Litigation risk: Measurement and impact on M&A transaction terms[§]

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Abstract

The purpose of the paper is to propose an original proprietary proxy of a firm's litigation risk. We extend the scope of litigation risk outside of the conflicts with shareholders and the domain of security litigation. We demonstrate that the source of the risk of litigation can be found in the firm's policies and in its management's operational or strategic decisions, even if a sector conditioning effect exists. Based on a sample of 1051 M&A transactions between 2000 and 2013, we provide evidence that the level of litigation risk, at the acquirer's level, has a positive and significant impact on the takeover premium. We also provide evidence that a significant relationship exists between the acquirer's litigation risk and the means of payment.

Keywords: litigation risk, litigation proxy, acquisition premium, means of payment, idiosyncratic risk

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Introduction

Litigation risk is an important part of the different domains of risk which a firm is exposed to. In the current period, the notion of a firm's responsibility is gaining importance with the development of Corporate Social Responsibility (CSR). The latter implies consequences in terms of litigation risk. The scope of litigation risk seems larger than the narrow definition limited to the conflicts with shareholders. However, the double question of precise definition and measure of the litigation risk has rarely been addressed in the literature.

A way to answer is to consider the directors' and officers' personal responsibilities. They are exposed to a risk of litigation, which may be covered by personal insurance. In that view, litigation risk is not been measured directly, but indirectly, through the characteristics of the directors' and officers' insurance contracts and their pricing (Baker and Griffith 2007; Cao and Narayanamoorth 2014).

A direct measure of litigation risk originates from Francis et al. (1994), who identify an industry causal effect on litigation risks. Firms belonging to the sectors of biotechnology, computers, electronics, and retail are exposed to litigation in the very restricted sense of security and reporting litigation. This classification is based on the simple fact, evidenced by the authors, that these sectors were exposed to "*a high incidence of litigation during 1988-1992*" (p.144). This analysis is quite old and restricted to US firms. Is it still valid? We can extend the concern and question whether the industry membership method is a sufficient proxy. The sectorial approach seems poor as it ignores the firm's characteristics and

introduces a kind of macro-determinism at the firm level. Kim and Skinner (2012) question the validity of a pure industry-based proxy. They find that it should definitely be supplemented by firm-specific variables, such as turnover and stock volatility. The latter is a well-known (market) measure of the idiosyncratic risk of the firm.

The purpose of the paper is to propose an original proprietary proxy of a firm's litigation risk. We extend the scope of litigation risk outside off the conflict with shareholders and the domain of security litigation. This recognizes that the risk of litigation can find its source in the firm's policies and in its management's operational or strategic decisions, even if a sector conditioning effect exists. From a financial point of view, we focus on the consequences of litigation risks more than on its sources. The motivation is that litigation risk appears and develops through many different conflicts possibilities between and within stakeholders. We define the litigation risk as the legal or contractual costs linked to any kind of disputes with any kind of stakeholder. The focus of the paper is to cross that large definition with a specific event in the firm's life, i.e. an M&A transaction. When a firm is acquired it may cause additional or reveal existing litigation risks.

We follow the Amel-Zadeh and Zhang (2015) analysis showing that, in M&As, financial restatements are the observable pinpoints of an information risk. We will follow an information risk approach of the litigation risk: the quality of the information drawn from a firm with a significant litigation risk is poorer. As a consequence a focus on the pieces of information linked to litigation risk is justified and we consider that the number of public citation is a relevant proxy of the litigation risk a firm is exposed to. Our empirical methodology refers to the number of citations in the publications recorded by the Factiva database. These citations are those reported in the global domain of "Corporate crime and legal action", independently from the stakeholder or party involved.

We will measure the litigation risk for different given periods of time for a sample of firms involved in M&A deals, as we think that an acquisition is a major event when the two parties should assess each other's risk, in general, and litigation risk, in particular. The nature of litigation risk (and of any risk) is to be ex ante. For instance, the litigation risk is uncertain as long as the Court decision is pending. Using our proxy, we can question whether the litigation risk is random, for instance, linked to a complaint from a plaintiff who sues the firm for any reason. Alternatively, some firms belonging to given sectors are systematically exposed to complaints and disputes. If the management's decisions are systemically borderline or repeat themselves, the litigation risk may have a stable component. This is also the case if a sectorial effect conditions the decisions and business practices. The question of systematic litigation risk exposure is relatively uncommon in the literature.

Litigation risk, when a M&A transaction occurs, is privately assessed by the parties. It should impact the terms of the transaction. The litigation risk may, for instance, lower the price paid. This question is complex: In an acquisition operation, we need to consider two litigation risks, that of the acquirer and that of the target. We aim to verify whether the risk of litigation is effectively priced in M&A terms. This question has also not been addressed in the literature yet.

The empirical part of the paper refers to a sample of M&A transactions in North America and Europe over the period 2000-2013. We show that litigation risk has a stable component at the firm'level and is an idiosyncratic feature of the firm that has a relatively stable component. A M&A transaction may change the level of litigation risk as per se it introduces new risk ensuing either from the transaction terms or imported from the target firm. We confirm the hypothesis that the litigation risk is priced in the M&A terms and influence the choice of means of payment.

The paper is organized in the following way. Section 1 will present the literature. Section 2 will elaborate the hypotheses and develop the methodology to build a measure of the litigation risk. Section 3 describes the sample of mergers and acquisitions, presents some descriptive statistics and proposes some univariate tests. Section 4 analyses the determinants of the premiums and the means of payment through a multivariate test. A conclusion will follow.

1 – Literature review

1.1 – Litigation risk

The concept of litigation risk has been explored in some contributions, mostly empirical and mostly in the fields of auditing and accounting. When considering the litigation risk, Francis et al. (1994), Simunic and Stein (1996), and Taylor, Simon et al. (1999) refer to the likelihood that a company will be sued by its shareholders over issues related to financial reporting. Shareholders may ask the judicial system to sanction companies and executives for disseminating financial information that does not faithfully represent the company's wealth (Bhagat and Romano 2005).

Francis et al. (1994) study firms' communication policies, in relation to their exposure to litigation risk, over the period 1988–1992. They show that companies in sectors exposed to a high litigation risk − such as technology, computers, electronics, and retailing − delay the announcement of poor financial results, rather than announce them ahead of time. The authors maintain that the incentive of firms to disclose information to shareholders, particularly when it is unfavourable, triggers an asymmetrical reaction in managers, mainly because shareholders tend to initiate legal proceedings when losses are significant. Consequently, managers quickly inform the public of favourable events, but usually defer announcements of unfavourable information.

The law literature (Krishnan et al., 2012; Krishnan and Masulis, 2013) considers mainly shareholder litigation risk and class actions outcomes after an acquisition. The scope of litigation risk is here narrowly defined to one type of litigation risk. From a financial perspective what imports are the economic consequences of litigation risk to shareholders.

In finance, litigation risk has been analyzed looking at shareholders' situation within an initial public offering (IPO) framework. According to the so-called litigation risk hypothesis, IPO firms underprice their new issues to deter potential lawsuits. Lowry and Shu (2002) report that 6% of the US firms that went public between 1988 and 1995 were sued in class actions. Such pursuits lead to important settlements, averaging 10% of the IPO proceeds, and they engender important indirect litigation costs, such as damaged reputations. The authors provide evidence that firms with a higher litigation risk underprice their IPOs by a greater amount as a form of insurance and that larger underpricing lowers expected litigation costs. Hanley and Hoberg (2012) confirm the hedge purpose against litigation risk of IPO underpricing. They analyse IPO prospectuses using word content algorithms. On the other hand, Zhu (2009) finds evidence against the litigation risk hypothesis, and Keloharju (1993) shows that underpricing occurs even in countries where litigation risk is not a concern.

If litigation risk partially explains the IPO process, this has less commonly been tested in the M&A context. Krishnan et al. (2012) look at M&A litigation cases mostly based on overpayment to target's shareholders (or managers). This is opposed to Le Maux and Francoeur (2014) findings. Looking at a sample of 808 M&A transactions in Europe between 1998 and 2011, they provide evidence that lower premiums are associated with litigation risk. Block premiums are significantly reduced when target companies belong to sectors associated with higher litigation risk. Acquirers, anticipating lawsuits by shareholders, negotiate lower premiums to cover potential damage and liability expenses. Le Maux and Francoeur (2014)

also confirm the crucial role of the legal environment, as previously demonstrated by La Porta et al. (1997) and Djankov et al. (2008), in the case of M&As.

Amel-Zadeh and Yuan (2015) analyze financial restatement and support the information risk approach. They show that firms who have restated their financial reports will less likely become takeover targets and that their deal value is lower is a transaction occurs. Gande and Lewis (2009) examine the probability for a firm to be exposed to class action lawsuits. They find that an industry effect exists, but that some firms are involved in a recurring litigation activity with third parties and that litigation risk has some stable component. A problem of endogeneity between ligation risk and market price has been identified by Salavei et al. (2013). Restatement will enhance litigation risk but high previous litigation risk increase the probability of restatement.

1.2– M&A terms

The process of mergers and acquisitions develops in the context of a double information asymmetry between the acquiring and target firms. Hansen (1987) was the first to mention the so-called "double lemons effect", where each party has private information about its own value and incomplete information about the nature of the assets to be received. The asymmetries of information explain the risk-sharing attitudes of the buyer and the seller, and consequently the choice of the mix of payment (Berkovitch and Narayanan, 1990).

