An International Look at the Lawsuit Avoidance

Hypothesis of IPO Underpricing

Hui Ling Ellen Lin

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ABSTRACT

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One potential explanation for the underpricing of initial public offerings is the lawsuit avoidance hypothesis of Tiniç (1998). In this study, we empirically test the insurance effect of the lawsuit avoidance hypothesis which states that firms that are subject to higher litigation risk underprice their issues more to reduce the likelihood of being sued in connection with their IPO. In addition, by underpricing their issues, firms can limit the amount of damages plaintiffs can claim in a lawsuit.

We examine the relationship between IPO underpricing and litigation risk in an international setting using a sample of 6,326 firms that went public across 34 countries between January 1995 and December 2002. We control for known determinants of IPO underpricing and test whether IPOs in countries with higher levels of litigation risk are more underpriced.

While the majority of single-country studies do not find support for the lawsuit avoidance hypothesis, we find a significant positive relationship between litigation risk and underpricing in a cross-country framework. Contrary to all single-country legal liability studies outside the US and consistent with the US studies of Tiniç (1988) and Lowry and Shu (2002), our empirical results support the insurance effect of the lawsuit avoidance hypothesis in an international context. Our findings imply that the degree of litigation risk in a given country affects the level of underpricing for firms that go public in that country. We conclude that differences in legal risk factors can partially explain differences in underpricing across countries.

Acknowledgements

Table of Contents

List of Appendices

List of Tables

An International Look at the Lawsuit Avoidance Hypothesis of

IPO Underpricing

1. Introduction

The underpricing of initial public offerings is an international phenomenon. Investors around the world typically earn considerable initial returns although the level of underpicing varies across countries and over time. The extant literature provides a variety of explanations for IPO underpricing. One potential theory of underpricing is the lawsuit avoidance hypothesis. Tiniç (1988) and Hughes and Thakor (1992) argue that issuers and underwriters underprice IPOs as a form of insurance to reduce the likelihood and magnitude of future legal liability claims against them.

The objective of this paper is to empirically test the link between IPO underpricing and litigation risk in an international framework. We test the lawsuit avoidance hypothesis using a sample of 6,326 firms that went public across 34 countries between January 1995 and December 2002. The research question we address is whether the level of litigation risk in a country affects the degree of IPO underpricing for firms that go public in that country. We control for known determinants of IPO underpricing and various macroeconomic factors.

A major part of the extant literature on the litigation risk hypothesis focuses on the US stock market. A few studies also test the hypothesis of underpricing in other countries, including Australia (Lee et al., 1996), Finland (Keloharju, 1993), Germany (Ljungqvist, 1995), Japan (Beller et al., 1992), New Zealand (Vos and Cheung, 1992),

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Sweden (Rydqvist, 1994), Switzerland (Kunz and Aggarwal, 1994), and the United Kingdom (Jenkinson, 1990). All of these studies focus on one country at a time, however. We extend the existing literature by being the first to examine the lawsuit avoidance hypothesis in a cross-country setting. Furthermore, the paper contributes to the underpricing literature by providing a more comprehensive and controlled firm-specific study related to international IPO underpricing.

Empirical studies using US data exhibit mixed results for the lawsuit avoidance hypothesis. Tiniç (1988) and Lowry and Shu (2002) find support for the hypothesis while Drake and Vetsuypens (1993), Prabhala and Puri (1999), and Turtle and Walker (2004) find no support. International studies find no support for the hypothesis in Australia, Finland, Germany, Japan, New Zealand, Sweden, Switzerland, and the UK. We attempt to answer the question whether cross-country differences in IPO underpricing levels can in part be attributed to differences in legal risk factors between countries.

Our empirical results suggest that litigation risk in a given country is significantly positively related to average underpricing returns, suggesting that legal liability can partially explain differences in underpricing between countries. Contrary to all single-country legal liability studies with the exception of some US studies (cf., Tiniç (1988) and Lowry and Shu (2002)), our results support the lawsuit avoidance hypothesis in an international context.

The remainder of this thesis is organized as follows. In the next section, we discuss the related literature. In Section 3, we describe the data collection process, discuss our variable selection, and provide descriptive statistics. In Section 4, we conduct univariate

tests. In Section 5, we present our empirical results and provide results for a series of robustness checks using firm level data. In Section 6, we perform a country level analysis. In the last section, we provide conclusions.

2. Literature review

In this section, we briefly review the main theories and the related empirical evidence for IPO underpricing. We then focus on the lawsuit avoidance hypothesis and the related empirical studies. Lastly, we discuss the findings of other international IPO studies as they relate to this thesis.

2.1. Underpricing literature

The academic literature has provided a plethora of explanations for IPO underpricing. Most explanations fall under one of three main theories of IPO underpricing: the signaling theory, the asymmetric-information theory, and the lawsuit avoidance theory (Ibbotson et al., 1994). Numerous papers have empirically examined the first two hypotheses. In comparison, relatively few studies empirically test the lawsuit avoidance hypothesis.

Allen and Faulhaber (1989), Grinblatt and Hwang (1989), Welch (1989), and Chemmanur (1993) argue that in order to signal their quality to the market, higher quality issuers sell their IPOs at a lower price. These high-quality issuers can recover their money in future seasoned equity offerings at a more favorable price. Empirical evidence

on the signaling theory is mixed. Ghosh et al. (2000) find support for the signaling hypothesis while Jegadeesh et al. (1993), Garfinkel (1993), Michaely and Shaw (1994), and Spiess and Petway (1997) find no support for the theory.

Baron (1982), Beatty and Ritter (1986), Rock (1986), and Benveniste and Spindt (1989) posit that IPO underpricing is determined by the degree of asymmetric information between participants in the IPO market, i.e. investors and investment bankers, or informed investors and uninformed investors. Evidence in favor of the asymmetric-information theory has been widely documented (cf., Beatty and Ritter, 1986; Koh and Walter, 1989; Megginson and Weiss, 1991; Hanley, 1993; and Michaely and Shaw, 1994). However, Muscarella and Vetsuypens (1989) find no support for Baron's model.

The third potential explanation for underpricing, the lawsuit avoidance theory, states that issuers and investment bankers underprice their IPOs in an attempt to avoid being sued in the future. In this paper, we focus on the lawsuit avoidance hypothesis.

2.2. Theoretical studies related to litigation risk

Under the securities laws in countries like the US, issuers, underwriters, and accountants face litigation risk in case investors sue them for misleading statements or omissions in the IPO prospectus. The Securities Act of 1933 confers investors the right to bring an IPO-related lawsuit against any participants involved in the marketing and sale of a new equity issue. The potential settlement payments and legal fees associated with

lawsuits are notably costly. In addition, the loss of management time, and potential damages to the reputations of underwriters and issuers are also considerable.

A potential link between IPO underpricing and litigation risk was first proposed by Logue (1973) and Ibbotson (1975). The basic notion of the lawsuit avoidance hypothesis is that issuers deliberately sell their IPOs at a discount to reduce the possibility of future legal liability claims from investors. Tiniç (1988) extends and develops the theoretical framework. In Tiniç's model, the expected legal liabilities are measured by the probability of the issuer or the underwriter being sued and the amount of damages suffered by these parties. The former is a decreasing function of the post-offer price over the offer price and the latter is an increasing function of the difference between the offer price and the post-offer price.[1] Other formal models of the lawsuit avoidance hypothesis embrace the theoretical works by Hughes and Thakor (1992) and Hensler (1995). Hughes and Thakor (1992) expand Tiniç's model by specifying sufficient conditions for equilibrium underpricing in a game theory setting. Hensler (1995) extends Tiniç's conjecture by developing a maximized utility model which is set in a single period.

2.3. US empirical studies related to litigation risk

Empirical evidence on the lawsuit avoidance hypothesis is, at best, mixed. Tiniç (1988) provides the first empirical test of the lawsuit avoidance hypothesis. He compares the underpricing of 70 IPOs filed between 1923 and 1930 (prior to the Securities Act of

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[1] Tiniç (1988) expresses expected legal liabilities as $E[L_t] = f[P_t / P_0] * g[P_0 - P_t]$, where P_0 is the offer price and P_t is the post-offer price.

1933) to the underpricing of 134 IPOs filed between 1966 and 1971 (after the Securities Act of 1933). He finds that the post-1933 IPOs provide significantly higher initial returns than the pre-1933 IPOs. He argues that the increased litigation risk for issuers and underwriters after the 1933 Securities Act motivated them to use higher underpricing acts as a form of insurance against potential lawsuits. By selling an IPO share below its expected value, both the issuer and the underwriter are less likely to be sued and this reduces the amount of damages plaintiffs can claim.

Drake and Vetsuypens (1993) question Tiniç's model. They argue that Tiniç's results are difficult to interpret because he does not consider the variability of initial returns over time. They compare the underpricing of sued firms to that of matched non-sued firms. Their empirical results suggest that the underpricing of sued firms is higher than that of comparable non-sued firms. They further argue that underpricing does not shield issuers and underwriters from lawsuits and that underpricing is an ineffective form of avoiding future legal liability. Lowry and Shu (2002) point out that Drake and Vetsuypens' model is subject to an endogeneity bias as it ignores the endogenous relationship between underpricing and litigation risk.

Prabhala and Puri (1999) provide evidence against Tiniç's conjecture. They compare Tiniç's pre-1933 IPO sample to a sample of IPOs filed between 1985 and 1994. They predict that pre-1933 IPOs should be riskier than IPOs in the 1985-1994 sample since issuers and underwriters faced little legal liability prior to 1933.[2] They consider offer

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[2] Prabhala and Puri (1999) argue that pre-1933 IPOs were largely unregulated. The lack of regulation prior to 1933 increased the possibility that IPO investors were misled by the issuer and were unable to recover their losses.

price, offer size and the standard deviation of initial returns as proxies for IPO risk and find that 1985-1994 IPOs were riskier than 1923-1930 IPOs. They conclude that the difference in underpricing between Tiniç's pre-1933 and post-1933 IPO sample is likely caused by differences in risk without recourse to potential differences in legal risk enforced by the Securities Act of 1933.

Lowry and Shu (2002) examine the link between litigation risk and IPO underpricing by postulating two implications of the lawsuit avoidance hypothesis: the insurance effect and the deterrence effect of IPO underpricing. Under the insurance effect, IPO firms associated with higher litigation risk should underprice their shares more to avoid being used. Under the deterrence effect, higher levels of underpricing reduce the possibility of being sued and the expected legal liability costs. In order to resolve the methodological problems of previous studies, Lowry and Shu adopt a simultaneous equations system in a cross-sectional framework using a sample of 1,841 IPOs between 1988 and 1995. Their empirical results provide support for both the insurance effect and the deterrence effect of IPO underpricing.

Turtle and Walker (2004) use a sample of 1,669 IPOs filed in the US between 1996 and 2000, and find no support for the lawsuit avoidance hypothesis in a simultaneous equations framework similar to Lowry and Shu (2002). They do not reject the lawsuit avoidance hypothesis as a potential explanation for IPO underpricing but point out that it has become less important in the US in recent years. They argue that two recent security law reforms, the 1995 Private Securities Litigation Reform Act and the 1998 Securities Litigation Uniform Standards Act, have significant reduced the litigation risk borne by

US issuers and their underwriters and have reduced the need to buy litigation insurance through underpricing. In addition, they observe that IPO characteristics, including underpricing, have little influence on plaintiffs' decision to file a lawsuit and that a firm's litigation risk is largely determined by events in the IPO aftermarket including unrelated industry downturns.

In our study, we examine the insurance effect of the lawsuit avoidance hypothesis in an international context. We cannot test the deterrence effect because securities lawsuit data are unobtainable for most countries. Thus a simultaneous equations model cannot be applied in a cross-country framework.

2.4. International empirical studies related to litigation risk

Although Tiniç (1988) and Lowry and Shu (2000) find support for the lawsuit avoidance hypothesis in the US, studies in other countries find no support for the hypothesis.

Lee et al. (1996) examine Australian IPOs from 1976 to 1989 using cross-sectional data. They find support for the asymmetric information models of Rock (1986) and Beatty and Ritter (1986). On the other hand, they argue that institutional characteristics cannot explain the underpricing of Australian IPOs and that underpricing in Australia is unrelated to litigation risk.

Keloharju (1993) studies the underpricing of IPO in the Finnish market using a sample of 80 IPOs between January 1984 and July 1989. Although litigation risk is very low in Finland, he finds an average initial return of 8.7%. Because the legal environment

in Finland differs from the US and IPO firms are rarely sued, he argues that legal liability cannot be an important determinant of underpricing of Finnish IPOs. However, the underpricing of US IPOs is significantly higher than that of Finish IPOs, which suggests that the difference in underpricing may be attributed to differences in legal liability.

