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Do Target-Country Legal Institutions Affect Cross-Border Mergers and Acquisitions? - A Quantitative Literature Survey - *

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Abstract: We undertake a meta-analysis of 1296 estimates of the effect of target country legal environments on cross-border mergers and acquisitions (CBMAs) compiled from 60 published studies. Although these studies provide effect estimates that are statistically significant, none of the legal variables considered, save civil law, has an effect on either CBMA intensity or the CBMA premium that is large enough to be meaningful. Thus, the studies fail to provide support for legal origins theory or for theories based on cultural distance as explanations for CBMA activity. Studies of the CBMA premium are plagued by inadequate statistical power, by unexplained inter-study differences in effect and by publication-selection bias. Based on our meta-analysis, we suggest reasons why the empirical evidence fails to support theories that have wide acceptance.

Key Words: foreign direct investment, mergers and acquisitions, legal environment, meta-analysis, capital flows

JEL Classification Numbers: F21, F23, G32, G34, K22

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1. Introduction

Over the past half century, foreign direct investment (FDI) has been the most dynamic component of globalization, and cross-border mergers and acquisitions (CBMAs) have accounted for the bulk of FDI flows over that period (Froot, 1993; Sethi et al., 2003; UNCTAD, 2021). Moreover, the nature of CBMA activity has changed. Initially, cross-border MAs occurred mainly between firms in developed market economies, but, over time, CBMA activity began to include a broader range of countries that were the homes of acquiring firms or of firms being acquired (Wells, 1993; Koepke, 2015). These newcomers included economies with a wider variety of legal systems or greater state involvement in the economy. The importance of CBMA activity and the changing nature of the countries whose firms were the targets of CBMA activity has given rise to a large body of literature on the determinants of cross-border MAs and on how acquiring- and target-country characteristics influence this activity. A large part of this literature deals with the effect of the legal systems of target countries on CBMAs, and it is this literature that we survey through meta-analysis.

CBMAs are only one way that firms can serve foreign markets, and other entry modes into such markets include exports, licensing, joint ventures, greenfield investments, etc. Thus, why firms would choose to use a CBMA to enter a foreign market has been a major research question in international business.¹ The entry mode decision is important both to the acquiring firm because it usually involves a large commitment of money and managerial effort, because it has important implications for the acquiring firm's successful globalization (Brouthers, 2013) and because it has important implications for the host country due to both positive and negative effects of CBMA activity.²

The effects of target-country legal systems on CBMA are measured in two ways. One is by intensity, meaning the amount of CBMA activity that a target country experiences over time. Authors measure the amount of CBMA activity in different ways, including, for example, the

¹ Canabal and White (2008) find that the choice of entry mode is one of the top topics in international business research, and Shen et al. (2017) report that two-thirds of the empirical research on entry mode published in ten leading international business journals deals with predicting the determinants of the entry mode while only slightly over 13 percent deal with the consequences of the entry mode decision for affiliate or acquiring firm performance.

² Positive effects include increases in the stock of capital and technology, skill spillovers to domestic industries, effects on the market structure in the host country, etc. There may also be negative effects such a monopolization of target-country markets, repatriation of profits, etc. Whether these effects improve or reduce the welfare of the target country is a matter of some controversy. See, for example, Arnold and Javorcik (2009), Blonigen and Pierce (2016), Chari et al. (2004), Zehty (2022).

number of CBMAs announced, the value of CBMAs, or the CBMA completion rate, meaning the number of announced CBMAs that are eventually completed, etc.³ Thus, characteristics of target-country legal systems such as respect for the rule of law, the efficiency of the administration of justice, corporate governance legislation, securities markets regulation, the ability to supplement local legal safeguards by bilateral investment treaties (BITs), etc., are seen as having an important influence on the decisions of multinational corporations (MNCs) to undertake an acquisition in a country (Perry, 2000; Li and Resnick, 2003). This is because these characteristics of the legal system affect the security of the MNC's investment and its ability to manage and benefit from the affiliate's operations.

A second way to measure the effect of the legal system is through the so-called CBMA premium, which is a measure of how much the acquiring firm must pay for the target firm in a cross-border MA relative to its "true" value. Generally, the premium is a measure of the change in the value of the acquiring firm when the merger is announced or consummated. If the acquisition improves the productivity of the affiliate or enables it to sell more product at a better price, the resulting positive premium may suggest that the acquisition also improves the welfare of the target country. Thus, a positive premium can be both a sign to the firm's owners of improved firm efficiency and a signal to policymakers in the target country of welfare gains from the CBMA.

Some studies use a simple measure of the premium such as the difference between the acquiring firm's price on or around the date of the announcement relative to its price over some pre-announcement period; other studies use more statistically sophisticated event-study methods to compute excess returns around the announcement or completion date and their statistical significance.⁴ The size of the premium depends on the legal environment in the target country, although how it does so is contested. One line of thought is that, in countries with weak shareholder protection and poor accounting standards, concentrated majority shareholders

³ Authors may also normalize the intensity measure by dividing the measure of CBMA intensity by target country size, the size of its corporate sector, the number of listed companies, etc. In cases where such adjustment is not made to the intensity measure itself, the inclusion of a measure of target-country size in the specification used to explain CBAM activity may also be seen as implicitly adjusting for target-country size. Alternative measures of CBMA activity drawn from balance of payments data on FDI, whether FDI stocks or flows, are a poor measure of intensity because there are wide disparities between reported stocks and flows and because FDI data are distorted by borrowing from host-country banks and investors and FDI data do not capture the effects of exchange rate changes, forgiveness of affiliate debt by parent companies, reinvested profits of the affiliate, etc. (Fujita, 2008).

⁴ See Armitage (1995) for an explanation of event study methodology.

derive benefits from control over firms to the detriment of minority shareholders. Thus, majority owners would only accede to an CBMA if the takeover price compensated for the benefits the owners derive from their control rights. As a result, in countries where investor protection is lacking, acquirers would have to pay a higher price than they would in a country with better investor protection and accounting standards (Bris and Cabolis, 2008). This excessive price for the acquisition could lead to a decline in the acquiring firm's market value. The counterargument is that, in countries with entrenched majority owners, poor accounting standards, etc., the buyer faces greater uncertainty about the true value of the acquisition and thus is willing to pay less for the target firm due to this information asymmetry (Samonis, 2000; Brada, 2016). According to this argument, it is firms from countries that have good governance and accounting standards that are more attractive to acquirers and thus command a higher price (LaPorta *et al.*, 2002; Meyer *et al.*, 2008).

Because intensity and the premium are both related to the legal environment in the target country, although potentially in different ways, we undertake a meta-analysis of studies of both CBMA intensity and of the CBMA premium. We examine 1296 estimates drawn from 60 published studies of the effect of the target-country legal environment on CBMA activity, roughly equally divided between intensity and premium studies. The examined studies, while producing statistically significant estimates of the effect of the target-country legal environment on both CBMA intensity and premia, do not show effects that are of any practical importance due to their small or negligible size in economic terms, except for the presence of civil law in the target country, which, contrary to expectations, favors CBMA intensity. Thus, we conclude that the empirical literature on CBMAs does not show that target-country legal environments are an important determinant of CBMA activity.

We also find differences between the explanatory variables and sample countries used in intensity and premium studies, with the former stressing broad measures of legal protection and using samples that encompass a variety of countries while the latter stress more firm-specific legal protections and CBMA activity mainly among European countries. Premium studies are problematic in that they tend to have inadequate statistical power and suffer from inter-study heterogeneity that is not well explained by the observable characteristics of the studies. Finally, we test for the possibility that the effects reported in the literature are affected by publication selection bias. We find some evidence of such bias, but we show that it does not affect our conclusions. We end by discussing why the empirical literature fails to support widely accepted theories of CBMA activity.

The remainder of this paper is organized as follows. Section 2 discusses the theoretical background of the CBMA studies. Section 3 explains the procedure of selecting literature for review and gives an overview of the studies selected for meta-analysis. Section 4 describes the need for, and methodology of, meta-analysis. Section 5 reports the results. Lastly, Section 6 summarizes the major findings and concludes the paper.

2. Theoretical Background; Culture and the Law

The belief that the legal environment of the target country influences CBMA activity stems from two complementary theories. One is the so-called legal origins theory (LaPorta *et al.*, 1998, 2000, 2002; Beck and Levine, 2005). This theory posits that laws and regulations providing strong protection for shareholders result in broader and deeper financial markets with diversified shareholders and better access to credit for firms. Such market characteristics tend to facilitate CBMAs because they provide for diversified rather than concentrated shareholders, for better accounting standards and for minority shareholder protection. These differences in laws need not necessarily be linked to culture, as La Porta *et al.*, (1998) point out, because, for example, in countries that were formerly colonies, the laws adopted at independence were often those of the mother country or, in other cases, of past occupiers or conquerors.

The second theory linking host-country legal systems and CBMA activity stresses the effect of differences between home- and target-country legal environments on the operation of MNCs, and it has been an important aspect of research in the fields of management and international business (see, e.g., Hutzschenreuter *et al.*, 2015). Before going global, firms adapt their organization, technologies, and business practices to the legal environment of the country in which they operate. As they begin operations in foreign countries and thus become MNCs, they must adapt to the environments found in the host countries in which they choose to do business. These differences between the home and host environment are variously captured by terms such as “cultural distance” or “psychic distance”, and this multidimensional concept of distance influences the modes of entering foreign markets.⁵

That cultural distance or specific aspects of target-country culture affect MNCs’ choices regarding cross-border MA activity is confirmed by the meta-analyses of Zhao *et al.* (2004),

⁵ The hypothesis that cultural differences influence how MNCs enter potential host countries is a central component of many theoretical models of FDI including the Uppsala model (Johansen and Vahlene, 1977), Dunning’s (1980) theory of locational advantages, the transaction costs theory of Williamson (1996), etc.

Tihanyi *et al.* (2005), Morschett *et al.* (2010), Klier *et al.* (2017) and Beugelsdijk *et al.* (2018). It is also well established that culture plays a key role in shaping the informal and formal legal institutions and laws of a country (Tabellini, 2008, 2010; Alessina and Giuliano, 2015). Consequently, researchers have sought to link those aspects of target-country legal environments that stem from target-country culture to MNCs' FDI decisions, particularly with respect to whether MNCs will choose to enter a market via a CBMA or by some other means. Models of CBMA activity based on notions of cultural distance therefore acknowledge that countries with diffuse share ownership and more efficient financial markets are likely to experience more intensive cross-border MA activity. Thus, the insights of both theories inform the research strategies used to study CBMA intensity and the CBMA premium, albeit in somewhat different ways.

Nevertheless, there may be substantive differences in the way in which legal environments narrowly considered and broader measures of culture influence CBMA activity, and therefore in this study we examine the influence of each variable. Studies that fail to incorporate both explanatory variables may be subject to omitted variable bias, and we address this issue in our meta-analysis as well.⁶

3. Procedure for Literature Selection and Overview of Studies Selected for Meta-Analysis

3.1. Procedure for literature selection

To identify studies that provide estimates of the effects of legal factors on CBMA intensity and premia, we used EconLit and the websites of major academic publishers (Oxford University Press Website, Science Direct, Springer Link, Taylor and Francis Online, and Wiley Online) with key words “cross-border M&A” or “cross-border acquisition” or “cross-border merger”. The final literature search was concluded in May 2020. The EconLit search yielded 784 separate works and the websites of the five publishers yielded 52 more recently published works.

We examined the contents of each of the identified 836 papers and found that a total of 60 papers provide estimates suitable for meta-analysis.⁷ These papers are drawn from journals covering several distinct disciplines including economics, finance, international business, and management, and thus their methodologies and research strategies reflect the varied

⁶ We are grateful to an anonymous referee for bringing this point to our attention.

⁷ We chose not to use working papers in our study to keep the literature search manageable. Later in the paper, however, we test for publication-selection bias in the published studies.

disciplinary interests of their authors. The papers were published between 2004 and 2020, and the data analyzed covered years for intervals between 1985 to 2017. The bibliographic details of these 60 selected works are reported in Supplements 1 and 2. We extracted a total of 1811 estimates, summarized in **Table 1**, from these papers.⁸

Among these estimates, 961 are from 35 studies that capture the effect of legal factors and cultural distance on CBMA intensity, and 850 are from 34 studies that report on the effect on the CBMA premium (nine papers provide estimates of both intensity and premium effects). **Table 1** gives the main characteristics of the reviewed studies. Although for each explanatory variable there are some studies that report significantly negative effects of stronger legal protection, the predominant result in the literature is that better legal environments promote CBMA activity. Reflecting the theories discussed in Section 2, studies dealing with intensity of CBMA provide many more estimates of the effects of the common law variable, because common law is seen as providing greater investor protection (LaPorta *et al.*, 1998), and of the existence of international agreements for the protection of investors such as bilateral investment treaties. Studies of the CBMA premium, on the other hand, provide many more estimates of the effects of shareholder and investor/creditor rights on the size of the premium. Implicitly, these choices suggest that researchers believe that what matters for CBMA intensity is whether the legal environment in the target country gives the acquirer sufficient information about potential target firms and confidence in the strength of the legal system of the target country, while the premium in the case of a CBMA depends on how entrenched the local owners are. Nevertheless, each of the two groups of studies provides estimates of the effects of all twelve of the legal variables considered in the meta-analysis.

3.2. Overview of studies selected for meta-analysis.

In what follows, we treat the studies of intensity and of premia as separate samples, and we conduct meta-analyses of the two groups of studies in parallel. The first step in the meta-analysis is to compute the distribution of the effects reported in the literature. In addition, we also compute the average effect of all legal variables on CBMA activity to gain an overall

⁸ The selection and coding of the studies followed the meta-analyses guidelines proposed by Havránek *et al.* (2020). Estimates in each paper are counted as different from one another if they differ in the dependent variable, the explanatory variables, the time period or countries covered, the specification of the regression equation, or the method of estimation. As necessary, variables were recoded so that higher values of an explanatory variable meant more or better legal protection for investors or greater cultural similarity between investing and target countries.

measure of the effect of legal variables.⁹ Because different studies measure the dependent variable, whether the intensity of CBMA activity or the CBMA premium, in different ways, to make the effects reported by the studies comparable, we calculate the partial correlation coefficient (PCC) of each of the reported estimates. This allows us to compare studies that use different measures of CBMA intensity or of the CBMA premium. With K the number of estimates and t_k and df_k the t -value and the degrees of freedom of the k -th estimate, r_k , the PCC of the k -th estimate is:

$$r_k = \frac{t_k}{\sqrt{t_k^2 + df_k}}, \quad k = 1, 2, \dots, K \quad (1)$$

The standard error (SE_k) of r_k is given by $\sqrt{(1 - r_k^2)/df_k}$.

Figure 1 displays the kernel densities of the PCCs for studies of intensity and premium separately. Panel (a) of **Figure 1** shows that stronger target-country legal protection and a smaller cultural distance between investing and target countries both have a positive, albeit small, effect of CBMA intensity and seemingly less so for the premium. Overall, the studies of intensity and the premium both show that legal protection has a positive effect on CBMA intensity and premia although there are studies that have found effects to be negative. The effect of cultural similarity is quite similar to that of the legal variables. The existence of many small effects along with some large effects is consistent with, but not the same as, the distribution of statistical significance of the estimates reported in **Table 1**. **Table 2** reports descriptive statistics and statistical test results for the PCCs, and it confirms, based on the Shapiro–Wilk normality test, the presence of skewness and kurtosis. For both types of study, **Table 2** also reports the PCCs aggregated over all legal factors.¹⁰ The means of PCCs for aggregated legal factors are 0.024 for CBMA intensity studies and 0.018 for CBMA premium studies, and these values are statistically significantly different from zero. Means of the PCCs of the cultural similarity variable are somewhat larger, but they are distributed in similar fashion. **Table 2** also reports the PCCs of the 12 individual legal factors that are used in the studies we survey. The ANOVA and Kruskal-Wallis rank-sum test show that individual legal factors have effects that differ from

⁹ Combining all estimates of the effect of all legal variables into one overall estimate implicitly assumes that all legal variables have the same effect on CBMA activity and on the CBMA premium. We provide this summary effect estimate as a benchmark against which to compare the effects of individual legal characteristics of the target countries, which also provides a test of our assumption that all legal variables have the same effect.

¹⁰ Coefficient estimates in all studies were recoded if necessary so that a higher value of each explanatory variable would lead to a higher value of the dependent variable.

each other and from the “all legal factors” effect both in the intensity studies and in the premium studies. The distribution of the PCCs of most of the legal variables is skewed toward the positive, as theory predicts, but *judicial system efficiency*, *investor/creditor rights*, *antidirector rights* and *enforceability* in the CBMA intensity studies and *judicial system efficiency*, *same law*, and *international agreement* in the CMBA premium studies are negatively skewed.

While the PCCs of *all legal factors* as well as most of the means of the PCCs of individual legal factors are statistically significant in the case of intensity studies and fewer are significant in the premium studies, the more important question is whether there is an economically meaningful or non-trivial relationship between the legal systems of target countries and CBMA activity. As Cohen (1994) and Coe (2002) and others have stressed, statistical significance depends on both the size of the effect and on the sample size. Thus, even if the true effect were zero, any draw from the universe of estimates would, with high probability, yield a non-zero mean effect, and the sample mean could be different from zero at a high level of statistical significance. An early effort to address this issue was Cohen (1962) who surveyed reported effect sizes reported in the *Journal of Abnormal and Social Psychology*. Based on the effect sizes reported, Cohen argued that effect sizes of 0.2 should be viewed as small, of 0.4 as medium and those 0.6 or greater as large. Cohen and many others following in his footsteps were careful to note that what constituted an effect size that was small or large was discipline-specific, and, thus, effect sizes found in psychology studies were not likely to be relevant in other disciplines. This issue of large versus small effect sizes in economics led Doucouliagos’ (2011) to survey more than 22,000 estimated effect sizes reported in published empirical studies in various fields of economics. The 25th percentile for PCCs the studies he surveyed is 0.07. PCCs less than this value are considered as reporting “very small” effects. Because the effects reported in **Table 2** fall well short of this 25th percentile cutoff, it is clear that the surveyed literature finds that the effect of legal factors on CBMA intensity or the CBMA premium is negligible or very small in practical terms, even if statically significant. This is also true for studies of cultural similarity.¹¹

The sole, and rather surprising, exception to the non-importance of legal factors is the mean PCC for the variable *civil law* in the CBMA intensity studies, which has a value of 0.271, well

¹¹ We caution the reader not to interpret the small effect value for the cultural distance variable as a claim that studies using cultural distance do not find an important effect for cultural distance. This is because we only consider studies that use both legal factors and cultural distance as explanatory variables. Any conclusions about the effect of cultural distance on CBMAs would have use a different sample that includes all studies that use cultural distance as an explanatory variable, not just studies that use both legal factors and cultural distance.

above 0.173, the lower threshold for what Doucouliagos (2011) calls a moderate effect size and, in fact, greater than the 50th percentile of estimates of effects reported in the economics and business literature. Thus, **Figure 1** and **Table 2** show that target countries that have a civil law system experience meaningfully greater CBMA intensity than do countries with other types of legal systems. Moreover, and perhaps more telling given the larger number of estimates of effect sizes, the estimated effect for *common law* falls short of any meaningful positive effect on CBMA intensity. Both results are at odds with the legal origins and cultural distance literatures. For example, LaPorta *et al.* (2002) argue that countries with common-law regimes provide greater protection for investors, more diffuse shareholdings, and more robust capital markets. This greater investor protection should reduce the role of concentrated ownership in target firms and provide for greater transparency in target firms' financial statements, making CBMAs more feasible and attractive. Thus, according to this widely accepted theory, countries with common law, not civil law, should experience greater CBMA activity.¹²

4. Need for and Methodology of Meta-Analysis

4.1. Why meta-analysis?

The right-hand side of **Table 1** and **Figure 1** show why a meta-analytical survey of the literature is needed. Of all coefficient estimates related to legal variables reported in the studies, many are not significantly different from zero. Lack of significant coefficient estimates is particularly telling in the case of premium studies but much less so in intensity studies. The second area of concern is that there are non-trivial numbers of studies that find effects, both positive and negative, of legal variables on CBMAs at high levels of statistical significance.¹³ Understanding whether the available literature as a whole does yield a conclusive answer regarding the effect of legal variables on CBMAs and why there is such marked heterogeneity in effect estimates across studies should thus be of interest to finance and legal scholars.