Both variables, i.e. the premium paid and the means of payment are jointly determined by the relative asymmetry of information between the acquirer and the target. A major conditioning variable is the relative risk, particularly the respective information risk, of the two firms. Takeovers are settled in cash or various forms of securities. The agreement sets out the cash and/or non-cash portion of the acquisition payment. A payment with shares has no

consequence on the cash situation of the firm. However, it may have consequence in terms of the following: (i) a signal to the firm's shareholders and (ii) a risk of dilution of the final shareholders' wealth (i.e. the wealth of both the current acquirer's shareholders and the future new shareholders through a possible share payment). The means of payment may retroactively influence the offer price and the acquisition premium. The final takeover price is sensitive to the design of the payment scheme and to the disclosure of pieces of private information occurring during the negotiation process. Megginson et al.'s (2004) empirical study of the long-term performance resulting from mergers confirmed that a cash payment is a reliable signal of the future creation of value. Goergen and Renneboog (2004) have also provided evidence of the role of the means of payment in a sample of public European offers. However, these studies were mostly based on 100% cash or 100% share payments. When a hybrid payment scheme is used, it raises the question of the optimal ratio of cash/share payments. La Bruslerie (2012) highlighted the tradeoff between the percentage paid in cash and the percentage of the economic gain of the whole acquisition captured by the target's shareholders through the paid premium.

2 – Hypotheses and measure of the litigation risk

The asymmetry of information in a M&A framework is the consequence of a double risk at the target's level for the acquirer's shareholders and at the acquirer's level for the target's shareholders. This risk comprises the future consequences of the merger, such as synergies, costs, etc. It also comprises the litigation risk.

The relative situation between the acquirer and the target firms, in terms of their own litigation risk, is an element that is assessed by managers and the shareholders when making an M&A decision. However, before an analysis of the litigation risk in such a framework, we need to define it and to measure it empirically.

2.1 – Hypotheses

Assuming that litigation generates an information risk to appraise the firm's situation, we use the number of public citations of the firm in the domain of litigation as a proxy of its litigation risk. The literature refers to litigation risk as strongly influenced by the sector environment (Francis et al. 1994). Besides, litigation risk is also a characteristic of a firm. It may be a consequence of idiosyncratic managerial choices with regard to stakeholders (Kim and Skinner 2012). The two explanations can cumulate. Our first hypothesis will identify whether litigation risk is conditioned by the sector and whether the level of litigation risk is a characteristic of a firm.

H_1(a) : Litigation risk is determined by a sectorial effect

H_1(b) : Litigation risk is an idiosyncratic risk

Litigation risk is one aspect of the global economic and contractual risk of the firm. If the two previous hypotheses are valid, we can question whether litigation risk is a stable component of the firm's risk. If litigation risk is macro determined by the sector exposure, it has a stable component, as the industry and technology determinants are stable. If litigation risk is micro determined at the firm level, it can be a random noise or a stable policy that has a long-term component. For instance, if an acquisition transaction is suspected to have been overpaid, the investors will occasionally sue the firm through security class actions. If the firm is

continuously greedy or opaque towards her outside investors, a flow of complaints and litigations may develop. The same occurs if the production technologies and technological choices harm the physical environment; this situation will systematically develop legal proceedings and prosecutions.

H$_2$: Litigation risk has a stable component.

When the firm completes a M&A transaction, the risk exposure of the newly merged firm changes. The litigation risk of the target adds to the litigation risk level of the acquirer. A M&A transaction develops in a double asymmetry of information framework. At the theoretical level, this variable is crucial to set the terms of the acquisition (Hansen, 1987; Eckbo et al,990). The acquirer is exposed to an information asymmetry when he considers the risk of the target's assets and of their future profitability. Symmetrically, the target's shareholders are facing a risk when they consider the synergies and gains announced by the acquirer. We stand in the well-known "double lemon" effect for both sides of the transaction. As the litigation risk is part of the global risk attached to both the target's and the acquirer's relative risk, a discrepancy between the litigation risks may increase or decrease the relative asymmetry of information in an M&A transaction.

H$_3$: After a M&A, the new litigation risk is expected to increase, as the newly merged firm will cumulate the litigation risk of both the acquirer and the target.

Litigation risk is identified at the acquirer's level by the acquirer who knows it better than the target's managers and shareholders. On the other hand, the litigation risk of the target is only surmised by the acquirer. So, the asymmetric situation with regard to litigation risk will condition the terms of an acquisition, i.e. its premium and means of payment. This relation is expected to be strong if the litigation risk has an idiosyncratic component (see H1(b)),

because this is private information. If the litigation risk is sector-determined, it is public information known in the market, so the asymmetry in information is lower.

Therefore, asymmetry in litigation risk will contribute to an explanation of the terms of a M&A transaction. A strong asymmetry in the litigation risk, with a target more risky in that domain than the acquirer, will induce a lower premium and a means of payment that is more oriented toward share payments, as a share payment is an insurance mechanism (Le Maux and Francoeur 2014). This mechanism will develop only if the litigation risk of the target is noticeable and relatively important vis-à-vis the acquirer. We formulate our hypothesis:

H_4 : Relative asymmetry in litigation risk will influence the terms of the transaction. A target with important litigation risk will ceteris paribus be paid with lower premiums and more shares.

When paid with shares, the shareholder of the target will become the shareholder of the acquiring firm. Then, in a second turn effect, he/she will be exposed to its own litigation risk. This will harm them, particularly if the litigation risk is important. Ceteris paribus, they will ask for a higher premium when paid by shares (Le Maux and Francoeur 2014). They may also ask not to be paid by shares to avoid this boomerang effect when the litigation risk of the acquirer is important. So, the level of the acquirer's litigation risk may positively influence a payment by cash or a hybrid payment with a lower share percentage.

H_5 : An important level of litigation risk at the acquirer's level will ceteris paribus develop pressure from the target's shareholders toward a higher premium and toward more cash-oriented means of payment.

2.2 – Measure of the litigation risk

Our methodology develops a proprietary proxy of the litigation risk by referring to the number of citations in the Factiva database. We focus on mergers and acquisitions, which are major events in the life of a firm. Using the Factiva database, we collect the number of publications mentioning either the acquirer or the target firm to assess the specific level of litigation risk. A litigation risk exists if a firm can be sued by any third party:

-       The target's shareholders, if they think that they have been underpaid, refuse to bring their stocks. As they stay minor investors of the target, they claim for expropriation; also, the acquirer's shareholders can also complain that the acquisition was overpaid and sue the management.

-       Third parties, such as competitors because of potential market abuses after the acquisition.

-       Consumers, suppliers.

-       The government or the justice system, because regulations or laws may have been violated in the process.

The litigation risk may cover very different allegations in the large field of Corporate Crime/Legal Action (initiated, pending or closed). It covers:

-       Class action/settlements

-       Industrial/corporate Espionage

-       Out-of-Court agreements/settlements

-       Regulatory breach

-       Securities Fraud (including insider dealing)

We compute the number of publications related to these subjects in the Factiva database that are associated with the name of the acquirer and the name of the target firm. Factiva follows

more than 8000 publications around the world. These citations are published in English, French, German, Italian, and Spanish because of the worldwide nature of the sample. Web news and other multimedia channels are not considered. Duplicate publications are eliminated from the sample.

The number of publications in any language throughout the world signals that the reputation of the firm is more or less associated with litigation, legal or judicial problems for any reason. The number of citations in publications has been calculated over three yearly periods for the acquirer:

- The year N before the announcement; this period ends at the announcement date of the M&A operation;

- The year before the acquisition announcement, year N-1;

- The year after the announcement, N+1;

- Looking at the target firm, we add the year N before the acquisition announcement.

We do not consider the period after the announcement of the target company for the following reasons: (i) it may have been merged with the acquirer and is no longer listed, (ii) even if it continues to be listed, it is controlled and (generally) consolidated, so its litigation risk is no longer idiosyncratic, but is combined with the litigation risk of the new consolidated group. We also compute the average number of public citations for the 2 years, N-1 and N, before the announcement. By comparing the number of citations after and before the acquisition we are able to follow the change in the litigation risk level linked to the event.

3 - Sample of M&A transactions and univariate tests

3.1 – Sample

We refer to a sample of M&A transactions, as they introduce a major event when the risk level of a firm is assessed and may change with the creation of a new entity composed of the two merged firms. Each of the two parties to the transaction, the acquirer's and the target's shareholders, will question the risk of the other party. They will particularly consider the existence of the category of risk we describe as litigation risk.

The deals considered were from the Thomson Financial database and over the period 2000–2013. The transactions were filtered according to the following rules:

- Only completed deals

- Minimum value of 50 million USD

- Target and acquirer are publicly listed firms[1]

- Targets are located either in Europe or in North-America[2]

- Acquirers are only from Europe or North America[3]

- Targets and acquirers exclude financial firms, governments, and agencies

- Acquisitions are paid only in cash or shares (or a mix of the two)

- Share repurchases are excluded.

The basic sample includes 1051 transactions. These restricted criteria were chosen to identify significant transactions at the acquirer level. The restriction that the acquirer should come from the same set of countries avoids exotic takeovers in which the bidders do not have the same litigation pressure because of the judicial and legal environment, as when they are listed

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[1] We restricted the sample to listed companies, as we wanted the firms to be in a similar informational context. The informational context is important (Jin and Myers 2006). Non-listed targets are in a different informational context, but with less pressure from outside investors and analysts. Mixing acquisitions involving listed and non-listed targets in the same sample would have introduced situations with larger information discrepancies; this may have tainted the results for the variation in information, which we wanted to measure.

[2] The countries are restricted to Belgium, France, Germany, Italy, Netherlands, Spain, the United Kingdom, the USA and Canada.

[3] The acquirer countries are restricted to the same target countries.

in China or Russia. The quality of financial and economic information is not the same in such countries.

The considerations and the means of payment, which are available in the Thomson Financial database, were examined. An unknown structure of payment often refers to private transactions. The split between cash, shares, or other considerations has been reviewed, as some inconsistencies may appear when looking at a synopsis of the transaction. Liability payments (and convertible bonds and preference share payments) were considered to be the equivalent of cash payments, and the percentage paid in cash has been recalculated. We restricted the hybrid payment category to refer to mixed cash/share payments when the percentage paid in cash was between 0% and 100%. Payments using warrants were treated as share payments.

3.2 – Univariate tests

When considering our global sample of 1051 M&A transactions, we calculate the average number of litigation citations over the three years, N-1, N, and N-1, and the same for the target firm before the transaction. Table 1 shows that, globally, the litigation risk of the target firm is lower.

