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'LAW AND FINANCE' REVISITED

by

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Abstract: The "Antidirector Rights Index" from La Porta et al.'s "Law and Finance" (1998) has been used as a measure of shareholder protection in almost 100 published studies. With articles by legal scholars questioning the accuracy of index values for several countries, I undertake a systematic study to verify these values for 46 countries with the help of local lawyers. My emphasis is on accuracy of the data; I do not change the original variable definitions. The study leads to a substantial revision: 33 of the 46 observations need to be corrected, and the correlation of corrected and original values is only .53. With accurate values, the well-known results of La Porta et al. (1997, 1998) no longer hold: accurate index values are neither distributed with significant differences between Common and Civil Law countries nor correlated with stock market size and ownership dispersion. All of the many results derived with the index will have to be revisited.

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* Harvard University; hspamann@law.harvard.edu. This paper is a revision of Spamann (2006). I am deeply indebted to the lawyers who helped me collect the data, and whose names are listed in the data documentation. This documentation and all the data used in this paper are available at http://www.law.harvard.edu/academics/graduate/sjd_candidates/holgerspamann/. Many people provided helpful comments; I particularly wish to thank Michal Barzuza, Lucian Bebchuk, Laura Beny, Shachar Hadar, Louis Kaplow, Mark Roe, and Andrei Shleifer for their encouragement and extensive comments on earlier drafts. Financial support from the German Academic Exchange Service and a Terence M. Considine Fellowship through the John M. Olin Center for Law, Economics and Business at Harvard Law School is gratefully acknowledged.

Over the last ten years, the "Antidirector Rights Index" (ADRI) from La Porta, Lopez-de-Silanes, Shleifer and Vishny's (LLSV) seminal article "Law and Finance" (1998) has been the standard measure of shareholder protection in cross-country empirical studies. In this paper, I verify the accuracy of the ADRI data from LLSV (1998) for almost the entire sample, and find that major corrections of ADRI values are necessary. With the corrected data, the most famous results derived with the ADRI no longer obtain: the link from legal origins to ADRI values to stock market size and ownership dispersion reported in La Porta et al. (1997, 1998) cannot be replicated with the corrected data. This casts doubt on all of the many empirical results obtained with the ADRI.

The ADRI was defined in LLSV (1998) as the sum of six indicator variables counting the existence, in a country's laws, of six legal rules favorable to shareholders. LLSV (1998) presented ADRI data for 49 countries. In cross-country regressions, LLSV showed impressive positive correlations between the ADRI as independent variable and, as dependent variables, the size of equity markets (1997) and the dispersion of ownership in listed firms (1998). They also found that the ADRI took significantly higher (i.e., investor-friendly) values in Common Law jurisdictions than in Civil Law jurisdictions, suggesting a causal relationship from law to financial outcomes (LLSV 2000b; Beck and Levine 2005). Subsequently, various researchers used the ADRI as a measure of legal shareholder protection in almost 100 published cross-country quantitative studies.[1] Although competing indices have recently been put forward by Djankov, La Porta,

[1] This number is based on a review of all papers (over 400) in the subject categories "economics" and "business, finance" citing LLSV (1998), according to the Social Science Citation Index as of August 11, 2007. For example, the ADRI has been used as the main variable, or one of the main variables, to establish connections between legal investor protection and firm valuation (LLSV 2002; Pinkowitz, Stulz, and Williamson 2006), efficient capital allocation (Wurgler 2000), voting premia (Nenova 2003), firm-level corporate governance mechanisms (Durnev and Kim 2005), earnings management (Leuz, Nanda, and Wysocki 2003), dividend policy (LLSV 2000a), and the depth of financial crises (Johnson et al. 2000), as well as to test the bonding hypothesis for cross-listing decisions (Doidge 2004; Reese and Weisbach 2002). Beyond corporate finance, it has also been used, inter alia, as an instrument to show the real effects of financial integration (Imbs 2006; Bekaert, Harvey, and Lundblad 2005) and the relationship between risk sharing and industrial specialization (Kalemli-Ozcan, Sørensen, and Yosha 2003).

Lopez-de-Silanes, and Shleifer (DLLS) (forthcoming) and La Porta, Lopez-de-Silanes, and Shleifer (LLS) (2006), the ADRI continues to be used.[2]

From the start, legal scholars questioned the accuracy of the ADRI and hence of the results derived with it, pointing to what appeared to be mistakes in ADRI values for several countries.[3] These claims were, however, hard to evaluate. Firstly, mistakes for individual countries might be negligible for results obtained with the full sample. Secondly, many claims of error relied on particular interpretations of the variable definitions from LLSV (1998), but there were other reasonable interpretations for which the criticized ADRI values would have been correct. Conversely, a value assignment for one country may appear correct in isolation, but inconsistent when compared to that for another country, if and because they can only be justified by different variable interpretations. On closer examination, there seem to be many such inconsistencies in the ADRI data from LLSV (1998). Section I illustrates these problems by contrasting the US values from LLSV (1998) with those for other countries.

To investigate the accuracy of the ADRI more systematically, it was necessary to look at a large number of countries and, to give the ADRI its best shot while preserving consistency, to consider alternative interpretations of the variable definitions where reasonable minds could differ on how to read them.

For this purpose, I collected all the necessary legal data with the help of lawyers trained, and practicing or teaching, in the respective jurisdictions (the vast majority of these lawyers are also graduates of leading US law schools). These legal data were converted into ADRI values using very detailed coding rules to ensure consistency. Where the interpretation of the variables was unclear, I pursued all reasonable interpretations, and none of the results presented in this paper depend on which interpretation is used. The Appendix contains the complete coding protocol, and all of

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[2] See most recently, e.g., Giannetti and Koskinen (2007); Kalcheva and Lins (forthcoming); Dahya, Dimitrov, and McConnell (forthcoming).

[3] See, e.g., Hansmann and Kraakman (2004, 61n117) (US); Braendle (2006) and Vagts (2002, 600) (Germany and US); Berndt (2002) (Germany and UK); Cools (2005) (Belgium, France, US); and Enriques (2002, 779n43) (Italy).

my data is publicly available online, including a data documentation with a description of, and references to, all the relevant primary legal sources.[4] As discussed in Section II, these present significant methodological improvements over other attempts to derive ADRI values. In particular, LLSV (1998) did not involve lawyers in the data collection process, and a data documentation and coding protocol have not been made available.

Section III presents the basic results. For 33 out of 46 countries, the ADRI value from LLSV (1998) has to be corrected. (The original sample from LLSV (1998) comprises 49 countries, but I could not find a suitable correspondent in Indonesia, Sri Lanka, and Zimbabwe.) The correlation between the accurate values and those from LLSV (1998) is only .53. These large discrepancies have a number of important consequences:

First, unlike the original values from LLSV (1998), accurate ADRI values are not distributed with significant differences between Common and Civil Law countries. Hence there is no reason to believe that ADRI values are predetermined by legal tradition, and therefore no justification for treating the ADRI as exogenous in analyses of financial development. This challenges any causal interpretation of empirical results derived with the ADRI.

Second, as shown in Section IV, the regression results from LLSV (1997, 1998) linking the ADRI to measures of stock market size and ownership dispersion cannot be replicated with accurate ADRI values. These results were the foundation of the 'Law and Finance' literature. While follow-up papers recently appeared that use more refined indices to support the link from legal origins to investor protection to finance postulated in LLSV (1997, 1998) (DLLS, forthcoming; LLS 2006; Djankov, McLiesh, and Shleifer 2007), the collapse of the results that inspired this entire line of research is at least remarkable.

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[4] At http://www.law.harvard.edu/academics/graduate/sjd_candidates/holgerspamann/. The term "primary" is meant to distinguish specifically legal sources such as statutes, regulations, court decisions, and legal commentary written for domestic practitioners from non-legal literature such as reports to foreign lawyers, international organizations, other academic disciplines, etc. Within the primary sources thus defined, "primary" sources in a narrow sense such as statutes, regulations, and court decisions are often distinguished from "secondary" sources such as journal articles and commentaries ("doctrine" in the French diction); this distinction is *not* meant here.

Third, while a reexamination of all the other papers that have used the original ADRI is beyond the scope of this paper, the foregoing suggests that many of their results may not hold up when accurate index values are used. They will need to be revisited, and need to be viewed with skepticism until this is done. By way of example, Section IV shows that the significant correlation between the ADRI and refined measures of ownership concentration from LLS (1999) disappears once accurate ADRI values are used. Given the widespread use of the ADRI in empirical papers over the last ten years, this is an important implication. In particular, it remains relevant even if future studies abandon the ADRI in favor of the newer, more refined measures of shareholder protection.

Moreover, Sections V and VI argue that the ADRI deserves to be used in the future, too. Section V defends the ADRI against arguments that it does not validly measure shareholder protection. Section VI explains that the ADRI is not rendered obsolete by newer indices of shareholder protection from DLLS (forthcoming) and LLS (2006), because they measure different aspects of (corporate) law. So which index to use in future studies should depend on the theory being tested.

Section VII concludes.

For the sake of completeness, I also check the data for the two other shareholder protection variables introduced and used by LLSV (1997, 1998), "one share – one vote" and "mandatory dividend". The results are presented alongside those for the ADRI, but they receive little attention in the text because these variables have been used much less frequently in the literature.[5]

This paper's contribution to the literature is its systematic focus on the legal data of LLSV (1998). Prior studies have generally taken the accuracy of the legal data as given. Criticism has concentrated on the variables' relevance (e.g., Coffee 2001; Vagts 2002) and the selection among them for inclusion into the ADRI (Graff 2008). The numerous challenges to LLSV's theory of a causal chain running from legal origin to legal institutions to financial outcomes (e.g., Rajan and Zingales 2003; Berkowitz, Pistor,

[5] An example of use is Khanna, Kogan, and Palepu (2006).

and Richard 2003a/b; Roe 2002, 2006) have sometimes precisely focused on linking the ADRI as dependent variable to explanatory variables other than legal origin (Pagano and Volpin 2005a; Licht, Goldschmidt, and Schwartz 2005). As already mentioned, to the extent that criticism has been directed at the legal data, it has been limited to at most three countries (Cools 2005; Braendle 2006).

I. ILLUSTRATIVE EXAMPLES OF PROBLEMS WITH THE ORIGINAL DATA

This Section illustrates some of the issues with the data from LLSV (1998) using examples covering all 6 ADRI components and drawn primarily from US (Delaware)[6] law and suitable comparisons as in force in 1994[7]. The main aim is to demonstrate the high level of ambiguity in the variable definitions from LLSV (1998), and how as a result index values seem to have been assigned inconsistently across countries. In fact, given the ambiguities in the variable definitions, almost any individual value could be justified by some reading of the definitions. In other words, the problem with the legal data in LLSV (1998) is not so much that they seem incorrect for any given country, but mostly that they appear to be inconsistent between countries.

This is the only Section of the main text that discusses individual data points. Even the coding protocol in the Appendix does so only for major deviations of results from LLSV (1998), and for what could be considered borderline cases. Practical considerations dictate this limitation: with 46 countries and 8 variables, there are almost 400 data points, and actually many more since alternative ways of interpreting variable definitions must be taken into account.

The definitions of the six ADRI components (from LLSV 1998, Table I) are reproduced below in the order of the following discussion: [8]

> Preemptive rights to new issues: Equals one when the company law or commercial code grants shareholders the first opportunity to buy new issues of stock, and this right can be waived only by a shareholders' vote; equals zero otherwise.

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[6] The relevant rules are federal securities law and the corporate law of Delaware, where more than half of all US publicly-traded corporations are incorporated (LLSV 1998, 1119).

[7] The reference date for LLSV (1998, 1119n2) seems to be 1993/94.

[8] The definitions of the other two shareholder protection variables are reproduced in the Appendix.

