Legal Shareholder Rights and Acquirer Returns

Gishan Dissanaike[a], Wolfgang Drobetz[b], and Peyman Momtaz[c,*]

First version: May 2014

This draft: January 15, 2016

Abstract

We examine the relationship between legal shareholder rights and acquirer returns. Europe is an ideal context to explore this relationship because various institutional differences and the recent regulatory integration of takeover markets make the European Takeover Directive (ETD) a suitable focus for a natural experiment. We show that an improvement of legal shareholder rights entails an increase in acquirer returns, supporting the hypothesis that strong legal shareholder rights confine the discretion of corporate insiders, leading to better investment decisions. However, our results also indicate that this value creation is partly consumed by the costs of the reform. We document that the gains from improving legal shareholder rights are decreasing in the relative disruption of prevailing governance practices.

Keywords: Mergers and acquisitions, market for corporate control, corporate governance, investor protection, shareholder rights, acquirer returns, bidder wealth effects, law and finance, European Takeover Directive

JEL Classification Codes: G30, G34, G38, K20, K22

[a] University of Cambridge, Judge Business School, Trumpington Street, Cambridge CB2 1AG, UK
E-Mail: grd13@cam.ac.uk.

[b] Faculty of Business Administration, Hamburg University, Von-Melle-Park 5, 20146 Hamburg, Germany.
E-Mail: wolfgang.drobetz@uni-hamburg.de.

[c] Faculty of Business Administration, Hamburg University, Von-Melle-Park 5, 20146 Hamburg, Germany.
E-Mail: momtaz@cantab.net.

* We thank Robin Chatterjee, Jonathan Faasse, and Geoff Meeks for helpful comments. Momtaz acknowledges financial support from the German National Academic Foundation, the German Academic Exchange Service, the Kurt Hahn Trust, and the Judge Business School at the University of Cambridge.

1. Introduction

There is an established literature on the relationship between *firm level* corporate governance and the gains from mergers and acquisitions (M&As). Prior research has found that weakly governed firms are more prone to destroy value in acquisitions (Masulis et al., 2007), identified the sources of this value destruction (Harford et al., 2012), and shown that synergistic gains increase in the difference between the acquirer's and the target's shareholder rights (Wang and Xie, 2009). However, the impact of *country level* corporate governance on acquisition efficiency remains largely unexplored.[4] In particular, the question arises whether legal shareholder rights causally determine acquisition efficiency, or whether the causal link, if there is any, is reversed because shareholder rights laws evolve in response to low acquisition efficiency. Given that sizeable wealth in the form of assets and control rights is being reallocated in the takeover market and corporate insiders redirect part of that wealth into their own pockets (Harford, 2003; Harford et al., 2012; Jensen, 1986; Moeller et al., 2005; Morck et al., 1990), it is of great economic importance to understand how legal shareholder rights influence the efficiency of that allocation process. In this study, we use a natural experiment that allows us to draw causal inferences about (i) how legal shareholder rights affect acquirer returns, and (ii) how disruptions to prevailing governance practices are reflected in acquisition efficiency.

In imperfect markets, better country level corporate governance is associated with a more efficient resource allocation (La Porta et al., 1998). In the case of corporate acquisitions, frictions such as agency costs – most importantly, arising from self-dealing managers or self-dealing controlling shareholders (Claessens et al., 2002; Djankov et al., 2008; Jensen, 1986; Moeller, 2005) – and transaction costs (for example, resulting from acculturation in cross-border mergers (Conn et al., 2005) or litigation (Krishnan et al., 2012)), pose obstacles to

[4] We use the term "*country level* corporate governance" (e.g., legal shareholder rights) to distinguish it from "*firm level* corporate governance" (e.g., anti-takeover provisions). However, the term *country level* corporate governance is used interchangeably with the term "investor protection" in the classical law and finance literature, corresponding to the quality of the law and law enforcement (La Porta et al., 2000).

shareholder value maximization.[5] Country level corporate governance defines only the legal minimum to limit such costs; in addition, there is potentially a variety of corporate governance mechanisms available at the firm level.

Nevertheless, the importance of country level corporate governance is evident.[6] For example, Bergman and Nicolaievsky (2007) find that public companies do not enhance their corporate governance beyond the country level's default because firm level governance practices are prohibitively costly to change. Doidge et al. (2007) show that country level corporate governance, particularly in countries with less developed capital markets, explain variations in governance ratings better than firm level characteristics. Rossi and Volpin (2004) document that shareholder protection is positively related to takeover activity. Burkart et al. (2014) propose that investor protection enhances the efficiency of contested acquisitions when the acquiring firm is financially constrained. Their model predicts that investor protection increases external funding capacity, which makes it less likely that a wealthy but inefficient firm outbids an efficient but less wealthy bidder. Moreover, Cremers and Ferrell (2014) substantiate inter alia that the Delaware Supreme Court's landmark 1985 decision on the use of poison pills in *Moran v. Household International* had a detrimental impact on firm value.

In summary, prior research suggests that countries' legal institutions play a pivotal role in reducing the discretion of corporate insiders, and thus in reducing frictions in the market for corporate control. Based on this economic rationale, our first hypothesis is that acquir-

[5] Note that we refer only to *shareholder* value maximization. Some frictions, such as those stemming from self-dealing by corporate insiders, are not necessarily wealth decreasing but could merely reflect wealth transfers among corporate stakeholders (Kim and Singal, 1993). But, by implication, constraining private rent extraction, i.e., illegitimate wealth transfers by corporate insiders, results in increasing shareholder value.

[6] We recognize that one extreme position in the literature posits that laws do not matter because private contracting is more efficient (Coase, 1960; Easterbrook and Fischel, 1996). This *Coasian perspective* argues that firms can negotiate contracts and make governance choices that are value maximizing irrespective of the law. However, the counterview points out that, when laws and law enforcement are weak, firms may breach contracts and thus impede wealth maximization. La Porta et al. (2000) show that strong legal enforcement of private contracts does not prevail in all jurisdictions. Also, in the absence of the law, credibly committing to good corporate governance may be prohibitively expensive for individual firms (La Porta et al., 1997).

er returns are increasing in legal shareholder rights, as self-dealing by corporate insiders becomes legally confined.

In addition, because firm level corporate governance provides additional governance mechanisms beyond the corporate governance provided at the country level, any change in country level corporate governance may disrupt the equilibrium of governance practices at the firm level. That is, legislative and regulatory actions will alter the grounds on which firm level corporate governance has been contracted, and may render it necessary to make costly adjustments to such firm level contracts. However, the prior literature has focused on the question of whether prevailing corporate governance practices are shareholder value maximizing or whether they need to be reformed.[7] This approach is limited as it does not help in assessing *how* a proposed reform will affect financial markets. In fact, a major weakness of the literature is that it remains silent about the cost consequences of corporate governance reforms.

Theoretical work suggests that the costs of corporate governance reform may include the resistance of controlling forces (Bebchuk and Roe, 1999); the costs of adapting complementary elements of a governance system to a new regime (Khanna et al., 2006), such as the cost of adjusting corporate structures to cope with new compliance requirements (Gilson, 2001); and the costs of protectionist behavior arising from economic nationalism (Aktas et al., 2004; Duso et al., 2007). The value of any legal shareholder rights reform consists of the positive effect it has on shareholder value, less the costs of adapting firm level corporate governance practices to the new regime. Therefore, since structural adaptations to the new equilibrium impose costs, our second hypothesis is that the marginal effect of improving legal shareholder rights on acquirer returns is decreasing in the relative disruption of the prevailing governance equilibrium.

[7] One notable exception is Larcker et al. (2011), who look at the consequences of several U.S. corporate governance regulations by examining the market reactions to regulatory actions pertaining to CEO pay, blockholders, proxy access, and staggered boards.

To test our two hypotheses, we exploit the European Takeover Directive[8] (henceforth, "ETD") as a potential natural experiment. The ETD harmonized takeover law across European member states in 2006 and improved legal shareholder rights in several countries. Unlike the regulatory and economically integrated U.S. takeover market, Europe is an ideal context for a country level natural experiment because Europe's takeover markets exhibited considerable differences in corporate governance (Enriques and Volpin, 2007; Faccio and Lang, 2002) and substantial variations in regulatory scopes prior to the ETD.[9] The striking benefit of the ETD is that it was not the result of market pressures, i.e., the need to reform the law because of economic misbehavior of some firms, but part of the move towards *European Integration*. Therefore, the ETD represents an exogenous shock to extant governance equilibria.[10] It provides a novel opportunity to better understand how legal shareholder rights affect the efficiency of financial markets, particularly acquisition efficiency, and to explore the costs of corporate governance reform, while being mostly immune to endogeneity concerns.[11]

To test the first hypothesis that acquirer returns are increasing in legal shareholder rights, we use the fact that the ETD improved legal shareholder rights only in some countries, whereas it entailed no substantial changes in those countries that already had all the core provisions of the ETD in effect. Using a sample of 3,085 acquisitions in EU15 countries between 2001 and 2011, we find that the ETD enhanced the legal shareholder rights in six countries,

[8] Directive 2004/25/EC of the European Parliament and of the Council of 21 April 2004 on takeover bids.

[9] For example, the British takeover market is regulated by a comprehensive body of rules paragraphed in the "City Code", whereas Luxembourg as a major financial market in Europe did not even have a takeover law prior to the ETD (Paul and Gidley, 2009).

[10] In comparison, the Sarbanes-Oxley Act (SOX) of 2002 was enacted in response to the corporate scandals such as Enron. Therefore, the SOX would not qualify as a mostly exogenous reform to current governance practices (Yoshikawa and Rasheed, 2009).

[11] We recognize that reforms of law and their effects on takeovers have already been examined. Both, Malatesta and Thompson (1993) and Schipper et al. (1987) look at the effect of the Williams Act on takeovers in the U.S. However, all these studies are single-country studies. The novelty of our approach is that the multi-country research design allows us to test new hypotheses and establish causation. In a study related to this, Humphery-Jenner (2012) compares the performance of European to non-European acquirers and assesses the overall effect of the ETD. The scope of our study is quite different: We are primarily interested in the effect the improvement of legal shareholder rights had on shareholder value. Also, we are interested in the role of the relative disruptions to governance equilibria, and thus we will only examine affected countries.

leaving the others as a control group. This approach allows us to isolate the causal effect of the change of legal shareholder rights on acquisition efficiency by differencing out confounding factors in a difference-in-differences model (Imbens and Wooldridge, 2009). This causal effect estimator indicates that the ETD-induced improvement of legal shareholder rights caused a significant increase in acquirer returns. Our finding is consistent with the law and finance view that country level corporate governance affects the efficiency of financial markets (La Porta et al., 1998). It further supports the argument that shareholder rights are causally related to acquirer stock returns and not merely the result of endogenously determined covariates (Bebchuk et al., 2013; Core et al., 2006; Gompers et al., 2003).

To test the second hypothesis, that the benefits of the reform decrease in the size of the disruption of prevailing governance equilibria, we construct a triple difference model. Assuming that the quality of the initial country level corporate governance is a suitable proxy for the expected disruption of governance equilibria, we find a significantly negative marginal effect of a strong disruption of governance equilibria on the benefits of the reform. That is, the value increasing effect of the improvement of legal shareholder rights was at least partly consumed by the costs of the reform in some countries. This result adds to the empirical evidence on the costs of corporate governance convergence. It shows that improving one element of a governance system may hurt the efficiency of the entire system (Khanna et al., 2006).

Our study makes two main contributions to the literature. First, it provides support for the causal relationship between legal shareholder rights and acquirer returns. Our result is contrary to the Coasian perspective and demonstrates that country level corporate governance does matter, since private contracting may not always be cost efficient (Bergman and Nicolaievsky, 2007; Doidge et al., 2007). A limitation of prior research is that it focuses almost exclusively on the relationship between country level corporate governance and external finance. The effect of country level corporate governance on shareholder value is thus only

indirectly considered: good country level corporate governance reduces default risk, which in turn decreases the costs of external finance, leaving higher residual gains to be distributed to shareholders. In this study, we establish a direct link from country level corporate governance to shareholder value. We document that country level corporate governance limits the discretion of corporate insiders, thereby reducing frictions in investment decisions. We conclude that legal shareholder rights directly affect shareholder value.

The second contribution of our analyses is that it disentangles the costs and benefits of corporate governance reforms. By studying the effect of de jure corporate governance convergence in a multi-country setting, we can compare how the same regulatory reform entails different consequences across affected countries. While we find that shareholders of acquiring firms benefit in general from improving legal shareholder rights, we also examine whether these gains are diminished by the initial corporate governance regime. In particular, the use of a multi-country setup is helpful in estimating how relative disruptions of governance practices across countries translate into acquisition efficiency. It enables us to provide a relative estimate for the costs of corporate governance reforms. Given the increasing number and scope of corporate governance reforms over the last decade, we conclude that the costs of reforms should be of paramount interest to economists and policymakers.

The remainder of this paper is organized as follows: In section 2, we introduce the European Takeover Directive (ETD) as a natural experiment and frame our hypotheses. Section 3 describes the data and provides summary statistics. Section 4 presents our main results. It contains a univariate analysis of average acquirer returns before and after implementation of the ETD, a multivariate analysis based on difference-in-differences(-in-differences) models, and robustness tests. Section 5 concludes.

2. The European Takeover Directive: A Natural Experiment

2.1. Background

The European Takeover Directive (ETD) was modeled on the *UK City Code* with the intention of raising the quality of takeover law, and in particular shareholder rights, in Europe to a common standard. The central challenge for regulators when drafting the ETD was to harmonize existing takeover regulations, while providing for the idiosyncrasies of the different corporate governance systems in European countries.[12] While dispersed ownership structures, such as in the U.K., cause collective action problems for shareholders who require mechanisms to avoid expropriation by managers, concentrated ownership structures, such as in Germany, call for provisions to protect minority shareholders from expropriation by blockholders. The European Commission dealt with the various institutional requirements by agreeing on a catalogue of general principles in conjunction with minimum statutes. After the promulgation of the ETD in 2004, these minimum statutes had to be enacted into national law by 21 May 2006.

