	-0.000551	-0.00281	-0.00131	-0.00490	-0.00262
		(0.00201)	(0.00206)	(0.00287)	(0.00235)	(0.00341)	(0.00318)
Focus	?	-0.00237*	-0.00237*	-0.00213	-0.00233*	-0.000637	-0.00227*
		(0.00139)	(0.00140)	(0.00131)	(0.00138)	(0.00170)	(0.00131)
Age	+	0.00220**	0.00223**	0.00215**	0.00214**	0.00257**	0.00210**
		(0.000936)	(0.000901)	(0.000922)	(0.000875)	(0.00109)	(0.000808)
MBV	+	2.48e-08***	2.41e-08***	2.68e-08***	2.63e-08***	2.13e-08***	2.42e-08**
		(8.48e-09)	(8.78e-09)	(8.40e-09)	(8.32e-09)	(7.53e-09)	(8.98e-09)
Stock	+	0.000294	0.000345	0.000877	2.24e-05	0.00320	0.00336
		(0.00562)	(0.00563)	(0.00550)	(0.00580)	(0.00701)	(0.00442)
Cash	-	-0.0200***	-0.0202***	-0.0185***	-0.0197***	-0.0173***	-0.0179***
		(0.00499)	(0.00504)	(0.00485)	(0.00497)	(0.00601)	(0.00475)
leverage	+	0.000693***	0.000694***	0.000694***	0.000692***	0.000344*	0.000703***
		(0.000231)	(0.000231)	(0.000231)	(0.000231)	(0.000174)	(0.000230)
GDPgrowth	+	0.00188**	0.00176*	0.000896	0.00186**	0.00224***	0.00148**
		(0.000903)	(0.000874)	(0.000945)	(0.000881)	(0.000795)	(0.000682)
PolStab	?	-0.00354	-0.00344	0.00410	-0.00261	-0.000948	-0.00981***
		(0.00471)	(0.00470)	(0.00450)	(0.00389)	(0.00485)	(0.00357)
Blacklist	?	-0.00183	-0.00290	0.000644	-0.000247	-0.00543	-0.0153
		(0.0129)	(0.0139)	(0.0135)	(0.0138)	(0.0154)	(0.0147)
MktGDP	+	4.20e-05***	3.97e-05***	4.84e-05***	4.59e-05***	5.40e-05***	4.38e-05***
		(1.28e-05)	(1.16e-05)	(1.37e-05)	(1.13e-05)	(1.09e-05)	(1.42e-05)
Exp	+	0.00115	0.000940	0.00256	0.00160	0.00162	0.00955***
		(0.00130)	(0.00142)	(0.00174)	(0.00169)	(0.00207)	(0.00341)
Public	-	-0.0376***	-0.0375***	-0.0363***	-0.0373***	-0.0425***	-0.0367***
		(0.00977)	(0.00976)	(0.00928)	(0.00955)	(0.0108)	(0.00927)
Earnout	?	0.0121	0.0306	-0.0384	0.0101	-0.0387	-0.0113

		(0.0157)	(0.0256)	(0.0234)	(0.0169)	(0.0282)	(0.0164)
Tv x Earnout	+	0.00313	0.00288	0.00322	0.00312	0.00273	0.00288
		(0.00245)	(0.00263)	(0.00245)	(0.00257)	(0.00291)	(0.00262)
Mv x Earnout	-	-0.00530	-0.00548	-0.00492	-0.00526	-0.00584	-0.00493
		(0.00357)	(0.00359)	(0.00342)	(0.00353)	(0.00482)	(0.00335)
Priv x Earnout	+	0.00307	0.00387	0.00197	0.00289	-0.000358	0.00411
		(0.00477)	(0.00432)	(0.00505)	(0.00470)	(0.00597)	(0.00459)
AntiSelfDealing	+		0.00637				
			(0.0104)				
AntiSelfDealing x Earnout	?		-0.0241				
			(0.0172)				
RuleOfLaw	+			-0.0130			
				(0.00853)			
RuleOfLaw x Earnout	?			0.0317*			
				(0.0158)			
IndPCA	+				-0.00250		
					(0.00319)		
IndPCA x Earnout	?				0.00229		
					(0.00683)		
CreditInd	+					-0.00218	
						(0.00229)	
CreditInd x Earnout	?					0.00648	
						(0.00440)	
INWFactor1	+						0.00844**
							(0.00394)
INWFactor2	+						-0.00545*
							(0.00282)
INWFactor3	+						-0.0143**
							(0.00538)
INWFactor4	+						0.0131***
							(0.00476)
INWFactor1 x Earnout	?						0.0195*

							(0.0113)
INWFactor2 x Earnout	?						-0.00144
							(0.00478)
INWFactor3 x Earnout	?						0.0121**
							(0.00455)
INWFactor4 x Earnout	?						0.0232*
							(0.0132)
Quarter fixed effects		Yes	Yes	Yes	Yes	Yes	Yes
Observations		28,426	28,426	28,426	28,426	23,455	28,426
adj R2		0.023	0.023	0.023	0.023	0.021	0.024