Interpreting the results thrown up by the literature and examining the sources of the heterogeneity of the available estimates of the effects of legal variables could be done either by

¹² We discuss this finding at greater length in the Conclusions.

¹³ We follow Stanley (2001) in cautioning the reader not to draw conclusions regarding the “true” effect of legal variables on CBMAs on the basis of “vote counting” of the number of studies that report significant positive or negative effects. Heterogeneity of estimated effects is not unusual. For example, Nijkamp and Poot (2005) report that over 200 estimates of the elasticity of wages with respect to unemployment cluster between +0.1 to -0.5. Accounting for such heterogeneity is a key aspect of meta-analysis.

means of a traditional literature review or by means of a meta-analysis. Because we choose the latter, here we explain what the process of meta-analysis involves and how it differs from more traditional literature reviews. The first step in meta-analysis is to select estimates of the effect of legal variables on CBMA activity, which, as described in the previous subsection, with a systematic search of the literature to find as many relevant studies as possible. This stands in contrast to traditional, or, so-called, narrative, literature reviews. Clearly, summarizing and evaluating all 60 papers that provide estimates of the effect of legal variables on CBMAs could make for an unwieldy and uninformative narrative literature review. Thus, the typical narrative literature review focuses on a curated set of papers that, in the expert opinion of the author of the review article, exemplify the “best” or “most important” of the available literature. Selecting the “best” may create biases in favor of seminal articles, of articles published in prestigious journals and of articles written by highly regarded members of the profession. As these three categories involve considerable overlap, there is a danger of reporting “conventional wisdom” at the expense of more innovative, controversial, or obscure works. In contrast, the broad search for articles in meta-analysis is sometimes criticized for using articles that are of lower scientific standards or even erroneous, as evidenced by their publication in less prestigious journals.¹⁴ We would make two points. The first is that, if there were one “correct” specification, data set, and estimation technique for a research question, then there would be no need for more than one study. It is precisely disagreements about these three characteristics of empirical work that give rise to numerous articles on a given research question. Second, in meta-analysis, the weight given to estimates drawn from a study depends not on the prestige of the journal in which it was published or the renown of its author, but rather on the estimate’s statistical properties. Thus, effect estimates are weighed by their standard errors and, in parts of the analysis, by their statistical power. Nevertheless, we also report effect estimates that are weighted by journal quality with estimates from more prestigious journals given a heavier weight. The results of this exercise show that it is not the estimates drawn for lower-quality journals that cause heterogeneity in effect estimates.

A problem for both narrative and meta-analytic surveys is to select a measure for the effect of the explanatory variable. Ideally, elasticity would be used. If studies produce coefficients that are statistically significant and imply a large elasticity, this is evidence that the explanatory

¹⁴ Another source of bias may be so-called publication bias, which may result from referees’ and editors’ preferences for papers that do find a significant effect of a variable on outcomes of interest. We address this in Section 5.3.

variable has an important effect on the dependent variable. However, in some studies, elasticity is not reported, and, often, elasticities from different studies are not comparable.¹⁵

As we discussed in Section 3.2, meta-analysis partially overcomes this problem by using the partial correlation coefficient (PCC) between the dependent variable and the explanatory variable of interest. The PCC is a dimensionless variable that takes on values between -1 and 1. The PCC indicates the strength of the relationship between the explanatory variable of interest and the dependent variable when we control for the effect of other explanatory variables. At its extreme values, 1 or -1, the PCC indicates a perfect correlation between the dependent and explanatory variable when we control for the effect of the other explanatory variables. A PCC value of zero means that, accounting for the effects of other variables, there is no correlation between the dependent and explanatory variable. Use of the PCC thus allows for comparison of the effects reported by all available studies despite their use of different dependent variables, specifications, etc.. This advantage comes at a cost because the PCC does not measure the elasticity or economic size of the effect of the explanatory variable on the dependent variable, only the partial correlation. We accept the adage that (partial) correlation is not causality, but it is implausible that there could exist strong causality between two variables that are not highly (partially) correlated. While values of the PCC near zero suggest little or no effect of one variable on the other, what the cutoff for accepting a relationship between two variables for non-zero PCC values is, as discussed above, both arbitrary and discipline specific.

Finally, narrative and meta-analytic reviews both have to deal with the heterogeneity of the studies they review. This problem is more serious in the social sciences than in, for example, medicine, where differences between studies are largely limited to differences in the demographics of the treated and control samples, in the dosage or intensity of the treatment or drug administered, etc.. In business research the differences between study designs are much greater, so the question is whether studies that differ in some significant way from each other can be included in a single analysis. Meta-analysis attempts to account for systematic differences in study conditions by seeking to uncover whether and how these differences in study characteristics influence study results.

¹⁵ The lack of elasticity estimates may be due to authors reporting regression coefficients but not sample means. In other cases, specifications may differ, and their elasticities may not be directly comparable. Finally, the dependent variable may differ between studies so that, for example, the elasticity of CBMAs with respect to investor protection in a study that uses the number of CBMAs as the dependent variable cannot be compared easily to one that uses the number of CBMAs normalized by the number of listed firms in a country. Using PCCs makes the results of different studies comparable.

4.2. Methodology of meta-analysis

Keeping the above arguments in mind, in this subsection, we concretely describe the methodology of meta-analysis performed in this paper using PCCs of 1811 estimates extracted from 60 selected studies. As a first step, we synthesize PCCs using the meta fixed-effect (FE) model and the meta random-effects (RE) model; according to the Cochran Q test of homogeneity and I^2 and H^2 heterogeneity measures, we adopt the synthesized effect size of one of these two models. In addition to this traditional synthesis method, we also utilize the unrestricted weighted least squares average (UWA) approach proposed by Stanley and Doucouliagos (2017) and Stanley et al. (2017) as a new synthesis method. The UWA is less subject to influence from excess heterogeneity than is the meta-FE model. The UWA method regards as the synthesized effect size a point estimate obtained from the regression that takes the standardized effect size as the dependent variable and the estimation precision as the independent variable. Specifically, we estimate Eq. (2), in which there is no intercept term, and the coefficient, α , is utilized as the synthesized value of the PCCs:

$$t_k = \alpha(1/SE_k) + \varepsilon_k, \quad (2)$$

where ε_k is a residual term. In theory, α in Eq. (2) is consistent with the estimate of the meta-FE model.

Furthermore, Stanley *et al.* (2017) proposed conducting a UWA of estimates whose statistical power exceeds the threshold of 0.80, and called this estimation method the weighted average of the adequately powered estimates (WAAP). The WAAP synthesis is less affected by publication selection bias than is the traditional meta-RE model. We adopt the WAAP estimate as the best synthesized value whenever available. Otherwise, the traditional synthesized effect size is used as the second-best reference value.

Following the synthesis of collected estimates, we conduct a meta-regression analysis (MRA) to explore the factors causing heterogeneity between selected studies. More concretely, we estimate a meta-regression model:

$$y_k = \beta_0 + \sum_{n=1}^{N-1} \beta_n x_{kn} + \beta_N se_k + e_k \quad (3)$$

where y_k is the PCC (i.e., r_k) of the k -th estimate, β_0 is the constant, x_{kn} denotes a meta-independent variable that captures the relevant characteristics of an empirical study and explains its systematic variation from other effect estimates reported in the literature, se_k is the standard error of the PCC, β_n denotes the meta-regression coefficient to be estimated, and e_k is the meta-regression disturbance term.

To verify the statistical robustness of coefficient β_n , we estimate Eq. (3) using the following six estimators: (1) the cluster-robust ordinary least squares (OLS) estimator, which clusters the collected estimates by study and computes robust standard errors; (2) weighed least squares weighed by the inverse of the standard error ($1/SE$) as a measure of estimate precision; (3) weighed by the degrees of freedom ($d.f.$) to account for sample-size differences among the studies; (4) weighed by the inverse of the number of estimates in each study to avoid the domination of the results by studies with large numbers of estimates (Havránek and Sokolová, 2020); (5) weighed by the quality of the journal in which the estimates were published to give greater weight to estimates from higher quality journals¹⁶ and (6) the cluster-robust fixed-effects panel estimator (Stanley and Doucouliagos, 2012). We accept β_n as significantly different from zero if at least three of the estimates of β_n obtained by the six estimation methods are statistically significant and of the same sign.

As Havránek and Sokolová (2020) argue, MRA involves the issue of model uncertainty in the sense that the true model cannot be identified in advance. In addition, there is a high risk that the simultaneous estimation of multiple meta-independent variables could lead to multicollinearity. Accordingly, following Brada *et al.* (2021) and Kočenda and Iwasaki (2022), we first estimate the posterior inclusion probability (PIP) of each meta-independent variable, other than the variables needed for hypothesis testing and standard error of PCCs, using Bayesian model averaging (BMA). Then, as a robustness check, we re-estimate Eq. (3) using only the moderators whose posterior inclusion probability (PIP) exceed 0.80.

As the final stage of meta-analysis, we examine publication selection bias using a funnel plot, by conducting a goodness-of-fit test of proportional distribution, and by performing an MRA test procedure consisting of a funnel-asymmetry test (FAT), a precision-effect test (PET), and a precision-effect estimate with standard error (PEESE), which were proposed by Stanley and Doucouliagos (2012) and have been used widely in meta-studies.

A funnel plot is a scatter plot with the effect size (in the case of this paper, the PCC) on the horizontal axis and the precision of the estimate (the inverse of the standard error $1/SE$) on the vertical axis. In the absence of publication selection bias, effect sizes reported by independent studies vary randomly and symmetrically around the true effect size. Moreover, according to statistical theory, the dispersion of effect sizes is negatively correlated with the precision of the estimate. Therefore, the shape of the plot looks like an inverted funnel. If the funnel plot is not bilaterally symmetrical and is skewed to one side, then an arbitrary manipulation of the studies

¹⁶ See Supplement 3 for a description of how journal quality weights were estimated.

analyzed is suspected, in the sense that estimates in favor of a specific conclusion (e.g., estimates with an expected sign) are more frequently published.

The goodness-of-fit test examines the proportional distribution of the reported estimates. The test is performed based on either the assumption that the true effect size is zero or the assumption that the selected meta-synthesis value approximates the true effect. By conducting this univariate test, we inspect whether the estimates in question are distributed evenly around the true effect size.

The FAT-PET-PEESE procedure has been developed to test publication selection bias and the presence of genuine evidence in a more rigorous manner: FAT can be performed by regressing the t value of the k -th estimate on the inverse of the standard error ($1/SE$) equation (4), thereby testing the null hypothesis that the intercept term γ_0 is equal to zero:

$$t_k = \gamma_0 + \gamma_1(1/SE_k) + v_k, \quad (4)$$

where v_k is the error term. When the intercept term γ_0 is statistically significantly different from zero, we can conclude that the distribution of the effect sizes is asymmetric.

Even if there is publication selection bias, a genuine effect may exist in the available empirical evidence. Stanley and Doucouliagos (2012) proposed examining this possibility by testing the null hypothesis that the coefficient γ_1 is equal to zero in Eq. (4). The rejection of the null hypothesis implies the presence of genuine empirical evidence. In Eq. 4, γ_1 is the coefficient of precision; therefore, the test is called a PET.

Moreover, Stanley and Doucouliagos (2012) also stated that an estimate of the publication-selection-adjusted effect size can be obtained by estimating Equation (5), which has no intercept. If the null hypothesis of $\gamma_1 = 0$ is rejected, then a non-zero true effect does exist in the literature, and the coefficient γ_1 can be regarded as its estimate.

$$t_k = \gamma_0 SE_k + \gamma_1(1/SE_k) + v_k \quad (5)$$

This is the PEESE approach.¹⁷

To test the robustness of the regression coefficients obtained from the above FAT-PET-PEESE procedure, we estimate Eqs. (4) and (5) using not only the unrestricted WLS estimator,

¹⁷ We can see that the coefficient γ_1 in Eq. (5) may become the estimate of the publication bias-adjusted effect size in light of the fact that the following equation is obtained when both sides of Eq. (5) are multiplied by the standard error:

$$\text{Effect size}_k = \gamma_0 SE_k^2 + \gamma_1 + w_k. \quad (5b)$$

When directly estimating Eq. (5b), the WLS method, with $1/SE_k^2$ as the analytical weight, is used.

but also the cluster-robust WLS estimator and the unbalanced panel estimator for a robustness check.

5. Results

5.1. Meta-synthesis

Synthesis results using the traditional models are reported in Columns 2 and 3 of **Table 3**. The fixed-effects (FE) estimates are appropriate only if they are homogeneous. The Cochrane Q -test results reported in Column 4 show that homogeneity is rejected in several cases, making the random-effects estimates more appropriate.

Synthesis results using the UWA and WAAP methods are reported in Column 5 of **Table 3**. In this table, we indicate our preferred estimate of the PCCs in bold face, and, if a WAAP estimate is available, it is the preferred estimate. Where a WAAP estimate is not available, we select the FE or the random-effects (RE) estimate as our preferred estimate based on the homogeneity test.

An obvious conclusion from the results reported in **Table 3** is that more attention should be paid to the number of adequately powered estimates and to how meaningful are the results of the effects of the legal environment on CBMAs. In the case of estimates of CBMA intensity, the surveyed literature provides many studies that are adequately powered, which makes the WAAP estimates our preferred results for most of the PCC estimates of the effect of legal variables on CBMA intensity. The number of adequately powered estimates also inspires confidence that the estimates are not merely statistical artefacts. The picture is quite different when we turn to the studies of the CBMA premium. From **Table 3**, we see that only for the variable *property rights* are there any studies of the premium that provide adequately powered estimates. This lack of adequately powered estimates may be due to the potentially small effects of legal variables on the premium or to the small sample sizes used in these studies. Because underpowered estimates tend to find effects where no true effects exist (Button *et al.*, 2013), the available literature probably overstates the likelihood of true effects of legal factors on the CBMA premium, and researchers need to address this by expanding sample sizes in future studies.¹⁸

¹⁸ Nevertheless, we note that meta-analysis, by combining several underpowered estimates, does increase the statistical power of the combined estimate.

In **Figure 2** we present a visual comparison of the estimated effects of legal variables on CBMA intensity and premia. The figure makes clear that intensity studies produce larger estimates of the effect of individual legal variables than are produced by premia studies, and the intensity coefficients tend to be statistically significant in more cases, reflecting the greater statistical robustness of the intensity studies. Nevertheless, the estimated effects are small in absolute terms, even if statistically significant. For several legal variables, the signs of the coefficients differ between the two types of study, a result for which there seems no theoretical explanation.

The selected synthesized value of the PCCs for *all legal variables* is 0.014 for CBMA intensity studies (WAAP) and 0.017 for CBMA premium studies (RE), and this, along with the statistical significance of PCCs for many of the individual measures of legal protection, means that the extant literature reports a statistically significant positive effect of legal protection on CBMA intensity and on the CBMA premium, as theory predicts. However, we stress again that, except for the effects of the *civil law* variable on CBMA intensity, these effects are too small to be considered of any practical importance.

5.2. Meta-regression analysis

5.2.1. Characteristics of intensity and premium studies of CBMAs

Next, we turn to two additional questions. The first is whether studies of intensity and of the premium are comparable in terms of the data and modelling strategies used. We address this issue by inspecting differences in the characteristics of intensity and premium studies. The second question is whether, within either studies of intensity or of the premium, there are differences in data or methodology that might identify effects not captured when all studies are considered together. We do this by identifying a set of study characteristics that we view as differentiating the available studies. We regress the estimated PCCs on their *SE* and a set of dummy variables that identify these study characteristics to estimate whether certain characteristics lead to systematically different effect estimates. We identify 43 study characteristics that we consider as having the potential to lead to systematic differences in study findings. These variables and their summary statistics are listed in **Table 4**, and they can be grouped into 9 categories. Our strategy is, wherever possible, to choose a broad measure of the explanatory variables in each category as our baseline and then to test whether narrower measures of the explanatory variable yield different results. For example, the first category is the explanatory legal protection variable used by the study. We take

rule of law, a broad measure of a target country's legal system, as the default variable and test whether the PCCs of the other, narrower, variables describing the target country's legal system differ significantly from the PCCs for *rule of law*.

From **Table 4** we see there are differences between the frequency with which variables characterizing the legal system are used in intensity and premium studies. Reflecting the influence of legal origins theory, intensity studies most frequently use the variables *common law* and *international agreement*, the existence of a bilateral investment treaty (BIT) or some similar form of foreign-investor protection between the acquiring and target country. In premium studies, *shareholder rights*, *investor/creditor rights* and *antidirector rights* are the most frequently used descriptors of the legal regime. About one-third of intensity studies use cultural similarity as an explanatory variable as do about one-fifth of the premium studies.

The second category of moderators refers to the nature of the data used in the studies. There is no baseline variable for this category, which includes a dummy variable equal to one if panel data are used, the average mean year of the sample period, and the average number of years covered by the sample period.

Categories three and four relate to the nature of the acquiring and target countries. For acquiring countries, the baseline is studies that use a worldwide sample of acquirers. For geographically more focused studies, we use the categories of studies using advanced and developing country acquirers as well as studies that focus on individual acquirer countries including the United States, Canada, the United Kingdom, Japan, and China. Analogously, for target countries we use studies that use a worldwide sample of target countries as the baseline and then the categories of advanced and developing countries, the United Kingdom, Europe, Asia, Africa, and South America. The geographic composition of the samples for intensity and the premium differs. Premium studies most often have European countries as either acquiring or target countries while intensity studies use a more diverse set of countries.

Category five addresses the effects of different ways of measuring CBMA intensity, and thus it applies only to studies of CBMA intensity. The default is the number of MA decisions, a binary variable that gives a value of 1 if a firm or firms in A country acquired a firm or firms in country B and is 0 otherwise. Alternative measures are the total number of MA cases, the monetary value of MA transactions, the MA completion ratio, which is the proportion of completed CBMAs in all CBMA cases including unsuccessful ones, and the MA cross-border ratio, which denotes the share of CBMAs in all MAs that take place in target country. Category six represents the ways in which the CBMA premium is measured. The default category is

studies that use the acquirer's cumulative abnormal return (CAR) as the dependent variable and the other category is studies that measure the premium in some other way.¹⁹

Category seven refers to the specification of the model used in estimating the effects of legal variables. The default here is the aggregate model, which does not specify an acquiring country for each cross-border CBMA but rather uses some aggregate measure (number or value) of CBMAs in the target country. Another specification used in the literature is the gravity model, the use of which stems in part from the cultural distance literature.²⁰ Dyadic models involve estimations of CBMAs between pairs of countries and "other models" capture the few studies that do not fit into the preceding categories. There are no major differences between intensity and premium studies in their use of these specifications.

Category eight refers to the estimation method used. The default is estimators other than OLS, which includes panel estimation as well as methods that account for reverse causality and other potential sources of bias in parameter estimates. Category nine accounts for the use of fixed effects to account for missing variables that may be correlated with the explanatory variables used. We consider separately studies that use location, time, and industry fixed effects.