The ETD lends itself to study how an improvement of legal shareholder rights affects acquisition efficiency, since the minimum statutes constitute the reform's substantial changes (see, among others, McCahery and Renneboog, 2003) and offer a straightforward proxy for legal shareholder rights. These minimum statutes include the board neutrality rule, the mandatory bid rule, the squeeze-out right, and the sell-out right, which we briefly discuss in section 2.2. Note that most of these rules are part of the classical shareholder rights literature considered in the context of the anti-director rights index (La Porta et al., 1998) and G-index (Gompers et al., 2003). In our research design, we assign to the control group those countries which had no significant changes in their prevailing takeover laws, whereas countries that had to improve their legal shareholder rights are assigned to the treatment group. The underlying

[12] See McCahery and Renneboog (2003) for an overview of the substantial changes brought about by the ETD, and Marccus Partners (2012) for a comprehensive assessment thereof.

idea of our model is to measure, in a pre-post comparison, how the improvement of legal shareholder rights affected acquirer returns in our treatment group, while differencing out confounding factors using our control group.

The central assumption of our model is that the treatment group and the control group follow the same trend in the sample period, except that the treatment group is affected by the treatment ("parallel trend assumption").[13] In other words, the ETD-induced improvement in legal shareholder rights had to be exogenous to the established shareholder rights regimes in order to estimate its precise effect. The ETD was neither the result of any market pressure nor of the actions of individual firms (Bagchi, 2005; Marccus Partners, 2012). Of course, legal loopholes that would allow managers to avoid the ETD and/or choose entrenchment-friendly statutes could still be potentially problematic to our research design. One relevant example of a potential loophole is the board neutrality rule in conjunction with the breakthrough rule introduced as part of the ETD. The board neutrality rule states that the board has to abstain from any action that could frustrate a bid.[14] The breakthrough rule dictates that firms targeted by acquirers without board neutrality commitment are in turn exempted from the rule. For example, should a U.S. firm, itself protected by antitakeover provisions, attempt to acquire a European target, the European target's board could fend off the offer using any frustrating action in its repertoire. In order to avoid this loophole, we include in our sample only countries without the breakthrough rule, and consider only intra-EU15 transactions. Therefore, the ETD can mostly be regarded as an exogenous shock to the prevailing governance practices, making the ETD an ideal natural experiment to examine the effect of legal shareholder rights on takeover markets.[15]

[13] In an effort to reinforce the parallel trend assumption, we also carry out a robustness test based on a propensity score matching approach (see Section 4.4).

[14] One exception to this rule would be the search for white knights.

[15] Note that another potential endogeneity would exist if firms based their takeover decisions, in part, on shareholder rights in the target company (Rossi and Volpin, 2004). By implication, firms would then make different types of acquisition after the ETD. However, Bris et al. (2008) and Drobetz and Momtaz (2015) test this hypoth-

2.2. Legal Shareholder Rights and Acquirer Returns

The pioneering work by La Porta et al. (1998) asserts that country level corporate governance matters for the functioning of financial markets as it gives investors the right to claim a fair return and ensure legal enforcement of that right. The takeover market is an ideal setting to test this claim because substantial wealth is moved around, and frictions such as agency costs become readily observable (Bris and Cabolis, 2008). For example, Cremers and Ferrell (2014) empirically study the judicial approval of the poison pill in the U.S. and find a significantly negative effect on firm value. Other examples of self-dealing behavior associated with corporate takeovers include, inter alia, empire building (Jensen, 1986), entrenching target selection (Harford et al., 2012), and overpayment in defensive takeovers (Gorton et al., 2009). Country level corporate governance sets boundaries around corporate insiders' discretion. Thus, effective legal shareholder rights should help in reducing such frictions.

The ETD addresses such frictions in the form of conflicts of interest between both managers and shareholders, and controlling and minority shareholders. For example, the board neutrality rule obligates the board to abstain from any action that could frustrate a bid. It impedes board entrenchment, makes directors subject to the disciplining power of the market for corporate control (at least in widely-held firms), and consequently alleviates conflicts of interest between managers and shareholders. Conflicts of interest between minority and controlling shareholders are largely alleviated by an equal treatment principle put into practice through the squeeze-out right, the sell-out right, and the mandatory bid rule.[16] The squeeze-out and sell-out rights give minority shareholders the right to get a fair price for their shares if they are forced to sell by controlling shareholders or wish to sell their shares, respectively.

esis and conclude, unanimously, that acquisition decisions are not motivated by the level of the target's investor protection.

[16] The equal treatment principle stands in contrast to the market rule. Under the market rule, the law does not guarantee fair treatment to minority shareholders in corporate takeovers. Instead, controlling shareholders may sell their shares whenever they feel adequately compensated − where this may include compensation for the loss of private rents from minority shareholder expropriation. Prior work shows that the equal treatment principle is superior to the market rule in discouraging inefficient takeovers (Bebchuk, 1994).

The mandatory bid rule obligates the bidder to extend a binding bid to all shareholders at an equitable price. By prohibiting partial bids, acquirers can no longer extract private benefits of control, and minority shareholders benefit since they can cash in on takeover premia.[17] Moreover, the ETD restricts deviations from the one-share-one-vote principle when it comes to votes on takeover bids. In addition to improving legal shareholder rights, the ETD also improved the enforcement of the new law by introducing new disclosure requirements that gave better access to information, and creating supervisory authorities in every country.[18] Furthermore, the ETD lowered the costs of legal suits because it made legal statutes pertaining to takeovers explicit and harmonized applicable law across all European member states.

Yet, Humphery-Jenner (2012) examines the effect of the ETD on acquirer returns as well, and finds a negative relationship. However, his study differs from ours in that he compares European takeovers with non-European takeovers. Although the results reported therein are not robust to controlling for model dependence (compare also our section 4.4), the author puts forward good reasons why the ETD may have increased value-destroying takeovers. The major reason is that the ETD created some degree of legal uncertainty due to vagueness in some ETD provisions, which in turn can lead to managerial entrenchment. Other reasons for a negative impact on acquirer returns directly pertain to the costs of some ETD provisions. For example, the downside of the mandatory bid rule in conjunction with the equitable price principle is that it may make takeovers more costly. Bidders must launch a full takeover bid after they have gained control over a target, and the price to be paid for the outstanding shares would equal the highest trading price for the target during the previous twelve months.

Even though the reasons and evidence make it difficult to be sure, a priori, whether the positive or the negative effects of the ETD dominate when comparing European to non-

[17] See McCahery and Renneboog (2003) for an extensive discussion of the provisions and their expected effects.

[18] See Art. 6, 8, and 10 of the ETD on access to information, and Art. 4 on the obligation to create national supervisory authorities.

European takeovers, there is a solid literature (reviewed in McCahery and Renneboog, 2003), suggesting that the intra-European effect of the ETD was that it facilitated value-increasing transactions. In their comprehensive analysis of the effect of the ETD provisions, McCahery and Renneboog (2003, p. 78) conclude that "there are gains to be achieved by creating an active cross-border takeover market that protects minority shareholders and promotes higher disclosure standards."

Therefore, we claim that the takeover law in the ETD is associated with a decrease in frictions from conflicts of interest, better law enforcement, and efficiency gains due to a set of common legal standards. Taking this together with the evidence from firm level corporate governance research – that weakly governed firms make bad acquisitions (Harford et al., 2012; Masulis et al., 2007; Wang and Xie, 2009) −, we expect that the *net effect* of the ETD-induced improvement of legal shareholder rights on acquirer returns will be positive.

2.3. Disruptive Corporate Governance Changes and Acquirer Returns

Reforming country level corporate governance will usually result in changes in governance practices at the firm level. Because firm level corporate governance is contracted in the context of country level corporate governance, reforming country level corporate governance imposes costs when re-negotiating those firm level contracts. Khanna et al. (2006, p. 71) argued that "improving any one element [of a governance system] may actually hurt the efficiency [of the whole system]." Therefore, a meaningful assessment of any reform has to compare the benefits of improving country level corporate governance with the costs of disrupting the prevailing governance equilibria in order to assess the net effect of a reform.

Unfortunately, prior research has neglected to investigate the costs of corporate governance reforms. Because prior studies look predominantly at whether prevailing governance practices are shareholder value maximizing or whether they need to be reformed, those studies do not help in assessing the overall consequences of reforms. Yet, more and more corpo-

rate governance reforms have been proposed recently, increasing our need to understand the overall effect of such reforms. Note, for instance, that Larcker et al. (2011) found as many as 18 corporate governance reforms that had an impact on stock markets in the U.S. between March 2007 and June 2009. Therefore, disentangling the benefits and costs of corporate governance reforms is pivotal to understanding a reform's net wealth effect. While the benefits of the ETD include an improvement in legal shareholder rights, better enforcement thereof, and efficiency gains from a common set of rules, there are costs associated with adapting to the new corporate governance regime dictated by the ETD.

We conceptualize the costs of the ETD via the efforts undertaken by European member states to reach a new equilibrium of governance practices, having been shocked from their initial state.[19] Assuming that variations in the quality of investor protection prior to the ETD are a practical proxy for disruptions to governance equilibria, we would expect that initially weakly governed countries incurred higher costs in adapting to the new governance system dictated by the ETD.

Let us consider the following example. The ETD's reinforcement of the equal treatment principle may have provoked resistance from controlling shareholders in initially weakly governed systems. Prior to the ETD, controlling shareholders may have requested additional takeover premia through a two-tier bid to be compensated for their loss of private benefits of control (Bebchuk and Roe, 1999; Enriques and Volpin, 2007). Since the mandatory bid rule (as a manifestation of the equal treatment principle) requires that an equitable price is

[19] We recognize that our study is closely related to the literature on corporate governance convergence. Corporate governance convergence "[…] refers to an increasing isomorphism in the governance practices of public corporations from different countries" (Yoshikawa and Rasheed, 2009, p. 389). One crucial distinction is convergence *in function* versus convergence *in form* (Gilson, 2004). Functional convergence typically evolves from market pressures and is described as gradual, "decentralized, market-driven changes at the firm level" (La Porta et al., 2000, p. 20). Most studies of corporate governance convergence are concerned with convergence in *function* such as cross-listings (Coffee, 2002, 1998). Our study makes an important contribution because it documents a rare instance of convergence *in form*, i. e. corporate governance convergence through a legal reform, and the benefits and costs thereof. In contrast to the U.S. which is regulatorily integrated, Europe is an ideal venue to study convergence in form because the ETD was preceded by gaping regulatory differences across member states.

paid to all shareholders, controlling shareholders can no longer be compensated for their loss of private rents. Therefore, to the extent that they block value-enhancing acquisitions after the ETD by refusing to sell their shares, they will impede the efficient functioning of the market for corporate control in such countries.

Furthermore, corporate governance reforms can be costly since they may create legal uncertainty. The ETD has been criticized for creating legal uncertainty, since some statutes are vague and require interpretation (Humphery-Jenner, 2012). Countries that had to make more adaptations due to the ETD have thus been subject to greater legal uncertainty. Legal uncertainty, in turn, amplifies the risk of litigation. Litigation associated with takeovers can decrease the value to be gained in M&A markets (Krishnan et al., 2012).

Country level corporate governance consists of complementarities. Changing one element of the governance system affects the efficacy of the whole system. Therefore, the costs of corporate governance reforms should be positively related to the disruption of the initial governance equilibria. We expect to observe that the marginal effect of improving shareholder rights on acquirer returns is decreasing in the size of the disruption of prevailing governance practices.

3. Data, Methodology, and Summary Statistics

We compile a sample of 3,085 intra-European acquisitions completed between January 1, 2001, and December 31, 2011 from Thomson Reuters M&A database, which meets the following criteria: (i) the public acquirer and the target are from EU15 countries;[20] (ii) the acquisition entails a change of control;[21] and (iii) there is comprehensive documentation of

[20] The majority of acquisitions during our sample period involved private targets. Therefore, we are unable to analyze the returns to targets using a difference-in-differences-(in-differences) approach.

[21] We require that the bidder acquires more than 75% of the voting rights to capture governance-relevant changes in control. Corporate charter amendments in Europe usually require positive votes of more than 75%. Nevertheless, 98.44% of all transactions involved ownership changes with more than 90% of the voting rights being acquired.

the firms' key financial parameters on Datastream and/or Bloomberg.[22] Our model requires the parallel trend assumption. Therefore, we chose to limit our sample to intra-EU15 transactions in order to avoid complications associated with the breakthrough rule (see Section 2.1) and require that both the acquirer and the target are from European member states. Countries that joined the EU after 2001 are not part of our sample (because their inclusion would represent a radical institutional change which is difficult to fully control for).

We assign to the treatment group those countries that had to improve their legal shareholder rights because of the ETD by adopting at least one new statute. Countries that were not required to implement any changes are assigned to the control group. For this purpose of classification, we consult the report by the European Commission (2012), Marccus Partners (2012), and national legal texts. The treatment group comprises Belgium, Germany, Greece, Luxembourg, the Netherlands, and Spain. The control group consists of Austria, Denmark, Finland, France, Ireland, Italy, Portugal, Sweden, and the UK. Table 1 provides an overview of the changes in legal shareholder rights, by country.

Our observations are classified based on the country of the acquirer because in full acquisitions, when the acquirer purchases 100% of the target's shares, the target becomes a national of the acquirer's country and the laws of the acquirer's country apply. Bris and Cabolis (2008) and Martynova and Renneboog (2008) examine these corporate governance spillover effects that result when the 'good' or 'bad' governance traits of the acquirer's country 'spill over' to the target. They find that better corporate governance in the acquirer's country leads to more efficient allocation of the target's resources, thereby affecting acquisition efficiency.

[PLEASE INSERT TABLE 1 HERE]

[22] Only 17 observations are lost due to a lack of availability of financial parameters, and they are randomly distributed. Therefore, this requirement does not introduce any material selectivity bias.

In Table 2, we map the initial level of corporate governance around the beginning of our sample period in order to proxy for countries that may have experienced disruptions to their governance equilibria. We assume that the disruption of governance equilibria is strong whenever a country had initially below-average corporate governance scores on La Porta et al.'s (1998) anti-director rights index.[23] The efforts to adapt prevailing governance practices to the new common standard should be particularly high in those countries. Countries with disruptive corporate governance changes are Austria, Denmark, Germany, Greece, Italy, Luxembourg, Netherlands, and Portugal. Countries with relatively little disruptions include Belgium, Finland, France, Ireland, Spain, Sweden, and the UK.