Vos and Cheung (1992) examine IPO underpricing in New Zealand prior to and subsequent to the 1983 Securities Regulations Act, a law that is comparable to the 1933 Securities Act in the US. They find no change in IPO underpricing after the 1983 Securities Regulations Act and argue that their results contradict the lawsuit avoidance hypothesis.

Kunz and Aggarwal (1994) investigate underpricing of IPOs in Switzerland using a sample of 42 IPOs issued between 1983 and 1989. They find mean underpricing of 35.8% in the Swiss IPO market. The legal environment in Switzerland is like that in Finland where litigation risk is almost negligible. They claim that the lawsuit avoidance hypothesis cannot explain the high underpricing levels in Switzerland.

Other studies test the insurance effect of IPO underpricing in Germany (Ljungqvist, 1995), Japan (Macey and Kanda, 1990 and Beller et al., 1992), Sweden (Rydqvist, 1994), and the United Kingdom (Jenkinson, 1990), but none of them find support for the lawsuit avoidance hypothesis even though underpricing is significant in these countries.

Ritter (2003) points out that while class action lawsuits are frequent in the US, they are exceptional in Europe. The different legal environment makes it more difficult to directly test the lawsuit avoidance hypothesis in most European countries since legal liability claims against issuers and underwriters are rare. Even though most international

studies do not support the litigation risk explanation of IPO underpricing, Van der Goot (2003) claims that litigation risk is one of the factors why prestigious investment bankers are less likely to underwrite riskier IPOs in the Netherlands where class action lawsuits are available.

Although empirical results for the lawsuit avoidance hypothesis are mixed and there is little empirical support outside the US, the hypothesis has not been fully rejected. There are many factors that affect IPO underpricing and no single factor fully explains the underpricing puzzle. The existing literature examines the connection between litigation risk and underpricing in a single country at a time. Our paper is the first to examine the link between litigation risk and underpricing in a cross-country context. Specifically, we test whether differences in cross-country litigation risk can explain the variability of underpricing returns across countries.

2.5. Other international IPO studies

The existing underpricing literature has rarely employed a comprehensive cross-country firm-specific analysis to study the performance of IPOs. A number of papers have focused on comparing pairs of countries or countries in a group or region.

Ritter (2003) conducts a survey to compare European and American IPO markets. Loughran et al. (1994) analyze international differences in IPO markets by consolidating the empirical results from a number of country-specific studies.[3] Even though they

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[3] Note that the authors provide an updated version of this article on Jay Ritter's website. The current version provides information on cross-country underpricing until 2002.

demonstrate that differences in underpricing in 38 countries are related to the characteristics of IPO firms, they do not take the time-variation of returns, or other firm-specific and industry-specific factors into account.

Ljungqvist, et al. (2003) are the first to conduct a comprehensive empirical study to analyze international differences in IPO markets in a cross-country context. Their non-US sample contains 2,143 IPOs issued in 65 countries between January 1992 and July 1999. However, their dataset is subject to some limitations. Their sample is collected from Equityware which initially serves as a database of cross-border IPOs. During 1992 and 1993, the sample does not contain any domestic listings. Furthermore, their sample does not representatively cover the Asian-Pacific market. For instance, domestic Japanese issues are only comprehensively incorporated in their sample starting from 1998. These exceptions make their sample somewhat unrepresentative.

We are adding to the IPO literature by providing a more comprehensive analysis of international differences of IPO underpricing in a cross-country setting and by being the first study to test the lawsuit avoidance hypothesis using a broad sample of international IPOs. Our original sample is derived from the Securities Data Company (SDC) New Issues database that allows for a full coverage of IPOs across countries. To ensure the accuracy of our data and to correct for known problems in the SDC database, we cross-reference our data set with the Record of New Issues by the Financial Post and with Bloomberg. We correct a number of errors inherent in SDC data.[4] Our data collection process makes our sample more comprehensive and reliable than most datasets that are

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[4] For a complete list of errors please refer to Appendix 2.

derived from a single source and allows us to control for firm size, hot IPO markets, underwriter ranking, industry, and macroeconomic factors. We will provide a more detailed description of our data set in the next section.

3. Data

3.1. Sample selection

We derive our sample of IPOs between January 1995 and December 2002 from the SDC New Issues database. We require issues to be listed in one of the 49 countries covered by La Porta et al. (1998) because we adopt their country classifications by legal origin to investigate litigation risk in our study.[5] We then exclude financial firms, spinoffs, private placements, and non-domestic IPOs. Furthermore, we only include firms with SDC share types equivalent to Class A Shares, Common Shares, Ordinary shares, Ordinary/Common Shares, Par Value Common Stock, Non Value Common Stock, Registered Par Value Common Stock, Registered Non Value Common Stock or Equity Shares.[6] In addition, firms must have closing prices available on Datastream either on the fifteenth calendar day or the thirtieth calendar day after the IPO.[7]

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[5] La Porta et al. (1998) examine shareholder protections and the quality of law enforcement by legal origins in 49 countries.

[6] Par Value Common Stock, Non Value Common Stock, Registered Par Value Common Stock, and Registered Non Value Common Stock are the share types used in the Japanese stock market. Equity Share is the share type used in the Indian stock market. Due to data availability problems in the Indian stock market in SDC, we exclude all Indian IPOs (see Appendix 2).

[7] If the fifteenth or thirtieth calendar day falls on a non-trading day we use data for the previous trading day instead.

Although SDC provides a relatively comprehensive coverage of worldwide new equity issues, its data quality is one of our main concerns. For example, SDC lists announcement dates or subscription dates as issue dates for IPOs in a number of countries. More than 50% of IPOs in Canada, Hong Kong, Italy, Japan, Malaysia, Singapore, South Korea, Taiwan, and the UK are affected by this type of error. We therefore cross-reference our data set with Bloomberg and the Record of New Issues by the Financial Post. In case of missing or erroneous SDC data, we use data from Bloomberg and the Financial Post. Our final sample consists of 6,326 firms from 34 countries that went public between January 1995 and December 2002.[8]

3.2. Variable description

We provide a comprehensive overview of the variables used in this study together with data sources in Appendix 1. Our key variables are discussed below.

3.2.1. Underpricing

For each IPO, we calculate 15-day and 30-day underpricing, which are defined as the percentage return from the offer price to the closing price on the fifteenth calendar day and the thirtieth calendar day, respectively. We obtain offer price data from the SDC database. US IPO return data are also from SDC while returns for non-US IPOs are calculated using closing price data from Datastream.[9] Similar to Ljungqvist et al. (2003),

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[8] Note that in addition to India, 14 of the 49 countries covered by La Porta et al. (1998) are excluded because they either had no IPOs during our sample period or they are not covered by Datastream.

[9] For US IPOs, we derive 2-week and 4-week return from SDC.

we measure underpricing as the 15-day or 30-day return rather than the first-day return not only because Datastream provides more comprehensive 15-day or 30-day closing price data, but most importantly because some governments make regulations governing price fluctuations per day in their stock markets. This approach allows prices to reach an equilibrium point.

*** Insert Table 1 about here ***

In Panel A of Table 1, we list the number of IPOs and calculate the equally-weighted mean, the value-weighted mean, and median underpricing by year. IPO volume and underpricing fluctuate over time around the world. The number of IPOs with 15-day returns ranges from a low of 496 in 2002 to a high of 1,157 in 2000. The arithmetic mean of 15-day underpricing reaches 72.22% in 1999 compared to a full sample average of 38.60%. Although the equally-weighted mean, the value-weighted mean, and median underpricing all show the highest underpricing returns in 1999, their relative magnitude is not consistent in all years. For most years we observe that the equally-weighted mean exceeds the value-weighted mean which in turn exceeds median underpricing, suggesting that initial returns lead to be right skewed and that smaller issues tend to be more underpriced than larger issues.

In Panel B, we provide the number of IPOs and calculate the equally-weighted mean, value-weighted mean, and median underpricing by country. The number of IPOs and the level of underpricing varies substantially from country to country. The US

dominates in terms of IPO volume, followed by Japan, the UK, France, Canada, Australia, Germany, and Hong Kong. On average, South Korean investors reap the highest 15-day return, followed by investors from Greece, Canada, Malaysia, Indonesia, Pakistan, Germany, the UK, and the US.[10]

Panel C of Table 1 provides a breakdown by industry following the classification by Lowry and Shu (2002). Our data show that the communications, computers, and electronics industry has the highest number of IPOs, accounting for more than one-third of the new equity issues in our sample. IPOs in this industry also have the highest 15-day and 30-day returns during our sample period.

3.2.2. Litigation risk variables

Our goal is to test whether cross-country differences in litigation risk can explain the differences in underpricing across countries. Specifically, we hypothesize that firms in countries with higher litigation risk underprice their IPOs more to avoid being sued. Although detailed data for IPO-related lawsuits is available in the US, it is impossible to collect detailed securities litigation information for the remaining 33 countries in our sample. Thus, we cannot examine both the insurance effect and the deterrence effect of IPO underpricing in a simultaneous equation model as in Lowry and Shu (2002). We therefore focus on testing the insurance effect of the lawsuit avoidance hypothesis in an international framework.

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[10] The equally-weighted mean of Canadian IPO returns is largely driven by small issues because over 70% of Canadian IPOs in our sample are penny stocks. We define a penny stock as an issue with a converted price below US$1.00.

To measure litigation risk in different countries, we select five country-level variables, which include the legal origin, the burden of proof, a class action lawsuit dummy, the number of law providers, and the rule of law.

Our first proxy estimates litigation risk by legal origin for each country. We adopt the legal regime classification by La Porta et al. (1998). La Porta et al. group countries into four legal origins, i.e., English common law, French commercial code, German commercial code, and Scandinavian civil law. They also identify two legal systems for each country, i.e., common law and civil law.[11] We use these variables to examine the relationship between underpricing and litigation risk by legal origin or legal system. La Porta et al. argue that investors are better protected in common law countries than in countries that fall within the civil law family. Countries that follow the English common law system generally have the strongest, while French civil law countries provide the weakest investor protection. German and Scandinavian civil law countries tend to be located in the middle. We argue that better investor protection in common law countries results in higher litigation risk against issuers. Thus, we expect to observe higher underpricing in English common law countries and lower underpricing in French, German and Scandinavian civil law countries.

La Porta et al. (2003) calculate a burden of proof proxy as the arithmetic mean of the burden director index, the burden distributor index, and the burden accountant index, with higher ratings for less procedural difficulty in recovering losses. Specifically, the

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[11] Note that countries with French commercial code, German commercial code, and Scandinavian civil law are subcategories of the civil law system, while the common law system includes only English common law countries.

burden director/distributor index assesses "the procedural difficulty in recovering losses from the issuer's directors/distributor in a civil liability case for losses due to misleading statements in the prospectus"; and the burden accountant index assesses "the procedural difficulty in recovering losses from the accountant in a civil liability case for losses due to misleading statements in the audited financial information accompanying the prospectus". As a securities law variable, the burden of proof proxy provides a meaningful measurement of legal liability across countries. We expect to find a positive relationship between underpricing and the burden of proof.

We also use La Porta et al.'s (2003) class action dummy variable in our study. The variable identifies the availability of class action lawsuits in a prospectus liability case in a given country.[12] Under the lawsuit avoidance hypothesis, we expect the availability of class action lawsuits to be positively related to IPO underpricing. Relative to litigation brought by individual investors, class actions generally represent all investors who lost money as a result of the firm's alleged security law violations. By representing all investors at the same time (some of whom may not otherwise have filed a lawsuit) class actions tend to result in substantially larger damage claims against the issuer and/or the underwriter and auditor. In addition, as argued by Alexander (1993), class actions may result in a considerable loss of reputation capital and may make it harder (and costlier) for an issuer to raise capital through secondary equity offerings, thus increasing the firm's cost of capital. This is consistent with Van der Goot (2003) who argues that legal risk is

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[12] We thank La Porta et al. for making the burden of proof and class action lawsuit data available on Andrei Shleifer's web site (http://post.economics.harvard.edu/faculty/shleifer/papers/securities_data.xls).

one of the reasons that higher quality underwriters are less likely to take riskier companies public in the Netherlands.

The fourth proxy is the number of law providers per 10,000 citizens in a given country.[13] We assume that the greater the number of law providers in a country, the higher the litigation risk issuers or underwriters are exposed to in that country. We argue that on one hand, a higher concentration of law providers provides investors with more legal resources to pursue security law violators, and that on the other hand the increased competition among law providers increases the likelihood that they will even take on cases that have little or no merit. Thus, IPOs in countries with more law providers should be more underpriced.