<p style="text-align:center">INSERT TABLE 1</p>

We calculate the average of the number of citations in the year of the transaction (LIT_N) and the number of citations the year before (LIT_N-1). The resulting LIT_AV variable shows an average number of litigation items of 42 citations. However, the standard deviation is very large, showing a very extreme situation with low or null litigation risk on one end and extremely important litigation risks at the other end. It is highlighted by a very low median of 6 items, and almost 25% of the sample has a number of litigation citations which is null.

We compute the absolute increase in the number of litigation items LIT_N+1, compared respectively with LIT_N and the average over the two previous years, LIT_AV. The number of items increases by 11 (DELTA_ABS1) and 13 (DELTA_ABS2), respectively. The magnitude of the increase is very similar to the level of the litigation risk of the target in the year before the acquisition measured by TARG_LIT_N (13 items, see Table 1). After winsorizing, the increase is lower. It is statistically significant and will support our hypothesis H3. M&A transactions increase the litigation risk of the new consolidated group. The new litigation risk at year N+1 covers the two merged litigation risks.. We test whether the variation in litigation risk over the following year, N+1, is equal to the level of the target litigation risk. This pure mechanical addition hypothesis is not rejected (z-test of a zero difference, p: 0.33). However, the correlation between DELTA_ABS2 and TARG_LIT_N is positive but not perfect (+0.36; p: 0.00). The mechanical addition hypothesis should imply a strong 1:1 correlation. However, in 35% of the cases, the acquirer's litigation risk has decreased after the acquisition. The eventuality of decreasing litigation risk identifies that a large range of idiosyncratic managerial choices exists to lower or to partially offset the risk after the operation at the firm level.

INSERT TABLE 2

DELTA_REL is the relative increase in the litigation risk, LIT_N+1 over LIT_AV. A figure above 1 means an increase. The data are truncated between 0 and 2 because of possible null denominators. It shows an increase, with a litigation risk that is doubled at the individual level. The litigation asymmetry is measured by the ratio of the target litigation measure at year N TARG_LIT_N over the acquirer's litigation risk for the same period, LIT_N. The ASY_LIT variable is truncated below 0 and above 2. Its average value is 0.92, showing that

both firms have similar litigation risk exposure just before the acquisition. A Z-test shows that this ratio is not different from 1.

INSERT TABLE 3

Table 3 shows the descriptive statistics for 14 industry sectors decomposed according the method of Frankel et al. (2002). A Kruskal-Wallis test shows that the premium, and the number of litigation items is significantly different among the 14 sectors. The particularly exposed to litigation risk sectors are chemicals, pharmaceuticals, transportation, and utilities. The most exposed are pharmaceuticals and utilities sectors. This list is different compared to Francis et al. (1994), who pointed out the biotechnology, computer electronics, and retail industries as being particularly exposed to litigation risk.

We cannot reject the existence of an industry effect with regard to litigation risk, but it can cumulate with a possible of a specific litigation risk component at the firm level.

3.3 – Stable or random litigation risk?

If idiosyncratic litigation does exist at the firm level, either they are random or they correspond to managed and voluntary choices. Random litigation cases or situations will compensate at the sample level. So, looking at the individual firm level, we should expect litigation choices to be stable.

We compute the correlation between litigation items between years N-1 and N and between years N and N+1 (see Table 4)

.INSERT TABLE 4

We identify a stable or a random component in litigation risk by looking at autocorrelation in the numbers of citations over time. The autocorrelation is strong and demonstrates a stable component. The firms with high(low) litigation risk show high(low) litigation risk in the following periods. The firms that are borderline or are litigation risk-takers still remain the same. They tend to choose target firms that are also risky. The correlation between LIT_AV and TARG_LIT_N is positive (+0.32) and the non-parametric rank correlation shows similar results. This stable component of litigation risk at the firm level demonstrates the idiosyncratic characteristics of litigation risk at the acquirer's level. We cannot accept a pure sectorial determination of litigation risk. These specific choices are illustrated when the M&A occurs. The correlation is lower, meaning that a highly (weakly) exposed firm will not systematically chose a highly (weakly) exposed target.

We can conclude that the litigation risk has sectorial effect support (hypothesis H1), which adds to a strong firm-specific component in the litigation risk at the firm level (H1(b)).

4 – Determinants of litigation risk and of the terms of the acquisition

To explain the determinants of the terms of the acquisition we refer to control variables commonly used in the literature on M&A (Carleton et al. 1983; Faccio and Masulis 2005). Table 5 presents the variables, and Table 6 provides some descriptive statistics. We first analyze the determinants of our litigation risk proxy, both in absolute value and in variation. We use sector dummies to control for the industry effects which were above evidenced. These dummies follow the 14 sector classification shown in Table 3. We also introduce country dummies. Following the La Porta et al. (1997) argument, legal system will condition the

investors' protection. The same argument may be extended to other stakeholders: creditors, suppliers, consumers... A country dummy covers the effect of the legal system (i.e. common law vs. civil law) but also the law enforcement, i.e. the capacity of the judicial system to make rules applied and the way the legal system works. The organization of the judicial system is also an important feature with regard to litigation. The number of level between courts (trial court, appeal) and the judgement process will condition the duration of a dispute and may favor the resort to a private mediation or to a mutual agreement. Many citations will follow the run of a dispute since its initial breakout to its end. The length of a litigation process will result in a high number of litigation citations in our score.

INSERT TABLE 5

INSERT TABLE 6

4.1 – Determinants of the acquirers' litigation risk

Table 7 presents the determinants of the litigation risk proxy. In any regression, the sector dummies are globally and strongly significant. This appears when considering levels or variations of the litigation risk. This confirms the results in Table 3 by evidencing a strong sector influence, where some are more risky than others in terms of litigation risk. The country effect is significant in explaining the level of the level of the litigation citation score (see Table 3-PanelA). However these macro conditioning variables should be combined with firm's specific features. The previous year litigation risk level, LIT_N, shows a strong auto regressive component as identifier in the univariate tests, (see Equation (1)). The variable explaining the idiosyncratic litigation risk are persistent feature of the firm. This is why in

Equations (2) to (5) we consider directly these characteristics. The level of the firm's litigation risk, LIT_AV, is explained by the size of the acquirer firm, measured by its sales, LN_SIZE, and by the size of its net assets (see Equation (1)). The size effect is not proportional but more than proportional. The larger a firm, the larger its litigation risk level. In a not reported test we use the square of LN_SIZE as explaining variable instead of LN_SIZE; it is positive and highly significant. The variable year is a deterministic trend which that is significant and demonstrates an overall increase in litigation items and a global increasing pressure by the legal environment. The variable ACQ_EU in Equation (2) is a dummy for EU acquiring firms compared to American firms. It is positive and significant. Contrary to what may be expected, the litigation risk is higher in Europe. This is explained by the larger definition of litigation risk we used. In Europe the litigation risk may has a larger scope with many union and labor conflicts, environmental suits, legal suits, anti-competition cases initiated by the EU institutions. In the US the litigation risk is more concentered on financial suits and shareholders contests. The number of litigation citations increases because of multiple media channels multiplied due to the different languages used in Europe; English medias cumulate with French, German, Italian and Spanish ones if the subject involves an European firm. In Equation (3), instead of the location of the acquiring firm, we use the DUM_C_LAW variable to feature the common law context of the acquiring firm. This refers to Canada, the UK and the USA and corresponds roughly to non-European countries. The only difference results from acquiring firms coming from the UK. This dummy variable is strongly negative featuring that the litigation risk level seems lower in common law countries for similar reason as the ones above mentioned. At that stage we cannot discriminate if the relevant difference is between European and American countries or between common law vs. civil law countries. The two features are combined. In Equations (5) and (6) the countries effect is very relevant to explain the difference in litigation risk levels.

INSERT TABLE 7

The absolute variation in litigation risk before and after the acquisition, DELTA_ABS (see Panel B), shows no clear determinants in the regressions (1) and (2). The regression constant is positive but very poorly significant. This means that changes in litigation risk are largely random and particularly linked to the specific characteristics of the M&A. The main explaining variable is the litigation risk level of the target firm, LIT_TARG_N. A positive relationship means that the target's litigation risk cumulates, at least partly, with the acquirer's litigation risk. Equations (1) to (3) show that an average 15% of the litigation risk is "imported". Sector dummies are significant), meaning that the variation in litigation risk is also conditioned by the sectors. Equation (2) highlights that the size of the target firm, ACQ_TARG_ASS, will enhance the new litigation risk after the acquisition. This variable as influencing the absolute variation, suggests that we should look at the relative variation of the litigation risk. This is done in Equations (3) to (6), where the dependent variable is the proportional increase in litigation risk around the acquisition announcement. The relative change in litigation risk afterward, compared to beforehand, DELTA_REL, is tested in Equations (3), (5) and (6). It also shows no clear determinant linked to the transaction. The acquirer's marginal litigation risk will not increase(decrease) due to the characteristics of the deal such as its size, same sector target firms, or challenged bids. The asymmetry in litigation risk (ASY_LIT) is highly significant in Equations (4) to (6). It shows that the relative gap between target's and acquirer's litigation risks before the acquisition will result in a proportional increase in the litigation risk after the transaction. This demonstrates that the target's litigation risk does not offset during the transaction but should be taken into account to set the acquirer's litigation risk. This result is in line with the results of Equations (1) to (3).

As a consequence, rational managers and investors would expect a rise in litigation risk after a transaction. Knowing this feature they may revise the terms of the offer to target's shareholders. The only other relevant variable is WITHIN_AMERICA. This means that a M&A will per se increase litigation risk if it occurs in the US or in Canada. This is the systematic risk of a lawsuit following a M&A because of class actions and systematic suits by lawyers in the US. As a conclusion the hypothesis (3) is supported by the data as the proportional increase in litigation risk through the transaction is at least partly explained by the level of the target's litigation risk.