Note that it is possible for a country to belong to the control group in Table 2 but still experience disruptive corporate governance changes. For example, Austria did not change any of the four ETD core provisions, but is still classified as a country with disruptive corporate governance changes. This is because, while there may not have been significant changes *within* Austria, there have been significant changes *for* Austrian firms *in* the European market for corporate control. For example, Austria is characterized as a stakeholder-oriented country. However, the ETD created a level playing field for takeover bids in Europe, thus making Austrian firms subject to the disciplining power of more shareholder-oriented firms through the European market for corporate control.[24] As a result, Austrian firms had to reconcile their existing governance practices with the new European standard.

[PLEASE INSERT TABLE 2 HERE]

[23] There have been criticisms of these corporate governance indices (see, Djankov et al., 2008; Martynova and Renneboog, 2011a; Spamann, 2010). To test the robustness of our results, we re-map the classifications based on the alternative indices provided by Djankov et al. (2008), Martynova and Renneboog (2011a), and Spamann (2010). There are minor differences in the classifications, but the results of our analyses in Section 4 are qualitatively the same. Therefore, we report only the findings based on La Porta et al.'s (1998) indices as they are the closest to the beginning of our sample period and therefore proxy for the *initial* level of legal shareholder rights.

[24] See the external study of the ETD on behalf of the European Commission (Marccus Partners, 2012) for a comprehensive overview of these corporate governance changes.

In Table 3, we present summary statistics for our sample. Panel A shows that acquisition announcements are not evenly distributed over the years. Beginning in 2001, annual takeover announcements increase during the recovery period from the dotcom-crisis until they peak in 2005. In 2006, the year of implementation of the ETD, takeover activity reduces almost by half, and continues to drop off in the subsequent years. We take this pattern into account by including year-fixed effects in our model.

Panel B describes deal characteristics, target type, and method of payment. Our sample acquisitions are diversifying in 1 out of 3, cross-border in 1 out of 4, and hostile in 1 out of 20 cases. The target is publicly traded on a stock exchange in about 17%, private in about 50%, and a subsidiary firm in about 33% of all transactions. Acquirers choose cash-only payment in 37% of all acquisitions, whilst the others are fully or partially stock-financed.

[PLEASE INSERT TABLE 3 HERE]

In Panel C, we summarize deal size, acquirer, and overall transaction characteristics. Note that there do not appear to be notable differences between European and U.S. transactions with respect to deal characteristics (Fuller et al., 2002; Masulis et al., 2007; Moeller et al., 2004; Moeller, 2005). However, relative to U.S. bidders, European bidders are larger, more leveraged, exhibit lower Tobin's Q, and acquire relatively smaller targets. The relative deal size, the ratio of deal size to acquirer's total assets, is about 50% larger in the U.S. compared to European acquisitions. This is not surprising given the concentrated ownership structures in Continental Europe (Faccio and Lang, 2002).[25]

[25] See Martynova and Renneboog (2011b) for a detailed discussion of M&As in Europe during the fifth takeover wave (1993-2001) and Drobetz and Momtaz (2015) for the period thereafter.

4 Empirical Results

In this section, we present our empirical results. Section 4.1 starts with a discussion of acquirer returns, its determinants, and the limitations of our empirical approach. Sections 4.2 and 4.3 discuss the results from our analyses of legal shareholder rights and disruptions of governance equilibria, respectively. Section 4.4 presents robustness tests.

4.1. Variable Construction

4.1.1. Acquirer Returns

The average cumulative abnormal return (CAR) during the event window [-5; +5] in trading days for the full sample is 1.23%, and statistically significant at the 1% level.[26] This finding corroborates prior evidence that, on average, European acquirers make wealth-increasing acquisitions (Martynova and Renneboog, 2011b). Transactions before the ETD's implementation deadline (21 May 2006) exhibit an average CAR of 1.76%, whereas the average CAR for post-ETD transactions is -0.24%. The -2.00% difference is statistically significant at the 1% level. This comparison of CARs before and after the implementation of the ETD may suggest that the ETD has had a value-decreasing effect, consistent with the claim put forward by Humphery-Jenner (2012).

If the effect has been truly causal and wealth decreasing, we would expect a stronger decrease in average CAR in our treatment group compared to the control group. However, the patterns of annual average CARs shown in Figure 1 contradict the argument that the ETD has

[26] We estimate announcement-related cumulative abnormal returns (CAR), employing an OLS market model in accordance with the standard event study methodology (Brown and Warner, 1985; MacKinlay, 1997). We use the estimation window [-240; -6] and the event window [-5; +5] in trading days, where 0 is the announcement date. The OLS Market Model computes the CAR for one firm as the actual return in the event window minus the expected return had the focal transaction not occurred, while taking market-wide effects into account. We use the S&P Europe 500 market index as the benchmark index. However, our results do not materially change when we use local indices. For robustness tests, we also employ a market-adjusted return model that corrects daily returns in the event window by daily returns of the market index. This ensures that thin trading in some European countries does not bias our estimates (Humphery-Jenner, 2012). Our results remain robust.

caused a decrease in average CARs.[27] The development of the annual CARs of both the treatment group and the control group is almost identical until the end of 2005. After that point, the CARs of the countries in our treatment group diverge upwards. An explanation for why this pattern is observable even before the ETD implementation deadline (May 2006) could be that some countries anticipated changes and implemented some statutes ahead of the deadline (Fernandez et al., 2008). Overall, Figure 1 indicates that acquirer returns have been positively affected by the ETD; countries that were forced to improve legal shareholder rights exhibit higher acquirer returns since the implementation phase.

[PLEASE INSERT FIGURE 1 HERE]

In Table 4, we present a detailed breakdown of the average CAR. Panel A provides descriptive statistics of the average CARs by countries. Most importantly, the post-ETD decrease of 2.41% in the UK is higher than that for the full sample. Given that the ETD was modeled on the UK City Code, this observation further corroborates the conjecture that improvements in legal shareholder rights had a positive effect on acquirer returns in affected countries, whereas the decrease in acquirer returns in the full sample by 2.00% may be attributable to some confounding factors.

[PLEASE INSERT TABLE 4 HERE]

Panel B of Table 4 divides the EU15 sample into control and treatment groups. Again, the pre-/post-ETD difference in the last column supports the hypothesis that the ETD had a positive effect on acquirer returns in affected countries. Countries that had to improve their legal shareholder rights experienced a small but positive effect (0.24%), while countries without any change suffered a significant decrease in acquirer returns (-2.43%). Moreover, acquir-

[27] Year 2001 is omitted in Figure 1 because the sample size is not representative.

er returns decreased less in countries that experienced large disruptions of their governance equilibria (-1.00%) relative to countries with fewer disruptions (-2.19%).

Finally, we examine the effect of a change versus no change in legal shareholder rights conditional on the disruption of governance equilibria. Focusing on the group of countries that were forced to implement changes in response to the ETD, there is a notable pre-/post-ETD difference. In particular, countries which experienced less disruptions to their initial governance practices experienced an increase in the average CAR after the ETD's implementation (1.12%), whereas countries with large disruptions were not strongly affected (-0.04%). This finding indicates that the value-increasing effect of an improvement in legal shareholder rights has likely been offset by the costs of the reform in countries that had to cope with large disruptions to their governance equilibria.

In summary, our results so far are consistent with other studies that have shown that acquirer returns have decreased, overall, after implementation of the ETD. However, our analysis reveals two new and important details that have not been noted in the existing literature. First, firms in affected countries (treatment group) experience an increase in acquirer returns, whereas firms in the control group experience a significant decrease. This result casts doubt on the argument that the decrease in the average CAR is causally attributable to the ETD's implementation. It rather seems that, in affected countries, ETD-induced improvements in legal shareholder rights increased shareholder wealth in acquisitions. Second, focusing on the pre-/post-ETD difference, acquirer returns increased in countries that had to improve legal shareholder rights but whose initial governance equilibria were not strongly disrupted, whereas the acquirer returns in all other countries decreased. This finding suggests that the value increasing effect of improving legal shareholder rights on acquisition efficiency was partially offset by the costs of the reform. Although this preliminary evidence is con-

sistent with our hypotheses, we need to control for all relevant acquisition characteristics that potentially affect acquirer returns.

4.1.2. Other Determinants of Acquirer Returns

Variables that potentially affect acquirer announcement returns are other institutional factors, acquirer characteristics, and deal characteristics. All variable definitions are provided in the appendix.

Other institutional variables. The institutional variables that we control for are ownership structure, industry competitiveness, and the acquirer's legal origin. Jensen and Meckling (1976) show that diffuse shareholdings imply collective action problems, resulting in costs of managerial opportunism. In contrast, managerial agency costs decrease in ownership concentration because large investors closely monitor managers (Bolton and von Thadden, 1998) and replace poorly performing agents (Franks et al., 2001). However, prior work posits that large investors strive to maintain high voting control by paying high voting control premia (Faccio and Masulis, 2005). Nenova (2003) finds that voting control premia are highest in concentrated ownership structures, suggesting a detrimental effect on acquirer returns. Therefore, we expect acquirer returns to be negatively related to ownership concentration.

Shleifer and Vishny (1997) argue that industry competitiveness may prevent managers from allocating resources inefficiently, making industry competitiveness an important external governance mechanism. Also, Giroud and Mueller (2011) make a strong case for the relevance of industry competiveness in corporate governance. They show that, compared to strongly governed firms, weakly governed firms in non-competitive industries have lower labor productivity, higher input costs, and make worse acquisitions. This relation does not prevail in competitive industries, suggesting that product market competition serves as an

external governance mechanism.[28] We employ the Herfindahl-Hirschman-Index (hereinafter, "HHI"), defined as the sum of the squared market shares in each industry, as a proxy for product market competition. Industries with low HHI values are relatively competitive, and firms from those industries should make better acquisitions.

Finally, we include the legal origin of the acquirer (Anglo-Saxon, French, German, or Scandinavian legal family) as a control variable. La Porta et al. (1998) show that the legal origin is correlated with investor protection. Related work finds that the legal system plays a role in acquisition decisions (see, among others, Faccio and Masulis, 2005; Martynova and Renneboog, 2011b).

Acquirer characteristics. The acquirer characteristics that we control for are Tobin's Q, firm size, leverage, cross-listing, momentum, and legal family. Early studies argue that Q is a measure of how well a firm is run (Lang et al., 1989; Servaes, 1991), though more recent work finds a negative relationship (Bhagat et al., 2005; Dong et al., 2006; Moeller et al., 2004) or no significant relationship (Harford et al., 2012; Masulis et al., 2007) between Q and acquirer returns. Moreover, Dong et al. (2006) point out that Q can be noisy due to agency problems, market misvaluations, and investment opportunities. Therefore, we follow the approach of Chung and Pruitt (1994) to estimate Q but acknowledge its ambiguous nature.

Prior work has established that large firms are more prone to make value-destroying acquisitions. One explanation is that managerial hubris is the main cause for value-destroying acquisitions as large firms overpay and pick targets selectively (Harford et al., 2012; Moeller et al., 2004; Roll, 1986). Another explanation is that firm size is actually a takeover defense because it requires more resources to acquire large firms, resulting in managerial entrenchment (Masulis et al., 2007).

[28] However, the effect of product market competition on agency costs is not uncontroversial (see, for instance, Lewellen and Metrick, 2010).

Our two governance-related acquirer characteristics are financial leverage and cross-listings. Jensen (1986) shows that agency costs are decreasing in financial leverage because higher leverage decreases free cash flows and thus managerial discretion. Similarly, Garvey and Hanka (1999) find that firms protected by antitakeover laws take on less debt than unprotected firms. They attribute their finding to the disciplining power of the market for corporate control. However, European shareholders arguably rely less on the market of corporate control because institutional investors monitor managers more effectively. In fact, Martynova and Renneboog (2008) do not report any significant relationship between leverage and European acquirer returns. Furthermore, we add cross-listings as a control variable because public firms that are traded on several stock exchanges are subject to more regulations, which should reduce managerial discretion (Coffee, 2002). On the other hand, cross-listings come along with increased compliance costs. The net effect of cross-listings on acquirer returns is thus unclear. Finally, we control for stock returns prior to the acquisition announcement to capture information leakages.

Deal characteristics. Relevant deal characteristics are deal size, industrial and geographic diversification, hostile deal attitude, the target type, and the method of payment. The evidence for the effect of deal size on acquirer returns is ambiguous (Alexandridis et al., 2013). While larger deals provide better opportunities to extract private benefits of control (Harford and Li, 2007; Morck et al., 1990), they are often uncontested (Gorton et al., 2009), CEO equity ownership is relatively small (Demsetz and Lehn, 1985), and therefore lower acquisition premia are more likely to be accepted in larger transactions. However, more recent studies are consonant with a positive relationship between deal size and acquirer returns (Harford et al., 2012; Masulis et al., 2007).

Prior research suggests that industrial diversification helps entrench managers and leads to lower acquirer returns (Morck et al., 1990; Shleifer and Vishny, 1989). Potential ex-

planations for this are value-decreasing job protection strategies pursued by divisional managers (Scharfstein and Stein, 2000) and inefficient bargaining issues within the company (Rajan et al., 2000). However, more recent studies document that diversification may also be value-increasing (Campa and Kedia, 2002). However, Masulis et al. (2007) finds that firms with relatively more antitakeover provisions are more likely to make diversifying acquisitions. Overall, the influence of diversification on acquirer returns is ambiguous.

Geographic diversification ise traditionally associated with positive returns to shareholders of the acquiring firm because of arbitrage opportunities (Hymer, 1976). More recent work finds that acquirer returns in cross-border acquisitions may be higher in takeovers of weakly governed firms because the target's assets are allocated more efficiently by strongly governed acquirers (Bris and Cabolis, 2008).

Hostile takeovers are generally associated with higher acquirer returns. Hostile deals offer the means by which poorly performing managers are disciplined in the market for corporate control, and they allow the acquiring management to renegotiate the target's contracts (Franks and Mayer, 1996; Shleifer and Summers, 1989).

We also control for the target type. Acquisitions of public firms entail lower acquirer returns compared to private firms (Fuller et al., 2002), while subsidiaries generate the most value (Moeller et al., 2004). These patterns are attributable to a liquidity discount for private and subsidiary targets, and an information advantage in the case of subsidiary targets.

Finally, we control for the method of payment. Stock-financed deals signal risk sharing or the acquirer's belief of overvalued equity, both having a detrimental effect on acquirer returns (Travlos, 1987). However, the negative impact of equity payment is mitigated when the target is a private firm since paying with stocks creates a new blockholder who monitors the acquiring management (Chang, 1998; Fuller et al., 2002; Harford et al., 2012). We follow

Masulis et al. (2007) and decompose our sample both by method of payment (all-cash and stock) and target type (public, private, and subsidiary) into six groups.