The rule of law, our fifty proxy, is a measurement of the law and order tradition in a given country. According to the International Country Risk (ICR) guide, the rule of law "reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes". La Porta et al. (1998) rescale the ICR index from a range of 0-6 to a range of 0-10 with a higher number representing a higher law and order tradition. Lombardo and Pagano (2000) argue that better legal institutions reduce the cost of monitoring and enforcing financial contracts and thus lower the level of expected return that issuers offer investors. Hence, we expect the rule of law to be negatively related to IPO underpricing across countries. Table 2 provides a list of all litigation risk and law enforcement proxies by country.

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[13] We thank Ray August for making the data available on his web site (http://august1.com/pubs/articles/lawyers.htm).

3.2.3. Control variables

To control for underwriter prestige, we employ two approaches, a binary underwriter reputation dummy and a scaled underwriter ranking. We only consider lead underwriters in both approaches. Under the first approach, we define a high-quality underwriter as one that underwrites both domestic and international IPOs while low-quality underwriters only underwrite domestic IPOs. Under the second approach, we construct an international underwriter ranking based on the SDC's top 500 book runners during our sample period. The extant literature has not provided the underwriter reputation ranking in an international setting. While Carter and Manaster (1990) and Carter et al. (1998) assign reputation rankings to US underwriters, the extant IPO literature provides no underwriter ranking in an international setting. We extend Carter and Manaster's (1990) and Carter et al.'s (1998) approach to an international framework by assigning underwriter ranks on a scale from 0 to 9, with higher scores for higher reputations. Our ranking is based on the US$ proceeds of the IPOs each underwriter underwrote during our sample period (see Appendix 1 for more details).

We follow the industry classification of Loughran and Ritter (2004) and Cliff and Denis (2004) to identify whether or not the firm is in the technology industry.[14] We use the resulting tech dummy variable to control for industry effects in our regression models.

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[14] Loughran and Ritter (2004) and Cliff and Denis (2004) classify firms with the following SIC codes as technology firms: 2833, 2834, 2835, 2836, 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3674, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7370, 7371, 7372, 7373, 7374, 7375, 7377, 7378, 7379.

In addition, we introduce IPO volume as a proxy for hot IPO markets. We define IPO volume as the number of IPOs in the month of issue and during the eleven prior months. IPO volume controls for variations in levels of IPO underpricing during hot and cold issue markets and for the issuers' tendency to take their firms public during favorable climates in the IPO market (cf., Cliff and Denis (2004)).

We also control for firm size, which is measured by the natural logarithm of the IPO proceeds. Consistent with Baron (1982), Beatty and Ritter (1986) and Rock (1986), we expect that larger firms are less risky and are thus less underpriced.

In addition, we control for the level of economic development across countries, which we define as the natural logarithm of the Gross Domestic Product per capita in US dollars in 2000 for each country. Although GDP per capita may not be directly related to underpricing, it is often associated with capital deepening. La Porta et al. (2003) suggest that richer countries tend to have higher quality institutions which may be associated with better financial development regardless of the laws.

4. Univariate tests

In this section, we conduct univariate tests to compare IPO underpricing by legal origin and by firm characteristics. The univariate tests only present descriptive statistics and provide a preliminary analysis while our inferences are primarily drawn from the regression models in the next section.

4.1. Univariate comparison of underpricing by legal origin

Table 3 presents univariate test statistics by comparing arithmetic mean underpricing and median underpricing by two law systems, i.e. common vs. civil law, and across four legal origins. We observe that firms in common law countries underprice their IPOs significantly more than firms in civil law countries both in terms of 15-day and 30-day arithmetic mean and median returns.

Firms in English common law countries have an average 15-day return of 40.72%, compared to 33.88% in French civil law countries, 37.01% in German civil law countries, and 7.96% in Scandinavian civil law countries. The differences in mean underpricing between English and French origin and English and Scandinavian origin countries are also significant, while it is insignificant between English and German origin countries. The latter do show significant differences in terms of median underpricing, however.

*** Insert Table 3 about here ***

Common law countries make issuers susceptible to a higher level of litigation risk than civil law countries. Thus, the relative underpricing levels are as expected. Under the lawsuit avoidance hypothesis, the high underpricing we observe in English origin countries is consistent with these countries imposing a higher litigation risk on issuers due to better investor protection. Hence, our results suggest that firms in common law countries with higher litigation risk underprice their IPOs more than their counterparts in civil law countries to reduce their legal liability.

4.2. Univariate comparison of underpricing by firm characteristics

Table 4 compares arithmetic mean and median underpricing by firm characteristics. Specifically, we distinguish between tech and non-tech firms as well as firms underwritten by prestigious and non-prestigious underwriters. We define a prestigious underwriter as an underwriter who underwrites both domestic and international IPOs whereas a non-prestigious underwriter only underwrites domestic IPOs. We argue that underwriters with international exposure have more experience and a better reputation than underwriters who are only domestically active. Consistent with Beatty and Welch (1996) and Cliff and Denis (2004), we expect prestigious underwriters to take higher quality firms public, thus we expect the presence of prestigious underwriters to be positively related to IPO underpricing.

*** Insert Table 4 about here ***

The value of technology firms mainly comes from growth opportunities, which results in more ex-ante uncertainty and higher risk. These uncertainties should lead to a higher level of underpricing. Tech firms have a 15-day (30-day) arithmetic mean underpricing of 48.53% (55.30%) compared to 32.56% (34.03%) for non-tech firms. The differences are significant at the 0.1% level.

Beatty and Welch (1996) find underwriter prestige to be positively related to IPO underpricing. Although we observe that both the 15-day and 30-day arithmetic mean underpricing for prestigious underwriters is slightly higher than for non-prestigious

underwriters (38.69% vs. 38.54% and 43.52% vs. 41.06%, respectively), both differences are statistically insignificant. Our univariate statistics for underwriter reputation provide weak support for Beatty and Welch's argument. We will analyze the effect of underwriter reputation on IPO underpricing in more detail in our regression analysis.

5. Firm level analysis

In this section, we develop our models and conduct ordinary least squares (OLS) regressions to examine the link between underpricing and litigation risk across 34 countries. To ensure the robustness of our results we use a large number of regressions in various model specifications. In addition, we perform a sensitivity analysis to ensure that our results are robust to the exclusion of penny stocks from our sample.

5.1. Model development

To test the insurance effect of the lawsuit avoidance hypothesis in a cross-country framework, we employ several multivariate regression models. The relationship between IPO underpricing and litigation risk is expressed by the following equation:

$$Underpricing_{ij} = \alpha + \sum_{m=1}^{M} \beta_m F_{mij} + \sum_{n=1}^{N} \gamma_n C_{nij} + \varepsilon_{ij} \tag{1}$$

where $Underpricing_{ij}$ is the percentage underpricing return of firm i which went public in country j. F_{mij} are firm-specific control variables including the IPO volume during the current and the prior eleven months, a tech dummy, the natural log of offering

proceeds, and the underwriter ranking or an underwriter reputation dummy.[15] C_{nij} are countrywide litigation risk proxies and law variables such as the burden of proof, the class action lawsuit dummy, legal origin dummies, the number of law providers, and the rule of law as well as a countrywide control variable, namely the logged GDP per capita.

To investigate the correlation among our litigation risk proxies, we present correlation coefficients between these variables for firm level data by assigning the appropriate country variables to each IPO in Panel A of Table 5. In addition, we report the correlation coefficients for country-level data in Panel B of Table 5. The correlation between the English origin and the burden of proof, and the English origin and the class action dummy on a firm level are 0.688 and 0.649, respectively. Although not presented here, we performed robustness tests with models that exclude either of these variables but observed no apparent multicollinearity problem despite the high correlation among the variables. Thus, we include all three variables in our models. Furthermore, the burden of proof and class action dummy have a relatively high correlation coefficient of 0.557. Since our models were somewhat sensitive to the inclusion of both variables and because both proxies appropriately measure litigation risk in different countries, we divide them in our models to examine the relationship between each of these variables and IPO underpricing separately.

*** Insert Table 5 about here ***

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[15] For robustness, we present models with either underwriter ranking or the underwriter reputation dummy.

5.2. Regression results

5.2.1. Regression results by four legal origins

Table 6 reports OLS regression results of our full sample by four legal origins. In Panel A we report estimation results for several specifications of our regression model in which we regress 15-day underpricing on measures of litigation risk and law enforcement as well as various control variables. Similarly, in Panel B we report regression results for 30-day underpricing. Because data for the number of law providers are unavailable for Pakistan and Thailand, we present regression results including the proxy in models 1 to 4 while excluding the proxy in models 5 to 8. Models 1 to 4 are based on a subsample of 32 countries (Pakistan and Thailand excluded), while models 5 to 8 are based on our full sample.

*** Insert Table 6 about here ***

In all regression models using firm level data, we control for known determinants of underpricing by introducing a hot IPO market proxy, a tech dummy, a size variable, and an underwriter prestige measurement. We use either the underwriter ranking proxy or an underwriter reputation dummy to control for underwriter prestige. The inclusion of either underwriter prestige variable leads to similar results. Most of our findings for the control variables in Table 6 are consistent with the IPO literature.

According to Baron (1982), Beatty and Ritter (1986), and Rock (1986), underpricing is associated with asymmetric information between all parties in the IPO market.

Investors tend to have access to more information on large firms, which results in a lower level of information asymmetry between informed and uninformed investors as well as between investors and underwriters. Due to the lower level of ex-ante uncertainty, large firms tend to be less underpriced. We find a significant negative relationship between underpricing and firm size in all our model specifications in Table 6, which is consistent with the asymmetric-information hypothesis.

Consistent with our univariate results, the tech dummy has a positive coefficient in all our OLS models in Table 6. The results are highly significant with p-values of less than 0.001. Our findings confirm that the higher degree of uncertainty for tech firms causes them to be more underpriced.

Carter and Manaster (1990) and Carter et al. (1998) posit that underpricing is negatively related to underwriter prestige because prestigious underwriters are more likely to underwrite high quality issues with a lower level of uncertainty. On the other hand, Beatty and Welch (1996) observe that the relationship between underwriter prestige and underpricing switches from negative to positive during the 1990s. Moreover, Cliff and Denis (2004) find a positive association between underpricing and analyst coverage by prestigious underwriters. Our findings are consistent with Beatty and Welch (1996), and Cliff and Denis (2004) as each of our two underwriter prestige measurements, either the underwriter ranking or the underwriter reputation dummy, shows a significant positive coefficient in all our models.

Consistent with Cliff and Denis (2004), IPO volume has a negative coefficient in our models. The results are statistically significant while including the number of law

providers, but they become insignificant and close to zero after excluding the proxy. Our results indicate that high IPO frequency is not necessarily associated with a high level of underpricing in our cross-country sample.

To control for the degree of economic development, we introduce the natural logarithm of GDP per capita in our model. We find a significant negative relationship between economic development and underpricing in models 1 to 6 of both Panel A and B in Table 6. The relationship becomes insignificant in models 7 and 8 when the number of law providers is excluded and the class action lawsuit dummy is added.

Our inferences on the insurance effect of the lawsuit avoidance hypothesis across countries are mainly based on the OLS regression results for the litigation risk and law enforcement variables after controlling for several factors. Our findings provide support for the insurance effect of the lawsuit avoidance hypothesis in a cross-country setting. They consistently suggest that countries with higher litigation risk are associated with higher level of underpricing.

We find that both 15-day and 30-day underpricing are positively related to the burden of proof, which serves as a measure of litigation risk. The results for all models in Table 6 are significant at the 0.1% significance level. On the other hand, we observe a significant negative relationship between IPO underpricing and the French, German and Scandinavian origin dummies which is consistent with the notion that countries with these law systems provide investors with less investor protection than English common law countries.

We observe a significant positive relationship between underpricing and the availability of class action lawsuits. Given that class action lawsuits impose potentially ruinous litigation costs on a defendant firm and may result in a substantial loss of reputation capital for both the issuer and the underwriter, the higher underpricing in countries with class action lawsuits is again consistent with the insurance effect.

Finally, we observe a significant positive relationship between underpricing and the number of law providers after we control for known determinants of IPO underpricing. The more legal resources there are in a country, the better the legal representation of its citizens. As expected under the lawsuit avoidance hypothesis, the better legal representation of a country's citizens leads to higher litigation risk for issuing firms and thus to higher underpricing.

