What Works in Securities Laws?

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ABSTRACT

We examine the effect of securities laws on stock market development in 49 countries. We find little evidence that public enforcement benefits stock markets, but strong evidence that laws mandating disclosure and facilitating private enforcement through liability rules benefit stock markets.

IN THIS PAPER, WE EXAMINE SECURITIES LAWS OF 49 COUNTRIES, focusing specifically on how these laws regulate the issuance of new equity to the public. Security issuance is subject to the well-known "promoter's problem" (Mahoney (1995))—the risk that corporate issuers sell bad securities to the public—and as such is covered in all securities laws.[1] We analyze the specific provisions in securities laws governing initial public offerings in each country, examine the relationship between these provisions and various measures of stock market development, and interpret the evidence in light of the available theories of securities laws.

For securities markets, alternative theories of optimal legal arrangements can be distilled down to three broad hypotheses. Under the null hypothesis, associated with Coase (1960) and Stigler (1964), the optimal government policy is to leave securities markets unregulated. Issuers of securities have an incentive to disclose all available information to obtain higher prices simply because failure to disclose would cause investors to assume the worst (Grossman (1981), Grossman and Hart (1980), Milgrom and Roberts (1986)). Investors can

[1] Teoh, Welch, and Wong (1998) and Dechow, Sloan, and Sweeney (1996) present evidence consistent with the view that U.S. firms manipulate accounting figures to raise capital on favorable terms. Leuz, Nanda, and Wysocki (2003) show that earnings manipulation is more extensive in countries with weak investor protection.

rely on these disclosures when there are reputational, legal, and contractual penalties for misreporting, verification of accuracy is costless, or reporting accuracy is backed by warranties. When verification is costly, issuers of "good" securities can resort to additional mechanisms to signal their quality (Ross (1979)). For example, auditors and underwriters can credibly certify the quality of the securities being offered to safeguard their reputation and avoid liability under contract or tort law (Benston (1985), Chemmanur and Fulghieri (1994), De Long (1991)). Similarly, private stock exchanges can mandate optimal disclosure and monitor compliance by listed firms to facilitate trading (Benston (1973), Fischel and Grossman (1984), Miller (1991)). These market and general legal mechanisms suffice for securities markets to prosper. Securities law is either irrelevant (to the extent that it codifies existing market arrangements or can be contracted around), or damaging, in so far as it raises contracting costs and invites political interference in markets (Coase (1975), Macey (1994), Romano (2001)).

The two alternative hypotheses hold that securities laws "matter." Both reputations and contract and tort law are insufficient to keep promoters from cheating investors because the payoff from cheating is too high and because private tort and contract litigation is too expensive and unpredictable to serve as a deterrent. To reduce the enforcement costs and opportunistic behavior, the government can introduce a securities law that specifies the contracting framework.[2] The two alternative hypotheses differ in what kind of government intervention would be optimal within such a framework.

Under the first alternative, the government can standardize the private contracting framework to improve market discipline and private litigation. Without such standardization, litigation is governed by contract and tort law, with grave uncertainty about outcomes because such matters as intent and negligence need to be sorted out in court (Easterbrook and Fischel (1984)). We examine two aspects of standardization. First, the law can mandate the disclosure of particular information, such as profitability and ownership structure, in the prospectus. If followed, such mandates make it easier for investors to value companies and therefore more willing to invest. If violated, these mandates create a prima facie liability of issuers or intermediaries. Second, the law can specify the liability standards facing issuers and intermediaries when investors seek to recover damages from companies that follow affirmative disclosure rules but fail to reveal potentially material information. The law can thereby reduce the uncertainties and the costs of private litigation, in turn benefiting markets.[3]

Under the final hypothesis, even given a securities law that describes both the disclosure obligations of various parties and the liability standards, private enforcement incentives are often insufficient to elicit honesty from issuers. A public enforcer such as a Securities and Exchange Commission is needed to

[2] See Landis (1938), Friend and Herman (1964), Coffee (1984, 1989, 2002), Simon (1989), Mahoney (1995), Fox (1999), Stulz (1999), Black (2001), Beny (2002), and Reese and Weisbach (2002).

[3] This view is developed in Black and Kraakman (1996), Hay, Shleifer, and Vishny (1996), Hay and Shleifer (1998), Glaeser and Shleifer (2001, 2002), and Bergman and Nicolaievsky (2002).

support trade. Such an enforcer might be able to intervene ex ante, by clarifying legal obligations or ex post, by imposing its own penalties or bringing lawsuits. Public enforcement might work because the enforcer is *independent and focused* and thus can regulate markets free from political interference, because the enforcer can *introduce regulations of market participants,* because it can *secure information* from issuers and market participants—through subpoena, discovery, or other means—more effectively than private plaintiffs, or because it can *impose sanctions*.[4] Under this hypothesis, the strength of public enforcement introduced by securities laws is most beneficial for market development.

To distinguish these hypotheses, we cooperate with attorneys from 49 countries to assemble a database of rules and regulations governing security issuance. We use the data to produce quantitative measures of securities laws and regulations, with a focus on mandatory disclosure, liability standards, and public enforcement. Finally, we examine the relationship between our measures of securities laws and a number of indicators of stock market development. In the analysis below, we first motivate our data collection effort using an example of an actual dispute. We then present the data on securities laws around the world, and finally investigate whether and how these laws matter for stock market development.

I. A Motivating Example

We focus on the agency problem between prospective investors in an initial public offering and the "promoter" who offers shares for sale. In modern days, this promoter is usually the owner or founder of a private company acting in concert with his distributors (or underwriters) and accountants. But at least some of the law developed historically as a way to control share sales by specialized promoters, who bought companies and then sold their equity to the public (Mahoney (1995)). The promoter's problem is fraught with potential conflicts of interest. The promoter wants to sell the shares at the highest possible price while concealing bad information about the company and diverting its cash flows and assets to himself. Both the adverse selection and the moral hazard problems are severe, and if not addressed can undermine and possibly stop fund-raising in the stock market.

Grossman and Hart (1980) show, however, that with perfect law enforcement (i.e., automatic sanctions for not telling the truth), promoters have an incentive to reveal everything they know, at least in a particular model. The reason is that without such revelation, potential investors assume the absolute worst. To the extent that the circumstances of the company are better or the conflicts of interest less severe, promoters have every reason to disclose such information, and they cannot say anything more optimistic than the truth because of the automatic sanctions. Grossman and Hart also note that without perfect enforcement, these favorable results for the market solution do not hold.

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[4] These themes are developed in Landis (1938), Becker (1968), Polinsky and Shavell (2000), Glaeser, Johnson, and Shleifer (2001), Glaeser and Shleifer (2003), and Pistor and Xu (2002).

Contrast this theoretical paradigm with an actual example of a securities issue from the Netherlands (Velthuyse and Schlingmann (1995)). In 1987–1988, the Dutch bank ABN Amro underwrote some bonds of Coopag Finance BV, a Dutch financial company wholly owned by Co-op AG, a diversified German firm. The bonds were guaranteed by Co-op AG. The prospectus was drafted in accordance with the requirements of the Amsterdam Stock Exchange and included audited annual accounts provided by the issuer to ABN Amro. In conformity with the law on annual accounts, the (consolidated) financial statements included in the prospectus omitted 214 affiliated companies of Co-op AG with debts of DM 1.5 billion. Shortly after the issue, Dutch newspapers published negative information about Co-op AG and the bond prices of Coopag Finance BV plummeted. The creditors of Coopag Finance sued the underwriter, ABN Amro, for losses due to its failure to disclose material information about the finances of Co-op AG. ABN Amro claimed in response that "the damages, if any, did not result from the alleged misleading nature of the prospectuses....," but rather from unfavorable events that took place after the offering. In addition, the distributor argued that "an investigation by ABN Amro, however extensive, could not have led to the discovery of deceit, because even the accountants appeared not to have discovered in time that something was wrong . . ." (Velthuyse and Schlingmann (1995), p. 233). The successive Dutch courts, however, ruled the distributor liable and recognized explicitly that the distributor's duty in presenting the prospectus to investors went beyond merely relying on the information provided by the issuer. Rather, to avoid liability, the Supreme Court ruled that a distributor must conduct an independent investigation of the issuer and prove that it cannot be blamed for the damages caused by the misleading prospectus.

As this example illustrates, a country as developed as the Netherlands, as recently as 15 years ago, did not have clearly defined responsibilities and automatic penalties for issuers and underwriters as required by Grossman and Hart (1980). Some of the differences between the example and their model are worth emphasizing. First, reputational concerns did not suffice to induce either the issuer to disclose the omitted information or the underwriter to carry out an independent investigation of the issuer's financial condition. Second, the problem for private enforcement was not that of inaccurate disclosure—in fact, the issuer complied with the affirmative disclosure requirements—but rather, the omission of material information from the prospectus. This omission did not cause investors to assume the worst; after all, they bought the bonds. Third, this omission raised the question for the court of whether the distributor or the issuer was liable, with the distributor rather than the bankrupt issuer having the assets to compensate investors. Fourth, and perhaps most importantly, the court had to resolve the crucial question of the standard of liability for the distributor, namely, what were its affirmative obligations to investors. The court did not presume, as in the model, that failure to disclose automatically caused liability. Resolving this issue required extensive and expensive litigation, leading to a particular standard of care. These differences between the case and the model suggest that in reality, enforcement of good conduct is costly, and

hence we should not necessarily expect efficient outcomes from unregulated markets.

This enforcement-based reasoning forms the analytical foundation of the case for securities laws. Market mechanisms and litigation supporting private contracting may be too expensive. Since investors, on average, are not tricked, they pay lower prices for the equity when they are unprotected, and the amount of equity issued is lower (Shleifer and Wolfenzon (2002), La Porta et al. (2002b)). Securities laws, in so far as they reduce the costs of contracting and resolving disputes, can encourage equity financing of firms and stock market development. The Dutch example also suggests that solving the promoter's problem is important not only for equity markets but for debt markets as well.