> Cumulative voting or proportional representation: Equals one if the company law or commercial code allows shareholders to cast all their votes for one candidate standing for election to the board of directors (cumulative voting) or if the company law or commercial code allows a mechanism of proportional representation in the board by which minority interests may name a proportional number of directors to the board, and zero otherwise.
>
> Shares not blocked before meeting: Equals one if the company law or commercial code does not allow firms to require that shareholders deposit their shares prior to a general shareholders meeting, thus preventing them from selling those shares for a number of days, and zero otherwise.
>
> Proxy by mail allowed: Equals one if the company law or commercial code allows shareholders to mail their proxy vote to the firm, and zero otherwise.
>
> Percentage of share capital to call an extraordinary shareholders' meeting: The minimum percentage of ownership of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting … [For the ADRI, this component equals one if] the minimum percentage … is less than or equal to 10 percent (the sample median).
>
> Oppressed minorities mechanism: Equals one if the company law or commercial code grants minority shareholders either a judicial venue to challenge the decisions of management or of the assembly or the right to step out of the company by requiring the company to purchase their shares when they object to certain fundamental changes, such as mergers, asset dispositions, and changes in the articles of incorporation. The variable equals zero otherwise. Minority shareholders are defined as those shareholders who own 10% of share capital or less. (emphasis added)

The general thrust of these variables may appear clear enough. However, once the complexity of actual legal rules is taken into account, many questions emerge.

To start with, there are hardly any legal rules without exceptions. How far does the rule's scope of application have to extend to warrant the value 1? For example, the laws of Belgium, Denmark and Germany all provide shareholders with strong and mandatory preemptive rights, as they are obliged to do by the 2nd EC company law directive.[9] Nevertheless, these rights are subject to certain exceptions; e.g., they only apply in cash issues. In a strict reading of the variable definition, exceptions would not be allowed, and hence the aforementioned countries would properly be assigned the value 0 for this variable, as in LLSV (1998). However, it turns out that most other countries' preemptive rights are subject to the same or similar exceptions, and many of these countries have been given the value 1 in LLSV (1998). A particularly clear example is Austria, which is given the value 1 in LLSV (1998) although its preemptive rights

[9] Artt. 592 et seq. Companies Code (formerly Art. 34bis §1 para. 1-2 Consolidated Companies Act) (Belgium); §§ 30(3), 78 Statute on Public Limited Liability Companies of 1973 (Denmark); § 186 Share Corporation Act (Germany), Art. 29 of Council Directive 77/91/EEC (European Communities).

provision is almost literally identical to the German one.[10] The treatment of these countries therefore seems inconsistent.

Another fundamental issue is that many default rules are replaceable by charter, i.e., the corporate charter may exclude or add some rule. Should the default rule, only mandatory rules, or even the mere possibility of a rule (optional rule) count?[11] This question is particularly acute for the US, since Delaware law permits corporations to alter *all* the rules relevant for the ADRI in their corporate charters.[12] Consequently, the correct ADRI value for the US could be anywhere between 0 and 6, depending on whether only mandatory (0) or even optional (6) rules or a mixture of rules are counted. But whatever the criteria chosen, they would obviously have to be applied uniformly to all countries. For example, Delaware law does not provide for cumulative voting as a default rule, but it allows corporations to adopt the mechanism in their charter.[13] This could justify LLSV's (1998) US value of 1 *if* a merely optional rule were sufficient for this variable. However, other countries with optional rules of this sort, such as Finland, were assigned 0 in LLSV (1998).[14] Either the US value or Finland's must be incorrect.

Whenever the law gives corporations room for private ordering, one also needs to distinguish corporate practice and the underlying legal rules. This is best illustrated by the "shares not deposited" index component. "Depositing" shares generally implies that shareholders need to block their shares in their accounts for a couple of days around the shareholder meeting in order to be able to vote thereat. The practice is unheard of in the US. It is not, however, forbidden by US law. If a Delaware corporation wanted to adopt the practice in its charter, it could legally do so. The legal rule in this respect is not

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[10] Cf. § 153 of the Austrian Share Corporation Act.

[11] In the main text, LLSV (1998, 1121) discuss the possibility that firms opt out of default corporate governance arrangements as an *alternative* view to their underlying theory that legal rules matter, thereby indicating that they were concerned with default rules. However, neither their variable definitions nor the discussion of individual variables refers to this distinction, and as the discussion below of cumulative voting in the US shows, the coding does not seem to have been always guided by it.

[12] Cf. Delaware General Corporation Law § 102(b)(1).

[13] Delaware General Corporation Law § 214. Few US corporations do so nowadays; see Bebchuk, Cohen, and Ferrell (2004).

[14] Cf. Chs. 8:1.2, 9:13.2 Companies Act (Finland).

different than in (formerly) notorious "shareblocking jurisdictions" such as France or Germany.[15] Yet in LLSV (1998), the US is assigned 1 and France and Germany 0 for this variable. Of course, most French and German firms had charter provisions requiring share blocking, while US firms did not. But this difference in corporate governance *practices* is hardly what the ADRI was supposed to measure. The ADRI was supposed to measure *legal* differences between countries that were hypothesized to *cause* such differences in corporate governance practices and, by extension, financial outcomes.[16] Again, either the US value or France's and Germany's are correct, but not both.

There are many other sources of potential inconsistencies, as illustrated by LLSV's (1998) US value of 1 for "proxy by mail allowed". The idea here is that shareholders should be able to vote by mail, rather than have to attend the shareholder meeting themselves or find some representative to do it for them (LLSV 1998, 1127). The problem with the US value is that no *legal* rule compels US corporations to make mail (proxy) voting available to their shareholders. As a factual matter, listed US corporations do of course solicit proxies, in part because they are obliged to do so by *stock exchange rules*. But stock exchange rules were explicitly not taken into account in LLSV (1998, 1120). The only *legal* rules pertaining to proxy/mail voting in the US are the SEC proxy rules: *if* a corporation solicits proxies, it must provide certain information along with proxy forms permitting the shareholder to specify approval or disapproval for each agenda item. Whether it can therefore be said that US law "allows shareholders to mail their proxy vote to the firm" is at least debatable. More to the point, however, such a wide reading of the variable definition would also assign 1 to other countries, such as the Philippines.[17, 18]

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[15] Cf. Art. 136 Decree No. 67-236 (France); and § 123 Share Corporation Act (Germany) before its 2005 amendment, which abolished shareblocking in Germany.

[16] Cf. LLSV (1998, 1121) (distinguishing the theory underlying the ADRI from the alternative view [e.g., Easterbrook and Fischel 1991] that legal rules do not matter because corporations can tailor their governance through charter provisions).

[17] See Sec. 9.2 of the old Philippine SEC proxy rules; cf. now Securities Regulation Code Rule 20-5) and provision 1 d) of the SEC Memorandum Circular No. 4 of 2004 of 17 March 2004.

[18] LLSV's (1998, 1127) motivating negative example, Japan (assigned the value 0), goes even beyond such a minimalist rule and makes ballot by mail an outright requirement for large corporations (Law No. 22 of

"Percentage of share capital to call an extraordinary shareholders' meeting" is the only index component for which LLSV's (1998) US value (10%) seems unsustainable on its own terms. Delaware default rules do not give shareholders the right to call an extraordinary meeting at all, irrespective of the number of shares they hold.[19] Of course the charter of a Delaware corporation could provide such a right, but then there is no reason why the necessary percentage of shares should be 10, rather than 20, 5, or 0 – or why such optional charter provisions should not have boosted the index values of most other countries in the world, too.[20]

The last index component, the so-called "oppressed minority mechanism", is defined relatively precisely, but the relationship of the definition to the values presented in LLSV (1998) is unclear. As emphasized in the citation above, the variable definition is extremely broad. In fact, only two countries in the sample, Ecuador and Mexico, do not have an "oppressed minority mechanism" thus defined, and that is because they restrict judicial venues to shareholders holding at least 25% (Ecuador) or 33% (Mexico) of the shares.[21] By contrast, according to LLSV (1998), only about half of the countries in the sample provide an "oppressed minority mechanism". Of course, one could specify a different, more discerning index component addressing judicial remedies, and perhaps one could be found that yields variable values identical or similar to those reported in LLSV (1998). But for present purposes of deriving a reliable measure of the ADRI *as defined in LLSV (1998)*, such a modification would clearly be improper. Based on the definition reproduced above, all sample countries except Ecuador and Mexico must be assigned the value 1.

1974, Art. 1-2 para. 1, and Art. 21-3 with 21-2 para. 1). Large companies are those with at least (1) 1,000 shareholders entitled to vote at the shareholders' meeting, and (2) stated capital (*shihonkin*) of 500 million yen, or total liabilities of 20 billion yen. Even for smaller corporations, Art. 3 of the Rules Concerning Solicitation of Proxies for Voting with Respect to Shares of Stock of Listed Corporations, Securities and Exchange Commission Rule No. 13 of 10 July 1948, as amended, contains requirements similar to the US SEC Rule 14a-4(b), so Japan can certainly not be assigned 0 when the US is assigned 1.

[19] Cf. Delaware General Corporation Law § 211(d).

[20] LLSV (1998, 1128n6) bases its number on the percentage requirements in the majority of *other* US states, but this negates the fact that by default the right is simply not provided in Delaware at all.

[21] See Appendix Section D with footnotes 27 and 28.

II. Comparison of Data Collection and Documentation Methods

The ultimate criterion to assess the reliability of the data presented in this paper should be the ability to trace back the corrected values to the primary legal sources through the coding protocol and the data documentation. While there is not yet an established practice for documenting legal data sets, the suggested criterion combines the generally accepted social science standard of publicly accessible coding guidelines detailed enough to allow replication (Epstein and Martin 2005) with the legal literature's standard of backing up claims about the law's content with references to the primary sources (cf., e.g., Perakis 2004). Other articles presenting ADRI values (LLSV 1998; DLLS, forthcoming; Pagano and Volpin 2005a/b) do not provide such documentation and protocol. This means that differences between these data sets cannot be traced back to the original sources, and it should create a strong presumption in favor of the data presented here.

In addition, there are also process-related reasons why the data presented here are likely to be more reliable than others'. Not least among these is that this study is the first to recognize the ambiguities in the variable definitions from LLSV (1998) and hence the first to address them systematically (see the detailed coding protocol in the Appendix).

Moreover, the present study combined the input of local lawyers with intensive cross-checks. The local lawyers answered a questionnaire reproducing the variable definitions from LLSV (1998) almost literally, and responded to often many rounds of clarifying questions. Since the vast majority of the lawyers were also graduates of leading US law schools, understanding was facilitated by a common baseline (US law). Drawing on my legal training in the US, Germany, France, and England, and the vast resources of the Harvard Law School library, I personally verified the information in each country's own primary and secondary legal sources where these are available in English, French, German, or Spanish, and in the 17 remaining jurisdictions with translations of primary materials and secondary sources in English and German. I also cross-checked all data against Pagano and Volpin (2005b), Oxford Analytica (2005), and Baums and Wymeersch (1999). The back and forth between the local lawyers and centralized coding

minimizes misunderstandings, and was also necessary because some ambiguities in the variable definitions only became apparent during the data collection process.

By contrast, lawyers were not involved in the data collection process underlying LLSV (1998). The source materials listed in the Data Appendix of the working paper (LLSV 1996) are mainly secondary sources written in English, few of which are of the type used by practicing lawyers. References to individual legal provisions are generally not given.[22] Such secondary sources may not be particularly reliable, and they filter the data in at least two potentially harmful ways. First, they restrict the available information to what seemed salient to the compiler of the secondary source, which may not correspond to the needs of the quantitative researcher and, more importantly, may vary from country to country in function of their corporate governance environment. Second, the English-speaking (and, often, Common-Law-trained) lawyers writing these materials may have more trouble understanding and describing law from systems operating in a language other than English (and not using Common Law terminology), which includes all Civil Law jurisdictions except the Philippines, and no Common Law jurisdiction except Israel and Thailand.[23] This may explain why LLSV's (1998) data were more inaccurate with respect to Civil than Common Law jurisdictions (cf. Section III below).