The rule of law proxy has a negative coefficient in all model specifications in Table 6, and is significant at conventional levels in models 3 to 8 but statistically insignificant in models 1 and 2 for both 15-day and 30-day underpricing. Our results suggest that firms in countries with better law enforcement underprice their IPOs less. This is consistent with Lombardo and Pagano (2000) who argue that effective legal institutions reduce the costs of enforcing financial contracts and thus reduce the expected return that firms offer investors. Another explanation for the negative relationship may be that IPO-related securities law violations such as misstatements or omissions of material information from an IPO prospectus rarely result in jail time for the defendants. Thus, firms and their officers are ultimately more afraid of the legal costs, including lawyer fees, fines and potential settlement costs that a lawsuit imposes on them.

5.2.2. Regression results by two law systems

In Table 7, we present OLS regression results of our full sample by two law systems. All model specifications are the same as in Table 6 except that we use a dummy variable to distinguish between the two legal regimes (common law vs. civil law) rather than the four legal origins.

*** Insert Table 7 about here ***

The results in Table 7 are consistent with those in Table 6. Inferences on the control variables are identical no matter whether four legal origins or two law systems are used. However, there are some small exceptions. The rule of law variable is significantly negative in all model specifications in Table 7, while it was insignificant in the first two models in Table 6. On the other hand, the class action dummy becomes insignificant in models 3 and 4 of Table 7, while it was significant in all models in Table 6. Otherwise, the significance and economic magnitude of our results are little affected when replacing the legal origin dummies with the legal regime dummy.

5.3. Robustness checks

To ensure the robustness of our results to variations in our sample selection, we form a subsample of our original data set in which we exclude penny stocks, i.e. stocks with converted offer prices below US$1. We then reperform our earlier analysis. We present

regression results in which we use the four legal origins in Table 8 and the two law systems in Table 9. All models in Table 8 correspond to those in Table 6 while all models in Table 9 correspond to those in Table 7.

5.3.1. Robustness check of results by four legal origins

In Table 8, the tech dummy, the underwriter ranking and the underwriter reputation dummy are significantly positively related to 15-day and 30-day underpricing at the 0.1% significance level. These results are consistent with the full sample tests in Table 6. Also consistent with our earlier results, we observe that firm size and the economic development proxy are negatively related to 15-day and 30-day underpricing. Firm size is insignificant in some models, however, once penny stocks are excluded. Similarly, the logged GDP per capita is insignificant in some models when the number of law providers is added. Finally, some coefficients for the IPO volume proxy become insignificant once we exclude penny stocks from our sample.

*** Insert Table 8 about here ***

Consistent with our results for the full sample, common law countries have a higher level of underpricing than countries in the civil law family. In addition, the number of law providers remains positively related to underpricing. Although the coefficient of the burden of proof variable remains positive, it becomes insignificant in some models in Table 8. The rule of law shows a significant negative coefficient in all models versus

some insignificant results in Table 6. Inconsistent with the results for our full sample, the class action lawsuit dummy has a negative coefficient even though most results are insignificant. It is not surprising that we observe a negative relationship between the class action dummy and underpricing for our sample without penny stocks. IPO markets in countries where class action lawsuits are available such as Australia, Canada, Malaysia, and Taiwan, consist to a large extend of penny stocks. Dropping penny stocks from our full sample reduces the level of underpricing in the countries where class action lawsuits are available, thus affecting the link between underpricing and the class action dummy.

5.3.2. Robustness check of results by two law systems

For most control variables, the results based on our sample excluding penny stocks are quantitatively and qualitatively similar to our full sample. Results for the common law dummy, the number of law providers, and the rule of law are also similar. However, results for the burden of proof and the class action dummy in Table 9 are inconsistent with those in Table 7. Although the burden of proof proxy is positively related to 15-day and 30-day underpricing, it is insignificant in all models using 15-day underpricing and only significant in two models using 30-day underpricing. As in Table 8, the class action dummy is negatively related to 15-day and 30-day underpricing, although some models are insignificant in Table 9. Again, the exclusion of penny stocks may affect the relationship between the burden of proof variable and underpricing, and between the class action lawsuit dummy and underpricing.

6. Country level analysis

To further examine the association between country differences in litigation risk and differences in underpricing across countries, we perform OLS regressions of country level data using equally-weighted mean, value-weighted mean, and median underpricing to control for country effects in our model specifications.

6.1. Model development

In a country level setting, the interrelation between IPO underpricing and litigation risk is specified as follows:

$$Underpricing_j = \alpha + \sum_{n=1}^{N} \beta_j C_j + \varepsilon_j \qquad (2)$$

where Underpricing$_j$ is the equally-weighted mean, the value-weighted mean, or the median underpricing in country j and C_j are countrywide litigation risk proxies and law variables such as the legal origin, the burden of proof, the class action lawsuit dummy, the number of law providers, and the rule of law as well as the logged GDP per capita as a countrywide control variable.

As in our earlier discussion for the firm level analysis, we introduce the burden of proof variable and the class action lawsuit dummy in separate models because of the high correlation between them. Panel B of Table 5 reports the correlation between litigation

32

risk and law variables for country level data. Similar to firm level data, the correlation coefficient between the burden of proof and the class action dummy is 0.518 with a p-value of 0.002.

Table 10 presents results for several specifications of an OLS regression of our country level sample across the two law systems. We use two law systems rather than four legal origins for our country level regressions because our countrywide sample size is comparatively small. We control for the level of economic development as measured by the natural logarithm of GDP per capita for each country. Due to missing data for the number of law providers in two countries, we add the proxy in models 1 and 2 and exclude it in models 3 and 4 for both 15-day and 30-day underpricing in all panels of Table 10. Our sample comprises 194 country-year observations for equally-weighted mean, value-weighted mean, and median underpricing when the number of law providers is included and consists of 201 country-year observations for equally-weighted mean, value-weighted mean, and median underpricing when the number of law providers is excluded, i.e. when Pakistan and Thailand are added to the sample.

*** Insert Table 10 about here ***

6.2. Regression results for equally-weighted mean underpricing

Panel A of Table 10 provides results for OLS regressions in which 15-day or 30-day equally-weighted mean underpricing is the dependent variable. Consistent with the lawsuit avoidance hypothesis, the burden of proof proxy is significantly positively related

to 15-day or 30-day equally-weighted mean underpricing. Similar to our findings from firm level regressions, the relationship between the rule of law and 15-day or 30-day equally-weighted mean underpricing is significantly negative. Consistent with Lombardo and Pagano (2000), these results suggest that a higher quality of law enforcement lowers the level of underpricing that issuers offer investors. Although common law countries have a higher level of underpricing than civil law countries, the difference is only significant in one model specification. The number of law providers has a positive coefficient for both 15-day and 30-day equally-weighted mean underpricing and is significant at the 10% level when the burden of proof variable is introduced into the model. It becomes insignificant, however, when the burden of proof variable is replaced by the class action dummy. The class action lawsuit dummy has a positive but insignificant coefficient for both 15-day and 30-day equally-weighted mean underpricing. Surprisingly, the logged GDP per capita has a significant positive coefficient in all specifications except in model 1, which contradicts the results for the firm level sample. This is likely caused by the fact that in a country level setting we cannot capture the differing firm specific characteristics.

6.3. Regression results for value-weighted mean underpricing

In Panel B of Table 10, we perform country level regressions using 15-day and 30-day value-weighted mean underpricing. All models in Panel B have a negative adjusted R-square, suggesting that our regression models based on value-weighted mean

underpricing are not well specified and explain little in the variation of underpricing returns across countries.

The litigation risk and law variables have the expected sign in all our models, i.e. the burden of proof variable, the class action dummy, the number of law providers, and the common law dummy have positive coefficients for either 15-day or 30-day value-weighted mean underpricing. None of them is statistically significant at conventional levels, however. The law enforcement proxy, i.e. the rule of law variable, has a negative coefficient for either of the return measures, but is again statistically insignificant.

6.4. Regression results for median underpricing

Panel C of Table 10 presents results for OLS regressions using 15-day or 30-day median underpricing. The rule of law variable shows a negative coefficient which is significant in most model specifications. The burden of proof variable has a positive coefficient but is only significant in one model specification. Although the class action dummy and the number of law providers have a positive sign as expected, none of them is significant at conventional levels. The common law dummy even has a negative sign in some specifications. Again, it appears that country-level regressions provide limited insight into the lawsuit avoidance hypothesis, suggesting that an approach that controls for firm-specific characteristics is indeed necessary to derive any meaningful conclusions.

7. Conclusions

To test the insurance effect of the lawsuit avoidance hypothesis, we examine the link between litigation risk and underpricing using a sample of 6,326 IPOs across 34 countries between January 1995 to December 2002.

Our study is the first to test the lawsuit avoidance hypothesis in a cross-country framework. We perform a series of OLS regressions of underpricing on various country-level litigation risk and law enforcement measures while controlling for known determinants of IPO underpricing. Consistent with Tiniç (1988) and Lowry and Shu (2002), we find evidence in support of the insurance effect of the lawsuit avoidance hypothesis. Our results show a significant positive relationship between underpricing and all litigation risk proxies. At the same time, we find a significant negative relationship between underpricing and a law enforcement proxy, which suggests that better enforcement of the securities laws reduces the level of underpricing.

The findings for our control variables are in line with the existing literature. Consistent with the asymmetric-information hypothesis, underpricing is significantly positively related to a tech dummy and negatively related to firm size. In addition, we find a significant positive relationship between underpricing and underwriter prestige, which is consistent with Beatty and Welch (1996) and Cliff and Denis (2004). At the same time, consistent with Cliff and Denis (2004), we observe that high IPO volume results in lower levels of IPO underpricing in our cross-country sample.

To test the sensitivity of our results to changes in our sample selection, we construct an IPO sample that excludes penny stocks. Overall, the exclusion of penny stocks has little effect on the positive link between litigation risk and IPO underpricing.

As a further robustness test, we conduct country-year regressions of the equally-weighted mean, value-weighted mean, and median underpricing against the country-specific variables in our data set. The results for the country level regressions based on equally-weighted mean underpricing are consistent with the results for our firm level regressions. Regressions using value-weighted mean or median underpricing are largely inconclusive, however. We argue that the country level regressions provide little insight into the link between litigation risk and underpricing because unique firm characteristics are not captured in these models.

Our main inferences are drawn from our OLS regressions using firm level data. Our results support the insurance effect of the lawsuit avoidance hypothesis in an international setting. Our results suggest that firms in countries subject to higher litigation risk underprice their IPOs more to avoid future legal liability claims. We postulate that cross-country differences in underpricing can partially be explained by differences in country litigation risk factors. Thus, our study confirms the notion that the degree of litigation risk in a given country affects the level of underpricing for firms that go public in that country.

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Appendix 1: Variable description

Variable	Sources	Description
Litigation risk variables		
Legal origin	Reynolds and Flores (1989), La Porta et al. (1998)	Four legal origins for each country: English common law, French commercial code, German commercial code, and Scandinavian civil law. Two legal systems for each country: common law and civil law.
Number of law providers	August (1992), http://august1.com/pubs/articles/lawyers.htm	Number of law providers per 10,000 citizens in 1987 in a given country.
Class action dummy	La Porta et al. (2003), http://post.economics.harvard.edu/faculty/shleifer/papers/securities_data.xls	Dummy variable, = 1 if class action lawsuits are available in a prospectus liability case in a given country, and = 0 otherwise.
Burden of proof	La Porta et al. (2003), http://post.economics.harvard.edu/faculty/shleifer/papers/securities_data.xls	The arithmetic mean of the burden director index, burden distributor index, and burden accountant index (see La Porta et al. (2003)), with higher ratings for less procedural difficulty in recovering losses. The burden director/distributor index proxies for "the procedural difficulty in recovering losses from the issuer's directors/the distributor in a civil liability case" caused by misleading statements in the prospectus. The burden accountant index measures "the procedural difficulty in recovering losses from the accountant in a civil liability case for losses due to misleading statements in the audited financial information accompanying the prospectus".
Law enforcement variables		
Rule of law	International Country Risk Guide, La Porta et al. (1998)	Measurement of the law and order tradition in a given country. Scale from 0 to 10, with higher ratings for a higher law and order tradition. The measure "reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and adjudicate disputes" (see La Porta et al. (1998)).