II. The Variables

Our data on the regulation of the promoter's problem are based on answers to a questionnaire by attorneys in the sample of 49 countries with the largest stock market capitalization in 1993 (La Porta et al. (1998)). We invited one attorney from each country to answer the questionnaire describing the securities laws (including actual laws, statues, regulations, binding judicial precedents, and any other rule with force of law) applicable to an offering of shares listed in the country's largest stock exchange in December 2000.[5] All 49 authors returned answered questionnaires, and subsequently confirmed the validity of their answers as we recorded them. All the variables derived from the questionnaires and other sources are defined in Table I.

A. *Disclosure and Liability Standards*

As James Landis, the principal author of U.S. securities laws, recognized, making private recovery of investors' losses easy is essential to harness the incentives of market participants to enforce securities laws (Landis (1938), Seligman (1995)). Efficiency considerations suggest that the lowest cost provider of information about a security should collect and present this information, and be held accountable if he omits or misleads. In the Grossman and Hart model (1980), for example, the lowest cost providers are not the investors, but the issuers, distributors, and accountants.[6] An efficient system would provide these agents incentives to collect and present information to investors,

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[5] We first approached authors who had published country reports on securities laws in publications such as *International Securities Regulation* and *International Securities Laws*. When countries were not covered in such publications or authors declined our invitation, we searched the *Martindale Law Directory* to identify leading law firms practicing in the area of securities laws and invited them to answer the questionnaire. The respondents received a questionnaire designed by the authors with the help of practicing lawyers in Argentina, Japan, and the United States.

[6] Two other features of initial public offerings make "buyer-beware" rules unattractive. First, the scope for fraud is very large. Second, the damages resulting from investing in reliance of a defective prospectus are much easier to calculate than those that result from, for example, the use of a defective appliance.

Table I
Description of the Variables

This table describes the variables in the paper. The *Supervisor* is the main government agency in charge of supervising stock exchanges. The *Issuer* is a domestic corporation that raises capital through an initial public offering of common shares. The newly issued shares will be listed on the country's largest stock exchange. The *Distributor* advises the *Issuer* on the preparation of the prospectus and assists in marketing the securities but does not authorize (or sign) the prospectus unless required by law. The *Accountant* audits the financial statements and documents that accompany the prospectus. Unless otherwise specified, the source for the variables is the questionnaire of law firms and the laws of each country. The edited answers to the questionnaire are posted at http://post.economics.harvard.edu/faculty/shleifer/papers/securities_documentation.pdf.

Variable	Description
	I. Disclosure requirements
Prospectus	Equals one if the law prohibits selling securities that are going to be listed on the largest stock exchange of the country without delivering a prospectus to potential investors; and equals zero otherwise.
Compensation	An index of prospectus disclosure requirements regarding the compensation of the *Issuer*'s directors and key officers. Equals one if the law or the listing rules require that the compensation of *each* director and key officer be reported in the prospectus of a newly listed firm; equals one half if only the *aggregate* compensation of directors and key officers must be reported in the prospectus of a newly listed firm; and equals zero when there is no requirement to disclose the compensation of directors and key officers in the prospectus for a newly listed firm.
Shareholders	An index of disclosure requirements regarding the *Issuer*'s equity ownership structure. Equals one if the law or the listing rules require disclosing the name and ownership stake of each shareholder who, directly or indirectly, controls 10% or more of the *Issuer*'s voting securities; equals one half if reporting requirements for the *Issuer*'s 10% shareholders do not include indirect ownership or if only their aggregate ownership needs to be disclosed; and equals zero when the law does not require disclosing the name and ownership stake of the *Issuer*'s 10% shareholders. We combine large shareholder reporting requirements imposed on firms with those imposed on large shareholders themselves.
Inside ownership	An index of prospectus disclosure requirements regarding the equity ownership of the *Issuer*'s shares by its directors and key officers. Equals one if the law or the listing rules require that the ownership of the *Issuer's* shares by *each* of its director and key officers be disclosed in the prospectus; equals one half if only the *aggregate* number of the *Issuer*'s shares owned by its directors and key officers must be disclosed in the prospectus; and equals zero when the ownership of the *Issuer*'s shares by its directors and key officers need not be disclosed in the prospectus.
Irregular contracts	An index of prospectus disclosure requirements regarding the *Issuer*'s contracts outside the ordinary course of business. Equals one if the law or the listing rules require that the terms of material contracts made by the *Issuer* outside the ordinary course of its business be disclosed in the prospectus; equals one half if the terms of only *some* material contracts made outside the ordinary course of business must be disclosed; and equals zero otherwise.
Transactions	An index of the prospectus disclosure requirements regarding transaction between the *Issuer* and its directors, officers, and/or large shareholders (i.e., "related parties"). Equals one if the law or the listing rules require that *all* transactions in which related parties have, or will have, an interest be disclosed in the prospectus; equals one half if *only some* transactions between the *Issuer* and related parties must be disclosed in the prospectus; and equals zero if transactions between the *Issuer* and related parties need not be disclosed in the prospectus.
Disclosure requirements index	The index of disclosure equals the arithmetic mean of (1) prospectus; (2) compensation; (3) shareholders; (4) inside ownership; (5) contracts irregular; and (6) transactions.

(continued)

Table I—*Continued*

Variable	Description
	II. Liability standard
Liability standard for the issuer and its directors	Index of the procedural difficulty in recovering losses from the *Issuer* and its directors in a civil liability case for losses due to misleading statements in the prospectus. We first code separately the liability standard applicable to the *Issuer* and its directors and then average the two of them. The liability standard applicable to the *Issuer*'s directors equals one when investors are only required to prove that the prospectus contains a misleading statement. Equals two thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement. Equals one third when investors must also prove that the director acted with negligence. Equals zero if restitution from directors is either unavailable or the liability standard is intent or gross negligence. The liability standard applicable to the *Issuer* is coded analogously.
Liability standard for distributors	Index of the procedural difficulty in recovering losses from the *Distributor* in a civil liability case for losses due to misleading statements in the prospectus. Equals one when investors are only required to prove that the prospectus contains a misleading statement. Equals two thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading statement. Equals one third when investors must also prove that the *Distributor* acted with negligence. Equals zero if restitution from the *Distributor* is either unavailable or the liability standard is intent or gross negligence.
Liability standard for accountants	Index of 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. Equals one when investors are only required to prove that the audited financial information accompanying the prospectus contains a misleading statement. Equals two thirds when investors must also prove that they relied on the prospectus and/or that their loss was caused by the misleading accounting information. Equals one third when investors must also prove that the *Accountant* acted with negligence. Equals zero if restitution from the *Accountant* is either unavailable or the liability standard is intent or gross negligence.
Liability standard index	The index of liability standards equals the arithmetic mean of (1) liability standard for the issuer and its directors; (2) liability standard for distributors; and (3) liability standard for accountants.
	III.1 Characteristics of the Supervisor of securities markets
Appointment	Equals one if a majority of the members of the *Supervisor* are not unilaterally appointed by the Executive branch of government; and equals zero otherwise.
Tenure	Equals one if members of the *Supervisor* cannot be dismissed at the will of the appointing authority; and equals zero otherwise.
Focus	Equals one if separate government agencies or official authorities are in charge of supervising commercial banks and stock exchanges; and equals zero otherwise.
Supervisor characteristics index	The index of characteristics of the *Supervisor* equals the arithmetic mean of (1) appointment; (2) tenure; and (3) focus.
	III.2 Power of the Supervisor to issue rules
Rule-making power index	An index of the power of the *Supervisor* to issue regulations regarding primary offerings and listing rules on stock exchanges. Equals one if the *Supervisor* can generally issue regulations regarding primary offerings and/or listing rules on stock exchanges without prior approval of other governmental authorities. Equals one half if the *Supervisor* can generally issue regulations regarding primary offerings and/or listing rules on stock exchanges only with the prior approval of other governmental authorities. Equals zero otherwise.

<div align="center">**Table I**—*Continued*</div>

Variable	Description
	III.3 Investigative powers of the Supervisor of securities markets
Document	An index of the power of the *Supervisor* to command documents when investigating a violation of securities laws. Equals one if the *Supervisor* can generally issue an administrative order commanding all persons to turn over documents; equals one half if the *Supervisor* can generally issue an administrative order commanding publicly traded corporations and/or their directors to turn over documents; and equals zero otherwise.
Witness	An index of the power of the *Supervisor* to subpoena the testimony of witnesses when investigating a violation of securities laws. Equals one if the *Supervisor* can generally subpoena all persons to give testimony; equals one half if the *Supervisor* can generally subpoena the directors of publicly traded corporations to give testimony; and equals zero otherwise.
Investigative powers index	The index of investigative powers equals the arithmetic mean of (1) document; and (2) witness.
	III.4 Sanctions
Orders issuer	An index aggregating stop and do orders that may be directed to the *Issuer* in case of a defective prospectus. The index is formed by averaging the subindexes of orders to stop and to do. The subindex of orders to stop equals one if the *Issuer* may be ordered to refrain from a broad range of actions; equals one half if the *Issuer* may only be ordered to desist from limited actions; and equals zero otherwise. The subindex of orders to do equals one if the *Issuer* may be ordered to perform a broad range of actions to rectify the violation; equals one half if the *Issuer* may only be ordered to perform limited actions; and equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.
Orders distributor	An index aggregating stop and do orders that may be directed to the *Distributor* in case of a defective prospectus. The index is formed by averaging the subindexes of orders to stop and to do. The subindex of orders to stop equals one if the *Distributor* may be ordered to refrain from a broad range of actions; equals one half if the *Distributor* may only be ordered to desist from limited actions; and equals zero otherwise. The subindex of orders to do equals one if the *Distributor* may be ordered to perform a broad range of actions to rectify the violation; equals one half if the *Distributor* may only be ordered to perform limited actions; and equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.
Orders accountant	An index aggregating stop and do orders that may be directed to the *Accountant* in case of a defective prospectus. The index is formed by averaging the subindexes of orders to stop and to do. The subindex of orders to stop equals one if the *Accountant* may be ordered to refrain from a broad range of actions; equals one half if the *Accountant* may only be ordered to desist from limited actions; and equals zero otherwise. The subindex of orders to do equals one if the *Accountant* may be ordered to perform a broad range of actions to rectify the violation; equals one half if the *Accountant* may only be ordered to perform limited actions; and equals zero otherwise. We disregard orders that may be issued by Courts at the request of a private party in a civil lawsuit.
Orders index	The index of orders equals the arithmetic mean of (1) orders issuer; (2) orders distributor; and (3) orders accountant.
Criminal director/officer	An index of criminal sanctions applicable to the *Issuer's* directors and key officers when the prospectus omits material information. We create separate subindexes for directors and key officers and average their scores. The subindex for directors equals zero when directors cannot be held criminally liable when the prospectus is misleading. Equals one half if directors can be held criminally liable when *aware* that the prospectus is misleading. Equals one if directors can *also* be held criminally liable when negligently *unaware* that the prospectus is misleading. The subindex for key officers is constructed analogously.