Pagano and Volpin (2005a/b) does rely on local "legal experts and business practitioners" to collect the data. But the project's methodology was not designed to discover inconsistencies in the coding of ambiguous variables. Instead, the project's objective was to establish a panel data set of ADRI values for 1993-2001. To that end, survey respondents received a questionnaire with a table showing the definitions of the ADRI components as reproduced above in the first column, the values assigned in LLSV (1998) for 1993 and the particular country in the second column, and blank cells in the third column, headed: "What is the answer to this question today in [country name]? If it

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[22] The source of the legal data is described in both the variable definitions (LLSV 1998, Table 1) and in the main text (p. 1120) merely as "company law or commercial code" (shareholder protection) and "bankruptcy and reorganization laws" (creditor protection). Individual variable values, including those for the Creditor Rights Index, are only explained for eight country-variable points (and in two cases these explanations are erroneous, see above n. 18, and nn. 19-20 and accompanying text).

[23] The qualification of these and other countries is from LLSV (1998); it may be considered controversial for some countries.

differs from that in the previous column, when was the law changed and how?" In response, the survey respondents spontaneously noted 8 errors in the original ADRI data (Pagano and Volpin 2005b), but this is much less than shown in Table 1 below. Most likely, when confronted with the original values, each survey respondent interpreted the variable definition in a way that accommodated the original values of his/her country. Inconsistencies between different countries' values cannot be discovered in this way.

As far as the data collection and classification process is concerned, the closest equivalent to the present paper is the revision of the ADRI in DLLS (forthcoming) in response to an early draft of the present paper. DLLS (forthcoming) employed local lawyers and adopted some variable clarifications from my early draft, most importantly regarding the treatment of default rules and the definition of the "vote by mail" variable. The correlation coefficient of that revised ADRI with the original ADRI from LLSV (1998) is .60, and hence not much higher than what I find (.53). However, in contrast to my results presented in Sections III and IV below, this revision preserves the marked differences between legal families, and also the ability of the ADRI to predict a number of capital market outcomes, and the correlation between their revised ADRI and my ADRI values is only .60. Two factors explain this divergence.

First, and most importantly, the revision in DLLS (forthcoming) is not limited to clarifying existing variable definitions and correcting the original coding, as the present study is, but actually changes at least three of the six index components significantly. Stock exchange rules, which were explicitly not taken into account in LLSV (1998, 1120), are counted in DLLS (forthcoming) at least for "preemptive rights". The "oppressed minority" variable has been completely redefined. The "shares not blocked" variable no longer focuses on whether "share blocking" is allowed or not, but on whether the country's statute is drafted in a way that *explicitly mentions* the admissibility of "share blocking" charter clauses, as opposed to just providing general contractual freedom for corporate charters etc. This means that DLLS (forthcoming) simply presents a different index, which naturally differs from the original ADRI as corrected here. (On the debatable validity of this new index, see below, Section VI.)

Second, for the remaining three index components, there are still many relevant aspects that are not clarified in DLLS (forthcoming), and there seem to be a number of errors (a data documentation is not available). Spamann (2006) shows this in a complete reexamination of the revised ADRI.[24] To give just one simple and unambiguous example, relatively recent amendments to the percentage of shares required to call an extraordinary shareholders' meeting seem not yet to have been taken into account for France, Hong Kong, and Peru.[25]

III. COMPARISON OF CORRECTED AND ORIGINAL DATA

This Section presents the corrected data in comparison to the original data from LLSV (1998). As emphasized in Section I, there is more than one way to interpret the variable definitions from LLSV (1998), and hence more than one set of accurate data that could be presented. The Appendix develops some alternative interpretations of particular variables, and Spamann (2006) presents all the corresponding numerical data. Fortunately, however, the most plausible interpretations of the ADRI component definitions also yield the data that are most highly correlated with those from LLSV (1998), and which generally deliver the strongest results in the statistical tests presented in Section IV. It therefore seems sufficient to present just this one set of accurate values in Table 1, side by side with the original values from LLSV (1998).

In particular, the data presented here all reflect default rules. This seems most plausible because empirically only few public firms diverge from the default arrangements (cf. Listokin 2006; Bergman and Nicolaievsky 2007). Moreover, it seems to correspond most closely to the theory tested in LLSV (1998) ("law matters", as opposed to only private ordering through contract and charters; see above n. 11).

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[24] Correlation coefficients between the values for these three unchanged individual index components given in DLLS (forthcoming) and the corrected ones are .54 for "proxy/vote by mail" and .94 for "cumulative voting" and "percentage of shares required to call a meeting".

[25] The percentage was changed from 10% to 5% in France in 2001 (Art. 225-103 para. 2 No. 2 Commercial Code (as amended by the NRE)) and in Hong Kong in 2000 (Amendment No. 46 of 2000), and from 20% to 5% in Peru in 1998 (Art. 255 General Corporations Law 26887-1997), while DLLS (forthcoming) reports 10, 10, and 20%, respectively. The reference date for the data in DLLS (forthcoming) is May 2003.

proxvote was chosen as the most plausible among the possible interpretations of "proxy by mail". For further details and explanations, see the Appendix.

There is one exception to the rule that all data in Table 1 reflect the highest possible correlation of accurate data with LLSV (1998). The most plausible "preemptive rights" variant prevote shown in Table 1 happens to be less correlated with the "preemptive right" component from LLSV (1998) than the variant preexpl. But as explained in the Appendix (Section E), preexpl counts the occurrence of certain words in the relevant statute, rather than the grant of substantive rights, which makes it a rather implausible variable interpretation. Moreover, preexpl would not yield higher correlations of the *aggregate* corrected ADRI with the original ADRI from LLSV (1998) and would actually yield results even further away from those in LLSV (1998) in the regressions and tests-of-means (for legal origin differences) (Spamann 2006). Hence it seemed expedious to present instead data for the more plausible variable variant prevote.

[Table 1 about here]

For the aggregate ADRI, the correlation between corrected and original values is only .53. Of the 46 observations in my sample, 33 had to be adjusted – 25 of the 30 Civil Law observations, and 8 of the 16 Common Law observations. For example, the US score goes down from the sample maximum of 5 to the sample minimum of 2. The impact on the role of legal origin is profound. According to LLSV (1998), the mean Common Law ADRI value was statistically significantly higher than the mean of the Civil Law group as a whole and each of its three sub-families (French, German, Scandinavian), and this holds true with the original ADRI data from LLSV (1998) even after omitting the three countries for which I lack corrected data. By contrast, with accurate values the German family has the highest mean, followed by the Scandinavian family. The French family still has the lowest mean, but the difference to the other families' means is not statistically significant (in particular, $p = .12$ as compared to the Common Law mean).

As can also be seen from Table 1, the general picture is the same for each individual index component. Correlation coefficients range from .22 for "oppressed

minority mechanism" to .98 for "percentage of shares to call a meeting". Even for the latter variable, a numerical and hence relatively easily ascertainable legal rule, the only incorrect value in LLSV (1998) (for the US, as discussed above) leads to higher Common Law scores.[26]

For "one share – one vote" and "mandatory dividend", the most plausible and the most correlated interpretation do not coincide. But since these variables are of minor importance and the regression results presented in Section IV are qualitatively the same for either interpretation, Table 1 contents itself with presenting the most correlated versions, which are both variants of mandatory rules (see Appendix, Sections G and H).

To reemphasize, the statements in the preceding paragraphs and the general picture of Table 1 do *not* depend on the particular interpretation of the ambiguous variable definitions in LLSV (1998). In fact, the correlation coefficients and the other numbers in Table 1 represent the *best* match with the values from LLSV (1998); other plausible interpretations of the variable definitions would have resulted in even lower correlations with LLSV's (1998) values (except for the "preemptive rights" variable, see above) and, for the ADRI and its components, even less differences between Common and Civil Law jurisdictions. For example, if the index had been defined in a way that preserves the US score of 5 (i.e., through a suitable mix of optional and default rules), the correlation of accurate values with LLSV (1998) would have been as low as .28, and Common Law and Civil Law means would have been virtually identical (4.38 and 4.37, respectively) (Spamann 2006, Table 2).

IV. Regressions from LLSV (1997, 1998), and Test-of-Means from LLS (1999): No Significant Results When Accurate Data are Used

With the corrected data, I proceed to reexamine the famous regression results from LLSV (1997, 1998) that the original ADRI is a statistically significant predictor of equity

[26] In this connection, it is noteworthy that changing the cut-off for the dichotomization of this variable from below *or equal to* the median (10%) to below the median dramatically decreases the Common Law score compared to the other legal families since the Common Law countries cluster at 10%. The alternative cut-off is as plausible and perhaps preferable because it splits the sample into slightly more equal-sized groups (14/32, as opposed to 34/12) (Spamann 2006; Graff 2008).

market size (1997) and ownership dispersion (1998). Neither of these results holds with accurate ADRI values. Again, these findings would be qualitatively similar or worse for any other plausible interpretation of the variables.

I replicated the OLS regressions from LLSV (1997, 1998) taking all the data directly from LLSV (1997, 1999), except the corrected variables and Gini coefficients, which were missing in the dataset and not reported in the papers and which I took from the World Bank (1997, 2001, 2006) and Deininger and Squire (1996) (value available closest to 1994).

Table 2 presents estimated coefficients and standard errors from replications of the LLSV (1997) regressions only for the ADRI and the "one share – one vote" dummy. The dependent variables are market capitalization to GNP, listed domestic companies per capita, and IPOs per capita, respectively. In addition to the ADRI or the "one share – one vote" dummy, respectively, and the legal origin dummies in one of the regression sets, these regressions contain controls for GDP growth, log GNP, rule of law, and a constant. On the left are the results derived with the original ADRI and "one share – one vote" values from LLSV (1998), omitting the three countries for which corrected data is lacking in order to keep the sample size constant and isolate the effect of correcting the data. These results look almost identical to those that LLSV (1998) reported for the full 49-country sample. By contrast, the results with the corrected values reported on the right are entirely different. The corrected ADRI is insignificant in all 6 regressions, and even takes a negative sign (i.e., points towards smaller equity markets) in 3 of the 6 regressions. The same is true for the corrected "one share – one vote" variable.

[Table 2 about here]

Table 3 presents the results of replicating the ownership concentration regression from LLSV (1998), both for the original sample of 39 and an expanded sample of 41 countries. The expansion uses data on the dependent variable for Uruguay and on one control variable for Venezuela (the Creditor Rights Index) that was missing in LLSV (1998) but has since become available (from LLSV 1999; and Djankov, McLiesh, and Shleifer 2006, 2007). Corrected shareholder protection data is available for the entire expanded sample. In the original sample, the corrected ADRI does slightly worse than

the original ADRI but still comes out significant at the 5%-level. However, once the two additional observations are added, the corrected ADRI becomes insignificant (p = .38), while the original ADRI remains significant at 5%.

[Table 3 about here]

It is beyond the scope of the present paper to reexamine all of the almost 100 published empirical papers that have used the ADRI from LLSV (1998). Clearly though, it is possible and even likely that many of their results will not hold up when accurate data are used. By way of example, consider LLS (1999). That article collected more detailed data on share ownership of listed firms in 27 countries[27], and found that dispersed ownership was significantly more frequent in countries with "very good shareholder protection", defined as an ADRI score above the median (3). However, with the corrected ADRI, the tests-of-means yield no significant differences between countries with high and low ADRI values, irrespective of whether 3 or the corrected values' median (4) is used as the cutoff (Table 4). Since corrected data is available for all 27 countries covered in LLS (1999) and the tests therefore differ from LLS (1999) only by the corrected ADRI values, Table 4 does not reproduce the results from LLS (1999). But for comparison, note that LLS (1999, Tables II and III, leftmost data column) had found statistically significant results at least at the 10% level ($|t| \geq 1.708$) in all of the four firm-size/cutoff combinations.

[Table 4 about here]

V. VALIDITY OF THE ADRI AS A MEASURE OF SHAREHOLDER PROTECTION

That the results from LLSV (1997, 1998) and LLS (1999) and presumably many others cannot be replicated with the corrected data is an important result in itself, because it means that these results can no longer serve as positive empirical evidence for the theories being tested. Another question is whether one can interpret the non-results as negative empirical evidence against a relationship between shareholder protection on the

[27] Still, Holderness (forthcoming) argues that these data do not reflect reality very well.

one hand and whatever other variable of interest on the other. Its answer depends in large part on whether the (corrected) ADRI is a valid measure of shareholder protection. [28]

If one believed that the original ADRI from LLSV (1998) validly measured investor protection, one should be even more comfortable with the corrected ADRI – after all, the variable definitions have not changed but only become more precise in the most plausible way, and the data have become more reliable. That the corrected ADRI does not "deliver results" in the cross-country tests is perhaps of relevance for the hypotheses being tested, but not for the validity of the ADRI.