In sum, studies of intensity and of the premium differ in two ways. One is in the choice of the legal factors. Intensity studies stress common law and the existence of investor protection treaties (BITs) as important explanatory variables while premium studies use shareholder rights, investor/creditor rights and antidirector rights more frequently. Another difference is in the coverage of countries studied. Intensity studies use a wide range of countries both as acquirers and as target countries, while premium studies tend to focus on European countries both as targets and as acquirers. Thus, while both intensity and premium studies address the role of the legal system on CBMAs, researchers make different choices about what legal characteristics of target countries matter and what home and target countries should be included in their samples. These differences limit the comparability of conclusions regarding the effects of target-country legal environments that can be drawn from the two types of studies.

5.2.2. Sources of heterogeneity in CBMA studies

Equation 3 parameter estimates for CBMA intensity with all moderators are reported in **Table 5**. Those meta-independent variables that meet our criteria for statistical significance are

¹⁹ Abnormal returns are generally measured by event study methods, although the length of the event window varies from study to study.

²⁰ We classify any specification that uses the distance between countries and their size as a gravity specification. Some such studies also use factors that explicitly reference cultural distance by means of variables such as same language, colonial ties, etc.

indicated by bold face. Thirteen of the 43 meta-independent variable coefficients display statistically significant estimates. Of these, five are variables related to characterizations of either the home country of the acquirer or the target country. If the sample consists of European or Japanese acquiring firms, then the estimated impact on the estimated effect of legal factors is negative and, in the case of Europe, sufficiently large to suggest an economically meaningful effect on CBMA intensity. If the sample consists of European, Asian or South American target firms, then the estimated effects differ significantly from those obtained by studies using a broader sample of target countries. In the case of Europe and Asia this effect is negative and of a magnitude that suggests an economically meaningful effect of such choices of country samples on the estimated effect of legal variables on CBMA activity.²¹ This suggests that the design of studies, especially in terms of country coverage, does influence study conclusions, at least from a statistical standpoint.

In the category of Legal Variable Type, *civil law* has coefficient estimates large enough to suggest a positive moderate or better effect than other legal factors on CBMAs, a finding already discussed above. Finally, in the category of equation type, the meta-independent variable *other models* has a very large positive effect on CBMA activity. This latter result may be because the three studies that lead to this result (Wu *et al.*, 2016; Schweitzer *et al.*, 2019; Drobotz and Momtaz, 2020) use specifications that place a greater weight on the effect of legal variables.

Table 6 reports the results for Equation 3 estimations for the CBMA premium. In contrast to the results for intensity, there are only six meta-independent variables whose coefficients are significantly different from zero by our criterion. Also, in contrast to the results for CBMA intensity, only *developing country acquirer* is a geographic sample characteristic that could suggest a more than very small effect on effect estimates. The other statistically significant meta-regressors do not rise to the magnitude of any practical effect, and the *US acquirer* coefficients suggest a small effect at best. Overall, the dispersion of findings in studies of the CBMA premium are not well explained by choices we have identified regarding the models, data or estimation methods used by researchers. Indeed, the R-squared values of the regressions for the premium are considerably lower than those for intensity. The differences in study conditions thus explain much more of the observed heterogeneity of study results for CBMA

²¹ The negative effect on CBMA intensity of using Europe as either the home or target country may be due to economic integration among EU countries, which makes it easier for firms from one country to set up a business in another EU member under the rules of the single market. Thus, CBMAs are not as necessary for entering foreign markets that are in other EU countries.

intensity than they do for studies of the CBMA premium. This suggests that the heterogeneity in the results of premium studies is due to idiosyncratic study-specific factors unrelated to the explanatory variables that we have identified. Thus, gaining a better understanding of the causes of heterogeneity in premium studies should be a task for future research.

As a robustness test, to address the problem of model uncertainty in meta-regression analysis, we used Bayesian model averaging (BMA) to select robust moderators, which are commonly defined as moderators with a PIP of 0.80 or more. The results of the BMA are reported in **Appendix Table A1**. Using the results of the BMA, we re-estimated Eq. 3 using only those moderators whose PIP exceeded 0.80. The results are reported in **Table 7**. The meta-regression models with selected moderators in Panel (a) of the table show a similar picture with those in **Table 5** for intensity studies except that *investor/creditor rights* becomes statistically significant. Meanwhile, Panel (b) indicates that *same law* and *international agreement* exhibit a smaller effect size than does *rule of law* for premium studies. As in **Table 6**, *enforceability* has greater effect than does *rule of law*, but in neither case does this change the conclusion that these effects are very small in practical terms. Finally, we note that in all the meta-regression results and the BMA, the weighting of estimates by journal quality has no effect on the identification of study characteristics that have a significant effect on study conclusions. Thus, the inclusion of estimates from less prestigious journals cannot be seen as driving the conclusions of our meta-analysis.

5.3. Test for publication selection bias

Because we use only published studies of CBMA activity in our meta-analysis, we risk the possibility that we overrepresent studies that report significant relationships between legal environment and CBMA and miss unpublished studies that find little or no effect of target-country legal environment on CBMA. Such overrepresentation of statistically significant results in the literature is allegedly due to the possibility that referees and journal editors tend toward accepting articles for publication that report statistically significant effects over those that find no relationships between outcomes and explanatory variables.

We first illustrate the possibility of publication-selection bias by presenting funnel plots of the reported PCCs. **Figure 3** shows funnel plots of PCCs by for intensity and premium studies. By and large, both panels display an inverted funnel distribution of the collected estimates whether we consider the true effect as zero or as the value reported in **Table 3**, with some evidence of more results reported to the right of zero or the estimated effect. Thus, at first glance, there seems to be no strong visual evidence of publication-selection bias in CBMA studies

regardless of whether we assume that the true effect size is zero or the synthesized value reported in **Table 3**. **Figure 3** does highlight an important difference between intensity and premium studies, namely the much higher precision of intensity study effects estimates relative to those of premium studies. The former's precision tops out at a $1/SE$ of over 250 while, for the latter, the maximum value is 120, less than half of the value achieved by intensity studies. This again attests to the weakness of the evidence regarding the premium effect mentioned in previous sections of the paper.

To add some precision to what can be gleaned from **Figure 3**, we undertake a goodness-of-fit z test to confirm symmetry by testing the null hypothesis that the ratio of the estimates greater than and less than zero values is 50:50 for both intensity and premium studies as well as the null hypothesis that the ratio of estimates above and below the relevant selected synthesized value is 50:50. The goodness-of-fit z test results reported in **Table 8** reject the null hypothesis in all cases except for premium studies relative to the estimated effect size for such studies. Thus, studies that report a positive effect predominate in the literature, especially in intensity studies, raising the possibility of publication-selection bias in favor of studies that find a positive effect of legal protection on CBMA intensity and, to a lesser extent, on the CBMA premium.

To make a final judgement on possible effects of publication-selection bias, we performed the FAT-PET-PEESE procedure. Results for these tests are reported in **Tables 9 and 10** for intensity and premium studies, respectively. To provide robustness for our hypothesis tests we estimate the parameters of Equations 4 and 5 using three different techniques, as listed in the tables. The results reported for intensity studies in **Table 9** show in Panel (a) that the FAT test does not reject the null hypothesis that $\beta_0 = 0$ in two of three models, which means that the likelihood of publication-selection bias is low in CBMA intensity studies. Moreover, the PET test strongly rejects the null hypothesis in all three models and, thus, indicates that there exists in the literature genuine evidence of a positive effect of target-county legal environment on CBMA intensity. Panel b shows that, in all models, the PEESE method generates a non-zero publication-selection-adjusted effect size for *legal protection* on CBMA intensity. The effect is between 0.0168 and 0.0171, which is consistent with the synthesis results for the *legal protection* variable reported in **Table 3**. Nevertheless, we stress that the effect remains so small as to be of no practical importance.

Table 10 reports the same test results for the CBMA premium. The FAT test provides little evidence of publication-selection bias in CBMA premium studies and no significant effect of the legal environment on CBMA premia. Perhaps more important, both the PET and the PEESE

test show that, despite of no evidence of the existence of publication-selection bias in the literature, there is no evidence of a non-zero effect of target-country legal protection on the CBMA premium.

We conclude our examination of publication-selection bias by reporting the results of the FAT-PET-PEESE tests for all legal as well as for the individual legal variables. The results are summarized in **Table 11**. For both intensity and premium studies, the FAT test shows several legal variables whose estimated effects may be affected by publication-selection bias, but the PEESE test shows that for most variables, the literature reports genuine effects of the variable on CBMA intensity, but only four out of thirteen cases generate non-zero publication-bias-adjusted effect sizes for premium studies. Thus, much of the already weak evidence for the effect of legal variables on the CBMA premium can be attributed to publication-selection bias. Comparing the publication-selection bias adjusted estimates reported in the last column with the unadjusted results reported in **Table 3**, it is evident that publication-selection bias does not influence our conclusions regarding the largely very small effect of individual legal variables on CBMA intensity and premia.

6. Discussion and Conclusions

Our meta-analysis of 60 studies of the effects of target-country legal environments on cross-border merger and acquisition intensity and premia show that, while both intensity and premia studies find statistically significant effects, these effects, with one exception, are so small as to be considered negligible. We also find that studies of the CBMA premium are largely lacking in statistical power, which raises the possibility that they overstate the existence of effects of the legal system on the CBMA premium, and they exhibit heterogeneity of effect estimates that are not well explained by study characteristics, which suggests that idiosyncratic characteristics of individual studies drive some of the differences in the size of the effects of the legal system that these studies report. Therefore, increasing the sample sizes in premium studies is an important task for future research. Given the strong theoretical support for the importance of the legal environment on CBMA activity these results are surprising, and, to some, they may be disappointing. Nevertheless, we caution the reader that the main takeaway from this study is that the literature does not show that legal factors influence CBMAs. This does not mean that the literature provides evidence that legal factors do not influence CBMAs. The failure to identify a strong effect of legal factors on CBMAs may be because legal factors do not, in fact,

influence CBMAs, or it may be the result of the nature of the studies on the subject published so far.

Addressing this last point, we have identified several characteristics of the literature that may prevent it from clearly identifying such an effect. We have shown important differences between intensity and premium studies. The former have greater statistical power, and differences in study results are well explained by identifiable differences in research design. Moreover, intensity studies stress what might be called macro characteristics of the target country's legal system, such as civil versus common law, the existence of bilateral investment treaty protection for investors, etc., while premium studies focus more on what might be called micro aspects of the legal system such as antidirector protection, creditor rights, etc. Intensity studies also cover a much broader range of countries, while premium studies tend to focus on European CBMA activity.

Among the variables that explain study result heterogeneity in the literature on CBMA intensity, the makeup of the acquiring countries and the target counties plays an economically significant role in explaining CBMA intensity. While it is helpful to know that the countries in a sample do influence the findings regarding the effect of legal environment on CBMA intensity, it also raises a challenge for research. This is because "a county" or "countries" do not in themselves influence CBMA activities. Rather the conclusion to be drawn is that, if a category such as "*target countries are developing countries*" has an important effect on the measured effect of legal environment on CBMA intensity, then the countries in this category must share some common economic, social, or legal similarities that are not captured by the study conditions identified in **Table 4** or in the studies that we analyze. Given the salience of the country categorization for estimating the effects of the legal environment, identifying these country characteristics would be a step forward for the study of CBMAs. To some extent this is happening as researchers seek to include a wider range of more informal or "softer" country-specific characteristics such as trust (Bottazzi et al., 2017) and religion (Maung et.al, 2021). Unfortunately, there are not enough of such studies as yet to enable us to include their insights into a meta-analysis.

Another challenge for the study of the effects of the target-country's legal system on CBMAs is the exclusive, though perhaps unavoidable, reliance on the use of indices of various aspects of the legal system. These indices are compiled either on the basis of "objective" criteria or of some survey of expert judgment or of some combination of the two. There are some problems with such indices. One is that while they claim to be objective, they generally reflect some ideological or cultural bias on the part of those constructing the index. Probably the most

notable controversy about the ideological bias of indices is that regarding the so-called indices of economic freedom. The best known and most widely used of these are produced by the Fraser Institute and by the Heritage Foundation. Ram (2014) compares these two rival indices and reports that “(n)umerous cases of huge differences between country ranks for the two sets of ratings are noted. A simple illustration shows that inferences based on one set of ratings can be very different from those suggested by the other set.” Sachs (2005) reaches a similar conclusion.²² Thus, evaluations of legal system characteristics may also be subject to such ideological or cultural bias.²³

Even if indices are free of cultural or ideological bias, coding and constructing such indices for a large sample of countries is difficult and prone to error. An example particularly germane to this paper is the work of Spamann (2010) who recalculated the antidirector index produced by LaPorta *et al.* (1998). The latter index is widely used in the studies we analyze in this paper. Spamann reestimated the index using exactly the same components as did LaPorta *et al.* but he relied on attorneys in the countries covered by the index to provide local expertise on their country’s legal system as it pertains to the protection of shareholders. On the basis of this new information, Spamann recalculated the antidirector index and found that of the 49 countries in the original index, the ratings for 33 changed, in some cases appreciably, so that the correlation between his index and that of LaPorta *et al.* was only 0.53. Moreover and, particularly relevant to our finding that the literature shows greater CBMA intensity in countries with civil law regimes, he found that, using his index, the key results of LaPorta *et al.* (1998) cannot be replicated. Specifically, he concluded that it is not the case that common law countries provide stronger investor protection than do civil law countries, nor do civil law countries have less concentrated stock ownership and deeper stock markets. It is likely that revisions of other indices of the legal environment would turn up similar outcomes. Thus, more work needs to be

²² Another instructive example is Aleksynska and Cazes (2014) who examine such problems with indices of labor market flexibility.

²³ To give a rather extreme example, how should the rating for legal system efficiency change if the system introduced the possibility of settling legal disputes by trial by combat, where the winner of the fight would be judged innocent and the dead party guilty? Those who identify legal efficiency with the impartial gathering of evidence and application of the relevant laws would see the ability to circumvent such legal procedures at a single stroke of the sword as a decline in legal system efficiency. On the other hand, believers in an omniscient and benevolent deity who is inclined to intervene in human affairs would view trial by combat as an improvement in legal efficiency because the outcome would be governed by an all-knowing and benevolent god, thus ridding the legal system of human errors and passions. For a real-world example, see Leeson and Coyne (2012) who argue that a form of “trial by poison” improves the efficiency of Liberia’s legal system.

done to refine measures of the legal systems in target countries, and researchers should, where possible, use any available alternative measures to ensure the robustness of their estimates.

While our meta-analysis of the empirical research on the effects of target-country legal environments fails to find strong evidence for theories that stress the importance of the legal environment for CBMA activity, it would be incorrect to conclude that the meta-analysis shows that the empirical literature provides a strong refutation of these theories. The meta-analysis and our discussion of the results suggests ways in which the empirical work should be improved, and such improvements may lead to a narrowing of the current gap between theory and evidence.

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Appendix

Method for Evaluating the Quality Level of a Study

This appendix describes the evaluation method used to determine the quality level of the studies subjected to our meta-analysis. All our studies are drawn from refereed journals, and we used the ranking of economics journals published as of February 1, 2018, by IDEAS, which is the largest bibliographic database dedicated to economics and available freely on the Internet (<http://ideas.repec.org/>) for our evaluation of journal quality level. IDEAS provides the world's most comprehensive ranking of economics journals; as of February 2018, 2159 academic journals were ranked. For academic journals that are not ranked by IDEAS, we referred to the Thomson Reuters Impact Factor and other journal rankings and identified the same level of IDEAS ranking-listed journals that correspond to these non-listed journals. We assigned each of them the same score as its IDEAS-listed counterpart.

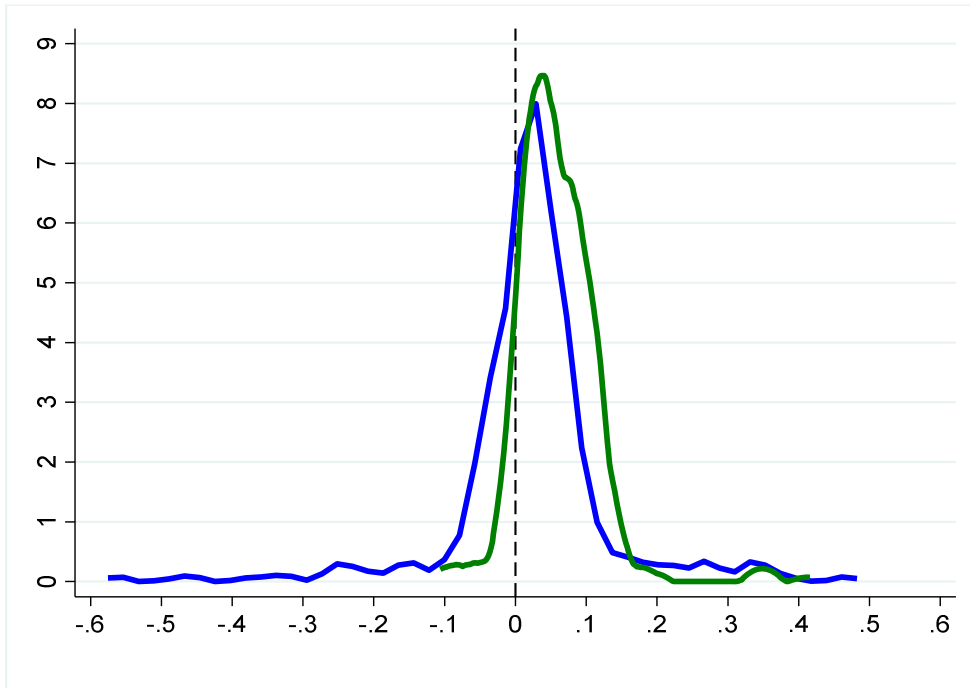
We divided these 2159 journals into 20 clusters, using a cluster analysis based on overall evaluation scores. We then assigned each journal cluster a score (weight) from 1 (the lowest journal cluster) to 20 (the highest). Thus, in our quality-adjusted estimates, effects reported by articles from the highest-rated journals were given a weight twenty times that given to estimates published in the lowest-ranked journals.

Table 1. Overview of collected estimates

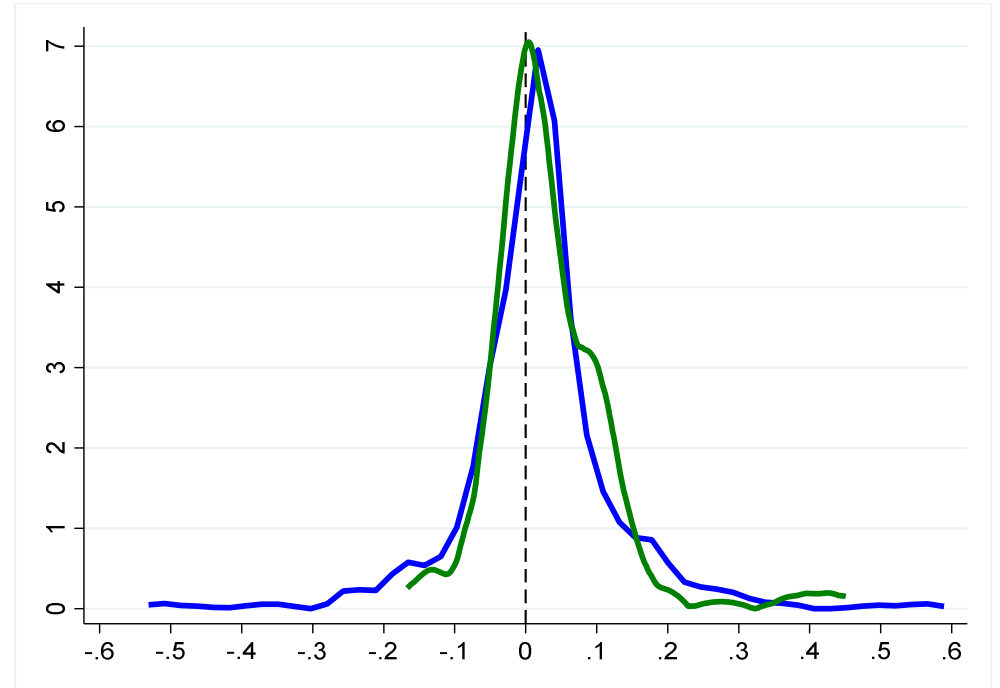
Study type	Number of works	Estimation period covered	Number of collected estimates (<i>K</i>)	Breakdown of collected estimates by variable type													Breakdown by statistical significance						Average number of estimates per study	Median number of estimates per study	
				Rule of law	Judicial system efficiency	Shareholder rights	Investor/creditor rights	Antidirector rights	Property rights	Common law	Civil law	Same law	Accounting standard	Enforceability	International agreement	Cultural similarity	Negative and significant at the 1% level	Negative and significant at the 5% level	Negative and significant at the 10% level	Insignificant	Positive and significant at the 10% level	Positive and significant at the 5% level			Positive and significant at the 1% level
All studies	60	1985-2015	1811	100	73	289	138	126	71	156	19	52	81	34	157	515	136	35	50	802	75	121	592	30.2	20.0
CMBA intensity studies	35	1985-2015	961	45	51	46	26	55	47	121	3	31	44	9	156	327	88	13	19	266	39	53	483	27.5	18.0
CBMA premium studies	34	1985-2017	850	55	22	243	112	71	24	35	16	21	37	25	1	188	48	22	31	536	36	68	109	25.0	13.5

Note: Nine works conducted both CBMA intensity and premium studies. Supplements 1 and 2 provide the list of studies subject to meta-analysis and their bibliography, respectively.