Appendix 1: Variable description (continued)

Variable	Sources	Description
Control variables		
IPO volume	SDC	The number of IPOs in the month of issue and during the prior 11 months.
Tech dummy	SDC	Dummy variable, = 1 if the firm is in the technology industry, and = 0 otherwise. We follow Loughran and Ritter (2004) and Cliff and Denis (2004)who classify firms with the following SIC codes as tech firms: 2833, 2834, 2835, 2836, 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3674, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7370, 7371, 7372, 7373, 7374, 7375, 7377, 7378, 7379.
Log proceeds	SDC	Natural logarithm of IPO proceeds, converted to US dollars.
Underwriter ranking	SDC	Underwriter ranking based on the SDC's top 500 book runners during our sample period. We assign underwriter ranks on a scale from 0 to 9 based on the US\$ proceeds of the IPOs they underwrote during our sample period: = 9 if proceeds $\geq$ \$20 billion; = 8 if proceeds $\geq$ \$10 billion; = 7 if proceeds $\geq$ \$5 billion; = 6 if proceeds $\geq$ \$2 billion; = 5 if proceeds $\geq$ \$1 billion; = 4 if proceeds $\geq$ \$0.5 billion; = 3 if proceeds $\geq$ \$0.2 billion; = 2 if proceeds $\geq$ \$0.1 billion; = 1 if proceeds < \$0.1 billion; = 0 if the lead underwriter is not in the SDC's top 500 ranking.
Underwriter reputation dummy	SDC	Dummy variable, = 1 if the lead underwriter underwrites both domestic and international IPOs, = 0 if the lead underwriter only underwrites domestic IPOs.
Log GDP per capita	World Development Indicators, La Porta et al. (2003)	Natural logarithm of the Gross Domestic Product per capita in US dollars in 2000 for each country.

Appendix 1: Variable description (continued)

Variable	Sources	Description
Outcome variables		
15-day underpricing	SDC, Datastream, Bloomberg, Financial Post	IPO return from the offer price to the closing price on the fifteenth calendar day after the IPO. Offer price data are from SDC. US IPO return data are also from SDC while returns for non-US IPOs are calculated using closing price data from Datastream. We cross-referenced our data set with Bloomberg and the Financial Post's Record of New Issues. In case of missing or erroneous entries, we use data from Bloomberg and the Financial Post (see Appendix 2).
30-day underpricing	SDC, Datastream, Bloomberg, Financial Post	IPO return from the offer price to the closing price on the thirtieth calendar day after the IPO. Offer price data are from SDC. US IPO return data are also from SDC while returns for non-US IPOs are calculated using closing price data from Datastream. We cross-referenced our data set with Bloomberg and the Financial Post's Record of New issues. In case of missing or erroneous entries, we use data from Bloomberg and the Financial Post (see Appendix 2).

Appendix 2: Data corrections

Affected variable	Affected countries	Main problem	Resolution
IPO issue date	Argentina, Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Hong Kong, Indonesia, Italy, Japan, Malaysia, the Netherlands, New Zealand, Norway, Philippines, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, and the UK	SDC provides announcement dates or subscription dates as issue dates for some IPOs. Canada, Hong Kong, Italy, Japan, Malaysia, Singapore, South Korea, Taiwan, and the UK are heavily affected by the error (with an error rate of more than 50%).	We used Bloomberg to check and correct the erroneous issue dates. In addition, we used the Record of New Issues by the Financial Post to check the issue dates of Canadian IPOs.
Closing price	India	Datastream's price data for Indian IPOs is too limited. Out of 1,771 Indian IPOs listed on SDC, only 155 issuers are in Datastream's firm list. Among these, there are only 46 IPOs with 15-day or 30-day closing price data.	Exclude all Indian IPOs.
Offer price	Australia, Belgium, Canada, Greece, Indonesia, Philippines, South Korea, and the UK	Offer prices for some IPOs listed on SDC are incorrect or missing. Korean IPOs are most affected.	We used Bloomberg to revise inaccurate offer prices and fill in missing offer prices. In addition, we used the Record of New Issues by the Financial Post to check the offer prices of Canadian IPOs.

Table 1. Sample distribution across years, countries, and industries

Our sample consists of 6,326 firms from 34 countries that went public between January 1995 and December 2002. For each IPO, we calculate 15-day and 30-day underpricing, which are defined as the percentage return from the offer price to the closing price on the fifteenth and thirtieth calendar day after the IPO, respectively. All offer price data are from the Securities Data Company (SDC) database. US IPO return data are also from SDC while returns for non-US IPOs are calculated using closing price data from Datastream. Financial firms, spinoffs, private placements, and non-domestic IPOs are excluded. Only firms with SDC share types equivalent to Class A Shares, Common Shares, Ordinary shares, Ordinary/Common Shares, Par Value Common Stock, Non Value Common Stock, Registered Par Value Common Stock, or Registered Non Value Common Stock are included. In addition, firms must have either 15-day or 30-day closing prices available. In Panel A, we list the number of IPOs and calculate the equally-weighted mean, the value-weighted mean, and median underpricing by year. In Panel B, we provide the same information by country. Panel C provides a breakdown by industry following the classification by Lowry and Shu (2002).

Panel A: Sample distribution across years

Year	No. of IPOs (15-day)	15-day underpricing (%)			No. of IPOs (30-day)	30-day underpricing (%)		
		Equally-weighted mean	Value-weighted mean	Median		Equally-weighted mean	Value-weighted mean	Median
1995	739	27.73	22.59	15.00	750	30.70	25.10	17.00
1996	994	37.40	32.93	13.75	1020	39.09	40.47	14.66
1997	792	28.91	10.40	10.00	816	27.52	11.12	8.68
1998	576	28.03	16.30	12.86	586	30.40	17.35	15.00
1999	894	72.22	61.79	27.29	898	86.90	73.22	32.68
2000	1,157	39.61	29.99	9.57	1,161	42.75	30.57	10.42
2001	535	31.60	7.44	8.57	539	33.52	7.89	9.37
2002	496	29.54	14.43	6.63	497	29.67	13.53	5.54
Total Sample	6,183	38.60	30.33	12.50	6,267	42.07	34.36	13.64

Table 1. Sample distribution across years, countries, and industries (continued)

Panel B: Sample distribution across countries

Country	No. of IPOs (15-day)	15-day underpricing (%)			No. of IPOs (30-day)	30-day underpricing (%)		
		Equally-weighted mean	Value-weighted mean	Median		Equally-weighted mean	Value-weighted mean	Median
Argentina	1	16.71	16.71	16.71	1	14.35	14.35	14.35
Australia	289	17.33	-6.62	0.00	289	16.82	-1.58	0.00
Austria	12	25.61	40.34	3.08	12	18.87	32.95	2.44
Belgium	26	14.81	11.34	7.40	26	21.14	15.10	7.59
Canada	297	98.50	25.56	31.35	300	105.92	38.24	35.00
Denmark	15	7.54	6.56	4.68	15	5.97	4.05	1.70
Egypt	1	5.33	5.33	5.33	1	5.77	5.77	5.77
Finland	29	14.09	16.81	0.00	29	16.71	17.76	0.00
France	306	18.70	9.38	7.81	306	23.46	9.99	8.41
Germany	281	45.84	39.86	15.38	281	48.73	40.16	13.24
Greece	82	102.08	64.79	32.18	86	105.56	63.55	45.92
Hong Kong	225	16.23	15.11	6.00	225	15.69	11.45	5.26
Indonesia	53	68.57	18.37	24.00	54	65.05	18.13	18.72
Italy	86	20.39	21.54	0.34	86	24.06	21.20	-0.19
Japan	904	26.11	22.11	5.87	904	25.55	20.04	5.00
Malaysia	193	93.44	45.27	64.38	193	90.72	42.89	61.25
Mexico	5	0.11	1.23	1.13	5	1.68	10.74	-1.61
Netherlands	20	25.78	11.87	7.58	20	17.39	6.78	7.53
New Zealand	5	29.93	14.06	12.00	5	23.68	7.97	10.00
Norway	21	1.67	-4.14	0.00	21	-1.33	-7.50	-4.69
Pakistan	10	55.35	27.47	11.63	11	45.78	19.72	0.00
Philippines	19	14.55	18.53	12.00	19	24.75	15.13	18.96
Portugal	4	17.94	17.21	17.77	4	12.72	8.41	8.78
Singapore	173	18.85	34.88	8.70	173	20.07	41.57	6.90

Table 1. Sample distribution across years, countries, and industries (continued)

Panel B: Sample distribution across countries (continued)

Country	No. of IPOs (15-day)	15-day underpricing (%)			No. of IPOs (30-day)	30-day underpricing (%)		
		Equally-weighted mean	Value-weighted mean	Median		Equally-weighted mean	Value-weighted mean	Median
South Korea	126	121.14	67.60	49.08	128	132.88	95.04	47.25
Spain	16	25.88	24.82	11.36	16	33.38	32.12	15.67
Sri Lanka	5	9.26	6.66	20.00	5	2.62	-4.66	0.00
Sweden	29	6.62	9.21	0.86	29	6.33	6.43	2.94
Switzerland	24	12.96	5.94	5.21	24	13.93	7.18	5.64
Taiwan	202	24.54	36.02	16.53	207	27.44	34.23	12.34
Thailand	38	1.21	8.10	-6.55	38	1.67	8.19	0.91
Turkey	6	1.81	-11.75	-0.64	9	8.93	-7.23	2.56
United Kingdom	341	38.84	16.07	12.28	341	42.44	18.16	11.34
United States	2,339	36.84	38.09	16.67	2,404	42.71	43.68	20.15
Total sample	6,183	38.60	30.33	12.50	6,267	42.07	34.36	13.64

Table 1. Sample distribution across years, countries, and industries (continued)

Panel C: Sample distribution across industries

Industry	SIC codes	No. of IPOs (15-day)	15-day underpricing (%)			No. of IPOs (30-day)	30-day underpricing (%)		
			Equally-weighted mean	Value-weighted mean	Median		Equally-weighted mean	Value-weighted mean	Median
Agriculture and mining	100-1299, 1400-1499	193	48.80	1.83	6.67	193	52.66	2.29	10.00
Apparel	2200-2399, 3100-3199	119	29.52	12.79	8.00	122	29.16	9.74	6.63
Communications, computers, and electronics	3570-3579, 3600-3699, 4800-4899, 7370-7379	2,197	50.10	45.49	20.00	2,216	57.50	53.87	22.92
Construction	1500-1799	122	16.96	6.98	3.99	124	16.49	6.54	3.10
Food	2000-2099	136	18.04	12.28	7.81	135	19.02	13.80	7.14
Health	8000-8099	112	14.35	13.96	7.24	112	18.86	24.78	8.43
Manufacturing	2400-2499, 2600-2699, 2800-2899, 3000-3099, 3200-3569, 3580-3599, 3900-3999	935	30.00	16.74	10.00	955	31.27	19.03	11.61
Oil and gas	1300-1399, 2900-2999, 4600-4699, 4920-4929	142	43.85	8.76	19.33	144	44.45	8.71	16.33
Printing and publishing	2700-2799	88	33.00	15.21	9.94	91	28.83	11.21	8.45

Table 1. Sample distribution across years, countries, and industries (continued)

Panel C: Sample distribution across industries (continued)

Industry	SIC codes	No. of IPOs (15-day)	15-day underpricing (%)			No. of IPOs (30-day)	30-day underpricing (%)		
			Equally-weighted mean	Value-weighted mean	Median		Equally-weighted mean	Value-weighted mean	Median
Recreation	7000-7099, 7800-7999	165	27.39	16.49	8.33	171	28.34	14.34	6.09
Science	3800-3899, 8710-8719, 8730-8739	400	30.25	24.73	8.37	404	34.37	27.38	10.52
Services	6500-6599, 7200-7369, 7380-7399, 7600-7699, 8100-8399, 8720-8729, 8740-8749	487	37.51	39.34	16.67	494	40.96	40.73	16.95
Trade	5000-5999	733	30.04	22.16	10.00	747	29.67	22.59	10.00
Transportation	3700-3799, 4000-4299, 4400-4599, 4700-4799, 7510-7549	245	48.23	3.47	9.38	246	50.85	2.61	7.91
Utilities	4910-4919, 4930-4979	53	24.93	17.80	12.50	58	20.90	13.80	8.58
Other		56	41.00	11.00	8.02	55	37.07	13.28	12.50
Total sample		6,183	38.60	30.33	12.50	6,267	42.07	34.36	13.64

Table 2. Litigation risk across countries

We present four litigation risk proxies, the number of law providers, the class action dummy, the burden of proof index, and the rule of law across 34 countries by four legal origins. Definitions for these variables are given in Appendix 1. Note that we were unable to obtain information on the number of law providers in Pakistan and Thailand.