Table I—*Continued*

Variable	Description
Criminal distributor	An index of criminal sanctions applicable to the *Distributor* (or its officers) when the prospectus omits material information. Equals zero if the *Distributor* cannot be held criminally liable when the prospectus is misleading. Equals one half if the *Distributor* can be held criminally liable when *aware* that the prospectus is misleading. Equals one if the *Distributor* can *also* be held criminally liable when *negligently* unaware that the prospectus is misleading.
Criminal accountant	An index of criminal sanctions applicable to the *Accountant* (or its officers) when the financial statements accompanying the prospectus omit material information. Equals zero if the *Accountant* cannot be held criminally liable when the financial statements accompanying the prospectus are misleading. Equals one half if the *Accountant* can be held criminally liable when *aware* that the financial statements accompanying the prospectus are misleading. Equals one if the *Accountant* can *also* be held criminally liable when *negligently* unaware that the financial statements accompanying the prospectus are misleading.
Criminal index	The index of criminal sanctions equals the arithmetic mean of (1) criminal director; (2) criminal distributor; and (3) criminal accountant.

III.5 Summary index of public enforcement

Variable	Description
Public enforcement index	The index of public enforcement equals the arithmetic mean of (1) supervisor characteristics index; (2) rule-making power index; (3) investigative powers index; (4) orders index; and (5) criminal index.

IV. Outcome variables

Variable	Description
External cap/GDP	The average ratio of stock market capitalization held by small shareholders to gross domestic product (GDP) for the period 1996 to 2000. The stock market capitalization held by small shareholders is computed as the product of the aggregate stock market capitalization and the average percentage of common shares not owned by the top three shareholders in the 10 largest nonfinancial, privately owned domestic firms in a given country. A firm is considered privately owned if the State is not a known shareholder in it. Source: La Porta et al. (1999b), Hartland-Peel (1996) for Kenya, *Bloomberg*, and various annual reports for Ecuador, Jordan, and Uruguay.
Domestic firms/pop	Logarithm of the average ratio of the number of domestic firms listed in a given country to its population (in millions) for the period 1996 to 2000. Source: International Finance Corporation (2001) and World Bank (2001).
IPOs	The average ratio of the equity issued by newly listed firms in a given country (in thousands) to its GDP (in millions) over the period 1996 to 2000. Source: *Securities Data Corporation,* World Bank (2001).
Block premia	"The block premia is computed taking the difference between the price per share paid for the control block and the exchange price 2 days after the announcement of the control transaction, dividing by the exchange price and multiplying by the ratio of the proportion of cash flow rights represented in the controlling block." We use the country's sample median. Source: Dyck and Zingales (2004, p. 547).
Access to equity	Index of the extent to which business executives in a country agree with the statement "Stock markets are open to new firms and medium-sized firms." Scale from 1 (strongly agree) though 7 (strongly disagree). Source: Schwab et al. (1999).
Ownership concentration	The average percentage of common shares owned by the top three shareholders in the 10 largest nonfinancial, privately owned domestic firms in a given country. A firm is considered privately owned if the State is not a known shareholder in it. Source: La Porta et al. (1998), Hartland-Peel (1996) for Kenya, *Bloomberg*, and various annual reports for Ecuador, Jordan, and Uruguay.
Liquidity	The average total value of stocks traded as a percentage of GDP for the period 1996 to 2000. Source: World Development Indicators at http://devdata.worldbank.org/dataonline/.

Table I—*Continued*

Variable	Description
	V. Control variables and instruments
Anti-director rights	This index of anti-director rights is formed by adding one when: (1) the country allows shareholders to mail their proxy vote; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities on the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10% (the sample median); or (6) when shareholders have preemptive rights that can only be waived by a shareholders' meeting. The range for the index is from 0 to 5. Source: La Porta et al. (1998).
Efficiency of the judiciary	Assessment of the "efficiency and integrity of the legal environment as it affects business, particularly foreign firms" produced by the country risk rating agency International Country Risk (ICR). It may be "taken to represent investors' assessment of conditions in the country in question." Average between 1980 and 1983. Scale from 0 to 10, with lower scores representing lower efficiency levels. Source: *International Country Risk Guide* (Political Risk Services (1996)).
Log GDP per capita	Logarithmic of per capita GDP (in U.S. dollars) in 2000.
Legal origin	Identifies the legal origin of the company law or commercial code of each country. Source: La Porta et al. (1998).
Investor protection	Principal component of the indices of disclosure requirements, liability standards, and anti-director rights. Scale from 0 to 10.

and would hold them liable if they do not. In securities laws, this strategy generally takes the form of disclosure requirements and liability standards that make it cheaper for investors to recover damages when information is wrong or omitted—the two features we try to capture empirically.

We collect six proxies for the strength of specific disclosure requirements pertaining to the promoter's problem.[7] The first and most basic question is whether promoters can issue securities without delivering a prospectus describing the securities to potential investors in advance. Since every country requires a prospectus before securities are sold and listed, the operational word here is "delivering." In some countries, it is possible to sell securities after a prospectus is deposited at the company, or with the Supervisor, without delivering it to investors. Delivering a prospectus to potential investors is an affirmative step in making disclosures to them. In addition, we keep track of affirmative disclosure requirements in the following five areas: (1) insiders' compensation; (2) ownership by large shareholders; (3) inside ownership; (4) contracts outside

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[7] A detailed study of the impact of substantive disclosure rules is beyond the scope of this paper. However, we examine the robustness of our findings to the inclusion of less selective measures of disclosure. Bushman, Piotroski, and Smith (2003) present data on firms' actual disclosures in the following four areas: (1) segments, R&D, capital expenditures, accounting policies, and subsidiaries; (2) major shareholders, management, board, director, and officer remuneration, and director and officer shareholding; (3) consolidation and discretionary reserves; and, (4) frequency of reporting, consolidation of interim reports, and number of disclosed items. None of these variables has additional explanatory power in our regressions.

the normal course of business; and (5) transactions with related parties. We calculate the index of "disclosure requirements" as the average of the preceding six proxies.

In addition to specific disclosure requirements, nearly every country has a residual disclosure requirement that the prospectus must include all material information necessary to assess the value of the securities being offered. When bad news hits after security issuance, the question becomes whether this information was known or knowable to the issuer, the distributor, and/or the accountant and omitted from the prospectus. As legal scholars including Black (2001) and Coffee (2002) emphasize, and as the Dutch example illustrates, the liability standard in the cases of such omission is central to private enforcement of securities laws.[8]

There are basically four liability standards. In the base case, the standard is the same as in torts, namely negligence: the plaintiff must show that the issuer, the distributor, or the accountant was negligent in omitting information from the prospectus. The tort standard also requires that investors prove that they relied on the prospectus to invest (reliance) or that their losses were caused by the misleading information in the prospectus (causality). Some countries rule out recovery in a prospectus liability case or make it harder than the tort standard by requiring the plaintiffs to show that the defendants either knew about the omission or acted with intent or gross negligence (e.g., while "drunk") in omitting the information from the prospectus. In contrast, the burden of proof is less demanding than tort in countries in which investors must prove reliance or causality or both, but not negligence. Finally, burden of proof is lowest where plaintiffs only need to show that the information in the prospectus was misleading (but not prove reliance or causality). The defendants are either strictly liable (i.e., they cannot avoid liability if the prospectus omitted information) or they must themselves show that they exercised due diligence in preparing the prospectus. This shift in the burden of proof from plaintiffs to defendants can, in principle, significantly reduce the cost to the former of establishing liability.

In our empirical analysis, we distinguish among these four liability standards in cases against issuers and directors, distributors, and accountants, and compute a "liability standard" index.

B. Public Enforcement

In the context of securities markets, a public enforcer can be a securities commission, a central bank, or some other supervisory body. For concreteness, we call the main government agency or official authority in charge of supervising

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[8] We have been asked to examine whether the availability of class action suits and contingency fees is associated with the development of securities markets. A dummy equal to one if class actions are available in a prospectus liability case is an insignificant predictor of the development of securities markets. Similarly, a dummy equal to one if contingency fees are generally available is an insignificant predictor of the development of securities markets. Finally, the interaction of class actions and contingency fees is also insignificant.

securities markets the Supervisor. We focus on five broad aspects of public enforcement.

The first aspect covers the basic attributes of the Supervisor, which we capture with three variables. First, an effective Supervisor may need to be insulated from interference by the Executive, both to facilitate recruiting professional staff and to prevent political interference on behalf of influential issuers. To measure the Supervisor's independence, we keep track of whether its key members are appointed through a system of checks-and-balances or unilaterally by the Executive. Second, the independence of the Supervisor may be enhanced when its key members may be dismissed only after due process rather than at the will of the appointing authority. Third, an effective Supervisor may need to be focused on securities markets, rather than on both these markets and banking, so that his success is more closely tied to that of the securities market. Accordingly, we measure whether the Supervisor's mandate covers securities markets alone. We combine these three variables into a subindex of "Supervisor attributes."