(a) CBMA intensity studies



(b) CBMA premium studies



— All legal variables

— Cultural similarity

Figure 1. Kernel density estimation of collected estimates by study type

Note: Vertical axis is Kernel density. Horizontal axis is partial correlation coefficient of collected estimates. See Table 2 for the descriptive statistics of collected estimates.

Table 2. Descriptive statistics of the partial correlation coefficients, *t*-test and Shapiro–Wilk normality test of collected estimates and univariate comparative analysis between legal variable types

(a) CBMA intensity studies

Legal variable type	<i>K</i>	Mean ^a	Median ^b	S.D.	Max.	Min.	Kurtosis	Skewness	<i>t</i> test ^c	Shapiro-Wilk normality test (<i>z</i>) ^d
All legal variables	634	0.024	0.024	0.107	0.469	-0.562	10.251	-0.602	5.598 ***	10.390 †††
Rule of law	45	0.041	0.024	0.100	0.365	-0.204	5.334	0.807	2.741 ***	3.182 †††
Judicial system efficiency	51	-0.021	-0.020	0.086	0.263	-0.263	5.408	0.132	-1.722 *	2.813 †††
Shareholder rights	46	0.072	0.021	0.199	0.469	-0.461	3.203	-0.088	2.452 **	2.374 †††
Investor/creditor rights	26	-0.035	-0.002	0.090	0.038	-0.246	4.415	-1.776	-1.954 *	4.882 †††
Antidirector rights	55	-0.024	-0.032	0.061	0.263	-0.263	14.262	0.616	-2.911 ***	5.735 †††
Property rights	47	0.016	0.026	0.035	0.042	-0.168	20.573	-4.093	3.135 ***	6.634 †††
Common law	121	0.036	0.062	0.117	0.331	-0.561	11.801	-2.136	3.383 ***	7.293 †††
Civil law	3	0.271	0.272	0.009	0.280	0.262	1.500	-0.135	52.111 ***	-1.163
Same law	31	0.045	0.040	0.024	0.105	-0.011	4.199	0.751	10.561 ***	2.577 †††
Accounting standard	44	0.039	0.079	0.181	0.390	-0.562	5.880	-1.200	1.436	3.622 †††
Enforceability	9	-0.003	-0.009	0.198	0.180	-0.362	2.100	-0.586	-0.039	1.337 †
International agreement	156	0.027	0.023	0.031	0.102	-0.052	2.530	-0.065	10.918 ***	1.028
Cultural similarity	327	0.058	0.053	0.057	0.416	-0.106	12.716	1.819	18.370 ***	8.094 †††

(a) CBMA premium studies

Legal variable type	<i>K</i>	Mean ^e	Median ^f	S.D.	Max.	Min.	Kurtosis	Skewness	<i>t</i> test ^c	Shapiro-Wilk normality test (<i>z</i>) ^d
All legal variables	662	0.018	0.018	0.107	0.574	-0.516	8.863	0.128	4.413 ***	9.134 †††
Rule of law	55	0.011	0.015	0.053	0.172	-0.187	8.170	-1.058	1.490	4.839 †††
Judicial system efficiency	22	-0.009	-0.022	0.055	0.108	-0.116	2.688	0.261	-0.747	0.184
Shareholder rights	243	0.010	0.020	0.135	0.518	-0.516	5.868	-0.504	1.195	5.469 †††
Investor/creditor rights	112	0.030	0.018	0.103	0.552	-0.248	8.430	1.373	3.067 ***	4.867 †††
Antidirector rights	71	0.012	0.019	0.077	0.267	-0.209	6.637	0.476	1.316	4.502 †††
Property rights	24	0.076	0.046	0.171	0.574	-0.091	5.077	1.640	2.164 **	3.412 †††
Common law	35	0.015	0.017	0.048	0.109	-0.073	2.643	0.015	1.897 *	1.072
Civil law	16	0.015	0.023	0.033	0.037	-0.096	9.362	-2.675	1.841 *	4.234 †††
Same law	21	-0.007	-0.007	0.038	0.075	-0.108	4.484	-0.520	-0.876	1.331 †
Accounting standard	37	0.034	0.040	0.103	0.222	-0.162	2.051	-0.240	1.998 *	0.926
Enforceability	25	0.056	0.059	0.027	0.112	0.002	3.112	-0.499	10.238 ***	1.811 ††
International agreement	1	-0.012	-0.012	-	-0.012	-0.012	-	-	-	-
Cultural similarity	188	0.032	0.017	0.086	0.451	-0.167	9.650	1.808	5.090 ***	6.849 †††

Notes: Dash denote that statistic is not available.

^a ANOVA: $F=5.78, p=0.000$; Bartlett's test: $\chi^2=492.917, p=0.000$

^b Kruskal-Wallis rank-sum test: $\chi^2=130.198, p=0.0001$

^c ***, **, and * denote that null hypothesis that mean is zero is rejected at the 1%, 5%, and 10% levels, respectively.

^d †††, ††, and † denote that null hypothesis of normal distribution is rejected at the 1%, 5%, and 10% levels, respectively.

^e ANOVA: $F=1.51, p=0.122$; Bartlett's test: $\chi^2=218.128, p=0.000$

^f Kruskal-Wallis rank-sum test: $\chi^2=25.373, p=0.008$

Table 3. Synthesis of collected estimates

(a) CBMA intensity studies

Legal variable type	Number of estimates (K)	(a) Traditional synthesis		(b) Heterogeneity test and measures			(c) Unrestricted weighted least squares average (UWA)				
		Fixed-effect model (z value) ^a	Random-effects model (z value) ^a	Cochran Q test of homogeneity (p value) ^b	I ² statistic ^c	H ² statistic ^d	UWA of all estimates (t value) ^{a,c}	Number of the adequately powered estimates ^f	WAAP (weighted average of the adequately powered estimates) (t value) ^a	Median S.E. of estimates (MSE)	Median statistical power (MSP)
All legal variables	634	0.017*** (43.22)	0.025*** (10.44)	7555.820*** (0.000)	99.93	1510.16	0.017*** (12.72)	116	0.014 *** (6.29)	0.017	0.176
Rule of law	45	0.020*** (10.85)	0.030*** (2.78)	196.610*** (0.000)	97.46	38.32	0.020*** (5.01)	6	0.020 *** (10.71)	0.032	0.092
Judicial system efficiency	51	0.030*** (17.85)	-0.010 (-1.29)	478.390*** (0.000)	97.49	38.87	0.030*** (5.80)	10	0.046 *** (6.55)	0.020	0.332
Shareholder rights	46	0.026*** (14.92)	0.066*** (2.78)	850.210*** (0.000)	99.53	211.55	0.026*** (3.41)	11	0.023 *** (19.68)	0.032	0.125
Investor/creditor rights	26	-0.014*** (-7.16)	-0.023* (-1.89)	134.670*** (0.000)	90.35	9.36	-0.014*** (-3.08)	3	-0.029 *** (-18.49)	0.034	0.062
Antidirector rights	55	-0.027*** (-23.91)	-0.022*** (-5.59)	398.650*** (0.000)	97.49	38.86	-0.027*** (-9.08)	31	-0.031 *** (-9.47)	0.008	0.930
Property rights	47	0.023*** (25.99)	0.022*** (0.02)	204.600*** (0.000)	90.71	9.77	0.023*** (12.14)	44	0.022 *** (13.30)	0.006	0.971
Common law	121	0.048*** (29.98)	0.048*** (10.59)	755.910*** (0.000)	96.83	30.5	0.048*** (11.86)	55	0.047 *** (8.44)	0.018	0.766
Civil law	3	0.271*** (14.69)	0.271*** (14.68)	0.160 (0.924)	0.04	0.00	0.271*** (52.63)	3	0.271 *** (52.63)	0.032	1.000
Same law	31	0.048*** (34.06)	0.047*** (10.81)	229.110*** (0.000)	95.64	21.91	0.048*** (12.47)	23	0.048 *** (10.91)	0.007	1.000
Accounting standard	44	0.021*** (3.46)	0.040 *** (2.67)	177.420*** (0.000)	98.31	58.14	0.021* (1.68)	0	- (-)	0.057	0.055
Enforceability	9	0.059*** (4.16)	0.014 (0.22)	84.060*** (0.000)	71.45	2.50	0.059 (1.29)	0	- (-)	0.040	0.316
International agreement	156	0.017*** (23.74)	0.025*** (10.77)	1089.390*** (0.000)	98.62	71.63	0.017*** (9.05)	38	0.014 *** (5.37)	0.012	0.293
Cultural similarity	327	0.055*** (101.00)	0.057*** (18.19)	7263.230*** (0.000)	99.79	483.22	0.015*** (21.64)	220	0.055 *** (17.88)	0.015	0.169

(b) CBMA premium studies

Legal variable type	Number of estimates (K)	(a) Traditional synthesis		(b) Heterogeneity test and measures			(c) Unrestricted weighted least squares average (UWA)				
		Fixed-effect model (z value) ^a	Random-effects model (z value) ^a	Cochran Q test of homogeneity (p value) ^b	I ² statistic ^c	H ² statistic ^d	UWA of all estimates (t value) ^{a,c}	Number of the adequately powered estimates ^f	WAAP (weighted average of the adequately powered estimates) (t value) ^a	Median S.E. of estimates (MSE)	Median statistical power (MSP)
All legal variables	662	0.006*** (5.23)	0.017 *** (5.76)	2602.000*** (0.000)	99.69	324.25	0.006*** (2.61)	0	- (-)	0.042	0.034
Rule of law	55	0.010 ** (2.41)	0.010** (2.41)	42.710 (0.866)	81.27	4.34	0.010*** (2.68)	0	- (-)	0.037	0.046
Judicial system efficiency	22	-0.010** (-2.39)	-0.011 (-1.31)	73.670*** (0.000)	85.07	5.70	-0.010 (-1.21)	0	- (-)	0.018	0.076
Shareholder rights	243	0.024*** (8.58)	0.016 ** (2.14)	878.320*** (0.000)	98.52	66.56	0.024*** (4.51)	0	- (-)	0.061	0.059
Investor/creditor rights	112	-0.016*** (-6.79)	0.015 * (1.92)	541.790*** (0.000)	99.08	107.36	-0.016*** (-3.11)	0	- (-)	0.040	0.061
Antidirector rights	71	0.014*** (3.91)	0.009 (1.49)	157.400*** (0.000)	94.92	18.67	0.014*** (2.66)	0	- (-)	0.037	0.058
Property rights	24	-0.029*** (-6.40)	0.068** (2.03)	280.190*** (0.000)	95.36	20.55	-0.029* (-1.80)	3	-0.049 (-2.35)	0.037	0.119
Common law	35	0.013*** (4.23)	0.022 *** (3.12)	126.040*** (0.000)	89.69	8.70	0.013** (2.08)	0	- (-)	0.022	0.083
Civil law	16	0.022 *** (5.23)	0.022*** (5.23)	19.020 (0.213)	31.65	0.46	0.022*** (4.60)	0	- (-)	0.021	0.179
Same law	21	-0.005 (-0.89)	-0.005 (-0.89)	9.560 (0.976)	0.02	0.00	-0.005 (-1.41)	0	- (-)	0.035	0.035
Accounting standard	37	0.047*** (7.02)	0.038 ** (2.47)	132.570*** (0.000)	94.72	17.94	0.047*** (3.67)	0	- (-)	0.064	0.111
Enforceability	25	0.049 *** (7.95)	0.050*** (7.34)	21.910 (0.585)	63.48	1.74	0.049*** (8.27)	0	- (-)	0.031	0.349
International agreement	1	-0.012 (-0.33)	-0.012 (-0.33)	0.000 (1.000)	0.00	0.00	- (-)	0	- (-)	0.036	-
Cultural similarity	188	0.009*** (5.73)	0.021 *** (4.94)	547.930*** (0.000)	95.07	19.29	0.009*** (3.33)	0	- (-)	0.040	0.041

Notes: Selected synthesized values are emphasized in bold. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that statistic is not available.

^a Null hypothesis: The synthesized effect size is zero.

^b Null hypothesis: Effect sizes are homogeneous.

^c Ranges between 0 and 100% with larger scores indicating heterogeneity.

^d Takes zero in the case of homogeneity

^e Synthesis method advocated by Stanley and Doucouliagos (2015) and Stanley et al. (2017).

^f Denotes number of estimates with statistical power of 0.80 or more which is computed referring to the UWA of all collected estimates.

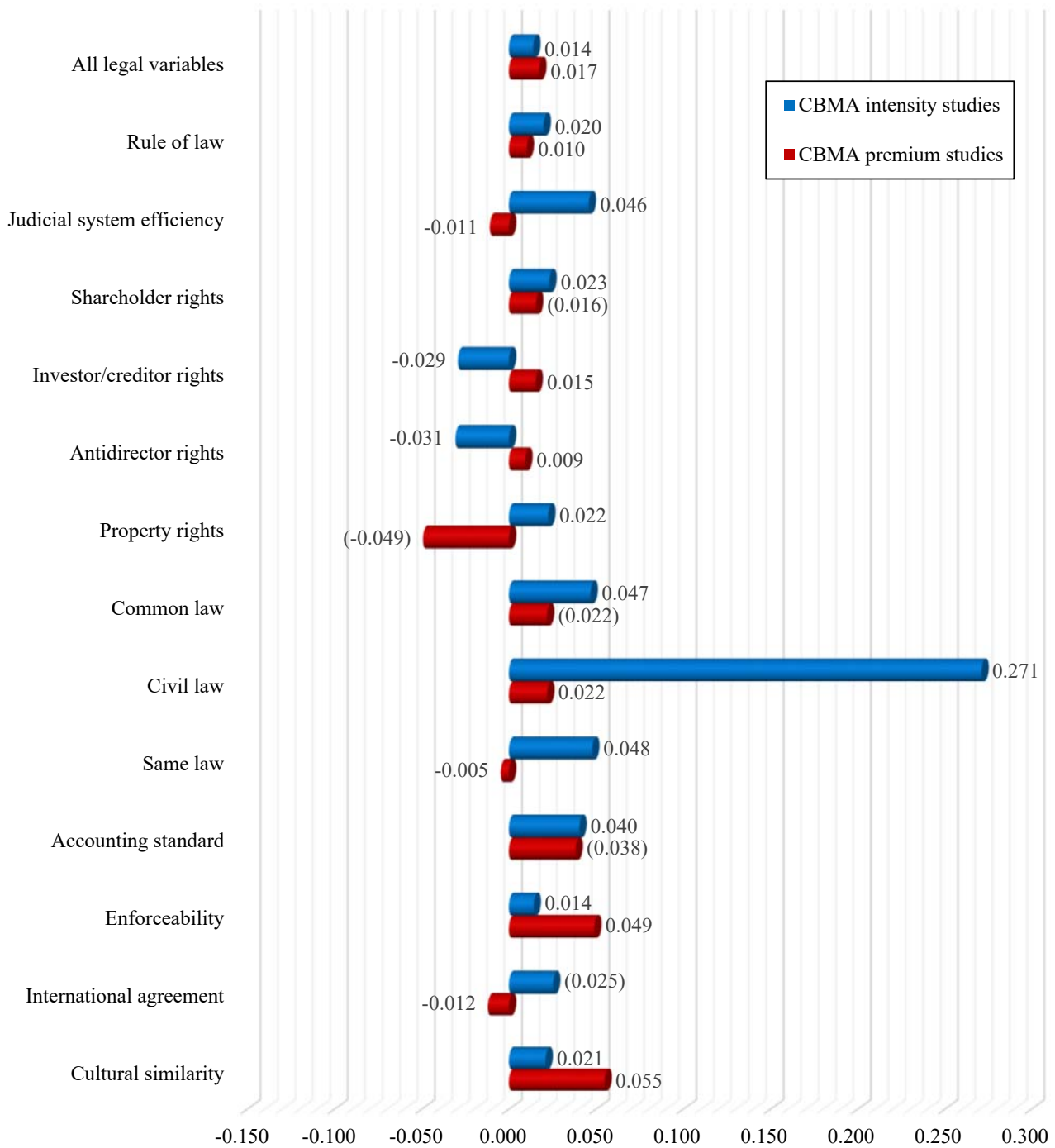


Figure 2. Illustrated comparison of synthesis results

Notes: This figure illustrates the selected synthesized values reported in Table 3. Synthesized values in parentheses are not statistically significantly different from zero.