Of course, from the beginning legal commentators questioned whether the selected index components capture the most salient aspects of corporate law (cf. Coffee 2001; Hansmann and Kraakman 2004; Vagts 2002). But as a selection from a pool of arguably important legal rules, it may still present a satisfactory proxy in cross-country regressions for the quality of corporate law, or at least certain aspects of it (see Section VI below). Clearly, the measure is very noisy, and, given its neglect of possible interactions, substitutes etc., it would not be a good reform strategy to strive only to obtain a higher ADRI score.

It is true that none of the ADRI components features on the list of corporate governance mechanisms that have been found to be important in the US context (Bebchuk, Cohen, and Ferrell 2004), but this may be explained by the extraordinarily good enforcement provided by Delaware courts and the SEC, which may render the mechanisms covered by the ADRI less relevant in the US. For the same reason, the low US score on the corrected ADRI (2) is not a good argument against the validity of the ADRI as a measure of shareholder protection through rules.[29]

One thing to keep in mind is that without a robust correlation between accurate ADRI values and legal origins, there is no particular reason to think that the ADRI is

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[28] Spamann (2006) had reached the conclusion opposite to this Section's. Upon reconsideration, I have changed my mind for the reasons given in the text.

[29] Moreover, the usual assumption that US corporate law is among the best in the world might be questioned by those who believe that US federalism in corporate law has lead to a race to the bottom with Delaware as the winner (e.g., Cary 1974).

exogenous to corporate governance arrangements. This is particularly obvious for the "shares not deposited" component, whose value depends to some extent on whether bearer or registered shares are prevalent in a jurisdiction (see Appendix, section B). And there is reason to believe that countries' historical choices between bearer and registered shares reflected the development of their financial markets at the time.[30]

Unlike the ADRI, the "one share – one vote" and "mandatory dividend" variables should be abandoned, as the literature has by and large already done. As the Appendix discusses and the data documentation shows, even in those countries that technically have a "one share – one vote" rule on the books for *ordinary* shares, the substantive requirement of preserving proportionality of votes and cash-flow rights (Grossman and Hart 1988; Harris and Raviv 1988) can be circumvented easily with *preferred* shares. "Mandatory dividend" was downplayed even in LLSV (1998, 1128), and hardly exists anywhere anyway (cf. Table 1).

VI. Comparison with Other Indices of Shareholder Protection

This leaves as a final question the relationship of the ADRI to other indices of shareholder protection.

The indices from LLS (2006) measure securities regulation, particularly in relation to new equity issues, and therefore clearly focus on different aspects of shareholder protection than the ADRI, which focuses on internal corporate governance issues for existing shareholders. Hence these indices complement each other.

But DLLS (forthcoming) advocates abandoning the ADRI in favor of the Anti-Self-Dealing-Index (ASDI) presented in that paper, because the ASDI is more theory-guided and focuses on what the authors consider to be the paramount problem of corporate governance in most countries: self-dealing. To be sure, this is an important problem in corporate law, but by no means the only one. Moreover, technically speaking

[30] For example, Gower (1954, 380n91) argues that the Continental taste for bearer securities is "[m]ainly accounted for by the different organisation and less widespread [sic] of the banking system on the Continent. Their quality of transferability greatly facilitated the task of refugees who wished to smuggle their wealth out of countries from which they were forced to flee."

the ASDI only measures the law in relation to one type of self-dealing transaction, a concretely defined mispriced asset sale. Another important method of "tunneling", the issue of new shares under market value to affiliates of the controller, is not relevant to the ASDI. By contrast, it is targeted by the "preemptive rights" component of the ADRI, since preemptive rights may curb such attempts at dilution. For the rest, the ADRI is mainly concerned with shareholder voting rights ("proxy by mail", "shares not blocked", and "percentage of shares to call a meeting"), including minority board representation ("cumulative voting"). Technically, it also addresses judicial remedies in its "oppressed minority mechanism" component, but as defined this is not a discerning measure. Hence depending on the context, either the ASDI or the (corrected) ADRI may be the more appropriate measure to use. One could also consider eliminating the "oppressed minority mechanism" component from the ADRI and combine the remaining 5 components with the ASDI into a measure of the *overall* quality of corporate law.

If one does continue to use the ADRI, there are good reasons to use the corrected version from this paper rather than the revised version from DLLS (forthcoming).[31] First, as previously mentioned (above Section II with n. 25), the revised ADRI data from DLLS (forthcoming), may not be particularly reliable, so if anything using the corrected revised ADRI from Spamann (2006) might be preferable. But more importantly, two of the three changed ADRI components seem problematic for measuring shareholder protection in a comparative perspective. The revised "shares not deposited" variable turns on whether the law explicitly allows "share blocking" charter clauses or merely implicitly allows them – a primarily semantic difference that one would not a priori expect to make a difference. [32] The revised "oppressed minority" variable turns on the terms "unfair, prejudicial, oppressive, or abusive", which are open to many divergent interpretations (they are technical legal terms in some countries but not in others); without any further

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[31] The revised ADRI from DLLS (forthcoming) is used in, e.g., Aggarwal et al. (2007); Bruno and Claessens (2006), Lel and Miller (forthcoming); Perotti and Volpin (2007).

[32] Similarly, after correcting what appear to be incorrect values, significant differences between common and civil law means disappear ($p = .12$) if the cut-off for the dichotomization of the "percentage of shares required to call a meeting" component is changed such that a value of 1 is assigned only if the numerical country value is *less than* the sample median (10%), rather than less than *or equal to* it (compare n. 26 above for the same phenomenon with the original ADRI).

guidelines in DLLS (forthcoming), it is generally not at all clear how to classify individual countries, and the variable revision therefore falls short of the replicability requirement (for example, it remains unexplained why the Belgian and French "abus de majorité/égalité" doctrines[33] were not sufficient for a value of 1 even though they seem to match the definition perfectly).[34]

VII. CONCLUSION

This paper corrects the values of the ADRI and the "one share – one vote" and "mandatory dividend" variables from LLSV (1998) with an improved data collection method, and documents the data in detail. In particular, many ambiguities in the variable definitions are clarified using alternate specifications so as not to prejudge the result through a particular interpretation. But even in the most sympathetic reading, accurate values deviate strongly from those reported in LLSV (1998). With accurate data, the well-known results from LLSV (1997, 1998) no longer obtain: Statistically significant differences in ADRI values between Common Law and Civil Law means disappear, as do regression results linking the ADRI and "one share – one vote" to stock market size and ownership dispersion. A major implication of this is that the many other empirical results that have been derived with the ADRI may not hold up with accurate data either, and will need to be revisited. This paper illustrates this with the tests-of-means results from LLS (1999), which cannot be replicated with accurate ADRI data. The paper also discusses the validity of the (corrected) ADRI as a measure of legal shareholder protection, and its merits compared to the newer Anti-Self-Dealing-Index (ASDI) from DLLS (forthcoming) and the securities law indices from LLS (2006). It concludes that these indices complement each other, and that the ADRI can continue to be used as a general measure of shareholder rights, in particular with respect to shareholder voting.

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[33] See for France, e.g., Cozian, Viandier, and Deboissy (2005, ¶¶ 356 et seq.), and for Belgium, e.g., Goffin and Collin (2000, ch. 2).

[34] See Spamann (2006) for a fuller discussion of these issues.

On a methodological level, the paper tells a cautionary tale for cross-country empirical studies of legal rules.[35] However, it would be incorrect to generalize from this paper and conclude that the legal data collected in other studies automatically suffer from the same defects as LLSV (1998). The latest studies in this literature (DLLS, forthcoming; LLS 2006; Djankov et al. 2007; Djankov, McLiesh, and Shleifer 2007) incorporate many of the methodological improvements advocated here (although only LLS 2006 provides a full data documentation), and intervening studies (e.g., DLLS 2003) were at least much more precise than LLSV (1998). LLSV (1998) was a pioneering study of unprecedented scope and therefore more susceptible to the many perils of comparative legal work than later, more refined studies.

[35] As far as the Creditor Rights Index from LLSV (1998) is concerned, a revision of the data with the help of local lawyers by one of the authors himself (Djankov, McLiesh, and Shleifer 2007) changed values for 13 out of 47 countries, which yielded a correlation coefficient of the original and the new values of .73 (using 1995 values).

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Table 1 – Comparison of corrected variables (shaded background) with variables from LLSV (1998) (white background)

Country	Legal Origin	Proxy By Mail Allowed		Shares Not Blocked Before Meeting		Cumulative Voting		Oppressed Minority		Preemptive Rights		Percentage of Share Capital to Call a Meeting		**Anti-Director-Rights Index**		One Share – One Vote		Mandatory Dividend	
Argentina	French	0	0	0	0	1	0	1	1	1	1	5	5	**4**	**3**	0	0	0	0
Australia	Common	1	1	1	1	0	0	1	1	0	0	5	5	**4**	**4**	0	0	0	0
Austria	German	0	0	0	1	0	0	0	1	1	1	5	5	**2**	**4**	0	0	0	0
Belgium	French	0	0	0	0	0	0	0	1	0	1	20	20	**0**	**2**	0	0	0	0
Brazil	French	0	0	1	1	0	1	1	1	0	1	5	5	**3**	**5**	1	0	0	0
Canada	Common	1	1	1	1	1	0	1	1	0	0	5	5	**5**	**4**	0	0	0	0
Chile	French	0	0	1	1	1	1	1	1	1	1	10	10	**5**	**5**	1	1	30	30
Colombia	French	0	0	1	1	1	1	0	1	1	1	25	25	**3**	**4**	0	1	50	50
Denmark	Scandina	0	0	1	1	0	0	0	1	0	1	10	10	**2**	**4**	0	0	0	0
Ecuador	French	0	0	1	1	0	0	0	0	1	1	25	25	**2**	**2**	0	0	50	50
Egypt	French	0	0	1	1	0	0	0	1	0	1	10	10	**2**	**4**	0	0	0	0
Finland	Scandina	0	0	1	1	0	0	0	1	1	1	10	10	**3**	**4**	0	0	0	‡
France	French	1	1	0	1	0	0	0	1	1	1	10	10	**3**	**5**	0	0	0	0
Germany	German	0	0	0	1	0	0	0	1	0	1	5	5	**1**	**4**	0	0	0	0
Greece	French	0	0	0	0	0	0	0	1	1	1	5	5	**2**	**3**	1	1	35	35
Hong Kong	Common	1	0	1	1	0	0	1	1	1	1	10	10	**5**	**4**	0	0	0	0
India	Common	0	0	1	1	1	0	1	1	1	1	10	10	**5**	**4**	0	1	0	0
Ireland	Common	0	0	1	1	0	0	1	1	1	1	10	10	**4**	**4**	0	0	0	0
Israel	Common	0	0	1	1	0	0	1	1	0	0	10	10	**3**	**3**	0	1	0	0
Italy	French	0	0	0	0	0	0	0	1	1	1	20	20	**1**	**2**	0	1	0	0
Japan	German	0	1	1	1	1	1	1	1	0	0	3	3	**4**	**5**	1	1	0	0
Jordan	French	0	0	1	1	0	0	0	1	0	1	25	15	**1**	**3**	1	1	0	0
Kenya	Common	0	0	1	1	0	0	1	1	0	0	10	10	**3**	**3**	0	0	0	0
Malaysia	Common	0	0	1	1	0	0	1	1	1	1	10	10	**4**	**4**	1	0	0	0
Mexico	French	0	0	0	1	0	0	0	0	1	1	33	33	**1**	**2**	0	0	0	0
Netherlands	French	0	0	0	1	0	0	0	1	1	1	10	10	**2**	**4**	0	0	0	0
N. Zealand	Common	1	1	1	1	0	0	1	1	0	1	5	5	**4**	**5**	0	0	0	0
Nigeria	Common	0	0	1	1	0	0	1	1	0	1	10	10	**3**	**4**	0	1	0	0
Norway	Scandina	1	0	1	1	0	0	0	1	1	1	10	10	**4**	**4**	0	0	0	0
Pakistan	Common	0	0	1	1	1	1	1	1	1	1	10	10	**5**	**5**	1	1	0	0
Peru	French	0	0	1	1	1	1	0	1	1	1	20	20	**3**	**4**	1	1	0	0
Philippines	French	0	0	1	1	1	1	1	1	0	1	(?)	NA	**3**	**4**	0	0	0	‡