4.1.3. Limitations

Before we proceed with our main results, it may be worthwhile to critically examine our empirical approach. A central motivation for examining shareholder rights at the country level is to infer causation. At the firm level, the empirical researcher can only study the effect of a change in shareholder rights on acquisition efficiency *that arises from a change in control*. In contrast, at the country level, it is possible to study the effect of a change in shareholder rights *per se*. That is, changes in country level corporate governance can be plausibly treated as exogenous events, whereas firm level research, although possibly concerned with legal shareholder rights, can at best mitigate endogenous confounding factors.

For example, note that several recent studies use the fact that in full acquisitions the target becomes a national of the acquirer's country, making the target subject to the acquirer's legal system (Bris and Cabolis, 2008; Martynova and Renneboog, 2008). The target's legal shareholder rights change due to a change in control. The change in control, however, causes several other changes at the firm level such as a change of antitakeover provisions, board size, managerial equity ownership, or turnover of management—in short, the change in country level corporate governance is accompanied by many changes in firm level corporate governance. To isolate the effect of a change in country level corporate governance, one has to control for all firm level corporate governance changes. Therefore, Wang and Xie (2009) argue that firm level corporate governance studies should be interpreted with caution. In contrast, country level corporate governance studies that are not linked to changes in firm level corporate governance, such as ours on the ETD, represent a direct means of studying the value of legal shareholder rights.

Nevertheless, firms have various options when it comes to interpreting local law and implementing firm level corporate governance mechanisms on top of country level mechanisms (Easterbrook and Fischel, 1996). Therefore, one weakness of our approach is that we do not have access to data on firm-specific governance practices. The implications are twofold: First, should our empirical results show that legal shareholder rights do not causally determine acquisition efficiency, we would need to argue with due caution. An insignificant relationship could be attributed to either the fact that there is no causal relationship at all, or to the fact that the *Coasian view* might hold true and private contracting makes country level corporate governance unnecessary. Second, should legal shareholder rights have a significant positive effect on acquirer returns, we acknowledge that the strength of the actual relationship may have been weakened by variations in firm-specific corporate governance practices—such that the estimated relation should be on the conservative side. For example, an acquirer from a country with initially weak legal shareholder rights could improve beyond that through corporate governance changes at the firm level. However, any such changes would move the treatment group closer to the control group, affecting the magnitude but not the sign of our causal effect estimator.[29]

4.2. Regression Analysis of Legal Shareholder Rights

The results so far indicate that acquirer returns for the treatment and control groups diverged after the ETD's implementation (see Figure 1), suggesting that the ETD might have had a value-increasing impact in affected countries. Next, we have to substantiate the claim that the improvement in legal shareholder rights caused the increase in acquirer returns. We employ a difference-in-differences approach (Imbens and Wooldridge, 2009), where the

[29] Finding a significant effect actually suggests that the link between legal shareholder rights and acquirer returns is stronger than estimated. Note that while firms operating within astrong legal shareholder rights regime cannot contract below that level, firms within a weak legal shareholder rights regime may improve their shareholder rights beyond the legal minimum. This suggests, if anything, that the treatment group draws near the control group, and not vice versa. Therefore, if one controlled for firm-specific governance practices, it would likely result in an even stronger effect of legal shareholder rights on acquirer returns.

"Double Difference Estimator" (*DDE*) is defined as the interaction between having improved legal shareholder rights and making acquisitions after the improvement. Observing a significantly positive *DDE* would support the inference that the improvement of legal shareholder rights caused the increase in acquirer returns.

Table 6 shows our regression results.[30] Model 1 explains variations in CARs only by the difference-in-differences variables to ensure that any identified relationship is not the result of the presence of our control variables.[31] In our effort to control for all known effects on acquirer returns, we acknowledge that some deal and acquirer traits are likely to be endogenous. To assure that the *DDE* is not biased by these potentially endogenously determined controls in our models, in model 2 we substitute for firm-specific Q and leverage by their industry-medians. Cross-listing, diversification, hostile deal attitude, method of payment, and target type are also excluded from the initial model but not replaced since we are unable to identify substitutes.[32] Finally, model 3 includes all control variables.

The *DDE* is significantly positive throughout all model specifications. In model 3, the *DDE* is 0.0310, suggesting that firms in countries that improved their legal shareholder rights by adopting at least one new protective statute generate, on average, 3.10% higher acquirer returns compared to firms in unaffected countries. Note that this is a non-trivial figure given that the average CAR for the entire sample period is 1.23%. In fact, the positive effect of the improvement of legal shareholder rights is economically significant as it translates into a reduction of frictions to the amount of $11.72 million per deal (based on the median acquirer by market capitalization). Furthermore, comparing the *DDE* (3.10%) with the estimate for the ETD dummy variable (-2.57%), we find that the improvement of legal shareholder rights even

[30] We provide a correlation analysis in Table 5, indicating that multicollinearity is in general not problematic.

[31] Next to OLS market model CARs, we also use market-adjusted CARs to ensure that the results are not biased by thin trading in some European countries (Humphery-Jenner, 2012). In results not reported, we find that the *DDE* is consistent in all models and statistically significant.

[32] We recognize that other variables could also be endogenously determined, e.g., cross-border acquisitions. However, we limit the exclusions to variables with solid evidence in the literature.

outweighs the observed decrease in CAR after the ETD (see also Humphery-Jenner, 2012). Overall, our results suggest that there is a significantly positive, causal link running from legal shareholder rights to acquirer returns. They support our first hypothesis that improving legal shareholder rights reduces the frictions of self-dealing by corporate insiders.

For the other institutional variables, the estimates are stable across all model specifications. Our results cannot confirm the effects of ownership structure and product market competition on acquirer returns. As a robustness check, we follow the procedure by Masulis et al. (2007) and exclude all firms in the lower tercile of product market competition. We find that the *DDE* remains stable after excluding noncompetitive firms from our sample (results not reported), confirming Masulis et al. (2007) in that the effect of corporate governance on acquirer returns does not seem to be abrogated by product market competition.[33] However, we document significant estimates for the legal families. In particular, we infer that the Scandinavian legal system is associated with the highest acquirer returns since it is our base group and all other coefficients exhibit negative signs. This finding is in line with prior studies that show that Scandinavian bidders even outperform UK bidders (Humphery-Jenner, 2012).

For our control variables, we report consistent estimates across the three model specifications. Most of the estimates for acquirer and deal characteristics correspond to the findings in Harford et al. (2012), Humphrey-Jenner (2012), Martynova and Renneboog (2011), Masulis et al. (2007), and Moeller et al. (2005). That is, (i) Tobin's Q has a small but significantly negative effect, (ii) the size of the acquiring firm is significantly negatively related to acquirer returns, (iii) leverage has a significantly positive effect, (iv) cross-listing does not significantly affect acquirer returns, (v) momentum has a significantly positive effect on acquirer returns, (vi) deal size is also significantly positive related, (vii) industry and geographic diversi-

[33] In another robustness check, we exclude high tech firms from our sample. The results (not reported) again show a stable *DDE*, indicating that transactions involving high tech firms do not cause systematic difference in acquirer returns.

fication are not significantly related to acquirer returns, and (viii) there is a significantly negative relationship between hostile deal attitude and acquirer returns.

We further decompose our sample by target type (public, private, and subsidiary) and method of payment (all-cash and stock). Since all estimates show negative signs, we infer that the omitted base group, i.e., all-cash paid subsidiaries, is associated with the highest acquirer announcement returns. Ordering the coefficients in ascending order, we find that acquisitions of public targets paid at least partially with equity destroy the most value, followed by all-cash acquisitions of public targets, all-cash acquisitions of private targets, stock-financed takeovers of private targets, and stock-financed acquisitions of subsidiaries. Taken together, our results confirm Faccio et al. (2006) in that acquirers of public targets earn less than acquirers of private firms.

[PLEASE INSERT TABLE 5 HERE]

[PLEASE INSERT TABLE 6 HERE]

4.3. Regression Analysis of Disruptions to Governance Equilibria

So far our results suggest that acquisition efficiency is increased by an improvement of legal shareholder rights, although this effect does not translate proportionately into acquirer returns in all affected countries. Since corporate governance reforms impose costs of adaptation, we conjecture that the relative size of disruptions of initial governance equilibria has a negative marginal effect on acquirer returns. We employ a triple difference model to test our second hypothesis. In particular, we use a difference-in-differences-in-differences estimator (*DDDE*) that measures whether the marginal effect of improving legal shareholder rights on acquirer returns is decreasing in the relative disruption of the prevailing governance equilibrium. A significantly negative *DDDE* would support our hypothesis that structural adaptations

to new governance equilibria impose real costs, which in turn depress the positive effect of improving legal shareholder rights on acquirer returns.

In a first step, in Table 7, we incrementally illustrate the process of "differencing out". The economic intuition is to derive an estimate of the costs of disruptive corporate governance changes in affected countries after the ETD's implementation that is not biased by time effects and country-level confounders. We divide our sample into two groups, one with significant disruptions to governance equilibria and the other without. Within these two groups, we further separate the treatment group (which experienced an improvement of legal shareholder rights) and the control group.

We begin by comparing the pre/post-ETD difference of acquirer returns in both the treatment and the control group, conditional on either significant or insignificant disruptions to governance practices. For example, we find that an improvement in legal shareholder rights given a significant disruption to governance practices ($\bar{y}_t^{IMPROVEMENT} \mid disruption$) is associated with a decrease in acquirer returns by 4.12%. Next, we take the difference of acquirer returns between the treatment and the control groups within the "disruption" and "no disruption" categories. For example, the difference of acquirer returns between the treatment and the control group given a significant disruption in acquirer returns [$(\Delta \bar{y}_1^{IMPROVEMENT} \mid weak) - (\Delta \bar{y}_1^{NO\ IMPROVEMENT} \mid weak)$] is -8.45%. Finally, we take the difference of the difference-in-differences between the "disruption" and "no disruption" categories. The *DDDE* [$(\Delta \bar{y}_1^{IMPROVEMENT} \mid disruption - (\Delta \bar{y}_1^{NO\ IMPROVEMENT} \mid disruption)] - [(\Delta \bar{y}_1^{IMPROVEMENT} \mid no\ disruption) - (\Delta \bar{y}_1^{NO\ IMPROVEMENT} \mid no\ disruption)$] adds up to -4.62%, which is statistically significant with a *p*-value below 1%. Note that this estimate is based on an estimation controlling for all known determinants of acquirer returns, as described in Section 4.1.2 (but suppressed here for better readability). This finding supports our second hypothesis that the positive marginal effect of improving legal shareholder rights on acquisition efficiency is significantly decreasing in the

relative size of the disruption togovernance practices. Accordingly, the ETD has imposed considerable economic costs on some affected countries. Specifically, given the acquirers' median sample market capitalization of roughly $376 million, the average acquirer's value destruction associated with the disruption to efficient governance practices of -4.62% amounts to $17.4 million.

[PLEASE INSERT TABLE 7 HERE]

In a second step, Table 8 shows the main regression results from our triple difference model. Standard errors are adjusted for heteroskedasticity and clustered by years and countries. We find that the association between the ETD per se and acquirer returns is significantly negative. The estimate of the ETD dummy variable in model 3 is significantly negative at the 1% level, implying that acquisition efficiency has decreased after the reform by about 2.73% (see also Humphery-Jenner, 2012), although our research design does not allow drawing conclusions about the likely causes of that decrease. Nevertheless, the *DDE* indicates that affected countries, which were forced to improve their shareholder rights, benefited from the reform. In those countries, we observe an increase in acquirer returns of about 4.79% in model 3. This result is in line with prior work that finds a value increasing effect of high legal investor protection (Burkart et al., 2014; Cremers and Ferrell, 2014; Doidge et al., 2007).

[PLEASE INSERT TABLE 8 HERE]

Finally, we observe that the *DDDE* is stable across the three model specifications. By construction, the *DDDE* reported in model 3 of Table 8 corresponds to the estimate shown in Table 7. The difference of the difference-in-differences of -4.62% again supports our second hypothesis that the positive marginal effect of improving legal shareholder rights on acquirer returns is decreasing in the relative disruption to the prevailing governance equilibria.

Consistent with the notion of a costly adjustment process to reach the new governance equilibrium, we find that the *DDDE* incrementally decreases year by year (not reported).[34] The benefits of improving legal shareholder rights have likely been consumed by the costs of structural adaptations due to the disruption to prevailing governance practices in some affected countries. This result exemplifies how improving one element of a governance system may in fact hurt the efficiency of the entire system in a specific country (Khanna et al., 2006).

For our control variables, we find similar estimates in Table 8 as already shown in Table 6. We also find that diffuse ownership structures are associated with higher acquirer returns, when controlling for the disruption to governance equilibria. This result coincides with the argument that blockholders require to be compensated for losing their private benefits of control as an incentive to sell their shares (Bebchuk and Roe, 1999; Enriques and Volpin, 2007) and are willing to overpay in acquisitions to maintain high levels of voting control (Faccio and Masulis, 2005; Nenova, 2003). Finally, with an adjusted R-squared of about 0.05, the explanatory power across our model specifications is similar to related studies (Masulis et al., 2007).

Overall, our results for the *DDDE* support the hypothesis that the positive marginal effect of improving legal shareholder rights on acquirer returns is decreasing in the relative disruption to prevailing governance equilibria. In addition, the *DDE* remains positive and statistically significant even after controlling for the disruptions to governance equilibria, reinforcing the value-increasing effect of improving legal shareholder rights.

[34] We individually estimate the *DDDE* for each year after the implementation of the ETD in 2006. That is, we rerun the regression analyses documented in Table 8 with a subsample of our data, consisting of all pre-ETD transactions and post-ETD transactions for each year, starting with the year 2007. The decrease in the *DDDE* over the years is uninterrupted with the exception of one year, in which we have only few observations.

4.4. Additional Robustness Checks

As a robustness test, we apply a propensity score matching approach to reduce the model dependence of our causal effect estimators. This approach allows us to explicitly address issues of causal inference from natural experimental data. One concern – irrespective of the fact that the ETD was an exogenous shock to markets – is that the causal effect estimator is model dependent, because the assignment of the ETD to the acquisitions in our sample is not truly random. In an ideal setting, in which the ETD-induced improvements of legal shareholder rights had been randomly assigned to our sample firms, the sample distribution of the treatment firms would have perfectly resembled the sample distribution of the control firms with respect to all the firm and deal characteristics of the transactions except the treatment. However, the ETD was not randomly assigned. In particular, there may be unobserved country-level effects that could induce a bias to the sample distributions of firm and deal characteristics, thereby biasing our inferences.