The second issue is whether the power to regulate securities markets be delegated to the Supervisor, rather than remain with the legislature or the Ministry of Finance (Spiller and Ferejohn (1992)). We measure whether the Supervisor has the power to regulate primary offerings and/or listing rules on stock exchanges.

The third aspect covers the investigative powers of the Supervisor. Unless the issuer, the distributor, and the auditor are strictly liable for all false and misleading statements in the prospectus (which never happens), the question arises as to why the information revealed to investors was inaccurate. Did the issuer, distributor, or auditor have the information? If not, could they have had it? At what cost? Did the issuer hide the information from the distributor or the auditor? Answering these questions is costly, especially for private plaintiffs. A Supervisor can be empowered to command documents from issuers, distributors, or accountants, and to subpoena testimony of witnesses. Such powers can in principle enable the Supervisor to ascertain the reasons for inaccuracy which can then—as a public good—become the basis for sanctions, or for criminal or civil litigation. We summarize the powers of the Supervisor to subpoena documents and witnesses by forming a subindex of "Investigative powers."

The fourth aspect—perhaps most directly intended to substitute for the weakness of private enforcement—covers noncriminal sanctions for violations of securities laws. These sanctions may involve ordering the directors of a public firm to rectify noncompliance with disclosure requirements, to institute changes recommended by outside reviewers, and/or to compensate investors for their losses. Such sanctions could be imposed separately on issuers, distributors, and accountants, and we keep track of each category. We then average the scores for the sanctions against the various parties to create a subindex of "Orders."

Finally, the fifth aspect covers criminal sanctions for violations of securities laws. We keep track of whether criminal sanctions are applicable, to whom they apply, and what conduct invokes them. We average the scores for criminal

sanctions against directors, distributors, and accountants to obtain a subindex of "criminal sanctions." These variables are of special interest since a popular sentiment sees criminal sanctions as essential to enforce good practices in security issuance. We average the preceding five subindexes to form the index of "Public enforcement."

C. Other Variables

We are interested in understanding the effects of the various provisions in securities laws on financial development. We use seven proxies for the development of securities markets in different countries. The first variable is the ratio of stock market capitalization to gross domestic product (GDP) scaled by the fraction of the stock market held by outside investors. (The results are qualitatively similar for the unadjusted ratio of market capitalization to GDP.) The second variable is the (logarithm of the) number of domestic publicly traded firms in each country relative to its population. The third variable is the value of initial public offerings in each country relative to its GDP. All three variables are 5-year averages of yearly data for the period 1996 to 2000. Theoretically, the first of these three measures is the most attractive, since in theory better investor protection is associated with both a higher number of listed firms and a higher valuation of capital (Shleifer and Wolfenzon (2002)). Except for some differences in scaling and timing, these three variables are used in La Porta et al. (1997) to study the consequences of investor protection through corporate law on stock market development.

The fourth variable is a qualitative assessment of the ability of new and medium-sized firms to raise equity in the stock market based on a survey of business executives by the *Global Competitiveness Report 1999* (Schwab et al. (1999)). The fifth variable is the (median) premium paid for control in corporate control transactions. In several theoretical models, this variable has been interpreted as a measure of the private benefits of control, which are higher in countries with weaker investor protection (Grossman and Hart (1988), Dyck and Zingales (2004), Nenova (2003)). The sixth variable is a proxy for ownership concentration among the largest firms in the country. Both theory (Shleifer and Wolfenzon (2002)) and prior empirical work (La Porta, Lopez-de-Silanes, and Shleifer (1999a)) suggest that ownership concentration is lower in countries with better investor protection. Finally, the seventh variable is a proxy for stock market liquidity, as measured by the ratio of traded volume to GDP. Levine and Zervos (1998) show that this variable predicts the growth in per capita income.

To isolate the effect of securities laws on financial markets, we control for several factors identified by previous research. The first of these is the level of economic development, which we measure as the (logarithm of) per capita GDP. Economic development is often associated with capital deepening. In addition, richer countries might have higher quality institutions in general, including better property rights and rule of law, which could be associated with better financial development regardless of the content of the laws (North (1981),

La Porta et al. (1999b)).[9] To further address this issue, we use the measure of the efficiency of the judiciary from the *International Country Risk Guide* (Political Risk Services (1996)) as an additional control.

La Porta et al. (1997, 1998) present evidence that measures of investor protection derived from corporate law are associated with stock market development. This evidence raises the question of which laws, if any, make a difference. Accordingly, in all our regressions, we include the anti-directors rights index of the protection afforded to shareholders through statutory corporate law as an additional control.

As in many other studies in this area, the causal effect of securities laws on financial development cannot be established with certainty. Following La Porta et al. (1997, 1998), we use the legal origin of commercial laws as an instrument. The commercial laws of most countries originate in one of four legal families: English (common) law, French civil law, German civil law, and Scandinavian law, which have spread throughout the world through conquest, colonization, and occasionally voluntary transplantation. England developed a common law tradition, characterized by independent judges and juries, relatively weaker reliance on statutes, and the preference for contracts and private litigation as a means of dealing with social harms. France, in contrast, developed a civil law tradition, characterized by state-employed judges, great reliance on legal and procedural codes, and a preference for state regulation over private litigation. This makes legal origin a suitable instrument for the stance of the law regarding alternative regulatory strategies.

Table II presents our data on securities laws. Countries are arranged by legal origin, and we report means by legal origin as well as tests of the differences in these means. There is large cross-country variation in our measures of securities laws. Common and civil law countries differ significantly in our measures of disclosure, liability standards, and public enforcement. Common law countries both have more extensive mandatory disclosure requirements, and make it easier for investors to recover damages. In the public enforcement area, these differences are smaller for Supervisor attributes and rule-making power, and greater for investigative powers, orders, and criminal sanctions. In the next section, we examine which aspects of the securities law, as well as corporate law, matter for financial development.

III. Securities Laws and Financial Development

Table III presents the results of regressions of our various measures of financial development on the anti-director rights index, efficiency of the judiciary, logarithm of GDP per capita, disclosure (Panel A), liability standards (Panel B),

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[9] In practice, per capita GDP is very highly correlated with survey measures of the quality of institutions such as perceptions of property rights, rule of law, and the prevalence of corruption. In our sample, the pair-wise correlation of (log) per capita GDP with property rights, corruption, and rule of law is 0.754, 0.882, and 0.892, respectively. The results reported in the paper are robust to replacing log per capita GDP by any of these three measures.

Table II
Indices of Regulation of Securities Markets

This table classifies countries by legal origin and shows the securities law variables for each country covering the areas of (1) disclosure requirements; (2) liability standards; (3) supervisor characteristics; (4) rule-making power of the supervisor; (5) investigative powers of the supervisor; (6) orders to issuers, distributors, and accountants; (7) criminal sanctions applicable to directors, distributors, and accountants; and (8) public enforcement. All variables are described in Table I.

Country	Symbol	Disclosure Requirements	Liability Standard	Supervisor Characteristics	Rule-Making Power	Investigative Powers	Orders	Criminal Sanctions	Public Enforcement
English legal origin									
Australia	AUS	0.75	0.66	0.67	1.00	1.00	1.00	0.83	0.90
Canada	CAN	0.92	1.00	0.67	0.50	1.00	1.00	0.83	0.80
Hong Kong	HKG	0.92	0.66	0.33	1.00	1.00	1.00	1.00	0.87
India	IND	0.92	0.66	0.33	0.50	1.00	0.67	0.83	0.67
Ireland	IRL	0.67	0.44	0.00	1.00	0.00	0.00	0.83	0.37
Israel	ISR	0.67	0.66	0.67	0.00	1.00	1.00	0.50	0.63
Kenya	KEN	0.50	0.44	0.33	1.00	0.50	1.00	0.67	0.70
Malaysia	MYS	0.92	0.66	0.33	0.50	1.00	1.00	1.00	0.77
New Zealand	NZL	0.67	0.44	0.33	0.00	1.00	1.00	0.33	0.33
Nigeria	NGA	0.67	0.39	0.67	0.50	0.00	0.00	0.50	0.33
Pakistan	PAK	0.58	0.39	0.67	1.00	1.00	0.17	0.08	0.58
Singapore	SGP	1.00	0.66	0.33	1.00	1.00	1.00	1.00	0.87
South Africa	ZAF	0.83	0.66	0.33	0.00	0.50	0.00	0.42	0.25
Sri Lanka	LKA	0.75	0.39	0.33	1.00	0.50	0.00	0.33	0.43
Thailand	THA	0.92	0.22	0.67	1.00	1.00	0.33	0.58	0.72
USA	USA	1.00	1.00	1.00	1.00	1.00	1.00	0.50	0.90
United Kingdom	GBR	0.83	0.66	0.00	1.00	1.00	1.00	0.42	0.68
Zimbabwe	ZWE	0.50	0.44	1.00	0.00	0.00	0.08	1.00	0.42
Mean		**0.78**	**0.58**	**0.48**	**0.67**	**0.75**	**0.57**	**0.65**	**0.62**
French legal origin									
Argentina	ARG	0.50	0.22	0.67	1.00	1.00	0.08	0.17	0.58
Belgium	BEL	0.42	0.44	0.00	0.00	0.25	0.00	0.50	0.15
Brazil	BRA	0.25	0.33	0.33	1.00	0.50	0.75	0.33	0.58
Chile	CHL	0.58	0.33	0.33	1.00	0.75	0.42	0.50	0.60
Colombia	COL	0.42	0.11	0.33	1.00	0.75	0.33	0.50	0.58
Ecuador	ECU	0.00	0.11	1.00	1.00	0.25	0.08	0.42	0.55
Egypt	EGY	0.50	0.22	0.67	0.00	0.25	0.17	0.42	0.30
France	FRA	0.75	0.22	1.00	0.50	1.00	1.00	0.33	0.77
Greece	GRC	0.33	0.50	0.67	0.00	0.25	0.17	0.50	0.32
Indonesia	IDN	0.50	0.66	0.33	1.00	1.00	0.25	0.50	0.62