Country	Number of law providers	Class action dummy	Burden of proof	Rule of law
English origin				
Australia	24.99	1	0.66	10.00
Canada	18.43	1	1.00	10.00
Hong Kong	1.49	0	0.66	8.22
Malaysia	2.74	1	0.66	6.78
New Zealand	35.26	1	0.44	10.00
Pakistan	n/a	1	0.44	3.03
Singapore	6.44	0	0.66	8.57
Sri Lanka	1.61	0	0.44	1.90
Thailand	n/a	0	0.33	6.25
United Kingdom	16.99	1	0.66	8.57
United States	28.45	1	1.00	10.00
French origin				
Argentina	92.42	0	0.22	5.35
Belgium	41.22	0	0.44	10.00
Egypt	49.45	0	0.22	4.17
France	46.34	1	0.22	8.98
Greece	48.23	0	0.44	6.18
Indonesia	12.92	0	0.66	3.98
Italy	91.99	0	0.22	8.33
Mexico	38.06	0	0.11	5.35
Netherlands	40.99	1	1.00	10.00
Philippines	16.74	1	1.00	2.73
Portugal	34.37	1	0.66	8.68
Spain	81.06	1	0.66	7.80
Turkey	7.06	0	0.22	5.18
German origin				
Austria	51.07	0	0.11	10.00
Germany	34.13	0	0.00	9.23
Japan	31.71	0	0.66	8.80
South Korea	52.71	0	0.66	5.35

Table 2. Litigation risk across countries (continued)

Country	Number of law providers	Class action dummy	Burden of proof	Rule of law
Switzerland	28.67	0	0.44	10.00
Taiwan	5.49	1	0.66	8.52
Scandinavian origin				
Denmark	22.76	0	0.78	10.00
Finland	23.42	0	0.66	10.00
Norway	24.83	0	0.44	10.00
Sweden	37.12	0	0.33	10.00

Table 3. Tests of mean and median IPO underpricing by legal origin

This table reports equally-weighted mean and median 15-day and 30-day underpricing by legal origin. 15-day and 30-day underpricing are defined as the percentage return from the offer price to the closing price on the fifteenth and thirtieth calendar day after the IPO, respectively. For each legal origin, we report the number of observations, equally-weighted mean underpricing, and median underpricing. In addition, we report p-values for a t-test for the equality of means and a Wilcoxon test for the equality of medians across groups.

15-day underpricing

Legal origin (subsample 1)	N mean median	Legal origin (subsample 2)	N mean median	Equality tests: means (p-value) medians (p-value)
Common law	3,915 40.72% 15.00%	Civil law	2,268 34.94% 8.57%	0.046 <0.001
English origin	3,915 40.72% 15.00%	French origin	625 33.88% 8.79%	0.081 0.002
English origin	3,915 40.72% 15.00%	German origin	1,549 37.01% 9.09%	0.297 <0.001

30-day underpricing

Legal origin (subsample 1)	N mean median	Legal origin (subsample 2)	N mean median	Equality tests: means (p-value) medians (p-value)
Common law	3,984 44.93% 16.85%	Civil law	2,283 37.09% 8.33%	0.018 <0.001
English origin	3,984 44.93% 16.85%	French origin	633 37.76% 10.00%	0.086 0.005
English origin	3,984 44.93% 16.85%	German origin	1,556 38.58% 8.11%	0.121 <0.001

54

Table 3. Tests of mean and median IPO underpricing by legal origin (continued)

	15-day underpricing						30-day underpricing				
Legal origin (subsample 1)	N Mean Median	Legal origin (subsample 2)	N mean median	Equality tests: means (p-value) medians (p-value)	Legal origin (subsample 1)	N mean median	Legal origin (subsample 2)	N mean median	Equality tests: means (p-value) medians (p-value)
English origin	3,915 40.72% 15.00%	Scandinavian origin	94 7.96% 0.00%	<0.001 <0.001	English origin	3,984 44.93% 16.85%	Scandinavian origin	94 7.77% 0.00%	<0.001 <0.001
French origin	625 33.88% 8.79%	German origin	1,549 37.01% 9.09%	0.507 0.578	French origin	633 37.76% 10.00%	German origin	1,556 38.58% 8.11%	0.872 0.050
French origin	625 33.88% 8.79%	Scandinavian origin	94 7.96% 0.00%	<0.001 0.001	French origin	633 37.76% 10.00%	Scandinavian origin	94 7.77% 0.00%	<0.001 <0.001
German origin	1,549 37.01% 9.09%	Scandinavian origin	94 7.96% 0.00%	<0.001 0.005	German origin	1,556 38.58% 8.11%	Scandinavian origin	94 7.77% 0.00%	<0.001 0.012

Table 4. Univariate tests of mean and median IPO underpricing by firm characteristics

This table reports equally-weighted mean and median 15-day and 30-day underpricing by firm-specific dummy variables. We distinguish between tech and non-tech firms following the classification by Loughran and Ritter (2004) and Cliff and Denis (2004) who categorize firms with the following SIC codes as tech firms: 2833, 2834, 2835, 2836, 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3674, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7370, 7371, 7372, 7373, 7374, 7375, 7377, 7378, 7379. In addition, we distinguish between prestigious and non-prestigious underwriters. We define a prestigious underwriter as an underwriter who underwrites both domestic and international IPOs. Underwriters who only underwrite domestic IPOs are classified as non-prestigious underwriters. 15-day and 30-day underpricing are defined as the percentage return from the offer price to the closing price on the fifteenth and thirtieth calendar day after the IPO, respectively. For each category, we report the number of observations, equally-weighted mean underpricing, and median underpricing. In addition, we report p-values for a t-test for the equality of means and a Wilcoxon test for the equality of medians across groups.

15-day underpricing

Category 1	N mean median	Category 2	N mean median	Equality tests: means (p-value) medians (p-value)
Tech firms	2,339 48.53% 18.15%	Non-tech firms	3,844 32.56% 10.12%	<0.001 <0.001
Prestigious underwriter	2,535 38.69% 12.50%	Non-prestigious underwriter	3,648 38.54% 12.66%	0.954 0.950

30-day underpricing

Category 1	N mean median	Category 2	N mean median	Equality tests: means (p-value) medians (p-value)
Tech firms	2,368 55.30% 21.76%	Non-tech firms	3,899 34.03% 10.42%	<0.001 <0.001
Prestigious underwriter	2,579 43.52% 14.00%	Non-prestigious underwriter	3,688 41.06% 13.33%	0.415 0.176

Table 5. Correlation matrix

This table reports correlation coefficients between all litigation risk variables in our data set. P-values are shown in parentheses. Definitions for variables are given in Appendix 1. In Panel A, we report correlation coefficients for firm level data after we assign the appropriate country variable to each IPO. In Panel B, we report correlation coefficients for country level data.

Panel A: Correlation between litigation risk and law variables (firm level)

	English origin	French origin	German origin	Scandinavian origin	Number of law providers	Burden of proof	Class action dummy	Rule of law
English origin	1.000	-0.444	-0.760	-0.163	-0.441	0.688	0.649	0.403
		(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
French origin		1.000	-0.190	-0.041	0.518	-0.455	-0.059	-0.335
			(<0.001)	(0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
German origin			1.000	-0.070	0.128	-0.424	-0.635	-0.240
				(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Scandinavian origin				1.000	0.004	-0.094	-0.171	0.086
					(0.734)	(<0.001)	(<0.001)	(<0.001)
Number of law providers					1.000	-0.282	-0.163	0.045
						(<0.001)	(<0.001)	(<0.001)
Burden of proof						1.000	0.557	0.415
							(<0.001)	(<0.001)
Class action dummy							1.000	0.448
								(<0.001)
Rule of law								1.000

Table 5. Correlation matrix (continued)

Panel B: Correlation between litigation risk and law variables (country level)

	English origin	French origin	German origin	Scandinavian origin	Number of law providers	Burden of proof	Class action dummy	Rule of law
English origin	1.000	-0.544	-0.320	-0.253	-0.473	0.286	0.361	-0.036
		(0.001)	(0.065)	(0.150)	(0.006)	(0.101)	(0.036)	(0.838)
French origin		1.000	-0.364	-0.287	0.476	-0.164	0.004	-0.329
			(0.034)	(0.100)	(0.006)	(0.353)	(0.984)	(0.057)
German origin			1.000	-0.169	0.024	-0.176	-0.205	0.177
				(0.339)	(0.895)	(0.321)	(0.244)	(0.316)
Scandinavian origin				1.000	-0.093	0.040	-0.287	0.340
					(0.612)	(0.821)	(0.100)	(0.049)
Number of law providers					1.000	-0.376	-0.115	0.053
						(0.034)	(0.531)	(0.773)
Burden of proof						1.000	0.518	0.141
							(0.002)	(0.425)
Class action dummy							1.000	0.121
								(0.496)
Rule of law								1.000

Table 6. Firm level regressions by four legal origins (full sample)

The table reports results for ordinary least squares regressions of our full IPO sample from 1995 to 2002 across 34 countries by four legal origins. The dependent variables are 15-day underpricing and 30-day underpricing. Panel A presents regression results based on 15-day underpricing and Panel B presents regression results based on 30-day underpricing. The independent variables are IPO volume, our tech dummy, log proceeds, logged GDP per capita, our underwriter ranking or underwriter reputation dummy, dummy variables for French origin, German origin and Scandinavian origin, the number of law providers, the burden of proof or a class action dummy, and the rule of law. In models 1 to 4 we exclude IPOs from Pakistan and Thailand because we have no information on the number of law providers in these countries. In Models 5 to 8 we include both countries and drop the number of law providers as a regressor. Definitions for all variables are given in Appendix 1. P-values are shown in parentheses. The sample size and adjusted R^2 for each regression model are reported in the last two rows of Panels A and B.

Panel A: 15-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.2926	4.6273	4.2271	4.5448	2.8128	3.0037	2.6655	2.8562
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0003	-0.0003	-0.0002	-0.0002	-0.0001	-0.0001	0.0000	0.0000
	(0.002)	(0.004)	(0.046)	(0.052)	(0.181)	(0.222)	(0.795)	(0.845)
Tech dummy	0.2372	0.2353	0.2304	0.2275	0.2341	0.2325	0.2260	0.2234
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0922	-0.0991	-0.0948	-0.1025	-0.0790	-0.0833	-0.0817	-0.0869
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log GDP per capita	-0.2578	-0.2811	-0.1964	-0.2139	-0.1009	-0.1136	-0.0254	-0.0334
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.015)	(0.006)	(0.578)	(0.464)
Underwriter ranking	0.0162		0.0190		0.0138		0.0166	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1605		0.1855		0.1241		0.1509
		(<0.001)		(<0.001)		(<0.001)		(<0.001)

Table 6. Firm level regressions by four legal origins (full sample) - continued

Panel A: 15-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
French origin	-0.5663	-0.5943	-0.6643	-0.6934	-0.0693	-0.0792	-0.1789	-0.1909
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.251)	(0.191)	(<0.001)	(<0.001)
German origin	-0.1221	-0.1343	-0.1636	-0.1674	0.0192	0.0149	-0.0152	-0.0141
	(0.015)	(0.007)	(0.001)	(<0.001)	(0.688)	(0.755)	(0.741)	(0.760)
Scandinavian origin	-0.3167	-0.3745	-0.2686	-0.3174	-0.1857	-0.2308	-0.1156	-0.1550
	(0.007)	(0.001)	(0.031)	(0.010)	(0.113)	(0.048)	(0.348)	(0.207)
Number of law providers	0.0126	0.0129	0.0123	0.0127				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				
Burden of proof	0.2937	0.2859			0.3005	0.3023		
	(<0.001)	(0.001)			(<0.001)	(<0.001)		
Class action dummy			0.0939	0.1152			0.1265	0.1447
			(0.062)	(0.022)			(0.009)	(0.003)
Rule of law	-0.0321	-0.0320	-0.0725	-0.0778	-0.0451	-0.0450	-0.0941	-0.0989
	(0.161)	(0.162)	(0.006)	(0.003)	(0.049)	(0.050)	(<0.001)	(<0.001)
No. of observations	6,135	6,135	6,135	6,135	6,183	6,183	6,183	6,183
Adjusted R-square	0.0453	0.0466	0.0439	0.0455	0.0322	0.0327	0.0312	0.0319