More formally (in the case of a single difference model), let i index the acquisitions in our sample. ETD_i=1 and ETD_i=0 indicate treatment and control assignment, respectively. The outcome of acquirer returns is denoted as $CAR_i(ETD_i=1)$ and $CAR_i(ETD_i=0)$ for the acquirer returns of transaction i under the treatment and control assignment, respectively. Moreover, let X_i be a vector of all firm and deal characteristics included in Tables 6 and 8. Then, the average expected causal effect of the ETD-induced increase in shareholder rights is computed as $\frac{1}{n}\sum_{i=1}^{n} E\left[\left(CAR_i(ETD_i=1)\text{-}CAR_i(ETD_i=0)\right) \mid X_i\right]$. Because the ETD was not truly randomly assigned to our sample firms, ETD_i and X_i are not independent, which makes our causal effect estimator model dependent.

To mitigate the problem of model dependency, we follow the propensity score matching approach to break the link between ETD_i and X_i, as suggested by Ho et al. (2007). The procedure for the difference-in-differences models is as follows: First, we estimate the pro-

pensity scores for all sample transactions, defined as the probability of $ETD_i=1$ (receiving the treatment), given all control variables X_i. Second, we match treatment with control cases on the basis of the estimated propensity scores. Third, we check the balance of our matching, i.e., how similar the empirical distributions of all elements in X_i are in the treatment and the control groups. These balance checks are based on numeric summaries as well as jitter and quantile-quantile plots. We repeat all steps until we arrive at the propensity score matching with the best balance. We find this is the case when we match one-to-one with the nearest neighbor method and use a Tobit model to estimate propensity scores. Fourth, we re-estimate our parametric models in Section 4.2 with the matched sample. For the triple differences models, the approach follows the same logic, except that we need to match several groups (see Table 7).[35]

In Table 9, we present the regression results of our matched sample. In short, the results of Sections 4.2 and 4.3 remain robust with respect to magnitude and significance of the parameter estimates. Specifically, in Models 1 and 3 we estimate the difference-in-differences and the difference-in-differences-in-differences models, respectively, while excluding possibly endogenously determined controls. Model 1 indicates a significant *DDE*, Model 3 indicates both significant *DDE* and *DDDE*. Therefore, the causal effect estimators are not affected by these potentially endogenous variables in our models. Models 2 and 4 re-estimate both models including all control variables. Most importantly, the *DDE* and *DDDE* remain stable in both magnitude and significance.

[PLEASE INSERT TABLE 9 HERE]

Overall, we infer that our main findings hold true even after mitigating the problem of model dependence. Our robustness tests corroborate the hypotheses that an improvement of

[35] See Ho et al. (2007) for an overview of this technique.

legal shareholder rights causes an increase in acquisition efficiency, but this positive marginal effect is decreasing in the relative size of the disruption to prevailing governance practices.[36]

5. Conclusion

This paper has sought to help resolve the questions (i) whether legal shareholder rights determine acquisition efficiency, and (ii) how disruptions to prevailing governance practices are related to the efficiency of takeover markets. Europe with its institutional differences (Enriques and Volpin, 2007; Faccio and Lang, 2002), substantial variations in takeover market activity (Bris et al., 2007; Rossi and Volpin, 2004), and variable regulatory scopes is an ideal context to examine these questions. In particular, the European Takeover Directive (ETD) suggests itself as a natural experiment, as it harmonized takeover law across Europe. Because (i) legal shareholder rights were substantially changed only in some countries and (ii) the disruption to governance practices varies across the affected countries, we can divide our sample (consisting of 3,085 European acquisitions between 2001 and 2011) into control and treatment groups to examine our research questions using difference-in-differences(-in-differences) approaches.

Although we confirm prior work in that the level of acquirer returns in Europe has decreased overall after the reform (Humphery-Jenner, 2012), we find that the ETD had a significantly positive marginal effect on acquirer returns in affected countries (i.e. the countries that substantially improved their legal shareholder rights). This finding supports the hypothesis that legal shareholder rights limit corporate insiders' discretion, leading to an increase in acquisition efficiency. We further observe that this positive effect is lower in some affected countries. Therefore, we hypothesize that the gains from improving legal shareholder rights decrease in the size of the disruption to prevailing governance practices. That is, the costs of

[36] We also recognize that it is difficult to determine a single date that clearly separates the pre-reform and post-reform periods. Specifically, the European Commission ceded more than two years of implementation to the member states. To make sure our results hold irrespective of the status of implementation, we exclude the implementation period and re-run our models. Again, our results are robust.

structural adaptations due to the reform may depress acquisition efficiency. Our results confirm that there is a significantly negative relationship between the disruption to prevailing governance practices and the gains from improving legal shareholder rights.

The implications of our results are far ranging. Our results complement the literature on the relation between firm level corporate governance and stock prices by extending it to the country level (Bebchuk et al., 2009, 2013; Bebchuk and Cohen, 2005; Core et al., 2006; Cremers and Nair, 2005; Cremers and Ferrell, 2014; Gompers et al., 2003; Harford et al., 2012; Masulis et al., 2007; Wang and Xie, 2009). More specifically, we complement the work by Masulis et al. (2007) and Harford et al. (2012) who document that weak firm level corporate governance leads to bad acquisitions. They establish a robust, causal link between anti-takeover provisions and acquirer returns. In this study, we establish a robust, causal link that goes from legal shareholder rights to acquisition efficiency. This finding is congruent with the more general law and finance view that the quality of the law and law enforcement affect the efficiency of financial markets (La Porta et al., 1998).

Several issues have been left unresolved. In particular, it is of great economic importance to better understand the relative importance of firm level versus country level corporate governance. The extreme *Coasian view* that the law does not matter because firms can more efficiently privately contract their optimal corporate governance arrangements has been refuted in several studies (Bergman and Nicolaievsky, 2007; Bris and Cabolis, 2008; Burkart et al., 2014; Cremers and Ferrell, 2014; Doidge et al., 2007; Rossi and Volpin, 2004). Yet, we know precious little about to what extent the law can make up for poor governance at the firm level in the market for corporate control or elsewhere.

References

Aktas, N., de Bodt, E., Roll, R., 2004. Market Response to European Regulation of Business Combinations. J. Financ. Quant. Anal. 39, 731–757.

Alexandridis, G., Fuller, K.P., Terhaar, L., Travlos, N.G., 2013. Deal size, acquisition premia and shareholder gains. J. Corp. Finance 20, 1–13.

Bagchi, A., 2005. The Political Economy of Merger Regulation. Am. J. Comp. Law 53, 1–30.

Bebchuk, L.A., 1994. Efficient and Inefficient Sales of Corporate Control (Working Paper No. 4788). National Bureau of Economic Research.

Bebchuk, L.A., Cohen, A., 2005. The costs of entrenched boards. J. Financ. Econ. 78, 409–433.

Bebchuk, L.A., Cohen, A., Wang, C.C.Y., 2013. Learning and the disappearing association between governance and returns. J. Financ. Econ. 108, 323–348.

Bebchuk, L.A., Roe, M.J., 1999. A Theory of Path Dependence in Corporate Ownership and Governance. Stanford Law Rev. 52, 127–170.

Bebchuk, L., Cohen, A., Ferrell, A., 2009. What Matters in Corporate Governance? Rev. Financ. Stud. 22, 783–827.

Bergman, N.K., Nicolaievsky, D., 2007. Investor protection and the Coasian view. J. Financ. Econ. 84, 738–771.

Bhagat, S., Dong, M., Hirshleifer, D., Noah, R., 2005. Do tender offers create value? New methods and evidence. J. Financ. Econ. 76, 3–60.

Bolton, P., von Thadden, E.-L., 1998. Blocks, Liquidity, and Corporate Control. J. Finance 53, 1–25.

Bris, A., Brisley, N., Cabolis, C., 2008. Adopting better corporate governance: Evidence from cross-border mergers. Journal of Corporate Finance 14, 224–240.

Bris, A., Cabolis, C., 2008. The Value of Investor Protection: Firm Evidence from Cross-Border Mergers. Rev. Financ. Stud. 21, 605–648.

Bris, A., Cabolis, C., Janowski, V., 2007. The effect of merger laws on merger activity: international evidence, in: Gregoriou, G.N., Renneboog, L. (Eds.), Corporate Governance and Regulatory Impact on Mergers and Acquisitions. Elsevier, pp. 15–41.

Burkart, M., Gromb, D., Mueller, H.M., Panunzi, F., 2014. Legal Investor Protection and Takeovers. J. Finance 69, 1129–1165.

Campa, J.M., Kedia, S., 2002. Explaining the Diversification Discount. J. Finance 57, 1731–1762.

Chang, S., 1998. Takeovers of Privately Held Targets, Methods of Payment, and Bidder Returns. J. Finance 53, 773–784.

Chung, K.H., Pruitt, S.W., 1994. A Simple Approximation of Tobin's q. Financ. Manag. 23, 70–74.

Claessens, S., Djankov, S., Fan, J.P.H., Lang, L.H.P., 2002. Disentangling the Incentive and Entrenchment Effects of Large Shareholdings. J. Finance 57, 2741–2771.

Coase, R.H., 1960. Problem of Social Cost, The. J. Law Econ. 3, 1.

Coffee, J.C.J., 2002. Racing towards the Top: The Impact of Cross-Listing and Stock Market Competition on International Corporate Governance. Columbia Law Rev. 102, 1757.

Conn, R.L., Cosh, A., Guest, P.M., Hughes, A., 2005. The Impact on UK Acquirers of Domestic, Cross-border, Public and Private Acquisitions. J. Bus. Finance Htmlent Glyphamp Asciiamp Account. 32, 815–870.

Core, J.E., Guay, W.R., Rusticus, T.O., 2006. Does Weak Governance Cause Weak Stock Returns? An Examination of Firm Operating Performance and Investors' Expectations. J. Finance 61, 655–687.

Cremers, K.J.M., Nair, V.B., 2005. Governance Mechanisms and Equity Prices. J. Finance 60, 2859–2894.

Cremers, M., Ferrell, A., 2014. Thirty Years of Shareholder Rights and Firm Value. J. Finance 69, 1167–1196.

Demsetz, H., Lehn, K., 1985. The Structure of Corporate Ownership: Causes and Consequences. J. Polit. Econ. 93, 1155–1177.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. J. Financ. Econ., Darden - JFE Conference Volume: Capital Raising in Emerging Economies 88, 430–465.

Doidge, C., Andrewkarolyi, G., Stulz, R., 2007. Why do countries matter so much for corporate governance?☆. J. Financ. Econ. 86, 1–39.

Dong, M., Hirshleifer, D., Richardson, S., Teoh, S.H., 2006. Does Investor Misvaluation Drive the Takeover Market? J. Finance 61, 725–762.

Drobetz, W., Momtaz, P., 2015. Corporate Governance Convergence in the European M&A Market (Working Paper). University of Hamburg, Germany.

Duso, T., Neven, D.J., Röller, L., 2007. The Political Economy of European Merger Control: Evidence using Stock Market Data. J. Law Econ. 50, 455–489.

Easterbrook, F.H., Fischel, D.R., 1996. The Economic Structure of Corporate Law. Harvard University Press.

Enriques, L., Volpin, P., 2007. Corporate Governance Reforms in Continental Europe. J. Econ. Perspect. 21, 117–140.

European Commission, 2004. Directive 2004/25/EC of the European Parliament and of the Council of 21 April 2004 on takeover bids. Brussels.

European Commission, 2012. Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Application of Directive 2004/25/EC on takeover bids. Brussels.

Faccio, M., Lang, L.H.., 2002. The ultimate ownership of Western European corporations. J. Financ. Econ. 65, 365–395.

Faccio, M., Masulis, R.W., 2005. The Choice of Payment Method in European Mergers and Acquisitions. J. Finance 60, 1345–1388.

Faccio, M., McConnell, J.J., Stolin, D., 2006. Returns to Acquirers of Listed and Unlisted Targets. Journal of Financial & Quantitative Analysis 41, 197–220.

Fernandez, B.M., Hashi, I., Jegers, M., 2008. The implementation of the european commission's merger regulation 2004: an empirical analysis. J. Compet. Law Econ. 4, 791–809.

Franks, J., Mayer, C., 1996. Hostile takeovers and the correction of managerial failure. J. Financ. Econ. 40, 163–181.

Franks, J., Mayer, C., Renneboog, L., 2001. Who Disciplines Management in Poorly Performing Companies? J. Financ. Intermediation 10, 209–248.

Fuller, K., Netter, J., Stegemoller, M., 2002. What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions. J. Finance 57, 1763–1793.

Garvey, G., Hanka, G., 1999. Capital structure and corporate control: The effect of antitakeover statutes on firm leverage. J. Finance 54, 519–546.

Gilson, R.J., 2001. Globalizing Corporate Governance: Convergence of Form or Function. Am. J. Comp. Law 49, 329–357.

Giroud, X., Mueller, H.M., 2011. Corporate Governance, Product Market Competition, and Equity Prices. J. Finance 66, 563–600.

Gompers, P., Ishii, J., Metrick, A., 2003. Corporate Governance and Equity Prices. Q. J. Econ. 118, 107–156.

Gorton, G., Kahl, M., Rosen, R.J., 2009. Eat or Be Eaten: A Theory of Mergers and Firm Size. J. Finance 64, 1291–1344.

Harford, J., 2003. Takeover bids and target directors' incentives: the impact of a bid on directors' wealth and board seats. J. Financ. Econ. 69, 51–83.

Harford, J., Humphery-Jenner, M., Powell, R., 2012. The sources of value destruction in acquisitions by entrenched managers. J. Financ. Econ. 106, 247–261.

Harford, J., Li, K., 2007. Decoupling CEO Wealth and Firm Performance: The Case of Acquiring CEOs. J. Finance 62, 917–949.

Ho, D.E., Imai, K., King, G., Stuart, E.A., 2007. Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference. Polit. Anal. 15, 199–236.

Humphery-Jenner, M., 2012. The impact of the EU takeover directive on takeover performance and empire building. J. Corp. Finance 18, 254–272.

Hymer, S., 1976. The international operations of national firms: a study of direct foreign investment. MIT Press.