Portugal	French	0	0	1	0	0	0	0	1	1	1	5	5	**3**	**3**	0	0	0	0
Singapore	Common	0	0	1	1	0	0	1	1	1	1	10	10	**4**	**4**	1	0	0	0
South Africa	Common	1	1	1	1	0	0	1	1	1	1	5	5	**5**	**5**	0	0	0	0
South Korea	German	0	0	0	1	0	0	1	1	0	1	5	5	**2**	**4**	1	1	0	0
Spain	French	0	0	0	1	1	1	1	1	1	1	5	5	**4**	**5**	0	0	0	0
Sweden	Scandina	0	0	1	1	0	0	0	1	1	1	10	10	**3**	**4**	0	0	0	‡
Switzerland	German	0	0	0	0	0	0	0	1	1	1	10	10	**2**	**3**	0	0	0	0
Taiwan	German	0	0	0	1	1	1	1	1	0	1	3	3	**3**	**5**	0	0	0	0
Thailand	Common	0	0	1	1	1	1	0	1	0	1	20	20	**2**	**4**	0	0	0	0
Turkey	French	0	1	1	0	0	0	0	1	0	1	10	10	**2**	**4**	0	0	0	0
UK	Common	1	0	1	1	0	0	1	1	1	1	10	10	**5**	**4**	0	0	0	0
USA	Common	1	0	1	1	1	0	1	1	0	0	10	NA	**5**	**2**	0	0	0	0
Uruguay	French	0	0	0	0	0	0	1	1	1	1	20	20	**2**	**2**	1	1	20	20
Venezuela	French	0	0	1	1	0	0	0	1	0	0	20	20	**1**	**2**	0	0	0	25
Correlation coefficient			.55		.44		.72		.22		.48		.98		**.53**		.55		.96
mean	overall	0.20	0.15	0.70	0.83	0.28	0.22	0.52	0.96	0.57	0.85	(10)	(10)	**3.02**	**3.74**	0.24	0.28	4.02	(0)
(median)	Common	0.44	0.25	1.00	1.00	0.31	0.13	0.94	1.00	0.50	0.69	(10)	(10)	**4.13**	**3.94**	0.19	0.25	0.00	(0)
	French	0.05	0.10	0.55	0.65	0.30	0.30	0.30	0.90	0.65	0.95	(13)	(13)	**2.35**	**3.40**	0.30	0.35	9.25	(0)
	German	0.00	0.17	0.17	0.83	0.33	0.33	0.50	1.00	0.33	0.83	(5)	(5)	**2.33**	**4.17**	0.33	0.33	0.00	(0)
	Scandina	0.25	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.75	1.00	(10)	(10)	**3.00**	**4.00**	0.00	0.00	0.00	(0)
	Civil	0.07	0.10	0.53	0.73	0.27	0.27	0.30	0.93	0.60	0.93	(10)	(10)	**2.43**	**3.63**	0.27	0.30	6.17	(0)
t-statistic,	Civil	3.30	1.35	3.66	2.36	0.32	-1.1	5.08	1.05	-.64	-2.3	-1.3	-1.2	**5.07**	**1.03**	-0.6	-0.4	-1.7	-2.6
Common vs.	French	3.05	1.19	3.52	2.85	0.08	-1.3	4.89	1.30	-.89	-2.2	-2.4	-2.2	**4.74**	**1.61**	-0.8	-0.6	-2.1	-3.1
	Germ	2.06	0.40	8.53	1.71	-.09	-1.1	2.62	0.00	0.67	-0.7	2.61	2.50	**3.83**	**-0.6**	-0.7	-0.4	0.00	-1.7
	Scandina	0.66	1.10	0.00	0.00	1.28	0.72	7.35	0.00	-.87	-1.3	-.34	-.35	**2.15**	**-0.2**	0.91	1.10	0.00	0.00

The values in the white columns, including legal origin, are from LLSV (1998). The values in the shaded columns are from the present paper; they reflect the variable clarifications explained in Section III and the Appendix. The Anti-Director-Rights-Index is the sum of the six variables in the columns to its left. The correlation coefficients refer to the correlation between the corrected value and its corresponding original value from LLSV (1998) in the column immediately to the left.

Civil Law includes French, German, and Scandinavian origin legal systems, as classified by LLSV (1998).

‡ in the last column designates countries whose mandatory dividend provisions do not specify a constant percentage of profits, see Appendix, Section H).

Table 2 – ADRI / "One Share – One Vote" Coefficients from Replications of LLSV (1997) Regressions

	Original ADRI / "one share – one vote" values from LLSV (1998)		Corrected ADRI / "one share – one vote" values	
	ADRI	1 share – 1 vote	ADRI	1 share – 1 vote
Dependent Variable:				
External Market Cap to GNP	.13[a]	.24[c]	.07	-.08
(n = 42)	(.04)	(.13)	(.06)	(.15)
(regression with legal origin dummies)	.09[b]	.26[b]	.06	-.09
	(.05)	(.12)	(.06)	(.14)
Listed firms per capita	6.34[b]	3.38	1.43	11.80
(n = 46)	(2.72)	(9.17)	(4.21)	(9.83)
(regression with legal origin dummies)	1.09	6.61	-.19	14.17
	(3.35)	(8.33)	(3.92)	(8.93)
IPOs per capita	.59[a]	.34	-.01	-.24
(n = 39)	(.16)	(.61)	(.27)	(.65)
(regression with legal origin dummies)	.24	.80	-.12	.15
	(.18)	(.47)	(.22)	(.53)

Control variables in all regressions: GDP growth (average 1970-1993), log (GNP 1994), and rule of law. All variables are taken from and defined in LLSV (1997, 1998, 1999), except the corrected variables (which are explained in Section III and the Appendix).

OLS regressions; standard errors in parentheses. [a, b, c] denote significance at the 1, 5, and 10% level, respectively.

Table 3 – Replications of LLSV (1998) Regression

		Dependent variable: Ownership concentration			
		Original shareholder protection variables from LLSV (1998)		corrected shareholder protection variables	
Independent Variable		(exact replication)	additional data (UY, VE)		additional data (UY, VE)
Log of GNP per capita		.038 (.025)	.044 (.022)	.026 (.021)	.038 (.023)
Log of GNP		-.042[a] (.012)	-.051[a] (.013)	-.042[b] (.018)	-.053[a] (.018)
Gini coefficient		.003 (.002)	.001 (.002)	.001 (.003)	.000 (.003)
Rule of law		-.011 (.012)	-.015 (.011)	-.018 (.017)	-.020 (.015)
Accounting		-.003[c] (.002)	-.003[c] (.002)	-.002 (.003)	-.002 (.002)
French origin		.060 (.077)	-.010 (.065)	.143[c] (.076)	.080 (.067)
Scandinavian origin		-.032 (.056)	-.096[c] (.050)	.022 (.060)	-.043 (.066)
German origin		-.015 (.071)	-.040 (.069)	.101 (.071)	.043 (.085)
Legal reserve		-.211[b] (.077)	-.237[a] (.086)	-.242[a] (.085)	-.212 (.127)
Creditor Rights Index	LLSV (1998)	.012 (.017)		.022 (.017)	
	Djankov et al. (2006, 2007)		-.023 (.017)		-.013 (.021)
ADRI	LLSV (1998)	-.038[b] (.015)	-.037[b] (.015)		
	corrected			-.039[b] (.019)	-.020 (.022)
One share – one vote	LLSV (1998)	-.030 (.041)	-.019 (.041)		
	corrected			-.091 (.066)	-.047 (.068)
Mandatory dividend	LLSV (1998)	.194 (.119)	.227[c] (.124)		
	corrected			.003 (.002)	.001 (.003)
Intercept		.897[a] (.289)	1.168[a] (.232)	1.050[a] (.326)	1.168[a] (.285)
n		39	41	39	41
R^2		.735	.748	.719	.685

All variables are taken from and defined in LLSV (1998, 1999), except the Gini coefficients (Taiwan data from Deininger and Squire (1996) and other data from World Bank (1997, 2001, 2006), taking the measurement closest to 1994), the additional ownership concentration data for Uruguay (from LLS 2006), the revised Creditor Rights Index (from Djankov, McLiesh, and Shleifer (2006, 2007), and the corrected variables (as explained in Section III and the Appendix).

OLS regressions; robust standard errors (Huber/White/sandwich estimators) in parentheses.

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

Table 4 – Replication of LLS (1999) Tests-of-Means

Country	ADRI	Large publicly traded firms 10 % cutoff	Large publicly traded firms 20% cutoff	Medium-sized publicly traded firms 10% cutoff	Medium-sized publicly traded firms 20% cutoff
France	5	0.30	0.60	0.00	0.00
Japan	5	0.50	0.90	0.20	0.30
New Zealand	5	0.05	0.30	0.00	0.57
Spain	5	0.15	0.35	0.00	0.00
Australia	4	0.55	0.65	0.10	0.30
Austria	4	0.05	0.05	0.00	0.00
Canada	4	0.50	0.60	0.40	0.60
Denmark	4	0.10	0.40	0.00	0.30
Finland	4	0.15	0.35	0.00	0.20
Germany	4	0.35	0.50	0.10	0.10
Hong Kong	4	0.10	0.10	0.00	0.00
Ireland	4	0.45	0.65	0.50	0.63
Netherlands	4	0.30	0.30	0.10	0.10
Norway	4	0.05	0.25	0.10	0.20
Singapore	4	0.05	0.15	0.10	0.40
South Korea	4	0.40	0.55	0.00	0.30
Sweden	4	0.00	0.25	0.10	0.10
UK	4	0.90	1.00	0.10	0.60
Argentina	3	0.00	0.00	0.00	0.00
Greece	3	0.05	0.10	0.00	0.00
Israel	3	0.05	0.05	0.10	0.10
Portugal	3	0.00	0.10	0.00	0.00
Switzerland	3	0.50	0.60	0.40	0.50
Belgium	2	0.00	0.05	0.10	0.20
Italy	2	0.15	0.20	0.00	0.00
Mexico	2	0.00	0.00	0.00	0.00
USA	2	0.80	0.80	0.50	0.90
averages	>4	0.25	0.54	0.05	0.22
	≥4	0.28	0.44	0.10	0.26
	≤4	0.24	0.33	0.12	0.24
	<4	0.17	0.21	0.12	0.19
t-statistics	≤4 vs. >4	-0.08	-1.32	0.79	0.16
	<4 vs. ≥4	-0.98	-2.09	0.34	-0.69

This table classifies countries according to their ranking in the *corrected* ADRI as described in Section III and the Appendix of the present paper. Columns 3 to 6 list, by country, the percentage of publicly traded firms that do not have a controlling shareholder, i.e., a shareholder who holds, directly or indirectly, at least 10 or 20%, respectively, of the voting rights in the firm (as defined and reported in LLS 1999).

Appendix – Data Coding Protocol

I. General Guidelines

- Mandatory, Default, Optional Rules: The data presented in Table 1 and discussed in this Appendix refer to default rules, i.e., rules that control in the absence of diverging charter provisions. The only exceptions are the "one share – one vote" and "mandatory dividend" variables for the special reasons given there. Data on mandatory and optional rules are available from the author upon request, and some of them are discussed in Spamann (2006).

- Type, size of corporation: The relevant rules are those applicable to corporations listed on the country's stock exchange (cf. LLSV 1998, 1117). If rules differ depending on the corporation's size, the rules applicable to the largest corporations control (in parallel to the focus on ownership in the largest firms in LLSV 1998).

- Legal sources: What to count as law in a given jurisdiction depends on the jurisdiction's internal rules regarding sources of law, viewed through the lens of the variable definition. In particular, any rule of general application promulgated by a public authority that is backed by public enforcement authority (either through the courts or through administrative agencies) counts; whether a given rule is backed by such authority in a given jurisdiction is for that jurisdiction to decide.