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Table II—*Continued*

Country	Symbol	Disclosure Requirements	Liability Standard	Supervisor Characteristics	Rule-Making Power	Investigative Powers	Orders	Criminal Sanctions	Public Enforcement
Italy	ITA	0.67	0.22	0.67	1.00	0.25	0.00	0.50	0.48
Jordan	JOR	0.67	0.22	0.33	1.00	1.00	0.67	0.00	0.60
Mexico	MEX	0.58	0.11	0.00	1.00	0.25	0.00	0.50	0.35
Netherlands	NLD	0.50	0.89	0.33	1.00	0.50	0.00	0.50	0.47
Peru	PER	0.33	0.66	0.67	1.00	0.75	1.00	0.50	0.78
Philippines	PHL	0.83	1.00	0.67	1.00	1.00	1.00	0.50	0.83
Portugal	PRT	0.42	0.66	0.67	1.00	1.00	0.25	0.00	0.58
Spain	ESP	0.50	0.66	0.67	0.00	0.50	0.00	0.50	0.33
Turkey	TUR	0.50	0.22	0.67	1.00	1.00	0.00	0.50	0.63
Uruguay	URY	0.00	0.11	0.67	1.00	0.25	0.50	0.42	0.57
Venezuela	VEN	0.17	0.22	0.33	1.00	1.00	0.08	0.33	0.55
Mean		**0.45**	**0.39**	**0.52**	**0.79**	**0.64**	**0.32**	**0.40**	**0.53**
German legal origin									
Austria	AUT	0.25	0.11	0.33	0.00	0.00	0.00	0.50	0.17
Germany	DEU	0.42	0.00	0.33	0.00	0.25	0.00	0.50	0.22
Japan	JPN	0.75	0.66	0.00	0.00	0.00	0.00	0.00	0.00
Korea	KOR	0.75	0.66	0.33	0.00	0.50	0.08	0.33	0.25
Switzerland	CHE	0.67	0.44	0.33	1.00	0.00	0.00	0.33	0.33
Taiwan	TWN	0.75	0.66	0.33	1.00	0.25	0.17	0.83	0.52
Mean		**0.60**	**0.42**	**0.28**	**0.33**	**0.17**	**0.04**	**0.42**	**0.25**
Scandinavian legal origin									
Denmark	DNK	0.58	0.55	0.00	1.00	0.50	0.33	0.00	0.37
Finland	FIN	0.50	0.66	0.67	0.00	0.25	0.17	0.50	0.32
Norway	NOR	0.58	0.39	0.00	0.00	0.25	0.33	1.00	0.32
Sweden	SWE	0.58	0.28	0.00	1.00	0.25	0.67	0.58	0.50
Mean		**0.56**	**0.47**	**0.17**	**0.50**	**0.31**	**0.38**	**0.52**	**0.38**
Mean of all countries		**0.60**	**0.47**	**0.45**	**0.66**	**0.60**	**0.38**	**0.50**	**0.52**
Tests of means (t-stats)									
English vs. Civil Law		-5.01^a	-2.45^b	-0.60	-0.04	-2.23^b	-2.60^a	-3.18^a	-2.72^a
English vs. French		-5.31^a	-2.48^b	0.48	0.90	-0.92	-1.87^c	-3.46^a	-1.43
English vs. German		-2.19^b	-1.44	-1.67	-1.59	-3.45^a	-2.70^a	-1.77^c	-3.85^a
English vs. Scandinavian		-2.60^b	-0.99	-1.94^c	-0.67	-2.17^b	-0.80	-0.76	-2.22^b
French vs. German		1.49	0.28	-2.13^b	-2.27^b	-3.32^a	-1.87^c	0.18	-3.66^a
French vs. Scandinavian		1.03	0.58	-2.34^b	-1.21	-1.94^c	0.29	1.05	-1.82^c
German vs. Scandinavian		-0.32	0.28	-0.75	0.48	1.26	3.70^a	0.49	1.35

[a] significant at 1%; [b] significant at 5%; and [c] significant at 10%.

Table III

Securities Laws and the Development of Stock Markets

Ordinary least squares regressions of the cross-section of countries. The dependent variables are (1) external market capitalization; (2) log of domestic firms per capita; (3) value of the IPO-to-GDP ratio; (4) block premium; (5) access to equity; (6) ownership concentration; and (7) the stock-market-volume-to-GDP ratio. All regressions include anti-director rights, efficiency of the judiciary, and log of GDP per capita. In addition, regressions include disclosure requirements (Panel A); liability standards (Panel B); and public enforcement (Panel C). All variables are described in Table I. Robust standard errors are shown in parentheses.

Panel A: Disclosure Requirements

	Market Capitalization	Number of Firms	IPOs	Block Premia	Access to Equity	Ownership Concentration	Liquidity
Disclosure requirements	0.5813[a]	1.1103[b]	4.6983[a]	-0.2682[b]	1.8032[a]	-0.1930[b]	97.2050[a]
	(0.1377)	(0.4127)	(1.4395)	(0.1145)	(0.4834)	(0.0871)	(34.0413)
Anti-director rights	0.0420	0.1195	0.1371	-0.0180	-0.0715	-0.0209[c]	1.7897
	(0.0308)	(0.0946)	(0.2772)	(0.0204)	(0.0856)	(0.0123)	(5.5914)
Ln GDP per capita	0.0957[a]	0.2789[b]	1.1393[a]	-0.0028	0.1543[c]	-0.0285[b]	20.2746[a]
	(0.0229)	(0.1075)	(0.2439)	(0.0195)	(0.0903)	(0.0139)	(6.4414)
Efficiency of the judiciary	0.0386[c]	0.2302[a]	-0.0843	-0.0070	0.1824[a]	-0.0070	-4.0440
	(0.0204)	(0.0664)	(0.2106)	(0.0114)	(0.0649)	(0.0093)	(5.3761)
Constant	-1.2056[a]	-2.6758[a]	-9.5765[a]	0.4067[b]	1.4312[c]	0.9540[a]	-160.1500[a]
	(0.2037)	(0.6693)	(1.8551)	(0.1492)	(0.7266)	(0.1036)	(37.7904)
Observations	49	49	49	37	44	49	49
Adjusted R^2	54%	69%	38%	32%	52%	36%	27%

Table III—*Continued*

	Market Capitalization	Number of Firms	IPOs	Block Premia	Access to Equity	Ownership Concentration	Trading
			Panel B: Liability Standards				
Liability standards	0.4481[c]	0.7522[c]	3.7150[a]	−0.1302[c]	1.4655[a]	−0.1104	90.3188[a]
	(0.1289)	(0.4245)	(1.3750)	(0.0673)	(0.4755)	(0.0699)	(31.4726)
Anti-director rights	0.0515	0.1474	0.2049	−0.0276[b]	−0.0545	−0.0277[b]	1.9140
	(0.0330)	(0.0883)	(0.3216)	(0.0133)	(0.0823)	(0.0125)	(5.3484)
Ln GDP per capita	0.0878[a]	0.2665[b]	1.0733[a]	−0.0121	0.1534	−0.0268[c]	18.5645[a]
	(0.0240)	(0.1089)	(0.2370)	(0.0219)	(0.1082)	(0.0150)	(6.0737)
Efficiency of the judiciary	0.0457[b]	0.2439[a]	−0.0275	−0.0040	0.1916[a]	−0.0095	−2.9061
	(0.0226)	(0.0768)	(0.2031)	(0.0126)	(0.0663)	(0.0106)	(5.0634)
Constant	−1.0818[a]	−2.4459[a]	−8.5704[a]	0.3950[b]	1.7065[b]	0.9152[a]	−138.5010[a]
	(0.2026)	(0.7360)	(1.7468)	(0.1647)	(0.8231)	(0.1000)	(35.2721)
Observations	49	49	49	37	44	49	49
Adjusted R^2	51%	67%	36%	22%	50%	31%	27%
			Panel C: Public Enforcement				
Public enforcement	0.3446[c]	0.6422	3.7220[b]	−0.0087	0.0069	0.0560	39.5648
	(0.1990)	(0.4813)	(1.5531)	(0.0651)	(0.5736)	(0.0940)	(30.0063)
Anti-director rights	0.0711[b]	0.1761[b]	0.3098	−0.0414[a]	0.0895	−0.0420[a]	7.8568
	(0.0347)	(0.0861)	(0.2434)	(0.0148)	(0.1056)	(0.0121)	(4.7260)
Ln GDP per capita	0.1041[a]	0.2949[a]	1.2210[a]	−0.0133	0.1835	−0.0289[c]	21.4326[a]
	(0.0218)	(0.1052)	(0.2687)	(0.0216)	(0.1222)	(0.0153)	(7.0790)
Efficiency of the judiciary	0.0518[b]	0.2551[a]	0.0355	−0.0041	0.1916[b]	−0.0090	−2.0959
	(0.0236)	(0.0750)	(0.2168)	(0.0120)	(0.0740)	(0.0112)	(5.4241)
Constant	−1.2999[a]	−2.8470[a]	−10.8554[a]	0.3898[b]	1.7103[c]	0.8912[a]	−165.9368[a]
	(0.2169)	(0.7578)	(2.0799)	(0.1791)	(0.9944)	(0.1173)	(40.4056)
Observations	49	49	49	37	44	49	49
Adjusted R^2	48%	66%	34%	15%	38%	29%	18%

[a]significant at 1%; [b]significant at 5%; and [c]significant at 10%.

and public enforcement (Panel C).[10] Both higher per capita GDP and efficiency of the judiciary tend to be associated with more developed stock markets, and these effects are quantitatively large. To interpret the results on Table III, note that when securities laws are excluded from the regression, stronger anti-director rights are associated with better stock market development for all dependent variables except the index of access to equity (results not reported). In contrast, anti-director rights are only significant in one of the regressions that controls for disclosure (ownership concentration) and two of the regressions that control for liability standards (ownership concentration and block premium). The results for anti-director rights are more consistent in the regressions that control for public enforcement. In those regressions, anti-director rights have predictive power for market capitalization, number of firms, block premium, and ownership concentration.