Imbens, G.W., Wooldridge, J.M., 2009. Recent Developments in the Econometrics of Program Evaluation. J. Econ. Lit. 47, 5–86.

Jensen, M.C., 1986. Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. Am. Econ. Rev. 76, 323–329.

Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. J. Financ. Econ. 3, 305–360.

Johnson, S.A., Moorman, T.C., Sorescu, S., 2009. A Reexamination of Corporate Governance and Equity Prices. Rev. Financ. Stud. 22, 4753–4786.

Khanna, T., Kogan, J., Palepu, K., 2006. Globalization and Similarities in Corporate Governance: A Cross-Country Analysis. Rev. Econ. Stat. 88, 69–90.

Kim, E.H., Singal, V., 1993. Mergers and Market Power: Evidence from the Airline Industry. Am. Econ. Rev. 83, 549–569.

Krishnan, C.N.V., Masulis, R.W., Thomas, R.S., Thompson, R.B., 2012. Shareholder litigation in mergers and acquisitions. J. Corp. Finance 18, 1248–1268.

Lang, L.H.P., Stulz, R., Walkling, R.A., 1989. Managerial performance, Tobin's Q, and the gains from successful tender offers. J. Financ. Econ. 24, 137–154.

La Porta, R.L., Lopez‐de‐Silanes, F., Shleifer, A., Vishny, R.W., 1998. Law and Finance. J. Polit. Econ. 106, 1113–1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000. Investor protection and corporate governance. J. Financ. Econ. 58, 3–27.

La Porta, R., Lopez-De-Silanes, F., Shleifer, A., Vishny, R.W., 1997. Legal Determinants of External Finance. J. Finance 52, 1131–1150.

Larcker, D.F., Ormazabal, G., Taylor, D.J., 2011. The market reaction to corporate governance regulation. J. Financ. Econ. 101, 431–448.

Lewellen, S., Metrick, A., 2010. Corporate governance and equity prices: Are results robust to industry adjustments (Working Paper). Yale University, New Haven.

Malatesta, P.H., Thompson, R., 1993. Government Regulation and Structural Change in the Corporate Acquisitions Market: The Impact of the Williams Act. J. Financ. Quant. Anal. 28, 363.

Marccus Partners, 2012. The takeover bids directive assessment report. Paris.

Martynova, M., Renneboog, L., 2011a. Evidence on the international evolution and convergence of corporate governance regulations. J. Corp. Finance 17, 1531–1557.

Martynova, M., Renneboog, L., 2011b. The Performance of the European Market for Corporate Control: Evidence from the Fifth Takeover Wave: The Performance of the European Market for Corporate Control. Eur. Financ. Manag. 17, 208–259.

Martynova, M., Renneboog, L., 2008. Spillover of corporate governance standards in cross-border mergers and acquisitions. J. Corp. Finance 14, 200–223.

Masulis, R.W., Wang, C., Xie, F., 2007. Corporate Governance and Acquirer Returns. J. Finance 62, 1851–1889.

McCahery, J.A., Renneboog, L., 2003. The Economics of the Proposed European Takeover Directive. CEPS.

Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2007. How Do Diversity of Opinion and Information Asymmetry Affect Acquirer Returns? Rev. Financ. Stud. 20, 2047–2078.

Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2005. Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave. J. Finance 60, 757–782.

Moeller, S.B., Schlingemann, F.P., Stulz, R.M., 2004. Firm size and the gains from acquisitions. J. Financ. Econ. 73, 201–228.

Moeller, T., 2005. Let's make a deal! How shareholder control impacts merger payoffs. J. Financ. Econ. 76, 167–190.

Morck, R., Shleifer, A., Vishny, R.W., 1990. Do Managerial Objectives Drive Bad Acquisitions? J. Finance 45, 31–48.

Nenova, T., 2003. The value of corporate voting rights and control: A cross-country analysis. J. Financ. Econ. 68, 325–351.

Paul, G.L., Gidley, J.M., 2009. Worldwide merger notification requirements. Wolters Kluwer Law & Business; Kluwer Law International; Austin [Tex.]; Alphen aan den Rijn, The Netherlands; Frederick, MD; Sold and distributed in North, Central and South America by Aspen Publishers.

Rajan, R., Servaes, H., Zingales, L., 2000. The Cost of Diversity: The Diversification Discount and Inefficient Investment. J. Finance 55, 35–80.

Roll, R., 1986. The Hubris Hypothesis of Corporate Takeovers. J. Bus. 59, 197.

Rossi, S., Volpin, P., 2007. The governance motive in cross-border mergers and acquisitions, in: Gregoriou, G.N., Renneboog, L. (Eds.), International Mergers and Acquisitions Activity since 1990: Quantitative Analysis and Recent Research. Elsevier, pp. 43–69.

Rossi, S., Volpin, P.F., 2004. Cross-country determinants of mergers and acquisitions. J. Financ. Econ. 74, 277–304.

Scharfstein, D.S., Stein, J.C., 2000. The Dark Side of Internal Capital Markets: Divisional Rent-Seeking and Inefficient Investment. J. Finance 55, 2537–2564.

Schipper, K., Thompson, R., Weil, R.L., 1987. Disentangling Interrelated Effects of Regulatory Changes on Shareholder Wealth: The Case of Motor Carrier Deregulation. J. Law Econ. 30, 67.

Servaes, H., 1991. Tobin's Q and the Gains from Takeovers. J. Finance 46, 409.

Shleifer, A., Summers, L.H., 1989. Breach of Trust in Hostile Takeovers (Working Paper No. 2342). National Bureau of Economic Research.

Shleifer, A., Vishny, R.W., 1997. A Survey of Corporate Governance. J. Finance 52, 737–783.

Shleifer, A., Vishny, R.W., 1989. Management entrenchment. J. Financ. Econ. 25, 123–139.

Spamann, H., 2010. The "Antidirector Rights Index" Revisited. Rev. Financ. Stud. 23, 467–486.

Travlos, N.G., 1987. Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. J. Finance 42, 943.

Wang, C., Xie, F., 2009. Corporate Governance Transfer and Synergistic Gains from Mergers and Acquisitions. Rev. Financ. Stud. 22, 829–858.

Yoshikawa, T., Rasheed, A.A., 2009. Convergence of Corporate Governance: Critical Review and Future Directions. Corp. Gov. Int. Rev. 17, 388–404.

Figure 1

The Effect of the ETD on average CARs

This figure depicts the development of cumulated abnormal returns (CARs) for the treatment and control group over the 2002-2011 period. We employ an OLS market model to estimate CARs (Brown and Warner, 1985; MacKinlay, 1997), using the estimation window [-240; -6] and the event window [-5; +5] in trading days relating to the announcement date, and the S&P Europe 500 market index as benchmark index. The treatment group consists of Austria, Denmark, Germany, Greece, Italy, Luxembourg, Netherlands, and Portugal. The control group comprises Belgium, Finland, France, Ireland, Spain, Sweden, and the UK.

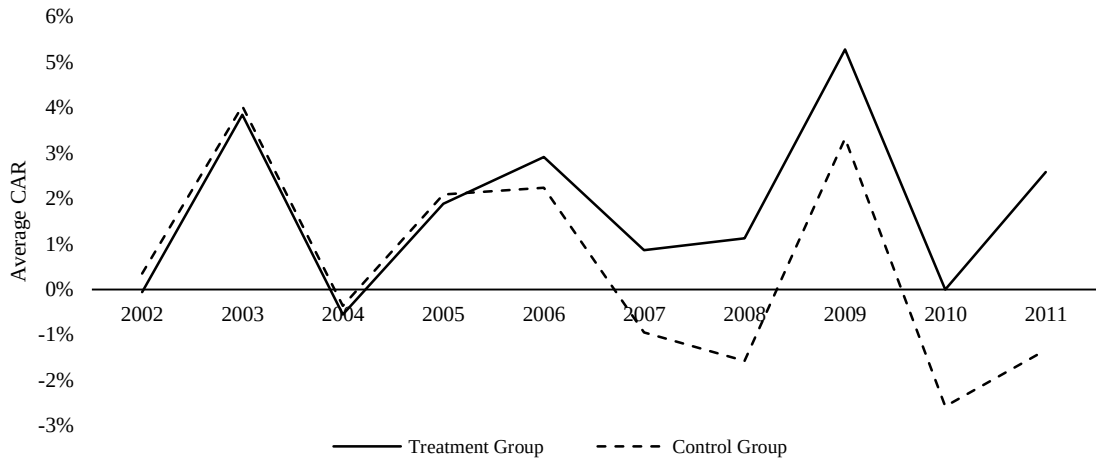

TABLE 1
Control and Treatment Group Classifications

	Mandatory bid rule		Board neutrality rule		Squeeze-out right		Sell-out right	
	Before ETD	After ETD	Before ETD	After ETD	Before ETD	After ETD	Before ETD	After ETD
Control Group								
Austria	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Denmark	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Finland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Italy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Portugal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sweden	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
UK	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Treatment Group								
Belgium	Yes	Yes	No	No	No	Yes	No	Yes
Germany	Yes	Yes	No	No	No	Yes	No	Yes
Greece	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Luxembourg	No	Yes	No	No	No	Yes	No	Yes
Netherlands	No	Yes	No	No	Yes	Yes	No	Yes
Spain	Yes	Yes	Yes	Yes	No	Yes	No	Yes

Note: The classifications are based on the Report of the European Commission (2012), Marccus Partners (2012), and national legal texts.

TABLE 2

Classification of Countries according to their Initial Level of Corporate Governance

This table shows the classification of countries according to their initial level of corporate governance. We use La Porta et al.'s (1998) Antidirector Rights Index. La Porta et al. (1998) is abbreviated by LLSV. We assume that when a country had initially weak country-level corporate governance, its governance equilibrium was relatively strongly disrupted. Note that LLSV do not provide values for Luxembourg, thus we assign the average value for its legal family (French-origin countries). With respect to LLSV's Antidirector Rights Index, a country is defined to have suffered from a relatively strong disruption of its governance equilibrium if its initial Antidirector Rights were below the European average.

	LLSV's (1998) Antidirector Rights Index
Relatively strong disruption of governance equilibria	
Austria	2
Denmark	2
Germany	1
Greece	2
Italy	1
Luxembourg	[2.57]
Netherlands	2
Portugal	2
Relatively little disruption of governance equilibria	
Belgium	4
Finland	3
France	3
Ireland	4
Spain	4
Sweden	3
UK	5
Average	2.71

TABLE 3

Summary Statistics

This table provides summary statistics. The sample comprises in total 3,085 completed transactions announced between 1 January 2001 and 31 December 2011 in EU15 countries. Relative deal size is calculated as the ratio of mean deal size over mean acquirer market capitalization. Variable definitions are in the Appendix. Figures in $mil, where applicable.

Panel A: Sample composition by year and acquirer country - relative deal size

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
(No increase | Weak initial shareholder rights)												
Austria	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.6%
Denmark	0.0%	0.0%	0.3%	0.3%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	1.0%
Italy	0.0%	0.6%	1.4%	0.8%	1.2%	0.5%	0.4%	0.1%	0.2%	0.0%	0.1%	5.2%
Portugal	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
(No increase | Strong initial shareholder rights)												
Finland	0.0%	0.1%	0.4%	0.8%	0.8%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%	2.7%
France	0.1%	0.3%	0.9%	1.5%	1.8%	1.1%	0.9%	0.4%	0.1%	0.1%	0.4%	7.5%
Ireland	0.0%	0.2%	0.3%	0.2%	0.4%	0.2%	0.1%	0.2%	0.0%	0.0%	0.1%	1.8%
Sweden	0.0%	0.4%	1.2%	1.1%	1.8%	0.7%	0.2%	0.2%	0.2%	0.3%	0.3%	6.5%
UK	0.4%	5.4%	9.9%	11.8%	11.3%	7.0%	6.0%	3.8%	1.8%	1.8%	0.8%	60.1%
(Increase | Weak initial shareholder rights)												
Germany	0.1%	0.5%	0.6%	0.6%	1.3%	0.4%	0.4%	0.3%	0.2%	0.2%	0.0%	4.5%
Greece	0.0%	0.2%	0.2%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.9%
Luxembourg	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
Netherlands	0.0%	0.2%	0.4%	0.7%	0.6%	0.4%	0.3%	0.2%	0.1%	0.1%	0.1%	3.0%
(Increase | Strong initial shareholder rights)												
Belgium	0.1%	0.1%	0.2%	0.5%	0.3%	0.2%	0.1%	0.2%	0.0%	0.0%	0.1%	1.7%
Spain	0.0%	0.2%	0.6%	0.7%	0.7%	0.6%	0.3%	0.3%	0.1%	0.0%	0.1%	3.7%
Total	0.9%	8.3%	16.6%	19.3%	20.8%	11.8%	8.9%	5.8%	2.8%	2.8%	2.0%	100.0%

Panel B: Sample composition by deal characteristics								
	Diversifying	Domestic	Friendly	Target			Method of payment	
				Public	Private	Subsidiary	All-cash	Stock
(No increase | Weak initial shareholder rights)								
Austria	30.0%	30.0%	95.0%	40.0%	25.0%	35.0%	30.0%	70.0%
Denmark	33.3%	63.3%	86.7%	30.0%	26.7%	43.3%	13.3%	86.7%
Italy	26.7%	74.5%	93.8%	23.6%	23.0%	53.4%	22.4%	77.6%
Portugal	27.8%	66.7%	72.2%	16.7%	38.9%	44.4%	16.7%	83.3%
(No increase | Strong initial shareholder rights)								
Finland	30.5%	58.5%	93.9%	12.2%	43.9%	43.9%	26.8%	73.2%
France	30.3%	64.9%	92.6%	36.4%	23.8%	39.8%	21.2%	78.8%
Ireland	44.4%	24.1%	100.0%	1.9%	66.7%	31.5%	48.2%	51.8%
Sweden	35.5%	60.0%	93.0%	19.0%	42.0%	39.0%	20.5%	79.5%
UK	37.6%	87.7%	97.3%	9.6%	62.8%	27.6%	45.5%	54.5%
(Increase | Weak initial shareholder rights)								
Germany	30.9%	59.0%	93.5%	44.6%	17.3%	38.1%	30.2%	69.8%
Greece	31.0%	93.1%	100.0%	58.6%	20.7%	20.7%	20.7%	79.3%
Luxembourg	25.0%	12.5%	62.5%	12.5%	37.5%	50.0%	50.0%	50.0%
Netherlands	28.0%	35.5%	96.8%	24.7%	28.0%	47.3%	34.4%	65.6%
(Increase | Strong initial shareholder rights)								
Belgium	30.2%	37.7%	94.3%	20.8%	45.3%	34.0%	30.2%	69.8%
Spain	25.4%	65.8%	87.7%	27.2%	29.0%	43.9%	8.8%	91.2%
Total	34.9%	76.2%	95.5%	16.7%	50.2%	33.2%	37.0%	63.0%