Table 6. Firm level regressions by four legal origins (full sample) - continued

Panel B: 30-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.3058	4.6953	4.1527	4.5292	2.6654	2.8941	2.4488	2.6796
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0004	-0.0004	-0.0003	-0.0003	-0.0002	-0.0002	-0.0001	-0.0001
	(<0.001)	(0.001)	(0.010)	(0.011)	(0.059)	(0.078)	(0.402)	(0.438)
Tech dummy	0.2889	0.2863	0.2797	0.2758	0.2855	0.2833	0.2752	0.2718
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0974	-0.1055	-0.1006	-0.1098	-0.0822	-0.0874	-0.0854	-0.0918
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log GDP per capita	-0.2570	-0.2841	-0.1674	-0.1884	-0.0821	-0.0972	0.0169	0.0069
	(<0.001)	(<0.001)	(0.004)	(0.001)	(0.085)	(0.042)	(0.748)	(0.896)
Underwriter ranking	0.0182		0.0216		0.0156		0.0189	
	(<0.001)		(<0.001)		(0.001)		(<0.001)	
Underwriter reputation dummy		0.1837		0.2157		0.1446		0.1775
		(<0.001)		(<0.001)		(<0.001)		(<0.001)
French origin	-0.6031	-0.6354	-0.7273	-0.7607	-0.0423	-0.0538	-0.1769	-0.1901
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.544)	(0.441)	(0.003)	(0.002)
German origin	-0.1599	-0.1744	-0.2036	-0.2082	-0.0013	-0.0069	-0.0388	-0.0377
	(0.006)	(0.003)	(<0.001)	(<0.001)	(0.981)	(0.900)	(0.465)	(0.478)
Scandinavian origin	-0.3774	-0.4429	-0.2960	-0.3515	-0.2297	-0.2813	-0.1323	-0.1773
	(0.006)	(0.001)	(0.039)	(0.014)	(0.090)	(0.037)	(0.353)	(0.212)
Number of law providers	0.0145	0.0149	0.0141	0.0146				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				

Table 6. Firm level regressions by four legal origins (full sample) - continued

Panel B: 30-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Burden of proof	0.3739	0.3637			0.3716	0.3718		
	(<0.001)	(<0.001)			(<0.001)	(<0.001)		
Class action dummy			0.1447	0.1695			0.1699	0.1912
			(0.013)	(0.004)			(0.002)	(0.001)
Rule of law	-0.0314	-0.0311	-0.0897	-0.0957	-0.0461	-0.0459	-0.1103	-0.1157
	(0.234)	(0.238)	(0.003)	(0.002)	(0.081)	(0.082)	(<0.001)	(<0.001)
No. of observations	6,218	6,218	6,218	6,218	6,267	6,267	6,267	6,267
Adjusted R-square	0.0409	0.0422	0.0394	0.0413	0.0286	0.0292	0.0276	0.0285

Table 7. Firm level regressions by two law systems (full sample)

The table reports results for ordinary least squares regressions of our full IPO sample from 1995 to 2002 across 34 countries by two law systems, common law and civil law. The dependent variables are 15-day underpricing and 30-day underpricing. Panel A presents regression results based on 15-day underpricing and Panel B presents regression results based on 30-day underpricing. The independent variables are IPO volume, our tech dummy, log proceeds, logged GDP per capita, our underwriter ranking or underwriter reputation dummy, common law, the number of law providers, the burden of proof or a class action dummy, and the rule of law. In models 1 to 4 we exclude IPOs from Pakistan and Thailand because we have no information on the number of law providers in these countries. In Models 5 to 8 we include both countries and drop the number of law providers as a regressor. Definitions for all variables are given in Appendix 1. P-values are shown in parentheses. The sample size and adjusted R^2 for each regression model are reported in the last two rows of Panels A and B.

Panel A: 15-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	3.1073	3.3536	3.1852	3.3929	2.6584	2.8220	2.4452	2.5995
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0003	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001	0.0000	0.0000
	(0.008)	(0.014)	(0.461)	(0.537)	(0.205)	(0.260)	(0.920)	(0.990)
Tech dummy	0.2313	0.2288	0.2271	0.2233	0.2322	0.2303	0.2251	0.2219
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0872	-0.0929	-0.0899	-0.0961	-0.0804	-0.0845	-0.0830	-0.0880
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log GDP per capita	-0.1346	-0.1492	-0.1082	-0.1131	-0.0734	-0.0823	-0.0052	-0.0072
	(0.001)	(<0.001)	(0.024)	(0.018)	(0.062)	(0.038)	(0.906)	(0.870)
Underwriter ranking	0.0179		0.0214		0.0152		0.0184	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1606		0.1878		0.1293		0.1595
		(<0.001)		(<0.001)		(<0.001)		(<0.001)

Table 7. Firm level regressions by two law systems (full sample) - continued

Panel A: 15-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Common law	0.1555	0.1701	0.2400	0.2483	0.0201	0.0287	0.0841	0.0904
	(0.001)	(0.001)	(<0.001)	(<0.001)	(0.649)	(0.518)	(0.034)	(0.022)
Number of law providers	0.0072	0.0073	0.0064	0.0064				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				
Burden of proof	0.3373	0.3366			0.3025	0.3065		
	(<0.001)	(<0.001)			(<0.001)	(<0.001)		
Class action dummy			0.0023	0.0241			0.0887	0.1079
			(0.962)	(0.613)			(0.049)	(0.017)
Rule of law	-0.0579	-0.0610	-0.0737	-0.0831	-0.0589	-0.0614	-0.0968	-0.1050
	(0.008)	(0.005)	(0.003)	(0.001)	(0.007)	(0.005)	(<0.001)	(<0.001)
No. of observations	6,135	6,135	6,135	6,135	6,183	6,183	6,183	6,183
Adjusted R-square	0.0386	0.0392	0.0360	0.0366	0.0318	0.0320	0.0302	0.0306

Table 7. Firm level regressions by two law systems (full sample) – continued

Panel B: 30-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	3.0761	3.3675	3.0172	3.2719	2.5811	2.7783	2.2327	2.4248
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0004	-0.0003	-0.0002	-0.0001	-0.0002	-0.0002	-0.0001	-0.0001
	(0.001)	(0.002)	(0.132)	(0.164)	(0.087)	(0.118)	(0.466)	(0.520)
Tech dummy	0.2834	0.2803	0.2768	0.2721	0.2841	0.2816	0.2745	0.2704
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0927	-0.0996	-0.0955	-0.1031	-0.0837	-0.0888	-0.0864	-0.0928
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log GDP per capita	-0.1322	-0.1497	-0.0746	-0.0815	-0.0620	-0.0729	0.0348	0.0312
	(0.005)	(0.002)	(0.176)	(0.139)	(0.171)	(0.110)	(0.493)	(0.539)
Underwriter ranking	0.0200		0.0241		0.0167		0.0205	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1839		0.2180		0.1481		0.1848
		(<0.001)		(<0.001)		(<0.001)		(<0.001)
Common law	0.1959	0.2132	0.2830	0.2929	0.0307	0.0410	0.0971	0.1039
	(0.001)	(<0.001)	(<0.001)	(<0.001)	(0.547)	(0.423)	(0.034)	(0.023)
Number of law providers	0.0092	0.0093	0.0079	0.0080				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				
Burden of proof	0.4175	0.4148			0.3605	0.3625		
	(<0.001)	(<0.001)			(<0.001)	(<0.001)		
Class action dummy			0.0490	0.0743			0.1393	0.1616
			(0.373)	(0.176)			(0.008)	(0.002)

Table 7. Firm level regressions by two law systems (full sample) – continued

Panel B: 30-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Rule of law	-0.0581	-0.0613	-0.0899	-0.1004	-0.0593	-0.0618	-0.1131	-0.1220
	(0.021)	(0.015)	(0.002)	(0.001)	(0.019)	(0.014)	(<0.001)	(<0.001)
No. of observations	6,218	6,218	6,218	6,218	6,267	6,267	6,267	6,267
Adjusted R-square	0.0359	0.0367	0.0330	0.0340	0.0284	0.0288	0.0272	0.0279

Table 8. Firm level regressions with four legal origins (sample excluding penny stocks)

The table reports results for ordinary least squares regressions of our IPO sample excluding penny stocks from 1995 to 2002 across 34 countries by four legal origins. A penny stock is defined as an issue with a converted offer price below US$1.00. The dependent variables are 15-day underpricing and 30-day underpricing. Panel A presents regression results based on 15-day underpricing and Panel B presents regression results based on 30-day underpricing. The independent variables are IPO volume, our tech dummy, log proceeds, logged GDP per capita, our underwriter ranking or underwriter reputation dummy, dummy variables for French origin, German origin and Scandinavian origin, the number of law providers, the burden of proof or a class action dummy, and the rule of law. In models 1 to 4 we exclude IPOs from Pakistan and Thailand because we have no information on the number of law providers in these countries. In Models 5 to 8 we include both countries and drop the number of law providers as a regressor. Definitions for all variables are given in Appendix 1. P-values are shown in parentheses. The sample size and adjusted R^2 for each regression model are reported in the last two rows of Panels A and B.

Panel A: 15-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.0949	4.6495	4.1593	4.6796	2.3611	2.6821	2.4427	2.7375
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001	0.0000	0.0000	0.0000
	(0.096)	(0.147)	(0.299)	(0.380)	(0.544)	(0.665)	(0.727)	(0.853)
Tech dummy	0.2302	0.2282	0.2317	0.2292	0.2357	0.2344	0.2374	0.2357
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0265	-0.0363	-0.0269	-0.0364	-0.0105	-0.0167	-0.0128	-0.0186
	(0.014)	(0.001)	(0.013)	(0.001)	(0.312)	(0.118)	(0.222)	(0.084)
Log GDP per capita	-0.2967	-0.3415	-0.2687	-0.3116	-0.0691	-0.0918	-0.0598	-0.0800
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.206)	(0.096)	(0.248)	(0.127)
Underwriter ranking	0.0129		0.0141		0.0113		0.0123	
	(<0.001)		(<0.001)		(0.001)		(<0.001)	
Underwriter reputation dummy		0.1517		0.1576		0.1198		0.1247
		(<0.001)		(<0.001)		(<0.001)		(<0.001)

Table 8. Firm level regressions with four legal origins (sample excluding penny stocks) – continued

Panel A: 15-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
French origin	-0.4487	-0.4777	-0.5013	-0.5311	-0.1681	-0.1780	-0.2410	-0.2476
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.017)	(0.012)	(<0.001)	(<0.001)
German origin	-0.1222	-0.1348	-0.2597	-0.2577	-0.1058	-0.1136	-0.2038	-0.2017
	(0.042)	(0.025)	(<0.001)	(<0.001)	(0.079)	(0.060)	(0.001)	(0.001)
Scandinavian origin	-0.2905	-0.3418	-0.4222	-0.4583	-0.1989	-0.2381	-0.2994	-0.3279
	(0.007)	(0.001)	(<0.001)	(<0.001)	(0.062)	(0.025)	(0.013)	(0.007)
Number of law providers	0.0081	0.0085	0.0062	0.0069				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				
Burden of proof	0.1563	0.1501			0.1007	0.0982		
	(0.063)	(0.072)			(0.221)	(0.230)		
Class action dummy			-0.1075	-0.0883			-0.0735	-0.0607
			(0.119)	(0.200)			(0.199)	(0.287)
Rule of law	-0.0659	-0.0619	-0.0737	-0.0714	-0.1361	-0.1360	-0.1346	-0.1366
	(0.022)	(0.032)	(0.008)	(0.010)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Observations	4,884	4,884	4,884	4,884	4,909	4,909	4,909	4,909
Adjusted R-square	0.0475	0.0499	0.0473	0.0496	0.0382	0.0394	0.0382	0.0393

Table 8. Firm level regressions by four legal origins (sample excluding penny stocks) - continued

Panel B: 30-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	4.2826	4.9736	4.1360	4.8025	2.2625	2.6818	2.2736	2.6689
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0003	-0.0002	-0.0002	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001
	(0.015)	(0.029)	(0.067)	(0.101)	(0.230)	(0.327)	(0.367)	(0.486)
Tech dummy	0.2740	0.2711	0.2734	0.2697	0.2799	0.2780	0.2808	0.2782
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0282	-0.0406	-0.0278	-0.0401	-0.0083	-0.0166	-0.0102	-0.0181
	(0.021)	(0.001)	(0.023)	(0.001)	(0.484)	(0.171)	(0.392)	(0.138)
Log GDP per capita	-0.3225	-0.3780	-0.2627	-0.3180	-0.0501	-0.0794	-0.0268	-0.0543
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.419)	(0.204)	(0.650)	(0.362)
Underwriter ranking	0.0149		0.0164		0.0130		0.0142	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1838		0.1932		0.1483		0.1549
		(<0.001)		(<0.001)		(<0.001)		(<0.001)
French origin	-0.5221	-0.5569	-0.6050	-0.6398	-0.1738	-0.1857	-0.2606	-0.2665
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.031)	(0.021)	(<0.001)	(<0.001)
German origin	-0.1693	-0.1854	-0.2870	-0.2845	-0.1524	-0.1629	-0.2519	-0.2493
	(0.013)	(0.007)	(<0.001)	(<0.001)	(0.026)	(0.017)	(<0.001)	(<0.001)
Scandinavian origin	-0.3671	-0.4273	-0.4452	-0.4870	-0.2555	-0.3014	-0.3438	-0.3762
	(0.003)	(<0.001)	(0.002)	(<0.001)	(0.035)	(0.012)	(0.013)	(0.006)
Number of law providers	0.0105	0.0110	0.0091	0.0100				
	(<0.001)	(<0.001)	(<0.001)	(<0.001)				

