The law and economics of self-dealing ☆, ☆ ☆

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Abstract

We present a new measure of legal protection of minority shareholders against expropriation by corporate insiders: the anti-self-dealing index. Assembled with the help of Lex Mundi law firms, the index is calculated for 72 countries based on legal rules prevailing in 2003, and focuses on private enforcement mechanisms, such as disclosure, approval, and litigation, that govern a specific self-dealing transaction. This theoretically grounded index predicts a variety of stock market outcomes, and generally works better than the previously introduced index of anti-director rights.
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1. Introduction

Over the last 20 years, both academic and practical approaches to corporate governance have increasingly focused on the problem of investor expropriation, sometimes also referred to as self-dealing or tunneling. Specifically, those who control a corporation, whether they are managers, controlling shareholders, or both, can use their power to divert corporate wealth to themselves rather than sharing it with the other investors. Various forms of such self-dealing include executive perquisites, excessive compensation, transfer pricing, appropriation of corporate opportunities, self-serving financial transactions such as directed equity issuance or personal loans to insiders, and outright theft of corporate assets (Shleifer and Vishny, 1997).

The new emphasis on self-dealing is reflected in both theoretical and empirical work. Earlier research on corporate governance focuses on problems such as managerial consumption of perquisites (Jensen and Meckling, 1976), managerial effort (Holmstrom, 1979), and overinvestment in pursuit of growth (Baumol, 1959; Jensen, 1986). Modern corporate finance theory focuses instead on the ability of corporate insiders to divert corporate wealth to themselves, reflected in the diplomatically named "private benefits of control" (Grossman and Hart, 1988; Hart, 1995; Zingales, 1994). Empirically, such diversion of resources from firms to their controllers has been investigated in several contexts, including the U.S. savings and loans crisis (Akerlof and Romer, 1993), the Mexican and Asian financial crises (La Porta, Lopez-de-Silanes, and Zamarripa, 2003; Johnson Boone, Breach, and Friedman, 2000a), legal disputes over tunneling (Johnson, La Porta, Lopez-de-Silanes, and Shleifer, 2000b), and corporate governance during the transition from socialism (Glaeser, Johnson, and Shleifer, 2001). The extent of diversion has been measured by estimating the private benefits of control from the market pricing of shares with superior voting rights and from the treatment of controlling shareholders in takeovers (Nenova, 2003; Dyck and Zingales, 2004).

Economists have followed legal scholars (Clark, 1986) in emphasizing the crucial role played by the law in the control of corporate self-dealing. Initial research in this area argues theoretically and shows empirically that differences in legal investor protection across countries shape the ability of insiders to expropriate outsiders, and thus determine investor confidence in markets and consequently market development (Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998; Shleifer and Wolfenzon, 2002). Yet while this research presents several empirical measures of investor protection that predict financial outcomes, it does not explicitly focus on self-dealing.

What should be the role of the law in addressing corporate self-dealing? One approach is to do nothing, and to count on market forces to sort out the problem. Virtually no society uses this approach: the temptation to "take the money and run" in an unregulated environment is just too great. At the other extreme, a society can prohibit conflicted transactions altogether: all dealings between a corporation and its controllers—or any other entity these controllers also control—could be banned by law. Yet no society finds it practical to use this approach either, perhaps because in many instances related-party transactions actually make economic sense. So what do societies do?

In this paper, we explore this question empirically. We first describe a hypothetical self-dealing transaction between two firms controlled by the same person that can in principle be used to improperly enrich this person. We then ask attorneys from Lex Mundi law firms in 102 countries to describe in detail how each country's legal system regulates this transaction. (Lex Mundi is an association of international law firms with members in 108 countries.) In principle, several approaches can be used. One approach is to facilitate private enforcement of good behavior. This approach emphasizes extensive disclosure, approval procedures for transactions, and facilitation of private litigation when self-dealing is suspected. With this approach, the government moves beyond laissez-faire and regulates the contracting framework, but leaves enforcement to private parties. Another approach is to rely on public enforcement, including fines and prison terms for self-dealing. From the detailed answers supplied by Lex Mundi attorneys, we construct numerical measures of the intensity of regulation of self-dealing along a variety of dimensions, covering both public and private enforcement. The anti-self-dealing indices are constructed for 72 countries. These data enable us to address three broad sets of questions concerning the regulation of corporate self-dealing in different societies.

First, we ask what factors determine the structure of the regulation of self-dealing in different countries. In previous work, we have argued that a country's legal origin, which could be common law, French civil law, German civil law, or Scandinavian law, is an important determinant of the country's strategy for protecting investors. We find systematic differences among legal origins in the protection of both minority shareholders and creditors through corporate and bankruptcy laws (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998; Djankov, McLiesh, and Shleifer, 2007) and in the regulation of security issuance through security laws (La Porta, Lopez-de-Silanes, and Shleifer, 2006). In this paper, we develop measures of investor protection directly aimed at the control of self-dealing, and examine their variation across legal origins.

Second, we examine whether our anti-self-dealing measures are related to the development of financial markets, and which measures are related to which financial outcomes. This enables us to evaluate alternative strategies of regulation of self-dealing from both a scientific and policy perspective.

Third, we compare the performance of various measures of shareholder protection as predictors of financial development. We first present revised estimates of the anti-director rights index of La Porta Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) for our larger sample of countries. Several authors have criticized this index both for its ad hoc nature (which the creation of our anti-self-dealing index is designed to address) and for several conceptual ambiguities and outright mistakes in coding (Pagano and Volpin, 2005; Spamann, 2005). Here we address these concerns, and then examine the predictive powers of the revised anti-director rights index, the anti-self-dealing index, and two measures of investor protection derived from securities laws (La Porta, Lopez-de-Silanes, and Shleifer, 2006). In addition, we compare the legal predictors of financial development with some alternative candidates, such as taxation, media, and politics.

As a last note, we emphasize that we examine only garden-variety self-dealing transactions, in which the controllers of companies make choices that could benefit them at the expense of other investors but that follow the law regarding disclosure and approval procedures. We do not address cases of corporate crime such as Enron or Parmalat. To deter the latter cases, every country uses harsh criminal punishments. We are interested in a different situation: if a controlling shareholder wants to enrich himself while following the law, how difficult is it for minority shareholders to thwart such activity before it takes place and to recover damages if it does occur?

2. Methodology

Our data are based on answers to a questionnaire distributed to attorneys from Lex Mundi law firms. We received completed questionnaires from 102 firms. After processing the respondents' answers, we conducted follow-up conference calls to seek clarifications and to confirm our coding of the data. The final sample is based on the answers of 72 respondents who confirmed the validity of our data. The countries included in the sample represent 99.3% of total world market capitalization in 2003.

A key contribution of this paper is to construct an index of the strength of minority shareholder protection against self-dealing by the controlling shareholder (*anti-self-dealing* index). Our earlier index of anti-director rights (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998) is based on an ad hoc collection of variables meant to capture the stance of corporate law toward shareholder protection. The present index addresses the ways in which the law deals with corporate self-dealing in a more theoretically grounded way. We start with a stylized self-dealing transaction, and then measure the hurdles that the controlling shareholder must jump in order to get away with this transaction. The higher the hurdles, the higher is the anti-self-dealing index.[1]

As a first step, we present the Lex Mundi law firms with the stylized transaction between two companies ("Buyer" and "Seller") illustrated in Fig. 1. We specify detailed facts about the transaction. Mr. James owns 90% of Seller and 60% of Buyer, and that Buyer is a publicly traded firm. James is a director of Buyer and in addition has appointed two directors to Buyer's five-member board of directors, and his son is Buyer's CEO. Seller operates a chain of retail hardware stores and has recently shut down many stores. As a result, there are idle trucks in Seller's fleet. James proposes that Buyer purchase Seller's idle trucks for a cash payment equivalent to 10% of Buyer's assets (the transaction). He argues that Buyer could use additional trucks to expand its sales. All required approvals are obtained and all mandatory disclosures are made.[2] If allowed to vote, James casts the deciding vote in favor of the transaction. James is on both sides of the transaction and could benefit if Buyer overpays for Seller's trucks. In fact, under our case facts, a $100 wealth transfer from Buyer to Seller would reduce the value of James' equity in Buyer by $60 but increase the value of his equity in Seller by $90. Although the proposed transaction has a possible business purpose, it involves an obvious conflict of interest.

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[1] A possible limitation of this methodology is that the law on the books does not reflect the full legal environment, and that the practice of enforcement matters as much or more. We control for the general quality of law enforcement in our regressions. Perhaps as important, a decade of research in this area suggests that, while the quality of enforcement surely matters, so do the legal rules themselves. This paper, then, provides further evidence on the potential importance of legal rules, without in any way downplaying enforcement.

[2] We explicitly assume that the transaction is part of Buyer's ordinary course of business and is not *ultra vires* (i.e., outside the power or authority of Buyer).
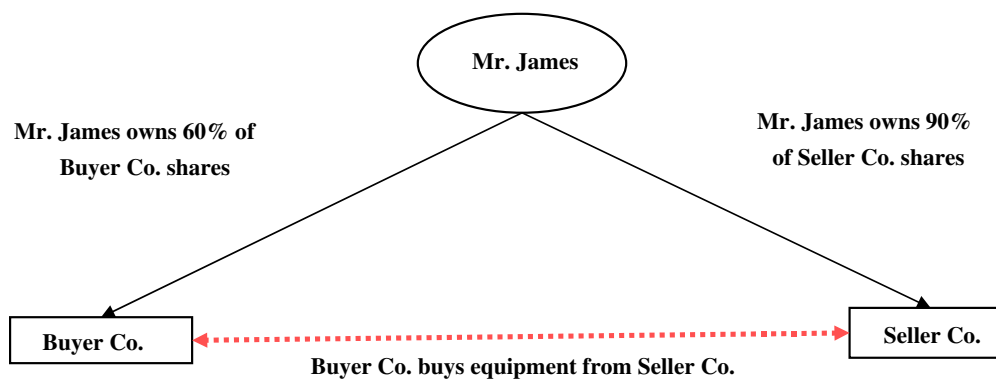
Fig. 1. *Case facts.* Buyer Co. ("Buyer") is a food manufacturer. It is a publicly traded firm listed on the country's largest stock exchange. Buyer manufactures and distributes all of its products itself.

Mr. James is Buyer's controlling shareholder and a member of Buyer's board of directors. He owns 60% of Buyer, and elected two directors to Buyer's five-member board of directors (in addition to himself). Buyer's CEO is the son of Mr. James.

Mr. James also owns 90% of Seller Co., which operates a chain of retail hardware stores. Seller recently shut down a large number of its stores. As a result, its fleet of trucks is not being utilized.

Mr. James proposes that Buyer purchase Seller's unused fleet of trucks to expand Buyer's distribution of its food products. The final terms of the transaction require Buyer to pay to Seller in cash an amount equal to 10% of Buyer's assets in exchange for the trucks. The transaction is part of Buyer's ordinary course of business and is not *ultra vires*.

Buyer enters into the transaction. All required approvals are obtained and all the required disclosures made. The transaction might be unfair to Buyer. Shareholders sue the interested parties and the approving body.

To gather data on the regulation of self-dealing, we designed an extensive questionnaire and tested it on nine Lex Mundi firms. A revised questionnaire was sent to all Lex Mundi firms. The lawyers received the case study and were asked to describe the minimum legal requirements in force in May 2003 regarding: (1) who approves the transaction; (2) what needs to be disclosed to the board of directors or supervisory board, the shareholders, the stock exchange, and the regulators; (3) the duties of officers, directors, and controlling shareholders; (4) how the transaction's validity could be challenged; (5) what causes of legal action are available if Buyer suffers damages; (6) what needs to be proved under each cause of legal action; (7) who has standing to sue under each cause of legal action; (8) the availability of direct and derivative suits; (9) access to information and discovery rights; and (10) fines and criminal sanctions.

The lawyers based their answers on all binding (i.e., not voluntary guidelines or codes of best practice) laws and regulations applicable under our case facts and substantiated their answers with references to all relevant legal provisions. In addition, they provided the text of laws, statutes, judicial precedent, and regulatory opinions used to answer our questionnaire. Because our interest is in the rules rather than the source of their propagation, we treat all sources of law—from precedents to stock exchange listing rules—equally, even though legal scholarship has often emphasized the differences among them from the perspective of the need for state intervention. Sources of law typically included: (1) company act; (2) civil and commercial code; (3) case law and judicial precedent; (4) stock market act and regulations; (5) stock exchange listing rules; (6) civil procedure code; and (7) criminal code. We read the relevant laws and coded the respondents' answers. Finally, we emailed our coding of the data to the respondents and held conference calls with respondents from firms in every country to confirm our interpretation of their answers and to make sure that our coding of the data is comparable across countries.

2.1. The regulation of self-dealing

In theory, the law can regulate a transaction involving conflicts of interest so that it replicates the terms and conditions that would exist in an arm's-length transaction. The law can also empower minority shareholders who have been expropriated to seek remedy through the courts or impose fines and criminal sanctions on those who expropriate. Below we describe our approach to organizing the data. The exact definitions of the variables are in Table 1.

Table 1

Description of the variables

   This table describes the variables collected for the 72 countries in our study. Unless otherwise noted, the source of the variables is the questionnaire sent to Lex Mundi firms.

Variable	Description
(1.1) *Private enforcement: Ex ante private control of self-dealing*	
Approval by disinterested shareholders	Equals 1 if the transaction must be approved by disinterested shareholders, and zero otherwise.
Disclosures by Buyer	Index of disclosures that Buyer must make before the transaction can be approved. Ranges from 0 to 1. One-third point for each of the following disclosures: (1) Mr. James owns 60% of Buyer; (2) Mr. James owns 90% of Seller; and (3) all material facts or the following three items: (a) description of the assets, (b) nature and amount of consideration, and (c) explanation of the price.
Disclosures by Mr. James	Index of disclosures that Mr. James must make before the transaction can be approved. Ranges from 0 to 1. Equals 0 if no disclosure is required. Equals 1/2 if only the existence of a conflict of interest must be disclosed, without details. Equals 1 if all material facts must be disclosed.
Independent review	Equals 1 if a positive review is required (e.g., by a financial expert or independent auditor) before the transaction can be approved and zero otherwise.
Ex ante disclosure	Average of the preceding three variables.
Ex ante private control of self-dealing	Index of ex ante control of self-dealing transactions. Average of approval by disinterested shareholders and ex ante disclosure.
Principal component—Ex ante	First principal component of: (1) approval by disinterested shareholders; (2) disclosures by Buyer; (3) disclosures by Mr. James; and (4) independent review.
(1.2) *Private enforcement: Ex post private control of self-dealing*	
Disclosure in periodic filings	Index of disclosures required in periodic disclosures (e.g., annual reports). Ranges from 0 to 1. One fifth-point for each of the following disclosures: (1) Mr. James owns 60% of stake in Buyer; (2) Mr. James owns 90% of Seller; (3) shares held beneficially by Mr. James (i.e., shares held and/or managed via a nominee account, trust, brokerage firm or bank); (4) shares held indirectly by Mr. James (e.g., via a subsidiary company or holding); and (5) all material facts about the transaction or the following three items: (a) description of the assets; (b) nature and amount of consideration; and (c) explanation for the price.
Standing to sue	Equals 1 if a 10% shareholder can sue derivatively either Mr. James or the approving bodies or both for damages that the firm suffered as a result of the transaction, and zero otherwise.
Rescission	Index of the ease in rescinding the transaction. Ranges from 0 to 1. Equals 0 when rescission is unavailable or only available when there is bad faith or when the transaction is unreasonable or causes disproportionate damage. Equals 1/2 when rescission is available when the transaction is oppressive or prejudicial. Equals 1 when rescission is available when the transaction is unfair or entails a conflict of interest.
Ease of holding Mr. James civilly liable	Ranges from 0 to 1. Equals 0 when the interested director is either not liable or liable only in cases of bad faith, intent, or gross negligence. Equals 1/2 when the interested director is liable if he either influenced the approval or was negligent. Equals 1 if the interested director is liable if the transaction is unfair, oppressive, or prejudicial.
Ease of holding the approving body civilly liable	Ranges from 0 to 1. Equals 0 when members of the approving body are either not liable or liable in only cases of intent, bad faith, or gross negligence. Equals 1/2 when members of the approving body are liable if they act negligently. Equals 1 if members of the approving body are liable if the transaction is unfair, oppressive, or prejudicial.
Access to evidence	Ranges from 0 to 1. One-quarter point for each of the following: (1) a shareholder owning at least 10% of the shares can request that the Court appoint an inspector to investigate Buyer's affairs; (2) the plaintiff can request any documents relevant to the case from the defendant (without specifying which ones); (3) the plaintiff can examine the defendant without the Court approving the questions in advance; and (4) the plaintiff can examine non-parties without the Court approving the questions in advance. One-eighth point for each of the following: (1) the plaintiff can examine the defendant but questions require prior Court approval; and (2) the plaintiff can examine directly the non-parties but questions require prior Court approval.
Ease in proving wrongdoing	Average of the preceding five variables.
Ex post private control of self-dealing	Index of ex post control over self-dealing transactions. Average of disclosure in periodic filings and ease of proving wrongdoing. Ranges from zero to one.
Principal component – Ex post	First principal component of: (1) each of the elements in the index of disclosure in periodic filings; (2) standing to sue; (3) rescission; (4) ease of holding Mr. James liable; (5) ease of holding the approving body liable; and (6) access to evidence.