Table 4. Name, definition, and descriptive statistics of meta-independent variables

Variable name	Definition	Descriptive statistics					
		CBMA intensity studies			CBMA premium studies		
		Mean	Median	S.D.	Mean	Median	S.D.
Judicial system efficiency	1 = if variable type is judicial system efficiency, 0 = otherwise	0.053	0	0.224	0.026	0	0.159
Shareholder rights	1 = if variable type is shareholder rights , 0 = otherwise	0.048	0	0.214	0.286	0	0.452
Investor/creditor rights	1 = if variable type is investor/creditor rights, 0 = otherwise	0.027	0	0.162	0.132	0	0.338
Antidirector rights	1 = if variable type is antidirector rights, 0 = otherwise	0.057	0	0.232	0.084	0	0.277
Property rights	1 = if variable type is property rights, 0 = otherwise	0.049	0	0.216	0.028	0	0.166
Common law	1 = if variable type is common law, 0 = otherwise	0.126	0	0.332	0.041	0	0.199
Civil law	1 = if variable type is civil law, 0 = otherwise	0.003	0	0.056	0.019	0	0.136
Same law	1 = if variable type is same law, 0 = otherwise	0.032	0	0.177	0.025	0	0.155
Accounting standard	1 = if variable type is accounting standard, 0 = otherwise	0.046	0	0.209	0.044	0	0.204
Enforceability	1 = if variable type is enforceability, 0 = otherwise	0.009	0	0.096	0.029	0	0.169
International agreement	1 = if variable type is international agreement, 0 = otherwise	0.162	0	0.369	0.001	0	0.034
Cultural similarity	1 = if variable type is cultural similarity, 0 = otherwise	0.340	0	0.474	0.221	0	0.415
Panel data	1 = if panel data is employed for empirical analysis, 0 = otherwise	0.382	0	0.486	0.572	1	0.495
Average year of estimation	Average year of estimation period	2001.920	2002	4.255	2000.994	1999.5	4.328
Length of estimation	Number of years in estimation period	15.664	16	7.510	13.434	13	5.726
Advanced acquiring country	1= if acquiring countries are advanced countries, 0 = otherwise	0.097	0	0.296	0.007	0	0.084
Developing acquiring country	1= if acquiring countries are developing countries, 0 = otherwise	0.176	0	0.381	0.008	0	0.090
Acquirer US	1= if acquiring country is the United States, 0 = otherwise	0.011	0	0.106	0.061	0	0.240
Acquirer Canada	1= if acquiring country is Canada, 0 = otherwise	-	-	-	0.009	0	0.097
Acquirer UK	1= if acquiring country is the United Kingdom, 0 = otherwise	0.010	0	0.102	0.018	0	0.132
Acquirer Europe	1= if acquiring countries are European countries, 0 = otherwise	0.015	0	0.120	0.334	0	0.472
Acquirer Japan	1= if acquiring country is Japan, 0 = otherwise	0.017	0	0.128	-	-	-
Acquirer China	1= if acquiring country is China, 0 = otherwise	0.016	0	0.124	0.034	0	0.182
Advanced target country	1= if target countries are advanced countries, 0 = otherwise	0.075	0	0.263	0.036	0	0.188
Developing target country	1= if target countries are developing countries, 0 = otherwise	0.053	0	0.224	0.032	0	0.175
Target UK	1= if target country is the United Kingdom, 0 = otherwise	-	-	-	0.019	0	0.136
Target Europe	1= if target countries are European countries, 0 = otherwise	0.008	0	0.091	0.280	0	0.449
Target Asia	1= if target countries are Asian countries, 0 = otherwise	0.022	0	0.146	-	-	-
Target Africa	1= if target countries are African countries, 0 = otherwise	0.031	0	0.174	-	-	-
Target South America	1= if target countries are South American countries, 0 = otherwise	0.004	0	0.064	-	-	-
Financial companies	1= if target company limited to financial companies, 0 = otherwise	0.033	0	0.180	0.040	0	0.196
M&A cases	1=if number of M&A cases is used as the dependent variable, 0 = otherwise	0.472	0	0.499	-	-	-
M&A monetary volume	1=if M&A volume in monetary terms is used as the dependent variable, 0 = otherwise	0.270	0	0.444	-	-	-
M&A completion ratio	1=if M&A completion ratio is used as the dependent variable, 0 = otherwise	0.065	0	0.246	-	-	-
M&A cross-border ratio	1=if M&A cross-border ratio is used as the dependent variable, 0 = otherwise	0.051	0	0.220	-	-	-
Other M&A premium	1=if M&A premium other than CAR is used as the dependent variable, 0 = otherwise	-	-	-	0.351	0	0.477
Gravity model	1 = if gravity model is used for estimation, 0 = otherwise	0.248	0	0.432	0.194	0	0.396
Dyadic model	1 = if dyadic model is used for estimation, 0 = otherwise	0.582	1	0.494	0.440	0	0.497
Other models	1 = if a model other than aggregate/gravity/dyadic models is used for estimation. 0 = otherwise	0.006	0	0.079	0.073	0	0.260
OLS	1 = if OLS estimator is used for estimation, 0 = otherwise	0.140	0	0.348	0.691	1	0.463
Location fixed-effects	1 = if estimation simultaneously controls for location fixed-effects, 0 = otherwise	0.585	1	0.493	0.426	0	0.495
Time fixed-effects	1 = if estimation simultaneously controls for time fixed-effects, 0 = otherwise	0.566	1	0.496	0.680	1	0.467
Industry fixed-effects	1 = if estimation simultaneously controls for industry fixed-effects, 0 = otherwise	0.111	0	0.315	0.482	0	0.500
SE	Standard error of partial correlation coefficient	0.024	0.017	0.028	0.051	0.04	0.031

Note: Dash denotes that data is not available.

Table 5. Meta-regression analysis of literature heterogeneity in CBMA intensity studies: Estimation with all moderators

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Variable type (rule of law)						
Judicial system efficiency	-0.0462 (0.039)	-0.0050 (0.015)	0.0146 (0.011)	-0.0366 (0.023)	-0.0513 (0.045)	0.0257 (0.023)
Shareholder rights	0.0674 (0.054)	0.0181 (0.033)	-0.0003 (0.014)	0.0670 (0.054)	0.0647 (0.054)	0.0689 (0.049)
Investor/creditor rights	-0.0439⁺ (0.025)	-0.0556⁺ (0.029)	-0.0610^{***} (0.022)	-0.0468 (0.030)	-0.0453 (0.027)	-0.0610^{**} (0.026)
Antidirector rights	-0.0420^{**} (0.018)	-0.0508^{***} (0.013)	-0.0478^{***} (0.011)	-0.0369 (0.023)	-0.0401^{**} (0.018)	-0.0394^{**} (0.019)
Property rights	-0.0014 (0.030)	-0.0198 (0.016)	-0.0142 (0.009)	0.0171 (0.035)	-0.0012 (0.031)	0.0271 (0.031)
Common law	0.0213 (0.022)	0.0019 (0.011)	0.0064 (0.012)	0.0238 (0.030)	0.0208 (0.021)	0.0363 (0.027)
Civil law	0.1610^{***} (0.023)	0.1527^{***} (0.019)	0.1576^{***} (0.019)	0.2141^{***} (0.034)	0.1613^{***} (0.024)	- (-)
Same law	0.0266 (0.025)	0.0255 ⁺ (0.013)	0.0352 ^{***} (0.010)	0.0299 (0.031)	0.0218 (0.025)	0.0521 ^{**} (0.024)
Accounting standard	0.0130 (0.026)	-0.0014 (0.032)	-0.0082 (0.032)	0.0045 (0.038)	0.0141 (0.026)	0.0205 (0.042)
Enforceability	0.0394 (0.061)	0.0202 (0.087)	0.0257 (0.085)	0.0231 (0.050)	0.0396 (0.060)	0.0800 ⁺ (0.047)
International agreement	0.0097 (0.024)	-0.0083 (0.013)	-0.0009 (0.013)	0.0155 (0.031)	0.0079 (0.024)	0.0222 (0.028)
Cultural similarity	0.0323 (0.022)	0.0227^{**} (0.010)	0.0300^{***} (0.010)	0.0451⁺ (0.025)	0.0313 (0.022)	0.0565^{**} (0.026)
Data type (cross section data)						
Panel data	-0.0276 (0.027)	-0.0306 (0.020)	-0.0360 ⁺ (0.019)	-0.0190 (0.028)	-0.0304 (0.028)	- (-)
Estimation period						
Average year of estimation	-0.0035 (0.003)	-0.0012 (0.002)	-0.0010 (0.001)	-0.0058 (0.004)	-0.0039 (0.003)	-0.0005 (0.000)
Length of estimation	-0.0025⁺ (0.001)	-0.0018^{**} (0.001)	-0.0019^{**} (0.001)	-0.0036^{**} (0.002)	-0.0029⁺ (0.002)	-0.0018^{**} (0.001)
Acquiring country (world wide)						
Advanced acquiring country	0.0413 (0.037)	0.0154 (0.032)	-0.0172 (0.027)	0.0415 (0.049)	0.0380 (0.036)	-0.1793 ^{***} (0.025)
Developing acquiring country	0.0560^{***} (0.019)	0.0406^{**} (0.017)	0.0197 (0.023)	0.0458 (0.030)	0.0537^{***} (0.018)	-0.2042^{***} (0.024)
Acquirer US	-0.0076 (0.024)	-0.0251 (0.028)	-0.0550 ^{**} (0.027)	0.0035 (0.034)	-0.0084 (0.025)	-0.0447 ^{**} (0.017)
Acquirer UK	0.0170 (0.037)	0.0184 (0.027)	0.0152 (0.033)	0.0197 (0.034)	0.0189 (0.038)	- (-)
Acquirer Europe	-0.2163^{***} (0.053)	-0.2372^{***} (0.027)	-0.2447^{***} (0.029)	-0.2259^{***} (0.050)	-0.2175^{***} (0.056)	- (-)
Acquirer Japan	-0.0965^{**} (0.046)	-0.0540 (0.033)	-0.0147 (0.025)	-0.1078⁺ (0.055)	-0.0942^{**} (0.045)	- (-)
Acquirer China	-0.0373 (0.026)	-0.0365 (0.026)	-0.0446 (0.026)	-0.0164 (0.027)	-0.0388 (0.027)	-0.2074 ^{***} (0.017)
Target country (world wide)						
Advanced target country	-0.0612 ⁺ (0.033)	-0.0344 (0.029)	0.0016 (0.023)	-0.0694 (0.044)	-0.0596 ⁺ (0.032)	0.1947 ^{***} (0.028)
Developing target country	-0.0230 (0.036)	0.0073 (0.032)	0.0393 (0.029)	-0.0266 (0.049)	-0.0206 (0.035)	0.1963 ^{***} (0.023)
Target Europe	-0.2866^{***} (0.018)	-0.3053^{**} (0.013)	-0.3188^{***} (0.013)	-0.3098^{***} (0.016)	-0.2871^{***} (0.018)	-0.2597^{***} (0.034)
Target Asia	0.0857^{***} (0.018)	0.0694^{***} (0.013)	0.0536^{***} (0.013)	0.0623^{***} (0.016)	0.0853^{***} (0.018)	0.1152^{***} (0.034)
Target Africa	0.0505 (0.039)	0.0262 (0.026)	0.0057 (0.025)	0.0383 (0.039)	0.0543 (0.041)	0.0647 ⁺ (0.034)
Target South America	-0.1431^{***} (0.022)	-0.1450^{***} (0.019)	-0.1519^{***} (0.022)	-0.1874^{***} (0.033)	-0.1469^{***} (0.026)	-0.0995^{***} (0.035)
Target company (all companies)						
Financial companies	0.0014 (0.018)	-0.0119 (0.018)	-0.0292 (0.028)	0.0003 (0.024)	0.0002 (0.018)	0.0108 ^{***} (0.001)
M&A variable type (M&A decision)						
M&A cases	-0.0062 (0.012)	0.0039 (0.011)	0.0164 (0.010)	-0.0135 (0.019)	-0.0035 (0.012)	-0.0250 (0.021)
M&A monetary volume	-0.0163 (0.014)	-0.0086 (0.011)	0.0016 (0.006)	-0.0216 (0.021)	-0.0140 (0.014)	-0.0297 (0.020)
M&A completion ratio	0.0351 (0.085)	-0.0326 (0.024)	-0.0364 ^{**} (0.015)	-0.0206 (0.054)	0.0431 (0.088)	0.4002 ⁺ (0.211)
M&A cross-border ratio	-0.1868 ^{***} (0.056)	-0.0362 (0.023)	0.0009 (0.013)	-0.1913 ^{***} (0.060)	-0.1890 ^{***} (0.054)	-0.1722 (0.134)
Equation type (aggregate model)						
Gravity model	-0.0242 (0.040)	-0.0217 (0.023)	-0.0288 ^{**} (0.013)	-0.0337 (0.036)	-0.0245 (0.042)	- (-)
Dyadic model	-0.0387 (0.038)	-0.0438 ⁺ (0.023)	-0.0513 ^{**} (0.019)	-0.0209 (0.032)	-0.0397 (0.039)	-0.0738 (0.059)
Other models	0.4092^{***} (0.063)	0.4493^{***} (0.024)	0.4780^{***} (0.034)	0.4356^{***} (0.063)	0.4138^{***} (0.068)	- (-)
Estimator (estimators other than OLS)						
OLS	0.0398 (0.032)	0.0135 (0.016)	-0.0025 (0.009)	0.0260 (0.030)	0.0386 (0.032)	0.0721 ^{**} (0.034)
Selection of control variable						
Location fixed-effects	0.0046 (0.015)	0.0052 (0.007)	-0.0011 (0.009)	0.0119 (0.018)	0.0025 (0.016)	0.0992 (0.084)
Time fixed-effects	0.0453 (0.030)	0.0271 (0.018)	0.0156 (0.015)	0.0437 (0.030)	0.0464 (0.031)	0.0676 (0.061)
Industry fixed-effects	-0.0282 (0.024)	-0.0181 ^{**} (0.007)	-0.0151 ⁺ (0.009)	-0.0211 (0.032)	-0.0270 (0.025)	-0.0954 (0.057)
SE	-0.1803 (0.528)	-0.2832 (0.367)	-0.3272 (0.451)	-0.0204 (0.333)	-0.2421 (0.556)	-1.8797 ^{**} (0.808)
Intercept	7.0426 (6.062)	2.5943 (3.489)	2.0989 (2.895)	11.6822 (7.462)	7.8746 (6.574)	1.1308 (0.875)
K	961	961	961	961	961	961
R ²	0.365	0.391	0.542	0.513	0.358	0.498

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. See Table 4 for the definition and descriptive statistics of meta-independent variables.

^a Breusch-Pagan test: $\chi^2=0.00, p=1.0000$; Hausman test: $\chi^2=561.50, p=0.0000$

Table 6. Meta-regression analysis of literature heterogeneity in CBMA premium studies: Estimation with all moderators

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Variable type (rule of law)						
Judicial system efficiency	0.0023 (0.029)	0.0232 (0.019)	0.0308 ** (0.012)	0.0072 (0.046)	0.0041 (0.029)	0.0402 * (0.020)
Shareholder rights	0.0145 (0.024)	0.0232 (0.018)	0.0275 * (0.015)	-0.0203 (0.034)	0.0166 (0.024)	0.0348 (0.028)
Investor/creditor rights	-0.0008 (0.027)	-0.0039 (0.023)	-0.0092 (0.021)	0.0188 (0.043)	0.0009 (0.028)	0.0035 (0.024)
Antidirector rights	-0.0069 (0.017)	0.0097 (0.014)	0.0224 (0.017)	-0.0319 (0.039)	-0.0064 (0.017)	0.0166 (0.015)
Property rights	0.0382 (0.041)	0.0051 (0.030)	-0.0226 (0.019)	0.0652 (0.048)	0.0413 (0.042)	0.0102 (0.017)
Common law	0.0020 (0.023)	0.0177 (0.015)	0.0263 *** (0.008)	-0.0090 (0.041)	0.0036 (0.023)	0.0261 * (0.015)
Civil law	-0.0088 (0.042)	0.0096 (0.039)	0.0227 (0.039)	-0.0186 (0.055)	-0.0084 (0.042)	0.0164 (0.031)
Same law	-0.0433 (0.034)	-0.0293 (0.027)	-0.0289 (0.024)	-0.0567 (0.054)	-0.0408 (0.035)	-0.0136 (0.061)
Accounting standard	-0.0070 (0.039)	0.0202 (0.037)	0.0380 (0.037)	-0.0334 (0.052)	-0.0056 (0.038)	0.0471 (0.039)
Enforceability	0.0343 *** (0.007)	0.0345 *** (0.005)	0.0337 *** (0.006)	0.0516 * (0.030)	0.0342 *** (0.006)	0.0307 *** (0.008)
International agreement	-0.0388 (0.057)	-0.0200 (0.044)	-0.0056 (0.029)	0.0105 (0.052)	-0.0336 (0.057)	0.0308 (0.021)
Cultural similarity	-0.0061 (0.022)	0.0137 (0.016)	0.02198 (0.013)	-0.0190 (0.044)	-0.0050 (0.022)	0.0403 ** (0.019)
Data type (cross section data)						
Panel data	-0.0101 (0.017)	-0.0105 (0.014)	-0.0082 (0.013)	0.0003 (0.018)	-0.0114 (0.017)	- (-)
Estimation period						
Average year of estimation	-0.0001 (0.004)	-0.0024 (0.003)	-0.0041 * (0.002)	-0.0015 (0.005)	0.0000 (0.004)	-0.0267 *** (0.002)
Length of estimation	0.0032 ** (0.001)	0.0025 ** (0.001)	0.0017 * (0.001)	0.0042 ** (0.002)	0.0030 ** (0.001)	-0.0020 (0.001)
Acquiring country (world wide)						
Advanced acquiring country	-0.0092 (0.044)	-0.0228 (0.040)	-0.0207 (0.025)	-0.0356 (0.066)	-0.0126 (0.045)	0.0438 * (0.022)
Developing acquiring country	-0.1243 ** (0.059)	-0.0970 * (0.051)	-0.0720 * (0.039)	-0.1661 *** (0.047)	-0.1162 * (0.058)	-0.0314 *** (0.002)
Acquirer US	-0.0927 *** (0.028)	-0.0993 *** (0.024)	-0.1062 *** (0.021)	-0.0699 *** (0.024)	-0.0928 *** (0.029)	-0.0229 * (0.013)
Acquirer Canada	-0.0308 (0.038)	-0.0682 ** (0.028)	-0.0930 *** (0.020)	0.0259 (0.052)	-0.0322 (0.036)	- (-)
Acquirer UK	-0.0635 (0.049)	-0.0686 (0.044)	-0.0715 (0.044)	-0.0638 (0.059)	-0.0599 (0.049)	- (-)
Acquirer Europe	0.0323 (0.059)	0.0208 (0.067)	0.0085 (0.069)	0.0421 (0.063)	0.0359 (0.062)	- (-)
Acquirer China	0.0699 (0.074)	0.0540 (0.094)	0.0297 (0.107)	0.1259 * (0.066)	0.0643 (0.072)	- (-)
Target country (world wide)						
Advanced target country	-0.0072 (0.041)	0.0194 (0.018)	0.0191 (0.014)	-0.0935 (0.064)	-0.0071 (0.041)	- (-)
Developing target country	0.0108 (0.032)	0.0150 (0.019)	0.0096 (0.013)	-0.0103 (0.043)	0.0093 (0.031)	- (-)
Target UK	0.0170 (0.061)	0.0175 (0.072)	0.0123 (0.074)	0.0116 (0.062)	0.0078 (0.064)	0.1056 *** (0.020)
Target Europe	-0.0765 (0.055)	-0.0618 (0.066)	-0.0463 (0.070)	-0.0605 (0.058)	-0.0829 (0.058)	- (-)
Target company (all companies)						
Financial companies	-0.0430 (0.063)	-0.0628 (0.079)	-0.0826 (0.092)	-0.0476 (0.062)	-0.0488 (0.064)	- (-)
M&A variable type (CAR)						
Other M&A premium	-0.0429 ** (0.020)	-0.0513 *** (0.016)	-0.0510 *** (0.015)	-0.0005 (0.027)	-0.0431 ** (0.020)	0.0015 (0.001)
Equation type (aggregate model)						
Gravity model	0.0249 (0.029)	0.0157 (0.025)	0.0084 (0.020)	0.0042 (0.041)	0.0266 (0.029)	- (-)
Dyadic model	0.0103 (0.022)	0.0086 (0.013)	0.0075 (0.008)	-0.0112 (0.021)	0.0120 (0.022)	- (-)
Other models	-0.0009 (0.045)	0.0464 (0.038)	0.0767 ** (0.029)	-0.0530 (0.039)	0.0004 (0.046)	- (-)
Estimator (estimators other than OLS)						
OLS	0.0042 (0.017)	0.0082 (0.011)	0.0093 (0.008)	0.0034 (0.020)	0.0048 (0.017)	0.0080 (0.015)
Selection of control variable						
Location fixed-effects	0.0141 (0.019)	-0.0082 (0.014)	-0.0194 ** (0.009)	0.0311 (0.019)	0.0134 (0.019)	-0.0092 *** (0.003)
Time fixed-effects	-0.0508 ** (0.022)	-0.0337 ** (0.016)	-0.0238 ** (0.016)	-0.0415 ** (0.020)	-0.0501 ** (0.021)	- (-)
Industry fixed-effects	-0.0040 (0.023)	0.0179 (0.016)	0.0321 *** (0.011)	-0.0376 (0.027)	-0.0020 (0.022)	- (-)
SE						
	0.1939 (0.414)	0.2586 (0.381)	0.2635 (0.338)	0.3985 (0.416)	0.2317 (0.393)	0.2452 (0.507)
Intercept	0.1507 (8.308)	4.7191 (6.119)	8.1822 * (4.838)	3.0773 (10.047)	0.0103 (8.174)	53.5267 *** (3.285)
K	850	850	850	850	850	850
R ²	0.206	0.197	0.268	0.384	0.203	0.053

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. See Table 4 for the definition and descriptive statistics of meta-independent variables.