Perhaps most interestingly, both disclosure requirements and liability standards are positively correlated with larger stock markets. In Panel A, disclosure is associated with more developed stock markets for all seven dependent variables. The estimated coefficients predict that a two-standard deviation increase in disclosure (roughly the distance from the Netherlands to the United States) is associated with an increase of 0.27 in the external-market-to-GDP ratio, a 52% rise in listed firms per capita, a 2.22 increase in the IPO-to-GDP ratio, a 13 percentage point drop in the block premium, a 0.85 point improvement in the access-to-equity index, a 9 percentage point drop in ownership concentration, and a 45.9 point increase in the volume-to-GDP ratio.[11]
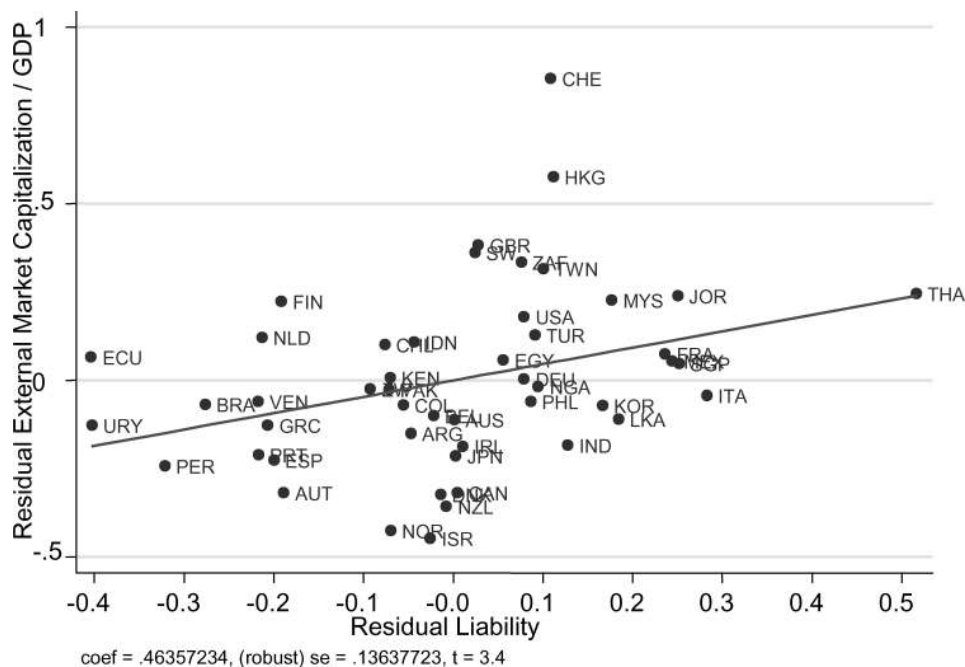
The results on liability standards are also consistently strong. The estimated coefficients predict that a two-standard deviation increase in this variable (roughly the distance from Denmark to the United States) is associated with an increase of 0.23 percentage points in the external-market-to-GDP ratio, a 28% rise in listed firms per capita, a 1.88 increase in the IPO-to-GDP ratio, a 6.6 percentage point drop in the block premium, a 0.75 point improvement in the access-to-equity index, a decrease of 6.6 percentage points in ownership concentration (but with a *t*-stat of only 1.58), and a 45.8 point increase in the volume-to-GDP ratio.

Figures 1 and 2 illustrate the impact on the external-market-capitalization-to-GDP ratio of disclosure and liability standards, respectively. In our sample, the external-market-capitalization-to-GDP ratio ranges from 0.002 in Uruguay

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[10] We obtain similar results replacing each of our three indices of securities laws by the principal component of the variables included in the relevant index. The most important change is that the principal component of public enforcement only predicts IPOs.

[11] The effect of efficiency of the judiciary on financial markets is comparable to that of disclosure. The estimated coefficients predict that a two-standard deviation increase in the efficiency of the judiciary (roughly the distance from Korea or Mexico to the United States) is associated with an increase of 0.16 in the external-market-to-GDP ratio, a 94% rise in listed firms per capita, and a 0.75 point improvement in the access-to-equity index, a 12 percentage point drop in ownership concentration, and an 83 point increase in the volume-to-GDP ratio. The effect of efficiency of the judiciary on financial development is similar in the specifications that control for liability standards (Panel B) and public enforcement (Panel C).

coef = .58127359, (robust) se = .1376864, t = 4.22

Figure 1. Partial regression plot of external-market-capitalization-to-GDP and disclosure requirements. The independent variables include anti-director rights, log of GDP per capita, and efficiency of the judiciary. Table II lists the country symbols.

to 1.44 in Switzerland. Thus, the roughly 0.25 point increase in the external-market-capitalization-to-GDP ratio associated with a two-standard deviation improvement in either disclosure or liability standards is economically large. Note also that the strength of disclosure and liability standards is not driven by outliers; we obtain qualitatively similar results using median regressions.

The results for public enforcement (Panel C) are less consistent. Public enforcement only matters for the external-market-capitalization-to-GDP ratio and IPOs, although it has a large economic effect on both variables (see Figure 3). A two-standard deviation increase in public enforcement (roughly, from the Netherlands to the United States) is associated with an increment of 0.15 points in the external-market-capitalization-to-GDP ratio and adds 1.6 firms in the IPO-to-GDP ratio. In contrast, anti-director rights, but not public enforcement, matter for the number of firms, block premium, and ownership concentration.

These results suggest a preliminary view of what works, and what does not, in securities laws. Public enforcement plays a modest role at best in the development of stock markets. In contrast, the development of stock markets is strongly associated with extensive disclosure requirements and a relatively low burden of proof on investors seeking to recover damages resulting from omissions of material information from the prospectus.
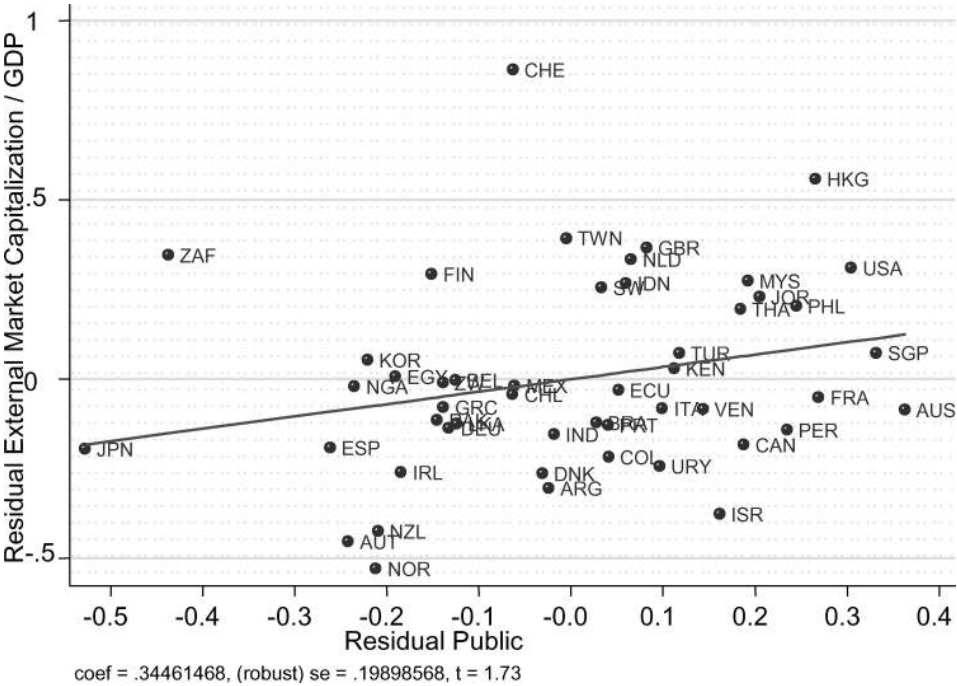
Figure 2. Partial regression plot of external-market-capitalization-to-GDP and liability standards. The independent variables include anti-director rights, log of GDP per capita, and efficiency of the judiciary. Table II lists the country symbols.

In the remainder of this section, we explore these preliminary findings from a range of perspectives. We first examine whether the weakness of public enforcement is due to our aggregation procedure. Table IV presents the results of regressing external market capitalization on the components of the public enforcement index. The power to make rules is the only element of public enforcement that is statistically significant. The results using other proxies for stock market development are similar (we do not report them to save space). First, neither the characteristics of the Supervisor (i.e., its independence and focus) nor its power to make rules matter for any of the other outcome variables. Second, the Supervisor's investigative power is only associated with more domestic firms. Third, the Supervisor's power to issue orders is only associated with more IPOs (and weakly—*t*-stat of 1.65—with more domestic firms). Fourth, criminal sanctions only matter for IPOs. Criminal deterrence may be ineffective because proving criminal intent of directors, distributors, or accountants in omitting information from the prospectus is difficult. In sum, no dimension of public enforcement consistently matters for the development of stock markets.

Table V presents the results of a horse race between disclosure requirements, liability rules, and public enforcement. Disclosure is significant in all regressions. In contrast, public enforcement is never significant. Liability standards

coef = .34461468, (robust) se = .19898568, t = 1.73

Figure 3. Partial regression plot of external-market-capitalization-to-GDP and public enforcement. The independent variables include anti-director rights, log of GDP per capita, and efficiency of the judiciary. Table II lists the country symbols.

are significant in the regressions for external capitalization, access to equity, and liquidity. However, multicollinearity between disclosure and liability standards may be of concern as the correlation between the two variables is 0.55 (the correlation between public enforcement and either disclosure or liability standards is only around 0.3). Finally, consistent with Table III, the anti-director rights index is never significant.