Asymmetry in litigation risk, ASY_LIT (see Equations (7) and (8)), is itself totally explained by the relative size of the two firms' total assets. Of course, the estimated signs are opposite. In Equation (7), the relative ratio of litigation risks increases with the target's size and decreases with the acquirer's size. Equation (8) is very parsimonious and shows that the relative litigation risk is strongly correlated with the global asymmetry of information between the two firms. This can be expected, as the litigation risk is part of the global information asymmetry risk as measured with the ASYMMETRY variable. The main driver of the gap in litigation risk is idiosyncratic and refers to the managerial choice of the target confirm by the acquiring firm. However, the relation is not a pure 1:1 relationship. Even if we remove any constant, the estimated coefficient is only 0.82, and the R-squared value is low, meaning that, the relative litigation risk is not redundant compared to the asymmetries of information between the two firms. Litigation risk has some specific characteristics different from those of information asymmetry. Relative litigation risk is not influenced by sector conditioning, neither by a country effect. When a transaction occurs, gaps in litigation risk are largely random at the firm's level and not endogenously determined by the sectors or the country of the acquiring firm.

4.2 – Is litigation risk priced in premium?

Table 8 shows the results of the multivariate regression explaining the premium paid. Here also, the sector effect is strongly significant, with very different average premiums between sectors.

INSERT TABLE 8

We first look at the control variables. The LN_SIZE and TRANS_VAL variables are not significant in Equation (1), and were later dropped. The SAME SECT variable is not significant, and economic diversification is not influential. The DUM TOE and the DISEQ variables are also not significant. Besides, the cross-border dummy CROSS_B is not significant. The variables PERC AQC SHARES, WITHIN EU, and challenged deals (CHALLGD) are significant and show the expected signs. As a matter of fact premiums are lower for acquisitions in Europe (WITHIN_EU). Asymmetry is as expected significant. The higher the asymmetry is (i.e. high target's asymmetry relatively to the acquirer's), the lower the premium. This result is well documented in the literature. A payment variable, for instance, a dummy for share payments, is excluded from the control variables because of a well-known endogeneity problem (La Bruslerie 2013).

The level of litigation risk at the acquirer's level, LIT_N and LIT_AV, appears significant, and it is accompanied by an increased premium (Equations (1) to (3)). This underlines the fact that the terms of the acquisition should be agreed by the target's shareholders. They are sensible to litigation risk-exposed acquirer's, and will ask for a larger premium and more cash payment (see below). The target's litigation risk level is negative and not significant (variable TARG_LIT_N in Equation (1)).

The variable DUM_HIGH_REL (see Equations (2) and (3)) is a dummy that measure if litigation risk increases by more than 50% after the transaction. It signals an important increase in litigation risk after the acquisition. It shows a significant negative sign.. A strong increase in the (future) litigation risk (for instance resulting from the addition of the target's own litigation risk) is anticipated in the premium and decreases it. To assess the future increase in litigation risk imported from litigation risk-exposed targets, we use the DUM_TARG_HIGH_RISK variable. This dummy flags situations where the litigation risk level of the target is larger than the litigation risk level of the acquirer. Equations (2) and (3) show that the relative asymmetry in the litigation risk between the two firms (DUM_TARG_HIGH_RISK) is significant and negative. Relatively risky target firms are identified, and this will lower the premium paid by the acquirer. Globally this this effect is particularly strong for risky targets and highlights a non-simply proportional relationship between the target's litigation risk and the premium.

The relative litigation risk ASY_LIT is a variable close to the previous ones. It features the relative gap between the litigation risk levels of the target and the acquirer. Its sign is negative and significant at the 5% level in Equations (4) and (6). It underlines that the relative litigation risk is priced in the terms of a transaction.). However, when considered jointly with the DUM_TARG_HIGH_RISK variable in Equation (5), the ASY_LIT variable fades away as it becomes redundant. Outstandingly strong litigation asymmetry (i.e. when the litigation risk of the target is larger than that of the acquirer as captured by the DUM_TARG_HIGH_RISK variable) will strongly impact the premium paid: In such cases, the premium is down by 10%. This supports our hypothesis H4. We have seen that when ASY_LIT stays in the model with DUM_TARG_HIGH_RISK, only the latter is significant. This means that an asymmetric litigation risk is priced with a lower premium but this influence is not linear, as particularly important asymmetric litigation risk is more highly priced (see Equation 5).

The variable CROSS_SHARE (see Equation (3)) combines a dummy for the (full) share payment and the acquirer's litigation risk. It is significant, but negative. Following hypothesis H5, we would expect a positive relationship, with the acquirer's litigation risk pressuring the target's shareholders to be paid more when paid in shares. This result does not confirm H5.

In Equation (4), the specificity of risky sectors (in terms of litigation risk) is tested through the DUMMY_RISK variable. The sectors exposed to litigation risk are identified among the 84 sectors from the Thomson Financial classification, as those in which the average number of litigation citations is higher than the total average of 42 litigation citations (regarding the LIT_AV variable). The risky sectors are: automobile, pharmaceutics, movies, telecommunication services, power, computers, telecommunication equipment, department stores, tobacco, oil and gas, and aeronautics. The number of risk-exposed firms belonging to litigation risky sectors is 295 (28%). We created a dummy, DUMMY_RISK, to signal the M&A developed in highly risky sectors in terms of litigation risk. This classification is sharper than the 14 sector classification dummies resulting from Table 3. This dummy variable is not significant to explain the premiums, but the absence of a litigation risk-exposed sector effect does not mean that there is any sector effect. In every Equations in Table 8, the sector dummies are relevant. It only means that sectors exposed to litigation risk do not overlap with the sector effect to determine the premiums.. The absolute acquirer's litigation risk is not relevant when combined with a risky sectors dummy (CROSS_RISK). The litigation sector effect cumulated with the idiosyncratic litigation risk does not play any specific role in explaining the premium. Equation (6) shows that the country effect appears not relevant to explain differences in acquisitions' premiums.

We conclude that litigation risk is priced in a specific deal when the asymmetry between the two firms is high as identified by the ASY_LIT variable. This phenomenon is reinforced when the target's litigation risk becomes stronger that the acquirer's..

4.3 – Litigation risk and means of payment

The control variables in Table 9 are ASYMMETRY, SAME SECTOR, WITHIN_EU, DUM_TOE, ACQ_LEV and TRANS_VAL. They are relevant with the expected sign, except DUM_TOE. A significant ASYMMETRY variable means that when the asymmetry of information is strong, the acquirer self-insures himself by paying in shares. This is in line with the theory (Eckbo et al., 1990; La Bruslerie, 2012). Particularly, the SAME_SECT variable demonstrates that sharing the risk strongly conditions the payment by shares. Poor economic diversification in M&A acquisitions leads to pay more with shares. The WITHIN_EU variable suggests that cash payment percentage is higher in Europe. However this applies mainly to hybrid payment schemes. The probit analysis in Equation (4) shows that the probability to get full cash payment does not differ between Europe and North America.

INSERT TABLE 9

The CROSS_RISK variable is significant and positive in Equation (1). The addition of two risks, the high risk sectors feature and high idiosyncratic litigation risk, entails relatively more cash. The idea here is that highly risky acquirers are identified and should pay more with cash. A significant CROSS_RISK means that specific conditions exist for the most highly risky acquirers. However, introducing the litigation risk level of the acquirer (LIT_AV) in Equations (2) and (3) shows that the idiosyncratic litigation risk is more relevant than the litigation-risky sector effect: LIT_AV is strongly significant and CROSS_RISK is no more. The litigation risk of the acquirer increases the cash percentage. This illustrates a hedge

motivation from the seller's point of view. The target's shareholders want to be paid more with cash when the acquirer appears to be exposed to a strong litigation risk. This contributes to support our hypothesis H5, in which the payment by shares is penalized when the acquirer is seen as particularly risky. The level of litigation risk of the target is not per se integrated in the cash payment scheme as DUM_TARG_HIGH_RISK is not significant. The information asymmetry seems already accounted for when setting the premiums (see above). Particularly litigation risky targets do not specifically trigger cash or share payments.

The probit regressions (4) and (5) confirm the OLS estimates. We conclude that the litigation risk determines the means of payment, supporting our hypotheses, H4, and partly, H5. However at that stage the litigation risk who seems to be the driver of the payment scheme is the acquirer's and the pressure seems to come from the target's shareholders

4.4 – Robustness check

We consider the transaction terms as a whole that is jointly set. A system of two equations, which explains, at the same time, the premium and the percentage paid in cash, has been estimated. The premium model is Equation (5) of Table 8 skipping the non-significant variables DISEQ, DUM_TOE and ASY_LIT. To explain the percentage of cash we have considered only the significant variables in Equation (2) of Table 9. The joint estimation confirms the individual regression results. The litigation risk level of the target contributes negatively to the premium only when the target is particularly risky (avraible DUUM_TAG_HIGH_RISK). On the side equation shows that the litigation risk of the acquirer enhances the percentage paid in cash as a result of a hedge motivation of the target's shareholders. The DUM_TARG_HIGH_RISK variable is now significant in the cash payment equation. This is new compared to the single estimation estimates. As targets are more

litigation-exposed the payment is more done through share issue. This hedge motivation comes clearly from the acquirer who wants to cover part of this additional risk..

INSERT TABLE 10

Because of the use of a joint estimation, we introduced explicitly the dependent variable of each regression in the other as a check in Model 2.The results are largely similar to those of Model 1. The asymmetry of information is becomes insignificant in Model 2- Premium Equation. The latter integrates the joint positive relationship between the premium and the percentage of cash. This relationship is itself determined by the asymmetry of information. This explains why ASSYMETRY is no more significant in the PREMIUM equation and why the PREMIUM is nearly non-significant in the PERC_CASH equation in Table 10- Model 2. The litigation risk is still highly significant when it is relatively strong, i.e. if the relative risk of the target is higher than that of the acquirer (DUM_TARG_HIGH_RISK). Then the premium paid for the acquisition is lower and the acquirer pays more with shares. On the other side the targets shareholder will also condition the setteing of the transaction terms. When a firm is a litigation-risky acquirer, it should pay more in cash because the seller wants to avoid the sharing of risk (significant and positive LIT_AV variable).The variable CROSS_RISK is still not significant in Table 10, compared to Table 9. This variable tests whether some acquirers are identified as particularly risky, for instance, if they belong to risky sectors, in terms of litigation risk, and if, in these sectors, they are particularly risky as measured by the litigation proxy. This double risk exposure does not per se change the terms of the acquisition. A global sector effect exists and is taken into account in the terms. This sector effect covers many different sectorial risks, including a sector-determined litigation risk. But if a firm is identified as being both in a litigation risky sector and as having a high specific litigation risk, this will not provide particularly improved conditions. The litigation

risk is basically idiosyncratic in an acquisition and is expressed through the absolute and relative firms-specific measures LIT_AV and DUM_TARG_HIGH_RISK.