    - Precedents (court decisions) must be taken into account even if they are not strictly speaking legally binding, because they are at least the best available indication of how courts are going to interpret (enforce) the law in the future.[1]

    - By contrast, stock exchange rules are explicitly excluded as sources of rules in LLSV (1998, 1120), and hence also in this recoding.

[1] For this reason, lawyers also in Civil Law jurisdictions work with precedents all the time and pretty much in the same way as their Common Law counterparts. This is emphasized even by those comparative lawyers who generally make much of the distinction between Common and Civil Law (e.g., David and Brierley 1985; Merryman 1985).

- Read narrowly, the source descriptions in Table 1 of LLSV (1998) might indicate that only rules contained in "the company law or commercial code" of a country are to be taken into account. However, the data in LLSV (1998) suggest that this narrow reading was not intended (cf., e.g., the coding of the "proxy by mail" variable for the US below, which must have included at least SEC proxy rules). Substantively, it would not make sense to restrict the coding to rules contained in two particular codes because applicable rules with the same relevance and authority may be stipulated elsewhere. Consequently, the coding below takes into account all applicable rules. In any event, this makes hardly any difference because with very few exceptions all relevant rules are, in fact, contained in the company or commercial codes.

- Legal uncertainty: If neither a clear statute nor case law exists on a question *at the relevant date for coding*, the majority opinion in the secondary legal sources at that time controls. (If the question has never been addressed, the coding relies on the judgment of the local correspondent; for default rules as discussed here, this only matters for `proxvote` as defined below.) Example:

  §§ 134 I, 128 II of the German Share Corporation Act always explicitly allowed proxy voting. Before 2001, they did not say explicitly, however, whether the corporation itself, or a fiduciary named and paid by it, could solicit and receive proxies. Most commentators considered such a practice illegal.[2] However, when the first German corporation (Deutsche Telekom) tried it in 1997, the courts showed little hesitation to uphold the practice under certain conditions.[3] Likewise, a legislative amendment of 2001 clearly presumed the practice's legality.[4] On a theoretical level, proxy solicitation by a fiduciary named and paid by the corporation may have been legal all along. In practice, however, German

[2] See, e.g., Raiser and Veil (2001, § 16 ¶ 95); Hüffer (2006, § 134 ¶ 23).

[3] *Oberlandesgericht Karlsruhe*, Zeitschrift für Wirtschaftsrecht (ZIP) 1999, 750; *Landgericht Baden-Baden*, Zeitschrift für Wirtschaftsrecht (ZIP) 1998, 1308.

[4] § 134 III 3 Share Corporation Act (2001/07) (Germany).

corporations had to confront a prevailing opinion to the contrary until 1997. Hence the coding: Germany did not allow proxy solicitation by the corporation before 1997.

- Law vs. Practice: Coding is based on the prevailing legal rule, not corporations' charter practice.[5]

- Federal systems: The relevant state laws are Delaware law for the US and Ontario law for Canada (LLSV 1998, 1119). In Australia, the relevant state laws were uniform in 1997; for simplicity, references are given to the Commonwealth Corporations Act of 2001.

- Date: The reference date for the data, including all the references, is 1 January 1997.[6] This implies that all the references are to the law as in force in 1997 – some of those provisions or even entire statutes may not be good law anymore (or at least the numbering may have changed).

II. INDIVIDUAL VARIABLES

The following discusses the individual variables from LLSV (1998). In each case, the original variable definition is quoted first, followed, where applicable, by definitions (on grey background) of the different variable variants that I create to take into account important different ways of reading the original variable definition.

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[5] Cf. main text n. 14 and accompanying text.

[6] This date was chosen because it falls between the circulation of the working paper LLSV (1996) and the published article LLSV (1998). Hidden in a footnote discussing the influence of EC legislation (LLSV 1998, 1119n2) is a hint that the reference date for the original data was 1993-94. This divergence of 3 years almost certainly makes no material difference because the rate of change of the relevant provisions is very low. Pagano and Volpin (2005b), Table A, only identifies 4 changes in the ADRI between 1993 and 1997: "oppressed minorities mechanism" introduced in Colombia, Greece, and Indonesia; and "proxy by mail" introduced in Colombia (all in 1995). The three changes regarding "oppressed minorities mechanism" are presumably immaterial for my coding because, as explained in Section I of the main text and Section II.D of this Appendix, "oppressed minorities mechanism" is defined so broadly in LLSV (1998) that under a proper application of the definition, it should have been found in all countries all along. And while the method in Pagano and Volpin (2005a/b) is not good for finding inconsistencies (see main text, Section II), it is designed and appropriate to identify relevant changes in the law.

A. ADRI-Component 1: Proxy by Mail Allowed

Equals one if the company law or commercial code allows shareholders to mail their proxy vote to the firm, and zero otherwise. (LLSV 1998, Table 1)

`proxvote`	Equals one if shareholders can either vote by mail ('ballot by mail'), or the firm is under an obligation to accept proxies with directions how to vote them (the assumption is that no such obligation exists unless it is explicitly stated in the statutes, the literature, or an opinion by a local lawyer).
`proxball`	Same as proxvote, but the firm must also provide a voting form on which the shareholder can mark his choices for each resolution to be voted.
`proxcard`	Same as proxball, or: If the firm (or its management as management) solicits proxies, the legal proxy rules require that they provide the shareholder with a ballot card that gives them the possibility to approve or disapprove.

Read literally, this definition makes no sense because shareholders can obviously always "mail their proxy vote to the firm" – the question is if the corporation is obliged to receive and count it. Since the variable is meant to capture whether shareholders are able to vote from afar rather than "show up in person or send an authorized representative to a shareholders' meeting to be able to vote" (LLSV 1998, 1127) the least strained interpretation of the variable seems to be the following, which I abbreviate as `proxvote`: it is both necessary and sufficient for a coding of 1 that the corporation is obliged to count all votes mailed in by shareholders.[7] Results for recoding using `proxvote` are shown in Table 1 and yield the correlation coefficient of .55 between recoded and original values.

However, it may be difficult to impossible for shareholders to express their choice in accordance with all formal requirements unless they receive a voting form from the corporation, be it a true ballot or a two-way proxy form (i.e., a proxy form giving full choice, not just the choice of approval, to the shareholder). This suggests a more generous interpretation of the variable, which adds to `proxvote` the requirement of making mail voting forms available to shareholders in advance of the meeting (`proxball`). But in this case the correlation between recoded and original values goes down to. 24.

[7] Example: New Zealand: s. 124 Companies Act 1993 with Schedule 1 Art. 7.

It is irritating that so many countries, including the US, would be misclassified in LLSV (1998) if `proxvote` or, worse, `proxball` were the relevant interpretation of the variable definition. To avoid this, one could stretch the definition to mean that, as an alternative to `proxball`, it is sufficient for a value of 1 if the law only requires that *if* the corporation solicits proxies (or ballots) from shareholders, two-way proxies must be used (the union is called `proxcard` here). This would bring a coding of 1 for the US because of SEC Rule 14a-4(b). But it would also lead to a coding of 1 for certain other countries (e.g., Malaysia and the Philippines[8]) that were coded as 0 in LLSV (1998). The correlation coefficient would remain at .24.

An important thing to remember is that stock exchange rules were explicitly not to be taken into account (LLSV 1998, 1120). This is why for example the London Stock Exchange's Listing Rules 9.26, 13.28, and 13.29 (June 1996) were irrelevant for coding (the situation would be different now since the rule-making authority for the Listing Rules was transferred to the Financial Services Authority in May 2000).

Three other lines had to be drawn for coding. First, some countries have different rules depending on the type of vote or assembly. The test adopted here is whether shareholders' mail voting rights apply to the election of directors, perhaps the most important and often the only agenda item that shareholders are called upon to vote. In 1997, this only matters for the coding of `proxcard` for Hong Kong, and leads to a value of 0 (as opposed to 1 in LLSV 1998).[9] Second, some countries require that the firm or its voting agent solicits voting instructions from shareholders but stop short of providing tick-the-box forms. The test adopted here is whether the corporation must at least provide special space on the proxy form for shareholder instructions. The test is relevant for `proxcard` in Switzerland (0) and `proxball` in Turkey (1) (LLSV 1998: both 0).[10]

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[8] See s. 149(5) Companies Act 1965 (Malaysia), and s. 9.2 of the former Philippine SEC proxy rules (see now rule 20-5 Securities Regulation Code (Philippines)).

[9] The Hong Kong law applicable to proxy solicitations by directors is s. 147C Companies Ordinance. There is no requirement for directors to solicit proxies, or to organize a ballot by mail. If they do solicit proxies, the proxy form must afford shareholders an opportunity to specify approval or disapproval for agenda items relating to "special business", which does not include the election of directors.

[10] In Turkey, listed corporations need to use tick-the-box proxy forms only for partisan proxy solicitations, and can otherwise use simpler forms which merely provide space for instructions (such forms must always

Third, note a special problem for `proxball` in France. While French shareholders always have the right to a ballot by mail, a French corporation needs to send the necessary ballot form only upon shareholder's request if it does not solicit proxies. Nevertheless, France is coded as 1 (as in LLSV 1998).

Other aspects regarding shareholder meetings may be highly important in practice and may interact with mail voting rights, but are not captured by the variable. For example, the logistic problems created by the Japanese practice to hold all corporations' annual meetings on the same day (LLSV 1998, 1127) do not fall within the ambit of the variable definition (on Japan's coding, see n. 16 in the main text). Similarly, mechanisms that may partly fulfill the same functions but are not either ballot by mail or proxy voting through management or its fiduciaries are not sufficient. This is why the German system of bank proxy voting (German Banks are allowed to solicit proxies from their clients using two-way proxy forms[11] and traditionally did so) does not lift Germany's coding of 0. The rationale for this coding rule is that mechanisms such as the German one involve different incentives on the part of the proxy holder.

B. ADRI-Component 2: Shares Not Deposited Before Meeting

> Equals one if the company law or commercial code does not allow firms to require that shareholders deposit their shares prior to a general shareholders meeting, thus preventing them from selling those shares for a number of days, and zero otherwise. (LLSV 1998, Table 1)

Understanding and coding this variable is complicated because nowadays shares are either completely dematerialized, so that "deposit" in a literal sense is impossible, or already permanently deposited (individually or in form of a global certificate) at a centralized depository. By the same token, shares can in principle remain tradable on an exchange even though they remain physically deposited at the same depository. Whether

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be sent with the meeting notice), see Art. 5, 6, 11(A)(1), and 13(1) and Annexes 1 and 2 of the Communiqué on Principles Regarding Proxy Voting At General Assembly Meetings of Publicly Held Joint Stock Companies, Serial IV, No. 8 (Turkey).

[11] § 128 Share Corporation Act (Germany).

shares remain tradable around the voting date depends instead on the contractual relationships between shareholder, depository (bank or broker), stock exchange, central depository / clearinghouse, and issuer.[12] This means that there is no necessary connection between a deposit requirement (first part of the variable definition) and the prevention of sales during "deposit" (second part of the variable definition) in today's world anymore.[13] However, the statutory provisions often do not state whether shares cannot be sold during deposit ("blocking"). In this situation, how should one code the variable?

The approach taken here is to assume that a deposit requirement automatically entails blocking. This seems justified because historically, when deposit before the meeting was still physical and deposit requirements first came about, blocking did indeed follow automatically (even though contractual arrangements for future sales remained possible). Today, these deposit requirements still serve as the template for the contractual relationships organizing these matters, i.e., they are applied analogously (in a loose sense of the word), and this will often extend to the blocking effect. Thus, the only relevant consideration for coding this variable is whether the country's laws require deposit of the shares before the meeting in order to vote thereat. Such requirements need to be distinguished from a record date or closing of the register (which would not entail blocking of shares by themselves).

In accordance with the general guidelines stated above (Part I of this Appendix), coding is for default rules. Hence "not allowing firms to require" is interpreted to mean that the law's default rules do not allow the corporation's *management* to require deposit.[14] It also means that the incidence of charter clauses requiring "deposit" in a

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[12] For descriptions of the relevant arrangements, see, e.g., Noack (2006) (Germany), Kahan and Rock (2007) (US), and Winter (2003) (Europe generally).