^a Breusch-Pagan test: $\chi^2=0.00, p=1.0000$; Hausman test: $\chi^2=144.61, p=0.0000$

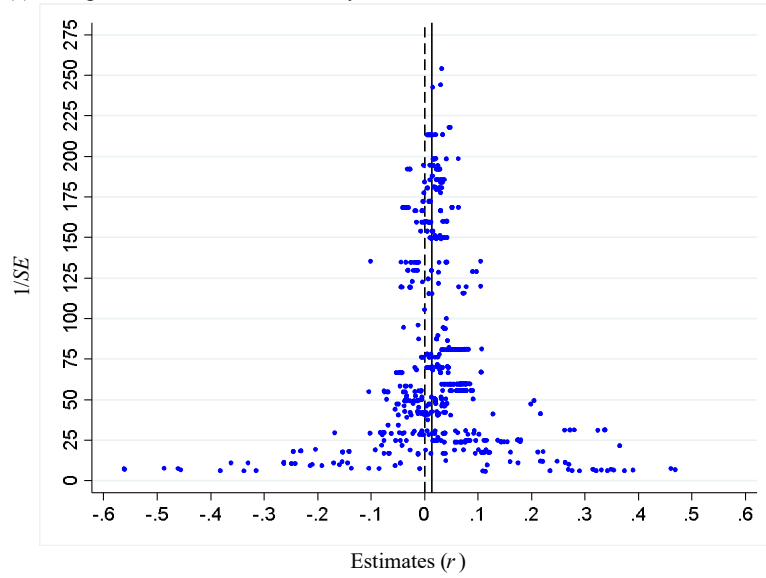
Table 7. Meta-regression analysis of literature heterogeneity: Model with selected moderators for robustness check

(a) CBMA intensity studies						
Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Variable type (rule of law)						
Judicial system efficiency	-0.0514 *** (0.019)	-0.0246 (0.021)	-0.0035 (0.017)	-0.0569 *** (0.019)	-0.0505 ** (0.019)	0.0232 (0.024)
Shareholder rights	0.0586 (0.054)	0.0222 (0.026)	0.0098 (0.009)	0.0638 (0.042)	0.0571 (0.056)	0.0681 (0.047)
Investor/creditor rights	-0.0579 *** (0.017)	-0.0409 *** (0.008)	-0.0388 *** (0.008)	-0.0559 ** (0.026)	-0.0552 *** (0.016)	-0.0635 ** (0.028)
Antidirector rights	-0.0670 *** (0.017)	-0.0604 *** (0.015)	-0.0604 *** (0.014)	-0.0503 ** (0.019)	-0.0638 *** (0.018)	-0.0377 ** (0.019)
Property rights	-0.0146 (0.016)	-0.0115 (0.011)	-0.0092 (0.009)	-0.0035 (0.023)	-0.0132 (0.017)	0.0260 (0.030)
Common law	0.0080 (0.015)	0.0109 (0.015)	0.0118 (0.015)	0.0132 (0.023)	0.0079 (0.014)	0.0411 (0.028)
Civil law	0.2231 *** (0.011)	0.2314 *** (0.009)	0.2273 *** (0.013)	0.2396 *** (0.016)	0.2233 *** (0.011)	- (-)
Same law	0.0036 (0.014)	0.0148 (0.009)	0.0199 ** (0.008)	0.0128 (0.017)	0.0019 (0.014)	0.0529 ** (0.023)
Accounting standard	-0.0061 (0.019)	0.0010 (0.030)	-0.0057 (0.031)	0.0041 (0.028)	-0.0034 (0.019)	0.0152 (0.040)
Enforceability	0.0157 (0.059)	0.0281 (0.083)	0.0420 (0.076)	0.0006 (0.054)	0.0172 (0.057)	0.0722 (0.053)
International agreement	-0.0068 (0.016)	-0.0124 (0.012)	-0.0146 (0.010)	0.0075 (0.020)	-0.0075 (0.016)	0.0234 (0.027)
Cultural similarity	0.0182 (0.015)	0.0226 ** (0.010)	0.0245 ** (0.010)	0.0358 * (0.020)	0.0187 (0.015)	0.0556 ** (0.024)
Selected moderators						
Acquirer Europe	-0.1202 *** (0.033)	-0.1010 *** (0.034)	-0.0853 *** (0.022)	-0.1337 *** (0.026)	-0.1209 *** (0.033)	- (-)
Target South America	-0.1398 *** (0.027)	-0.1492 *** (0.021)	-0.1670 *** (0.017)	-0.1525 *** (0.024)	-0.1457 *** (0.026)	-0.0857 *** (0.009)
M&A cross-border ratio	-0.1893 *** (0.056)	-0.0450 *** (0.014)	-0.0228 * (0.013)	-0.1820 *** (0.045)	-0.1938 *** (0.055)	-0.3340 (0.234)
OLS	0.0293 (0.031)	0.0003 (0.017)	-0.0175 ** (0.007)	0.0349 (0.026)	0.0285 (0.033)	0.0521 (0.033)
Industry fixed-effects	-0.0344 * (0.018)	-0.0243 *** (0.008)	-0.0195 *** (0.007)	-0.0221 (0.023)	-0.0351 * (0.019)	0.0227 (0.022)
SE	0.24050 (0.2796)	0.08746 (0.3155)	0.37271 (0.4366)	0.19148 (0.2815)	0.24785 (0.2873)	-0.98535 (0.9575)
Intercept	0.04052 ** (0.0151)	0.03712 *** (0.0105)	0.03214 *** (0.0092)	0.02562 (0.0190)	0.04011 ** (0.0153)	0.03381 (0.0407)
K	961	961	961	961	961	961
R ²	0.295	0.271	0.397	0.442	0.289	0.306

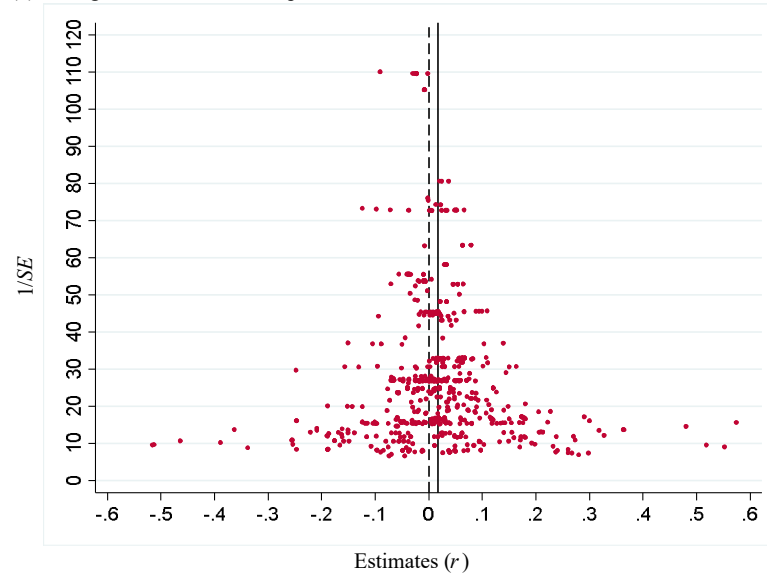
(b) CBMA premium studies						
Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[7]	[8]	[9]	[10]	[11]	[10] ^b
Variable type (rule of law)						
Judicial system efficiency	0.0179 (0.025)	0.0214 (0.020)	0.0133 (0.019)	0.0086 (0.033)	0.0206 (0.024)	0.0402 * (0.020)
Shareholder rights	0.0282 (0.020)	0.0275 * (0.016)	0.0286 * (0.015)	-0.0054 (0.028)	0.0297 (0.020)	0.0348 (0.028)
Investor/creditor rights	0.0132 (0.025)	0.0030 (0.020)	-0.0096 (0.017)	0.0456 (0.044)	0.0144 (0.025)	0.0035 (0.024)
Antidirector rights	-0.0109 (0.018)	0.0051 (0.018)	0.0180 (0.019)	-0.0524 (0.041)	-0.0100 (0.017)	0.0166 (0.015)
Property rights	0.0624 (0.043)	0.0187 (0.036)	-0.0234 (0.019)	0.1009 (0.061)	0.0635 (0.044)	0.102 (0.017)
Common law	0.0048 (0.021)	0.0152 (0.015)	0.0141 (0.014)	-0.0147 (0.035)	0.0063 (0.020)	0.0263 * (0.015)
Civil law	-0.0719 *** (0.024)	-0.0456 ** (0.017)	-0.0203 (0.014)	-0.0541 (0.042)	-0.0686 *** (0.023)	0.0165 (0.031)
Same law	-0.0444 (0.026)	-0.0288 ** (0.014)	-0.0194 (0.012)	-0.0648 * (0.036)	-0.0427 (0.026)	-0.0136 (0.061)
Accounting standard	-0.0031 (0.029)	0.0182 (0.033)	0.0353 (0.035)	-0.0614 (0.058)	-0.0023 (0.028)	0.0471 (0.039)
Enforceability	0.0273 ** (0.013)	0.0327 *** (0.008)	0.0363 *** (0.006)	0.0148 (0.027)	0.0290 ** (0.012)	0.0307 *** (0.008)
International agreement	-0.0126 (0.014)	-0.0097 (0.010)	-0.0147 * (0.008)	-0.0325 (0.025)	-0.0110 (0.013)	0.0307 (0.021)
Cultural similarity	0.0106 (0.013)	0.0162 * (0.009)	0.0153 (0.011)	0.0108 (0.031)	0.0121 (0.012)	0.0404 ** (0.019)
Selected moderators						
Length of estimation	0.0042 *** (0.001)	0.0034 *** (0.001)	0.0025 *** (0.001)	0.0053 *** (0.001)	0.0041 *** (0.001)	0.0052 *** (0.002)
Developing acquiring country	-0.1264 ** (0.058)	-0.0911 (0.054)	-0.0668 (0.040)	-0.1708 *** (0.030)	-0.1150 * (0.059)	-0.0359 *** (0.003)
Acquirer US	-0.1057 *** (0.023)	-0.0913 *** (0.019)	-0.0758 *** (0.016)	-0.0645 ** (0.030)	-0.1042 *** (0.023)	-0.0230 * (0.013)
Target Europe	-0.0485 ** (0.018)	-0.0298 (0.018)	-0.0125 (0.017)	-0.0333 (0.024)	-0.0475 ** (0.018)	-0.1016 *** (0.020)
Other M&A premium	-0.0523 *** (0.011)	-0.0428 *** (0.013)	-0.0241 * (0.014)	-0.0367 ** (0.016)	-0.0521 *** (0.011)	0.0015 (0.001)
Time fixed-effects	-0.0596 *** (0.014)	-0.0404 *** (0.012)	-0.0271 *** (0.009)	-0.0370 (0.028)	-0.0578 *** (0.014)	- (-)
SE	0.31088 (0.1959)	0.40027 * (0.2355)	0.45021 (0.2886)	0.60268 ** (0.2341)	0.32458 (0.1921)	0.24718 (0.5096)
Intercept	0.01748 (0.0287)	-0.00164 (0.0164)	-0.01151 (0.0147)	-0.03444 (0.0622)	0.01447 (0.0276)	-0.05809 (0.0581)
K	850	850	850	850	850	850
R ²	0.180	0.155	0.193	0.269	0.177	0.046

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. Selected moderators denote the meta-independent variables with having a PIP of 0.80 or more in the Bayesian model averaging estimation reported in Appendix Table A1. See Table 4 for the definition and descriptive statistics of meta-independent variables.
^a Breusch-Pagan test: $\chi^2=134.78$, $p=0.0000$; Hausman test: $\chi^2=45.84$, $p=0.0001$
^b Breusch-Pagan test: $\chi^2=1.05$, $p=0.1524$; Hausman test: $\chi^2=39.49$, $p=0.0024$

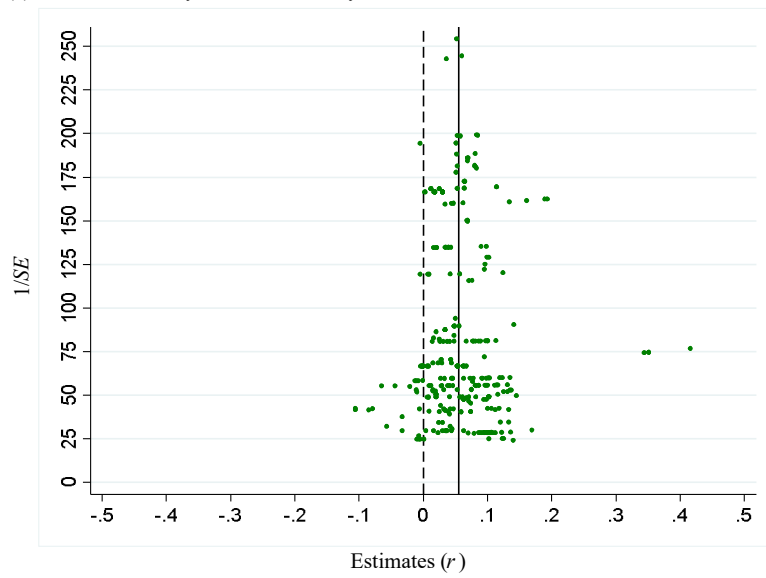
(a) All legal variables - CBMA intensity studies



(b) All legal variables - CBMA premium studies



(c) Cultural similarity - CBMA intensity studies



(d) Cultural similarity - CBMA premium studies

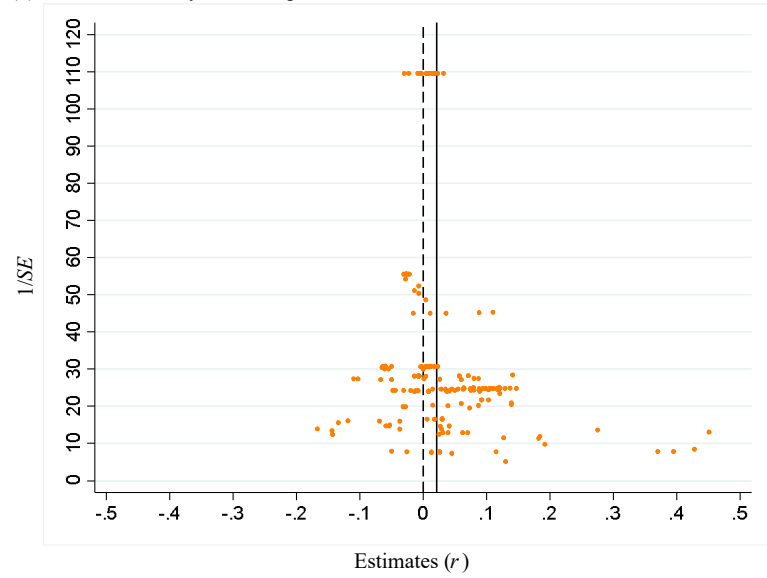


Figure 3. Funnel plot of partial correlation coefficients

Note: In Panels (a) and (b), the solid line indicates the synthesized effect size of WAAP and random-effects model reported in Table 3, respectively.

Table 8. Univariate test of publication selection bias of legal variables

Study type	Number of estimates (K)	Under the assumption that the true effect size is zero			Under the assumption that the true effect size is the selected synthesized value (x) ^a		
		Number of estimates		Goodness-of-fit z test (p value) ^b	Number of estimates		Goodness-of-fit z test (p value) ^c
		$PCC_k < 0$	$PCC_k > 0$		$PCC_k < x$	$PCC_k > x$	
CBMA intensity studies	634	195	439	9.6905 *** (0.000)	250	384	5.3218 *** (0.000)
CBMA premium studies	662	242	420	6.9182 *** (0.000)	320	342	0.8551 (0.393)

Notes:

^a For CBMA intensity studies, the WAAP estimate reported in Table 3 is used as the selected synthesized value . For CBMA premium studies - the estimate of random-effects model.

^b Null hypothesis: The ratio of the positive versus negative values is 50:50.

^c Null hypothesis: The ratio of estimates below x versus those over x is 50:50.

*** and ** denote statistical significance at the 1% and 5% levels, respectively.

Table 9. Meta-regression analysis of publication selection bias of legal variables in CBMA intensity studies

(a) FAT-PET test (Equation: $t = \gamma_0 + \gamma_1(1/SE) + \epsilon$)

Estimator	Unrestricted WLS	Cluster-robust unrestricted WLS	Cluster-robust random-effects panel GLS
Model	[1]	[2]	[3] ^a
Intercept (FAT: $H_0: \gamma_0 = 0$)	0.7202 *** (0.196)	0.7202 (0.673)	-0.3715 (0.522)
1/SE (PET: $H_0: \gamma_1 = 0$)	0.0117 *** (0.003)	0.0117 ** (0.006)	0.0190 *** (0.006)
K	634	634	634
R^2	0.0400	0.0400	0.0400

(b) PEESE approach (Equation: $t = \gamma_0 SE + \gamma_1(1/SE) + \epsilon$)

Estimator	Unrestricted WLS	Cluster-robust unrestricted WLS	Random-effects panel ML
Model	[4]	[5]	[6]
SE	3.6627 (2.408)	3.6627 (5.078)	-11.8832 ** (5.939)
1/SE ($H_0: \gamma_1 = 0$)	0.0171 *** (0.002)	0.0171 *** (0.017)	0.0168 *** (0.003)
K	634	634	634
R^2	0.2052	0.2052	-

Notes: In Models [1] to [5], figures in parentheses beneath the regression coefficients are robust standard errors. In Model [6] - standard errors. Models [2] [3] and [5] report standard errors clustered by study. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

^a Breusch-Pagan test: $\chi^2 = 1503.03$, $p = 0.000$; Hausman test: $\chi^2 = 0.51$, $p = 0.475$

Table 10. Meta-regression analysis of publication selection bias of legal variables in CBMA premium studies

(a) FAT-PET test (Equation: $t = \gamma_0 + \gamma_1(1/SE) + \epsilon$)

Estimator	Unrestricted WLS	Cluster-robust unrestricted WLS	Cluster-robust random-effects panel GLS
Model	[1]	[2]	[3] ^a
Intercept (FAT: $H_0: \gamma_0 = 0$)	0.6486 *** (0.150)	0.6486 (0.449)	0.4361 (0.283)
1/SE (PET: $H_0: \gamma_1 = 0$)	-0.0095 * (0.005)	-0.0095 (0.013)	-0.0076 (0.008)
K	662	662	662
R^2	0.0093	0.0093	0.0093

(b) PEESE approach (Equation: $t = \gamma_0 SE + \gamma_1(1/SE) + \epsilon$)

Estimator	Unrestricted WLS	Cluster-robust unrestricted WLS	Random-effects panel ML
Model	[4]	[5]	[6]
SE	4.4962 *** (1.491)	4.4962 (5.022)	2.6153 (3.061)
1/SE ($H_0: \gamma_1 = 0$)	0.0021 (0.004)	0.0021 (0.009)	-0.0016 (0.005)
K	662	662	662
R^2	0.0243	0.0243	-

Notes: In Models [1] to [5], figures in parentheses beneath the regression coefficients are robust standard errors. In Model [6] - standard errors. Models [2] [3] and [5] report standard errors clustered by study. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

^a Breusch-Pagan test: $\chi^2=402.90, p=0.000$; Hausman test: $\chi^2=0.47, p=0.492$

Table 11. Summary of publication selection bias test

(a) CBMA intensity studies

Legal variable type	Number of estimates (K)	Test results ^a		
		Funnel asymmetry test (FAT) ($H_0: \gamma_0=0$)	Precision-effect test (PET) ($H_0: \gamma_1=0$)	Precision-effect estimate with standard error (PEESE) ($H_0: \gamma_1=0$) ^b
All legal variables	634	Not rejected	Rejected	Rejected (0.0168/0.0171)
Rule of law	45	Not rejected	Rejected	Rejected (0.0184)
Judicial system efficiency	51	Rejected	Rejected	Rejected (0.0353/0.0363)
Shareholder rights	46	Not rejected	Rejected	Rejected (0.0245/0.0325)
Investor/creditor rights	26	Not rejected	Not rejected	Rejected (-0.0226/-0.0120)
Antidirector rights	55	Not rejected	Rejected	Rejected (-0.0278/-0.0167)
Property rights	47	Rejected	Rejected	Rejected (0.0269)
Common law	121	Not rejected	Not rejected	Rejected (0.0504)
Civil law	3	n/a	n/a	n/a
Same law	31	Not rejected	Rejected	Rejected (0.0405/0.0480)
Accounting standard	44	Not rejected	Not rejected	Not rejected
Enforceability	9	Not rejected	Not rejected	Not rejected
International agreement	156	Rejected	Not rejected	Rejected (0.0166/0.0280)
Cultural similarity	327	Not rejected	Rejected	Rejected (0.0355/0.0538)

(a) CBMA premium studies

Legal variable type	Number of estimates (K)	Test results ^a		
		Funnel asymmetry test (FAT) ($H_0: \gamma_0=0$)	Precision-effect test (PET) ($H_0: \gamma_1=0$)	Precision-effect estimate with standard error (PEESE) ($H_0: \gamma_1=0$) ^b
All legal variables	662	Not rejected	Not rejected	Not rejected
Rule of law	55	Not rejected	Not rejected	Not rejected
Judicial system efficiency	22	Not rejected	Not rejected	Not rejected
Shareholder rights	243	Rejected	Rejected	Rejected (0.0167/0.0319)
Investor/creditor rights	112	Rejected	Rejected	Rejected (-0.0320/-0.0277)
Antidirector rights	71	Not rejected	Not rejected	Not rejected
Property rights	24	Rejected	Rejected	Rejected (-0.0546)
Common law	35	Not rejected	Not rejected	Not rejected
Civil law	16	Not rejected	Not rejected	Not rejected
Same law	21	Not rejected	Not rejected	Not rejected
Accounting standard	37	Not rejected	Rejected	Rejected (0.0648/0.0770)
Enforceability	25	Rejected	Not rejected	Rejected (0.0300)
International agreement	1	n/a	n/a	n/a
Cultural similarity	188	Not rejected	Not rejected	Not rejected

Notes: Civil law in Panel (a) and international agreement in Panel (b) do not report test results due to insufficient number of collected estimates.