Conclusion

Our results support the enlarged definition of litigation risk at the firm's level. Focusing only to shareholder litigation risk seems too narrow as the litigation risk introduced by a specific experimental event, i.e.; a completed acquisition, has many possible sources. What is important from a financial perspectives are the financial consequences. The proxy we refer to is the number of citations in any domain of litigation in the Factiva data base. The enlarged perimeter we use is relevant and we show that litigation is linked with the financial considerations of an M&A transaction. Our original proxy of litigation risk allows us to clearly identify a sector effect wherein some industries are more risky, in terms of litigation, than others. The list of these risky sectors is not the same as those in the Francis et al. (1994) list; it is larger. In addition to a sector effect, the major characteristic of litigation risk is that it is idiosyncratic and depends heavily on the firm' economic data, such as its size. We confirm the results of Kim and Skinner (2012), using a larger international sample.

We also confirm our hypothesis that litigation risk is stable and appears as an idiosyncratic feature of a firm. However, the litigation risk changes when a major event occurs. This is what happens after the completion of a M&A transaction. Then, the litigation risk of the target partly cumulates with the litigation risk of the acquiring firm. The litigation risks of both the acquirer and the target firms are, among other variables, strong determinants of the terms of the transaction. This was already demonstrated by Krishnan and Masulis (2012) but only focusing on the shareholders' litigation risk perspective. We confirm the hypothesis that the

litigation risk is priced in a M&A transaction and also influences the means of payment. We outline that the target's shareholders, when they sell their shares, are more inclined to be paid with cash when the litigation risk of the acquirer is high.

Our paper opens the way to empirical studies in the domain of litigation risk. The proxy we propose can be used to question whether litigation risk influences the major financial decisions of firms, such as financial leverage decisions. Investors in the market may also price the idiosyncratic aspect of litigation risk. The latter may impact the security returns in the market.

References

Amel-Zadeh A. and Y. Zhang (2015) The Economic Consequences of Financial Restatements: Evidence from the Market for Corporate Control, *The Accounting Review*, vol.90 n°1, p.1-29

Baker, Tom and Griffith and Sean J. (2007) "The Missing Monitor in Corporate Governance: The Directors' & Officers' Liability Insurer". *Georgetown Law Journal*, vol. 95, p. 1795-2007.

Bhagat, S. and Romano, R. (2005), "Empirical studies of corporate law", Working paper, No. 44/2005, *European Corporate Governance Institute*

Cao Z.and Narayanamoorthy G. (2014), "Accounting and Litigation Risk: Evidence from Directors' & Officers' Insurance Pricing", *Review of Accounting Studies*, vol. 19, p. 1-42

Carleton W., Guilkey D., Harris R. and Stewart J. (1983), "An empirical analysis of the role of the medium of exchange in mergers", *Journal of Finance*, vol. 38, p. 813-826

Cornu P. and Isakov D. (2002), "The Deterring Role of the Medium of Payment in Takeover Contests: Theory and Evidence from the UK", *European Financial Management*, vol. 6 n°4, p. 423-440

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2008), "The law and economics of self-dealing", *Journal of Financial Economics*, vol. 88 n°3, p. 430-465

Eckbo E. (2009), "Bidding strategies and takeover premiums: A review", *Journal of Corporate Finance*, vol. 15, p. 149-178

Eckbo E., Giammarino R. and Heinkel R. (1990), "Asymmetric information and the medium of exchange in takeovers : Theory and tests", *Review of Financial Studies*, vol. 3 n°4, p. 651-675

Faccio M. and Masulis R., (2005), "The choice of payment method in European mergers and acquisitions", *Journal of Finance*, vol. 60 n°3, p. 1345-1388

Francis, J. R., D. Philbrick and K. Schipper (1994), "Shareholder litigation and corporate disclosure", *Journal of Accounting Research*, vol. 32 n°2, p. 137-164.

Frankel, R. M., M. F. Johnson and K. K. Nelson (2002), "The Relation between Auditors' Fees for Non audit Services and Earnings Management", *Accounting Review*, vol. 77 n°4, p. 71-105

Gande A. and Lewis C.M., (2009), "Shareholder-Initiated Class Action Lawsuits: Shareholder Wealth Effects and Industry Spillover", *Journal of Financial and Quantitative Analysis*, Vol. 44, No. 4, pp. 823– 850.

Goergen M. and Renneboog L. (2004) Shareholder wealth effects of European Domestic and cross-border takeover bids, *European Financial Management,* 10, 9-45

Hanley K., Hoberg G. (2012) "Litigation risk, strategic disclosure and the underpricing of initial public offering", *Journal of Financial Economics*, vol. 103, p. 235–54

Hansen R. (1987) A theory for the choice of exchange medium in mergers and acquisitions, *Journal of Business* 60, 75-95

Keloharju, M. (1993), "The winner's curse, legal liability, and the long-run price performance of initial public offerings in Finland", *Journal of Financial Economics*, vol. 34, p. 251–77

Kim I. and D. Skinner (2012), "Measuring securities litigation risk", *Journal of Accounting and Economics*, vol. 53 n°1-2, p. 290–310

Krishman C. R. Masulis, R. Thomas (2012) and R. Thompson (2012), "Shareholder litigation in mergers and acquisitions, *Journal of Corporate Finance*, vol. 18 n°5, p. 1248-1268

Krishman C., R. Masulis, (2013), "Law Firm Expertise and Merger and Acquisition Outcomes", *Journal of Law & Economics,* vol. 56 n°1, p.189-226

La Bruslerie H. de (2012), "Corporate acquisition process: Is there an optimal cash-equity payment mix?, *International Review of Law and Economics*, vol. 32, p. 83-94

La Bruslerie H. de (2013), "Crossing takeover premiums and mix of payment: Empirical test of contractual setting in M&A transactions", *Journal of Banking and Finance*, vol. 37 n°6, p.2106-2123

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (1997), "Legal determinants of external finance", *Journal of Finance*, vol. 52, p. 1131-1150

Le Maux, J. and C. Francoeur (2014), "Block Premia, Litigation Risk, and Shareholder Protection", *European Financial Management*, vol. 20 n°4, p. 756-769

Lowry, M. and Shu, S. (2002), "Litigation risk and IPO underpricing", *Journal of Financial Economics*, vol. 65, p. 309-355.

Megginson W., Morgan A. and Nail L. (2004) The determinants of positive long-term performance in strategic mergers: corporate focus and cash, *Journal of Banking and Finance* 28, 523-552

Salavei K., Golec J. and Harding J. P., 2013, "Litigation risk and market reaction to restatements", *Journal of financial research*, Vol. 36, No 1, pp. 19 – 42.

Simunic, D. A. and M. T. Stein (1996), "Impact of Litigation Risk on Audit Pricing: A Review of the Economics and the Evidence", *Auditing: A Journal of Practice & Theory*, vol. 15 n°2, p. 119-134.

Taylor, M. H., D. T. Simon and T. Burton (1999), "A Survey of Audit Pricing in South Korea." *Research in Accounting Regulation*, vol. 13, p. 201-207

Zhu, Y. (2009), "The relation between IPO underpricing and litigation risk revisited: changes between 1990 and 2002", *Financial Management*, vol. 38 n°2, p. 323–55

Table 1 – Average number of litigation citations in Factiva

	LIT N-1	LIT N	LIT N+1	TAR_LIT N
Mean	39,54	44,32	55,57	13,27
Std dev.	99,38	113,06	121,70	69,51

LIT_N: number of citations the acquirer during the year of the transaction ending at the announcement date; LIT_N-1: number of citations of during the previous year; LIT_N+1: number of citations of during the year following the M&A transaction; TARG_LIT_N: number of citations the target during the year of the transaction ending at the announcement date

Table 2 – Variations in the litigation measure between after and before a completed M&A

	DELTA_ABS1	DELTA_ABS2	winsorized DELTA_ABS1	winsorized DELTA_ABS2	DELTA_REL	ASY_LIT
Mean	11,25	13,633	9,02	10,56	2,43	0,92
Z-test	0,00	0,00	0,00	0,00	0,00	0,80

DELTA_ABS1: difference LIT_N+1 minus LIT_N; DELTA_ABS2: difference LIT_N+1 minus LIT_AV; winsorizing 2.5%-97.5%; DELTA_REL is the ratio LIT_N+1 over LIT_AV; ASY_LIT is the ratio TARG_LIT_N over LIT_AV; Z-test are tests versus 0 for the DELTA_ABS1 and DELTA_ABS2 variables and versus 1 for the DELTA_REL and ASY_LIT variables