Table 8. Firm level regressions by four legal origins (sample excluding penny stocks) - continued

Panel B: 30-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Burden of proof	0.2168	0.2064			0.1365	0.1298		
	(0.023)	(0.030)			(0.144)	(0.162)		
Class action dummy			-0.0393	-0.0165			-0.0541	-0.0389
			(0.615)	(0.833)			(0.404)	(0.547)
Rule of law	-0.0597	-0.0546	-0.0839	-0.0804	-0.1478	-0.1477	-0.1536	-0.1555
	(0.068)	(0.095)	(0.008)	(0.011)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
No. of observations	4,959	4,959	4,959	4,959	4,984	4,984	4,984	4,984
Adjusted R-square	0.0462	0.0493	0.0453	0.0484	0.0365	0.0383	0.0363	0.0380

70

Table 9. Firm level regressions by two law systems (sample excluding penny stocks)

The table reports results for ordinary least squares regressions of our IPO sample excluding penny stocks from 1995 to 2002 across 34 countries by two legal systems, common law and civil law. A penny stock is defined as an issue with a converted offer price below US$1.00. The dependent variables are 15-day underpricing and 30-day underpricing. Panel A presents regression results based on 15-day underpricing and Panel B presents regression results based on 30-day underpricing. The independent variables are IPO volume, our tech dummy, log proceeds, logged GDP per capita, our underwriter ranking or underwriter reputation dummy, common law, the number of law providers, the burden of proof or a class action dummy, and the rule of law. In models 1 to 4 we exclude IPOs from Pakistan and Thailand because we have no information on the number of law providers in these countries. In Models 5 to 8 we include both countries and drop the number of law providers as a regressor. Definitions for all variables are given in Appendix 1. P-values are shown in parentheses. The sample size and adjusted R^2 for each regression model are reported in the last two rows of Panels A and B.

Panel A: 15-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	2.8778	3.3089	3.4919	3.8891	2.0846	2.3752	2.1489	2.4076
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0001	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	(0.407)	(0.575)	(0.731)	(0.918)	(0.605)	(0.763)	(0.821)	(0.973)
Tech dummy	0.2305	0.2285	0.2348	0.2325	0.2357	0.2343	0.2377	0.2359
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0149	-0.0231	-0.0223	-0.0299	-0.0099	-0.0159	-0.0128	-0.0183
	(0.156)	(0.033)	(0.037)	(0.007)	(0.341)	(0.136)	(0.222)	(0.090)
Log GDP per capita	-0.1446	-0.1748	-0.2064	-0.2332	-0.0456	-0.0637	-0.0449	-0.0593
	(0.009)	(0.002)	(<0.001)	(<0.001)	(0.380)	(0.224)	(0.368)	(0.238)
Underwriter ranking	0.0138		0.0150		0.0120		0.0129	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1494		0.1547		0.1234		0.1271
		(<0.001)		(<0.001)		(<0.001)		(<0.001)

Table 9. Firm level regressions by two law systems (sample excluding penny stocks) – continued

Panel A: 15-day underpricing (continued)

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Common law	0.1642	0.1820	0.3498	0.3596	0.1286	0.1410	0.2253	0.2288
	(0.005)	(0.002)	(<0.001)	(<0.001)	(0.026)	(0.015)	(<0.001)	(<0.001)
Number of law providers	0.0027	0.0028	0.0024	0.0025				
	(0.025)	(0.019)	(0.042)	(0.032)				
Burden of proof	0.1330	0.1254			0.1042	0.0994		
	(0.108)	(0.128)			(0.191)	(0.211)		
Class action dummy			-0.2061	-0.1970			-0.0807	-0.0683
			(<0.001)	(<0.001)			(0.097)	(0.160)
Rule of law	-0.1274	-0.1296	-0.0989	-0.1028	-0.1481	-0.1511	-0.1434	-0.1487
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
No. of observations	4,884	4,884	4,884	4,884	4,909	4,909	4,909	4,909
Adjusted R-square	0.0432	0.0451	0.0457	0.0474	0.0382	0.0393	0.0384	0.0393

Table 9. Firm level regressions by two law systems (sample excluding penny stocks) - continued

Panel B: 30-day underpricing

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	2.9247	3.4749	3.3466	3.8684	2.0271	2.4107	1.9692	2.3286
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
IPO volume	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001
	(0.100)	(0.182)	(0.269)	(0.407)	(0.279)	(0.413)	(0.421)	(0.571)
Tech dummy	0.2746	0.2717	0.2776	0.2743	0.2799	0.2779	0.2806	0.2781
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
Log proceeds	-0.0159	-0.0265	-0.0219	-0.0319	-0.0083	-0.0164	-0.0101	-0.0177
	(0.183)	(0.031)	(0.071)	(0.010)	(0.481)	(0.175)	(0.396)	(0.147)
Log GDP per capita	-0.1565	-0.1956	-0.1880	-0.2244	-0.0340	-0.0583	-0.0154	-0.0370
	(0.013)	(0.002)	(0.003)	(<0.001)	(0.564)	(0.327)	(0.786)	(0.518)
Underwriter ranking	0.0159		0.0174		0.0136		0.0146	
	(<0.001)		(<0.001)		(<0.001)		(<0.001)	
Underwriter reputation dummy		0.1819		0.1895		0.1503		0.1560
		(<0.001)		(<0.001)		(<0.001)		(<0.001)
Common law	0.2169	0.2389	0.4061	0.4174	0.1696	0.1851	0.2560	0.2586
	(0.001)	(<0.001)	(<0.001)	(<0.001)	(0.010)	(0.005)	(<0.001)	(<0.001)
Number of law providers	0.0047	0.0049	0.0041	0.0043				
	(<0.001)	(<0.001)	(0.002)	(0.001)				
Burden of proof	0.1901	0.1780			0.1267	0.1168		
	(0.043)	(0.058)			(0.162)	(0.196)		
Class action dummy			-0.1764	-0.1654			-0.0471	-0.0318
			(0.003)	(0.006)			(0.395)	(0.565)

Table 9. Firm level regressions by two law systems (sample excluding penny stocks) - continued

Panel B: 30-day underpricing (continued)								
Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Rule of law	-0.1271	-0.1291	-0.1113	-0.1149	-0.1580	-0.1612	-0.1622	-0.1677
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
No. of observations	4,959	4,959	4,959	4,959	4,984	4,984	4,984	4,984
Adjusted R-square	0.0424	0.0449	0.0433	0.0456	0.0368	0.0384	0.0365	0.0381

Table 10. Country level regressions

The table presents results for ordinary least squares regressions of our country level sample from 1995 to 2002 across 34 countries by two law systems, common law and civil law. The dependent variables are 15-day underpricing and 30-day underpricing. Panel A reports regression results based on equally-weighted mean underpricing, Panel B reports regression results based on value-weighted mean underpricing, and Panel C reports regression results based on median underpricing. The independent variables are logged GDP per capita, a common law dummy, the number of law providers, the burden of proof or a class action dummy, and the rule of law. In models 1 and 2 we exclude IPOs from Pakistan and Thailand because we have no information on the number of law providers in these countries. In Models 3 and 4 we include both countries and drop the number of law providers as a regressor. Definitions for all variables are given in Appendix 1. P-values are shown in parentheses. The sample size and adjusted R² for each regression model are reported in the last two rows of Panels A and B.

Panel A: Equally-weighted mean underpricing

Independent variables	15-day underpricing				30-day underpricing			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Intercept	-0.3178	-0.2165	-0.6128	-0.6208	-0.5708	-0.4621	-0.8561	-0.8602
	(0.487)	(0.654)	(0.129)	(0.132)	(0.274)	(0.402)	(0.062)	(0.067)
Log GDP per capita	0.1105	0.1293	0.1730	0.2007	0.1642	0.1864	0.2283	0.2578
	(0.138)	(0.107)	(0.010)	(0.004)	(0.053)	(0.042)	(0.003)	(0.001)
Common law	0.1416	0.1679	0.0516	0.0751	0.1408	0.1691	0.0455	0.0724
	(0.104)	(0.073)	(0.487)	(0.310)	(0.155)	(0.113)	(0.589)	(0.389)
Number of law providers	0.0033	0.0022			0.0038	0.0025		
	(0.073)	(0.239)			(0.074)	(0.243)		
Burden of proof	0.3119		0.2971		0.3523		0.3243	
	(0.026)		(0.022)		(0.027)		(0.028)	
Class action dummy		0.0555		0.1099		0.0653		0.1162
		(0.484)		(0.132)		(0.469)		(0.160)

Table 10. Country level regressions (continued)

Panel A: Equally-weighted mean underpricing (continued)

Independent variables	15-day underpricing				30-day underpricing			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Rule of law	-0.0913	-0.1034	-0.1116	-0.1288	-0.1251	-0.1391	-0.1454	-0.1638
	(0.012)	(0.008)	(0.001)	(<0.001)	(0.003)	(0.002)	(<0.001)	(<0.001)
No. of observations	194	194	201	201	194	194	201	201
Adjusted R-square	0.0695	0.0471	0.0675	0.0532	0.0797	0.0581	0.0786	0.0650

Table 10. Country level regressions (continued)

Panel B: Value-weighted mean underpricing

Independent variables	15-day underpricing				30-day underpricing			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Intercept	0.3423	0.3269	0.0794	0.0417	0.2186	0.2191	-0.0603	-0.0924
	(0.234)	(0.276)	(0.754)	(0.871)	(0.491)	(0.509)	(0.829)	(0.744)
Log GDP per capita	-0.0145	-0.0097	0.0244	0.0355	0.0052	0.0099	0.0485	0.0601
	(0.755)	(0.845)	(0.558)	(0.403)	(0.920)	(0.857)	(0.292)	(0.200)
Common law	0.0366	0.0333	-0.0080	-0.0131	0.0639	0.0644	0.0118	0.0096
	(0.501)	(0.565)	(0.864)	(0.778)	(0.289)	(0.315)	(0.819)	(0.850)
Number of law providers	0.0007	0.0006			0.0010	0.0009		
	(0.561)	(0.629)			(0.419)	(0.502)		
Burden of proof	0.0214		0.0601		0.0432		0.0759	
	(0.807)		(0.460)		(0.655)		(0.397)	
Class action dummy		0.0141		0.0514		0.0139		0.0524
		(0.774)		(0.258)		(0.798)		(0.296)
Rule of law	-0.0072	-0.0096	-0.0195	-0.0260	-0.0181	-0.0208	-0.0316	-0.0385
	(0.752)	(0.689)	(0.370)	(0.242)	(0.469)	(0.431)	(0.189)	(0.117)
No. of observations	194	194	201	201	194	194	201	201
Adjusted R-square	-0.0146	-0.0145	-0.0113	-0.0075	-0.0091	-0.0099	-0.0058	-0.0039

Table 10. Country level regressions (continued)

Panel C: Median underpricing

Independent variables	15-day underpricing				30-day underpricing			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Intercept	0.1904	0.2194	-0.1673	-0.1955	-0.0699	0.0119	-0.4016	-0.4025
	(0.592)	(0.556)	(0.592)	(0.538)	(0.869)	(0.979)	(0.280)	(0.288)
Log GDP per capita	0.0163	0.0291	0.0762	0.0966	0.0698	0.0763	0.1290	0.1455
	(0.777)	(0.636)	(0.139)	(0.067)	(0.312)	(0.302)	(0.036)	(0.021)
Common law	0.0582	0.0663	-0.0184	-0.0104	0.0719	0.0924	-0.0077	0.0080
	(0.388)	(0.357)	(0.749)	(0.856)	(0.373)	(0.283)	(0.910)	(0.907)
Number of law providers	0.0020	0.0014			0.0024	0.0018		
	(0.168)	(0.337)			(0.161)	(0.288)		
Burden of proof	0.1557		0.1815		0.1745		0.1837	
	(0.151)		(0.071)		(0.178)		(0.124)	
Class action dummy		0.0377		0.0859		0.0194		0.0646
		(0.537)		(0.127)		(0.790)		(0.335)
Rule of law	-0.0396	-0.0471	-0.0579	-0.0703	-0.0732	-0.0782	-0.0909	-0.1012
	(0.159)	(0.113)	(0.032)	(0.011)	(0.030)	(0.028)	(0.005)	(0.002)
No. of observations	194	194	201	201	194	194	201	201
Adjusted R-square	0.0276	0.0188	0.0288	0.0242	0.0394	0.0304	0.0408	0.0337