^a The null hypothesis is rejected when two or three models show a statistically significant estimate. Otherwise not rejected.

^b Figures in parentheses are PSB-adjusted estimates. If two estimates are reported, the left and right figures denote the minimum and maximum estimate, respectively.

Appendix Table A1. Bayesian model averaging analysis of model uncertainty

(a) CBMA intensity studies

Moderator	Coef.	S.E.	<i>t</i> value	PIP
Focus regressors				
Judicial system efficiency	-0.04920	0.01768	-2.78	1.00
Shareholder rights	0.04907	0.01740	2.82	1.00
Investor/creditor rights	-0.05754	0.02034	-2.83	1.00
Antidirector rights	-0.06324	0.01691	-3.74	1.00
Property rights	-0.01392	0.01784	-0.78	1.00
Common law	0.00812	0.01477	0.55	1.00
Civil law	0.22488	0.05273	4.26	1.00
Same law	0.00556	0.01958	0.28	1.00
Accounting standard	0.01058	0.01787	0.59	1.00
Enforceability	0.03640	0.03061	1.19	1.00
International agreement	-0.00716	0.01421	-0.50	1.00
Cultural similarity	0.01930	0.01313	1.47	1.00
<i>SE</i>	0.21910	0.14591	1.50	1.00
Const.	0.22949	0.91977	0.25	1.00
Auxiliary regressors				
Panel data	-0.00447	0.00768	-0.58	0.30
Average year of estimation	-0.00009	0.00046	-0.21	0.07
Length of estimation	-0.00012	0.00037	-0.31	0.13
Advanced acquiring country	0.00018	0.00234	0.08	0.04
Developing acquiring country	0.00827	0.01130	0.73	0.41
Acquirer US	0.00039	0.00521	0.08	0.03
Acquirer UK	-0.00050	0.00694	-0.07	0.04
Acquirer Europe	-0.13644	0.02325	-5.87	1.00
Acquirer Japan	-0.00763	0.02848	-0.27	0.13
Acquirer China	-0.00046	0.00482	-0.09	0.04
Advanced target country	-0.00022	0.00267	-0.08	0.04
Developing target country	-0.00002	0.00242	-0.01	0.03
Target Europe	-0.00067	0.00758	-0.09	0.04
Target Asia	0.00209	0.02093	0.10	0.06
Target Africa	0.01092	0.01920	0.57	0.29
Target South America	-0.12574	0.05788	-2.17	0.90
Financial companies	-0.00042	0.00375	-0.11	0.04
M&A cases	0.00013	0.00140	0.09	0.04
M&A monetary volume	-0.00009	0.00143	-0.07	0.04
M&A completion ratio	0.01066	0.01633	0.65	0.35
M&A cross-border ratio	-0.16931	0.01368	-12.37	1.00
Gravity model	0.00086	0.00450	0.19	0.09
Dyadic model	-0.01050	0.01070	-0.98	0.56
Other models	-0.01946	0.03701	-0.53	0.26
OLS	0.03689	0.00970	3.80	0.99
Location fixed-effects	-0.00001	0.00113	-0.01	0.03
Time fixed-effects	-0.00003	0.00146	-0.02	0.04
Industry fixed-effects	-0.04466	0.01008	-4.43	1.00
<i>K</i>		961		
Model space		268,435,456		

(b) CBMA premium studies

Moderator	Coef.	S.E.	<i>t</i> value	PIP
Focus regressors				
Judicial system efficiency	0.01685	0.02528	0.67	1.00
Shareholder rights	0.02153	0.01727	1.25	1.00
Investor/creditor rights	0.00768	0.01675	0.46	1.00
Antidirector rights	-0.00595	0.01808	-0.33	1.00
Property rights	0.04742	0.02640	1.80	1.00
Common law	0.00136	0.02104	0.06	1.00
Civil law	-0.06238	0.04237	-1.47	1.00
Same law	-0.04036	0.02534	-1.59	1.00
Accounting standard	-0.00288	0.02114	-0.14	1.00
Enforceability	0.03035	0.02342	1.30	1.00
International agreement	-0.02041	0.09629	-0.21	1.00
Cultural similarity	0.00785	0.01579	0.50	1.00
<i>SE</i>	0.32653	0.18976	1.72	1.00
Const.	0.68445	2.11051	0.32	1.00
Auxiliary regressors				
Panel data	-0.00150	0.00570	-0.26	0.10
Average year of estimation	-0.00033	0.00106	-0.32	0.13
Length of estimation	0.00401	0.00090	4.47	1.00
Advanced acquiring country	0.00002	0.00803	0.00	0.03
Developing acquiring country	-0.11471	0.05201	-2.21	0.90
Acquirer US	-0.10390	0.01881	-5.52	1.00
Acquirer Canada	-0.00185	0.01256	-0.15	0.05
Acquirer UK	-0.01109	0.03665	-0.30	0.12
Acquirer Europe	0.00008	0.00934	0.01	0.08
Acquirer China	0.04185	0.04021	1.04	0.61
Advanced target country	-0.00051	0.00469	-0.11	0.04
Developing target country	0.00108	0.00676	0.16	0.05
Target UK	0.01056	0.02713	0.39	0.17
Target Europe	-0.04396	0.02194	-2.00	0.88
Financial companies	-0.02762	0.03570	-0.77	0.43
Other M&A premium	-0.04929	0.00878	-5.61	1.00
Gravity model	0.00305	0.00987	0.31	0.13
Dyadic model	0.00010	0.00291	0.03	0.05
Other models	-0.00030	0.00828	-0.04	0.07
OLS	0.00018	0.00320	0.06	0.04
Location fixed-effects	0.00102	0.00452	0.22	0.08
Time fixed-effects	-0.05829	0.01514	-3.85	0.99
Industry fixed-effects	-0.00018	0.00261	-0.07	0.04
<i>K</i>		850		
Model space		8,388,608		

Notes: S.E. and PIP denote standard errors and posterior inclusion probability, respectively. In theory, PIP of a focus regressor is always 1.00. See Table 4 for the definition and descriptive statistics of moderators.

Appendix Table A2 Meta-regression analysis of legal variables in CBMA intensity studies: Estimation with all moderators

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Legal variable type (rule of law)						
Judicial system efficiency	-0.0573 (0.053)	-0.0062 (0.019)	0.0067 (0.014)	-0.0355 (0.026)	-0.0667 (0.062)	0.0251 (0.033)
Shareholder rights	0.0758 (0.061)	0.0250 (0.031)	0.0127 (0.015)	0.0638 (0.057)	0.0742 (0.061)	0.0759 (0.063)
Investor/creditor rights	-0.0247 (0.026)	-0.0269 (0.016)	-0.0328 ** (0.016)	0.0011 (0.045)	-0.0240 (0.026)	-0.0440 ** (0.019)
Antidirector rights	-0.0329 (0.024)	-0.0415 ** (0.017)	-0.0474 ** (0.019)	-0.0076 (0.036)	-0.0311 (0.024)	-0.0451 * (0.025)
Property rights	0.0209 (0.033)	0.0063 (0.020)	0.0089 (0.016)	0.0349 (0.036)	0.0199 (0.032)	0.0804 (0.063)
Common law	0.0226 (0.036)	-0.0124 (0.016)	-0.0153 (0.014)	0.0331 (0.038)	0.0218 (0.035)	0.0029 (0.041)
Civil law	0.1911 *** (0.027)	0.1882 *** (0.018)	0.1960 *** (0.015)	0.2364 *** (0.032)	0.1944 *** (0.029)	- (-)
Same law	0.0467 (0.030)	0.0333 * (0.018)	0.0317 * (0.017)	0.0694 * (0.040)	0.0442 (0.031)	0.0434 (0.028)
Accounting standard	0.0061 (0.033)	-0.0207 (0.034)	-0.0273 (0.036)	0.0045 (0.040)	0.0078 (0.033)	-0.0004 (0.052)
Enforceability	0.0395 (0.061)	0.0019 (0.083)	0.0051 (0.083)	0.0288 (0.055)	0.0398 (0.060)	0.0530 (0.057)
International agreement	0.0122 (0.034)	-0.0191 (0.015)	-0.0178 (0.012)	0.0365 (0.039)	0.0101 (0.033)	-0.0033 (0.039)
Data type (cross section data)						
Panel data	-0.0033 (0.026)	-0.0029 (0.009)	-0.0118 (0.008)	0.0121 (0.024)	-0.0036 (0.027)	- (-)
Estimation period						
Average year of estimation	-0.0049 (0.003)	-0.0031 (0.002)	-0.0029 * (0.002)	-0.0067 * (0.003)	-0.0055 (0.004)	-0.0009 (0.001)
Length of estimation	-0.0033 (0.002)	-0.0022 ** (0.001)	-0.0020 ** (0.001)	-0.0044 ** (0.002)	-0.0038 * (0.002)	-0.0019 * (0.001)
Acquiring country (world wide)						
Advanced acquiring country	0.0622 (0.043)	0.0590 * (0.030)	0.0443 ** (0.019)	0.0482 (0.050)	0.0605 (0.042)	-0.1986 *** (0.029)
Developing acquiring country	0.0705 *** (0.024)	0.0505 *** (0.015)	0.0334 ** (0.014)	0.0520 (0.032)	0.0700 *** (0.024)	-0.2163 *** (0.028)
Acquirer US	0.0119 (0.019)	0.0149 (0.017)	0.0138 (0.017)	0.0183 (0.027)	0.0112 (0.019)	0.0371 * (0.021)
Acquirer UK	0.0182 (0.047)	0.0094 (0.031)	0.0160 (0.030)	-0.0026 (0.039)	0.0229 (0.049)	- (-)
Acquirer Europe	-0.1970 ** (0.085)	-0.2489 *** (0.027)	-0.2575 *** (0.027)	-0.2308 *** (0.058)	-0.1944 ** (0.091)	- (-)
Acquirer Japan	-0.1060 * (0.062)	-0.0882 ** (0.038)	-0.0608 *** (0.021)	-0.1061 * (0.059)	-0.1029 (0.062)	- (-)
Acquirer China	-0.0363 (0.027)	-0.0414 (0.039)	-0.0500 (0.042)	-0.0127 (0.030)	-0.0384 (0.029)	-0.2152 *** (0.023)
Target country (world wide)						
Advanced target country	-0.0676 (0.049)	-0.0725 ** (0.031)	-0.0484 ** (0.021)	-0.0467 (0.049)	-0.0631 (0.047)	0.2112 *** (0.032)
Developing target country	-0.0421 (0.046)	-0.0415 (0.028)	-0.0257 (0.020)	-0.0386 (0.051)	-0.0400 (0.044)	0.2151 *** (0.028)
Target Europe	-0.2966 *** (0.024)	-0.3228 *** (0.013)	-0.3363 *** (0.012)	-0.3123 *** (0.022)	-0.2977 *** (0.024)	-0.2244 *** (0.040)
Target Asia	0.0756 *** (0.025)	0.0519 *** (0.013)	0.0360 *** (0.012)	0.0596 *** (0.022)	0.0747 *** (0.024)	0.1509 *** (0.040)
Target Africa	0.0287 (0.039)	0.0109 (0.027)	0.0055 (0.021)	0.0336 (0.045)	0.0329 (0.042)	0.1003 ** (0.040)
Target South America	-0.1651 *** (0.035)	-0.1947 *** (0.025)	-0.2111 *** (0.027)	-0.2013 *** (0.038)	-0.1702 *** (0.037)	-0.0634 (0.040)
Target company (all companies)						
Financial companies	-0.0008 (0.021)	-0.0112 (0.018)	-0.0228 (0.025)	-0.0118 (0.029)	-0.0028 (0.022)	0.0071 *** (0.001)
M&A variable type (M&A decision)						
M&A cases	-0.0273 (0.021)	-0.0131 (0.011)	-0.0011 (0.008)	-0.0303 (0.026)	-0.0252 (0.020)	-0.0339 (0.024)
M&A monetary volume	-0.0289 (0.021)	-0.0179 (0.011)	-0.0091 * (0.005)	-0.0287 (0.026)	-0.0272 (0.020)	-0.0384 * (0.022)
M&A completion ratio	0.0420 (0.103)	-0.0593 ** (0.029)	-0.0717 *** (0.015)	-0.0130 (0.060)	0.0536 (0.108)	0.4997 *** (0.179)
M&A cross-border ratio	-0.2344 *** (0.082)	-0.0644 ** (0.027)	-0.0230 ** (0.010)	-0.2416 *** (0.073)	-0.2395 *** (0.080)	-0.1411 (0.106)
Equation type (aggregate model)						
Gravity model	-0.0568 (0.044)	-0.0449 * (0.023)	-0.0362 ** (0.014)	-0.0732 * (0.037)	-0.0594 (0.046)	- (-)
Dyadic model	-0.0346 (0.051)	-0.0242 (0.026)	-0.0175 (0.017)	-0.0298 (0.038)	-0.0371 (0.053)	-0.0852 (0.063)
Other models	0.3653 *** (0.112)	0.4574 *** (0.032)	0.5039 *** (0.039)	0.4232 *** (0.074)	0.3623 *** (0.123)	- (-)
Estimator (estimators other than OLS)						
OLS	0.0534 (0.042)	0.0257 (0.021)	0.0037 (0.013)	0.0366 (0.034)	0.0517 (0.042)	0.1080 *** (0.040)
Selection of control variable						
Location fixed-effects	0.0094 (0.024)	-0.0004 (0.009)	-0.0098 (0.011)	0.0108 (0.022)	0.0083 (0.025)	0.0972 (0.073)
Time fixed-effects	0.0477 (0.039)	0.0091 (0.016)	0.0001 (0.009)	0.0372 (0.032)	0.0485 (0.039)	0.0663 (0.060)
Industry fixed-effects	-0.0590 (0.055)	-0.0143 (0.013)	-0.0022 (0.010)	-0.0416 (0.045)	-0.0611 (0.058)	-0.0849 * (0.047)
SE						
	-0.1564 (0.665)	-0.2460 (0.378)	-0.2082 (0.378)	0.0417 (0.338)	-0.2526 (0.712)	-2.2120 ** (0.821)
Intercept	9.9114 (6.954)	6.4044 (4.240)	5.8616 * (3.233)	13.4265 * (6.969)	11.1902 (7.491)	1.8987 * (1.091)
K	634	634	634	634	634	634
R ²	0.417	0.416	0.606	0.526	0.414	0.014

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. See Table 4 for the definition and descriptive statistics of meta-independent variables.