[13] Hence, in practice (ADP 2006; Institutional Shareholder Services 2005), share-blocking occurs in Egypt, whose law mentions neither "deposit" nor blocking in relation to voting (Art. 205 Executive Regulations for the Companies Act [closure of the register]), but not in Uruguay, where "deposit" is mandatory for voting purposes (Art. 350 Commercial Companies Act 16.060).

[14] An example for the type of rule that is "caught" by this definition (i.e., coded as 0), is Art. 689a al. 2, second sentence Code of Obligations (Switzerland) (board can prescribe procedures for legitimating holders of bearer shares at the meeting).

jurisdiction is irrelevant. This is important because countries such as France, Germany or Spain (used to) allow deposit charter clauses but do not require it by default[15]; the latter aspect is dispositive for coding.

Finally, reflecting their historical origins, deposit requirements often apply only to bearer shares (or "share warrants" in English terminology). In this case, the present coding refers to the standard type of shares as designated by the law or, lacking this, prevailing practice. Hence the treatment of registered shares is dispositive for the coding of Taiwan, which limits bearer shares to 50% of the share capital[16], and South Korea, where holders of bearer shares have the right to convert their shares into registered shares at any time[17]. In any event, registered shares are factually predominant in both countries, which by itself would be sufficient to focus on registered shares, as it is for India and South Africa.[18] By contrast, bearer shares were still predominant in Switzerland in 1997.[19]

Thus defined, eight countries had default rules requiring deposit for their prevailing type of shares in 1997: Argentina, Belgium, Greece, Italy, Portugal, Switzerland, Turkey, and Uruguay.[20]

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[15] France: Art. 136 Decree 67-236; Germany: § 123 para. 3 Share Corporation Act; Spain: Art. 104.1 Share Corporation Act.

[16] § 166.1 Company Act (Taiwan).

[17] Art. 357 Commercial Act (South Korea).

[18] Deposit requirements are stipulated as default rules for share warrants in ss. 114, 115(5) Companies Act, 1956 with regulations 40 to 43 of Table A (India) and in ss. 101, 103(4) Companies Act 61 of 1973 with regulations 24 and 27 of Table A (South Africa).

[19] Cf. Zobl and Kramer (2004, ¶ 549), and Forstmoser, Meier-Hayoz, and Nobel (1996, § 43 ¶ 22) (historically, controlling family members held registered shares while bearer shares were listed; in recent years trend to list registered shares). Shareholders can exchange one type of share for the other only if this is expressly permitted by the corporation's charter, i.e., not by default, see Art. 622 para. 1-3 Code of Obligations (Switzerland).

[20] Argentina: Art. 238 Corporations Law 19.550 (this does not apply to registered shares if the register is carried by the corporation as opposed to the central depository); Belgium: Art. 536 para. 2 Companies Code (formerly Art. 74 § 1 para. 2 Consolidated Companies Act); Greece: Art. 51 § 5 Stock Market Act 1806/1988; Italy: Art. 2370 Civil Code (1997); Portugal: Art. 54°, n° 2 Securities Market Code 1991; Switzerland: Art. 689a al. 2, second sentence Code of Obligations; Turkey: Art. 18 Communiqué about Terms and Conditions Governing Book-Entry Recording of Dematerialized Capital-Market Instruments, Serial IV, No. 28; Uruguay: Art. 350 Commercial Companies Act 16.060.

C. ADRI-Component 3: Cumulative Voting or Proportional Representation

> Equals one if the company law or commercial code allows shareholders to cast all their votes for one candidate standing for election to the board of directors (cumulative voting) or if the company law or commercial code allows a mechanism of proportional representation in the board by which minority interests may name a proportional number of directors to the board, and zero otherwise. (LLSV 1998, Table 1)

This variable only gives rise to three relatively minor problems.

As mentioned in the main text, there is some inconsistency in the coding in LLSV (1998) regarding the treatment of optional rules. Had optional rules been counted, the correlation coefficient to the coding in LLSV (1998) would have been .35. Counting only default rules as in Table 1, Canada, India, and the US must be coded as 0 since they have specific enabling provisions for cumulative voting but do not provide for it by default.[21]

In some countries, cumulative voting is only available, or needs to be requested by, shareholders holding a certain minimum percentage of shares. In analogy to the other variable definitions, thresholds of up to 10% should be acceptable. Consequently, even though it is only triggered by a request from shareholders holding at least 10% of the shares 48 hours before the meeting, Brazil's mandatory cumulative voting rule should be coded as 1 (unlike in LLSV 1998).[22]

Minority board representation that is neither cumulative voting for the entire board, nor otherwise results in proportional representation, does not suffice. This excludes in particular mandatory rules that provide for the election of one board member by small shareholders in India, and by minority shareholders collectively holding at least

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[21] Canada: s. 120 Ontario Business Corporation Act (cf. s. 107 Canadian Business Corporation Act). India: s. 265 Companies Act, 1956. US: Delaware General Corporation Law § 214.

[22] Art. 141 Law No. 6.404 of 1976, as amended (Brazil). By contrast, the 10% threshold excludes mechanisms like the Venezuelan one, which reserves a seat on the board to shareholders holding at least 20% of the shares, see Art. 123 of the old, pre-1998 Capital Markets Law (Venezuela).

10% of the shares in Mexico and Portugal.[23] It also excludes the Argentinean requirement that only 1/3 of the board should be elected by cumulative voting.[24] This matches the coding in LLSV (1998) except for Argentina.

Naturally, the coding of default rules means that the coded values are not necessarily reflective of corporate practice: for example, cumulative voting is routinely excluded in the charters of Japanese and South Korean corporations.

D. ADRI-Component 4: Oppressed Minorities Mechanism

> Equals one if the company law or commercial code grants minority shareholders either a judicial venue to challenge the decisions of management or of the assembly or the right to step out of the company by requiring the company to purchase their shares when they object to certain fundamental changes, such as mergers, asset dispositions, and changes in the articles of incorporation. The variable equals zero otherwise. Minority shareholders are defined as those shareholders who own 10% of share capital or less. (LLSV 1998, Table 1; emphasis added)

As highlighted in Section I of the main text, the variable definition is extremely broad. Under the definition, it is sufficient if shareholders have a remedy in respect of decisions of *either* management *or* the assembly. Likewise, it is sufficient if the shareholders' remedy is *either* "a judicial venue to challenge the decisions" *or* "the right to step out of the company by requiring the company to purchase their shares" (appraisal rights).[25] Moreover, the remedy need only be granted in relation to "certain fundamental changes" (it is not even clear if it needs to be provided in *all* the three situations given as examples). In addition, there is no indication under what standard a court should evaluate

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[23] See for India s. 252 Companies Act, 1956, and the Companies (Appointment of the Small Shareholders' Director) Rules, 2001; for Mexico Art. 144 Corporation Law; and for Portugal Art. 392 Companies Code.

[24] Art. 263 Corporations Law 19.550 (Argentina).

[25] The use of the disjunctive 'or' is not a clerical error. Compare LLSV (1998, 1128) (emphasis added): "These mechanisms may include the right to challenge the directors' decisions in court (as in the American derivative suit) or the right to force the company to repurchase shares of the minority shareholders who object to certain fundamental decisions of the management or of the assembly of shareholders, such as mergers or asset sales."

a shareholder claim for a "judicial venue" remedy[26], or what price would have to be paid in an appraisal remedy, or what procedural barriers would still be acceptable – for lack of an indication in the definition or easily definable limits, one must assume that any standard/price/procedure will do. Finally, the remedy can be restricted to shareholders who own 10% of the shares.

The only two countries that do not have an "oppressed minority" mechanism thus defined are Ecuador and Mexico. Both countries restrict judicial venues to shareholders holding at least 25% (Ecuador) or 33% (Mexico) of the shares.[27] Mexico provides each individual shareholder with an appraisal remedy, but only in the extreme cases of a change of the corporation's nationality, object, or legal form, i.e., not in the cases listed in the definition ("mergers, asset dispositions, changes in the articles of incorporation").[28]

E. ADRI-Component 5: Preemptive Rights to New Issues

Equals one when the company law or commercial code grants shareholders the first opportunity to buy new issues of stock, and this right can be waived only by a shareholders' vote; equals zero otherwise. (LLSV 1998, Table 1)

`prevote`	Completes the definition in the sense that it equals one even if preemptive rights can be waived by a simple majority vote, and includes rules that require that all new issues of shares be approved by a shareholder vote (by simple majority).
`preright`	Completes the definition in the sense that it equals one only if the waiver is subject to special conditions, such as supermajority rules or substantive conditions. Also equals one if shares cannot be issued except with supermajority/-quorum approval in the first place.
`preexpl`	Completes the definition in the sense that it equals one if the law makes special mention of shareholders' first opportunity to buy shares, even if the waiver requirements are not special and not stricter than those for share issues; inversely, no points are awarded for rules that merely require shareholder approval for any issue of shares, regardless of the subscriber.

[26] LLSV (1998, 1128) just indicates that fraud would be too high a standard.

[27] Cf. for Ecuador Art. 215, 216, 249, 272 Corporations Law 1977; and for Mexico Art. 163, 201, 202 Corporations Law.

[28] Art. 206, 182 IV-VI Corporations Law (Mexico).

One important issue to consider are the requirements for the waiver vote: Does a simple majority vote suffice, or are there special majority and/or quorum requirements? `prevote` and `preright` cover both possibilities.

Countries are coded as 1 even if their law does not reserve shareholders the first opportunity to buy (unclaimed) shares beyond their pro-rata share, and/or grants preemptive rights only in certain types of issues. The former aspect is probably of minor importance in public corporations. The data indicate that LLSV (1998) took the same position on these issues.

But there is an ambiguity at the very core of the variable that arises from the possibility of a shareholder waiver vote: once preemptive rights are dependent on a shareholder vote, there is not only interaction, but logical overlap with shareholder approval requirements for share issues. Consider the examples of Hong Kong and Nigeria, coded as 1 and 0, respectively, in LLSV (1998). The Hong Kong Companies Ordinance does not mention "preemptive rights", or any other "right" of shareholders to get first opportunity to buy new shares. Instead, s. 57B provides for (a) the requirement that any new issue of shares must be approved by shareholders, and (b) an exception to this requirement if shares are issued to existing shareholders pro-rata. This is logically identical to a rule which (a) allows management to issue shares without shareholder approval, but (b) grants preemptive rights subject to waiver by a shareholder vote. Hence, Hong Kong is correctly coded as 1.[29] Now compare Nigeria. In Nigeria, the law also provides that any new issue of shares must be approved by shareholders.[30] The difference to Hong Kong is that there is no exception for pro-rata issues to existing shareholders. Consequently, a differential coding of 1 for Hong Kong against 0 for Nigeria would be based entirely on the fact that the board has *more* powers, and the shareholders *less* rights, in Hong Kong than in Nigeria. In other words, the favorable evaluation of Hong Kong would not be based on added protection against dilution, but on

[29] Hong Kong lawyers would not, however, necessarily describe their law as providing preemptive rights; cf. Ho (1998, sec. 15.2.2) (who explains that Hong Kong law does not grant preemptive rights, but does have s. 57B).

[30] s. 124 Companies and Allied Matters Act, 2004 (Nigeria), codifying prior rules.

added flexibility to issue shares without shareholder approval. The latter may be a good thing, but it is hardly what one would associate with the term "preemptive rights", or with the variable definition (whether the law grants shareholders the first opportunity to buy new issues of stock).