Table 3 – Sample description by industry

		LIT_AV	LIT_N	LIT_N+1	TAR_LIT_N	PREMIUM
Agriculture	Mean	0	4.75	3.7	0.5	0.98
	Median	0	2	1	0	1.02
	Std	0	7.1	5.6	1	0.50
Real estate	Mean	4.1	4.8	11.5	3.3	0.18
	Median	0	0	2	0	0.13
	Std	16.4	11.2	20.7	10.3	0.27
Chemicals	Mean	50.8	39.4	70.0	6.7	0.49
	Median	12	14	18	1	0.40
	Std	86.4	65.5	111.4	11.5	0.40
Computer	Mean	25.6	39.5	49.1	6.1	0.39
	Median	3	4	10	1	0.35
	Std	78.2	127.6	108.9	36.9	0.37
Durable manufacturing	Mean	39.9	45.7	33.4	14.6	0.41
	Median	8	7	2	1	0.33
	Std	104.9	113.1	102.4	98.1	0.39
Extractive	Mean	33.4	36.2	33.4	9.5	0.21
	Median	1	2	2	0	0.12
	Std	125.1	128.7	102.4	62.3	0.26
Food	Mean	26.1	37.5	46.6	6.1	0.33
	Median	12	11	24	1	0.35
	Std	45.1	61.2	70.5	10.5	0.33
Mining	Mean	22.2	19.5	28.8	19.8	0.30
	Median	3	5	8	0	0.27
	Std	83.3	36.5	53.9	80.0	0.29
Pharmaceuticals	Mean	99.3	90.2	116.9	16.4	0.53
	Median	37	38.5	46	2	0.50
	Std	135.5	113.8	129.7	44.1	0.43
Retail	Mean	28.7	34.1	37.9	4.2	0.34
	Median	5	5	6	0	0.25
	Std	67.7	67.0	71.1	19.7	0.37
Services	Mean	27.9	29.5	41.8	2.5	0.32
	Median	1	2	4	0	0.26
	Std	74.8	77.2	134.5	7.8	0.36
Textiles	Mean	13.9	20.8	23.5	5.5	0.22
	Median	15	6	9	0	0.17
	Std	88.8	29.4	32.6	20.8	0.22
Transportations	Mean	51.6	48.5	74.2	12.3	0.27
	Median	15	18	25	1	0.18
	Std	88.8	81.7	121.6	27.3	0.33
Utilities	Mean	71.3	107.1	135.5	64.5	0.14
	Median	31.5	31.5	58	5	0.07
	Std	110.9	230.2	227.1	198.8	0.23
Kruskal-Wallis Test	Khi-deux	123.2***	101.0***	112.8***	77.0***	87.1***

(Industry membership is determined by SIC code as follows: agriculture (0100–0999), mining and construction (1000–1999, excluding 1300–1399), food (2000–2111), textiles and printing / publishing (2200–2799), chemicals (2800–2824, 2840–2899), pharmaceuticals (2830–2836), extractive (1300–1399, 2900–2999), durable manufacturers (3000–3999, excluding 3570–3579 and 3670–3679), transportation (4000–4899), utilities (4900–4999), retail (5000–5999), real estate institution (6000-6699),services (7000–8999, excluding 7370–7379), and computers (3570–3579, 3670–3679, 7370–7379)

Table 4 – Correlation between the litigation risk measures

	Corr. LIT_N-1 vs LIT_N	Corr. LIT_N vs LIT_N+1	Corr. LIT_N-1 vs LIT_N+1	Corr. LIT_N vs TARG_LIT_N
Pearson correlation	0.740	0.784	0.638	0.325
p-value	*0.00*	*0.00*	*0.00*	*0.00*
Rank correlation	0.855	0.839	0.774	0.408
p-value	*0.00*	*0.00*	*0.00*	*0.00*

(Sample of 1051 M&A transactions in USA, Canada and 7 countries of the EU; 2000-2013 period; number of citations is the number of publication in the Factiva data base mentioning the firm's name in the domain of litigation; LIT_N: number of citations the acquirer during the year of the transaction ending at the announcement date; LIT_N-1: number of citations of during the previous year; LIT_N+1: number of citations of during the year following the M&A transaction; TARG_LIT_N: number of citations the target during the year of the transaction ending at the announcement date)

Table 5 Description of the variables

Variable	Description
ACQ_EU	Dummy equal to 1 if the acquirers is located in 7 European countries
ACQ_LEV	Acquirer's leverage, ratio of ACQ_NET_ASS divided by ACQ_TOT_ASS
ACQ_NET_ASS	Total net assets of the acquirer the year before the transaction, total accounting assets minus debt (millions $)
ACQ_TOT_ASS	Total assets of the acquirer the year before the transaction (millions $)
ASY_LIT	Relative litigation risk ratio between the target and the acquirer at year N, ratio TARG_LIT_N over LIT_AV. Upper bounded by 2.
ASYMMETRY	Information asymmetry measures by the target net assets over the acquirers' net assets (Eckbo et al. 1990)
CHALLGD	Dummy equal to 1 is the transaction has been challenged
CROSS_RISK	Variable crossing the acquiring firms belonging to risky sectors in terms of litigation risk, DUMMY_RISK, and the litigation risk proxy of the firm, LIT_N
CROSS_SHARE	Variable crossing the DUM_SHARE dummy variable indicating payment by shares and the acquirer's litigation risk LIT_N
CROSS_B	Dummy for cross-border acquisition between the EU and the Americas
DELTA_ABS	Absolute variation of number of litigation citations after compared to before the M&A transaction, difference LIT_N+1 minus LIT_N
DELTA_ABS2	Absolute variation of number of litigation citations after compared to before the M&A transaction,, difference LIT_N+1 minus LIT_AV
DELTA_REL	Relative variation of number of litigation citations after compared to before the M&A transaction, ratio LIT_N+1 over LIT_AV. Upper bounded by 2.
DISEQ	Disequilibrium in the acquisition between offer and supply of shares measured by the difference between the percentage of the target capital acquired in the deal and the percentage of share sought as declared at the announcement of the acquisition
DUM_C_LAW	Dummy for common law countries; equal to 1 if the acquirer is located in Canada, the UK or the USA
DUM_CASH	Dummy equal to 1 if payment is 100% cash, excludes share and hybrid payment schemes
DUM_HIGH_REL	Dummy to measure higher relative increase in litigation risk after compared to before the transaction, equal to 1 if the ratio DELTA_REL of number of citations after divided by the number of citations before is larger than 1.5
DUM_TARG_HIGH_RISK	Dummy for highly risky target compared to the acquirer's litigation risk, equal to 1 if the ratio TARG_LIT_N over LIT_N is above 1.00
DUM_TOE	Dummy variable equal to 1 if toehold exists before the acquisition
DUMMY_RISK	Risky sectors in terms of litigation risk. Dummy if the acquirer belongs to the followings: Automobile, Pharmaceutics, Movies, Telecommunication services, Power, Computers, Telecommunication equipment, Department stores, Tobacco, Oil and gas, and Aeronautics
LIT_AV	Average of the number of citations for years N and N-1, LIT_N and LIT_N-1
LIT_N	Number of citations the acquirer during the year of the transaction ending at the announcement date; number of citations is the number of publication in the Factiva data base mentioning the firm's name in the domain of litigation
LIT_N+1	Number of citations of during the year following the M&A transaction (see LIT_N)
LIT_N-1	Number of citations of during the previous year (see LIT_N)
LN_SIZE	Logarithm of the acquirer's total sales in the year preceding the transaction
PERC_ACQ_SHARES	Percentage of target's shares acquired in the transaction
PERC_CASH	Percentage of the acquisition paid in cash, between 0 and 100%
PREMIUM	Acquisition premium calculated by dividing the acquisition price by the target stock price 4 weeks before the announcement of the transaction
SAME_SECTOR	Dummy equal to 1 if the acquire and the target belong to the same industry sector. Thomson Financial classification in 74 sectors is used.
TARG_EU	Dummy equal to 1 if target is located in the EU (7 countries)
TARG_LIT_N	Number of citations the target during the year of the transaction ending at the announcement date

TARGET_SALES	Target sales over the last year preceding the transaction (millions $)
TOEHOLD	Percentage of target share held by the acquirer before the acquisition
TRANS_VAL	Transaction value (millions $)
WITHIN_AMERICA	Dummy for transaction where the acquirer and the target firms are American (The US and Canada)
YEAR	Time trend using the year number

Table 6 Statistics on the variables

Series	Obs	Mean	Std Error	Minimum	Maximum
ACQ_EU	1051	0.4520	0.4979	0.0000	1.0000
ACQ_LEV	1017	0.0887	12.8315	-397.7721	80.1432
ACQ_NET_ASS	1018	6861.8832	14528.9028	-2887.0000	208144.0000
ACQ_NET_DEBT	1017	3083.0192	10978.8139	-14265.000	185255.000
ACQ_NET_SALES	1013	11780.2314	22780.7249	0.0040	243004.6460
ACQ_TOT_ASS	1021	18262.3895	38421.1991	0.2000	424040.0000
ASY_LIT	1050	0.9227	3.0053	0.0000	47.6667
ASYMMETRY	987	0.4286	0.7402	-0.1821	6.1039
CHALLGD	1051	0.0733	0.2607	0.0000	1.0000
CROSS_RISK	1051	29.3007	108.3793	0.0000	1195.0000
CROSS_SHARE	1051	1.9672	14.1616	0.0000	348.5000
CROSSB	1051	0.1437	0.3509	0.0000	1.0000
DELTA_ABS2	1051	11.2426	77.6326	-912.0000	1041.0000
DELTA_REL	1051	2.4282	5.1681	0.0000	76.0000
DISEQ	1037	-1.1997	5.6369	-66.3800	2.3450
DUM_C_LAW	1051	0.7164	0.4509	0.0000	1.0000
DUM_CASH	1051	0.6775	0.4677	0.0000	1.0000
DUM_HIGH_REL	1051	0.4434	0.4970	0.0000	1.0000
DUM_SHARE	1051	0.1912	0.3934	0.0000	1.0000
DUM_TARG_HIGH_RI	1051	0.1608	0.3675	0.0000	1.0000
DUM_TOE	1051	0.2131	0.4097	0.0000	1.0000
DUMMY_RISK	1051	0.2807	0.4496	0.0000	1.0000
TARG_LIT_N	1049	13.2660	69.5133	0.0000	1153.0000
LIT_N	1051	44.3226	113.0564	0.0000	1195.0000
LIT_N-1	1051	39.5423	99.3789	0.0000	957.0000
LIT_N+1	1051	55.5652	121.6983	0.0000	1202.0000
LIT_AV	1051	41.9325	99.1108	0.0000	851.5000
PERC_ACQD_SHARES	1040	77.7353	35.2856	0.2620	100.0000
PERC_CASH	1051	73.8351	40.9656	0.0000	100.0000
PREMIUM	892	39.4681	36.8842	-41.9200	223.6000
SAME_SECT	1051	0.5195	0.4999	0.0000	1.0000
TARG_EU	1051	0.4225	0.4942	0.0000	1.0000
TARG_TOT_ASS	1044	3514.8494	12824.2109	0.2360	184214.7580
TARGET_SALES	988	2697.9884	12063.0540	0.0740	219703.6580
TRANS_VAL	1051	1797.2129	7337.5291	50.0000	164746.8560
WITHIN_AMERICA	1051	0.4910	0.5002	0.0000	1.0000
WITHIN_EU	1051	0.3654	0.4818	0.0000	1.0000
YEAR	801	2005.3658	3.9038	2000.0000	2013.0000