^a Breusch-Pagan test: $\chi^2=0.00, p=1.0000$; Hausman test: $\chi^2=552.04, p=0.0000$

Appendix Table A3. Meta-regression analysis of legal variables in CBMA premium studies: Estimation with all moderators

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Legal variable type (rule of law)						
Judicial system efficiency	0.0010 (0.032)	0.0252 (0.020)	0.0328 *** (0.012)	0.0325 (0.042)	0.0030 (0.033)	0.0384 (0.028)
Shareholder rights	0.0139 (0.028)	0.0170 (0.022)	0.0115 (0.018)	0.0557 * (0.030)	0.0170 (0.029)	0.0325 (0.030)
Investor/creditor rights	-0.0025 (0.028)	-0.0049 (0.027)	-0.0155 (0.030)	-0.0157 (0.039)	-0.0002 (0.029)	-0.0012 (0.028)
Antidirector rights	-0.0052 (0.019)	0.0097 (0.017)	0.0215 (0.020)	-0.0704 * (0.041)	-0.0043 (0.019)	0.0065 (0.017)
Property rights	0.0245 (0.039)	-0.0022 (0.030)	-0.0318 (0.029)	0.0428 (0.052)	0.0279 (0.041)	0.0072 (0.023)
Common law	-0.0072 (0.027)	0.0148 (0.017)	0.0249 *** (0.008)	-0.0514 (0.038)	-0.0048 (0.026)	0.0220 (0.013)
Civil law	-0.0038 (0.043)	0.0080 (0.043)	0.0185 (0.047)	-0.1023 * (0.057)	-0.0035 (0.044)	-0.0251 (0.061)
Same law	-0.0491 (0.038)	-0.0471 (0.033)	-0.0525 * (0.030)	-0.1097 ** (0.047)	-0.0469 (0.039)	-0.0496 (0.098)
Accounting standard	0.0016 (0.039)	0.0271 (0.039)	0.0455 (0.038)	0.0793 (0.048)	0.0026 (0.039)	0.0623 (0.040)
Enforceability	0.0296 *** (0.006)	0.0318 *** (0.005)	0.0319 *** (0.005)	0.0370 * (0.021)	0.0302 *** (0.006)	0.0267 *** (0.008)
International agreement	-0.0612 (0.051)	-0.0517 (0.039)	-0.0499 (0.030)	-0.0271 (0.049)	-0.0558 (0.051)	0.0278 (0.025)
Data type (cross section data)						
Panel data	0.0099 (0.026)	0.0143 (0.022)	0.0262 (0.019)	0.0077 (0.023)	0.0078 (0.026)	- (-)
Estimation period						
Average year of estimation	-0.0024 (0.005)	-0.0053 (0.004)	-0.0075 ** (0.003)	-0.0033 (0.006)	-0.0022 (0.005)	-0.0257 *** (0.002)
Length of estimation	0.0027 (0.002)	0.0014 (0.002)	0.0001 (0.001)	0.0031 (0.002)	0.0026 (0.002)	-0.0028 (0.002)
Acquiring country (world wide)						
Advanced acquiring country	0.0174 (0.044)	0.0106 (0.038)	0.0348 (0.032)	-0.0476 (0.071)	0.0138 (0.045)	0.0575 * (0.033)
Developing acquiring country	-0.1012 (0.063)	-0.0762 (0.047)	-0.0590 * (0.032)	-0.0322 *** (0.059)	-0.0924 * (0.051)	-0.0312 *** (0.002)
Acquirer US	-0.0684 * (0.035)	-0.0825 *** (0.030)	-0.0940 *** (0.025)	-0.0596 ** (0.029)	-0.0699 * (0.035)	0.0063 (0.020)
Acquirer Canada	-0.0882 (0.070)	-0.1488 ** (0.062)	-0.1901 *** (0.052)	0.0036 (0.069)	-0.0882 (0.070)	- (-)
Acquirer UK	-0.0444 (0.059)	-0.0437 (0.055)	-0.0500 (0.055)	0.0186 (0.065)	-0.0404 (0.059)	- (-)
Acquirer Europe	0.0275 (0.060)	-0.0017 (0.062)	-0.0261 (0.056)	0.0373 (0.065)	0.0287 (0.062)	- (-)
Acquirer China	0.1513 (0.103)	0.1413 (0.113)	0.1152 (0.120)	0.1575 * (0.087)	0.1441 (0.102)	- (-)
Target country (world wide)						
Advanced target country	-0.0168 (0.044)	0.0019 (0.022)	-0.0075 (0.017)	-0.0899 (0.062)	-0.0167 (0.044)	- (-)
Developing target country	0.0062 (0.036)	0.0050 (0.021)	-0.0002 (0.017)	-0.0285 (0.041)	0.0039 (0.035)	- (-)
Target UK	0.0411 (0.066)	0.0412 (0.067)	0.0302 (0.062)	0.0199 (0.057)	0.0334 (0.068)	0.1180 *** (0.029)
Target Europe	-0.0641 (0.053)	-0.0462 (0.059)	-0.0268 (0.057)	-0.0411 (0.054)	-0.0687 (0.056)	- (-)
Target company (all companies)						
Financial companies	-0.0033 (0.085)	-0.0316 (0.094)	-0.0647 (0.101)	-0.0206 (0.072)	-0.0081 (0.086)	- (-)
M&A variable type (CAR)						
Other M&A premium	-0.0377 (0.027)	-0.0524 ** (0.019)	-0.0510 *** (0.016)	-0.0123 (0.029)	-0.0383 (0.027)	0.0021 (0.002)
Equation type (aggregate model)						
Gravity model	0.0505 (0.042)	0.0474 (0.036)	0.0390 (0.030)	0.0135 (0.045)	0.0517 (0.041)	- (-)
Dyadic model	0.0067 (0.022)	0.0002 (0.014)	-0.0080 (0.011)	-0.0107 (0.020)	0.0085 (0.022)	- (-)
Other models	0.0113 (0.060)	0.0698 (0.048)	0.1081 *** (0.037)	-0.0783 * (0.045)	0.0129 (0.060)	- (-)
Estimator (estimators other than OLS)						
OLS	-0.0106 (0.021)	0.0048 (0.013)	0.0101 (0.010)	0.0195 (0.026)	-0.0093 (0.021)	0.0061 (0.017)
Selection of control variable						
Location fixed-effects	0.0014 (0.021)	-0.0197 (0.015)	-0.0331 *** (0.012)	0.0532 * (0.026)	0.0019 (0.021)	-0.0110 ** (0.004)
Time fixed-effects	-0.0380 (0.032)	-0.0139 (0.023)	-0.0115 (0.025)	-0.0167 (0.029)	-0.0372 (0.031)	- (-)
Industry fixed-effects	0.0093 (0.030)	0.0355 * (0.019)	0.0532 *** (0.011)	-0.0262 (0.029)	0.0113 (0.030)	- (-)
SE	-0.0722 (0.574)	0.1323 (0.504)	0.2711 (0.421)	0.4721 (0.542)	-0.0236 (0.547)	-0.0730 (0.753)
Intercept	4.7540 (9.986)	10.5296 (7.397)	14.9718 ** (5.958)	6.5499 (11.767)	4.4730 (9.976)	51.4748 *** (4.878)
K	662	662	662	662	634	662
R ²	0.213	0.204	0.287	0.406	0.210	0.009

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. See Table 4 for the definition and descriptive statistics of meta-independent variables.

^a Breusch-Pagan test: $\chi^2=0.00, p=1.0000$; Hausman test: $\chi^2=107.01, p=0.0000$

Appendix Table A4. Synthesis of collected estimates of legal variables by direction of investment flow

(a) CBMA intensity studies

			Acquiring country		
			World wide	Advanced countries	Developing countries
Target country	World wide	<i>K</i>	375	17	118
		FE	0.013 ***	-0.057 ***	0.059 ***
		RE	0.021 ***	-0.067 *	0.059 ***
		UWA	0.013 ***	-0.056 *	0.059 ***
		WAAP	0.026 **	0.004	0.060 ***
		Cochrane <i>Q</i>	4613.080 ***	105.570 ***	219.670 ***
		MSE	0.015	0.055	0.017
		MSP	0.141	0.174	0.932
	Advanced countries	<i>K</i>	-	49	2
		FE	-	0.006 ***	-0.009
		RE	-	-0.020 *	-0.009
		UWA	-	0.007	-0.010
		WAAP	-	-	-
		Cochrane <i>Q</i>	-	634.800 ***	0.930
		MSE	-	0.022	0.024
		MSP	-	0.049	0.060
	Developing countries	<i>K</i>	29	38	6
		FE	0.009 ***	0.026 ***	-0.001
		RE	0.009 *	0.024 ***	-0.002
		UWA	0.009	0.026 ***	-0.001
		WAAP	-	0.028 ***	-
		Cochrane <i>Q</i>	522.460 ***	336.450 ***	6.800
		MSE	0.034	0.008	0.020
		MSP	0.045	0.897	0.029

(b) CBMA premium studies

			Acquiring country		
			World wide	Advanced countries	Developing countries
Target country	World wide	<i>K</i>	252	87	23
		FE	0.004 ***	0.008 **	0.148 ***
		RE	0.019 ***	0.003	0.145 ***
		UWA	0.004	0.008	0.149 ***
		WAAP	-	-	-
		Cochrane <i>Q</i>	903.600 ***	345.170 ***	170.240 ***
		MSE	0.031	0.050	0.078
		MSP	0.034	0.035	0.479
	Advanced countries	<i>K</i>	28	245	-
		FE	-0.001	0.015 ***	-
		RE	-0.013	0.015 **	-
		UWA	-0.001	0.015 ***	-
		WAAP	-	-	-
		Cochrane <i>Q</i>	373.630 ***	703.040 ***	-
		MSE	0.014	0.060	-
		MSP	0.030	0.044	-
	Developing countries	<i>K</i>	21	3	3
		FE	0.007	0.064	-0.023
		RE	0.007	0.063	-0.023
		UWA	0.008 *	0.063	-0.023
		WAAP	-	-	-
		Cochrane <i>Q</i>	3.590	10.560 ***	4.050
		MSE	0.037	0.084	0.042
		MSP	0.040	0.114	0.079

Notes: FE, RE, UWA, and WAAP denote synthesized effect size by fixed-effect model, random-effects model, unrestricted weighted least squares average (UWA) method, and UWA of the adequately powered estimates, respectively. MSE and MSP denote median standard errors of estimates and median statistical power. Selected synthesized values are emphasized in bold. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that statistic is not available.

Appendix Table A5 Meta-regression analysis of legal variables: Focus on direction of investment flow

(a) CBMA intensity studies

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust fixed-effects panel LSDV
Meta-independent variable (Default)/Model	[1]	[2]	[3]	[4]	[5]	[6] ^a
Legal variable type (rule of law)						
Judicial system efficiency	-0.0686 (0.054)	-0.0105 (0.023)	0.0095 (0.014)	-0.0670 ** (0.025)	-0.0756 (0.061)	0.0249 (0.033)
Shareholder rights	0.0866 (0.063)	0.0221 (0.030)	0.0057 (0.012)	0.0663 (0.055)	0.0841 (0.063)	0.0757 (0.063)
Investor/creditor rights	-0.0343 (0.033)	-0.0335 ** (0.015)	-0.0381 *** (0.012)	-0.0393 (0.048)	-0.0327 (0.032)	-0.0442 ** (0.019)
Antidirector rights	-0.0310 (0.028)	-0.0395 ** (0.015)	-0.0437 ** (0.016)	-0.0385 (0.036)	-0.0297 (0.028)	-0.0453 * (0.024)
Property rights	-0.0044 (0.042)	-0.0146 (0.021)	-0.0035 (0.013)	-0.0091 (0.043)	-0.0058 (0.041)	0.0802 (0.063)
Common law	0.0436 (0.041)	0.0000 (0.016)	-0.0058 (0.011)	0.0571 (0.037)	0.0415 (0.040)	0.0026 (0.041)
Civil law	0.2861 *** (0.041)	0.2612 *** (0.027)	0.2366 *** (0.019)	0.3175 *** (0.038)	0.2875 *** (0.041)	- (-)
Same law	0.0544 (0.035)	0.0348 ** (0.017)	0.0350 ** (0.014)	0.0540 (0.041)	0.0524 (0.036)	0.0431 (0.028)
Accounting standard	0.0161 (0.035)	-0.0104 (0.030)	-0.0140 (0.034)	0.0110 (0.037)	0.0177 (0.034)	-0.0007 (0.051)
Enforceability	0.0528 (0.061)	0.0143 (0.079)	0.0216 (0.080)	0.0355 (0.052)	0.0525 (0.060)	0.0525 (0.057)
International agreement	0.0248 (0.041)	-0.0146 (0.014)	-0.0133 (0.010)	0.0410 (0.042)	0.0222 (0.039)	-0.0035 (0.039)
Direction of investment flow (From the world to the world)						
From the world to advanced countries	no study	no study	no study	no study	no study	no study
From the world to developing countries	0.0083 (0.034)	-0.0043 (0.018)	0.0044 (0.014)	-0.0095 (0.034)	0.0093 (0.033)	0.2143 *** (0.027)
From advanced countries to the world	-0.0261 (0.042)	-0.0661 (0.060)	-0.0670 (0.070)	0.0272 (0.035)	-0.0234 (0.042)	0.0370 * (0.021)
From advanced countries to advanced countries	-0.0127 (0.034)	-0.0144 (0.013)	-0.0038 (0.009)	-0.0055 (0.030)	-0.0077 (0.035)	-0.0055 (0.021)
From advanced countries to developing countries	0.0310 (0.023)	0.0138 (0.013)	0.0130 (0.013)	0.0529 * (0.030)	0.0307 (0.023)	0.0419 (0.026)
From developing countries to the world	0.0929 *** (0.028)	0.0609 *** (0.019)	0.0408 ** (0.018)	0.0662 * (0.035)	0.0946 *** (0.028)	- (-)
From developing countries to advanced countries	-0.0390 (0.043)	-0.0151 (0.020)	-0.0180 * (0.009)	-0.0070 (0.046)	-0.0367 (0.046)	-0.0008 (0.027)
From developing countries to developing countries	-0.0211 (0.024)	-0.0199 (0.013)	-0.0104 (0.010)	-0.0347 * (0.020)	-0.0188 (0.024)	0.0006 (0.025)
SE	-0.07054 (0.5886)	-0.30476 (0.4121)	-0.30507 (0.3950)	-0.01524 (0.4427)	-0.16653 (0.6374)	-2.18774 ** (0.8184)
Intercept	7.49659 (6.3127)	4.74746 (4.0031)	4.74545 (3.1718)	9.52954 * (5.3336)	8.96145 (6.8709)	1.85470 * (1.0849)
Other study conditions	Yes	Yes	Yes	Yes	Yes	Yes
K	634	634	634	634	634	634
R ²	0.373	0.346	0.567	0.435	0.376	0.041

(b) CBMA premium studies

Estimator (Analytical weight in brackets)	Cluster-robust OLS	Cluster-robust WLS [1/SE]	Cluster-robust WLS [d.f.]	Cluster-robust WLS [1/EST]	Cluster-robust WLS [Quality level]	Cluster-robust random-effects panel GLS
Meta-independent variable (Default)/Model	[7]	[8]	[9]	[10]	[11]	[12] ^b
Legal variable type (rule of law)						
Judicial system efficiency	0.0140 (0.033)	0.0320 (0.020)	0.0367 *** (0.012)	0.0667 (0.053)	0.0136 (0.033)	0.0439 * (0.023)
Shareholder rights	0.0316 (0.031)	0.0259 (0.022)	0.0181 (0.017)	0.0770 * (0.043)	0.0298 (0.029)	0.0340 (0.029)
Investor/creditor rights	0.0164 (0.028)	0.0038 (0.026)	-0.0110 (0.029)	0.1340 *** (0.049)	0.0144 (0.027)	0.0066 (0.025)
Antidirector rights	0.0135 (0.021)	0.0169 (0.018)	0.0234 (0.020)	0.0764 (0.048)	0.0110 (0.019)	0.0108 (0.018)
Property rights	0.0525 (0.044)	0.0113 (0.029)	-0.0259 (0.029)	0.1835 *** (0.060)	0.0517 (0.044)	0.0229 (0.025)
Common law	0.0056 (0.029)	0.0199 (0.017)	0.0271 *** (0.008)	0.0714 (0.048)	0.0044 (0.028)	0.0228 (0.015)
Civil law	0.0251 (0.035)	0.0385 (0.025)	0.0521 ** (0.024)	0.0838 (0.055)	0.0233 (0.033)	-0.0087 (0.042)
Same law	-0.0261 (0.044)	-0.0210 (0.032)	-0.0304 (0.026)	0.0268 (0.062)	-0.0290 (0.043)	-0.0328 (0.073)
Accounting standard	0.0182 (0.041)	0.0281 (0.039)	0.0397 (0.037)	0.0544 (0.056)	0.0154 (0.039)	0.0560 (0.039)
Enforceability	0.0387 *** (0.011)	0.0364 *** (0.007)	0.0350 *** (0.006)	0.1016 ** (0.039)	0.0376 *** (0.009)	0.0307 *** (0.008)
International agreement	-0.0061 (0.039)	0.0239 (0.030)	0.0403 (0.025)	0.0211 (0.054)	-0.0075 (0.038)	0.0048 (0.041)
Direction of investment flow (From the world to the world)						
From the world to advanced countries	-0.0155 (0.051)	0.0110 (0.022)	0.0054 (0.015)	-0.0681 (0.072)	-0.0187 (0.052)	-0.0832 (0.088)
From the world to developing countries	0.0029 (0.026)	0.0065 (0.018)	0.0035 (0.015)	-0.0132 (0.033)	0.0031 (0.026)	-0.0188 (0.030)
From advanced countries to the world	-0.0538 * (0.027)	-0.0859 *** (0.026)	-0.1090 *** (0.024)	-0.0364 (0.036)	-0.0538 * (0.027)	-0.0235 (0.025)
From advanced countries to advanced countries	-0.0750 ** (0.034)	-0.0657 ** (0.028)	-0.0521 * (0.026)	-0.1337 *** (0.036)	-0.0728 ** (0.032)	-0.0416 (0.043)
From advanced countries to developing countries	0.0406 (0.031)	0.0373 (0.024)	0.0321 (0.021)	-0.0265 (0.047)	0.0412 (0.030)	0.0202 (0.031)
From developing countries to the world	0.0361 (0.095)	0.0425 (0.099)	0.0396 (0.103)	-0.1430 * (0.082)	0.0476 (0.090)	0.0403 (0.129)
From developing countries to advanced countries	no study	no study	no study	no study	no study	no study
From developing countries to developing countries	-0.0251 (0.026)	-0.0242 (0.018)	-0.0287 * (0.016)	-0.0476 (0.034)	-0.0248 (0.026)	-0.0495 * (0.030)
SE	0.47299 * (0.2476)	0.57562 ** (0.2748)	0.58733 ** (0.2808)	1.52526 *** (0.4865)	0.46382 * (0.2394)	0.37735 (0.2642)
Intercept	-3.07353 (9.5612)	5.62244 (6.4636)	11.48888 ** (4.8415)	-20.44783 (14.8146)	-2.71583 (9.3260)	6.09026 (11.8522)
Other study conditions	Yes	Yes	Yes	Yes	Yes	Yes
K	662	662	662	662	662	662
R ²	0.172	0.176	0.266	0.302	0.174	0.100

Notes: Figures in parentheses beneath the regression coefficients are robust standard errors. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Dash denotes that estimate is not available. See Table 4 for the definition and descriptive statistics of meta-independent variables.

^a Breusch-Pagan test: $\chi^2=57.68$, $p=0.0000$; Hausman test: $\chi^2=515.52$, $p=0.0000$

^b Breusch-Pagan test: $\chi^2=39.17$, $p=0.0000$; Hausman test: $\chi^2=5.320$, $p=0.9996$

Supplement 1. List of studies subject to meta-analysis

Author(s) (publication year)	Study type		Estimation period		Variable type											Number of collected estimates (<i>K</i>)		
	CBMA intensity study	CBMA premium study	From	To	Rule of law	Judicial system efficiency	Shareholder rights	Investor/creditor rights	Antidirector rights	Property rights	Common law	Civil law	Same law	Accounting standard	Enforceability		International agreement	Cultural similarity
Buch and Delong (2004)	✓		1985	2001								✓					✓	12
Rossi and Volpin (2004)	✓	✓	1990	2002			✓				✓			✓			✓	41
Weitzel and Berns (2006)		✓	1996	2003						✓	✓						✓	26
Bris and Cabolis (2008)		✓	1989	2002			✓							✓				31
Francis et al. (2008)		✓	1990	2003			✓	✓										6
Graham et al. (2008)	✓		1992	2003		✓			✓									10
Hagendorff et al. (2008)		✓	1996	2004					✓					✓				4
Martynova and Renneboog (2008)		✓	1993	2001			✓	✓									✓	132
Chakrabarti et al. (2009)		✓	1991	2004					✓				✓				✓	32
Huizinga and Voget (2009)	✓		1985	2004						✓							✓	10
Ongena et al. (2009)		✓	1998	2002					✓								✓	22
Pablo (2009)	✓		1998	2004						✓								2
Choi et al. (2010)		✓	1995	2002				✓					✓					8
Ferreira et al. (2010)	✓		2000	2005		✓				✓				✓	✓			22
Hyun and Kim (2010)	✓		1989	2005		✓										✓	✓	60
John et al. (2010)		✓	1985	2005			✓	✓	✓					✓				24
Owen and Yawson (2010)	✓		2000	2006			✓											3
Feito-Ruiz and Menendez-Requejo (2011)	✓	✓	2002	2006		✓		✓										16
Hur et al. (2011)	✓		1997	2006	✓													15
Jory and Ngo (2011)		✓	1989	2008	✓													3
Barbopoulos et al. (2012)		✓	1986	2005						✓	✓							15
De Beule and Duanmu (2012)	✓		2000	2008	✓													6
Erel et al. (2012)	✓		1990	2007			✓										✓	18
Huizinga et al. (2012)		✓	1985	2004			✓			✓						✓		3
Cosset and Mknassi (2013)	✓	✓	1990	2008			✓			✓				✓				14
Dutta et al.(2013)		✓	1993	2002					✓								✓	8
Nagano (2013)	✓		1999	2009			✓		✓									16
Francis et al. (2014a)		✓	1990	2003			✓											10
Zhu et al. (2014)	✓	✓	1990	2007	✓		✓	✓										45
Ahern et al. (2015)	✓	✓	1985	2008								✓				✓	✓	78

(Continued)

Supplement 2.

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