One of our key results is that disclosure and liability standards are stronger than the anti-director rights index. Why? One possibility is that we have found the "true" channel through which legal origin matters: it is correlated with the development of stock markets because it is a proxy for the effectiveness of private contracting as supported by securities laws. Note in this regard that legal origin typically loses its strong predictive power for the development of stock markets when we include anti-directors rights, disclosure, or liability standards in the regression. A second possibility is that investor protection through corporate law (which also works through private litigation) also matters, but we simply have cleaner measures of disclosure and liability standards. A third, more nuanced, possibility is that corporate and securities laws often rely on similar rules (e.g., regarding liability standards in civil cases), and it is the presence of these rules that is essential for the ability of private investors to seek remedy for expropriation by corporate insiders. For example, the U.S. system of mandatory disclosure evolved out of common law principles applicable

Table IV

External Market Capitalization and Public Enforcement

Ordinary least squares regressions of the cross-section of countries. The dependent variable is external market capitalization. We report five regressions successively controlling for the following securities laws variables: (1) supervisor attributes; (2) rule-making powers; (3) investigative powers; (4) orders; and (5) criminal sanctions. In addition to a securities laws variable, all regressions include anti-director rights, efficiency of the judiciary, and log of GDP per capita. Robust standard errors are shown in parentheses. All variables are described in Table I.

	Supervisor Characteristics	Rule-Making Powers	Investigative Powers	Orders	Criminal Sanctions
Securities regulation variable	−0.0111	0.1986[c]	0.1207	0.0525	0.1336
	(0.1312)	(0.1008)	(0.1112)	(0.1236)	(0.1643)
Anti-director rights	0.0944[a]	0.0889[a]	0.0803[b]	0.0878[a]	0.0877[a]
	(0.0325)	(0.0316)	(0.0312)	(0.0310)	(0.0303)
Efficiency of the judiciary	0.0465[c]	0.0590[b]	0.0412[c]	0.0496[c]	0.0430[c]
	(0.0247)	(0.0249)	(0.0243)	(0.0249)	(0.0252)
Ln GDP per capita	0.0990[a]	0.0992[a]	0.1041[a]	0.0987[a]	0.1018[a]
	(0.0245)	(0.0234)	(0.0219)	(0.0245)	(0.0265)
Constant	−1.1002[a]	−1.3177[a]	−1.1129[a]	−1.1377[a]	−1.1506[a]
	(0.2342)	(0.2350)	(0.2003)	(0.2021)	(0.2410)
Observations	49	49	49	49	49
Adjusted R^2	44%	50%	46%	45%	45%

[a]significant at 1%; [b]significant at 5%; and [c]significant at 10%.

to agents dealing adversely with their principals (Mahoney (1995)). In fact, the correlations of the anti-director index with disclosure requirements and liability standards are 0.52 and 0.50, respectively (see the Appendix). On this view as well, our results do not imply that corporate law is unimportant.

IV. Robustness

In this section, we address three issues of robustness using some additional data. First, is the weakness of our results on public enforcement due to inadequate measures of the Supervisor's strength? Second, what omitted variables may explain the strength of our results on disclosure and liability standards? Third, are securities laws endogenous?

Public enforcement may only be effective in countries with efficient government bureaucracies. To address this concern, we have rerun our regressions for the subsample of countries with per capita GDP above the median. We find that in these countries, public enforcement is correlated with more developed financial markets as proxied by the market-capitalization-to-GDP ratio, the number of listed firms, and the value of IPOs (and weakly—t-stat of 1.72—with stock market liquidity).[12] The effect of public enforcement in rich countries is

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[12] Results are qualitatively similar if we break up the sample using survey measures of the quality of government (including either judicial efficiency or the Kaufmann, Kraay, and Mastruzzi (2003) proxy for bureaucratic quality). We also find that public enforcement is correlated with better access to equity markets in countries in which insider trading laws were enforced before 1995 (Bhattacharya and Daouk (2002)).

Table V

Disclosure, Liability Standards, and Public Enforcement

Ordinary least squares regressions of the cross-section of countries. The dependent variables are (1) external market capitalization; (2) log of domestic firms per capita; (3) value of the IPO-to-GDP ratio; (4) block premium; (5) access to equity; (6) ownership concentration; and (7) the stock-market-volume-to-GDP ratio. All regressions include disclosure requirements, liability standards, public enforcement, anti-director rights, efficiency of the judiciary, and log of GDP per capita. All variables are described in Table I. Robust standard errors are shown in parentheses.

	Market Capitalization	Number of Firms	IPOs	Block Premia	Access to Equity	Ownership Concentration	Liquidity
Disclosure requirements	0.4316[a]	0.8735[c]	3.2784[b]	−0.2667[b]	1.5815[a]	−0.1912[b]	68.5580[b]
	(0.1391)	(0.4919)	(1.6017)	(0.1296)	(0.4548)	(0.0887)	(30.0254)
Liability standards	0.2646[c]	0.3849	2.1213	−0.0790	1.1350[b]	−0.0656	64.9247[b]
	(0.1386)	(0.4961)	(1.6166)	(0.0713)	(0.4827)	(0.0647)	(30.4823)
Public enforcement	0.1900	0.3627	2.5228	0.0864	−0.7054	0.1130	9.9240
	(0.1812)	(0.4946)	(1.6761)	(0.0653)	(0.6908)	(0.0994)	(32.3549)
Anti-director rights	0.0176	0.0799	−0.1054	−0.0157	−0.1133	−0.0224	−2.4741
	(0.0333)	(0.0976)	(0.2861)	(0.0175)	(0.0847)	(0.0136)	(5.6187)
Ln GDP per capita	0.0925[a]	0.2757[b]	1.1296[a]	0.0025	0.1080	−0.0252[c]	18.9326[a]
	(0.0213)	(0.1071)	(0.2445)	(0.0205)	(0.0840)	(0.0132)	(5.9055)
Efficiency of the judiciary	0.0427[b]	0.2377[a]	−0.0341	−0.0070	0.1790[a]	−0.0053	−3.6729
	(0.0201)	(0.0684)	(0.2105)	(0.0114)	(0.0577)	(0.0099)	(5.3006)
Constant	−1.2694[a]	−2.8131[a]	−10.6035[a]	0.3437[b]	1.9522[a]	0.8872[a]	−156.8780[a]
	(0.2222)	(0.7724)	(2.2086)	(0.1611)	(0.6737)	(0.1219)	(39.7945)
Observations	49	49	49	37	44	49	49
Adjusted R^2	56%	68%	40%	31%	58%	37%	29%

[a]significant at 1%; [b]significant at 5%; and [c]significant at 10%.

narrowly confined to the rule-making power of the Supervisor. In contrast, public enforcement does not predict the development of securities markets in countries with below-median GDP per capita.

A related concern is that public enforcement may be ineffective if the Supervisor lacks adequate resources. To address this concern, we collect data on the number of employees that work for the Supervisor. We find that the (log of) the number of employees is insignificant in our regressions. To get at the interaction between public enforcement and the resources of the Supervisor, we break up the sample according to whether the number of employees working for the Supervisor is above or below the sample median and run separate regressions for both groups of countries. Public enforcement is statistically significant only for IPOs in countries with well-staffed regulators (and for domestic firms in countries with poorly staffed regulators). All the evidence suggests that relying on pubic enforcement is unlikely to be a useful strategy for jump-starting the development of securities markets in poor countries.

One set of omitted variable stories holds that investor protection picks up the effect of political ideology. Roe (2000) argues that the emphasis on investor protection for the development of financial markets is misplaced. In his view, social democracies have weak investor protection and arrest the development of financial markets. To examine this issue, we use the Botero et al. (2004) measure of political ideology as the fraction of years between 1928 and 1995 that the office of the chief executive is held by a member of a leftist party. This proxy for left power is uncorrelated with both disclosure and liability standards (correlations of -0.06 and -0.13, respectively). We find (results not reported) that the power of the left is associated with smaller external market capitalization when controlling for either disclosure or liability standards, and with a higher block premium when controlling for liability standards. However, including left power in the regressions does not diminish the strength of the results on either disclosure or liability standards.

It might also be argued that financial markets are small where the state is large. For example, few firms may be publicly traded in countries in which the state owns most of the capital. Omitted variable bias may account for the strength of our results if disclosure or liability standard is negatively correlated with the role of the state in the economy. To address this concern, we have included two measures of the role of the state in the economy in our regressions: (1) the fraction of the capital stock in the hands of state-owned companies from La Porta et al. (1999b); and (2) the fraction of the banking assets controlled by government-owned banks from La Porta et al. (2002a). Our results on securities laws remain qualitatively unchanged.

Another omitted variable story holds that countries with large capital markets may come to rely on disclosure and private litigation because their institutions are more democratically responsive to the interests of small investors. However, measures of democracy and political rights are uncorrelated with securities laws. Moreover, these measures are not significant predictors of financial development in our regressions. A related concern is that securities laws may proxy for social capital. The most commonly used measure of social

Table VI
Instrumental Variables Regressions

Panel A presents two-stage least squares regressions of the cross-section of countries. The dependent variables are (1) external market capitalization; (2) log of domestic firms per capita; (3) value of the IPO-to-GDP ratio; (4) block premia; (5) access to equity; (6) ownership concentration; and (7) the stock-market-volume-to-GDP ratio. Investor protection is the principal component of: (1) anti-director rights; (2) disclosure requirements; and (3) liability standards. In addition to investor protection, all regressions include efficiency of the judiciary and log of GDP per capita. Panel B presents results from the first-stage regression. The instrument is a dummy equal to one if the country's legal origin is common law. All variables are described in Table I. Robust standard errors are shown in parentheses.