Table 1 (*continued*)

Variable	Description
(1.3) *Private enforcement: Anti-self-dealing index*	
Anti-self-dealing index	Average of ex ante and ex post private control of self-dealing.
Principal component—All	First principal component of: (1) approval by disinterested shareholders; (2) disclosures by Buyer; (3) disclosures by Mr. James; (4) independent review; (5) each of the elements in the index of disclosure in periodic filings; (6) standing to sue; (7) rescission; (8) ease of holding Mr. James liable; (9) ease of holding the approving body liable; and (10) access to evidence.
(2) *Public enforcement*	
Fines for the approving body	Equals one if fines can be applied to the approving body when all disclosure and approval requirements have been met, and zero otherwise.
Prison term for approving body	Maximum length of prison term for members of the approving body if all disclosure and approval requirements have been met.
Fines for Mr. James	Equals one if fines can be applied to Mr. James when all disclosure and approval requirements have been met, and zero otherwise.
Prison term for Mr. James	Maximum length of prison term for Mr. James if all disclosure and approval requirements have been met.
Public enforcement index	Index of public enforcement if all disclosure and approval requirements have been met. Ranges from 0 to 1. One-quarter point when each of the following sanctions is available: (1) fines for the approving body; (2) jail sentences for the approving body; (3) fines for Mr. James; and (4) jail sentence for Mr. James.
Prison term for Mr. James if he does not disclose	Maximum length of prison term for Mr. James if the CEO —his son— completes the transaction without seeking approval by the board of directors or the shareholders' meeting. Moreover, neither Mr. James nor the CEO discloses the conflict of interest.
(3) *Stock market development*	
Stock market capitalization to GDP	Average of the ratio of stock market capitalization to gross domestic product for the period 1999–2003. Source: *World Development Indicators* at http://devdata.worldbank.org/dataonline/.
Control premium	"The block premia is computed taking the difference between the price per share paid for the control block and the exchange price two 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" (Dyck and Zingales, 2004). We use the country median.
Ln(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 1999–2003. Source: *World Development Indicators* at http://devdata.worldbank.org/dataonline/.
IPOs-to-GDP	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 1996–2000. Source: La Porta, Lopez-de-Silanes, and Shleifer (2006).
Ownership concentration	Average percentage of common shares owned by the top three shareholders in the ten largest non-financial, 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, Lopez-de-Silanes, and Shleifer (2006).
(4) *Control variables*	
Ln(GDP/POP)	Logarithm of per capita Gross Domestic Product (in US dollars) in 2003. Source: *World Development Indicators* at http://devdata.worldbank.org/dataonline/.
Time to collect on a bounced check	Logarithm of the length (in calendar days) of the judicial procedure to collect on a bounced check. Source: Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2003).
Common law	Equals one if the origin of the commercial law of a country is English common law, and zero otherwise. Source: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999).
Prospectus disclosure	Index of the scope of disclosure in the prospectus of an IPO. Source: La Porta, Lopez-de-Silanes, and Shleifer (2006).
Prospectus liability	Index of the procedural difficulty in recovering losses in a civil liability case for losses due to misleading statements in the prospectus. Source: La Porta, Lopez-de-Silanes, and Shleifer (2006).
Tax evasion	Assessment of the prevalence of tax evasion. Higher scores indicate higher tax evasion. The data are for 2002. Ranges from 0.94 to 8.54. Source: World Economic Forum (2003).
Newspaper circulation	Logarithm of newspapers and periodicals circulation per thousand inhabitants in 2000 (or closest available). Source: United Nations Statistical Database (http://unstats.un.org).
Competitiveness of the legislature	Equals 1 if there is no legislature, 2 if the legislature is unelected, 3 if the legislature is elected but there is only one candidate per seat, 4 if multiple candidates from the same party compete, 5 if multiple parties are legal but only one party won seats, 6 if multiple parties won seats but the largest

Table 1 (*continued*)

Variable	Description
Proportional representation	party received more than 75% of the seats, 7 if the largest party got less than 75%. The data are drawn from the March of 2002 World Bank Database on Political Institutions and defined in Beck Clarke, Groff, Keefer, and Walsh (2001). We use all available observations for the period 1975–2000. Equals 3 if 100% of seats are assigned via a proportional rule, 2 if the majority of seats is so assigned, 1 if a minority of seats is so assigned, and 0 if no seats are assigned in this way. The data are drawn from the March of 2002 World Bank Database on Political Institutions and defined in Beck et al. (2001). We use all available observations for the period 1975–2000.

We examine several areas of law relevant to the transaction and summarize them with two indices: an index of the private control of self-dealing and an index of public enforcement. To measure the role of private control, we keep track of the disclosure and approvals required by law *before* Buyer can legally acquire Seller's trucks, as well as the immediate disclosures *after* the decision to enter into the transaction has been made. Since even a duly approved and disclosed transaction can damage Buyer, litigation might be necessary to obtain restitution. Accordingly, we also keep track of the ease with which minority shareholders can obtain redress through the courts when the transaction damages Buyer even if all disclosure and approval requirements are met. The last assumption is crucial since the laws of most countries provide harsh penalties for breaking disclosure and approval requirements. Factors that affect the odds that the plaintiff prevails in court include liability standards and the right to compel evidence. In addition to measuring private enforcement, we capture the strength of public enforcement by keeping track of the fines and sanctions that could be applicable to James and those in charge of approving the transaction.

2.1.1. Private enforcement

The first major area that the law can seek to regulate is the *approval process*. The basic choice is whether the transaction requires approval by disinterested shareholders or alternatively can be approved by the CEO, the board of directors (a majority of which is controlled by Mr. James, who is on both sides of the transaction), or the shareholder meeting where the controlling shareholder votes. An important assumption in our case facts is that all related parties (i.e., the controlling shareholder, CEO, and interested directors) vote in favor of the transaction whenever legally possible, even when doing so could expose them to greater litigation risk. Prudence might require greater caution, but we focus on the letter of the law. For this reason, we treat disinterested shareholder approval as the purest case of arm's-length endorsement of the transaction.

Another critical way in which the law can seek to regulate the approval process is by mandating extensive disclosure by the company and the related party on the principle that "sunshine is the best disinfectant" (Brandeis, 1914). We keep track of the extent of disclosure by Buyer and the controlling shareholder before the transaction goes through.[3] Finally, before the transaction is approved, the law can require a review by independent third parties (e.g., financial experts) who make available a report on the transaction that may act as a check on the opportunism of the insiders. We summarize our data on approval requirements and immediate disclosures through an index of *ex ante private control of self-dealing* by investors.

We do not wish to suggest that ex ante disclosure and shareholder voting are effective controls because of the sophistication of small shareholders. These practices might instead work because, when problematic deals are publicly disclosed, they are criticized in the press (Dyck and Zingales, 2004) or stimulate the activism of large outside shareholders (Shleifer and Vishny, 1986). Such mechanisms are less likely to come into play when self-dealing transactions are only disclosed to and approved by the board.

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[3]Empirical studies of disclosure center on the effect of legal disclosure requirements on stock market outcomes. The early empirical literature was inconclusive (Stigler, 1964; Benston, 1973). Recent studies find that mandatory disclosure rules are associated with larger stock markets in a cross-section of countries (La Porta, Lopez-de-Silanes, and Shleifer, 2006) and higher market valuations in the U.S. (Greenstone, Oyer, and Vissing-Jorgensen, 2006).

The second major area that the law can seek to regulate is the *ease* with which minority shareholders can *prove wrongdoing*. First, disclosure requirements in annual reports and periodic filings can facilitate the scrutiny of related-party transactions by outside shareholders.

Second, in most jurisdictions, any damage that the transaction causes is assigned to Buyer rather than to individual shareholders. Since Buyer is unlikely to pursue legal action that would harm its controlling shareholder, we measure the obstacles (e.g., high ownership requirements) faced by minority shareholders to gain standing to sue on behalf of Buyer. The cost of private enforcement increases with the obstacles faced by minority shareholders to sue derivatively.

Third, courts can void the transaction when approval is fraudulent, or in bad faith, or negligent, or when the transaction is merely unfair or involves a conflict of interest and damages the company. Private enforcement is more costly when plaintiffs face more obstacles to rescind the transaction. Moreover, James and Buyer's directors can be liable for damages if it can be proved that: (1) they acted in bad faith; (2) they acted with negligence; or (3) the transaction was unfair or involved a conflict of interest. Private enforcement is more costly when plaintiffs need to prove bad faith on the part of James or directors than when they are merely required to show that the transaction involved a conflict of interest.

Fourth, plaintiffs are more likely to prevail if *access to evidence* is extensive. We consider three aspects of access to evidence: (1) whether plaintiffs can request the court to appoint an inspector to examine the affairs of the company; (2) whether plaintiffs must identify (e.g., by providing title and author) the specific documents that they seek to review; and (3) whether plaintiffs can directly question defendants and non-parties in court. We combine our proxies for ex post disclosure and the ease of proving wrongdoing into an index of *ex post private control of self-dealing*.

We create our *anti-self-dealing index* by averaging the indices of ex ante and ex post private control of self-dealing.

2.1.2. Public enforcement

We next consider *public enforcement*. The law can deter wrongdoing through sanctions such as fines and prison terms against the controlling shareholder and those who approved the transaction. We collect data on public enforcement in two scenarios. First, we measure the sanctions that apply to James and those who approved the transaction if all disclosure and approval requirements are met. In this situation, fines and criminal sanctions apply to behavior ranging from criminal intent to obtain unlawful profits to breaches of duties of care and loyalty. To illustrate the scope of such sanctions, consider an example. Under our case facts, James abstains from a board vote on the proposed transaction if legally required to do so. While abstaining from voting, James can still influence other members of the board to approve the transaction so that he can personally benefit at the expense of the company. In Belgium, the directors who approve the transaction—but not James—will face criminal sanctions for misuse of company assets. James faces criminal sanctions in Sweden if he intentionally causes damage to the company. The scope of criminal sanctions is wider in Germany where members of the management board can be criminally liable for breach of trust if they violate their duty to care for the assets of the company and the company suffers damages. We keep track of maximum fines and prison terms applicable for such violations of the law.

In addition, most countries impose severe criminal sanctions when the transaction has been approved in violation of the law. We keep track of the prison term that applies to James if—in violation of the law of most countries—he does not disclose his conflict of interest and Buyer carries out the transaction.

3. Regulation of self-dealing across countries

Table 2 presents our data on approval and immediate disclosure requirements. Countries are arranged by legal origin, and we report the means for each legal origin and the tests of the differences in these means.

Two examples, Italy and the U.K., illustrate our data and empirical approach. Italy ranks 35th on our anti-self-dealing index, and is representative of civil law countries. The U.K. ranks third, and most common law countries (but not the U.S.) model their regulation of self-dealing on the U.K. Briefly, related-party transactions in Italy are approved by disinterested directors, not shareholders. Most of the disclosure regarding related-party transactions takes place in periodic filings. When related-party transactions cause

Table 2

Ex ante control of self-dealing

This table presents data on measures of the ex ante regulation of self-dealing transactions for 72 countries classified by their legal origin. Definitions for each of the variables are given in Table 1. This table also reports tests of means by legal origin.

Country	(1)	(2)	(3)	(4)	(5)	(6)
	Approval by disinterested shareholders	Disclosure by Buyer	Disclosure by Mr. James	Independent review	Ex ante disclosure (Average (2)–(4))	Ex ante private control of self-dealing (Average (1) and (5))
Average common law	0.48	0.62	0.95	0.48	0.68	0.58
Average French origin	0.19	0.30	0.63	0.19	0.37	0.28
Average German origin	0.14	0.38	0.43	0.36	0.39	0.27
Average Scandinavian origin	0.00	0.73	0.40	0.20	0.44	0.22
Average civil law	0.16	0.37	0.55	0.24	0.38	0.27
T-Stat						
Common vs. civil	2.98[a]	2.28[b]	4.73[a]	2.05[b]	4.23[a]	4.00[a]
French vs. common	2.31[b]	2.68[a]	3.74[a]	2.31[b]	4.05[a]	3.42[a]
French vs. German	0.36	0.62	1.60	1.23	0.20	0.15
French vs. Scandinavian	1.04	2.36[b]	1.28	0.06	0.59	0.46

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

damage to the firm, the cost of private litigation is very high. In contrast, related-party transactions in the U.K. are reviewed by independent financial experts and approved by disinterested shareholders. Extensive disclosure takes place both before and after the transaction is approved. However, as in Italy, litigation in the U.K. is costly.

3.1. Legal environment in Italy

In Italy, James, as an interested director of Buyer, has to notify the other directors as well as the internal auditor of his interest in the transaction (i.e., his relationship to and ownership in Seller), and abstain from participating in the decision. Moreover, because James is a director of Buyer, the transaction must be approved by Buyer's disinterested directors—but not by disinterested shareholders. In addition, Buyer's internal auditor is required to attend the meeting of the board of directors and review the transaction.

Once the board of directors approves the transaction, Buyer has 15 days to make public a document describing it. This document must disclose: (1) a description of the assets purchased by Buyer; (2) the nature and amount of consideration paid by Buyer to Seller; (3) an explanation or justification for the price paid by Buyer for Seller's assets; (4) the fact that James owns 60% of Buyer; (5) the fact that James owns 90% of Seller; and (6) all facts about the transaction that a reasonable person would believe to be material.

Gaining standing to sue is straightforward in Italy. Any shareholder or group of shareholders owning 5% of the shares in the company can sue the directors on behalf of Buyer. However, shareholders would rarely exercise their right to sue as their odds of prevailing in court are slim. First, the transaction cannot generally be voided or rescinded provided that it was approved by disinterested directors and all required disclosures were made. Second, holding disinterested directors liable for damages requires proving that they acted negligently and that their actions caused damages to Buyer. Italian courts have stated that, generally, directors cannot be held liable provided that they acted with care and diligence and in a professional manner. Third, James cannot be held liable if he has abstained from voting.

Shareholders in Italy might also have a hard time gaining access to the information required to prove that Buyer's disinterested directors acted negligently. First, in the case of a well-founded suspicion of serious irregularities in the directors' conduct, shareholders holding 5% of the shares can report the facts to the court. The court can then order an investigation of the Company's management at the expense of the claiming

shareholders. Second, the plaintiff's request for documents must specifically identify the document(s) sought (e.g., title, author, date, and contents). Third, the Judge—not the plaintiff—is in charge of questioning non-party witnesses. Fourth, parties (e.g., plaintiffs) are not normally permitted to give evidence in the case. When they are allowed to testify, the questioning of parties follows the same procedures as that of non-parties.

Criminal sanctions and fines generally apply in cases of fraud. James can be convicted and imprisoned for up to 3 years if he does not disclose his conflict of interest and the transaction is carried out by Buyer. In contrast, criminal sanctions and fines are unavailable if all disclosure and approval requirements have been met.

The regulation of self-dealing in Italy is thus based on trusting ex post disclosure and on disinterested directors doing the "right thing". In this regard, disinterested directors are unlikely to be found negligent if they lend their support to a transaction which, while favoring James, has a plausible business purpose. At the same time, disinterested directors owe their position on Buyer's board to James.

3.2. Legal environment in the U.K.

In the U.K., modern regulation of self-dealing has evolved from the original common law rule of equity under which directors, being subject to fiduciary duties, cannot enter into engagements with their company when they may have a conflicting personal interest or a conflict with the interests of those they are bound to protect. This "no conflict" rule is subject to an important exception: conflicted contracting is permitted provided that the conflict of interest is disclosed in advance to the shareholders, who then approve the transaction. The scope of this rule is enormous. The requirement of shareholder approval does not require showing an actual conflict of interest between the company and the director (a potential for conflict is enough). Nor is it necessary to show that the conflict has an impact on the terms of the transaction. All self-dealing transactions require shareholder approval even if they appear fair.