Panel C: Sample Composition by deal size, acquirer characteristics, and general sample information											
	Deal size			Acquirer characteristics				Overall transactions and volume of the sample			
	Median deal size	Median total assets (acquirer)	Relative deal size	Median Tobin's q	Median leverage	% of cross-listed firms	Mean momentum	Number of deals	% of Deals	Volume of deals (in $mil)	% of total volume
(No increase | Weak initial shareholder rights)											
Austria	92.1	3591	2.56%	0.57	0.31	20%	-0.85%	20	0.6%	9.390	0.81%
Denmark	13.8	530	2.61%	0.82	0.59	10%	0.70%	30	1.0%	19.773	1.70%
Italy	99.0	4158	2.38%	0.71	0.67	34%	0.02%	161	5.2%	208.334	17.88%
Portugal	19.5	2593	0.75%	0.90	0.65	28%	-0.22%	18	0.6%	4.988	0.43%
(No increase | Strong initial shareholder rights)											
Finland	18.3	276	6.62%	1.11	0.505	21%	0.05%	82	2.7%	10.701	0.92%
France	92.5	3758	2.46%	0.84	0.55	29%	0.24%	231	7.5%	231.924	19.90%
Ireland	21.5	952	2.26%	0.99	0.625	80%	-0.43%	54	1.8%	4.758	0.41%
Sweden	19.0	352	5.40%	0.97	0.53	16%	0.73%	200	6.5%	26.480	2.27%
UK	11.2	185	6.03%	1.10	0.47	8%	0.29%	1853	60.1%	238.296	20.45%
(Increase | Weak initial shareholder rights)											
Germany	74.3	4900	1.52%	0.68	0.57	60%	0.18%	139	4.5%	156.097	13.40%
Greece	118.7	1908	6.22%	0.71	0.49	21%	-0.55%	29	0.9%	8.271	0.71%
Luxembourg	34.5	5849	0.59%	0.85	0.425	63%	-0.75%	8	0.3%	859	0.07%
Netherlands	72.0	1530	4.71%	1.01	0.48	45%	-0.17%	93	3.0%	75.563	6.48%
(Increase | Strong initial shareholder rights)											
Belgium	59.0	2961	1.99%	0.97	0.51	38%	0.55%	53	1.7%	50.891	4.37%
Spain	80.3	4237	1.90%	0.99	0.6	57%	0.11%	114	3.7%	119.016	10.21%
Total	18.1	405	4.46%	0.97	0.51	19%	0.24%	3085	100.0%	1.165.205	100.00%

TABLE 4
Average CAR by Countries and Classifications

This table provides a univariate analysis for average CAR by countries in Panel A, and by classifications in Panel B. *** indicates significance at 1% level, ** at 5% level and * at 10% level based on two-sided tests. For example, (Increase | weak initial shareholder rights) means that an increase in shareholder rights in country i occurred given that country i has had initially weak shareholder rights.

Panel A: Countries							
	Total		Pre-ETD		Post-ETD		
	Number of deals	Average CAR	Number of deals	Average CAR	Number of deals	Average CAR	*Difference*
Austria	20	-1.85%	12	-1.00%	8	-3.13%	-2.13%
Belgium	53	0.91%	36	-1.50%	17	6.00%***	7.50%***
Denmark	30	5.97%***	26	6.46%**	4	2.75%	-3.71%
Finland	82	2.75%***	71	4.32%**	11	6.09%**	1.77%
France	231	0.42%	162	0.95%	69	-0.84%	-1.79%
Germany	139	0.37%	104	0.53%	35	-0.09%	-0.62%
Greece	29	1.86%	19	1.42%	10	2.70%	1.28%
Ireland	54	-0.07%	40	1.08%	14	-0.34%	-1.42%
Italy	161	0.73%	132	0.82%	29	0.31%	0.51%
Luxembourg	8	-0.63%	7	0.43%	1	-8.00%	-8.43%
Netherlands	93	0.33%	64	0.50%	29	-0.03%	-0.53%
Portugal	18	1.50%	16	1.69%	2	0.00%	-1.69%
Spain	114	2.14%	86	2.36%**	28	1.46%	-0.90%
Sweden	200	1.72%**	160	2.45%*	40	-1.22%	-3.67%
UK	1853	1.24%***	1345	1.90%***	508	-0.51%	-2.41%***
Total	3085	1.23%***	2280	1.76%***	805	-0.24%	-2.00%***
Panel B: Classifications							
(Increase)	518	1.05%***	387	1.48%***	131	1.72%**	0.24%
(No increase)	2567	1.17%***	1892	1.81%***	674	-0.62%	-2.43%***
Difference		-0.12%					
(Weak initial shareholder rights)	498	0.84%**	380	1.08%**	118	0.08%	-1.00%
(Strong initial shareholder rights)	2587	1.31%***	1900	1.89%***	687	-0.30%	-2.19%**
Difference		-0.47%					
(Increase | Weak initial shareholder rights)	269	0.490%	194	0.06%	75	0.02%	-0.04%
(Increase | Strong initial shareholder rights)	249	2.68%***	193	2.63%***	56	3.75%***	1.12%
Difference		-2.19%***					
(No Increase | Weak initial shareholder rights)	229	1.25%**	186	1.57**	43	-0.12%	-1.69%
(No Increase | Strong initial shareholder rights)	2338	1.17%***	1707	1.84%***	631	-0.66%	-2.50%***
Difference		0.08%					

TABLE 5

Pearson Correlation Matrix (p-values are shown in parentheses.)

	CAR	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
1. ETD	-0.07																				
	(0.65)																				
2. Improvement of shareholder rights	0.01	-0.01																			
	(0.54)	(0.65)																			
3. Disruption of governance equilibrium	-0.01	-0.02	0.44																		
	(0.44)	(0.18)	(0.00)																		
4. Widely-held ownership	0.00	0.04	-0.55	-0.59																	
	(0.82)	(0.02)	(0.00)	(0.00)																	
5. HHI	-0.01	0.47	-0.05	-0.05	0.06																
	(0.42)	(0.00)	(0.01)	(0.01)	(0.00)																
6. Tobin's Q	-0.01	-0.07	-0.05	-0.06	0.09	-0.03															
	(0.46)	(0.00)	(0.00)	(0.00)	(0.00)	(0.09)															
7. log(Assets)	-0.09	0.03	0.26	0.31	-0.36	-0.05	-0.11														
	(0.00)	(0.15)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)														
8. Leverage	0.02	-0.14	0.00	0.00	-0.02	-0.08	0.01	0.03													
	(0.22)	(0.00)	(0.90)	(0.98)	(0.25)	(0.00)	(0.59)	(0.11)													
9. Cross-listing	-0.03	-0.03	0.30	0.24	-0.29	0.00	-0.03	0.44	0.00												
	(0.07)	(0.11)	(0.00)	(0.00)	(0.00)	(0.96)	(0.05)	(0.00)	(0.91)												
10. Momentum	0.05	0.04	-0.01	-0.02	0.01	0.10	0.00	-0.03	-0.03	-0.01											
	(0.00)	(0.05)	(0.51)	(0.36)	(0.68)	(0.00)	(0.88)	(0.09)	(0.05)	(0.75)											
11. English legal family	0.00	0.04	-0.57	-0.56	0.94	0.06	0.10	-0.39	-0.02	-0.29	0.00										
	(0.84)	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.21)	(0.00)	(0.79)										
12. French legal family	-0.02	0.00	0.37	0.41	-0.65	-0.02	-0.07	0.37	0.01	0.25	-0.01	-0.69									
	(0.38)	(0.96)	(0.00)	(0.00)	(0.00)	(0.32)	(0.00)	(0.00)	(0.55)	(0.00)	(0.48)	(0.00)									
13. German legal family	-0.02	0.01	0.44	0.53	-0.21	-0.02	-0.03	0.19	0.02	0.21	-0.01	-0.30	-0.13								
	(0.24)	(0.78)	(0.00)	(0.00)	(0.00)	(0.17)	(0.09)	(0.00)	(0.28)	(0.00)	(0.72)	(0.00)	(0.00)								
14. log(Deal size)	-0.03	0.07	0.23	0.24	-0.30	0.00	-0.07	0.65	0.04	0.33	-0.03	-0.33	0.31	0.15							
	(0.13)	(0.00)	(0.00)	(0.00)	(0.00)	(0.96)	(0.00)	(0.00)	(0.05)	(0.00)	(0.07)	(0.00)	(0.00)	(0.00)							
15. Diversification	0.01	0.01	-0.06	-0.05	0.07	-0.04	-0.01	-0.07	-0.01	-0.03	-0.02	0.08	-0.08	-0.02	-0.09						
	(0.75)	(0.72)	(0.00)	(0.00)	(0.00)	(0.05)	(0.62)	(0.00)	(0.51)	(0.16)	(0.23)	(0.00)	(0.00)	(0.27)	(0.00)						
16. Cross-border	-0.02	-0.04	0.22	0.16	-0.31	-0.04	0.02	0.26	0.01	0.28	-0.02	-0.29	0.18	0.11	0.20	-0.08					
	(0.35)	(0.05)	(0.00)	(0.00)	(0.00)	(0.03)	(0.34)	(0.00)	(0.63)	(0.00)	(0.23)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)					
17. Hostile	-0.02	-0.06	0.06	0.05	-0.10	-0.05	-0.03	0.14	0.02	0.08	-0.01	-0.11	0.09	0.02	0.14	-0.03	0.04				
	(0.18)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.15)	(0.00)	(0.36)	(0.00)	(0.68)	(0.00)	(0.00)	(0.26)	(0.00)	(0.06)	(0.02)				
18. Public target	-0.06	0.24	0.16	0.18	-0.20	0.15	-0.02	0.30	0.03	0.15	0.00	-0.25	0.19	0.17	0.41	-0.08	0.02	0.05			
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.21)	(0.00)	(0.06)	(0.00)	(0.85)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.38)	(0.00)			
19. Private target	0.02	0.02	-0.19	-0.24	0.29	-0.01	0.02	-0.41	-0.07	-0.21	0.01	0.32	-0.25	-0.15	-0.39	0.08	-0.09	-0.10	-0.45		
	(0.25)	(0.27)	(0.00)	(0.00)	(0.00)	(0.42)	(0.23)	(0.00)	(0.00)	(0.00)	(0.75)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
20. Subsidiary target	0.03	-0.21	0.07	0.10	-0.14	-0.10	-0.01	0.19	0.05	0.10	0.00	-0.15	0.12	0.02	0.09	-0.02	0.08	0.07	-0.32	-0.71	
	(0.12)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.76)	(0.00)	(0.01)	(0.00)	(0.85)	(0.00)	(0.00)	(0.21)	(0.00)	(0.17)	(0.00)	(0.00)	(0.00)	(0.00)	
21. All-cash deal	-0.01	0.06	-0.11	-0.09	0.21	0.05	0.02	0.01	-0.02	-0.03	0.02	0.23	-0.17	-0.03	-0.05	0.03	0.00	-0.01	-0.04	0.00	0.02
	(0.60)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.36)	(0.43)	(0.38)	(0.13)	(0.35)	(0.00)	(0.00)	(0.07)	(0.00)	(0.06)	(0.95)	(0.47)	(0.05)	(0.8)	(0.19)

TABLE 6
Regression Results Using A Difference-In-Differences Approach

This table provides the regression results for the difference-in-differences model. The sample consists of 3,085 European mergers and acquisitions announced between 2001 and 2011. The dependent variables in Models 1 to 3 are 11-day OLS market model CAR. The independent variables are defined in the appendix. The difference-in-differences estimator (DDE) is defined as d(ETD)*d(Increase). Models 1 and 2 include year-fixed effects. Model 3 include both year-fixed and country-fixed effects. All models cluster standard errors by year and acquirer's country and adjust for heteroskedasticity. Standard errors are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: OLS market model CAR			
Independent variables	(1)	(2)	(3)
Double difference variables			
d(ETD)	-0.0269***	-0.0281***	-0.0257***
	(0.007)	(0.0064)	(0.0055)
d(Improvement of shareholder rights)	-0.0032	0.0054	0.0083***
	(0.0043)	(0.0072)	(0.0025)
DDE	0.0265***	0.0286**	0.0310***
	(0.0084)	(0.0114)	(0.0084)
Other institutional variables			
Widely-held ownership		0.0157	0.0227
		(0.0242)	(0.0143)
HHI		0.0075	0.0049
		(0.0242)	(0.0277)
English legal family		-0.0131*	-0.0445
		(0.0139)	(0.0347)
French legal family		-0.0256	-0.0241**
		(0.0087)	(0.0121)
German legal family		-0.0225**	-0.0445***
		(0.0124)	(0.0053)
Acquirer characteristics			
Tobin's Q			-0.0002***
			(0.0000)
Tobin's Q (industry-median)		0.0098	
		(0.0219)	
Assets (ln)		-0.0063***	-0.0059***
		(0.0014)	(0.0008)
Leverage			0.0000**
			(0.0000)
Leverage (industry-median)		0.0567	
		(0.0495)	
Cross-listing			-0.0006
			(0.0066)
Momentum		0.0915*	0.0925***
		(0.0491)	(0.0193)
Deal characteristics			
Deal size (ln)		0.0033**	0.0042***
		(0.0013)	(0.0014)
Diversification			0.0009
			(0.0021)
Cross-border		-0.0014	-0.003
		(0.0052)	(0.0031)
Hostile			-0.0122***
			(0.0013)
Stock deal * public target			-0.0247**
			(0.0115)
Stock deal * private target			-0.0048
			(0.0053)
Stock deal * subsidiary target			-0.0023
			(0.0094)
All-cash deal * public target			-0.0135***
			(0.0023)
All-cash deal * private target			-0.0058*
			(0.0031)
(Intercept)	0.0639	0.0625	0.0882*
	(0.0645)	(0.0641)	(0.0534)
Adjusted R-squared	0.01	0.04	0.05
F statistic	5.12	4.22	2.74
p-value	0.000	0.000	0.000

TABLE 7

Marginal Effects in the Difference-In-Differences-In-Differences Model

This table exemplifies the process of "differencing out" for the difference-in-differences-in-differences model. The sample consists of 3,085 European mergers and acquisitions announced between 2001 and 2011. The dependent variable used is the 11-day OLS market model CAR. This model also controls for the same variables reported in Table 8 (Model 3), but suppresses them here for better readability.