Table 7 – Determinants of the Acquirers Litigation risk

Panel A									
	(1)		(2)		(3)		(4)		(5)
Dependent	LIT_N		LIT_AV		LIT_AV		LIT_AV		LIT_AV
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.		Coeff.	p-val.
Constant	-1934.86	0.05**	-6185.60	0.00***	-6049.55	0.00***	-6774.38	0.00***	-6358.71	0.00***
LN_SIZE	4.82	0.00***	9.36	0.00***	8.72	0.00***	9.92	0.00***	9.15	0.00***
YEAR	0.94	0.06**	3.04	0.00***	2.99	0.00***	3.34	0.00***	3.12	0.00***
ACQ_EU	11.04	0.02**	16.40	0.00***						
ACQ_NET_ASS	20x10-4	0.00***	35x10-4	0.00***	35x10-4	0.00***	37x10-4	0.00***	35x10-4	0.00***
LIT_N-1	0.57	0.00***								
DUM_C_LAW					-17.94	0.00***				
Dummy sect	YES		YES		YES		NO		YES	
Sector F-test	2.44	0.00***	3.85	0.00***	3.60	0.00***			3.64	0.00***
Dummy country	NO		NO		NO		YES		YES	
Country F-test							3.49	0.00***	2.84	0.00***
R²	0.55		0.48		0.48		0.44		0.48	
N	775		775		775		775		775	

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Dependent	(1) DELTA_ABS Coeff.	p-val.	(2) DELTA_ABS Coeff.	p-val.	(3) DELTA_REL Coeff.	p-val.	(4) DELTA_REL Coeff.	p-val.	(5) DELTA_REL Coeff.	p-val.	(6) DELTA_REL Coeff.	p-val.	(7) ASY_LIT Coeff.	p-val.	(8) ASY_LIT Coeff.	p-val.
Constant	71.74	0.08*	118.40	0.09*	117.49	0.09*	6.85	0.15	3.39	0.02**	5.33	0.00***	0.83	0.00***	1.90	0.00***
LIT_TARG_N	0.15	0.03**	0.15	0.06*	0.15	0.06*										
LN_SIZE			0.88	0.58	1.28	0.42			0.06	0.35	0.04	0.61				
ACQ_EU			-7.00	0.36												
TRANS_VAL			0.00	0.29	0.00	0.29			0.00	0.51	0.00	0.44				
ACQ_TOT_ASS			2.5×10^{-4}	0.09*	24×10^{-4}	0.08*							-6.29×10^{-6}	0.01**		
TARG_EU			-0.92	0.90	-4.66	0.33										
SAME_SECT			2.86	0.54	3.13	0.51			0.27	0.35	0.25	0.38				
DUM_C_LAW					-202	0.76	0.76	0.03**					-0.03	0.88		
CHALLGD			8.60	0.27	8.57	0.28			-0.36	0.28	-0.38	0.26				
TARGET_SALES			-0.00	0.13	-0.00	0.15			0.00	0.58	0.00	0.69				
ASYMMETRY									-0.20	0.17	-0.18	0.20			0.77	0.00***
WITHIN_AMERICA									1.21	0.00***						
TARG_TOT_ASS													6.27×10^{-6}	0.00***		
ASY_LIT							0.30	0.00***	0.37	0.00***	0.37	0.00***				
Dummy sect	YES		YES		YES		YES		YES		YES		NO		YES	
Sector F-test	3.50	0.00***	1.57	0.08*	1.61	0.00***	2.68	0.00***	3.52	0.00***	2.86	0.00***			0.92	0.53
Dummy country	NO		YES		NO		NO		NO		YES		NO		YES	
Country F-test			1.38	0.20							3.41	0.00***			0.14	0.99
R²	0.04		0.07		0.07		0.07		0.08		0.08		0.07		0.07	
N	1049		957		957		1050		931		931		1014		986	

Litigation is measured by the number of citations in the Factiva data base mentioning the firm's name in the domain of litigation; ACQ_EU: Dummy equal to 1 if the acquirers is located in 7 European countries; ACQ_NET_ASS: Total net assets of the acquired the year before the transaction, total accounting assets minus debt (millions $); ACQ_TOT_ASS: Total assets of the acquired the year before the transaction (millions $); ASY_LIT: Relative litigation risk ratio between the target and the acquirer at year N, ratio TARG_LIT_N over LIT_AV; ASYMMETRY: Information asymmetry measures by the target net assets over the acquirers' net assets (Eckbo et al. 1990); CHALLGD: Dummy equal to 1 is the transaction has been challenged; CROSSB: Dummy for cross-border acquisition between the EU and the Americas; DELTA_ABS2: Absolute variation of number of litigation citations after compared to before the M&A transaction, difference LIT_N+1 minus LIT_N; DELTA_REL: Relative variation of number of litigation citations after compared to before the M&A transaction, ratio LIT_N+1 over LIT_AV; DISEQ: Disequilibrium in the acquisition between offer and supply of shares measured by the difference between the percentage of the target capital acquired in the deal and the percentage of share sought as declared at the announcement of the acquisition; DUM_C_LAW: dummy for common law countries, i.e. Canada, the UK and the USA; DUM_HIGH_REL: Dummy to measure higher relative increase in litigation risk after compared to before the transaction, set to 1 if the ratio DELTA_REL is greater than 1.5; DUM_TARG_HIGH_RISK: Dummy for highly risky target compared to the acquirer's litigation risk, set to 1 if the TARG_LIT_N over TARG_N is above 1; DUM_TOE: Dummy variable equal to 1 if toehold exists before the acquisition; LIT_N: Number of litigation citations of the acquiring firm over one year before the transaction; LIT_AV: Average of the number of litigation citations for years N and N-1 with N the one year period before the announcement of the acquisition; LN_SIZE: Logarithm of the acquirer's total sales in the year preceding the transaction; SAME_SECTOR: Dummy equal to 1 if the acquire and the target belong to the same industry sector; TARG_EU: Dummy equal to 1 if target is located in the EU; TARGET_SALES: Target sales over the last year preceding the transaction (millions $); TOEHOLD: Percentage of target share held by the acquirer before the acquisition; TRANS_VAL: Transaction value (millions $); WITHIN_AMERICA: Dummy for transaction where the acquirer and the target firms are American (The US and Canada); YEAR: Time trend using the year number; Dummy sectors: 14 dummy variables according to the SIC sector classification; robust covariance estimate adjusted for heteroscedasticity)

Table 8 – Determinants of the premiums

Equation	(1)		(2)		(3)		(4)		(5)		(6)	
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.
Constant	38.07	0.00***	34.60	0.00***	34.35	0.00***	32.86	0.00***	29.35	0.00***	26.38	0.00***
PERC_ACQ_SHARES	0.24	0.00***	0.21	0.00***	0.22	0.00***	0.21	0.00***	0.22	0.00***	0.22	0.00***
ASYMMETRY	-4.08	0.04**	-2.99	0.08*	-2.95	0.08*	-4.10	0.02**	-3.12	0.07*	-4.05	0.02**
LIT_N	0.03	0.03**										
LIT_AV			0.03	0.04**	0.03	0.03**						
TARG_LIT_N	-0.01	0.65										
DISEQ	-0.01	0.97										
SAME_SECT	-3.21	0.20	-1.98	0.41			-2.80	0.26	-2.37	0.34	-2.42	0.33
WITHIN_EU	-8.83	0.00***	-10.51	0.00***	-10.35	0.00***	-7.84	0.00***	-8.50	0.00***	-19.97	0.01**
CHALLGD	20.91	0.00***	21.41	0.00***	21.37	0.00***	21.02	0.00***	21.86	0.00***	21.82	0.00***
DUM_TOE	0.66	0.82	0.18	0.96	0.15	0.97	0.20	0.95	0.25	0.95	1.38	0.712
TRANS_VAL	0.00	0.53										
LN_SIZE	0.16	0.83										
DUM_HIGH_REL			-6.45	0.01***	-6.53	0.00***						
DUM_TARG_HIGH_RISK			-8.79	0.01***	-8.91	0.00***			-10.24	0.00***		
ASY_LIT							-0.81	0.03**	0.03	0.94	-0.75	0.04**
CROSS_SHARE					-0.12	0.00***						
CROSS_B							6.99	0.10	6.30	0.14	-1.60	0.80
DUMMY_RISK							-3.76	0.30				
CROSS_RISK									0.02	0.15	0.02	0.11
Dummy sect	YES		YES		YES		YES		YES		YES	
Sector F-test	3.63	0.00***	3.23	0.00***	3.19	0.00***	3.09	0.00***	3.12	0.00***	3.20	0.00***
Dummy country	NO		NO		NO		NO		NO		YES	
Country F-test											1.13	0.33
R²	0.18		0.19		0.19		0.17		0.18		0.17	
N	821		837		837		836		836		836	