As discussed in Davies (2002), during the 19th century this rule of equity lost its bite as courts came to accept that shareholder approval of self-interested transactions could be granted in general, rather than for specific transactions, in the articles of association. Provisions began to appear in these articles permitting the board to contract on behalf of its members. But legislators stepped in to put constraints on self-dealing. Statues and regulations currently in force require that our hypothetical transaction be approved both by Buyer's board of directors and by its shareholders, for two reasons: (1) it is a substantial property transaction (i.e., it exceeds £100,000 or 10% of the company's asset value) involving directors, and (2) it is a transaction with a related party.[4] Moreover, under stock exchange listing rules, James must abstain from voting at the shareholder meeting. Extensive mandatory disclosure ensures that disinterested shareholders are informed about the transaction before they vote to approve it. Specifically, Buyer must send a circular to shareholders containing not only all material information regarding the nature and extent of any interests of its directors in the transaction, but also a statement by the disinterested directors that the transaction is fair and reasonable and that the directors have been so advised by an independent adviser acceptable to the U.K. Listing Authority. Finally, James and any director who is in any way directly or indirectly interested in the proposed contract must make "full and frank" disclosure of the existence and nature of that interest at a board meeting.

Once the transaction is approved by shareholders, the next annual report must contain the particulars of its principal terms (including the director's name, the nature of his or her interest, and the value of the transaction).

If the transaction is properly approved with full disclosure, disgruntled shareholders will find it hard to challenge it in court. They must first gain standing to sue. In principle, any shareholder can sue James and the directors on behalf of Buyer if there has been a fraud committed against the minority (i.e., the majority of the shareholders succeed in expropriating at the expense of the minority the money, property, or advantages of the company) and the wrongdoers are in control of the company. However, proving fraud is complicated and rarely attempted. Plaintiffs could also have trouble persuading a court that James is "in control" if a majority of disinterested shareholders have voted for the transaction. If minority shareholders win, the court can make any order—including rescission—it sees fit to give them relief when the company is run in a manner unfairly

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[4]Section 320 of the Companies Act of 1985 and 11.4 of the Listing Rules.

prejudicial to their interests. Courts can also hold James liable if he uses his powers to benefit himself at the expense of the company. Finally, shareholders can recover profits and damages from directors who fail to exercise adequate care and skill or who have a conflict of interest and fail to act in the best interest of the company. In general, English courts do not correct a "bad bargain" but do intervene in cases of fraud. In practice, this means that, absent a failure to disclose material information, directors are unlikely to face liability when the transaction is reviewed by independent financial experts and approved by disinterested shareholders. Although plaintiffs are unlikely to prevail, we follow the letter of the law and code U.K. standing to sue as 1, since it is possible to sue; the results do not change if we change coding for the U.K.

Aggrieved shareholders in the U.K. have extensive access to information both before and during proceedings. First, shareholders can request that the Secretary of State appoint an inspector if the company's affairs are being or have been, *inter alia,* conducted in a manner that is unfairly prejudicial to some shareholders. Second, once in court, the plaintiff does not have to specifically identify the document sought (by indicating the title, author, date, etc.) but can rather request categories of documents pertinent to the case. Third, the claimant can cross-examine both a defendant and a non-party witness on the witness statement or on any other evidence given in direct examination without prior approval by the court of the questions posed.

James faces stiff criminal sanctions (7 years) if he does not report his conflict of interest. In contrast, absent fraud or breach of the law, no criminal sanctions or fines apply to either James or Buyer's directors.

In summary, the strength of the regulation of self-dealing in the U.K. lies in the heightened scrutiny of transactions involving related parties before they can be approved rather than in favoring litigation by minority shareholders. This has led legal scholars to remark that "…judicial assessment of the fairness of self-dealing transactions has not been a significant part of British law" (Davies, 2002, p. 171). In fact, minority shareholders face a high burden of proof in challenging the transaction *because* it was approved by disinterested shareholders with both the advice of independent financial experts and full disclosure of all material information.

3.3. Differences in regulatory approaches

The difference between Italy and the U.K. is representative of broader patterns. Turning to Table 2, the most pronounced differences are between civil and common law countries. Differences among civil law systems are seldom statistically significant and we do not focus on them. Disinterested shareholders must approve the transaction in 48% of common law countries but only 16% of civil law countries. In contrast, the CEO can single-handedly approve the transaction in 20% of civil law countries but never in common law countries.

Turning to disclosure, we keep track of the disclosures that must be made by Buyer as well as by James before the transaction is approved. The disclosure indices range from 0 (no disclosure) to a perfect score of 1 (full disclosure). Buyer is required to make full disclosure in 57% of common law countries, but in only 25% of civil law countries. Consistent with this, the index of disclosure requirements by Buyer is 0.62 in common law countries and 0.37 in civil law countries. Similarly, James faces more extensive disclosure requirements in common law countries than in civil law countries (0.95 vs. 0.55). Consistent with this pattern, an independent review of the transaction is required in 48% of common law countries but only 24% of civil law countries. We summarize these results with the index of ex ante disclosure requirements. This index ranges from 0 in Austria and Ecuador to 1 in Chile and the U.K., and averages 0.68 in common law countries but only 0.38 in civil law countries.

The index of *ex ante* private control of self-dealing summarizes the approval and disclosure requirements for our hypothetical transaction. Common law countries typically require both extensive disclosures and the approval of the transaction by disinterested shareholders (the ex ante private control of self-dealing index equals 0.58). In contrast, civil law countries typically have fewer disclosure requirements and entrust the approval of self-dealing transactions to the CEO or the board of directors (the ex ante private control index equals 0.27).

Table 3 presents our data on the ex post private control of self-dealing, or *ease* with which minority shareholders can *prove wrongdoing* by James and the approving body. The index of disclosure in periodic filings ranges from 0 (no disclosure) to a perfect score of 1 (full disclosure). Buyer is required to make full

Table 3
Ex post private control of self-dealing and anti-self-dealing index

This table presents data on measures of the ex post regulation of self-dealing transactions for 72 countries classified by their legal origin. Definitions for each of the variables are given in Table 1. This table also reports tests of means by legal origin.

Country	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Disclosure in periodic filings	Standing to sue	Rescission	Ease of holding Mr. James liable	Ease of holding approving body liable	Access to evidence	Ease of proving wrongdoing (Average (2)–(6))	Ex post private control of self-dealing (Average (1) and (7))	Anti-self-dealing index
Average common law	0.78	0.90	0.52	0.62	0.74	0.75	0.70	0.74	0.66
Average French origin	0.42	0.56	0.08	0.30	0.34	0.43	0.34	0.38	0.33
Average German origin	0.56	0.86	0.00	0.39	0.46	0.51	0.44	0.50	0.38
Average Scandinavian origin	0.56	0.80	0.00	0.60	0.50	0.80	0.54	0.55	0.39
Average civil law	0.47	0.67	0.05	0.35	0.39	0.49	0.39	0.43	0.35
World average	0.56	0.74	0.19	0.43	0.49	0.56	0.48	0.52	0.44
T-Stat									
Common vs. civil	3.89[a]	2.12[b]	6.95[a]	3.02[a]	4.35[a]	4.26[a]	6.40[a]	6.05[a]	6.29[a]
French vs. common	4.13[a]	2.80[a]	5.18[a]	3.24[a]	4.26[a]	5.58[a]	6.72[a]	6.26[a]	5.86[a]
French vs. German	1.37	1.97[c]	1.13	1.06	1.59	1.12	2.09[b]	1.98[b]	0.98
French vs. Scandinavian	0.89	0.99	0.67	2.30[b]	1.47	4.15[a]	2.77[a]	1.73[c]	0.73

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

disclosure in 43% of common law countries, but in only 12% of civil law countries. Shareholders controlling 10% of the stock can sue James and the other directors in 90% of common law countries and in roughly 80% of Scandinavian and German legal origin countries. In contrast, shareholders have standing to sue in only 56% of French civil law countries. Rescinding the transaction is impossible in 66% of civil law countries and requires proving fraud in another 28%. In contrast, only two common law countries make rescission is unavailable, and an additional four limit it to cases of fraud. In the remaining 15, plaintiffs face a lower hurdle than fraud to rescind the transaction.

Likewise, it is typically easier to hold James and members of the approving body liable in common law countries than in civil law countries. For example, James can be held liable if the transaction is unfair or prejudicial—the least demanding standard—in 6% of civil law countries and 52% of common law countries. Here Scandinavian legal origin countries are an exception among civil law countries: it is significantly easier to hold James liable in Scandinavian civil law countries than in French and German civil law countries. The index of a*ccess to evidence* is also sharply higher in common law countries than in civil law countries (0.75 vs. 0.49). Once again, Scandinavian legal origin countries are an exception among civil law countries: *access to evidence* in Scandinavian legal origin countries is comparable to that in common law countries. The index of *ease of proving wrongdoing* summarizes the litigation variables. It ranges from 0.05 in El Salvador to 1.0 in New Zealand and Singapore. Based on the index of *ease of proving wrongdoing*, litigation is significantly easier in common law countries than in civil law countries (index of 0.70 vs. 0.39).

The index of *ex post private control of self-dealing* encapsulates the disclosure requirements after the transaction is approved and the *ease of proving wrongdoing*. It shows that disclosure requirements are more stringent and plaintiffs can more easily prove wrongdoing in court in common law countries than in civil law countries (score of 0.74 vs. 0.43).

Finally, we average the ex ante and ex post indices of private control of self-dealing and create an "*anti-self-dealing*" index. The index is sharply higher in common law countries (0.66) than in civil law countries (0.35). Consistent with this pattern, the anti-self-dealing index is lowest in Ecuador (0.08) and highest in Singapore (1.00).

Interestingly, the regulation of self-dealing in the U.S. and France departs in important ways from the patterns of their respective legal families. The U.S. does not require shareholder approval for related-party transactions and instead emphasizes litigation to protect minority shareholders against self-dealing. France allows related-party transactions to be carried out without shareholder approval *if* they take place on "normal" terms. However, it is easy to challenge related-party transactions that take place without shareholder approval.

To be more specific, under Delaware law, our stylized transaction can be approved by the board of directors. In fact, James can even participate in the decision. However, challenging the transaction in court is very easy if, as we assume, interested directors participate in the decision. In view of the fact that James controls both sides of the transaction, a shareholder would start off with a case in which Buyer's board would have the difficult task of proving fair dealing and fair price (i.e., the "entire fairness" of the transaction).[5] Fair dealing covers such questions as the timing of the transaction, how it was initiated, structured, negotiated, and disclosed to the directors, and how the approval of the directors was obtained. Fair price relates to the economic and financial considerations of the proposed transaction, including all relevant factors. Directors must then show "entire fairness," where all aspects of the issue are examined. Here, unlike in the U.K., the image of a "smell test" is a fitting metaphor for describing the work done by the judge in examining whether the transaction is entirely fair.

In France, agreements between Buyer and, among others, 10% shareholders must first be approved by the board of directors and then by disinterested shareholders. However, no special approval requirements are necessary for agreements entered into subject to normal conditions. In our empirical work, we assume that the transaction is approved by Buyer's CEO as if its terms were "normal" (i.e., the transaction is approved in

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[5]We assume that the transaction is approved in accordance with minimum legal requirements. Buyer's board of directors could seek shareholder approval of the transaction. Approval by either disinterested shareholders or a special committee of disinterested directors would shift the burden of the proof to the plaintiff, but the standard of review would remain entire fairness. See *Weinberger v. UOP, Inc.*, 457 A.2d 701, 711-12 (Del. 1983).

Table 4
Public enforcement

This table presents data on measures of public enforcement regarding self-dealing transactions for 72 countries classified by their legal origin. Definitions for each of the variables are given in Table 1. This table also reports tests of means by legal origin.

Country	Disclosure and approval requirements are met					Prison term for Mr. James if he does not disclose
	Approving parties		Mr. James		Public enforcement index	
	Applicable fines	Prison term	Applicable fines	Prison term		
Average common law	0.43	1.14	0.33	1.43	0.32	5.74
Average French origin	0.44	2.39	0.34	1.98	0.42	3.98
Average German origin	0.50	3.36	0.36	2.64	0.48	5.07
Average Scandinavian origin	0.60	2.40	0.60	0.80	0.55	2.80
Average civil law	0.47	2.66	0.37	2.05	0.45	4.17
World average	0.46	2.22	0.36	1.87	0.41	4.63
T-Stat						
Common vs. civil	0.32	1.94[c]	0.31	0.81	1.15	1.15
French vs. common	0.06	1.57	0.08	0.66	0.84	1.33
French vs. German	0.38	0.90	0.09	0.72	0.42	1.03
French vs. Scandinavian	0.66	0.01	1.09	0.95	0.60	0.75

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

accordance with minimum legal requirements). In practice, bypassing the approval requirements legally prescribed for transactions between Buyer and James might not be wise since such agreements can be canceled if they have prejudicial consequences for the company. In sum, the requirement to obtain shareholder approval for related-party transactions is easy to avoid in France. However, related-party transactions are easy to challenge if they are not approved by shareholders. In practice, shareholder approval is almost always sought.

Turning to public enforcement, Table 4 shows what happens when all approval and disclosure requirements are met, but James or the approving parties breach their duties to the company. Those who approve the transaction are subject to fines in 46% of the sample countries. In addition, on average, they can be imprisoned for about two years. Interestingly, prison terms for those who approve the transaction are more severe in civil law countries than in common law countries. Sanctions against James are less severe than those against the approving body and show no variation across legal origin. Perhaps it is not surprising that James faces minimal criminal sanctions (1.9 years). The more surprising result is that James is seldom subject to fines (36% of the sample). The index of public enforcement summarizes our data on sanctions. It shows no variation across legal origins.

If James does not disclose his conflict of interest and his son (Buyer's CEO) carries out the transaction without board or shareholder approval, James can be sentenced to 4.6 years in prison. Criminal sanctions are prevalent (86% of the countries) when the transaction is carried out secretly. There is no variation across legal origins in the severity of this sanction.

One might wonder whether differences in the regulation of self-dealing can be explained by differences in income levels. For example, wealthy countries might optimally choose to regulate self-dealing whereas poor countries might not be able to afford to do so. The answer, however, is no. The correlation between anti-self-dealing and (log) GDP per capita is a statistically insignificant 0.16 (see Appendix A).

4. Regulation of self-dealing and stock market development

We are interested in linking the regulation of self-dealing to measures of the development of stock markets. We use five indicators of stock market development. The first is the average ratio of stock market capitalization to GDP for the period 1999–2003, because public firms should be larger, more valuable,

and more plentiful in countries with better protection of shareholders (Shleifer and Wolfenzon, 2002). The second variable is the (median) premium paid for control in corporate control transactions for the period 1990–2000. In several theoretical models, this variable has been interpreted as a measure of private benefits of control, which are higher in countries with weaker investor protection (Grossman and Hart, 1988; Nenova, 2003; Dyck and Zingales, 2004).

The third variable is the average number of domestic publicly traded firms in each country relative to its population for the period 1999–2003. The fourth is the average value of initial public offerings in each country relative to GDP for the period 1996–2000. Both of these variables should rise with investor protection (Shleifer and Wolfenzon, 2002). The fifth and final variable is a proxy for ownership concentration among the largest firms in the country. Both theory (Shleifer and Wolfenzon, 2002) and prior evidence (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998; La Porta, Lopez-de-Silanes, and Shleifer, 1999; Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002) show that ownership concentration is lower in countries with better investor protection.

Consistent with our previous work, there are pronounced differences in financial development across legal families. Compared to French civil law countries, common law countries have sharply more valuable stock markets relative to their GDPs (85.5% vs. 42.0%), a lower value of control (4% vs. 16%), more listed firms per million people (32.6 vs. 19.6, although statistically insignificant), more IPOs relative to their GDPs (3.7% vs. 1.7%), and less concentrated ownership (44% vs. 55%). Stock markets in German and Scandinavian law countries are also generally less developed than in common law countries but this pattern is less systematic than for French civil law countries. In particular, German and Scandinavian law countries have ownership concentration and IPO activity comparable to those of common law countries. In addition, the number of listed firms per million people is higher in Scandinavian legal origin countries than in common law countries (69.4 vs. 32.6). In sum, for most indicators, stock markets are best developed in common law countries. The development of stock markets in civil law, particularly French civil law, countries lags behind that of common law countries.

We first consider the effect on market capitalization and control premiums of each of the six aspects of the regulation of self-dealing transactions: (1) approval by disinterested shareholders; (2) disclosure requirements before the transaction can be approved; (3) the index of ex ante private control of self-dealing; (4) disclosure requirements in periodic filings; (5) the ease of proving wrongdoing; and (6) the index of ex post private control of self-dealing. All specifications include the logarithm of per capita income and the efficiency of the judiciary as measured by the number of days to resolve a commercial dispute (Djankov, La Porta, Lopez-de-Silanes, and Shleifer, 2003). Results are qualitatively similar with the log of GDP per capita in constant purchasing power parity dollars.