	Significant disruption to governance equilibrium			No significant disruption to governance equilibrium		
	Treatment group	Control group	Difference	Treatment Ggroup	Control group	Difference
	$(\bar{y}_t^{IMPROVEMENT} \mid disruption)$	$(\bar{y}_t^{NO\ IMPROVEMENT} \mid disruption)$		$(\bar{y}_t^{IMPROVEMENT} \mid no\ disruption)$	$(\bar{y}_t^{NO\ IMPROVEMENT} \mid no\ disruption)$	
t = 0 (pre-ETD)	0.1729	0.1055	0.0674	0.1522	0.1328	0.0068
t = 1 (post-ETD)	0.1317	0.1488	-0.0172	0.1357	0.1546	0.0587
	$(\Delta\bar{y}_1^{IMPROVEMENT} \mid disruption)$	$(\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid disruption)$		$(\Delta\bar{y}_1^{IMPROVEMENT} \mid no\ disruption)$	$(\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid no\ disruption)$	
Difference	-0.0412	0.0433		-0.0165	0.0218	
	$[(\Delta\bar{y}_1^{IMPROVEMENT} \mid weak) - (\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid weak)]$			$[(\Delta\bar{y}_1^{IMPROVEMENT} \mid no\ disruption) - (\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid no\ disruption)]$		
Difference in differences	-0.0845			-0.0383		
	$[(\Delta\bar{y}_1^{IMPROVEMENT} \mid disruption - (\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid disruption)] - [(\Delta\bar{y}_1^{IMPROVEMENT} \mid no\ disruption) - (\Delta\bar{y}_1^{NO\ IMPROVEMENT} \mid no\ disruption)]$					
Difference in differences in differences	-0.0462					
	[s.e. = 0.0124]					

Note: p-value for DDDE below 1%.

TABLE 8

Main Regression Results Using A Difference-In-Differences-In-Differences Approach

This table provides the regression results for a difference-in-differences-in-differences model. The sample consists of 3,085 European mergers and acquisitions announced between 2001 and 2011. The dependent variables in Models 1 to 3 are 11-day OLS market model CARs. The independent variables are defined in the appendix. The difference-in-differences estimator (DDE) is defined as d(ETD)*d(Increase). The difference-in-differences-in-differences estimator (DDDE) is defined as d(ETD)*d(Improvement of shareholder rights)*d(Strong disruption of governance equilibrium). Models 1 and 2 include year-fixed effects. Model 3 include both year-fixed and country-fixed effects. All models cluster standard errors by year and acquirer's country and adjust for heteroskedasticity. Standard errors are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent variable: OLS market model CAR		
Independent variables	(1)	(2)	(3)
Triple difference variables			
d(ETD)	-0.0278***	-0.029***	-0.0273***
	(0.0066)	(0.0066)	(0.0055)
d(Improvement of shareholder rights)	0.0055	0.0161***	0.0194***
	(0.0053)	(0.0049)	(0.0047)
d(Strong disruption of governance equilibrium)	-0.0031	0.0189***	0.0218**
	(0.0066)	(0.0022)	(0.0093)
DDE	0.0392***	0.0460***	0.0479***
	(0.0135)	(0.0149)	(0.0154)
d(ETD)*d(Strong disruption of governance equilibrium)	0.0083	0.0147	0.0214**
	(0.0053)	(0.0102)	(0.0094)
d(Improvement of shareholder rights)*d(Strong disruption of governance equilibrium)	-0.0148*	-0.0234**	-0.0383**
	(0.0079)	(0.0095)	(0.0156)
DDDE	-0.0272***	-0.0415***	-0.0462***
	(0.0075)	(0.0059)	(0.0124)
Other institutional variables			
Widely-held ownership		0.0418**	0.0551***
		(0.0175)	(0.0132)
HHI		0.0074	0.0048
		(0.0260)	(0.0275)
English legal family		-0.0381***	-0.0274
		(0.0139)	(0.0313)
French legal family		-0.0185***	-0.0092
		(0.0053)	(0.0089)
German legal family		-0.0304***	-0.0165*
		(0.0028)	(0.0089)
Acquirer characteristics			
Tobin's Q			-0.0002***
			(0.0002)
Tobin's Q (industry-median)		0.01	
		(0.0172)	
Assets (ln)		-0.0064***	-0.0060***
		(0.0009)	(0.0008)
Leverage			0.0000*
			(0.0000)
Leverage (industry-median)		0.0538	
		(0.0456)	
Cross-listing			0.0005
			(0.0067)
Momentum		0.0907***	0.0924***
		(0.0208)	(0.0192)
Deal characteristics			
Deal size (ln)		0.0033**	0.0043***
		(0.0015)	(0.0014)
Diversification			0.0009
			(0.0022)
Cross-border		0.0002	-0.0022
		(0.0007)	(0.0031)
Hostile			-0.0132***
			(0.0016)
Stock deal * public target			-0.0248**
			(0.0117)

Stock deal * private target			-0.0045
			(0.0055)
Stock deal * subsidiary target			-0.0018
			(0.0095)
All-cash deal * public target			-0.0139***
			(0.0026)
All-cash deal * private target			-0.0055*
			(0.0032)
(Intercept)	0.0687	0.0512	0.1328**
	-0.0621	(0.0586)	(0.0530)
Adjusted R-squared	0.01	0.04	0.05
F statistic	3.6	3.8	2.7
p-value	0.000	0.000	0.000

TABLE 9

Robustness Checks based on Propensity Score Matching

This table provides the regression results for the robustness checks. The estimation method for the propensity scores is based on Ho et al. (2007). Using a Tobit model, the matching is one-to-one and based on the nearest neighbor method. The dependent variable used herein is 11-day OLS market model CAR. The variables are defined in the appendix. The difference-in-differences estimator (DDE) is defined as d(ETD)*d(Increase). The difference-in-differences-in-differences estimator (DDDE) is defined as d(ETD)*d(Improvement of shareholder rights)*d(Strong disruption of governance equilibrium). Models 1 and 3 include year-fixed effects. Models 2 and 4 include both year-fixed and country-fixed effects. All models cluster standard errors by year and acquirer's country and adjust for heteroskedasticity. Standard errors are reported in parentheses. ***, **, and * stand for statistical significance at the 1%, 5%, and 10% level, respectively.

	Dependent variable: OLS market model CAR			
Independent variables	(1)	(2)	(3)	(4)
Triple difference variables				
d(ETD)	-0.0348**	-0.0354**	-0.0616***	-0.0594***
	(0.0168)	(0.0162)	(0.0080)	(0.0094)
d(Increase)	0.0027	0.0026	-0.0086	-0.0136
	(0.0059)	(0.0043)	(0.0121)	(0.0098)
d(Strong disruption of governance equilibrium)			-0.0061	0.0074**
			(0.0168)	(0.0036)
DDE	0.0286***	0.0325***	0.0735***	0.0721***
	(0.0082)	(0.0071)	(0.0114)	(0.0127)
d(ETD)*d(Strong disruption of governance equilibrium)			0.0394***	0.0404***
			(0.0008)	(0.0030)
d(Increase)*d(Strong disruption of governance equilibrium)			0.0040	0.0133
			(0.0092)	(0.0118)
DDDE			-0.0645***	-0.0616***
			(0.0150)	(0.0170)
Other institutional variables				
Widely-held ownership	0.0367***	0.0466***	0.0355***	0.0361***
	(0.0125)	(0.0176)	(0.0024)	(0.0139)
HHI	0.0654**	0.0705	0.0698	0.0589
	(0.0545)	(0.0535)	(0.0543)	(0.0539)
English legal family	-0.0309**	-0.0425	-0.0708**	-0.0907***
	(0.0124)	(0.0383)	(0.0171)	(0.0247)
French legal family	-0.0121	-0.0187	-0.0243**	-0.0348***
	(0.0079)	(0.0156)	(0.0097)	(0.0111)
German legal family	-0.0269***	-0.0311***	-0.0325***	-0.0430**
	(0.0029)	(0.0112)	(0.0038)	(0.0191)
Acquirer characteristics				
Tobin's Q		0.0011		0.0008
		(0.0010)		(0.0014)
Tobin's Q (industry-median)	0.0761**		-0.0072	
	(0.0350)		(0.0099)	
Assets (ln)	-0.0076***	-0.0057***	-0.0078***	-0.0054***
	(0.0019)	(0.0018)	(0.0012)	(0.0018)
Leverage		0.0001***		0.0001***
		(0.0000)		(0.0000)
Leverage (Industry-median)	0.2038**		0.0615**	
	(0.0926)		(0.0254)	
Cross-listing		-0.0076		-0.0021
		(0.0102)		(0.0117)
Momentum	-0.0688	-0.0542	0.0784	0.0861
	(0.2112)	(0.2189)	(0.2530)	(0.2587)
Deal characteristics				
Deal size (ln)	0.0060***	0.0068***	0.0035	0.0039**
	(0.0020)	(0.0024)	(0.0012)	(0.0016)
Diversification		0.0027		0.0022
		(0.0074)		(0.0070)
Cross-border	0.0017	0.0017	-0.0036	-0.0068
	(0.0051)	(0.0042)	(0.0059)	(0.0083)
Hostile		-0.0073		-0.0045
		(0.0055)		(0.0049)
Stock deal * public target		-0.0037		-0.0003
		(0.0139)		(0.0094)
Stock deal * private target		0.0152		0.0026

		(0.0163)		(0.0100)
Stock deal * subsidiary target		0.0162		0.0098
		(0.0154)		(0.0034)
All-cash deal * public target		-0.0144		-0.0182
		(0.0080)		(0.0059)
All-cash deal * private target		0.0078		0.0084
		(0.0177)		(0.0088)
(Intercept)	-0.1365	0.0251	0.0872	0.0989
	(0.1454)	(0.0761)	(0.0844)	(0.0617)
# Observations	1036	1036	956	956
Adjusted R-squared	0.05	0.05	0.06	0.07
F statistic	3.24	3.62	3.39	2.96
p-value	0.000	0.000	0.000	0.000

Appendix

TABLE A1
Variable Definition

Panel A: Acquirer Returns	
OLS market model CAR	Eleven-day [-5; +5] cumulative abnormal returns calculated using an OLS market model. Estimation window is [-240; -6] and S&P Europe 350 serves as the market index. The results do not materially change when we use local indices.
Market-adjusted CAR	Eleven-day [-5; +5] cumulative daily market-adjusted abnormal returns. S&P Europe 350 serves as the market index. The results do not materially change when we use local indices.
Panel B: Difference-In-Difference(s)(-In-Differences) Approach	
d(ETD)	Dummy variable: 1 for deals taking place after May 21, 2006.
d(Improvement of shareholder rights)	Dummy variable: 1 for deals involving an acquirer from a country that had to significantly improve its shareholder rights. See Section 3 for a list of those countries and the definition of significant changes.
d(Strong disruption of governance equilibrium)	Dummy variable: 1 for deals involving an acquirer from a country whose governance equilibrium was significantly disrupted by the reform. See Section 3 for a list of those countries and the definition of strong disruptions of governance equilibria.
Double difference estimator	Defined as d(ETD)*d(Improvement of shareholder rights)
Triple difference estimator	Defined as d(ETD)*d(Improvement of shareholder rights)*d(Strong disruption of governance equilibria)
Panel C: Other Governance Variables	
Widely-held ownership	The percentage of widely-held firms in a given country, when widely-held is defined by no ultimate owner controlling more than 20% of the corporation.
Product market competition	The Herfindahl-Hirschman-Index (HHI) is used to control for product market competition and is calculated as the sum of the squares of $s_{i,t,j}$, where $s_{i,t,j}$ is the market share based on sales of firm i in year t in industry j (according to Thomson One Banker's macro industry classification scheme).
Panel D: Acquirer Characteristics	
Tobin's Q	Market value of assets over book value of assets.
Assets	Log of book value (in $mil) of total assets.
Leverage	Book value of debts over book value of total assets.
Cross-listing	Dummy variable: 1 for deals with acquirers publicly traded on more than one stock exchange, 0 otherwise.
Momentum	Acquirer's buy-and-hold-abnormal-return (BHAR) during the period [-240;-10], adjusted for the S&P Europe 350 market return over the same period.
English legal family	Dummy variable: 1 if acquirer from Ireland or the UK, 0 otherwise.
French legal family	Dummy variable: 1 if acquirer from Belgium, France, Greece, Italy, Luxembourg, Netherlands, Portugal, and Spain, 0 otherwise.
German legal family	Dummy variable: 1 if acquirer from Austria or Germany, 0 otherwise.
Panel E: Deal Characteristics	
Deal size	Log of deal value in $mil.
Diversification	Dummy variable: 1 if acquirer targets a firm from another macro industry, as classified by Thomson One Banker, 0 otherwise.
Cross-border	Dummy variable: 1if acquirer targets a firm from another country, 0 otherwise.
Hostile	Dummy variable: 1 if hostile deal attitude, 0 otherwise.
Stock deal	Dummy variable: 1 for deals when consideration contains a stock component or is fully stock-financed, 0 otherwise.
All-Cash Deal	Dummy variable: 1 for deals wholly cash financed, 0 otherwise.
Private Target	Dummy variable: 1 if acquirer not publicly traded on a stock exchange, 0 otherwise.
Public Target	Dummy variable: 1 if acquirer publicly traded on a stock exchange, 0 otherwise.
Subsidiary Target	Dummy variable: 1 for targets with a parent of 50% or more that is not publicly traded on a stock exchange and the parent is not a government.
Panel F: Other Variables	
Year-fixed effects	The volume of all acquisitions in a given industry and documented in Thomson Reuter's M&A database divided by the volume of sales of that industry in a given year.
Country-fixed effects	We employ a vector of country-fixed effects consisting of corporate governance indices by La Porta et al. (1998) and Martynova and Renneboog (2011b), respectively, the yearly rule of law indicator provided by the World Bank, and cultural difference between the acquirer's and the target's country based on the GLOBE project.