The broader point is that a requirement of a shareholder vote for share issues is really two things in one. Through their vote, shareholders determine (1) if shares will be issued, and (2) to whom. The law may not say the second part explicitly, but since the shareholder resolution proposal can express a choice on (2) and shareholders can give or withhold their vote based on this choice, (2) is always there. Nothing substantive is gained by an express provision of "preemptive rights" as long as they can be waived in the shareholder resolution authorizing the issue (with identical majority and quorum requirements), as in Malaysia or Norway. The only difference is the interpretation of silence in, and consequently the drafting of, shareholder resolutions: with the express statutory grant, silence means preemptive rights attach (e.g., Malaysia, Norway); without the express statutory grant, silence means they do not attach (e.g., Nigeria).[31]

In light of this observation, and to avoid the absurd result that countries with more protection may receive lower values than others with less (e.g., Nigeria v. Hong Kong), I will treat explicit provisions of waivable preemptive rights and shareholder approval requirements for new issues the same in the variable variants `prevote` and `preright`. Still, for the sake of completeness, I also form one variable variant `preexpl`, which asks whether the law explicitly mentions a requirement to issue new shares to existing shareholders.

The correlation between the recoded values for 1997 and those reported in LLSV (1998) is .76, .48, and .33 for `preexpl`, `prevote`, and `preright`, respectively. The list of countries responsible for the imperfect correlation also varies from one variable variant to the other. However, the coding in LLSV (1998) was certainly incorrect for the following countries, all of which provide preemptive rights under all of

[31] It is of key importance that the rules of the bargaining game are unaffected by this purely linguistic convention.

the definitions (i.e., the provision of preemptive rights is explicit, and the conditions for a waiver vote go beyond a simple majority vote): Belgium, Denmark, Germany, and Taiwan[32]; and arguably also Brazil and Egypt.[33] Counting default rules, New Zealand, the Philippines, and South Korea must also be coded as 1.[34] Many countries with weaker "preemptive rights" were coded as 1 in LLSV (1998), such as Malaysia, Singapore, or South Africa.[35]

F. ADRI-Component 6: Percentage of Share Capital to Call an Extraordinary Shareholder Meeting

The minimum percentage of ownership of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting. (LLSV 1998, Table 1)

The percentage values here recoded for default rules correspond perfectly to those in LLSV (1998), with two exceptions. One of them is the US, which is discussed in Section I of the main text. The other exception is Jordan, where LLSV (1998) reports the 25% required to requisition the board to call an extraordinary meeting, while Table 1 reports the 15% required to request the convening of the meeting from the Controller of

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[32] Art. 592 et seq. Companies Code (formerly Art. 34*bis* §1 para. 1-2 Consolidated Companies Act) (Belgium); §§ 30(3), 78 Statute on Public Limited Liability Companies of 1973 (Denmark); § 186 Share Corporation Act (Germany) (the provision is almost a verbatim twin of § 153 Share Corporation Act (Austria), coded as 1 in La Porta et al. 1998); § 267 Company Act (Taiwan).

[33] In Brazil and Egypt, preemptive rights can be excluded by simple majority vote only in a public offering. See for Brazil Art. 171, 172 Law No. 6.404 of 1976 (the simple waiver possibility only applies if included in the corporation's bylaws), and for Egypt Art. 96, 98 Companies Act Executive Regulations (in fact, these provisions do not technically themselves grant the preemptive rights, but they require the corporation's charter to grant them).

[34] s. 45 Companies Act 1993 (New Zealand); § 39 Corporation Code (Philippines); Art. 418 of the Commercial Act (South Korea).

[35] Malaysia and Singapore both have mandatory rules which require shareholder approval for new issues, and default rules which provide that the shares must be issued pro-rata to shareholders unless otherwise provided for in the resolution (s. 132D Companies Act 1965 (Malaysia), s. 161(1) Companies Act (Singapore), both with Table A Art. 40 and 41). South Africa merely requires shareholder approval for new issues (s. 221 Companies Act 61 of 1973). The Kuala Lumpur Stock Exchange (Main Board Listing Requirements 3.06(1) and 7.10) and the Johannesburg Stock Exchange (Securities Exchange Listing Rules 5.51(b), 5.51(g), 5.52(b), 5.52(e), 5.58) require preemptive rights in listed companies, but as repeatedly emphasized stock exchange rules are not counted here.

Companies, an administrative agency[36]; this difference is inconsequential because both numbers are above the 10% cut-off for the binary coding anyway.

One could impose minimum conditions as to whether minority shareholders can/must call the meeting themselves or must/can they requisition management or a judge or administrative agency to do so; who bears the cost of the meeting; how quickly can/must the meeting be called; who has agenda control; etc. To keep things simple, the broadest reading of the variable is adopted, i.e., the lowest percentage for any of these alternatives counts. By contrast, coded percentage values were not reduced if a jurisdiction reduces or even drops the percentage requirement for groups of certain absolute numbers of shareholders (e.g., 25 or 100 shareholders)[37] (this matches the data in LLSV 1998).

G. Additional Variable 1: One Share – One Vote

Equals one if the company law or commercial code of the country requires that ordinary shares carry one vote per share, and zero otherwise. Equivalently, this variable equals one when the law prohibits the existence of both multiple-voting and nonvoting ordinary shares and does not allow firms to set a maximum number of votes per shareholder irrespective of the number of shares owned, and zero otherwise. (LLSV 1998, Table 1; emphasis added)

(recoded)	Same, with the following clarifications: "Ordinary shares" means all shares that do not carry a preference of any kind, neither for dividends nor for liquidation. For voting rights, a literal interpretation is adopted, under which the equal number of votes, not the proportionality of votes and cash-flow rights is decisive.
proportional	As the previous definition, but strict proportionality between voting and cash-flow rights is required.

[36] Cf. Art. 172 Companies Law 22/1997 (formerly Art. 200 Companies Law 1/1989) (Jordan). The Controller of Companies is obliged to call the meeting if the 15% threshold is met.

[37] Rules of this type exist in Australia (s. 249D Corporations Act, 2001 – 100 shareholders), South Africa (s. 181 Companies Act 61 of 1973 – 100 shareholders), and Thailand (s. 100 Public Limited Company Act B.E. 2535 – 25 shareholders collectively holding 10% of the share capital).

For this variable, it does not make sense to code for default rules, since – not surprisingly – all but one country in the sample provide equal rights for all shares as the default rule.[38]

The variable is only concerned with voting rights of "ordinary" shares. Clearly, "ordinary" shares cannot be understood as the opposite of non-voting, limited-voting or multiple-voting shares here, as they are in some jurisdictions[39], or else the variable definition would be tautological. Instead, "ordinary" shares must be defined as the opposite of "preferred" shares here. In principle, this still leaves room for interpretation of what counts as a "preference". Since any further distinction that I could draw would be arbitrary, however, I understand "ordinary" share to mean any share that does not have a dividend or liquidation preference of any kind, whether economically valuable or not. The limitation of the variable to "ordinary" shares is extremely important. With the exception of Jordan (and Pakistan until 1999), all the countries in the sample that impose a "one share – one vote" rule for "ordinary" shares allow departures from that principle for "preferred" shares. For practical purposes, "preferred" shares can be just the same as non-voting "ordinary" shares. In Germany, for example, even though each "ordinary" share must generally carry one vote (there were, however, exceptions that lead to a coding of 0)[40], non-voting "preferred" shares are often the only class of shares that is publicly traded.

Even for "ordinary" shares as defined above, few countries in the sample (28%) impose the "one share – one vote" rule as strictly as required in the variable definition (in particular without allowing voting caps!). LLSV (1998) overlooks the rule in India, Israel, Italy, and Nigeria[41] (to repeat, in practice voting rights in these countries may be

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[38] The odd exception in 1997 was Taiwan, which had a mandatory voting cap rule (3%) (§ 179.1 Company Act, now repealed). South Korea still has a similar rule only for the election of auditors (Art. 409(3) Commercial Act, and Art. 191-11 (1) Securities and Transactions Act).

[39] § 134(e) Companies Act, 1963 (Ireland). Cf. the discussion of "equity shares" in Malaysia and Singapore below n. 43.

[40] Cf. generally § 12 Share Corporation Act (Germany), and for the former exceptions §§ 12 II 2 [golden shares could be authorized by ministerial permission], 134 I 2 [charter can contain voting caps] Share Corporation Act (1997) (Germany), § 5 I [grandfathering clause] Introductory Law to the Share Corporation Act (1997) (Germany).

[41] ss. 86-88 Companies Act, 1956 (India); s. 46B Securities Act (Israel); Art. 2351 Commercial Code (Italy); s. 116 Companies and Allied Matters Act 2004 (Nigeria) (which codifies pre-existing statutes). In

restricted even very severely through the use of *preferred* shares), and incorrectly attributes it to Brazil, Malaysia and Singapore: Brazil allows decreasing voting rights for higher number of shares[42], and Malaysia and Singapore hide the possibility of non-voting shares in confusing terminology[43]. These recoded values are reported in Table 1.

Moreover, some of the countries imposing one vote per "ordinary" share allow the attribution of unequal cash-flow rights per share. In this way, voting rights can be separated from cash-flow rights in spite of the formal "one share – one vote" rule. Obviously, this defeats the policy purpose of the "one share – one vote" principle, which is to ensure proportionality of voting and cash-flow rights (Grossmann and Hart 1988; Harris and Raviv 1988). In teleological, as opposed to literal, interpretation of the variable definition, countries allowing this should be excluded.[44] Only 17% of the sample countries qualify under this stricter definition, but the correlation with LLSV (1998) is unchanged (.55); these values are not reported in Table 1.

H. Additional Variable 2: Mandatory Dividend

Equals the percentage of net income that the company law or commercial code requires firms to distribute as dividends among ordinary stockholders. It takes a value of zero for countries without such a restriction. (LLSV 1998, Table 1)

no waiver	Completes the definition in the sense that the shareholder assembly cannot waive the right to the dividend
waiver	Completes the definition in the sense that the shareholder assembly can waive the right to the dividend.

1997, Colombia also enforced a "one share – one vote" rule (Art. 379 °1, 381 Commercial Code), but until 1995, Art. 428 °1 Commercial Code (Colombia) contained a 25% voting cap, which explains why La Porta et al. 1998 could have coded Colombia as 0 for their 1993/94 reference date, cf. above n. 6.

[42] Article 110, §1 Corporation Law (Brazil).

[43] Both Malaysia and Singapore impose "one share – one vote" rules for "equity shares" (s. 55(1) Companies Act 1965 [Malaysia], s. 64(1) Companies Act [Singapore]). But "equity shares" are merely those which are not "preference shares", and "preference shares" are defined, among other possibilities, as those which do not have voting rights (s. 4(1) [Malaysia and Singapore]). Hence, what I defined as "ordinary shares" (i.e., without a dividend or liquidation preference of any kind) can be issued without voting rights under the label of "preference shares" in Malaysia and Singapore. Cf. for Malaysia Chan and Koh (2000, ¶ 3.110), and see for Singapore Woon (1997, 221).

[44] When it is unclear whether the law would allow it (e.g., for Japan), I assume that it is not allowed.

The major distinction to be drawn here is between mandatory dividend provisions that allow for waiver by shareholder vote, and those that do not. In the former case, the mandatory dividend mechanism is just general shareholder protection against management. In the latter case, it may provide true minority protection (against "freeze-out" by the majority). This probably makes more sense – majorities already have the possibility of ousting management if they dislike management's dividend policy, and the mandatory dividend does not provide much additional protection.

However, judging by the coding, LLSV (1998) seems to have included waivable dividends. Both for default rules and for mandatory rules, the correlation between recoded and original values is higher for waivable dividends: .47 vs. .20 and .96 vs. .59, respectively. For simplicity, the values shown in Table 1 and used in the LLSV (1998) regressions in Section IV use the most highly correlated variant of "mandatory dividend", i.e., mandatory rules that do allow a shareholder waiver vote (with the correlation coefficient .96).

Neither I nor apparently LLSV (1998) count mandatory dividend provisions that do no fit the coding scheme because they do not specify a constant percentage of profits to be distributed, such as those in Finland and Sweden, which cap a 50% mandatory-on-demand dividend at 5% of the legal capital, and the Philippines, where the obligation to pay dividends depends on the ratio of profits to paid-up capital.[45]

[45] Under both ch. 12:4 Companies Act 1978 (Finland) and ch. 12:3 para. 2 Companies Act 1975 (Sweden), a 10% shareholder must have demanded payment of this minimum dividend. In the Philippines, §43 Corporations Code requires payment of a dividend when surplus profits exceed 100% of the corporation's paid up capital, subject to certain business exceptions.

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