To begin, Table 5 shows that the efficiency of the judiciary is associated with larger stock markets (Panel A) and a lower control premium (Panel B), while income per capita is associated with larger stock markets but not with a lower control premium. The key result in Panel A of Table 5 is that all six measures of the regulation of self-dealing are statistically and economically significant predictors of stock market development. Figs. 2 and 3 illustrate the relation between the ratio of stock market capitalization to GDP and the indices of ex ante and ex post private control of self-dealing, respectively. The estimated coefficients imply that a two-standard-deviation increase in the indices of ex ante and ex post private control of self-dealing is associated with an increase in the ratio of market cap to GDP of 32 and 34 percentage points, respectively. These effects are economically large: the sample average stock-market-capitalization-to-GDP ratio is 59%.

In Figs. 2 and 3, Switzerland and Hong Kong are major outliers. Switzerland plays a key role in making the results *weaker* than they would be otherwise. Switzerland's legal environment, from the perspective of disclosure, approval, and the burden of litigation, is extremely friendly to insiders and hostile to outside shareholders. Yet Switzerland has an extremely valuable stock market. We might have missed some important legal protection of shareholders in Switzerland or mechanisms for protecting minority shareholders separate from the law. Alternatively, the enormous investment resources of the Swiss banks might have artificially inflated the value of its stock market. In any case, our results are qualitatively similar if we cap the stock market capitalization of four extreme observations on each side, or when we run robust regressions.

Table 5

Stock market capitalization, control premium, and the regulation of self-dealing

This table presents results for OLS regressions for the sample of 72 countries. The dependent variables are the stock-market-capitalization-to-GDP ratio (Panel A) and control premium (Panel B). The independent variables are: (1) approval by disinterested shareholders; (2) ex ante disclosure; (3) ex ante private control of self-dealing; (4) disclosure in periodic filings; (5) ease in proving wrongdoing; (6) ex post private control of self-dealing; (7) (logarithm) GDP per capita; and (8) time to collect on a bounced check. Table 1 provides definitions for the variables. Robust standard errors are shown in parentheses.

Panel A. Dependent variable: Stock-market-capitalization-to-GDP ratio						
Approval by disinterested shareholders	30.1605[c] [17.0429]					
Ex ante disclosure		50.2001[b] [23.8745]				
Ex ante private control of self-dealing			48.0959[b] [23.1395]			
Disclosure in periodic filings				43.786[a] [15.8883]		
Ease in proving wrongdoing					55.0993[c] [28.4338]	
Ex post private control of self-dealing						70.9618[a] [25.5879]
Ln(GDP/POP)	23.9451[a] [4.6644]	21.4156[a] [4.2830]	23.1001[a] [4.3733]	20.0926[a] [4.1511]	20.1715[a] [4.0394]	18.9961[a] [4.0953]
Time to collect on a bounced check	−14.6453[c] [8.3248]	−14.3777[c] [7.5822]	−13.3685[c] [7.3956]	−16.1557[c] [9.3182]	−16.6180[c] [8.8021]	−15.2516[c] [8.4885]
Constant	−74.1561 [57.8757]	−70.2678 [47.5839]	−83.4582[c] [50.5655]	−50.7705 [58.1494]	−50.8626 [55.2684]	−58.5579 [53.8109]
Observations	72	72	72	72	72	72
R^2	0.40	0.42	0.42	0.41	0.40	0.43
Panel B. Dependent variable: Control premium						
Approval by disinterested shareholders	−0.0834[b] [0.0340]					
Ex ante disclosure		−0.0953[c] [0.0569]				
Ex ante private control of self-dealing			−0.1101[c] [0.0484]			
Disclosure in periodic filings				−0.1306[c] [0.0690]		
Ease in proving wrongdoing					−0.1170 [0.0868]	
Ex post private control of self-dealing						−0.1908[b] [0.0941]
Ln(GDP/POP)	−0.0288 [0.0193]	−0.0218 [0.0181]	−0.0272 [0.0192]	−0.0090 [0.0154]	−0.0111 [0.0168]	−0.0055 [0.0156]
Time to collect on a bounced check	0.0454[b] [0.0217]	0.0487[b] [0.0203]	0.0435[b] [0.0209]	0.0517[b] [0.0215]	0.0509[b] [0.0209]	0.0456[b] [0.0214]
Constant	0.1600 [0.2721]	0.1106 [0.2658]	0.1790 [0.2780]	0.0113 [0.2286]	0.0109 [0.2333]	0.0388 [0.2291]
Observations	39	39	39	39	39	39
R^2	0.27	0.25	0.28	0.29	0.24	0.30

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

The results on control premiums are also interesting (Panel B of Table 5). Five measures of the regulation of self-dealing are robust predictors of lower control premiums (the exception is difficulty in proving wrongdoing). Consistent with the results on the stock-market-capitalization-to-GDP ratio, the regulation of self-dealing has a large impact on private benefits. Figs. 4 and 5 illustrate the results for the relation between control premium and ex ante and ex post private control of self-dealing, respectively. The estimated
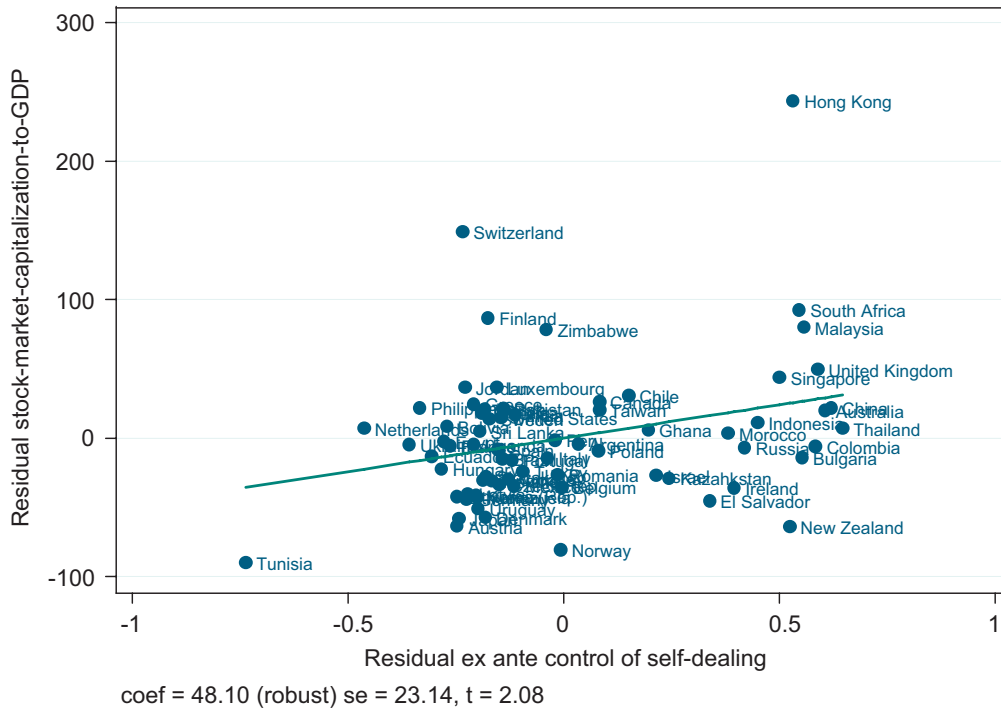
coef = 48.10 (robust) se = 23.14, t = 2.08

Fig. 2. Partial-regression plot of stock market capitalization against ex ante private control of self-dealing in regressions that control for (log) income per capita and time to collect on a bounced check.

coef = 70.96, (robust) se = 25.59, t = 2.77

Fig. 3. Partial-regression plot of stock market capitalization against ex post private control of self-dealing in regressions that control for (log) income per capita and time to collect on a bounced check.

coefficients imply that increasing the ex ante private control of self-dealing by two standard deviations is associated with a reduction of nine percentage points in the control premium—a large effect since the control premium averages 11% in our sample. Similarly, a two standard-deviation improvement in the ex

coef = -0.11, (robust) se = 0.05, t = -2.28

Fig. 4. Partial-regression plot of control premium against ex ante private control of self-dealing in regressions that control for (log) income per capita and time to collect on a bounced check.

coef = -0.19, (robust) se = 0.09, t = -2.03
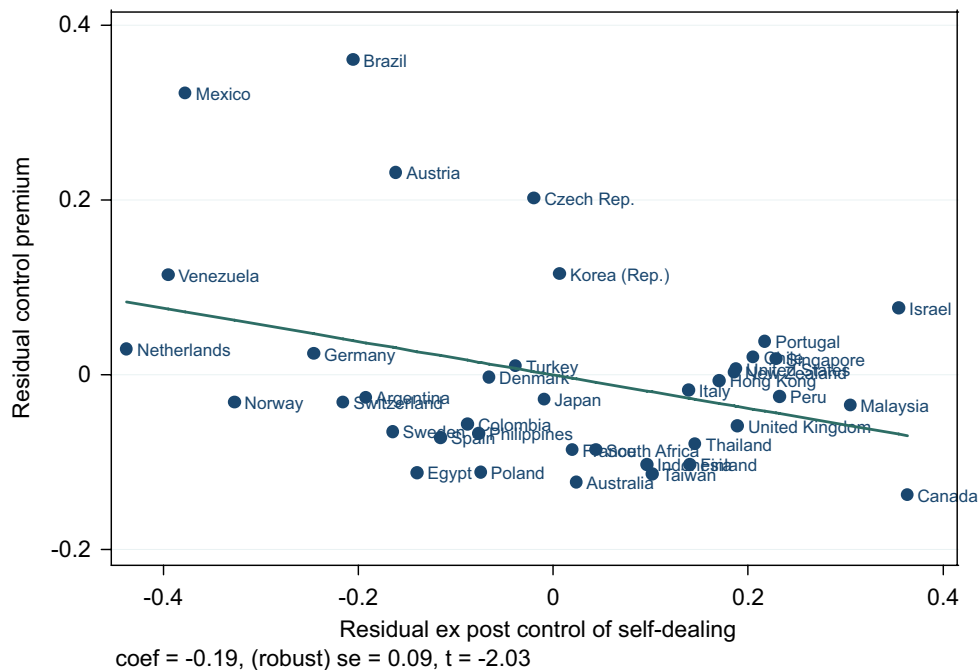
Fig. 5. Partial-regression plot of control premium against ex post private control of self-dealing in regressions that control for (log) income per capita and time to collect on a bounced check.
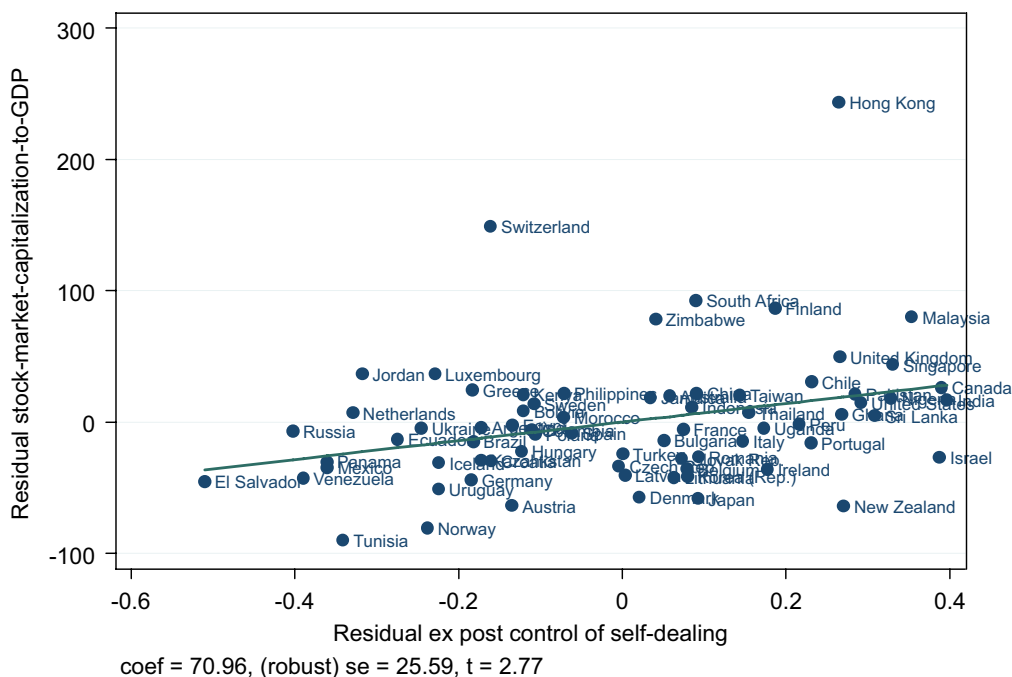
post index of private control of self-dealing is associated with a reduction of ten percentage points in the control premium.

Table 6 shows the effect of the indices of ex ante private control of self-dealing (Panel A), ex post private control of self-dealing (Panel B), and overall anti-self-dealing (Panel C) on our five indicators of the

Table 6
Stock market development and control of self-dealing

This table presents results for OLS regressions for the sample of 72 countries. The dependent variables are (1) stock-marketcapitalization-to-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. The independent variables include: (1) ex ante private control of self-dealing (Panel A); (2) ex post private control of self-dealing (Panel B); and (3) anti-self-dealing index (Panel C). All regressions also include: (1) (logarithm) GDP per capita; and (2) time to collect on a bounced check. Table 1 provides definitions for the variables. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/POP)	IPOs/GDP	Ownership concentration
Panel A: Ex ante private control of self-dealing					
Ln(GDP/POP)	23.1001[a]	−0.0272	0.6733[a]	1.1758[a]	−0.0316[b]
	[4.3733]	[0.0192]	[0.0933]	[0.2262]	[0.0126]
Time to collect on a bounced check	−13.3685[c]	0.0435[b]	0.0792	0.3780	0.0607[b]
	[7.3956]	[0.0209]	[0.1518]	[0.5773]	[0.0266]
Ex ante private control of self-dealing	48.0959[b]	−0.1101[b]	0.3851	2.5441[c]	0.0044
	[23.1395]	[0.0484]	[0.3768]	[1.3563]	[0.0563]
Constant	−83.4582[c]	0.1790	−3.8347[b]	−10.2604[b]	0.4336[b]
	[50.5655]	[0.2780]	[1.3235]	[4.2853]	[0.2081]
Observations	72	39	72	49	49
R^2	0.42	0.28	0.45	0.35	0.27
Panel B: Ex post private control of self-dealing					
Ln(GDP/POP)	18.9961[a]	−0.0055	0.5985[a]	1.0107[a]	−0.0240[b]
	[4.0953]	[0.0156]	[0.1071]	[0.2174]	[0.0113]
Time to collect on a bounced check	−15.2516[c]	0.0456[b]	0.1052	0.2978	0.0421[c]
	[8.4885]	[0.0214]	[0.1421]	[0.5622]	[0.0240]
Ex post private control of self-dealing	70.9618[a]	−0.1908[b]	1.3897[a]	3.7405[b]	−0.1850[a]
	[25.5879]	[0.0941]	[0.4903]	[1.5789]	[0.0657]
Constant	−58.5579	0.0388	−3.9224[a]	−9.6296[b]	0.5727[a]
	[53.8109]	[0.2291]	[1.3041]	[4.2082]	[0.1612]
Observations	72	39	72	49	49
R^2	0.43	0.30	0.49	0.36	0.36
Panel C: Anti-self-dealing index					
Ln(GDP/POP)	20.9013[a]	−0.0194	0.6472[a]	1.0884[a]	−0.0301[b]
	[4.1275]	[0.0168]	[0.0965]	[0.2162]	[0.0122]
Time to collect on a bounced check	−11.9803[c]	0.0393[c]	0.1241	0.4953	0.0485[c]
	[6.7769]	[0.0215]	[0.1475]	[0.5621]	[0.0247]
Anti-self-dealing index	83.7041[a]	−0.1791[b]	1.0847[b]	4.1413[b]	−0.0847
	[33.1478]	[0.0776]	[0.4884]	[1.7923]	[0.0715]
Constant	−91.6324[c]	0.1750	−4.1868[a]	−11.1332[a]	0.5253[a]
	[46.9993]	[0.2684]	[1.2988]	[4.2791]	[0.1808]
Observations	72	39	72	49	49
R^2	0.45	0.31	0.47	0.38	0.29

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

development of stock markets (Table 6 also includes the results on stock market capitalization and control premium reported in Table 5). All three measures of the regulation of self-dealing are statistically significant for the stock-market-capitalization-to-GDP ratio, control premium, and IPOs-to-GDP. Both the ex post private control of self-dealing index and the overall anti-self-dealing index are significant for (log) firms per million inhabitants. Finally, only the ex post private control of self-dealing matters for ownership concentration. Below we discuss the economic significance of these results.