Dependent variable : Acquisition premium calculated by dividing the acquisition price by the target stock price 4 weeks before the announcement of the transaction, Litigation risk is the number of citations in the Factiva data base mentioning the firm's name in the domain of litigation; ACQ_EU: Dummy equal to 1 if the acquirers is located in 7 European countries; ACQ_NET_ASS: Total net assets of the acquired the year before the transaction, total accounting assets minus debt (millions \$); ACQ_TOT_ASS: Total assets of the acquired the year before the transaction (millions \$); ASY_LIT: Relative litigation risk ratio between the target and the acquirer at year N, ratio TARG_LIT_N over LIT_AV; ASYMMETRY Information asymmetry measures by the target net assets over the acquirers' net assets (Eckbo et al. 1990); CHALLGD: Dummy equal to 1 is the transaction has been challenged; CROSS_SHARE: Variable crossing the DUM_SHARE dummy variable indicating payment by shares and the acquirer's litigation risk LIT_N; CROSS_RISK: Variable crossing the acquiring firms belonging to risky sectors in terms of litigation risk, DUMMY_RISK, and the litigation risk proxy of the firm LIT_N; CROSSB: Dummy for cross-border acquisition between the EU and the Americas; DELTA_ABS2: Absolute variation of number of litigation citations after compared to before the M&A transaction,, difference LIT_N+1 minus LIT_AV; DELTA_REL: Relative variation of number of litigation citations after compared to before the M&A transaction, ratio LIT_N+1 over LIT_AV; DISEQ: Disequilibrium in the acquisition between offer and supply of shares measured by the difference between the percentage of the target capital acquired in the deal and the percentage of share sought as declared at the announcement of the acquisition; DUM_HIGH_REL: Dummy to measure higher relative increase in litigation risk after compared to before the transaction, equal to 1 if the ratio DELTA_REL of number of citations after divided by the number of citations before is greater than 1.5; DUM_TARG_HIGH_RISK: Dummy for highly risky target compared to the acquirer's litigation risk, equal to 1 if the TARG_LIT_N over TARG_N is above 1; DUM_TOE: Dummy variable equal to 1 if toehold exists before the acquisition; DUMMY_RISK: Dummy for acquirer belonging to risky sectors in terms of litigation risk; LIT_N: number of citations the acquirer during the year of the transaction ending at the announcement date; number of citations is the number of publication in the Factiva data base mentioning the firm's name in the domain of litigation; LIT_AV: Average of the number of citations for years N and N-1; LN_SIZE: Logarithm of the acquirer's total sales in the year preceding the transaction; PERC_ACQ_SHARES: Percentage of target's shares acquired in the transaction; PREMIUM: Acquisition premium calculated by dividing the acquisition price by the target stock price 4 weeks before the announcement of the transaction; SAME_SECTOR: Dummy equal to 1 if the acquire and the target belong to the same industry sector; TARG_EU: Dummy equal to 1 if target is located in the EU; TARG_LIT_N: Number of citations the target during the year of the transaction ending at the announcement date; TARGET_SALES: Target sales over the last year preceding the transaction (millions \$); TOEHOLD: Percentage of target share held by the acquirer before the acquisition; TRANS_VAL: Transaction value (millions \$); WITHIN_AMERICA: Dummy for transaction where the acquirer and the target firms are American (The US and Canada); YEAR: Time trend using the year number; Dummy sectors: 14 dummy variables according to the SIC sector classification; robust covariance estimate adjusted for heteroscedasticity

Table 9 Determinants of the cash payment scheme

Equation	(1)		(2)		(3)		(4)		(5)	
Dependent	PERC_CASH		PERC_CASH		PERC_CASH		DUM_CASH		DUM_CASH	
	Coeff.	p-val.	Coeff	p-val	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val
Constant	90.64	0.00***	94.59	0.00***	90.30	0.00***	1.12	0.00***	0.97	0.01**
ASYMMETRY	-17.01	0.00***	-13.83	0.00***	-15.22	0.00***	-0.41	0.00***	-0.50	0.00***
LIT_AV			0.06	0.00***	0.04	0.00***	0.01	0.00***	4x10-3	0.01***
SAME_SECT	-7.32	0.00***	-8.71	0.00***	-6.98	0.00***	-0.37	0.00***	-0.30	0.00***
WITHIN_EU			5.79	0.04**	6.11	0.03**	0.12	0.26		
DUM_TOE	0.05	0.99								
TRANS_VAL	-5x10-4	0.03**	-6x10-4	0.02**	-6x10-4	0.03**	-9x10-5	0.00***	-10x10-4	0.00***
ACQ_LEV	3.08	0.01***	3.72	0.00***	2.95	0.01***	0.19	0.00***	0.14	0.03**
DUM_TARG_HIGH_RISK			-4.84	0.19	-6.39	0.08*	-0.09	0.45	-0.19	0.16
ASY_LIT	0.08	0.88								
CROSS_B			10.73	0.00***	8.18	0.00***	0.52	0.00***	0.50	0.00***
CROSS_RISK	0.03	0.00***	-0.01	0.21	-0.01	0.55	-0.00	0.59	-0.00	0.88
Dummy sector	YES		YES		YES		YES		YES	
Sector F-Test	7.24	0.00***	8.52	0.00***	6.45	0.00***	2.73	0.00***	2.49	0.00***
Dummy country	YES		NO		YES		NO		YES	
Country F-Test	3.92	0.00***			4.15	0.00***			4.57	0.00***
R²	0.22		0.21		0.24		0.24		0.28	
N	985		986		986		986		986	

Dependent variable is cash payment percentage in models (1) to (3) and dummy cash payment in models (4) and (5); Model (1) to (3) are OLS estimates, models (4) and (5) are a probit estimation of the probability to be fully paid in cash; ACQ_LEV is acquirer's net debt, ACQ_NET_DEBT, divided by acquirer's total asset, ACQ_NET_ASS; ASY_LIT: Relative litigation risk ratio between the target and the acquirer at year N, ratio TARG_LIT_N over LIT_AV; ASYMMETRY Information asymmetry measures by the target net assets over the acquirers' net assets (Eckbo et al. 1990); CHALLGD: Dummy equal to 1 is the transaction has been challenged; CROSS_SHARE: Variable crossing the DUM_SHARE dummy variable indicating payment by shares and the acquirer's litigation risk LIT_N; CROSS_RISK: Variable crossing the acquiring

firms belonging to risky sectors in terms of litigation risk, DUMMY_RISK, and the litigation risk proxy of the firm LIT_N; CROSSB: Dummy for cross-border acquisition between the EU and the Americas; DELTA_ABS2: Absolute variation of number of litigation citations after compared to before the M&A transaction,, difference LIT_N+1 minus LIT_AV; DELTA_REL: Relative variation of number of litigation citations after compared to before the M&A transaction, ratio LIT_N+1 over LIT_AV; DISEQ: Disequilibrium in the acquisition between offer and supply of shares measured by the difference between the percentage of the target capital acquired in the deal and the percentage of share sought as declared at the announcement of the acquisition; DUM_HIGH_REL: Dummy to measure higher relative increase in litigation risk after compared to before the transaction, equal to 1 if the ratio DELTA_REL of number of citations after divided by the number of citations before is greater than 1.5; DUM_CASH: Dummy equal to 1 if payment is 100% cash, excludes share and hybrid payment schemes; DUM_TARG_HIGH_RISK: Dummy for highly risky target compared to the acquirer's litigation risk, equal to 1 if the TARG_LIT_N over TARG_N is above 1; DUM_TOE: Dummy variable equal to 1 if toehold exists before the acquisition; DUMMY_RISK: Dummy for acquirer belonging to risky sectors in terms of litigation risk; LIT_N: number of citations the acquirer during the year of the transaction ending at the announcement date; number of citations is the number of publication in the Factiva data base mentioning the firm's name in the domain of litigation; LIT_AV: Average of the number of citations for years N and N-1; LN_SIZE: Logarithm of the acquirer's total sales in the year preceding the transaction; PERC_ACQ_SHARES: Percentage of target's shares acquired in the transaction; PERC_CASH: Percentage of the acquisition paid in cash, between 0 and 100%; PREMIUM: Acquisition premium calculated by dividing the acquisition price by the target stock price 4 weeks before the announcement of the transaction; SAME_SECTOR: Dummy equal to 1 if the acquire and the target belong to the same industry sector; TARG_EU: Dummy equal to 1 if target is located in the EU; TARG_LIT_N: Number of citations the target during the year of the transaction ending at the announcement date; TARGET_SALES: Target sales over the last year preceding the transaction (millions $); TOEHOLD: Percentage of target share held by the acquirer before the acquisition; TRANS_VAL: Transaction value (millions $); WITHIN_AMERICA: Dummy for transaction where the acquirer and the target firms are American (The US and Canada); Dummy sectors: 14 dummy variables according to the SIC sector classification; OLS robust covariance estimate adjusted for heteroscedasticity

Table 10 System of equation estimates
(SUR estimates; see explanation Tables 8 and 9)

System of equations	Model 1				Model 2			
Dependent	PREMIUM		PERC_CASH		PREMIUM		PERC_CASH	
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.
Constant	32.14	0.00***	97.19	0.00***	22.23	0.03**	94.29	0.00***
PERC_CASH					0.09	0.01***		
PREMIUM							0.06	0.10*
PERC_ACQ_SHARES	0.22	0.00***			0.24	0.00***		
ASYMMETRY	-3.25	0.06*	-13.57	0.00***	-1.90	0.29	-13.39	0.00***
LIT_AV			0.05	0.00***			0.05	0.00***
WITHIN_EU	-8.24	0.00***	5.11	0.08*	-8.53	0.00***	5.84	0.05**
CHALLGD	21.91	0.00***			21.25	0.00***		
CROSS_RISK	0.02	0.16			0.01	0.22		
SAME_SECTOR			-9.78	0.00***			-8.87	0.00***
CROSS_B	6.52	0.07*	11.48	0.00***	5.50	0.13	11.24	0.00***
DUM_TARG_HIGH_RISK	-10.57	0.00***	-8.86	0.02**	-9.53	0.01***	-8.36	0.02**
TRANS_VAL			-5×10^{-4}	-0.00***			-5×10^{-4}	-0.00***
ACQ_LEV			2.37	0.09*			2.30	0.10*
Dummy sector	YES		YES		YES		YES	
N	837				837			