	Market Capitalization	Number of Firms	IPOs	Block Premia	Access to Equity	Ownership Concentration	Liquidity
			Panel A: Second Stage Regression Results				
Investor protection	0.5800[b]	2.0147[a]	6.3885[a]	−0.2118[b]	1.3533[b]	−0.1651[c]	55.9974
	(0.2615)	(0.6917)	(2.3353)	(0.0942)	(0.6068)	(0.0973)	(40.5738)
Efficiency of the judiciary	0.0443[b]	0.2137[a]	−0.1488	−0.0076	0.1638[b]	−0.0115	−2.6144
	(0.0211)	(0.0773)	(0.1961)	(0.0115)	(0.0704)	(0.0096)	(4.5972)
Ln GDP per capita	0.0908[a]	0.2741[b]	1.1539[a]	−0.0067	0.1762	−0.0253[c]	19.8192[a]
	(0.0209)	(0.1089)	(0.2468)	(0.0191)	(0.1049)	(0.0146)	(6.3732)
Constant	−1.0052[a]	−2.4332[a]	−8.9957[a]	0.3303[b]	1.6148[c]	0.8601[a]	−130.0414[a]
	(0.1855)	(0.7313)	(1.6992)	(0.1436)	(0.8141)	(0.0935)	(32.1144)
Observations	49	49	49	37	44	49	49
R^2	59%	71%	43%	36%	54%	39%	31%
		Panel B: First Stage Regression Results for Investor Protection					
English legal origin				0.3448[a]			
				(0.0598)			
Efficiency of the judiciary				−0.0064			
				(0.0176)			
Ln GDP per capita				0.0521[b]			
				(0.0255)			
Constant				−0.0644			
				(0.1876)			
Observations				49			
R^2				0.45			

[a]significant at 1%; [b]significant at 5%; and [c]significant at 10%.

capital—a survey measure of trust among strangers—is available for 27 of our countries and is always insignificant.[13]

Finally, it is possible that governments adopt better securities laws in countries with buoyant financial markets (Cheffins (2001, 2003), Coffee (2001)). This argument is undermined by the systematic differences in investor protection across legal origins. Reverse causality is also undermined by the fact that the dimensions of the law that are expensive to implement—for example, having an independent and focused regulator—do not seem to matter. On the contrary, what matters is legal rules that are cheap rather than expensive to introduce. A second reverse causality argument holds that regulators swarm toward large securities markets because there are bigger rents to secure from regulating them. This argument is also undermined by the fact that it is precisely the regulations that render the regulators unimportant, namely, those that facilitate private contracting and that have the tightest association with stock market development.

We can partially address endogeneity problems using instrumental variables. In practice, legal origin is the only suitable instrument, but we have several legal variables that influence stock market development. To get around this problem, we replace disclosure, liability standards, and anti-director rights with the principal component of these three variables, which we call investor protection. This principal component accounts for roughly 70% of the variation in disclosure, liability standards, and anti-director rights. Table VI presents the two-stage least squares results using common law as an instrument. Investor protection is statistically significant for all seven proxies of stock market development (Panel A). Moreover, legal origin is a strong predictor of investor protection (Panel B).[14] These results should partially mitigate endogeneity concerns.

V. Conclusion

In the introduction, we describe three hypotheses concerning the effect of securities laws on stock market development. Our findings provide clear evidence bearing on these hypotheses.

First, the answer to the question of whether securities laws matter is a definite yes. Financial markets do not prosper when left to market forces alone. Second, our findings suggest that securities laws matter because they facilitate private contracting rather than provide for public regulatory enforcement. Specifically, we find that several aspects of public enforcement, such as having

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[13] We also use the percentage of the population that belongs to a protestant denomination as a proxy for trust (the correlation between the two variables is 0.762). In the specifications that include our three indices of securities laws, the percentage of the population that is protestant predicts more access to equity and a lower control premium but disclosure and liability standards retain their predictive power.

[14] The F-statistic for the exclusion of English legal origin from the first-stage regression is 33.3, suggesting that there is no problem of weak instruments (Staiger and Stock (1997)). The Hausman test rejects the unbiasedness of the OLS estimated coefficients in the regressions for domestic firms, IPOs, and trading.

an independent and/or focused regulator or criminal sanctions, do not matter, and others matter in only some regressions. In contrast, both extensive disclosure requirements and standards of liability facilitating investor recovery of losses are associated with larger stock markets. Our results on the benefits of disclosure support similar findings of Barth, Caprio, and Levine (2003), who find that their proxy for private monitoring is positively correlated with the size of the banking sector.

These results point to the importance of regulating the agency conflict between controlling shareholders and outside investors to further the development of capital markets. They also point to the need for legal reform to support financial development, and cast doubt on the sufficiency of purely private solutions in bridging the gap between countries with strong and weak investor protection. Finally, our findings further clarify why legal origin predicts stock market development. The results support the view that the benefit of common law in this area comes from its emphasis on market discipline and private litigation. The benefits of common law appear to lie in its emphasis on private contracting and standardized disclosure and in its reliance on private dispute resolution using market-friendly standards of liability.

Appendix
Table of Correlations

This appendix shows the correlations among the variables used in the paper. All variables are described in Table I.

	Disclosure requirements	Liability standards	Supervisor characteristics	Rule-making power	Orders	Investigative Power	Criminal sanctions	Public enforcement	Anti-Directors rights	Efficiency of the judiciary	Ln GDP per capita	UK Legal Origin	French Legal Origin	German Legal Origin	Scandinavian Legal Origin	Market capitalization	Domestic firms	IPOs	Block premia	Access to equity	Ownership concentration
Liability standards	0.5496^a																				
Supervisor characteristics	-0.1099	0.0481																			
Rule-making power	0.0196	-0.0427	-0.0149																		
Orders	0.3847^a	0.4082^b	0.1399	0.2837^b																	
Investigative power	0.3759^a	0.3100^b	0.2142	0.3465^b	0.5750^a																
Criminal sanctions	0.3121^b	0.2184	-0.0053	-0.0778	0.3208^b	-0.0292															
Public enforcement	0.3305^b	0.3091^b	0.3821^a	0.6179^a	0.8067^a	0.7575^a	0.3193^b														
Anti-directors rights	0.5236^a	0.4999^a	0.0559	0.0177	0.4129^a	0.3554^a	0.2811^c	0.3691^a													
Efficiency of the judiciary	0.2542^c	0.2241	-0.3128^b	-0.2600^c	0.2215	-0.1588	0.2038	-0.1130	0.2113												
Ln GDP per capita	0.1378	0.1805	-0.2821^b	-0.1798	0.0263	-0.1263	0.0489	-0.1709	0.0349	0.6618^a											
English Legal Origin	0.5902^a	0.3369^b	0.0878	0.0058	0.3548^b	0.3091^b	0.4212^a	0.3687^a	0.5890^a	0.1826	-0.1967										
French Legal Origin	-0.5509^a	-0.2830^b	0.2297	0.2384^c	-0.1322	0.1054	-0.3393^b	0.0639	-0.4463^a	-0.4742^a	-0.1815	-0.6599^a									
German Legal Origin	0.0005	-0.0687	-0.2267	-0.2771^c	-0.3175^b	-0.4259^a	-0.1237	-0.4719^a	-0.1925	0.1611	0.3078^b	-0.2846^b	-0.3235^b								
Scandinavian Legal Origin	-0.0440	0.0006	-0.2983^b	-0.1094	-0.0057	-0.2247	0.0198	-0.1996	0.0001	0.3428^b	0.3059^b	-0.2272	-0.2582^c	-0.1114							
Market capitalization	0.5412^a	0.5046^a	-0.1773	0.0885	0.3030^b	0.0691	0.2447^c	0.1869	0.3909^a	0.5771^a	0.5646^a	0.2041	-0.4058^a	0.1828	0.1552						
Domestic firms	0.4598^a	0.4152^a	-0.1876	-0.2464^c	0.3378^b	0.1476	0.2209	0.0805	0.3598^b	0.7454^a	0.6760^a	0.2681^c	-0.4770^a	0.1084	0.2602^c	0.6315^a					
IPOs	0.4372^a	0.4241^a	-0.1209	0.0637	0.2813^c	0.0037	0.4162^a	0.2021	0.2459^c	0.3960^b	0.5426^b	0.1795	-0.3407^b	0.2181	0.0387	0.7144^a	0.5664^a				
Block premia	-0.5845^a	-0.4523^a	-0.1100	0.1326	-0.1658	-0.1439	-0.2334	-0.1309	-0.4662^a	-0.3103^c	-0.2586	-0.3209^c	0.3936^b	0.0592	-0.2258	-0.5334^a	-0.5058^a	-0.4641^a			
Access to equity	0.5173^b	0.4802^a	-0.1462	-0.2757^c	0.2103	-0.0425	0.1891	-0.0443	0.2659^c	0.6234^a	0.5498^a	0.3401^b	-0.5624^a	0.1121	0.2892^c	0.6727^a	0.6985^a	0.5139^a	-0.5942^a		
Ownership concentration	-0.5005^a	-0.4159^a	0.1634	0.0535	-0.1080	-0.0335	-0.0147	0.0093	-0.4024^a	-0.4301^a	-0.4243^a	-0.1572	0.5163^a	-0.3526^b	-0.2343	-0.5623^a	-0.4267^a	-0.4743^a	0.4993^a	-0.5390^a	
Liquidity	0.4154^a	0.4404^a	-0.0647	0.0968	0.1028	-0.0287	0.2766^c	0.1187	0.2165	0.2829^b	0.4390^a	0.0269	-0.3233^b	0.4180^a	0.0365	0.7571^a	0.4329^a	0.6967^a	-0.3944^b	0.4736^b	-0.5297^a

[a] significant at 1%; [b] significant at 5%; and [c] significant at 10%.

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