We have already noted that the effects of raising the ex ante and ex post anti-self-dealing indices on the stock-market-to-GDP ratio and the control premium are economically large. The same is obviously true for the overall anti-self-dealing index. Fig. 6 shows that the control premium is very high in

coef = -0.18, (robust) se = 0.08, t = -2.31
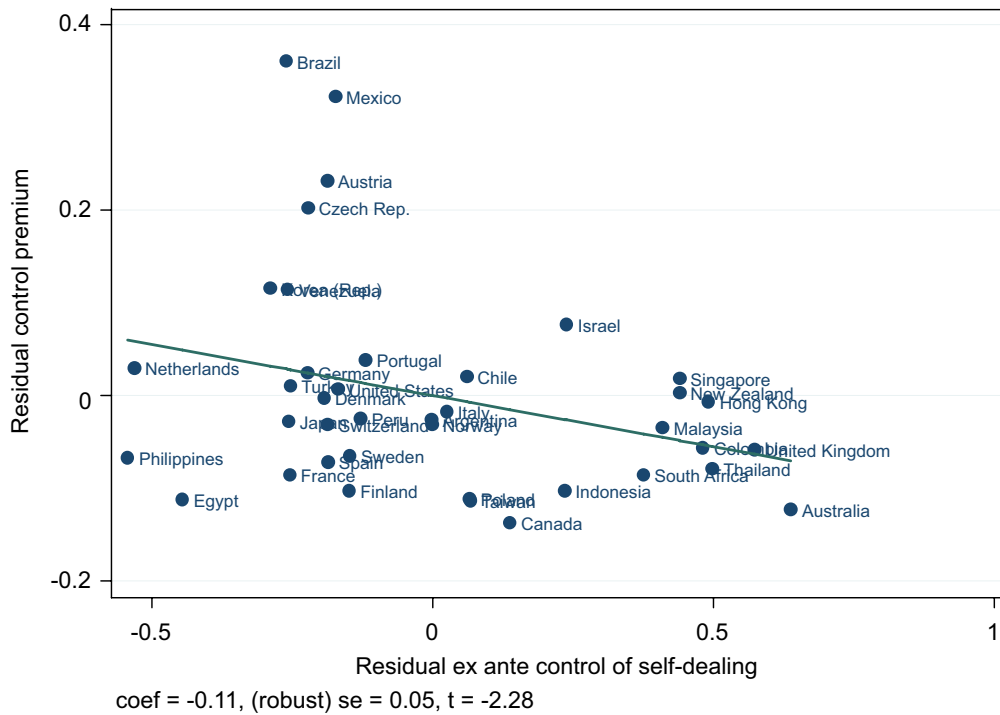
Fig. 6. Partial-regression plot of control premium against the anti-self-dealing index in regressions that control for (log) income per capita and time to collect on a bounced check.
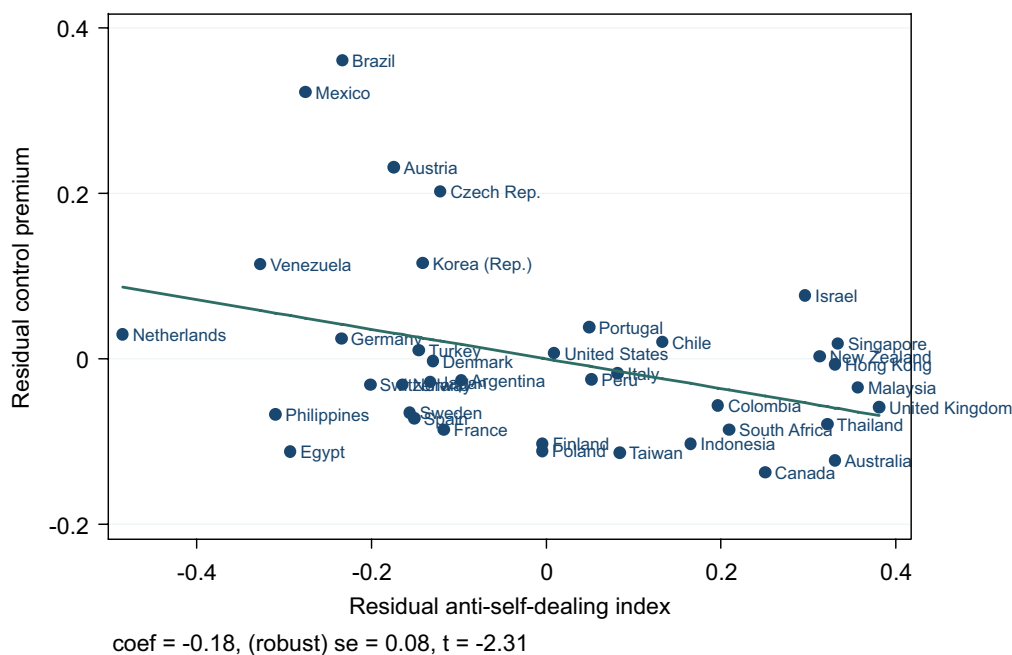
Brazil and Mexico (49% and 47%, respectively), two countries for which the anti-self-dealing index is low (0.29 and 0.18, respectively). Excluding both countries does not alter the statistical significance of the results.

Both the ex post private control index and the overall anti-self-dealing index have a significant effect on the (logarithm of the) number of domestic firms per million inhabitants. A two-standard-deviation increase in the ex post private control of self-dealing index is associated with a 67% increase in the number of domestic firms. Similarly, as illustrated by Fig. 7, a two-standard-deviation increase in the anti-self-dealing index is associated with a 51% increase in the number of domestic firms.

All three indices of the regulation of self-dealing have a significant effect on the IPOs-to-GDP ratio. The estimated coefficient implies that increasing the ex ante private control of self-dealing index by two standard deviations is associated with an increase in the IPOs-to-GDP ratio of 1.7% percentage points. This effect is very large since the sample mean of the IPOs-to-GDP ratio is only 3.0%. Similarly, the estimated coefficient implies that increasing ex post private control of self-dealing index by two standard deviations is associated with an increase in the IPOs-to-GDP ratio of 1.8% percentage points. Finally, as illustrated by Fig. 8, the predicted effect of improving the anti-self-dealing index by two standard deviations is an additional two percentage points in the IPOs-to-GDP ratio.

Ex ante private control of self-dealing does not lower ownership concentration (this result does not seem to be driven by outliers). In contrast, increasing the ex post private control of self-dealing index by two standard deviations is associated with a reduction of nine percentage points in ownership concentration. To interpret this magnitude, note that the average ownership concentration in our sample is 47%.

A skeptic might worry that our indices of the regulation of self-dealing depend on our method of aggregating the sub-indices. One way to address this concern is to use principal components analysis to build indices of ex ante and ex post regulation of self-dealing as well as an aggregate anti-self-dealing index. The results are qualitatively similar to those in Table 6. Interestingly, the first principal component of anti-self-dealing is significant in the ownership concentration regression but the index itself is not. These results should alleviate concerns about aggregation.

Another concern about our findings on the effect of private enforcement rules on the development of stocks markets is endogeneity. To address this concern, we can use legal origin, which is clearly exogenous, as an

instrument. However, as discussed by Glaeser, La Porta, Lopez-de-Silanes, and Shleifer (2004), the use of instrumental variables in this context is problematic, since a valid instrument must be not only exogenous but also uncorrelated with the error term. Since legal origin influences other aspects of the legal environment that in turn affect financial development (including securities laws or other elements of corporate law), it might not be a valid instrument.

coef = 1.08, (robust) se = 0.49, t = 2.22

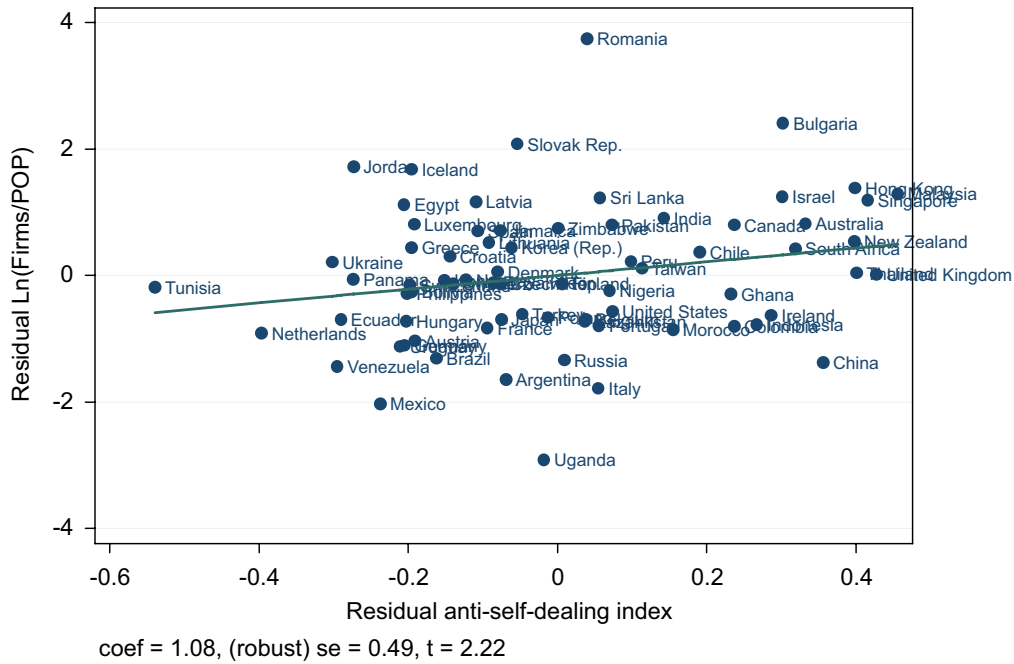Fig. 7. Partial-regression plot of (log) listed firms per million people against the anti-self-dealing index in regressions that control for (log) income per capita and time to collect on a bounced check.

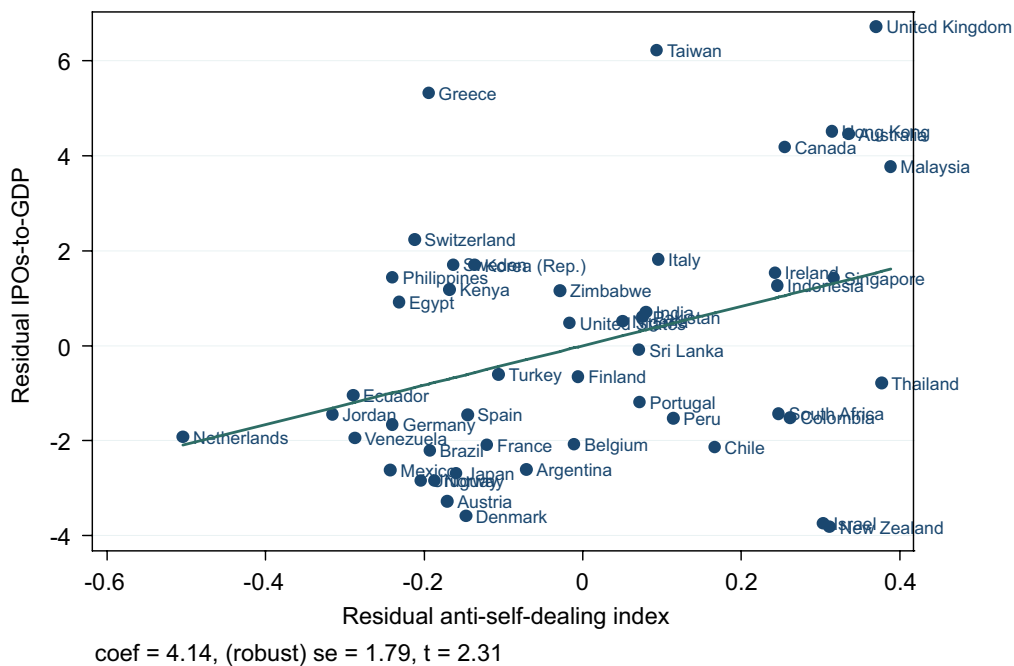coef = 4.14, (robust) se = 1.79, t = 2.31

Fig. 8. Partial-regression plot of IPOs-to-GDP against the anti-self-dealing index in regressions that control for (log) income per capita and time to collect on a bounced check.

There is no good solution to this problem, but we can show the results that obtain. To begin, Table 7 presents two-stage least squares regressions using common law as an instrument for the anti-self-dealing index. Consistent with the results in Table 6, the anti-self-dealing index is significant in the regressions for stock-market-capitalization-to-GDP, control premium, (logarithm of) firms per million inhabitants, and IPOs-to-GDP (Panel A). In addition, legal origin is a strong predictor of the regulation of self-dealing. Note also that income per capita predicts the regulation of self-dealing when legal origin is included in the regressions but not in univariate regressions.

To deal with the problem of the validity of the instrument, we have also replaced the anti-self-dealing index with the first principal component of the four available measures of legal protection of shareholders: the anti-self-dealing index, the revised anti-director rights index (see Section 5), prospectus disclosure, and prospectus liability (the latter two variables come from La Porta, Lopez-de-Silanes, and Shleifer, 2006). The first principal component accounts for roughly 66% of the variation in these four variables. In two-stage least squares results using common law as an instrument, the principal component is statistically significant for all proxies for stock market development except ownership concentration.

Public enforcement is the last area of law we examine. Table 8 shows that neither measure of public enforcement is associated with more developed stock markets. Our proxy for public enforcement when all disclosure and approval requirements have been met is significant, but with the wrong sign, in only one regression (control premium). Fig. 9 illustrates that there is no relation between public enforcement and stock market capitalization and that this absence cannot be blamed on outliers.

Advocates of public enforcement might dismiss these findings by arguing that what deters self-dealing is the likelihood that criminal sanctions are actually imposed (rather than their mere existence). Unfortunately,

Table 7

Instrumental variables regressions

This table presents results for IV regressions using common law as an instrument for the anti-self-dealing index. The dependent variables are (1) stock-market-capitalization-to-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. The independent variables include: (1) anti-self-dealing index; (2) (logarithm) GDP per capita; and (3) time to collect on a bounced check. Panel B presents the first-stage results for the anti-self-dealing index. Table 1 provides definitions for the variables. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/ POP)	IPOs/ GDP	Ownership concentration
Panel A: *Second-stage regression results*					
Ln(GDP/POP)	19.6642[a]	−0.0192	0.6347[a]	1.0529[a]	−0.0288[b]
	[4.3327]	[0.0166]	[0.0981]	[0.2187]	[0.0125]
Time to collect on a bounced check	−7.0659	0.0449[b]	0.1738	0.7530	0.0391
	[6.1241]	[0.0226]	[0.1455]	[0.6423]	[0.0274]
Anti-self-dealing index	144.0127[a]	−0.1340[c]	1.6940[b]	6.0566[b]	−0.1546
	[47.5366]	[0.0720]	[0.7966]	[2.5357]	[0.1067]
Constant	−133.3304[a]	0.1209	−4.6080[a]	−13.0748[a]	0.5961[a]
	[49.1809]	[0.2638]	[1.3773]	[4.9534]	[0.1840]
Observations	72	39	72	49	49
R^2	0.40	0.30	0.46	0.36	0.27
Panel B: *First-stage regression results for the anti-self-dealing index*					
Ln(GDP/POP)			0.0385[b]		
			[0.0154]		
Time to collect on a bounced check			−0.0438		
			[0.0335]		
Common law			0.3148[a]		
			[0.0500]		
Constant			0.2514 [0.2445]		
Observations			72		
R^2			0.45		

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

Table 8

Regression results for public enforcement

This table presents results for OLS regressions for the sample of 72 countries. The dependent variables are (1) stock-market-capitalization-to-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. The independent variables include: (1) public enforcement index (Panel A); and (2) prison term for Mr. James if he does not disclose (Panel B). All regressions also include: (1) (logarithm) GDP per capita; and (2) time to collect on a bounced check. Table 1 provides definitions for the variables. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/ POP)	IPOs/ Pop	Ownership concentration
Panel A: Public enforcement when all disclosure and approval requirements have been met					
Ln(GDP/POP)	23.3409[a]	−0.0285	0.6598[a]	1.2429[a]	−0.0336[b]
	[4.6131]	[0.0172]	[0.1002]	[0.2600]	[0.0145]
Time to collect on a bounced check	−18.4398[c]	0.0506[b]	0.0309	0.0395	0.0574[b]
	[9.8767]	[0.0215]	[0.1547]	[0.6140]	[0.0253]
Public enforcement	−13.8088	0.0650[c]	0.1834	−0.8511	0.0209
	[14.5481]	[0.0341]	[0.3271]	[1.0047]	[0.0409]
Constant	−36.0403	0.0811	−3.4065[a]	−7.8059[c]	0.4608[b]
	[60.7170]	[0.2341]	[1.3136]	[4.4091]	[0.1992]
Observations	72	39	72	49	49
R^2	0.37	0.25	0.44	0.30	0.27
Panel B: Public enforcement when the transaction is approved by the CEO without disclosure					
Ln(GDP/POP)	21.7650[a]	−0.0214	0.6732[a]	1.1210[a]	−0.0287[b]
	[4.0175]	[0.0159]	[0.0928]	[0.2365]	[0.0125]
Time to collect on a bounced check	−18.0333[c]	0.0647[a]	0.0323	−0.0172	0.0569[b]
	[9.9211]	[0.0232]	[0.1535]	[0.5970]	[0.0246]
Prison term for Mr. James if he does not disclose	1.2903	0.0031	−0.0058	0.0718	−0.0048
	[1.7628]	[0.0046]	[0.0291]	[0.0635]	[0.0037]
Constant	−36.7872	−0.0461	−3.4231[a]	−7.1680[c]	0.4549[b]
	[63.4297]	[0.2326]	[1.3025]	[4.2631]	[0.1835]
Observations	72	39	72	49	49
R^2	0.37	0.22	0.44	0.3	0.29

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

we lack data on actual enforcement practices to test this view. As a crude way of capturing the actual enforcement of fines and criminal sanctions, we run separate regressions for rich countries (above median GDP per capita) and poor countries (below median GDP per capita). Public enforcement measured under the assumption that all disclosure and approval requirements have been met is never a significant predictor of stock market development.[6] Ownership concentration in *poor* countries is the only measure of financial development that is predicted by our proxy for public enforcement when the transaction is approved without disclosure. In sum, with the caveats that public enforcement is measured with error and that it might matter in other situations, we find no evidence that public enforcement matters.

Overall, the evidence shows that a high anti-self-dealing index is associated with valuable stock markets, more domestic firms, more initial public offerings, and lower benefits of control. In contrast, the anti-self-dealing index is not reliably associated with ownership concentration (although the index of ex post private control is). Finally, public enforcement does not predict more developed stock markets. One reason to be cautious about the large estimated effect of the regulation of self-dealing on financial development is that this

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[6] We also examine the explanatory power of our proxies for public enforcement in the sub sample of 24 countries that first enforced insider trading laws before 1996 (Bhattacharya and Daouk, 2002). In this sub sample, public enforcement when the transaction is carried out without disclosure is associated with less ownership concentration but not with other proxies for stock market development. In contrast, public enforcement when the transaction complies with disclosure and approval requirements is associated with *more* ownership concentration and a *higher* control premium.
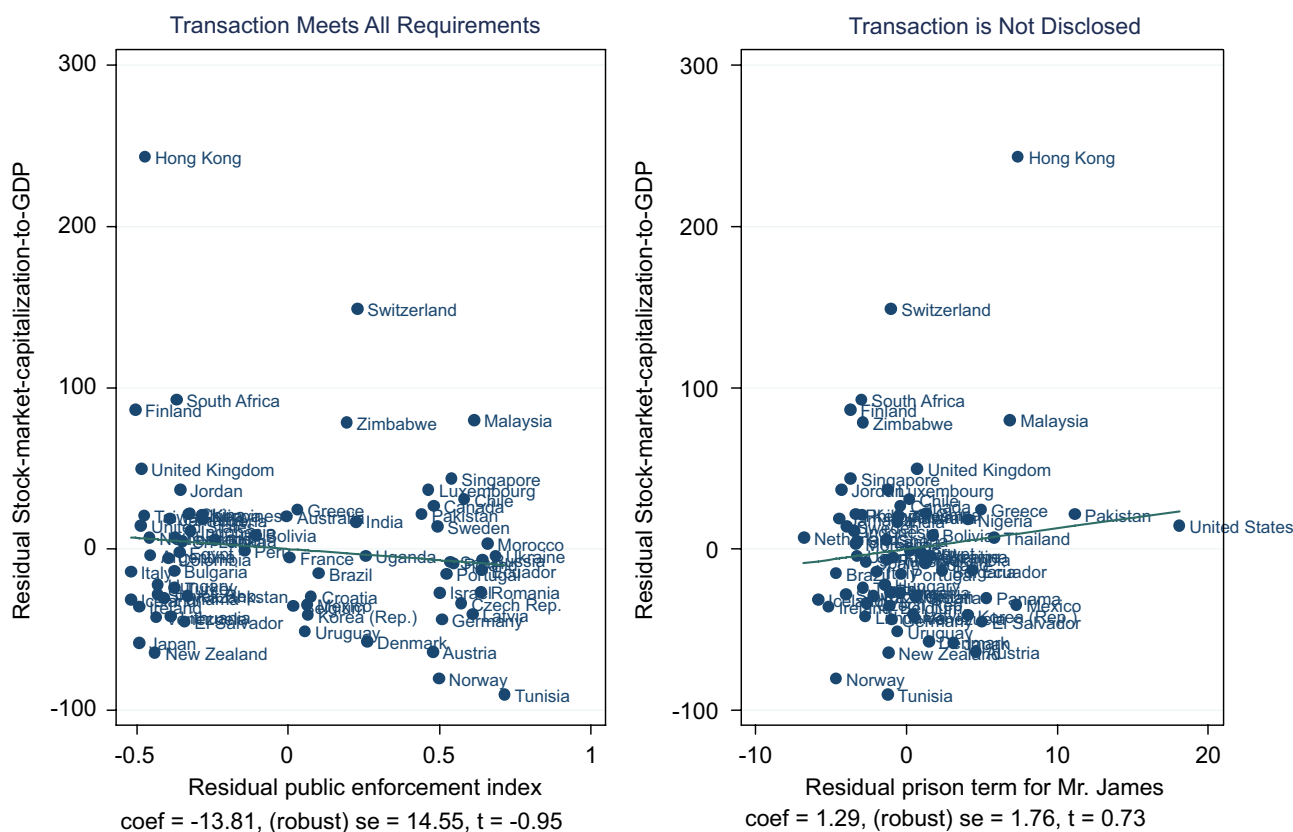
Fig. 9. Partial-regression plot of stock market capitalization against public enforcement when all approval and disclosure requirements are met (left graph) and when the transaction is approved by the CEO –the son of the controlling shareholder—without disclosure (right graph) in regressions that control for (log) income per capita and time to collect on a bounced check.

regulation can covary with other legal and non-legal institutions. We examine this issue in the next two sections.

5. Other measures of investor protection

In previous work, we have constructed three other measures of investor protection: anti-director rights, prospectus disclosure, and prospectus liability (see La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, 1998, 2006). In this section, we examine the robustness of our findings on the effect of anti-self-dealing on the development of stock markets when including these three alternative measures of investor protection. In particular, we are interested in understanding whether the theoretically grounded anti-self-dealing index works better than the original index of anti-director rights in explaining financial development.

The original anti-director rights index, reported in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998), is available for 49 countries and is based on laws in force circa 1993. This index has been criticized by a number of scholars for its ad hoc nature, for mistakes in its coding, and most recently for conceptual ambiguity in the definitions of some of its components (Pagano and Volpin, 2005; Spamann, 2005). Our first step is to describe and present a revised index of anti-director rights for 72 countries based on laws and regulations applicable to publicly traded firms in May 2003. The revised index relies on the same basic dimensions of corporate law, but defines them with more precision.

Both the original and the revised anti-director rights indices summarize the protection of minority shareholders in the corporate decision-making process, including the right to vote. The index covers the following six areas: (1) vote by mail; (2) obstacles to the actual exercise of the right to vote (i.e., the requirement that shares be deposited before the shareholders' meeting); (3) minority representation on the

board of directors through cumulative voting or proportional representation; (4) an oppressed minority mechanism to seek redress in case of expropriation; (5) preemptive rights to subscribe to new securities issued by the company; and (6) the right to call a special shareholder meeting. The general principle behind the construction of the revised anti-director rights index is to associate better investor protection with laws that explicitly mandate, or set as a default rule, provisions that are favorable to minority shareholders. We recognize that firms can, in their charters, opt out of the default rules set in the law. Firms can also enhance investor protection by including in their charters provisions favorable to shareholders. However, it has been shown theoretically (Bergman and Nicolaievsky, 2007) and established empirically—including in this paper— that the actual rules matter for financial development.

Methodologically, the key difference between the original and revised indices of anti-director rights lies in the treatment of enabling provisions. To illustrate, consider the example of cumulative voting in the US. The Delaware code contains a provision that explicitly allows the certificate of incorporation of any corporation to provide that directors be elected through cumulative voting. Our earlier work does not draw a distinction between enabling provisions and mandatory and default rules (Spamann, 2005), so our original index of anti-director rights treats the U.S. as having cumulative voting. Arguably, an enabling provision can lower the cost of private contracting. However, we ignore enabling provisions when coding the revised anti-director rights index and now treat the U.S. as not having cumulative voting. We do so because enabling provisions are more prevalent in common law countries than in civil law countries and we want to bias the results against the hypothesis that common law better protects investors.

The revised anti-director rights index is based on six proxies defined in Table 9. First, to make voting easier, shareholders can appoint a proxy to take their place at the shareholders' meeting and to vote on their behalf. In many countries, the solicitation of proxies is unregulated and shareholders lack sufficient information to provide specific instructions on how the proxy should vote on the items on the agenda. In other countries, in contrast, shareholders can vote by mail on each of the items on the agenda through a ballot or proxy form. The regulation of the proxy solicitation process makes it easier for shareholders both to cast informed votes and to oppose proposals put forward by directors. Thus, our first sub-index reflects the difficulty of making informed votes by mail.

Second, in some countries, the law requires, or permits companies to require, that shareholders who intend to vote at the shareholders' meeting deposit their shares with the company or a financial intermediary. This requirement is closely related to the existence of bearer shares and is intended to force shareholders to prove their right to vote. Such a requirement imposes a cost on shareholders as they must either obtain a certificate proving their ownership or are unable to sell their shares (i.e., shares are "blocked") or both. Moreover, when the identity of shareholders is unknown, dissenting shareholders face great difficulties forming coalitions with like-minded shareholders before the meeting.

Third, some countries mandate or set as a default rule that shareholders cast all their votes for one candidate for the board of directors or supervisory board (cumulative voting) or provide a mechanism of proportional representation on the board of directors or supervisory board. The effect of cumulative voting and proportional representation is to limit the power of controlling shareholders to dominate the board of directors or supervisory board.

Fourth, some countries provide legal mechanisms that protect minority shareholders against oppressive actions by controlling shareholders. These mechanisms include the right to rescind transactions that are prejudicial to the company, or to recover damages suffered by the company, in case of prejudicial resolutions of the shareholders' meeting or decisions of the board of directors or both. In contrast, in other countries transactions can only be rescinded in case of fraud, and shareholders can only seek to recover damages suffered by the company if they can prove that directors acted with negligence, gross negligence, bad faith, or fraud. This fourth component of the anti-director rights index is closely related to the sub-index of *ease of proving wrongdoing* in the anti-self-dealing index.

Fifth, in some countries shareholders have a preemptive right to buy new issues of stock, which can only be waived by a shareholder vote. In the absence of preemptive rights, insiders can expropriate minority shareholders by offering shares to related parties, or even to themselves, at below-market prices.

Finally, we consider the minimum fraction of capital or votes that entitles a shareholder to call a shareholders' meeting. In Japan, Korea, and Taiwan, shareholders owning at least 3% of the capital are

Table 9
Description of the revised anti-director rights index

This table describes the revised anti-director rights index and its components. The source of the data is the commercial laws of the various countries.

Variable	Description
Vote by mail	Equals one if the law explicitly mandates or sets as a default rule that: (a) proxy solicitations paid by the company include a proxy form allowing shareholders to vote on the items on the agenda; or (b) a proxy form to vote on the items on the agenda accompanies the notice to the meeting; or (c) shareholders vote by mail on the items on the agenda (i.e., postal ballot); and zero otherwise.
Shares not deposited	Equals one if the law does not require or permit companies to require shareholders to deposit with the company or another firm any of their shares prior to a general shareholders meeting.
Cumulative voting	Equals one if the law explicitly mandates or sets as a default rule that shareholders owning 10% or less of the capital can cast all their votes for one board of directors or supervisory board candidate (cumulative voting) or if the law explicitly mandates or sets as a default rule a mechanism of proportional representation in the board of directors or supervisory board by which shareholders owning 10% or less of the capital stock can name a proportional number of directors to the board, and zero otherwise.
Oppressed minority	Index of the difficulty faced by (minority) shareholders owning 10% or less of the capital stock in challenging (i.e., by either seeking damages or having the transaction rescinded) resolutions that benefit controlling shareholders and damage the company. Equals one if minority shareholders can challenge a resolution of both the shareholders and the board (of directors or, if available, of supervisors) if it is unfair, prejudicial, oppressive, or abusive; equals one-half if shareholders are able to challenge either a resolution of the shareholders or of the board (of directors or, if available, of supervisors) if it is unfair, prejudicial, or oppressive; equals zero otherwise.
Pre-emptive rights	Equals one when the law or listing rules explicitly mandate or set as a default rule that shareholders hold the first opportunity to buy new issues of stock; equals zero otherwise.
Capital to call a meeting	The minimum percentage of share capital [or voting power] that the law mandates or sets as a default rule as entitling a single shareholder to call a shareholders' meeting (directly or through the court). Equals one when capital to call a meeting is less than or equal to 10% and zero otherwise.
Anti-director rights index	Aggregate index of shareholder rights. The index is formed by summing: (1) vote by mail; (2) shares not deposited; (3) cumulative voting; (4) oppressed minority; (5) pre-emptive rights; and (6) capital to call a meeting.

entitled to call a meeting. In Belgium, Venezuela, and Uruguay, however, shareholders must own at least 20% of the capital to call a meeting. Shareholders in firms incorporated in Delaware cannot call an extraordinary shareholders' meeting at all unless authorized by the certificate of incorporation or the bylaws. Insiders have greater control over the firm when it is more difficult for minority shareholders to call a shareholders' meeting.

The correlation between the revised anti-director rights index and the one presented in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) is 0.60. As in the case of the original index, differences between common law countries and French legal origin are extremely pronounced and we discuss them first. Common law countries are more likely than their French legal origin counterparts to provide for voting by mail (76% vs. 22%); to avoid the requirement that shares be deposited (100% vs. 50%); and to provide an oppression remedy (90% vs. 28%). Moreover, common law countries require less capital to call a shareholders meeting than French legal origin countries (9% vs. 11%). In contrast, French legal origin countries are more likely than common law countries to require cumulative voting (34% vs. 10%) and to offer shareholders preemptive rights (91% vs. 52%). The index of anti-director rights aggregates the information contained in these six proxies for investor protection. Consistent with our earlier findings, the index of anti-director rights is sharply higher in common law countries than in French legal origin countries (4.19 vs. 2.91).

Also consistent with our earlier work, there are several differences among civil law families. Specifically, Scandinavian legal origin countries are more likely than French and German legal origin countries to avoid the requirement that shares be deposited ahead of a shareholders' meeting (100% for Scandinavian countries vs. 50% and 43% for French and German countries, respectively) as well as to provide an oppressed minority mechanism (60% for Scandinavian countries vs. 28% and 32% for French and German countries, respectively). Capital requirements to call a shareholders' meeting in Scandinavian and German legal origin countries (9% and 6%, respectively) are lower than in French legal origin countries (11%) and comparable to those in common law countries (9%). As a result of these differences among civil law families, the index of

anti-director rights is lowest in French legal origin countries (2.91) and highest in Scandinavian countries (3.80). In fact, the anti-director rights index in Scandinavian legal origin countries (3.80) is not statistically different than in common law countries (4.29).[7]

Table 10 shows the relation between our five proxies for the development of stock markets and both the original anti-director rights index (Panel A) and the revised one (Panel B). The original anti-director rights index is associated with a higher stock-market-capitalization-to-GDP ratio, a smaller control premium, more domestic firms and IPOs-to-GDP, and less ownership concentration. The revised index is unrelated to the control premium but otherwise has a large effect on the development of stock markets. For example, a two standard-deviation increase in the revised anti-director rights index is associated with an increase in the stock-market-capitalization-to-GDP ratio of 23 percentage points (sample mean of 59%), a 92% increase in the number of domestic firms per million inhabitants, an increase of 1.5 percentage points in the IPOs-to-GDP ratio (sample mean of 3%), and a reduction of seven percentage points in ownership concentration (sample mean of 47%).

Table 11 presents horse races between the anti-self-dealing index, the (revised) anti-director rights index (Panel A), and the two variables from the La Porta, Lopez-de-Silanes, and Shleifer (2006) study of securities laws: prospectus disclosure (Panel B) and prospectus liability (Panel C). Note that the correlations of anti-self-dealing with anti-director rights, disclosure requirements, and prospectus liability are 0.55, 0.67, and 0.42, respectively (see the correlation table in the Appendix A). This suggests that it is going to be difficult to disentangle the effects of the anti-self-dealing index and prospectus disclosure which is not surprising in light of the fact that both measures heavily focus on disclosure (albeit in different spheres).

When controlling for anti-director rights (see Panel A), the anti-self-dealing index loses significance for firms per capita and the IPOs-to-GDP ratio but remains significant for our two preferred measures of stock market development: the stock-market-capitalization-to-GDP ratio and control premium. In the same regressions (i.e., controlling for the anti-self-dealing index), the anti-director rights index loses significance for stock-market-capitalization-to-GDP, IPOs-to-GDP, and ownership concentration and remains significant only for (log) firms per capita. We conclude that the anti-self-dealing index is a more robust predictor of the development of stock markets than the anti-director rights index.

Controlling for prospectus disclosure (Panel B), the anti-self-dealing index is never significant. Prospectus disclosure is significant in all regressions, however. Controlling for prospectus liability (Panel C), the anti-self-dealing index remains significant for control premium, (log) firms per population, and IPOs-to-GDP and loses significance for market-capitalization-to-GDP. Prospectus liability is significant in all regressions. The anti-self-dealing index, prospectus disclosure, and prospectus liability all matter for the development of stock markets, but the first is a less robust predictor than the latter two.

6. Robustness

Our main finding is that the regulation of self-dealing varies across legal origins and is associated with more developed securities markets. In this section, we address alternative interpretations of these findings.

To begin, effective tax enforcement can prevent some self-dealing transactions. Our indices of the regulation of self-dealing could be picking up this effect (Dyck and Zingales, 2004; Desai, Dyck, and Zingales, 2007). To test this hypothesis, we include a subjective measure of the incidence of tax evasion in our specifications. The results in Panel A of Table 12 show that tax evasion is significant for stock market capitalization and (logarithm) domestic firms per capita. In contrast, anti-self-dealing is significant only for control premium and nearly significant for IPOs-to-GDP (at the 10.7% level). Tax evasion and anti-self-dealing knock each other out.

One difficulty in interpreting these results is that tax evasion is a subjective variable highly correlated with perceptions (from the 1999 Global Competitiveness Report) of the quality of corporate governance as proxied by the perceived incidence of insider trading (correlation of 0.67) or the perceived quality of financial disclosure (correlation 0.61). To examine whether low tax evasion is capturing effective corporate governance,

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[7]Scandinavian countries have significantly higher income per capita than the rest of the sample ($29,374 vs. $9,295). However, the anti-director rights index is uncorrelated (0.0718) with (log) GDP per capita (see the correlation table in the Appendix A).

Table 10

Regression results for the anti-director rights index

This table presents results for OLS regressions. The dependent variables are (1) stock-market-capitalization-to-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. The independent variables include: (1) anti-director rights index from La Porta et al. (1998) (Panel A); and (2) the revised anti-director rights index. All regressions also include: (1) (logarithm) GDP per capita; and (2) time to collect on a bounced check. Table 9 provides definitions for the revised anti-director rights index. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/ POP)	IPOs to GDP	Ownership concentration
Panel A: Anti-director rights index from LLSV					
Ln(GDP/POP)	18.0808[a]	−0.0120	0.5160[a]	1.2003[a]	−0.0337[a]
	[5.1853]	[0.0166]	[0.0772]	[0.2245]	[0.0105]
Time to collect on a bounced check	−24.8784[b]	0.0496[a]	−0.2359	0.2662	0.0405[c]
	[10.6914]	[0.0176]	[0.1911]	[0.5687]	[0.0237]
Anti-director rights index—LLSV 98	14.3777[a]	−0.0346[a]	0.2608[a]	0.6030[b]	−0.0357[a]
	[5.5806]	[0.0134]	[0.1004]	[0.2716]	[0.0112]
Constant	2.4869	0.0667	−1.5440	−10.757[b]	0.6658[a]
	[69.1489]	[0.2226]	[1.6414]	[4.3433]	[0.1722]
Observations	49	37	49	49	49
R^2	0.40	0.32	0.57	0.35	0.37
Panel B: Revised anti-director rights index					
Ln(GDP/POP)	22.3752[a]	−0.0195	0.6595[a]	1.2173[a]	−0.0342[a]
	[4.3003]	[0.0160]	[0.0871]	[0.2334]	[0.0111]
Time to collect on a bounced check	−14.0437	0.0561[b]	0.2300	0.4616	0.0346
	[8.8830]	[0.0244]	[0.1560]	[0.5793]	[0.0250]
Anti-director rights index—Revised	10.0045[c]	−0.0077	0.4085[a]	0.6824[b]	−0.0330[b]
	[5.5485]	[0.0246]	[0.1377]	[0.3388]	[0.0165]
Constant	−90.1826	0.0262	−5.7406[a]	−12.4998[a]	0.7086[a]
	[63.2923]	[0.2508]	[1.4929]	[4.7684]	[0.1861]
Observations	72	39	72	49	49
R^2	0.39	0.21	0.53	0.34	0.32

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

we pursue two further robustness checks. First, we investigate the robustness of the results on tax enforcement. Specifically, we collect data on three alternative, and arguably more objective, measures of tax evasion: the size of the informal economy (from Djankov, La Porta, Lopez-Silanes, and Shleifer, 2002), cross-border bank deposits of non-banks by residence of depositor (*International Financial Statistics,* October 1997 variable 7xrd), and assets held by Swiss banks by residence of beneficial owner (Swiss National Bank, 2005). We scale the last two variables by GDP. Controlling for the anti-self-dealing index, cross-border deposits by non-banks enters significantly in the ownership concentration regression. However, the estimated coefficients for the three tax evasion proxies are insignificant in the other 14 regressions.

Second, we include prospectus disclosure along with tax evasion in our regressions for the size of securities markets. Controlling for prospectus disclosure, tax evasion remains significant both for stock market capitalization and (logarithm) domestic firms per capita (see Panel C). Prospectus disclosure is significant in all five regressions. Taken together, these results do not support the view that omitted tax evasion accounts for the strength of anti-self-dealing in explaining the development of securities markets.

Public opinion pressure through the media could also curb private benefits (Dyck and Zingales, 2004; Desai, Dyck, and Zingales, 2007). This raises a concern that the benefits of disclosure as reflected in our indices come from the effects of the open media working as a watchdog. To address this concern, we include in our regressions a measure of per capita newspaper circulation, as suggested by Dyck and Zingales (2004). Newspaper circulation affects the (logarithm) number of domestic firms per capita, but it has no effect on

Table 11
Horse race between anti-self-dealing and other proxies for investor protection

This table presents results for OLS regressions for the sample of 72 countries. The dependent variables are (1) stock-market-capitalizationto-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. All regressions include: (1) (logarithm) GDP per capita; (2) time to collect on a bounced check; and (3) anti-self-dealing index. Regressions also control for: (1) the revised anti-directors index (Panel A); (2) prospectus disclosure (Panel B); and (3) prospectus liability (Panel C). The revised anti-directors index is defined in Table 9. All other variables are defined in Table 1. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/ POP)	IPOs/ GDP	Ownership concentration
Panel A: *Controlling for the revised anti-directors index*					
Ln(GDP/POP)	20.9381[a]	−0.0161	0.6570[a]	1.1073[a]	−0.0345[a]
	[4.1687]	[0.0164]	[0.0892]	[0.2255]	[0.0111]
Time to collect on a bounced check	−11.5689[c]	0.0526[b]	0.2342	0.5543	0.0348
	[6.9960]	[0.0233]	[0.1582]	[0.5793]	[0.0248]
Anti-self-dealing index	80.1685[b]	−0.2313[c]	0.1384	3.7314	0.0102
	[33.7653]	[0.1213]	[0.5989]	[2.2708]	[0.0993]
Anti-directors index (revised)	1.4711	0.0272	0.3938[b]	0.1489	−0.0345
	[4.0338]	[0.0342]	[0.1660]	[0.3881]	[0.0234]
Constant	−97.4845[c]	0.0035	−5.7532[a]	−11.9315[a]	0.7101[a]
	[52.0209]	[0.2715]	[1.5114]	[4.7002]	[0.1914]
Observations	72	39	72	49	49
R^2	0.45	0.33	0.53	0.38	0.32
Panel B: *Controlling for prospectus disclosure*					
Ln(GDP/POP)	16.8237[a]	−0.0122	0.4860[a]	1.1513[a]	−0.0333[a]
	[5.3006]	[0.0143]	[0.0772]	[0.2033]	[0.0113]
Time to collect on a bounced check	−15.2793	0.0321	−0.0575	0.9435[c]	0.0253
	[11.1004]	[0.0211]	[0.2032]	[0.5180]	[0.0242]
Anti-self-dealing index	29.1189	−0.0502	0.8933	1.157	0.0697
	[50.5557]	[0.1004]	[0.7095]	[2.0634]	[0.0848]
Prospectus disclosure	85.6991[b]	−0.2367[c]	1.2702[c]	5.3915[a]	−0.2791[a]
	[37.9210]	[0.1305]	[0.6708]	[1.6298]	[0.0898]
Constant	−58.2786	0.2264	−2.6107	−15.8069[a]	0.7672[a]
	[83.4718]	[0.2332]	[1.6387]	[4.0788]	[0.1900]
Observations	49	37	49	49	49
R^2	0.44	0.39	0.62	0.46	0.40
Panel C: *Controlling for prospectus liability*					
Ln(GDP/POP)	15.6724[a]	−0.0165	0.4687[a]	1.0772[a]	−0.0297[b]
	[5.1477]	[0.0154]	[0.0787]	[0.1982]	[0.0124]
Time to collect on a bounced check	−17.0216	0.0353	−0.0744	0.8957	0.0345
	[10.8912]	[0.0203]	[0.1980]	[0.6122]	[0.0233]
Anti-self-dealing index	59.4717	−0.1354[b]	1.3149[b]	2.8702	−0.0401
	[41.3254]	[0.0650]	[0.5199]	[1.7404]	[0.0742]
Prospectus liability	54.7649[a]	−0.1192[b]	0.9025[c]	4.0749[a]	−0.1430[b]
	[21.3554]	[0.0572]	[0.4723]	[1.2694]	[0.0610]
Constant	−28.0906	0.2034	−2.2363	−14.4146[a]	0.6405[a]
	[74.8109]	[0.2561]	[1.6343]	[4.5837]	[0.1764]
Observations	49	37	49	49	49
R^2	0.43	0.37	0.61	0.46	0.34

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

other measures of stock market development (Panel C). In contrast, the regulation of self-dealing remains significant in all four regressions. These results do not mean that the media is unimportant for corporate governance, but they help put to rest omitted-variable concerns.

Finally, investor protection could be determined by politics rather than legal origin. Pagano and Volpin's (2005) model predicts that proportional electoral systems are conducive to weaker investor protection than

Table 12
Alternative hypotheses

This table presents results for OLS regressions for the sample of 72 countries. The dependent variables are (1) stock-market-capitalization-to-GDP ratio; (2) control premium; (3) Ln(Firms/POP); (4) IPOs-to-GDP; and (5) ownership concentration. All regressions include: (1) (logarithm) GDP per capita; and (2) time to collect on a bounced check. Regressions also control for: (1) anti-self-dealing index and tax evasion (Panel A); (2) prospectus disclosure and tax evasion (Panel B); and (3) anti-self-dealing index and (logarithm) newspaper circulation per capita (Panel C). Table 1 provides definitions for the variables. Robust standard errors are shown in parentheses.

	Stock market capitalization to GDP	Control premium	Ln(Firms/ POP)	IPOs/GDP	Ownership concentration
Panel A: Tax evasion and anti-self-dealing					
Ln(GDP/POP)	9.9842	−0.0220	0.5159[a]	1.1801[b]	−0.0343[c]
	[7.1655]	[0.0237]	[0.1543]	[0.4791]	[0.0194]
Time to collect on a bounced check	−13.8431	0.0321	0.1742	0.7814	0.0418
	[9.0651]	[0.0246]	[0.1932]	[0.6555]	[0.0269]
Anti-self-dealing	44.1097	−0.1838[c]	0.6832	4.1115	−0.0079
	[51.8846]	[0.0993]	[0.5660]	[2.4821]	[0.0875]
Tax evasion	13.0330[b]	−0.0060	0.2881[a]	0.1380	−0.0136
	[6.3722]	[0.0147]	[0.0783]	[0.3410]	[0.0103]
Constant	−20.9171	0.2715	−4.5621[a]	−14.095[a]	0.6226[a]
	[59.6363]	[0.2943]	[1.7908]	[5.4733]	[0.2375]
Observations	47	37	47	39	39
Pseudo R^2	0.44	0.35	0.64	0.31	0.32
Panel B: Tax evasion and disclosure in the prospectus					
Ln(GDP/POP)	10.2115	−0.0119	0.4038[a]	1.2636[a]	−0.0487[a]
	[6.8331]	[0.0195]	[0.1110]	[0.3919]	[0.0169]
Time to collect on a bounced check	−6.2111	0.0284	0.0329	1.1629[b]	0.0250
	[13.3539]	[0.0212]	[0.1767]	[0.5242]	[0.0251]
Prospectus disclosure	92.4098[b]	−0.2714[b]	1.2336[b]	7.3585[a]	−0.2275[a]
	[42.6754]	[0.1175]	[0.6036]	[2.0777]	[0.0852]
Tax evasion	11.6066[b]	−0.0080	0.2773[a]	0.0789	−0.0005
	[5.6395]	[0.0154]	[0.0663]	[0.2611]	[0.0111]
Constant	−88.5853	0.2817	−3.2411[b]	−19.0407[a]	0.9206[a]
	[88.4167]	[0.2452]	[1.5422]	[4.6014]	[0.2137]
Observations	39	35	39	39	39
Pseudo R^2	0.42	0.43	0.72	0.40	0.40
Panel C: (Log) Newspaper circulation per capita					
Ln(GDP/POP)	23.0029[a]	−0.0309	0.3106[c]	0.9111[a]	0.0034
	[4.5475]	[0.0213]	[0.1656]	[0.3439]	[0.0212]
Time to collect on a bounced check	−11.7426	0.0424[c]	0.0339	0.5593	0.0364
	[7.1449]	[0.0242]	[0.1410]	[0.6064]	[0.0265]
Anti-self-dealing	83.4879[b]	−0.1735[b]	1.1679[b]	4.2735[b]	−0.1097
	[33.4857]	[0.0821]	[0.5225]	[1.9087]	[0.0709]
Ln newspaper circulation per capita	−4.1207	0.0182	0.5580[b]	0.3088	−0.0583[c]
	[5.4529]	[0.0311]	[0.2361]	[0.5943]	[0.0304]
Constant	−91.0437[a]	0.1702	−3.4757[a]	−11.4414[b]	0.5835[a]
	[49.1494]	[0.2763]	[1.1682]	[4.5814]	[0.1737]
Observations	71	39	71	49	49
Pseudo R^2	0.45	0.31	0.53	0.38	0.34

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.

majoritarian systems.[8] Table 13 addresses this hypothesis. Panel A shows univariate regressions using common law and proportional representation to explain anti-self-dealing regulation. Consistent with the results in Table 3, common law countries have sharply higher anti-self-dealing scores. Moreover, as predicted by Pagano and Volpin

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[8] See also Perotti and Von Thadden (2006), Roe (2000), and Rajan and Zingales (2003). La Porta, Lopez-de-Silanes, and Shleifer (2008) discusses the evidence on politics and financial development.

(2005), proportional representation is associated with lower anti-self-dealing scores. When both proportional representation and common law are included in the regression, only the latter is statistically significant.

Multicollinearity makes it difficult to disentangle the effect of proportional representation and common law: the correlation between the two variables is −0.46. To get around this problem, we run univariate regressions for common and civil law countries separately using proportional representation to explain anti-self-dealing regulation (Panel B). Proportional representation is insignificant in both regressions even though, as illustrated by Fig. 10, it varies considerably within civil law countries. As a final check of whether legal origin is a proxy for politics, we split the sample into countries above and below the median level of competitiveness of the legislature (Panel C), as defined in Table 1. If common law is a proxy for electoral rules, it should not predict the development of securities markets in non-democratic countries. Instead, we find that common law is a significant predictor of the anti-self-dealing index in both subsamples. Fig. 11 illustrates this result. These findings should allay fears that legal origin is a proxy for politics.

In summary, the quality of investor protection, as measured by anti-self-dealing or prospectus disclosure is not merely a proxy for non-legal institutions and politics. Law indeed seems to matter for finance. Our results

Table 13

Legal origin and proportional representation

This table presents results for regressions for the sample of countries that have data on proportional representation and the regulation of self-dealing. The dependent variable is the anti-self-dealing index. Panel A shows OLS regressions that control for: (1) common law; and (2) proportional representation. Panel B presents SURE regressions for civil and common law countries using proportional representation as the independent variable. Finally, Panel C shows SURE regressions for countries above and below the median in competitiveness of the legislature using common law as the independent variable. Table 1 provides definitions for the variables. Standard errors are shown in parentheses.

Dependent variable: Anti-self-dealing index			
Panel A: OLS regressions			
Common law	0.2939[a]		0.3007[a]
	[0.0580]		[0.0597]
Proportional representation		−0.0446[c]	0.0055
		[0.0246]	[0.0213]
Constant	0.3503[a]	0.5200[a]	0.3389[a]
	[0.0246]	[0.0567]	[0.0520]
Observations	62	62	62
R^2	0.36	0.06	0.36

Panel B: Common versus *civil law*	Civil law	Common law
Proportional representation	0.0070	0.0028
	[0.0251]	[0.0370]
Constant	0.3357[a]	0.6418[a]
	[0.0594]	[0.0692]
Observations	42	20
R^2	−0.02	−0.05

Panel C: High versus *low competitiveness of the legislature*	Above median	Below median
Common law	0.4168[a]	0.1918[b]
	[0.0494]	[0.0875]
Constant	0.3452[a]	0.3559[a]
	[0.0273]	[0.0415]
Observations	31	31
R^2	0.68	0.13

[a], [b], and [c], indicate statistical significance at the 1%, 5%, and 10% level, respectively.
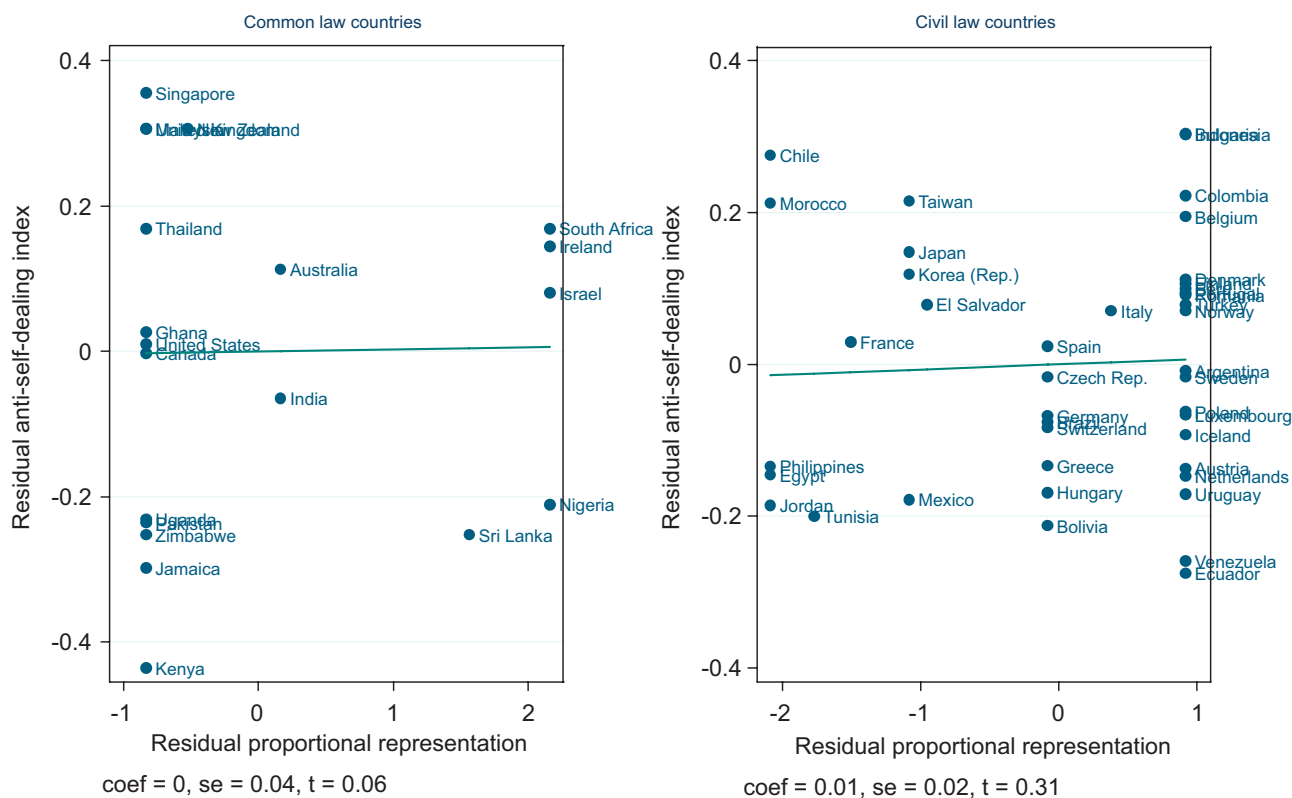
Fig. 10. Partial-regression plot of the anti-self-dealing index against proportional representation in common law countries (left graph) and civil law ones (right graph) in regressions that control for (log) income per capita and time to collect on a bounced check.

do not mean that non-legal institutions and politics are unimportant for the development of stock markets; only that legal rules are not mere proxies for these institutions.

7. Summary and implications

We have constructed a new index of shareholder protection for 72 countries. The index specifically addresses the protection of minority shareholders against self-dealing transactions benefiting controlling shareholders. As such, it is better grounded in theory than the index of anti-director rights constructed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998) and revised for this paper. The anti-self-dealing index exhibits some of the same properties as the anti-director rights index as well as of the indices of shareholder protection through securities laws presented in La Porta, Lopez-de-Silanes, and Shleifer (2006). Specifically, the index is sharply higher in common law countries than in French civil law countries. The index is also a statistically significant and economically strong predictor of a variety of measures of stock market development across countries. These results support the findings of the earlier work, but also show that theoretically grounded measures of investor protection are closely tied to financial development. We delineate the implications of these findings in three areas: the measurement of shareholder protection, the interpretation of legal origin, and the design of regulatory strategies.

7.1. Implications for the measurement of shareholder protection

The availability of four measures of shareholder protection, each collected with a different methodology and addressing a different situation, raises an obvious question: what is the "best" measure for researchers to use? The measures of shareholder protection from securities laws appear to "work" best in terms of predicting stock market outcomes, but they are only available for 49 countries. These measures are particularly appropriate for studies of protection of investors buying securities, as opposed to corporate governance per se.
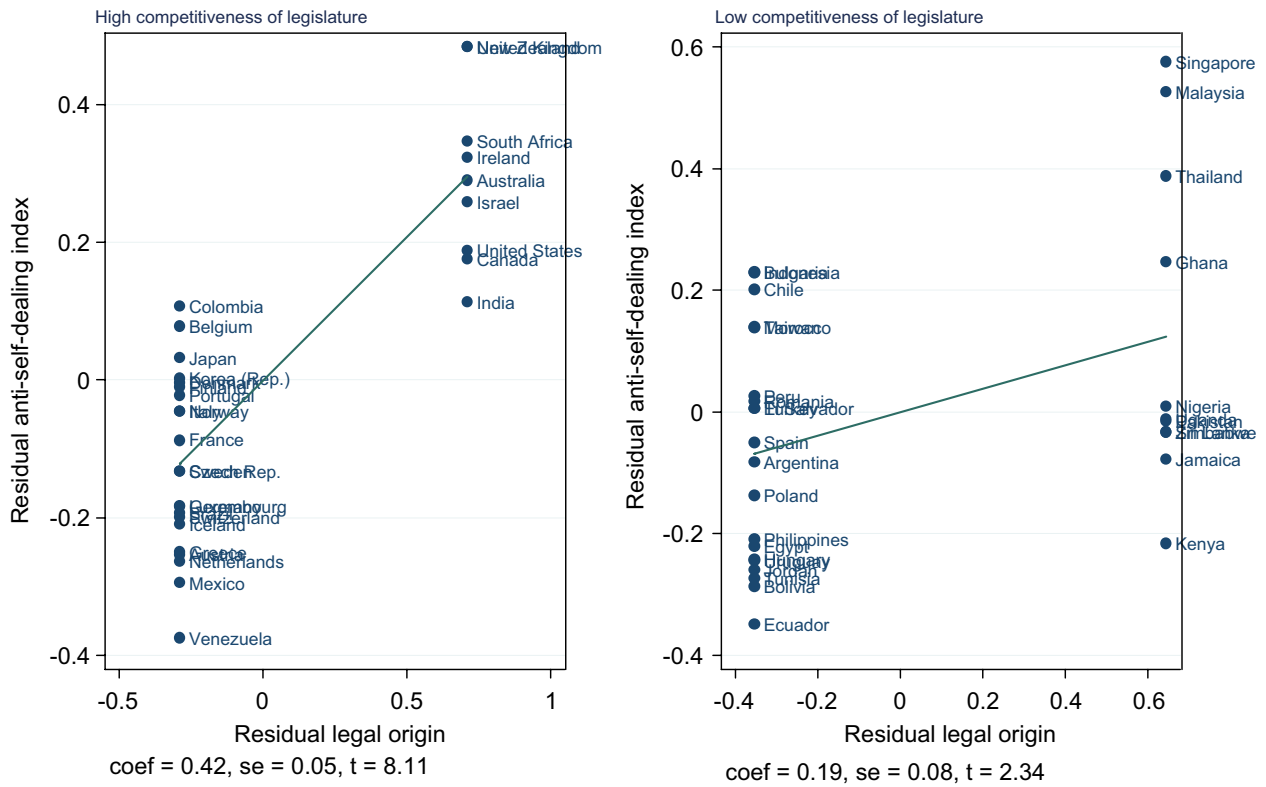
Fig. 11. Partial-regression plot of the anti-self-dealing index against common law for countries with high (left graph) and low (right graph) competitiveness of the legislature in regressions that control for (log) income per capita and time to collect on a bounced check.

The revised anti-director rights index and the anti-self-dealing index are available for 72 countries. The former has the advantage of continuity with previous studies; the latter is clearer conceptually, as pertains directly to the pervasive problem of corporate self-dealing (or tunneling). Indeed, this latter benefit seems to us to be dispositive. To the extent that self-dealing is *the* central problem of corporate governance in most countries, the law's effectiveness in regulating this problem is the fundamental element of shareholder protection. This suggests to us that, in general, the anti-self-dealing index is preferable to the anti-director-rights index in cross-country empirical work.

7.2. Implications for the interpretation of legal origin

For all the measures of shareholder protection we have considered, there is a pronounced difference between common law countries and French civil law countries. This does not mean that politics, media, or culture do not affect legal rules – they surely do. But the evidence shows quite clearly that legal origins are not merely proxies for politics or media; they exert large and powerful influences on legal rules. Moreover, our examination of specific legal rules permits some further insight into what explains these differences among legal origins.

Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000b) conjecture that common law is more suspicious of conflicted transactions than civil law, and subjects them to closer regulatory and legal scrutiny. The results of this paper are broadly consistent with that conjecture. For example, common law countries subject related-party transactions to greater disclosure requirements as well as to more arm's-length approval than do French civil law countries. These different approaches to the regulation of self-dealing appear to derive from long-standing legal principles, such as fiduciary duty, which over time are incorporated into the statutes that we actually observe.

Compared to our previous research, we still find greater emphasis on ex post litigation in common law countries than in civil law countries, although it appears that ex post—once the disclosure and the approval requirements are met—it is quite difficult for shareholders to recover damages even in common law countries.

The U.S. seems to be the exception, with its greater emphasis on ex post litigation rather than ex ante disclosure and approval. The ex ante transparency in self-dealing transactions appears to be the central difference between common and civil law.

At a broader level, the results are consistent with the view of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2003) and La Porta, Lopez-de-Silanes, and Shleifer (2008) that common law is distinguished from civil law by its encouragement of private solutions to the problem of "disorder". In a common law system, statutes seek to reduce the costs of these private solutions, but not to replace them with public ones. Mandatory disclosure and arm's-length approval are very clear examples of this broader strategy of social control of business associated with common law.

7.3. Implications for regulatory strategies

If we take the evidence in this paper at face value, several ideas emerge for the improvement of regulation of corporate governance, particularly in the area of self-dealing transactions. Perhaps the most basic conclusion from the data is that *laissez-faire*—the strategy of no public involvement at all—does *not* lead to more developed financial markets. The public sector clearly has a central role to play, but principally as the designer of the rules of the game, which are then enforced by private action. Our findings reinforce those in La Porta, Lopez-de-Silanes, and Shleifer (2006) on securities laws, which identify the key role of private contracting and enforcement for financial development and deemphasize that of public enforcers. Countries with successful stock markets mandate that shareholders receive the information they need and the power to act—including both voting and litigation—on this information. There is no evidence that these countries rely heavily on fines and criminal sanctions. This, perhaps, is the crucial message. But there are specific conclusions as well.

First, our results suggest that effective regulation of large self-dealing transactions combines full public disclosure of such transactions (including potential conflicts) with the requirement of approval by disinterested shareholders. In practical implementation, this policy must take account of the fact that, in many countries, firms are organized in business groups with individual firms controlled by the same family while trading separately on the stock exchange, so that many intra-group transactions are potentially conflicted. To avoid shareholder involvement in the daily activities of such groups, the law needs to set lower bounds on which intra-group transactions must be disclosed and brought to shareholders for approval. However, we do not believe that group structures invalidate the wisdom of disclosure and shareholder approval altogether. Indeed, financial structures in which group member firms are listed separately only encourage self-dealing, and legal rules that expose intra-group transactions to both public light and shareholder approval can be desirable even if—and perhaps because—they render such financial structures impractical.

We stress that this approach to regulating self-dealing is compatible with any legal system, and is appropriate for both rich and developing countries. La Porta, Lopez-de-Silanes, and Shleifer (2006) also report significant benefits of full disclosure for stock market development with regard to firms issuing securities to the public.

Second, the evidence suggests that ongoing disclosure of self-dealing transactions, combined with a relative ease of litigation by aggrieved shareholders, also benefits stock market development. Here reforms might be more difficult, as their success would depend on the more general structure and efficiency of legal systems in different countries. Nonetheless, the results suggest that giving aggrieved shareholders the standing to sue, access to information to examine self-dealing, and a low burden of proof would deter investor expropriation and promote stock market development

Finally, the evidence suggests that the government's power to impose fines and prison terms for self-dealing transactions does not benefit stock market development. We stress that this is a narrow conclusion, since we lack data on the actual enforcement of criminal sanctions and cannot rule out that public enforcement matters under alternative scenarios. To avoid self-dealing, however, it appears best to rely on extensive disclosure, approval by disinterested shareholders, and private enforcement.

Appendix A. Correlation Table

Table 14 presents the correlations among the main variables in the paper.

Table 14
This table presents the correlations among the main variables in the paper

	Ex ante private control self-dealing	Ex post private control self-dealing	Anti-self-dealing index	Jail James—no disclosure	Public enforcement	Antidirectors index (revised)	Prospectus disclosure	Prospectus liability	Market capitalization to GDP	Control premium	Time to collect on bounced check	Ln(GDP/POP)	Tax evasion	Newspaper circulation	Proportional representation
Ex post private control self-dealing	0.3553														
Anti-self-dealing index	0.8777[a]	0.7597[a]													
Jail James—no disclosure	0.1093	0.2030	0.1800												
Public enforcement	−0.1591	0.0010	−0.1102	0.0487											
Antidirectors index (revised)	0.3607	0.5879[a]	−0.0360	0.0908	0.5522[a]										
Prospectus disclosure	0.5104[b]	0.6875[a]	0.2310	−0.1528	0.6733[a]	0.5916[a]									
Prospectus liability	0.2213	0.5694[a]	0.0998	−0.0681	0.4247	0.4469	0.5479[a]								
Market capitalization to GDP	0.2886	0.4554[a]	0.2393	−0.0099	0.4341[b]	0.2753	0.4938[b]	0.4262							
Control premium	−0.3412	−0.4758	−0.0286	0.2126	−0.4580	−0.2440	−0.5839[b]	−0.4529	−0.4765						
Time to collect on bounced check	−0.2647	−0.2001	−0.1367	0.0257	−0.2867	−0.3342	−0.4670[c]	−0.4050	−0.2985	0.4243					
Ln(GDP/POP)	−0.0116	0.3284	0.2391	0.1694	0.1602	0.0718	0.1367	0.1700	0.5537[a]	−0.2726	−0.1221				
Tax evasion	0.2400	0.5997[a]	0.2485	0.1670	0.4595	0.3519	0.4522	0.3795	0.6271[a]	−0.4952	−0.4405	0.6380[a]			
Newspaper circulation	−0.0733	0.2264	0.1368	0.2031	0.0647	0.1273	0.0791	0.1082	0.3511	−0.2367	−0.1369	0.7137[a]	0.5265[b]		
Proportional representation	−0.2112	−0.2038	−0.1728	0.0437	−0.2483	−0.2018	−0.5671[a]	−0.2342	−0.1232	0.2403	0.3483	0.2682	−0.3366	0.2576	
Common law	0.4317[b]	0.5861[a]	0.1367	−0.1359	0.6007[a]	0.4707[a]	0.5918[a]	0.3377	0.2686	−0.3355	−0.1831	−0.1568	0.4133	−0.1857	−0.4557[b]

[a], [b], and [c] indicate statistical significance at the 1%, 5%, and 10% level, respectively.

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